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Popstan

A CASE STUDY FOR
THE 1980 CENSUSES
OF POPULATION
AND HOUSING

PART C. Phase I: Complete Count for Popstan Census

Prepared under a Resources Support Services
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International Development



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PREFACE

Popstan: A Case Study for the 1980 Censuses of Population and Housing was developed by the International Statistical Programs Center of the U.S. Bureau of the Census. The publication covers all aspects of planning and implementing population and housing censuses—from determining the topics to be investigated and the method for collecting the information to the tabulation and evaluation of the results. It was prompted by the increasing importance of censuses in developing countries and the need for a set of materials on the interrelated complex of concepts, enumeration and processing procedures, controls, and analyses that are inherent in a census undertaking.

To provide a practical setting for the presentation of the instructional materials, the case study approach was used. A mythical country, Popstan, was created, with administrative subdivisions, social and economic characteristics of the population, housing characteristics, and a national statistical organization which was in the process of planning a decennial census of population and housing. Conceptual and procedural guidelines were developed for this undertaking, utilizing the recommendations of regional and international agencies and commissions and the experiences of various countries in similar programs. The materials are directed primarily to census technicians in developing countries; nevertheless, it is intended that countries adapt the case study to their particular needs. The titles of the seven parts of the case study and the chapters in each part are listed on the previous page.

Part A presents considerations and guidelines for planning and conducting censuses and is directed to census planners; it presents various alternatives and discusses their advantages and disadvantages. Part B introduces the mythical country and describes Popstan's decisions and preparations for its census; in giving the rationale for the decisions, reference is made to the considerations described in Part A. The complete enumeration, Phase I, is discussed in Part C; Phase II, which combines coverage evaluation with detailed characteristics for a sample of areas in Popstan, is the subject of Part D. Part E deals with Popstan's intercensal household survey program to provide current and continuing statistical data. Part F describes adaptations that may be more suitable for some countries. The final document, Part G, contains study exercises, a glossary of terms, and technical notes.

Other case studies prepared by the International Statistical Programs Center include *New Florencia* for the 1970 round of population and housing censuses, *Agrostan* for agricultural censuses, *Providencia* for economic censuses, and *Atlantida* for household sample surveys. Additionally, course materials in mapping for censuses and surveys, basic applied sampling, principles of demography, agricultural economics, and similar topics have been developed.

ACKNOWLEDGMENTS

The Popstan Case Study was developed in the International Statistical Programs Center under the general direction of **Beulah Washabaugh**, Chief of the World Census Staff, assisted by **Nina J. Pane Pinto**, Chief of the Census and Survey Methods Branch. Other members of the staff who were responsible for the technical review of the case study and for developing exhibits and supplemental materials include: **William E. O'Leary**, Demographic Statistician; **Janelle Fowler**, Survey Statistician; and **Leo B. Dougherty**, Survey Statistician. **Linda A. Schlueter**, Survey Statistician, assisted with chapters on field operations. **Frederick A. Leedy**, Assistant Chief, Training and Information Services, reviewed a number of chapters for technical consistency, particularly those related to the training and control of the field staff.

Chapters on various topics were prepared by former employees of the U.S. Bureau of the Census, as follows: census objectives, organization, operational control, and budgeting by **Robert B. Voight**, former Chief of the Field Division, Chief of Operations in the Population and Housing Division, and Chief of the Data User Services Division; legislation and publicity by **Lawrence A. Marzetti**, former Chief of the Overseas Consultation and Research Office and Assistant Chief of the International Statistical Programs Center; mapping by **Robert C. Klove**, former Census Geographic Adviser; census content, publication, and uses of census data by **Elisabeth S. Nagy**, former Demographer, Population Division; quality control by **George Minton**, former Principal Researcher in Quality Control and Operations Research, Statistical Research Division; pretesting and coverage evaluation by **Herman H. Fasteau**, former Assistant Chief, Statistical Methods Division; data processing by **Dorothy P. Armstrong**, former Assistant Chief, Systems Division, and **Morton A. Meyer**, former Chief of the Demographic Operations Division and Chief of the Geography Division; and table preparation and local adaptations of census guidelines by **Edward P. Swan**, former Foreign Census Adviser. **Robert B. Pearl**, former Chief, Demographic Surveys Division, developed all of Part E, on Popstan's intercensal household survey program. **Howard G. Brunsmann**, former Chief, Population Division, reviewed table formats and developed computer specifications for editing and tabulating. **Sigmund Schor**, former Chief, Statistical Procedures Branch, Population and Housing Division, reviewed the chapters on census organization and operational controls. **Charles W. Baker**, former Chief of Training, Field Division, prepared materials on enumerator training. Chapters on sampling were prepared by **Earl E. Houseman**, Sampling Consultant and former Sampling Specialist, U.S. Department of Agriculture.

Important contributions to the case study were made by a number of other persons in the U.S. Bureau of the Census. **Eli S. Marks**, Chief Census Research and Technical Adviser, reviewed and developed portions of the chapters on coverage evaluation; **Edgar H. Elam, Jr.**, Supervisory Statistician in the Decennial Census Division and former Foreign Statistical Adviser, and **Richard R. Storm**, Survey Statistician, assisted in the early developments of the case study. **Barbara A. Garner**, Survey Statistician, assisted with data processing specifications; **Maxwell D. Jeane**, Principal Researcher in Operations and Quality Control Research Staff, and **John F. Powell**, Contributing Researcher, Statistical Research Division, reviewed the materials on quality control; **Anthony G. Turner**, Chief, International Programs Staff, Statistical Methods Division, reviewed the chapters on sampling and evaluation; and **J. Gary Van Nest**, Survey Statistician, assisted with the mapping exhibits and the content of the census inquiry. Many other persons in the Bureau of the Census and in outside organizations assisted in the technical review of the materials, including **Samuel Baum**, Assistant Chief for International Demographic Statistics, Population Division; **Mary K. Friday**, Computer Systems Analyst, International Statistical Programs Center; **David V. Bateman**, Assistant Chief for Methods and Development, Statistical Methods Division; and **Maurice Kniceley**, Mathematical Statistician, Statistical Methods Division.

Members of the World Census Staff prepared the publication for printing. **Sandra G. Chapman** edited the text and prepared questionnaires and control forms; **Gladys Rea** designed flow charts, prepared computer printouts of table formats, and typed statistical portions of the text; **Joan A. Godwin**, assisted by **Rhonda L. Muncey** and **Deborah A. Serfass**, laid out and typed the text; **Stella L. Sutton** read the manuscript copy; and **John R. Gibson** drafted table formats. **Dolores E. Adams**, assisted by **Ellen Shifflett**, coordinated operational aspects of preparing the case study.

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Chapter C-1. SUMMARY OF PROCEDURES

1. INTRODUCTION

The purpose of this first chapter in Part C of the case study is simply to summarize the principal activities that are to be carried out in Phase I of the Popstan Census. In brief, Phase I is relatively uncomplicated. It is a 100-percent enumeration, and the questionnaire items are self-coded or pre-coded so that virtually no manual processing is required. The data entry device is key-to-disk, and generalized software packages will be used to edit and tabulate the data. Computer printouts will be used as camera copy for printing Volume I(B).

Another purpose of the chapter is to bring together the operational and quality control procedures that must be carried out. Specific steps in the control systems are described in the individual chapters in connection with the particular operation. As will be noted, each major census activity requires quality control as well as operational control.

2. SUMMARY OF PHASE I OPERATIONS

The calendar of major census activities (see exhibit B-2-1, which is included in Part C as a reference exhibit) is a convenient summary of the census activities. Detailed calendars and flow charts showing step-by-step processes are developed for each major operation by the NSO staff responsible for its implementation. For example, the data collection and data processing staffs prepare their own lists of activities, calendars, and charts so as to control their separate operations and, at the same time, fit into the total work flow and the time schedule. (See figure B-9a, which is included in this document as a reference exhibit, and exhibit C-6-1.) After the NSO

staff has prepared the detailed calendars and charts, they will proceed to develop the operational controls and quality controls for each activity.

Below is a simplistic outline of the steps in the central office and field operations for which controls are needed. The activities are not in strict chronological order; some are carried out at the same time as others.

In the NSO:

- (1) Develop concepts, questionnaires, table formats, portions of the texts of reports.
- (2) Prepare materials (EA maps, questionnaires, other census forms).
- (3) Prepare Master List of EA's for Field Operations.
- (4) Prepare EA Books.

In the field:

- (5) Train field office staffs.
- (6) Distribute EA Books and other materials to PCO's, to be transmitted to DCO's.
- (7) Train crew leaders, who in turn train the enumerators.
- (8) DCO's send materials to crew leaders, who in turn distribute them to enumerators.
- (9) Conduct the enumeration.
- (10) Return EA Books to crew leaders, who in turn transmit them to the DCO's.
- (11) DCO's receive EA Books, carry out the field edit, and transmit books to PCO's.
- (12) DCO's prepare preliminary counts, which they send to the PCO's.
- (13) PCO's review EA Books and transmit them to the NSO.
- (14) PCO's consolidate preliminary counts; release counts after approval of the NSO.

In the NSO:

- (15) Receive and check in the materials.
- (16) Complete the manual edit and hand counts.
- (17) Verify the manual edit and hand counts.
- (18) Key the data (key-to-disk).
- (19) Verify the data keying.
- (20) Enter the data on tapes.
- (21) Edit the data (by computer) and prepare the edit diary.
- (22) Review the edit diary and correct EA's as necessary.
- (23) Tabulate the data.
- (24) Strip in the table titles, headnotes, footnotes; draft vertical lines.
- (25) Verify the table preparation.
- (26) Review the tabulations (conduct the clerical checks and the analytical review).
- (27) Complete and print the publication.

With the above list, the NSO planned for all the important points of control. It is expected that others may need to be added as procedures are developed in detail.

3. SUMMARY OF OPERATIONAL CONTROLS FOR PHASE I

Operational controls have two purposes:

- (a) to ensure that all materials and processes are accounted for and
 - (b) to serve as management tools so that revisions in the program can be made promptly.
- In the case of the latter, progress reports based on operational control forms provide the basis for action.

3.1 Unit of control.

In order to maintain the records or forms necessary for control of the operations, a "unit of control" must be selected for each operation. It is generally advantageous to use a single unit of control throughout all operations. However, the NSO realized that

this would not be altogether feasible. Therefore, the NSO will select the unit that best suits the operation. The basic unit of control for some purposes is the EA. For other purposes, EA's are combined into CL areas, districts, or provinces.

As part of the planning for the unit of control, the NSO prepared a chart showing the flow of EA's (see figure C-1a). Note that the Geography Division delineated EA's and prepared a list of all EA's by district. The EA Books are prepared and transmitted to the field offices by CL area within district--to the PCO's, then to the DCO's. Thus, the unit of control will be the district for EA delineation and CL area for preparation of EA Books and transmittal to the field.

Individual EA's are given to the crew leaders and enumerators. To avoid delay, the EA Books are returned to the Field Census Branch of the NSO by CL area. Each EA is checked in and the geographic code is verified (in the case of boundary or other problems, the original geographic code may change). The field counts are posted, EA's are re-assembled into CL areas, then transmitted to the Operations Branch of the Decennial Census Division for manual editing. The unit of control will be the CL area for manual editing and data keying, the district for computer editing, and the province for tabulation.

After the questionnaires are edited and hand counts are prepared, the counts of persons and housing for each EA become the control figures for data keying; record counts resulting from data keying become control counts for consolidation; record counts resulting from computer editing become control counts for tabulating. Control by checking EA number is not sufficient; the control must also account for the number of persons, housing units (HU's), and collective quarters (CQ's), that will be processed in an operation.

3.2 Control forms

Popstan will make an effort to keep the number of control forms to a minimum. For the most part, each control form will be simple and will serve only one purpose, although many of them will be the basis for progress reports.

3.21 Master List of EA's.--The primary operational control form for all enumeration and processing operations is the Master List of EA's. It is used to ensure that the entire country is enumerated and information is tabulated without omission or duplication.

The Geography Division will have prepared an EA Delineation Worksheet for each district as the EA's are delineated; each EA is listed by area name and geographic code (see figure B-4n, which is included as a reference exhibit in Part C). The worksheets are submitted to the Data Processing Division as each district is completed. Each entry on the worksheets is keyed and processed until an error-free EA Master File is produced (see exhibit C-6-1). The file will be used to generate the control forms for each operation.

Since the operational control unit for most of the data collection and processing operations will be the CL area, the Master File will be sorted by CL area within district before the control forms are generated. The control form for each operation will then be printed with the appropriate column headings (see figures C-5b and C-5i). Although the forms are prepared by CL area, entries will be made on the forms for each EA within a CL area.

Occasionally, large EA's are split after EA maps are sent to the field. Split EA's are to be reported immediately and incorporated into the Master List and Master File.

3.22 Supplemental control forms.--Other control forms are needed in connection with the flow of work within the branch or section doing the work. For example, forms in addition to

the Master List of EA's are needed for reporting the production and work quality of individual editor-coders or data keyers. A number of other forms are used in the field offices to control and report various field activities. Such forms are described in chapters of Part C that deal with the particular activity.

3.3 Responsibility for control

Each branch and section of the NSO will be assigned control clerks who will have the responsibility of maintaining the control records. However, the Reports and Control Branch (Central Control) of the Decennial Census Division will have the responsibility of maintaining the overall operational control system. Work will flow from one operation to another, without returning to Central Control; however, copies of all transmittals prepared will be sent to Central Control.

3.4 Progress reports

The need for periodic and frequent progress reports is obvious. The reports cover a wide range of items, such as the preparation of EA maps, recruitment of staff, training of crew leaders and enumerators, EA's completed, manual editing, data keying, tabulating, analytical review, and publication. Central Control has responsibility for coordinating the reports and preparing summaries for the NSO Director and census management staff. Reports are compiled also on expenditures of funds and the increase or decrease in employees, by type.

4. SUMMARY OF QUALITY CONTROL PROCEDURES FOR PHASE I

As with operational control procedures, specific procedures for the quality control (QC) of a particular operation or product are described in the chapter dealing with that particular operation or product. The purpose of this section of chapter C-1 is to bring together the points at which quality of the

material or the process is controlled.¹ Quality control consists of procedures to measure accuracy of production and to limit errors to an acceptable level.

4.1 Pre-enumeration control

Pre-enumeration activities include (a) the basic developmental work such as questionnaire design, instructions for the enumerators, crew leaders, and field office staff; (b) geographic work resulting in the preparation of maps, the list of administrative areas, and the Master List of EA's; (c) printing of questionnaires, Listing Sheets, and EA Book covers; (d) preparation of EA Books; and (e) assembly of enumerator and crew leader kits. Included also as pre-enumeration activities are the preparation of editing procedures, development of computer programs (or the testing of computer software packages), and preparation of table formats.

To attain success in enumerating the population of Popstan and gathering data on their characteristics, the NSO made plans to apply QC procedures to each of the pre-enumeration activities cited above. Not all of them will receive formal statistical QC plans. The more structured procedures will be applied when a considerable amount of material is being produced and when a number of persons are involved in the operation. Of all the pre-enumeration operations specified, structured QC plans are applicable to the geographic work, printing, assembly of questionnaires and other material, preparation of EA Books, and assembly of crew leader and enumerator kits.

4.11 Development of questionnaires and instructions.--Quality of operations of this type depends on the experience and judgment of the professional staff and their review of the material and results of pretests. Concepts

¹Quality control of the mapping activities, which are not covered elsewhere in Part C, are described in more detail than others.

and census questions will be developed by the joint efforts of technicians. Several versions of the questionnaire will be tested and evaluated. The final version will be the result of the judgment of the technicians, rather than the result of statistical control.

The instructions for data collection will be prepared by a number of technicians and reviewed for accuracy, clarity, and consistency. Further, instructions will be tested under realistic operating conditions, evaluated, and modified in the pretests and the Experimental Census.

4.12 Geographic work.--As discussed in Part B in the chapter on mapping operations, a number of steps are required to produce census maps. They include planning, map inventory, map compilation, map reproduction, field work, delineation of EA's, and preparation of the list of administrative areas and Master List of EA's. Quality control procedures include (a) evaluation of source maps and (b) verification of the products of each major step in the mapping operation.

Statistical QC procedures are difficult to apply in a map inventory and acquisition operation. However, qualitative evaluation principally related to map coverage of a given area can be made. The Map Inventory Card is a useful aid; it indicates the types of maps received, sources of these maps, territorial area covered by each map, and date the map is received. Based on the map inventory and acquisition, decisions will be made by responsible staff in the Geography Division as to whether existing maps are updated or entirely new maps are constructed.

The NSO prefers to verify all mapping operations on a 100-percent basis, but time and resources do not permit this amount of verification. The operations that are verified on a 100-percent basis are map compilation, EA and CL area delineation, preparation of EA Books,

and preparation of all publication maps and charts. If the publication maps are statistical maps, the statistics on which they are based will be verified completely.

As mentioned earlier, the list of administrative areas and the Master List of EA's will be verified completely. No error can be tolerated, because these lists are used as controls for the data collection and processing operations.

The drafting and field work operations for the EA base maps are verified on a sample basis. For drafting, sample areas of each map are verified 100 percent. Reproduction of EA base maps or individual EA maps is not subject to a formal verification procedure; when bad copies are found, new ones are made.

4.13 Printing and assembly of EA Books.-- Inspectors will check the quality of paper and ink that will be used in printing the forms. During printing, a sample of forms will be inspected for margins, inking, smears, etc.

The work of each person assembling the EA Books will be verified, first on a 100-percent basis, then on a sample basis. The books will be inspected for number of forms, placement of forms, binding, etc.

4.14 Assembly of enumerator and crew leader kits.--The assembly of enumerator and crew leader kits will be subject to the same sampling plan as that used for the assembly of the EA books. The kits will be inspected for items to be contained in them: forms, manuals, pens, pencils, etc.

4.15 Table formats and data processing specifications.--Verification of table formats and data processing specifications is not a formal statistical quality control procedure. Rather, the quality of the product is based on the experience and judgment of the subject specialists responsible for the product.

4.2 Data collection

Quality control of data collection procedures is described in chapter C-4. The steps include the following: (a) evaluation of the instructions to crew leaders and enumerators during pretests and the Experimental Census and review of classroom exercises during training, (b) prelisting of a sample of housing units and collective quarters in each EA prior to enumeration, to be checked later by the crew leader and by the DCO against the enumerator's listing, (c) observation of the enumerator, (d) crew leader review of the EA before the enumerator is paid, and (e) field review of each EA by the DCO.

4.3 Manual editing and data keying

The work of each editor and key operator is verified 100 percent until he/she qualifies for sample verification. A sample is verified unless the error level exceeds the acceptable limit, in which case the cycle of 100-percent verification is repeated until errors are again reduced to the acceptable level.

4.4 Computer processing

For both computer editing and tabulating, the trace sample² will be used to test the program. In addition, the control counts of population, housing units, and collective quarters for every EA, which are prepared and verified during the manual edit, will be used to ensure that all the population and living quarters that are enumerated are accounted for in the editing and final tabulations.

²The trace sample is a sample of simulated households with all types of characteristics, which would adequately test all possible situations and combinations of entries. The trace sample will be processed manually, and the results will be recorded. Results of the manual processing will be compared with the results produced by the computer programs to ascertain whether the programs are working properly.

4.5 Tabulations

For the Volume I(A) tables, the figures will be checked completely and the typing of the stubs and other verbal portions will be verified completely (computer printouts will not be used as the camera copy).

For the Volume I(B) tables, there will be a clerical check and an analytical review for each set of tables to be published. The title, headnote, and footnotes will be verified for each table. Calculations and consistency checks between tables will be made on a sample basis. The analytical review of tables will be accomplished by subject matter specialists.

4.6 Publications

The text portions of both Volume I(A) and Volume I(B) will be reviewed completely by subject matter specialists. This includes review of all the statistics in the summary of findings and the maps and charts as well as the sections on definitions, explanations, etc.

The printing of the publication will be inspected first on a 100-percent basis, then a sample of pages. The inspection will be concerned with quality of paper, uniformity of inking, placement on the page, sequence of pages, and overall appearance. Unacceptable work will be rejected.

Chapter C-2. QUESTIONNAIRES AND CONCEPTS

1. QUESTIONNAIRES AND RELATED FORMS

As mentioned previously in the case study, questionnaires, concepts, and tables are closely interrelated. First, the concepts are adopted; then, the questions and answer categories are developed so as to be consistent with the concepts; and finally, the classifications in the tables are coordinated with the answer categories used in the questionnaires. The present chapter covers the questionnaires and concepts; chapter C-3 covers table formats.

In adopting concepts for the Popstan Census, the NSO is following the UN *Principles and Recommendations for Population and Housing Censuses*,¹ making modifications as necessary for the country's needs. Where recommendations are modified for Popstan, the NSO is attempting to collect information in sufficient detail that it can satisfy international as well as national needs. The topics included in Phase I are summarized in figure B-5a (included as a reference in the appendix).

In developing the census questionnaires for 1980, the NSO reviewed the 1970 materials with respect to design and packaging. Also, after the 1980 forms were developed, they were tested, revised, and tested again. For convenience and identification, the EA Book and each form is numbered.

1.1 Phase I Questionnaire, Form PH-2

Only one basic questionnaire is needed for Phase I. It is a line-type questionnaire with

¹United Nations Statistical Office. *Principles and Recommendations for Population and Housing Censuses*, ST/ESA/STAT/SER. M/67 (New York, 1979).

verbatim questions to assist enumerators in collecting the specific information that is wanted and to help ensure consistency in asking the questions. Questions are printed in bold type and instructions to the enumerator are in italics. Answer categories are in the form of pre-coded and self-coded entries. For the pre-coded entries, the enumerator will circle a number (pretests indicated that circling a number was preferable to checking a box, especially when space is limited). Manual editing and review are minimal, so that data processing can be expedited. Occupants of only one housing unit are to be enumerated on one questionnaire. This type of questionnaire simplifies control and makes it easy for the enumerator to make an orderly listing of the occupants of the HU.

Each questionnaire has space for 12 persons. If there are more than 12 persons in the HU, the enumerator must use a second form. With an average of 5.5 persons per HU, 12 lines will cover all but a very small number of cases, which will require a second form.

Exhibit B-7-2 (included as a reference exhibit) illustrates the front of the questionnaire that was used in one of the field trials. While the form was convenient for data keying, observation of interviews and analysis of the test results revealed inaccuracies in many of the coded entries; for example, a high proportion of the codes entered for relationship were inconsistent with marital status and codes for major activity were inconsistent with the "skip" patterns that followed.

Many of the errors in the field trial were mechanical, in the sense that the enumerator

could not translate the answer into a code rapidly enough to permit a smooth interview. The form was redesigned with abbreviated pre-coded answer categories for all questions except those for which the answers were numbers (for example, age in years or number of children ever born). Codes for relationship and marital status were reduced in number and simplified.

In the pretest questionnaire, it was observed that occupation was frequently mis-coded except for agricultural workers. In spite of detailed instructions and numerous examples, enumerators reported considerable difficulty in translating the respondent's verbal description into numeric codes, even at the 1-digit level. The NSO subject specialists felt that enumerator-coded entries for occupation would be of such poor quality as to be misleading to data users. They moved the questions on occupation to the sample enumeration (Phase II) and insisted on specific verbal description entries for both occupation and industry, which would be coded and verified under close supervision in the NSO.

The final questionnaire that was adopted for Phase I is shown in exhibit B-7-3 (included as a reference exhibit).

1.2 Listing Sheet, Form PH-1

Each page of the Listing Sheet contains 20 lines (see exhibit B-7-3). The enumerator is to list each HU and CQ in systematic order, using one line for each. Both occupied and vacant units are to be listed. Other information to be entered on this form consists of the specific address of each unit, name of the head, count of persons enumerated in the unit, and the date of each visit to the unit. The Listing Sheet serves primarily as an orderly record of the living quarters in the EA. The information is important for control purposes and later for matching Phase II and Phase I cases in the sample EA's.

1.3 EA Book, Form PH-80

The EA Book for Popstan (reference exhibit B-7-3) contains the two basic documents needed by the enumerator for recording census information. They are the Listing Sheets and Phase I questionnaires. The EA Book will contain 8 pages of the Listing Sheet and 150 Phase I questionnaires. With an expected 100 to 125 HU's in an EA, these amounts should be sufficient to accommodate the listing and enumeration in all but a very small percentage of cases when a second EA Book will be needed.

On the front cover of the EA Book are spaces for recording information for purposes of identification and control. The identification items include the EA number and the geographic codes that apply to every questionnaire in the EA Book. Other information includes such items as (a) enumerator's name and address, (b) dates of appointments with the crew leader, (c) total listings and total persons enumerated, (d) date of field review, (e) authorization for payment, and (f) date received in the DCO, PCO, and NSO. Since the questionnaires will be retained in the EA Book through all the processing operations, spaces are designated on the front cover of the EA Book for maintaining a record of the major processing steps in the NSO.

On the inside front cover are printed some basic instructions to the enumerator in the form of "Reminders" on important subjects such as canvassing, listing, callbacks, definitions of housing unit and collective quarters, etc. Along the left-hand margin of this page are spaces for the enumerator to record the number of hours worked (for hourly rate enumerators) and distance traveled. At the bottom is a table for the "Summary of Page Totals," in which the enumerator records and summarizes the information from the total lines on each Listing Sheet. The EA map will be attached to the inside back cover of the EA Book. Industries that are common in Popstan are printed

on the outside back cover to assist the enumerator in classifying industry.

Because of the lower cost for such a large number of copies, the EA Books will be printed on white paper. Color will be used for other forms, particularly those not bound together.

1.4 Individual Census Report (ICR), Form PH-3

An ICR is a census report form containing the basic census items and questions on the respondent's usual place of residence (exhibit C-2-1). The form contains specific instructions on how to answer the questions, and an envelope will be provided so that confidentiality can be preserved. It will be printed on yellow paper to distinguish it from other forms.

The ICR will be used in two situations: (a) for individuals who are not at home after repeated calls and (b) for persons occupying transient quarters on T-Night.

Occasionally a member of the household is not at home even after repeated visits and the respondent for the household does not have accurate information about the individual, especially for an unrelated household member. On approval of the crew leader, the enumerator may leave an ICR for the person and arrange to pick it up on a later visit. The enumerator will transcribe the information to the Phase I questionnaire.

For transients who are enumerated on T-Night, the ICR is important for determining whether such persons have been enumerated at their usual place of residence. All persons who usually live at the Special Dwelling Place being enumerated and persons who have no usual place of residence elsewhere will be reported on the Phase I questionnaire for the dwelling place. ICR's for persons who have a usual residence elsewhere will be sent to the appropriate DCO to be checked against the census records and added if necessary.

1.5 Supply of enumeration forms

Popstan will have an estimated 32,000 EA's but will need to print and assemble approximately 44,000 EA Books (as explained in chapter B-7). With 4 Listing Sheets (printed on both sides) and 150 Phase I questionnaires in each EA Book, total copies amount to 176,000 Listing Sheets and 6,600,000 Phase I questionnaires.

The additional 12,000 EA Books (over the estimated 32,000 EA's) allow for split EA's, large EA's requiring 2 EA Books, and blank Listing Sheets and questionnaires that can be used for training purposes. Also, some EA Books will be damaged or lost and will have to be replaced. A smaller supply might be sufficient but there would be considerable risk of delaying the enumeration while supplies are shifted from one crew leader to another or from one DCO to another.

For the ICR's, it is estimated that the enumerators should have 10 copies per EA and each of the 3,000 crew leaders should have 20 copies. In addition, it is estimated that the transient quarters to be enumerated on T-Night will require 15,000 forms, making a total of 395,000 ICR forms to be printed.

1.6 Quality control of content

The wording of the questions, arrangement of responses and code boxes, and the overall content of the questionnaire and other census forms are the responsibility of the professional staff of the NSO. All forms will be reviewed by responsible persons on the subject matter staff, the field staff, and the data processing staff to ensure that every item is precisely what was intended. Questions, answer categories, and codes must be consistent with the concepts and with the content of the tables. Moreover, the arrangement and type of codes must fit in with the plan for processing the data. This type of review can accept no error.

1.7 Quality control of printing

The NSO will assign inspectors to check the quality of paper, the printing, and the assembly of the EA Books. The inspectors will visit each of the printing establishments and examine the forms as they are being printed and assembled; unacceptable work will be rejected.

Before forms are printed, the NSO will set up standards with respect to quality and color of paper, margins, uniformity of inking, smears and smudges, sequences of pages, etc. If inspection reveals defects, a decision will be made to reprint or reassemble the material or accept less than desirable quality.

1.71 Quality of paper and ink.--The paper must be heavy enough to withstand considerable handling, must be resistant to smear when exposed to dampness, and must not be so thin as to show through from the other side. The cover of the EA Book will be heavier than the forms to protect the questionnaires and to serve as a writing surface.

Other requirements are that the paper be free of lint or dirt particles that will interfere with the use of the forms. The NSO will arrange for testing a sample of the paper in each delivery. For forms that are printed on colored paper, the color will be approved by the NSO.

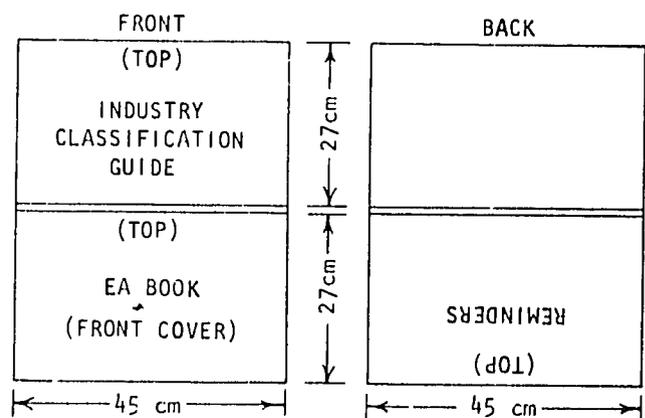
Ink used for printing the forms will be tested. It must be non-reflective to avoid glare, capable of rendering fine lines, and smear resistant in the presence of moisture.

1.72 Printing of forms.--Inspectors will examine the printed copies for proper margins and clear printing and will look for consistent and recurring defects. Records by type and number of defects will be maintained by the inspector (verifier) and appropriate action taken. The inspectors will examine EA Books, Listing Sheets, and Phase I questionnaires.

For the EA Book cover, the inspector will verify that--

- (1) The cover is printed on heavy paper.
- (2) Margins are straight and measure approximately 1 cm from the edge of the paper on the left and right sides but about 2½ cm at the top (or bottom) where the forms are bound into EA Books. (The wider margin is needed so that, when pages are being used, the bottom of one form and the top of the next will not be difficult to read.)
- (3) There are no paper defects, such as holes or marks (other than printing marks).
- (4) Printing is legible and shading is correctly placed.
- (5) Layout of the pages is correct.

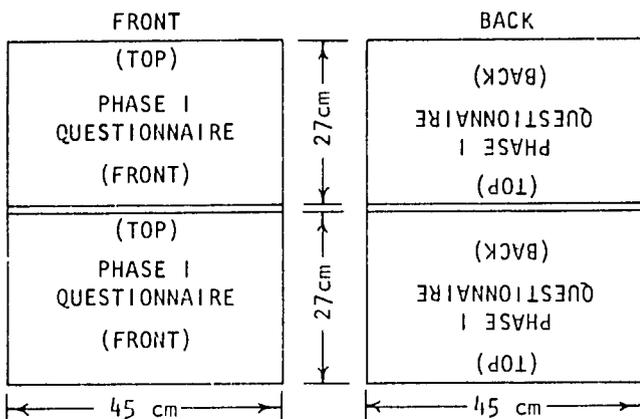
The EA Book for Popstan will be printed on the press that measures roughly 45 by 55 cm. Since the EA Book covers will be approximately 27 cm by 45 cm, including margins, two pages can be printed in one press run (one side), as illustrated below. Popstan will use a spiral binding so that both the enumerators and the NSO clerical staff can turn pages easily. After the printing on both sides, the paper will be cut horizontally.



Note that the "Reminders" are printed on the inside front cover so that the enumerator can refer to the page easily without turning the EA Book around. Likewise, the Industry Classification Guide is printed on the outside back cover so that it is easily referred to without turning the EA Book.

For the Listing Sheets and Phase I questionnaires, the inspector (verifier) will use the same checklist that is used for EA Books, except that lighter weight paper is used.

The Listing Sheets will be printed on the same size paper as the EA Book covers. Four Listing Sheets can be printed on the two sides of the paper. They will be run head-to-foot and cut horizontally. The layout for the Phase I questionnaire is similar, as shown below.



An inspection of the printing will be made daily and a record will be kept to indicate the point where the inspection for the day ended; the inspection will be continuous. For forms that are printed on the front and back, both sides will be inspected. The procedure will be as follows:

- (1) NSO inspectors will examine the first 10 sheets (Phase I questionnaires, Listing Sheets, EA Book covers, ICR's) as they come off the press; if they are acceptable, the inspectors will systematically select 2 adjacent sheets out of each 1,000 and examine them as they come off the press.
- (2) If the sheets are unacceptable, the 1,000 from which the sample is drawn will be examined. Unacceptable sheets will be discarded, or the entire lot reprinted. The cycle is then repeated--examination of the next 10, then 2 out of 1,000. In some cases, printing will be halted until problems are resolved.

In addition to this systematic check, random sampling will be used to find defects which appear only at intervals. Three copies of each

form will be pulled at random from each of the printer's packing boxes. Pencil marks will be made on a ruler at three randomly selected points (a different set of points for each box) to indicate which forms are to be pulled and inspected. If critical defects are found, the box of forms will be rejected and corrective action taken.

1.73 Assembly of EA Books.--Each EA Book will consist of (a) a front cover, (b) Listing Sheets, (c) Phase I questionnaires, and (d) a back cover. Since the printers do not have the equipment to collate the materials mechanically, the NSO will assemble the EA Books manually. As mentioned, Popstan will use a spiral binding. The sequence of the assembly will be (a) front cover with "Reminders" on the back, (b) 4 Listing Sheets printed on both sides, (c) 150 Phase I questionnaires, (d) back cover with the Industry Classification Guide printed on the back. The verification procedure is as follows:

- (1) An inspector will verify the work of each person assembling EA Books. A record will be kept of the number of books inspected each day and the result of the inspection. The inspector will verify the counts of each form, the order in which they are assembled, and their placement (top and bottom of each sheet in correct position).
- (2) The inspector will (a) verify the assembly on a 100-percent basis until he/she finds 20 successive EA Books that are error free, (b) select the next EA Book and every 10th book thereafter until an error is discovered, (c) verify on a 100-percent basis again until 20 successive books are error free, and repeat the cycle.
- (3) The inspector will correct all errors that are detected.
- (4) The control clerk will report to the supervisor any assembler who remains on 100-percent verification for 60 successive EA Books. The assembler needs to be retrained or removed from the operation.

This quality control plan will provide an average outgoing quality limit of about 1 percent; that is, the maximum residual percentage

of books with errors will be about 1 percent. As EA Books are assembled, they are verified; thus, the plan is a continuous production sampling plan, and errors are corrected as they are found in the production process.

2. POPULATION TO BE ENUMERATED

In the Popstan Census, the person is the basic unit of enumeration. However, since the data users are also interested in housing conditions and the way people live, people are enumerated within housing units. This procedure helps to ensure an orderly and complete enumeration.

Persons and housing units will also be the basic units of analysis. Additionally, Popstan will identify and will tabulate households and family nuclei.

The 1980 definitions of housing unit, household, household member, usual residence, and urban-rural residence are essentially the same as those used in the 1970 Census. Family nuclei, however, were not identified in 1970.

2.1 Census population

Persons living at 12:01 a.m. on 1 July 1980, Census Day, will be enumerated--even persons who die before the visit of the enumerator. On the other hand, babies born after Census Day will not be included. Persons will be enumerated at their place of residence at the time of enumeration, however, which may be different from their place of residence on Census Day. Personal characteristics will be recorded for all persons who usually reside in the housing unit (or collective quarters) regardless of whether they are present or temporarily absent at the time of enumeration.

2.11 De jure residence.--Popstan will use a modified de jure approach. Persons will be enumerated at their usual place of residence. Transient persons who are staying temporarily

in the area and have no usual residence elsewhere are enumerated wherever they are found at the time of enumeration. Information about usual residents who are temporarily absent at the time of enumeration is to be supplied by other members of the household.

2.12 Place of usual residence.--Usual residence is the geographic place where the enumerated person usually resides. It may be the same as, or different from, the place where found at the time of the census. It may also be different from legal residence.

Persons who have more than one usual residence are to be enumerated at the place where they spend most of their time. Students at the university level living at a school away from their parents are to be enumerated at the university. Persons living away from home for most of the workweek are to be enumerated at the place where they spend most of the time. Members of the Armed Forces living at a military installation will be enumerated at the installation.

2.13 Composition of the population.--The NSO wishes to achieve complete coverage of the population living in Popstan. In general, all persons whose usual residence is in Popstan are to be enumerated. These include the following special groups of persons:

- (1) Nomads, persons living in remote areas, and homeless persons. Such persons will be enumerated where they are found at the time of enumeration.
- (2) Civilian residents of Popstan temporarily in another country as seasonal workers; civilian residents who cross a frontier daily to work in another country; other civilian residents temporarily absent from Popstan as tourists or persons traveling on business.
- (3) Military, naval, and diplomatic personnel and their families temporarily located outside Popstan.
- (4) Persons who usually reside in Popstan but who are at sea at the time of the census.

Information about citizens temporarily out of the country on official business, such as members of the Armed Forces and the diplomatic corps, will be obtained from the government agency responsible for their absence. Civilian aliens living in Popstan who have a usual residence in Popstan will be included regardless of the length of time they have resided in Popstan.

A few special groups of persons will be excluded from the Popstan Census:

- (1) Citizens of Popstan who have been outside the country for an extended period, such as military, naval, and diplomatic personnel working in another country.
- (2) Citizens of foreign countries who are working in Popstan; these would include seasonal and migratory workers who do not have usual residences in Popstan.
- (3) Citizens of foreign countries who are temporarily visiting or traveling in Popstan, or are living on the premises of an embassy of a foreign country.
- (4) Transients on ships in harbor at the time of the census who do not maintain a usual residence in Popstan.

2.14 Urban-rural residence.--In Popstan, the term "urban" refers to cities, municipalities, and places with a population of 2,000 or more and whose inhabitants live close together and engage predominantly in non-agricultural occupations. The remaining areas are rural.

2.2 Household

Essentially, a household for the Popstan Census will consist of a person or a group of persons who make common provision for food and other necessities for living. A household may consist of one person or a group of related or unrelated persons. The specific definition incorporates the household-housing unit concept. The procedure requires that the enumerator list all the persons living in one housing unit on one questionnaire and report each person's specific relationship to one person regarded as the head; the NSO will apply some fairly

objective criteria to divide the persons into subgroups such as family nuclei. This simplifies the enumeration procedure, avoids giving the enumerator responsibility for identifying subgroups within the housing unit, reduces the number of concepts the enumerator must learn, and generally should achieve consistent results.

2.21 Household member.--A person is to be enumerated as a member of the household if (a) he/she usually lives in the living quarters or (b) he/she has no usual place of residence. In order to avoid missing any person who should be included, the enumerator will be given definite rules as to whom to include and whom to exclude as residents of the living quarters being enumerated.

Below are the basic rules for determining which persons are to be enumerated. Detailed instructions are given in the Enumerator's Reference Manual.

Include as members of the household:

- (1) Persons who usually live in the living quarters and are present (that is, living there) at the time of enumeration.
- (2) Persons who usually live in the living quarters but are temporarily absent at the time of enumeration, on vacation or holiday, visiting friends or relatives, in a short-term hospital, or traveling in connection with their work (traveling salespersons, railroad personnel, persons on business trips, etc.).
- (3) Persons who have a residence elsewhere but stay the larger part of the time in the living quarters because they are working or attending a university in the area. Included in this category are servants who live (and sleep) in the living quarters most of the time.
- (4) Persons who have no usual place of residence and are temporarily staying in the living quarters at the time of enumeration (for example, laborers, migratory farm workers, friends, or relatives who are staying in the living quarters at the time of enumeration and have no usual place of residence elsewhere).

Exclude as members of the household:

- (1) Persons who have a usual place of residence elsewhere but are temporarily staying in the living quarters (persons who are visiting in the living quarters, persons traveling in connection with their work and staying in the living quarters, etc.).
- (2) Persons who usually live in the living quarters but spend the greater part of the time elsewhere because they work or attend college there.
- (3) Persons who usually live in the living quarters but are currently away in the Armed Forces or are living in institutions such as sanatoriums, homes for the aged, and penitentiaries, where the residents ordinarily stay for long periods of time (these persons will be counted as residents of the institution).

2.22 Household listing.--As soon as the enumerator reaches a decision on whom to include, he/she will proceed to list the names of the household members on the Phase I questionnaire. The first item (P-1) refers to the names of the persons to be listed. Brief instructions as to the order in which the names should be entered appear in the heading of item P-1, as shown below.

<p>What is the name of the head of this household?</p> <p>Names of all other persons who usually live here? Be sure to include babies and elderly persons.</p> <p>Members of the household away on vacation? On business? In the hospital?</p> <p>Any persons who have no usual residence elsewhere?</p> <p>List in this order:</p> <p>Head</p> <p>Spouse of head</p> <p>Never married children of head or spouse (by age)</p> <p>Ever married children of head or spouse and their families (by age)</p> <p>Other relatives of head or spouse</p> <p>Nonrelatives of head or spouse</p> <p style="text-align: center;">P-1</p>

What is . . . 's relationship to the head of this household?	Sex	Age as of last birthday	Marital status	Married females	Is . . . 's mother living?	
					1 - Yes	If mother lives in this HU, enter her line number.
1 - Head	1 - Male		1 - Married	If husband lives in this HU, enter his line number.	1 - Yes	If mother lives in this HU, enter her line number.
2 - Spouse of head	2 - Female	If under 1 year, circle 00.	2 - Divorced		2 - No	
3 - Son or daughter of head/spouse			3 - Separated	If husband lives elsewhere, circle 00.	3 - Does not know	If mother lives elsewhere, circle 00.
4 - Other relative			4 - Widowed		If NO or DOES NOT KNOW, skip to P-9.	
5 - Nonrelative			5 - Never married			
			If MALE or code 2, 3, 4, or 5, skip to P-7.			
P-2	P-3	P-4	P-5	P-6	P-7	P-8

2.3 Family nucleus

For Popstan, a census family consists of the head and all persons related to the head by blood, marriage, or adoption. A family nucleus consists of (a) a married couple without children, (b) a married couple with one or more never married children, or (c) one parent with one or more never married children. As indicated above, questions P-2 and P-8 of the Phase I questionnaire provide the information for tabulating family nuclei. (Note that, for Phase I, mother-child groups can be identified but not father-child groups; however, both types are identified in Phase II.) Popstan defines never married children as own never married children under 18 years of age.

3. PERSONAL CHARACTERISTICS

Basic characteristics of each person in the household include relationship, sex, age, and marital status (items P-2 to P-5). These items are essential for demographic analysis. Except for a slight change in marital status, the 1980 definitions for personal characteristics are the same as the 1970 concepts.

3.1 Relationship to head

Each member of the household will be identified according to his or her relationship to

the head. The enumerator is to accept as "head" the person recognized as the head by other members of the household. The head may be male or female, married or not married, related or not related to other persons in the household. For purposes of relationship, consensual unions are treated the same as legal unions. A common-law spouse of the head will be reported simply as "spouse" and the children as sons or daughters. In cases of polygamy, there will be more than one spouse of head if they live in the same HU. All children of the head or spouse, whether they are natural children of the present marriage, adopted children, those of a previous marriage, or those conceived out of wedlock, are to be reported as sons or daughters. Foster children, however, are to be reported as nonrelatives of the head.

3.2 Sex

Unless the enumerator interviews the individual, or unless sex can be definitely determined from the person's name, the enumerator is instructed to ask the respondent whether the individual is male or female. Relationship also may indicate the sex of the person.

3.3 Age

Age as of last birthday is to be reported in years. If the respondent does not know the age, but is able to give the date of birth, the enumerator will compute the age from the date of birth. Date of birth is not widely used in everyday life in Popstan.

The NSO recognizes that there are a few persons in Popstan who do not reckon their ages in formal years, and there are a few who are afraid to report their correct ages for fear of military conscription or superstition. In the remote areas, it is expected that there will be some persons who simply do not know their ages. Enumerators may need to ask the respondent if he or she is older or younger than another per-

son whose age is known. In any case, enumerators are to assure respondents that neither age information nor any other census information will be available to anyone or any agency except the NSO.

Popstan will pay particular attention to the enumeration of children, with greatest care taken to obtain an accurate count of infants who may be ignored altogether by some respondents or who may be reported as having already attained 1 year of age. In cases of doubt, enumerators should try to obtain date of birth; this should be possible for infants, since the event has occurred in the recent past.

To check on the probable accuracy of answers to the age question, Popstan enumerators will be familiarized during their training with some of the common biases in age reporting that they may encounter. Such biases take the form of reporting oneself as younger or older, or they may show up as a preference for certain digits of age, such as ages ending in 5, 0, or even numbers.

3.4 *Marital status and identification of spouse*

For Popstan, marital status will be tabulated only for persons 12 years and older, 12 being the legal minimum age to marry.² The category "married" will include both legal and consensual unions. The category "separated" will include both legal and de facto separations; for some analyses, "separated" persons will be included in the "married" category. Persons who have been widowed or divorced but have remarried are to be reported in their current status as married.

For married females, the enumerator is to identify the spouse by line number. This will

²Note that the questionnaire does not limit item P-5 to persons 12 years or older. Another "skip" pattern on the questionnaire would have complicated the instructions.

permit a tabulation of the number of married couples in the household.

In 1970, a separate category was provided for "married consensually" and the category "separated" referred only to legal separations. The experience in 1970 indicated poor responses for both situations. Respondents were reluctant to provide accurate replies. The other categories for marital status remain the same.

4. MIGRATION

Items P-9 and P-10 deal with place of birth and duration of residence in the district. Place of birth is intended to be the usual residence of the person at the time of birth. For children born away from home (in a hospital or at the mother's parental home, for example), the place of birth will be the residence of the mother. In item P-9, two neighboring countries (in addition to Popstan) are specified: these are the countries of greatest importance as far as in-migration is concerned.

Duration of residence is the interval of time up to the date of the census during which the individual lived in the district of current residence. The period must be continuous. If the individual moved out of the district and back again, the number of years should be cal-

In what country was ... born?	How many years has ... lived continuously in this district?
1 - Popstan	
2 - Endar	
3 - Victoria	<i>If under 1 year, circle 00.</i>
4 - Other	<i>If always, circle 98.</i>
P-9	P-10

culated from the time the person moved back to the district. The time should be reported in years, rounded to the nearest whole number.

For both items, the 1980 concepts to be used in Popstan are the same as those used in the 1970 Census. The 1980 questions are shown above. Note that the category "always" makes it easy for the enumerator to report persons who have never moved.

5. EDUCATION AND LITERACY

Information on school attendance, educational attainment, and literacy will be published for specific age groups. There is no change from the 1970 concepts, although school attendance will be published for a broader age group to measure the increased interest in adult education in Popstan.

5.1 School attendance

School attendance is defined as attendance at any regular educational institution, public or private, for systematic instruction at any level of education. In Popstan, schools are in session when the census is taken in July; thus, attendance will refer to the current school year. Instruction in particular skills which is not part of the recognized educational structure of Popstan, is not considered school attendance; for example, a training course in sewing in a clothing factory. For Popstan, data will be published for persons 5 to 29 years of age; this age group will include children of compulsory age for attending school as well as a substantial number of adults who are expected to take advantage of Popstan's illiteracy eradication and continuing education programs. In 1970, data were published for persons 5 to 24 years of age.

5.2 Highest grade completed (attainment)

Educational attainment refers primarily to the highest grade completed within the most

advanced level attended in the educational system of Popstan, but it also takes account of any adult education that is measurable in levels and grades, or their equivalent, even though it is provided outside of the regular school and university system. A grade is a stage of instruction usually covered in the course of a school year. The Popstan school system has 5 years of primary school, 3 years of middle school, 4 years of high school, and 4 years of college or university systems. For persons who completed post-graduate work for a higher degree at a university, the enumerator will circle 17+, which is equivalent to post-graduate college or university work. For purposes of item P-12, kindergarten is considered as pre-school and is not counted as a year of school completed in Popstan.

The published tables will emphasize educational attainment of persons 15 years or older, the age at which many persons will have completed their education. The report will show separate statistics for persons under 15 years of age.

5.3 Literacy

Literacy is defined as the ability to read and write. Persons are literate who can, with understanding, both read and write a short simple statement on their everyday life. Persons capable of reading and writing only figures or their own names are considered as illiterate, as are persons who can read but not write and those who can read and write only a ritual phrase that has been memorized. The language in which the person can read and write is not a factor in determining literacy. Although a number of languages are commonly used in Popstan (and these will be reported in Phase II), no attempt will be made to relate literacy to a specific language. For Popstan, data on literacy will be tabulated for persons 10 years or older. For international comparison, the

tabulations will provide separate figures for persons 15 years or older.

Note that literacy will not be asked for persons who have completed the fourth grade, regardless of age. It is assumed that persons who have had that much schooling are able to read and write.

PERSONS 5 YEARS AND OLDER		
Does ... attend school?	What is the highest grade or year that ... has completed?	Can ... read and write?
1 - Yes	None (N)	1 - Yes
	00	
2 - No	Primary (P)	2 - No
	01 02 03 04 05	
	<i>Omit if 35 years or older.</i>	
	Middle (M)	
	06 07 08	
	High school (H)	
	09 10 11 12	
	University (U)	
	13 14 15 16 17+	
	<i>If 04 or more, skip to P-14.</i>	
P-11	P-12	P-13

6. FERTILITY AND MORTALITY

Information on the number of live births will cover all children born alive (that is, excluding stillbirths) during the lifetime of the women up to the census date. The number to be included comprises all live-born children, whether born in or out of marriage, whether born of the present or prior marriage, whether living or dead at the time of the census, and whether living in the HU or elsewhere. Data will be collected for all women 12 years or older, regardless of marital status.

Older women particularly are prone to make errors in reporting the information. They may have had many children years ago, several of whom have died; at present, the women attach little importance to the event, or they may not remember accurately. In addition, religious

beliefs and superstitions regarding stillbirths may be another reason for reporting inaccurate information. As indicated by the items below, the NSO included additional questions (P-15 to P-17) to improve the accuracy of the data on the total number of children born alive. Item P-14 seeks total number of children born alive regardless of their present ages; items P-15, P-16, and P-17 distribute this total according to the number living in this HU, number living elsewhere, and number dead. Item P-18 asks the number of live births in the last 12 months. For items on live births, the 1970 Census of Popstan asked (a) total number of live births and (b) number still living.

FEMALES 12 YEARS AND OLDER				
How many children have been born alive to ... ?	How many of these children are now --			How many children have been born alive to ... in the last 12 months?
	Living in this HU?	Living elsewhere?	Dead?	
// NONE, circle 00 and skip to P-19.	// NONE, circle 00.	// NONE, circle 00.	// NONE, circle 00.	// NONE, circle 0. Omit if 50 years or older.
P-14	P-15	P-16	P-17	P-18

The information provided by items P-7 and P-8 (see section 2.3) also contributes to the measurement of fertility and mortality. The responses of P-7 and P-8 link children with their mothers living in the same housing unit and thus facilitate measurement of fertility based on the "own children" method. The estimation of female adult mortality can also be derived from items P-7 and P-8, although some additional information would be desirable. For mothers with more than one surviving child in the housing unit, the data from P-7 will

over-represent such mothers, compared with mothers with only one surviving child. It would be desirable to be able to identify the eldest living child for a better estimation of female mortality.

7. ECONOMIC CHARACTERISTICS

Economic characteristics in Phase I are covered by items P-19 to P-25. The questions are asked of all persons 12 years of age or older, which will cover all but a very small percentage of the labor force. School attendance is compulsory up to age 12, although some children under 12 are working at least part time. The reference period is the previous month. Except for the 1-week reference period used in 1970, the concepts relating to the 1980 labor force remain essentially the same as in 1970.

The 1-month reference period is expected to give broader coverage of the labor force (both employed and unemployed persons). In a census, the separate figures for employed and unemployed will not be precise. Because they are dynamic measurements, Popstan plans continuing surveys of the labor force.

Special care will be taken to instruct enumerators to ask the questions of everyone. They are not to assume, for example, that women are not working or looking for work because they appear to be engaged in taking care of the family, or that persons who appear disabled are not working or seeking work.

Note that the classification of a person as employed, unemployed, or economically inactive is not answered by a single question. A combination of several items is needed.

7.1 Employed and unemployed

Popstan adopted definitions of employed and unemployed persons consistent with international recommendations. In the publication

tables, data on economic activity will be for the civilian population; members of the Armed Forces will be shown as a separate category.

7.11 Employed.--Persons are considered employed if, during the reference period, they meet any one of the following criteria; that is, if they--

- (1) Worked for 1 hour or more for pay or profit as an employee for wages, salaries, commissions, payment in kind, etc., or as a self-employed business person, farmer, or professional worker.
- (2) Worked for 15 hours or more per week without pay on an agricultural holding or in a business operated by another member of the household. This concept is consistent with the practice of considering certain minimum amounts of work (for example, a third of a normal workweek) as reflecting family chores rather than gainful activity.
- (3) Did not work at all during the reference period but had a job or business from which they were temporarily absent because of vacation, short-term illness, labor dispute, bad weather, or other reason.

7.12 Unemployed.--Persons are considered unemployed if, during the reference period, they meet any one of the following criteria; that is, if they--

- (1) Were actively looking for work.
- (2) Were available for work but were not actively seeking it because they believed there were no jobs open to them.
- (3) Were on temporary or indefinite layoff without pay.
- (4) Were waiting to start a new wage or salary job scheduled to begin within the following 30 days.

With a reference period of 1 month, the number of unemployed persons will be smaller than for a reference period of 1 week. Fewer people are likely to be unemployed for a month than for a week. The NSO is aware that the implications of the figures on unemployment will need to be carefully explained to users.

7.2 *Priority activity*

The NSO subject specialists responsible for the concepts in Popstan realize that it is not feasible in a census to include sufficient probing questions to cover all the aspects of unemployment (as stated above). Nor is it feasible to train the enumerators to ask sufficient questions regarding layoffs, new jobs, etc. Consequently, they will use a reasonable number of questions that will correctly identify as much of the labor force as possible.

Participation in an economic activity takes precedence over any non-economic activity. The approach in Popstan indicated by the questions on the Phase I questionnaire is to ask for major activity during the reference period (item P-19). For persons who worked, no further inquiry is needed; for others, a follow-up question (P-20) will be asked to determine if the person did any work at all; if not, then P-21 asks if the person is looking for work and, if not looking, the reason for not looking (P-22). In reporting the reason, the category "unable" is used only for persons who, because of a long-term physical or mental illness or disability, are unable to do any kind of work. Persons who report that they are retired or too old to work are included in the category "did not want job."

7.3 *Hours worked*

The number of hours worked will be the total for all jobs (excluding own housework, volunteer work, unpaid family work of less than 15 hours a week, and other activities that are not considered work for purposes of the labor force). Item P-23 refers to the usual weekly hours worked. For example, if the person worked 35 hours for each of 3 weeks and 22 hours during 1 week when there was little work to be done, the figure to be reported would be 35 hours.

PERSONS 12 YEARS AND OLDER						
During June what was . . . doing most of the time --	During June --					
	Did . . . do any work at all not including own housework?	Was . . . looking for work?	Why was . . . not looking for work?	How many hours per week did . . . usually work at all jobs, not including own housework?	In what business or industry was . . . 's principal job?	Was . . . --
1 - Working <i>Skip to P-23.</i>		1 - Yes <i>End interview for this person.</i>	1 - Had job <i>Skip to P-24.</i>		1 - Farming, forestry, fishing, hunting	1 - Employer (ER)
2 - Own housework	1 - Yes <i>Skip to P-23.</i>		2 - Job not available		2 - Mining, quarrying	2 - Employee for pay (EE)
3 - Going to school	2 - No	2 - No	3 - Did not want job		3 - Manufacturing	3 - Self-employed or own account worker
4 - Something else			4 - Unable to work		4 - Electricity, gas, water	4 - Unpaid family worker
			<i>If 2, 3, or 4, end interview for this person.</i>		5 - Construction	5 - Armed Forces (AF)
P-19	P-20	P-21	P-22	P-23	P-24	P-25

It is assumed that the number of hours usually worked would be indicative of the work pattern of the individual.

Data on hours worked are being obtained in the Popstan Census primarily to identify unpaid family workers and to distinguish full-time and part-time workers. Additional tabulations will be made comparing usual hours worked per week for different branches of economic activity or industry. The data will not be used for precise and complex applications such as the calculation of index numbers for wages or productivity, which require careful accounting of hours actually worked. Nevertheless, the hours reported should correspond to usual hours per week during the weeks worked within the reference month. Overtime hours should be counted as well as paid vacation time and paid sick leave.

7.4 Industry

Industry refers to the respondent's principal job during the reference period. The categories are consistent with the major 1-digit groups of the International Standard Industrial Classification of All Economic Activities (ISIC).

7.5 Status in employment

Status in employment describes whether the individual is an employee, an employer, a self-employed or own-account worker, an unpaid family worker, or a member of the Armed Forces. An employee works for an employer and receives wages, salary, commissions, piece rates, pay in kind, or other compensation. An employer operates his or her own economic enterprise or engages independently in a profession or trade and hires one or more employees. A self-employed or own-account worker operates his or her own economic enterprise and does not hire any employees. An unpaid family worker is defined as a person who works at least 15 hours a week without pay in an economic enterprise operated by a person living in the same household.

7.6 Economically inactive

Economically inactive persons are persons who are neither employed nor unemployed during the reference period. For the most part, these will be women engaged in household duties in their own homes, young persons in school, and retired and disabled persons. The group also includes persons engaged in activities not

classified as work, such as volunteer work for charitable or religious organizations, and unpaid family work of fewer than 15 hours per week.

8. STRUCTURAL HOUSING CHARACTERISTICS

For the housing census, Popstan will collect data on a few basic items for both occupied and vacant units. Questions on facilities, however, will be limited to occupied units. Unless otherwise specified, definitions are virtually unchanged from 1970.

8.1 Building

A building is an independent structure covered by a roof and usually enclosed within external walls or dividing walls which extend from the foundation to the roof. In some arid parts of the country, a structure may not have a roof. The housing census is concerned with buildings that contain any living quarters. Buildings may or may not contain commercial or industrial enterprises. They may be single-family houses or large apartment buildings.

A building is an indirect but important unit of enumeration for the housing census, since information is required concerning the building (such as number of housing units in the building and construction material of the walls and roof). In Popstan, questions about the building are asked in terms of the building in which the HU is located and the same information is recorded for each HU in the building. For example, for a building that contains four HU's and is constructed of cement, each of the four questionnaires should show "cement" for construction material of outer walls (item H-3) and "2 to 4" units in the building (item H-2).

8.2 Living quarters

Living quarters are defined as structurally separate and independent places of abode. They may have been constructed, converted, or otherwise arranged for habitation. In the case of

improvised and mobile units, only those that are occupied are to be considered living quarters.

In some areas of the two largest cities of Popstan, there are some people who have no homes at all (the homeless population). For purposes of the census, they are identified as a separate group.

8.21 Housing unit.--A housing unit is a single room or group of rooms, or other space arranged for human habitation, occupied or intended for occupancy as separate and independent living quarters by a person living alone or a group of persons living together. Vacant housing units are identified in essentially the same manner.

The term "separate" is interpreted to mean that the occupants can isolate themselves from other persons in the structure for the purpose of sleeping, preparing their meals, or protecting themselves from the hazards of climate and environment.

The term "independent" indicates that the occupants have direct access to their quarters from the outside of the structure or through a public or common hall without passing through any other living quarters.

8.22 Collective quarters.--Collective quarters consist of living quarters in which a number of individuals live together and share common facilities and where the residents do not have complete and independent quarters that qualify as housing units. Included are institutions (prisons, sanatoriums, homes for the aged, orphanages), monasteries, convents, work camps, barracks, transient hotels, large rooming and boarding houses, etc. In some instances, there will be both housing units and collective quarters on the premises. For example, staff of an institution may have their own family quarters (housing units); employees in transient hotels may have separate apartments; etc.

<p>H-1. Type of living quarters</p> <p>1 - Conventional HU</p> <p>2 - Improvised HU (makeshift shelter of waste materials, barn, cave, warehouse, etc.)</p> <p>3 - Mobile HU (tent, boat, wagon, etc.)</p> <p>4 - Collective quarters } <i>Skip to H-19.</i></p> <p>5 - None (for homeless)</p>	<p>H-4. ROOF - Main construction material of roof on this house (building)</p> <p>1 - Stone, cement, brick, tile, slate</p> <p>2 - Metal</p> <p>3 - Wood</p> <p>4 - Bamboo, leaves, reed, mud</p> <p>5 - Other material or none</p>
<p>H-2. Number of housing units in this house (building)</p> <p>1 - 1 unit, detached</p> <p>2 - 1 unit, attached</p> <p>3 - 2 to 4 units</p> <p>4 - 5 to 9 units</p> <p>5 - 10 units or more</p>	<p>H-5. FLOORS - Main construction material of floors in this housing unit</p> <p>1 - Stone, cement, lime</p> <p>2 - Tile, slate, marble</p> <p>3 - Wood</p> <p>4 - Leaves, reed, mud</p> <p>5 - Other material</p>
<p>H-3. WALLS - Main construction material of outer walls of this house (building)</p> <p>1 - Stone, cement, stucco, brick</p> <p>2 - Metal</p> <p>3 - Wood</p> <p>4 - Bamboo, leaves, reed, mud</p> <p>5 - Other material</p>	<p>H-6. How many rooms are in this unit?</p> <p>_____ rooms</p>

For Popstan, large rooming or boarding houses are defined as those with 10 or more boarders or lodgers who do not have separate housing units. The limit of "10" was determined to be the number which distinguishes a "commercial" lodging or boarding house from a private household with lodgers or boarders. Note that no further housing information is obtained for collective quarters.

8.3 Type of housing unit

A housing unit may be intended for habitation, or not intended for habitation but occupied at the time of the census. The "type" of housing unit is not necessarily a measure of its housing quality.

A mobile housing unit is one that is made to be transported (such as a ship, boat, railroad car, caravan, trailer, etc.). An improvised housing unit is made of waste materials without a predetermined plan. A conventional housing unit is a relatively permanent structure.

Mobile and improvised quarters ordinarily do not meet the generally accepted standards for habitation. Such units are included in the census only if they are occupied as living quarters; if vacant, they are not included in the housing inventory.

8.4 Construction material

Although the NSO considers information on material of construction a factor in the assessment of housing quality, it is not a substitute for information on type of housing unit, which attempts to give an indication of the permanency of the unit. For example, wood may be the principal material of construction of a poorly constructed hut or a durable and well-constructed apartment building. Popstan will obtain data on the principal construction materials for the outer walls, the roof, and the floors of the housing unit. The categories include the most common materials used in Popstan, as shown in items H-3 to H-5.

8.5 Number of rooms

A room is defined as a space in a housing unit reaching from the floor to the ceiling or roof covering, or at least to a height of two meters. It must be of a size large enough to hold a bed for an adult; that is, four square meters at least. The total number of rooms, therefore, will include bedrooms, dining rooms, living rooms, habitable attics, servants' rooms, and kitchens. Excluded are kitchenettes, halls, passageways, bathrooms, and rooms used for professional or business purposes.

8.6 Period of construction

Time of construction of the housing unit refers to the completion of the original construction, not to any alterations or conversion of the original unit. Where parts of the house have been constructed at different times, the time of construction refers to the major part of the unit.

9. HOUSING OCCUPANCY AND FACILITIES

A housing unit will be either occupied or vacant at the time of enumeration. A unit is occupied if there are any persons living in it or if they are temporarily absent.

A special case is a housing unit that is temporarily "occupied entirely by nonresidents" (persons with usual residence elsewhere); for example, a vacation home that is temporarily occupied by the owner who has a usual residence elsewhere. This type of unit is to be reported as occupied by nonresidents only. No household members are to be listed on the Phase I questionnaire but items H-1 to H-10 are to be filled.

9.1 Tenure

For Popstan, tenure applies to the dwelling and not to the land. The category "owned or being bought" consists of units occupied by persons who own the homes they occupy or by

persons who are in the process of buying them. Among the renter group, households paying cash rent are distinguished from those who receive the use of a unit in return for services rendered or other arrangement.

In some parts of Popstan, persons occupy the quarters free (no cash rent), often without the permission of the owner of the quarters; the tenure for such HU's would be reported as "other arrangement." On the other hand, improvised units that are not owned by someone else but which are the property of the occupants would be reported "owned."

H-7. Is this unit owned by someone living in it or is it rented?

Occupied:

- 1 - Owned or being bought - Skip to H-11.
- 2 - Rented for cash
- 3 - Rent free or other arrangement - Skip to H-11.
- 4 - Vacant - Skip to H-9.

H-8. What is the amount of rent paid monthly?

Round to the nearest goldar.

_____ goldars
Skip to H-11.

In item H-8, monthly rent is required for units that are occupied by persons renting for cash. The amount to be reported is the amount contracted for, whether it is for shelter only or whether it includes the use of furniture or payment of utilities.

9.2 Vacancy status and type of vacancy

The items on vacancy status and on type of vacancy apply only to vacant conventional HU's, since all other HU's must be occupied in order to fall within the scope of the census.

The status of a vacant unit refers to its economic position in the housing market. Units are to be reported as "for rent or sale" or as "not for rent or sale." The latter group would include units already rented or sold, but not

yet occupied, and units held for occupancy by their owners (including vacation homes).

VACANT UNITS	
H-9. Vacancy status	
1 - For rent or sale	
2 - Not for rent or sale	
H-10. Condition of vacant unit	
1 - Habitable for year-round use	
2 - Habitable for seasonal use	
3 - Not habitable	

Vacant units will be reported as habitable or not habitable and further as to whether they are intended for year-round use or for seasonal use only. A unit in need of extensive repairs, but still fit for human habitation, would be reported as "not habitable."

In enumerating vacant housing, it is important that a decision be made with regard to

(a) units under construction and (b) units that are in such bad condition they are no longer considered habitable. For Popstan, the housing inventory will include newly constructed units provided construction has reached the point that the outer walls, roof, and floors are in place. A vacant unit in bad condition is to be reported as "not habitable" unless it is in such condition that it would be considered unfit for human habitation, in which case it will not be included in the inventory.

9.3 Water, toilet facilities, and bathing facilities

The questions on water supply are concerned largely with the availability of piped water, whether from a community-wide system or an individual installation such as a pressure tank or pump. The categories further separate housing units with water supply (a) inside the building, (b) outside the building but nearby,

OCCUPIED UNITS		
H-11. Was this unit constructed in the last 12 months? 1 - Yes 2 - No	H-14. What type of toilet facilities are available for this unit? 1 - Flush toilet for exclusive use of the occupants of this HU 2 - Flush toilet shared with occupants of another HU 3 - Out-house or out-building 4 - Covered pit 5 - Open pit, ditch, pail 6 - Other	H-17. What kind of lighting does this unit have? 1 - Electric 2 - Gas 3 - Kerosene 4 - Other or none
H-12. Is there piped running water for this unit? 1 - Piped water inside building (structure) 2 - Piped water outside building (structure) within 100 meters 3 - Piped water outside building (structure) beyond 100 meters 4 - No piped water	H-15. What type of bathing facilities are available for this unit? 1 - Bath tub or shower with piped water for exclusive use of the occupants of this HU 2 - Bath tub or shower with piped water shared with occupants of another HU 3 - Hand basin with piped water 4 - Portable tub or basin 5 - Other	H-18. What kind of fuel is used most in this unit for cooking? 1 - Electricity 2 - Gas 3 - Kerosene or oil 4 - Coal or charcoal 5 - Wood 6 - Other or none
H-13. What is the source of the drinking water for this unit? 1 - Pipe or pump inside building 2 - Pipe or pump outside building 3 - Bottled or canned water 4 - Closed well or closed spring 5 - Open well or spring 6 - River, lake, other	H-16. Is there a television set in this unit? 1 - Yes 2 - No	H-19. Are any articles produced in this unit for sale or barter - not including agricultural products? 1 - Yes 2 - No

and (c) outside the building at some distance away. The source of drinking water may be different from the source of water for general purposes. If more than one source of water is used by the household, the enumerator is to report the source that appears first in the list in item H-12 and H-13.

The items on toilet and bathing facilities make a distinction between those that meet the generally accepted standards of housing quality and those that are considered as substandard. They are classified by type and whether they are for the exclusive use of the occupants or shared with occupants of another HU. A flush toilet is an installation connected to running water. A bathtub or shower connected to running water is differentiated from portable types.

9.4 *Lighting equipment, television, and cooking fuel*

The enumerator is to report the type of lighting that is available in the HU. Note

that the list is arranged in order of importance. Thus, if more than one type of lighting is available, the enumerator is to report the type appearing first in the list of answer categories. For the question on television, a unit is to be reported as having a set even if it is temporarily out of order. The categories on the type of fuel used most for cooking are not in order of importance; the enumerator is to simply report the type used most.

9.5 *Home industry*

Item H-19 is included on the Phase I questionnaire primarily to identify the households that engage in home industry to provide a rough measure of the extent of this kind of industry in Popstan. Also, a sample of such households can be included in economic surveys. The question asks whether any articles are produced in the home for sale or barter. Agricultural products are excluded, since the interest is in the non-agricultural sector.

Chapter C-3. TABLE FORMATS

1. GENERAL CONSIDERATIONS

The subjects to be covered in Popstan's 1980 Census were determined during the early stages of planning. As stated in chapter C-2, table outlines are developed at the same time as the questionnaire in order to ensure that no item of information that is required in the publication tables is omitted from the questionnaire. Conversely, no item is included on the questionnaire unless it will serve some useful purpose in the published reports.

1.1 UN recommendations

In planning the publication tables, primary consideration is given to the recommendations in the UN *Principles and Recommendations for Population and Housing Censuses*.¹ These recommendations, which resulted from principles and guidelines developed by various regional bodies, include tabulations as well as concepts and procedures.

Several tables not recommended in the UN guidelines are included in Popstan's publication program to meet data requirements of the government. For the most part, however, Popstan will adopt tabulations recommended in the UN publication.

1.2 Use of computer

Popstan will use available software packages to expedite tabulations. Moreover, for the tables in Volume I(B), computer printouts will be the camera copy for printing (except for adding titles and headnotes in different

type and drafting the tables manually). The computer software has some limitations; however, the limitations are relatively minor compared with the advantages of using a prepared program.

1.3 Comparative data from earlier censuses

Another consideration in planning the detailed tables is the availability of data from the 1970 and 1960 Censuses. The NSO believes that the usefulness of the 1980 data is greatly enhanced if comparative data from the previous censuses are included in some of the tables.

1.4 Special requirements for Popstan

Several tables are included in the publication program for Popstan to meet special data requirements of the government. For example, a table is included on economic activity of women who have own children living with them; and a table is included on literacy and economic activity of foreign-born persons to identify areas where special literacy and job training programs are needed.

2. DETAILED TABLES FOR VOLUME I(A)

Volume I(A) is limited to the final population counts for all administrative divisions of Popstan. It includes counts by urban-rural residence and counts from earlier censuses, but does not contain any data on characteristics of the population.

2.1 Content of the tables

The tables present population counts by urban-rural residence, land area, population density, distribution of the population by size groups of administrative areas, and rank.

¹United Nations Statistical Office, *Principles and Recommendations for Population and Housing Censuses*, ST/ESA/STAT/SER. M/69 (New York, 1979).

Also, the tables show comparable 1970 and 1960 data and percentage change since the earlier dates. The content is reflected in the titles of the tables and in the table formats, illustrated in exhibit C-3-1.

2.2 Organization of the tables

The tables are organized by geographic and administrative areas as follows: tables 1 to 3 for Popstan, regions, and provinces; tables 4 to 6 for districts; table 7 for barrios, villages, and hamlets; table 8 for metropolitan areas; and tables 9 and 10 for urban places. In total, the tables for Popstan present population counts for 15 provinces, 197 districts, 2 metropolitan areas, and approximately 7,600 barrios or villages and 12,500 hamlets.

2.3 Preparation of the tables

Because the number of tables is small and because they contain a considerable amount of 1970 and 1960 data, a computer program will not be written to produce a camera-ready printout. Rather, the tables will be typed for 25-percent reduction and printed on paper 8½ by 11 inches (approximately 22 by 28 cm).

3. DETAILED TABLES FOR VOLUME 1(B)

Data for Volume I(B) will result from the information collected in Phase I of the census. Since Phase I is the 100-percent enumeration, detail can be shown for small as well as large areas. See exhibits C-3-2 to C-3-6.

The items included in Phase I can generate a considerable number of tables. Inasmuch as resources are limited, the NSO directs much attention to setting up tables which will provide data of maximum benefit to users.

3.1 Considerations

To produce results promptly, the NSO will make maximum use of the computer edit and tabulation software packages. Computer printouts

will be used as the camera copy for offset printing. Therefore, it is necessary that table formats be designed in final form.

3.2 Categories in the tables

The categories that are specified in the tables necessarily are consistent with the categories on the questionnaire. Insofar as possible, the international and regional recommendations on classifications are observed (categories for education and industry, for example).

Note also that categories for the same subject need to be consistent from table to table if data for several tables are to be related. For example, the following age groups in table A permit direct comparison with table B. However, the categories in table C are not directly comparable with either A or B.

<u>Table A</u>	<u>Table B</u>	<u>Table C</u>
Under 1 year	Under 10 years	Under 12 years
1-4 years	10-19 years	12-19 years
5-9 years	20-34 years	20-29 years
10-14 years	35-54 years	30-39 years
15-19 years	55-64 years	40-49 years
20-24 years	65 years or older	50-59 years
25-34 years		60 years or older
35-44 years		
45-54 years		
55-64 years		
65 years or older		

3.3 Cross-tabulations

For many census topics, the results take on added significance when cross-tabulated with some other characteristic. For example, education, employment, and migration data usually show significant variations for the two sexes and for different age groups. For Popstan, therefore, most of the population items are cross-tabulated with sex and age. Or they are cross-tabulated with each other (education and fertility, for example). Similarly, many of the housing items are cross-tabulated with tenure or type of unit.

3.4 Level of detail

The level of detail to be published for any particular topic depends on the (a) number of categories included on the questionnaire, (b) geographic areas for which the data are being shown, and (c) availability of space in the table itself. Age, for example is reported in individual years. Thus, it is possible to tabulate in single years or any desired groups of years. On the other hand, only four categories are shown for place of birth; therefore, only these four can be shown in the tables.

The amount of detail in the tables for Popstan varies with the size and importance of the geographic area. The greatest amount of detail is to be published for the country as a whole, the four regions, and the 15 provinces, separately for the urban and rural parts of the population. The same detail is shown also for the two metropolitan areas and for urban places of 50,000 inhabitants or more. There are more uses for detail at these levels in Popstan than at lower levels. Much less detail is shown for districts and urban places of 10,000 to 49,999 inhabitants, and even less detail for barrios, villages, and urban places of 2,000 to 9,999 inhabitants. Two final tables summarize population and housing data by tract or block for the two largest cities.

As a practical consideration, it is not possible for Popstan to publish all the data that might be useful or to publish detail for all areas. The space available in the tables and the limited number of pages for the volume place definite restrictions on the level and amount of detail to be published for an area.

In deciding on table content and sequence of topics for each area level, the subject matter specialist works closely with the systems analyst and the computer programmer who know the software packages and can advise on spacing and arrangement of items. For more efficient

processing, it may be possible to move an item from the boxhead to the stub or vice versa, or to arrange items for small areas so that they can be easily summarized for provinces and regions. Although the tables are designed primarily for the benefit of the data user, the table formats take account of efficiencies in programming and tabulating.

3.5 Derived statistics

In some tables, the NSO includes derived statistical measures such as medians, averages, and percentages to assist the user. The computer can calculate these measures very quickly. As a general rule, they are not shown when they would be based on fewer than 50 cases. Moreover, medians will be calculated from detailed distributions rather than grouped data.

3.6 Mechanics of table design

As with most software packages, the one selected for Popstan has certain requirements and limitations that must be observed. The size of the report page also is an essential consideration. The staff necessarily must be aware of any restrictions before designing the table formats. An effort is made also to produce tables that are consistent in style and amount of reduction.²

3.61 Size of report page.--For Volume I(B), the page size will be 8½ by 11 inches (or about 22 by 28 cm), the same as for Volume I(A). This size was chosen because it is a standard size for most commercial printing in Popstan. A smaller page would not make full use of the number of digits that can be printed horizontally with reasonable reduction in type size.

3.62 Limitations.--The software Popstan will use permits up to 1,386 cells and 24 columns per table. Otherwise, the table must be

²Refer to exhibit B-6-1 in Part B for discussion on mechanics of tabular presentation.

divided; for example, school attainment for persons 5 to 14 years old in one table and 15 or older in another. The computer printer permits up to 132 characters across the page. At 10 characters per inch, the maximum width of a table is 13.2 inches (or approximately 33.5 cm). Then, when the computer printout is reduced to a little less than half, the resulting copy will measure 7 inches (18 cm), which corresponds to the image width on a report page. Furthermore, at this rate of reduction, the copy will be very legible and one page will accommodate about 105 lines vertically (including blank lines between panels of data, table title, headnote, and boxhead). To the extent possible, the NSO staff arranged topics so that categories for a topic are not divided--part at the bottom of one page and the rest at the top of the next page.

For most tables, it is necessary to reserve some of the 132 horizontal characters for the line designations in the stub; the software for Popstan has a maximum of 40 characters in the stub. The remaining characters are used for the data columns, the number of columns depending on the number of spaces required for each column. For example, a total column for the population of Popstan (approximately 17,000,000) requires a minimum of 11 spaces, one for each of the eight digits and two commas, and one space to separate the total column from the column that follows it. As another example, a column showing percent to one decimal place (including 100.0) requires a minimum of six spaces, and a column for median age (for example, 29.9) requires a minimum of five spaces. The number of spaces is also controlled by the spaces needed for the words in the boxhead. Frequently the words in the column headings require more spaces than the figures. Although abbreviations and multiple lines are permissible in column headings, consideration is given to appearance, legibility, clarity of the heading, and arrangement of the figures.

Finally, while it is not necessary for all the columns to be equal in width, some measure of uniformity is desirable in order to avoid confusion and possible misinterpretation of the data. In designing the table formats, the NSO staff made an effort to keep the columns within each table uniform in width, except columns that contain percents, averages, and medians.

3.63 Titles, column headings, and vertical lines.--For convenience, the table titles are not centered over the table, and column headings are not centered over each column (but the words in the spanner are centered). Table titles are left justified (lined up on the left) regardless of the number of lines, and column headings are right justified (lined up on the right) as shown in exhibits C-3-2 to C-3-6.

For the Popstan volumes, table titles in bolder type will replace the titles produced by the computer printer, and a minimum of vertical lines will be drawn on the tables. The area or province name will be given in the running head of the page; consequently, it is not necessary to include the area name in the table titles for provinces and regions.

3.64 Count of pages.--In planning the tables, the NSO staff was constantly aware of the number of pages required for each table. It soon became apparent that the number of administrative divisions was an important factor. For example, a single-page table for each district would add 200 pages, while a half-page table for each barrio/village would add approximately 3,800 pages. The decision on the amount of data to publish for an administrative area took account of the likely use of the data at that level and whether the need for data for a few barrios could be more economically filled by special tabulations of those barrios.

Unlike the tables in Volume I(A), which require less than 200 pages (mostly half-measure tables), the tables in Volume I(B) are

numerous and require considerable space. For example, table P-5 for Popstan and the four regions requires about 6 pages. Table P-150 for Copal Province (which has about 1,100 barrios/villages and small urban places) requires about 11 pages. The NSO has had to use some restraint in planning the number and length of the tables. Yet they are providing a considerable amount of data which communities have no other means of getting.

3.7 Organization and content of the tables

The tables are organized in two basic sets: (a) tables for Popstan and the four regions and (b) tables for a province and its subdivisions. In this way, tables for a province and all its administrative divisions will be printed as a separate set of pages to constitute a chapter. The province chapters will be assembled with the tables for Popstan and the regions into one large volume. With individual chapters, the detailed tables for a province can be prepared and made available to users in advance of the publication of the whole volume.

In exhibit C-3-2 are the population table titles and formats for Popstan and the four regions, and in exhibit C-3-3 are the housing titles and formats. Exhibits C-3-4 and C-3-5 are the formats for each province and its subdivisions. Note that population table numbers have the prefix "P" and housing tables have the prefix "H." The tables for a province and its subdivisions are numbered in the 100 series. Tables for tracts and blocks in St. Regis and Tanga complete the series.

Note also that there are three levels of detail (in addition to tract and block data). Insofar as possible, the items are so arranged that the categories for all three levels are consistent and comparable. Usually, the categories for small areas are simply combinations

of the detailed categories in the large areas. For the convenience of data users, a number of the same totals and subtotals appear in several tables. Additionally, tables P-1 and H-1 summarize data for selected characteristics to facilitate comparison by area.

3.71 Tables for Popstan and regions.--

Tables P-1 and H-1 summarize data on selected characteristics for regions and provinces, by urban-rural residence. Tables P-2 to P-33 and tables H-2 to H-33 are grouped, for the most part, by subject. Insofar as possible, the housing tables are further grouped for all housing units, for conventional housing units, for occupied housing units, and for conventional occupied housing units.

3.72 Tables for each province and its administrative divisions.--As stated above, a separate set of tables will be published for each province and for various levels of areas within the province. The tables are organized as follows:

- (1) Table P-101 and H-101 are the same as P-1 and H-1 for the country total except that the areas in the stub will be districts and urban places in the respective province.
Tables P-102 to P-133 and H-102 to H-133 will be published for the province, by urban-rural residence, each metropolitan area in the province, and each urban place of 50,000 inhabitants or more. Note that these tables have the same content as corresponding tables for the country total and the regions.
- (2) Tables P-134 to P-149 and H-134 to H-143 will be published for each district and each urban place of 10,000 to 49,999 inhabitants in the respective province. These tables contain less detail. They also omit the urban-rural classification since separate tables are presented for barrios, villages, and small urban places.
- (3) Tables P-150 to P-154 and H-144 to H-145 are for barrios, villages, and urban places of 2,000 to 9,999 inhabitants; they contain the least amount of detail of the areas in Volume I(B).

3.8 *Tract and block statistics*

For the first time, population and housing statistics will be published for census tracts and blocks for the two largest cities. The items are shown in the table formats in exhibit C-3-6. Note that the tables carry the prefix "PH" to distinguish them from the series for other areas and to indicate that both population and housing data are included.

3.9 *Processing considerations*

In preparing the table formats, persons responsible for the content will work closely with the processing staff to make sure that provision is made for all items and categories that will appear in the tables. Measures like number of economically active persons or number of family nuclei do not appear as such on the questionnaire and will need to be coded or re-coded during the computer edit or handled in the computer tabulation process. (See chapter C-6 for discussion of specific items.)

4. TABLE FINDING GUIDE

Because the amount of data presented in Volume I(B) is so great, and because the level of detail for individual topics varies from one geographic area to another, a table finding guide is included in the report to enable the user to locate the table that contains the desired information. The table finding guide tells whether information for a specific item is published for a given area and the number of the table in which the data may be found.

Exhibits C-3-7 and C-3-8 illustrate table finding guides for population and housing topics in Volume I(B). The user may see at a glance that information showing the population classified by age groups and sex may be found in table P-3 for Popstan and the regions, urban and rural; in table P-103 for the province, urban and rural; in table P-134 for districts;

etc. Also referring to the table finding guide (exhibit C-3-7) the user will see that data on single years of age are published for Popstan, regions, provinces, metropolitan areas, and large cities, but not for districts or smaller areas. Similarly, exhibit C-3-8 shows that monthly rent is shown in tables H-21, H-22, and H-23 for Popstan and regions; in tables H-121, H-122, and H-123 for provinces, metropolitan areas, and large cities; and in table H-142 for districts and urban places of 10,000 to 49,999 inhabitants.

5. TEXT TABLES

In the analytical portion of the text, short tables are often inserted to clarify the presentation. Usually, such tables give summary data rather than detailed classification. For example, in the analysis of literacy data, a text table might compare 1970 and 1980 results by sex and urban-rural residence for the country.

Except for a few basic characteristics, the 1970 data were collected for a sample of the population. Tables that present 1970 data for sample items will carry a headnote stating that the 1970 data are based on a sample. In the section on definitions and explanations, a statement will be included concerning comparability of the 1970 and 1980 data.

6. UNPUBLISHED TABULATIONS

The number of items included in Phase I can be tabulated and cross-tabulated in numerous ways. It is expected that there will be many specific requests for tabulations that are not included in the census publications. The NSO will safeguard the tapes and supporting documentation (record layout, editing and tabulating specifications, etc.) and will use the software package to produce the unpublished tabulations for a nominal cost.

7. PUBLIC-USE SAMPLE

It is anticipated also that a number of research organizations will request tapes of selected items and possibly selected areas. Usually, such requests are made by persons who want to do more detailed analysis than is possible with the data included in the census publications. A sample of the census returns is often selected for this purpose. Or tapes with summary data for an area may be made available. The analyst can cross-tabulate the items in considerable detail as the research is conducted and need not specify in advance all the cross-tabulations that are desired.

Edited tapes will be made available for the cost of the tapes and instructions on how to interpret the codes. Confidentiality will be preserved; thus, the tapes will contain no information that will identify an individual. The NSO will also provide an explanation of the concepts and their limitations, a description of the procedures that were used in processing the data (particularly in the editing)

and an explanation of sampling variability for data based on a sample.

As soon as the publication table formats and tabulation programs are final, the NSO will prepare and distribute a special report on availability of census data. The report will describe (a) the items that were included in the census, (b) the uses of census data, particularly for local planning, (c) the tabulations that are included in the publications, and (d) the possibilities of obtaining other tabulations and tapes for in-depth analyses.

The NSO and the Census Advisory Committee will make a special effort to inform public and private data users of the wealth of material available from the census. In addition, they will conduct seminars to show them how to use the statistics and how to acquire and process data tapes to extend their research. If the user does not have access to a computer, the NSO will arrange for the use of its computer for a reasonable fee and may assist the user in preparing the tabulations.

Chapter C-4. DATA COLLECTION

1. INTRODUCTION

The success or failure of any census depends ultimately on the quality of the data collected. Careful and thorough planning in organizing the field operations and rigorous administration of the plan are essential to achieve the desired level of quality.

A description of the plan that was adopted by Popstan for the collection of data was given in chapter 8 of Part B of the case study. The organization and procedures established for the implementation of this plan are described in this present chapter.

It should be noted that a major element in the development of the overall census plan was the preparation of a network analysis. In the early planning stages, the Director of the NSO decided that, given the problems of control and scheduling encountered during the 1970 Census operation, it was essential that a detailed plan of events with a well-planned time schedule be prepared. The Director assigned this task to the Census Planning Group. After consultation with specialists from the Ministry of Economy, the Group determined that a network analysis, as described in chapter 16 of Part A, was the most appropriate planning tool to utilize. The schedule for data collection given in the present chapter was established in the construction of this network analysis. (See exhibit A-16-1, included as a reference exhibit in Part C of the case study.)

2. ORGANIZATION

Responsibility within the NSO for the collection of data is assigned to the Field Operations Division. Although the chief of this

division will have overall responsibility, an Assistant for Census Operations will act as liaison officer with other divisions of the NSO and will coordinate activities of the census field staff. A new unit of the division, the Field Census Branch, will have direct responsibility for conducting the data collection operations for both Phase I and Phase II.

2.1 Field Census Branch

The Field Census Branch is the important connecting link between the NSO and the field organization and personnel. The branch handles shipments of materials and supplies to the PCO's, receives shipments of completed work from the PCO's, and receives telephone and telegraphic reports. All communications between the PCO's and the NSO will be channeled through this branch and the office of the Assistant for Census Operations. The Assistant for Census Operations will recruit and appoint the administrative and technical staffs of the PCO's.

The major responsibilities of the Field Census Branch include the preparation of training and enumeration materials--reference manuals, training guides, and crew leader and enumerator kits. In preparing these materials, the branch works closely with the staffs of the subject matter and the administrative services divisions. Figure C-4a is a list of the forms prepared by the branch for use by the field staff in the data collection operations.

2.11 Preparation of reference manuals.--

Reference manuals are important field documents for any census. The field office staff, crew leaders, and enumerators, no matter how well trained, cannot be expected to absorb and

Figure C-4a. LIST OF FIELD-USE FORMS FOR PHASE I

DATA COLLECTION FORMS		IDENTIFICATION FORMS	
PH-3	Individual Census Report	PH-119	Identification Card
PH-80	EA Book (includes Listing Sheet, PH-1, and Phase I Questionnaire, PH-2)	PH-208	Identification Sticker
TRAINING AND REFERENCE MATERIALS		PAYROLL FORMS	
PH-51	District Office Manual	PH-241	Enumerator Pay Authorization
PH-52	Guide for Training Crew Leaders	PH-242	Crew Leader Pay Authorization
PH-53	Crew Leader's Reference Manual	PH-243	Enumerator Payroll Register
PH-54	Guide for Training Enumerators	PH-244	Crew Leader Payroll Register
PH-55	Enumerator's Reference Manual	PH-245	PCO/DCO Payroll Register
PH-56	Enumerator's Workbook	OPERATIONAL AND QUALITY CONTROL FORMS	
RECRUITMENT AND TRAINING FORMS		PH-261	PCO/DCO Summary of Recruitment Progress
PH-201	Authorization for Staff, Rates of Pay, and Travel	PH-262	Group Training Report
PH-202	Crew Leader Authorization for Enumerator Staff, Rates of Pay, and Travel	PH-263	Crew Leader Report of Split EA's
PH-203	Notice to Report for Test	PH-264	Crew Leader's Prelisting
PH-204	Enumerator Selection Aid	PH-265	Crew Leader's Record Book
PH-205	Answer Key to Enumerator Selection Aid	PH-266	Field Progress and Cost Report
PH-206	Application and Personnel Form for Temporary Service	PH-267	NSO/PCO Transmittal
PH-207	Notice to Report for Training	PH-268	PCO/DCO Transmittal
		PH-269	Crew Leader's Final Review of EA
		PH-270	DCO Final Review of EA
		PH-271	"Were You Counted" Form

remember everything covered in training. Therefore, manuals will be provided for use as references. The manuals will also serve as a basis for training. In fact, one of the most important parts of training will be learning how to use the manuals.

Since the manuals will serve as training documents and as references, they must be carefully planned so that the user can read and understand them initially and easily refer to them later. As an aid to the user, each manual will contain a table of contents at the front and an index at the back. The chapters and subsections will be numbered and side headings will be used in the left-hand margin beside each subsection. This format makes the manuals easier to read and study.

The Field Census Branch will prepare reference manuals for the DCO's, the crew leaders, and the enumerators. An outline and a selected portion of each of these manuals are shown as exhibits to this chapter. The PCO's will use these three manuals for reference. A separate PCO manual will not be necessary.

2.12 Distribution and receipt of EA Books.

One of the most important jobs of the Field Census Branch is the distribution of the EA Books. The branch will receive the EA Books from the Geography Division plus a copy of the Master List of EA's for Field Operations, which is a list of EA's by CL area within a district.

An EA Book will have been prepared for each EA. The EA map will be attached to the inside back cover of the book, and the geographic codes, crew leader (CL) area number, and EA number will have been entered in the space provided on the front cover (see exhibit B-7-3, included as a reference exhibit in Part C).

The EA Books will be grouped by CL area under the supervision of a DCO. For each CL area, a Crew Leader Authorization for Enumerator Staff, Rates of Pay, and Travel (exhibit C-4-1)

will be completed and attached along with the CL area map. The number of enumerators authorized for each CL area will be based on the size of the EA's and will not necessarily be the same as the number of EA's. Some small EA's and some Special EA's will be given out as second assignments. The rate of pay for each EA will be based on the type of EA (Special or regular), the area size and terrain of the EA, and the population density.

All the EA Books for a province will be sent to the PCO along with copies of the Master List of EA's for that province. The PCO will verify that an EA Book has been received for every EA listed on the Master List of EA's and that the books are correctly grouped by district. The PCO will deliver the EA Books to each DCO along with the DCO's copy of the Master List of EA's. The DCO, in turn, will verify that all the EA Books have been received and that they are grouped correctly by CL area. The DCO's will distribute the EA Books to the crew leaders at the end of their training for preliminary activities. The books will be distributed to the enumerators after their training, when EA assignments are made.

When the EA Books are completed and returned to the NSO, the Field Census Branch will receive them. The branch will verify that every EA is accounted for so that information for the entire country will be processed. Chapter C-5 discusses the details of the receipt and check-in operation, including the verification of the field counts.

2.2 *Province Census Office (PCO)*

Each of the provinces in Popstan will have a province census office (PCO) located in the province capital. Within the provinces, district census offices (DCO's) will be established in the district capitals. The organization and responsibilities of the PCO's within all provinces will be identical, as will the organization

and responsibilities of the DCO's. However, the size of the workload may vary considerably from PCO to PCO and from DCO to DCO.

Each PCO will be headed by a province census officer, who will supervise a number of province technicians, generally assigned on the basis of one for every five district census offices in the province. These technicians will be primarily responsible for the data collection operations in their assigned districts. An administrative officer, also under the supervision of the province census officer, will be responsible for the administrative and clerical operations in the PCO and also those in the DCO's.

There are certain specific tasks relating to the PCO's central responsibility of assuring that all DCO's in the province carry out the prescribed data collection procedures on schedule. These tasks, which will be performed before, during, and after the data collection operations, are briefly described below.

- (1) Staffing, recruiting, and training. The PCO supervisory staff will have primary responsibility for recruiting and training the DCO supervisory staffs. The administrative officer will also be responsible for recruiting and training the PCO clerical staffs.
- (2) Scheduling. The PCO's must enforce time schedules established by the NSO for field recruiting, training, reporting, etc. In addition, each PCO must establish its own schedule for delivery of supplies to DCO's and pick-up of completed work. Province technicians will also have to schedule observation and inspection visits to DCO's on a regular basis.
- (3) Publicity. The PCO's will conduct the NSO's publicity programs at the province level, and will also direct the DCO's in carrying out such programs at the district level.
- (4) Distribution of enumeration materials to DCO's. Since transportation facilities in Popstan are generally inadequate for distribution of materials directly from the NSO to the DCO's, the PCO's will distribute them to district offices via truck. Each PCO will have the use of one or more trucks and drivers, depending on

the number of districts in the province, and will set up a schedule for periodic calls at each DCO.

Shipments of EA Books prepared by the NSO will be designated for specific DCO's. Bulk supplies of blank EA Books, Enumerator's Reference Manuals, Identification Cards, pay authorizations, training guides, report forms, etc., will be allocated by the PCO supply and control clerk to each DCO based on workloads, number of EA's, numbers of crew leaders and enumerators authorized, etc.

- (5) Quality control. Province technicians have overall responsibility for seeing that the DCO's maintain a high level of quality by requiring crew leaders and enumerators to meet acceptable standards. Province technicians must maintain close contact with DCO technical assistants in their supervision of crew leaders and enumerators and with the DCO office review of completed work.

Although the DCO's will be responsible for the review of each enumerator's work, the PCO will review two EA's, selected at random, from each CL area. The PCO will follow the same review procedure that the DCO used.

- (6) Operational control. The PCO's are responsible for assembling periodic reports from which the NSO can determine whether work is being done efficiently and on time or whether corrective action must be taken. Data are collected from each DCO and reports for the entire province are transmitted to the NSO on specified dates. These reports include information on recruitment, training, costs, progress, and other subjects as required.

The PCO's will only spot check the crew leader and enumerator pay authorizations before transmitting them to the NSO, since detailed payroll registers will be maintained by the DCO's and the NSO for accounting purposes. However, when making inspection visits to the DCO's, province technicians will examine the payroll registers to ensure that the DCO's are operating within their authorized cost allowances.

- (7) Shipment of completed enumeration materials. The PCO's will check completed enumeration materials and assemble them for shipment to the NSO.
- (8) Preliminary population count. The PCO will summarize the DCO preliminary population counts submitted by the DCO's and

transmit them to the NSO for approval to release them to the public.

- (9) Liaison with NSO. The PCO's will maintain close contact with the NSO throughout the field operations in order to keep the NSO informed on the progress of the work. This will be accomplished through the regular reporting system and prompt shipment of completed work to the NSO. The PCO's will use telephone and telegraph communications or memoranda to resolve field problems and request additional supplies.

2.3 District Census Office (DCO)

Each DCO will be headed by a district census officer. The office staff of the DCO will consist of a technical assistant, an administrative assistant, an administrative clerk, and review and payroll clerks. The technical assistant is primarily responsible for supervising crew leaders and enumerators in conducting the enumeration, and for supervising the office review operation. On technical aspects of the enumeration, the technical assistant is responsible to the PCO technician. The administrative assistant will supervise the DCO clerical staff. In addition, the administrative assistant must supervise the office review operation when the technical assistant is visiting and observing crew leaders in the field.

The main function of the DCO's is to supervise the enumeration. The following are specific DCO responsibilities:

- (1) Staffing and recruiting. The DCO supervisory staff will have primary responsibility for recruiting crew leaders and DCO clerical staff. Crew leaders in turn will recruit, train, and supervise their own enumerators.
- (2) Training. A major responsibility at the DCO level is the training of crew leaders by the technical assistants, who will also direct the crew leaders in the training of enumerators. The administrative assistants will train DCO clerks, mostly by on-the-job training. Enumerator training will be given to the review supervisor and review clerks to help them understand the enumeration procedures.

The DCO's will be responsible for arranging space for testing and training the enumerators. The testing and training locations selected will be centrally located within each CL area.

- (3) Scheduling. The DCO's must adhere to the NSO-established schedules for recruiting and training of field employees, for reporting, and for completing the field work; they will follow the PCO-established schedules for pick-up and delivery of materials. The technical assistants will schedule periodic visits to crew leaders to observe and check their work.
- (4) Publicity. The DCO's will carry out the NSO's publicity programs at the district level to inform local residents about the value of the census and urge their cooperation. The DCO will also include programs to recruit crew leaders and enumerators.
- (5) Receipt and control of materials. The DCO's are responsible for maintaining receipt and control records of all enumeration materials received from the PCO and completed work shipped to the PCO. DCO's are also responsible for allocating specific EA materials to each crew leader and accounting for completed work received from the crew leaders. DCO's must maintain adequate supplies of materials throughout the census to distribute to crew leaders as needed.
- (6) Preliminary field work. The DCO's are responsible for training and supervising crew leaders in carrying out preliminary field operations. These operations include inspecting crew leader areas, checking EA boundaries, identifying EA's which require splitting, prelisting living quarters in each EA for purposes of checking enumerator coverage, and recruiting enumerators. The DCO will make arrangements for training facilities.
- (7) T-Night operations. A major operation for DCO's is conducting the special enumeration of homeless and transient persons and persons living on watercraft on the night (T-Night) before the start of regular enumeration. This will involve special training and assignments for a selected group of crew leaders and enumerators.
- (8) Supervision of enumeration. The DCO's are responsible for supervising the census enumeration in the following ways: (a) through crew leaders' observation and review of enumerators' work, (b) through the technical assistant's review

and observation of crew leaders' work, and (c) through corrective action taken when any work is found to be unsatisfactory. A major responsibility of the DCO's will be conducting office review of completed work, and clean-up enumeration for EA's not completed satisfactorily.

- (9) Quality control. The DCO's have primary responsibility for quality control of the data collection operations. This program consists of four main elements--training, observation, crew leader review of work, and DCO review of completed work. This program is discussed more fully in section 13.
- (10) Operational control. The DCO's are responsible for control of the flow of work so that all EA's are enumerated, received in the DCO, and transmitted to the PCO. The DCO's are responsible also for submitting various types of reports--recruitment, training, progress, and cost--to the PCO on specified report dates. The DCO obtains and consolidates crew leader reports for the district and submits the information to the PCO. The PCO will then consolidate all the DCO reports for the province and transmit the summary data to the NSO.
- (11) Administrative functions. The DCO's are responsible for maintaining a personnel file on each census employee. The file consists of the employee's test, application, and personnel form. The DCO's will also review pay authorizations and maintain a payroll register on which each payment to crew leaders and enumerators is recorded. Files of pay authorizations for these employees will be maintained, as well as records of salary and travel paid to the DCO supervisory and clerical staffs. When the DCO's are closed, personnel files and pay records will be sent to the NSO, through the PCO's, in the same way that other materials are handled.
- (12) Liaison with PCO. The DCO's must maintain close contact with the PCO at all times and keep the PCO informed of the progress of work in the district. This will be accomplished through the regular reporting system, prompt shipment of completed work to the PCO, and periodic visits by the PCO technicians to inspect the DCO operations. The DCO's will refer to the PCO any problems which the DCO's themselves cannot resolve.

As noted above, the many and varied operations to be carried out at the district level require that an office manual be prepared for

use in the DCO. This manual will contain a description of all the operations that must be performed and the instructions for performing them, thus providing guidelines for all DCO's to perform their functions in a consistent manner. For the 1980 Census, the DCO's will be provided with the District Office Manual. Exhibits C-4-2 and C-4-3 illustrate the outline and a portion of the manual.

Instructions are included for most of the forms that must be filled or maintained. For the more complex forms, filled illustrations will be used. For simple forms or those that have their own instructions for completion, the manual gives only the purpose of the form and when it should be used.

Since the field office staff is responsible for reviewing all work done in the field, the office manual contains explicit instructions for all steps of that operation. The instructions state how much work to review--whether all or a sample--and the specific procedures to follow. They also detail what to do if work is found to be unsatisfactory. The manual is divided into the following chapters:

- (1) Chapter 1. Background information. This chapter gives some historical background on the census and its objectives. In addition, it gives information about the 1980 Census, the confidentiality requirements, and the census organization. The purpose and use of the manual are also explained.
- (2) Chapter 2. Personnel. This chapter describes the various DCO staff positions, the DCO and crew leader authorizations for filling staff positions, and the types of pay rates and travel allowances. Other subjects covered are procedures for recruitment, testing and interviewing of applicants, selection and appointment, processing of personnel forms, use of Identification Cards, and the general training plan for field staff. Instructions are also included on the purpose and use of personnel forms.
- (3) Chapter 3. Duties and responsibilities of district office staff. This chapter describes the various office operations,

the relationship of the DCO to the PCO, and the specific duties of each of the DCO staff positions.

- (4) Chapter 4. Training. This chapter discusses the types of training to be used and explains the training schedule for each level of the DCO staff. Other subjects include training space requirements, the DCO's responsibility for observing enumerator training, and instructions on the purpose and use of specific training materials.
- (5) Chapter 5. Payrolls and travel. This chapter describes the pay systems and specific payroll procedures for both office staff and field enumeration staff, including payment of authorized travel allowances. Instructions are also given on the purpose and use of the various payroll forms.
- (6) Chapter 6. Progress and cost reporting. This chapter describes the overall reporting system and the DCO reports required periodically on recruitment, training, cost, and progress. Instructions are included on the procedures for maintaining records and on the purpose and use of the various control and report forms.
- (7) Chapter 7. Office review procedures. This chapter describes the functions of the office review staff and their training. Detailed instructions are given for the receipt and check-in of completed EA's and office review operations (coverage and content checks of the EA Books). Instructions are also given on maintaining records of office review and on the purpose and use of all related forms. Copies of chapter 7 will be printed separately and issued to the office review clerks.
- (8) Chapter 8. Public relations. This chapter discusses the national and province-level publicity campaigns and the DCO's responsibility for the district-level publicity program to establish good public relations in the community. Publicity for recruitment purposes is discussed. Instructions are also given for the "Missed Persons" campaign and for announcements of preliminary population counts for the district.
- (9) Chapter 9. Other administrative procedures. This chapter covers all other administrative procedures for which the DCO is responsible. Instructions relate to (a) district office facilities, services, supplies, space, equipment, communication and transportation facilities, etc.; (b) receipt and distribution of

materials from the PCO; (c) preparation of shipments to the PCO; (d) procedures for handling correspondence and files (personnel and payroll records, reports, etc.); (e) handling of accidents and injuries according to standard government procedures; and (f) procedures for closing the DCO.

3. FIELD RECRUITMENT AND TRAINING SCHEDULE

As part of the preparation for data collection activities, the NSO will have set up a schedule for recruiting and training the staff. This schedule fits into the overall calendar of activities shown in exhibit B-2-1, which is included as a reference exhibit in Part C.

3.1 Importance of schedule

Figure C-4b gives the title of each employee or group of employees, the title of the person responsible for recruiting them, the time during which recruiting will take place, the persons or staff responsible for their training, and the training dates. Although specific recruiting dates have been established for each position, the most important is the date when recruiting must be completed if the data collection activity is to remain on schedule. To the extent possible, recruiting of PCO and DCO senior staff positions will begin before the dates shown.

If any PCO or DCO has difficulty in meeting the closing recruitment or training dates, or expects to have difficulty, notification should be given to the NSO or PCO, respectively, and assistance requested. These dates must be met if the census is to remain on schedule. The same holds true for crew leaders in their enumerator recruitment and training.

3.2 Size of field staff

In the early planning of the 1980 Census, the Popstan NSO estimated the number and types of persons that must be recruited and trained-- at both the PCO and DCO levels. For a few

Figure C-4b. FIELD RECRUITMENT AND TRAINING SCHEDULE

Field staff	Recruiter	Period	Trainer	Period
PCO				
Province census officer	Assistant for Census Operations (NSO)	28 January to 29 February	NSO staff	3 to 7 March
Province technician ¹ Administrative officer	Assistant for Census Operations (NSO)	28 January to 29 February	NSO staff ²	10 to 14 March
Clerical staff	Administrative officer	10 March to 4 April ³	Administrative officer	Half-day class; on-job training ⁴
DCO				
District census officer	Province census officer	17 March to 18 April	PCO staff	21 to 25 April
Technical and administrative assistants	Province technician and administrative officer	17 March to 18 April	Province technician and administrative officer	28 April to 2 May
Crew leaders	Technical assistant (DCO)	5 to 20 May	Technical assistant (DCO)	20 to 23 May 9 to 11 June
Enumerators	Crew leader	12 to 24 June	Crew leader	25 to 27 June 30 June ⁵
Clerical staff ⁶	Administrative assistant	28 April to 2 May ³	Administrative assistant	Half-day class; on-job training ⁴

¹Average of one technician to five DCO's.

²Staff of five provinces trained together.

³Clerk to handle administrative matters hired the week the PCO/DCO opens.

⁴Half-day classes scheduled for each 10 to 15 new clerks even if some have already begun work.

⁵Three-hour class for T-Night enumerators.

⁶Does not include most review clerks who will be enumerators that have completed their assignments.

positions, the number of persons to be recruited in each province or district is the same regardless of the workload. For most positions, however, the number depends on the workload. For example, districts with large populations to be enumerated will need more crew leaders, more enumerators, and more office review clerks than districts with small populations. Figure C-4c, which appears later in the chapter, indicates the total number of employees to be recruited and trained at the PCO and DCO levels.¹

¹A full discussion of personnel needs is given in chapter 11 of Part B of the case study.

4. RECRUITMENT OF PCO STAFF

The PCO supervisory staff will consist of the province census officer, from two to four province technicians (approximately one for each five DCO's in the province), and an administrative officer. An authorization will be given to each PCO to hire a clerical staff appropriate to the size of the office workload. The PCO supervisory staff and clerical staff will be recruited for temporary census appointments. Insofar as possible, recruitment will be concentrated in the capital city of the province where the PCO will be located.

4.1 Policy and procedures for selection of staff

The policies and procedures established for the recruitment and selection of the PCO supervisory staff will require the involvement of several high-level officials of the NSO in the actual recruitment process. The NSO Assistant Director, acting as liaison for the NSO, will conduct initial negotiations with officials of other government agencies to seek their cooperation in making qualified employees available to work on census operations at both the PCO and DCO levels. The Assistant Director will concentrate mainly on the ministries that maintain province and district offices.

After the initial contacts have been made, the Assistant for Census Operations will have the actual responsibility for recruiting and appointing the staff members. Negotiations will be conducted with various levels of government officials to obtain the temporary transfer of qualified candidates who can be released to work on the census.

Recruitment and hiring of the PCO clerical staff will be delegated to the PCO supervisory staff, primarily to the administrative officer. The recruiting policies and procedures followed in the selection of PCO staff are described below.

4.11 Supervisory staff.--Around the first of January 1980, the Assistant for Census Operations will contact personnel directors or other appropriate officials of cooperating agencies to work out the details of temporarily reassigning personnel to census field offices. It is expected that the reassigned employees will be obtained mainly from local offices of the Ministry of Economy.

The Assistant for Census Operations will provide announcements describing the nature of each PCO supervisory job (province census officer, province technician, and administrative

officer), the responsibilities and qualifications, the length of the census temporary assignment, and the specific locations of the PCO's. After the announcements have been distributed to prospective candidates in the local ministry offices, the Assistant for Census Operations will arrange interviews, at their home locations, with persons who are interested. The best qualified candidates will be selected as province census officers, and they will be instructed to report to NSO headquarters for training during the first week of March 1980.

The Assistant for Census Operations will then select well-qualified candidates from among those interviewed for positions as province technicians and administrative officers. Selected applicants will be instructed to report to the NSO for training.

If no employee of the national government is available to fill a particular PCO position, the Assistant for Census Operations will ask the province governor to recommend qualified employees of the province or district governments. If necessary, the Ministry of Interior, which has jurisdiction over the province and district governments, will be asked to intercede for temporary release of employees or to provide some assistance from their local offices.

4.12 Clerical staff.--Recruitment and selection of office clerks is primarily a responsibility of the administrative officer. The clerical staff authorized for PCO's, except for a few provinces with relatively small workloads, will include a supply and control clerk and three or four other clerks (including at least one typist) to handle reports, personnel and payroll matters, and other miscellaneous duties.²

²The province census officer will actually recruit and hire an administrative clerk the week the PCO opens, before the administrative officer enters on duty.

After the administrative officers have entered on duty and completed training, they will recruit, hire, and give on-the-job training to authorized PCO clerks.

Applicants will be sought through referrals from other government agencies, through local employment agencies, and through local civic or church groups. If necessary, the province census officer will advertise in the newspaper or on the radio for applicants. Each candidate will be requested to fill the application portion of the Application and Personnel Form for Temporary Service (exhibit C-4-4). Then selection will be made by the administrative officer on the basis of the applications and the interviews, in which questions will be asked to determine each applicant's physical and/or mental ability to handle the job. For example, some of the jobs require handling large packages of material, some require facility with numbers, and others require some simple statistical skills. The PCO should have the authorized number of clerks hired by early April.

4.2 *Qualifications and requirements of positions*

The responsibilities and requirements of the PCO staff positions call for capable, well-educated personnel. The NSO planners are determined to make every effort to find persons who have the necessary qualifications.

4.21 Province census officer.--To qualify for the position of province census officer, individuals must have considerable executive ability and an aptitude for public relations. They should be well informed about the socio-economic conditions and geographic characteristics of their individual provinces. Preferably, they should have had experience in data collection operations so that they will have some idea of what census problems to expect and how to handle them.

Since one of the primary requirements is that candidates be knowledgeable about the area which they will supervise, the NSO will try to arrange for the temporary transfer of a qualified person from the local office of the Ministry of Economy or one of the other ministries for the duration of the census. In some cases, the NSO may have to appoint a person from outside the government as province census officer, but such persons must meet all qualifications. The importance of selecting the most highly qualified candidates for the positions of province census officer cannot be overemphasized. These 15 officers will be directly responsible for representing the Popstan Government and the National Statistical Office in all matters relating to the census in their respective provinces, and the success of the entire census operation will in large part depend upon how well they perform their duties.

4.22 Province technician.--Candidates for the position of province technician also should be thoroughly familiar with the socio-economic and geographic characteristics of the province and should be experienced in data collection techniques. If possible, the province technician should be a person already holding a position with a local ministry office or the province government who can be transferred temporarily to the NSO.

Province technicians will be responsible for recruiting and hiring technical assistants for the DCO's, and they may need to assist in recruiting crew leaders; therefore, they should be persons with some personnel experience. It is also desirable that the province technicians have some teaching or training experience, since they will have primary responsibility for training district census officers, technical assistants, and administrative assistants, and they may be required to assist DCO technical assistants in training their crew leaders.

In view of the similar requirements for the senior PCO positions, the province technician will be selected from among those candidates who were considered but not selected for the position of province census officer.

4.23 Administrative officer.--Important qualifications for the administrative officer are executive ability, administrative experience, and knowledge of the province. The person selected for this position should be an employee from a local ministry office or the local government who has administrative experience. The administrative officer will be responsible for supervising the PCO office operations, which include the preparation of reports and payrolls, and the control and shipment of enumeration supplies and completed EA Books. When possible, this position will be filled from among candidates who were considered but not selected for the positions of province census officer and province technician.

4.24 Clerical staff.--Applicants for clerical positions should, if possible, be persons experienced in office routines. If such persons are not available, the administrative officer will select the best qualified persons who can be found. Although it is applicable primarily to enumerators, the Enumerator Selection Aid (exhibit C-4-5) will be used to select the clerks.

5. RECRUITMENT OF DCO STAFF

A district census office (DCO) will be set up in each district capital, with a few exceptions. The DCO supervisory staff, consisting of the district census officer, the technical assistant, and the administrative assistant, will be recruited by the PCO supervisory staff, for temporary census appointments lasting from 3 to 3½ months. The DCO supervisory staff will in turn recruit clerical staff and crew leaders. Crew leaders, whose appointments will be for a period of 2 to 2½ months, will be responsible

for recruiting their enumerators. Enumerators will be employed for approximately 3 to 4 weeks.

5.1 Policy and procedures for selection of staff

The general policy established for the recruitment of DCO staff is to assign the employees at each supervisory level the responsibility for recruiting and selecting the group of employees they will supervise. The district census officers are an exception, however, since their recruitment responsibilities are largely advisory. They will recruit only the administrative clerks who must enter on duty the week the DCO's open. The PCO supervisory staff will recruit all of the DCO supervisory staffs under their jurisdiction.

5.11 Supervisory staff.--The province census officer will have the main responsibility for recruiting and selecting the district census officers. The district census officers will be scheduled to report at various PCO locations for training during the last week of April (see figure C-4b).

The Assistant for Census Operations in the NSO will turn over to the province census officers the names of interested candidates who were qualified but not selected for PCO positions. The province census officer will give first consideration for the district census officer positions to candidates whose names were referred by the Assistant for Census Operations. Any qualified candidates not selected as district census officer will then be considered for the positions of technical and administrative assistants.

If the province census officer needs more candidates, local government officials will be requested to make their employees available on a temporary transfer basis. In cases where a government employee cannot be made available, the province census officer will ask community leaders to recommend any local residents who are responsible citizens with the necessary

qualifications. Selection will be based mainly on education, previous experience, and knowledge of the district in which assigned. In large provinces, where as many as 18 district census officers will need to be recruited, the province census officer will be assisted by the province technicians and administrative officer, as necessary.

Province technicians will be responsible for recruiting and hiring technical assistants for the DCO's, and the PCO administrative officer will be responsible for recruiting and hiring the DCO administrative assistants. In general, province technicians and administrative officers will follow the same procedures and contact the same sources used by the province census officer to find candidates. Visits to the various sources will be coordinated by the province census officer, but first consideration will be given to any qualified candidates referred by the province census officer.

Every effort will be made to find technical assistant candidates who will have had some data collection experience, either as a supervisor or enumerator, since technical assistants will have supervision over technical aspects of the census in the DCO. The administrative officer will look for candidates who have some administrative ability and experience for the DCO administrative assistant positions. Selection will be made largely on the basis of education, previous experience, and residence within the district.

5.12 Clerical staff.--The administrative assistant is responsible for recruiting and selecting DCO office clerks, including office review clerks. Clerks will be added gradually, as the workload requires. During the week that the DCO's are opened, however, the district census officer will recruit and hire an administrative clerk so that general office procedures and files can be set up at the start.

The office review operation will not start until completed EA Books begin to arrive in the DCO. Therefore, the administrative assistant will not recruit and train the office review supervisor and the first office review clerks until about the time enumeration starts. As the office review workload increases and additional office review clerks are needed, some enumerators who have satisfactorily completed their assignments will be hired as office review clerks. Enumerators can be used on the office review operation with a minimum of training because of their knowledge of enumeration procedures.

Office clerks will be recruited from among local residents. The administrative assistant will ask local civic and religious leaders for recommendations. If necessary, announcements regarding the positions will be published in local newspapers or broadcast over the radio. Also, recruitment announcements may be posted in public buildings to publicize the positions. The administrative assistant will make selections on the basis of an interview with each applicant and the education and experience of the applicant as stated in the Application and Personnel Form for Temporary Service (exhibit C-4-4).

5.13 Crew leaders.--DCO technical assistants have primary responsibility for recruiting crew leaders, but in districts requiring a large number of crew leaders, administrative assistants will assist in the recruitment. Each DCO will have authority to hire a specific number of crew leaders, as indicated in the Authorization for Staff, Rates of Pay, and Travel (exhibit C-4-6).

The need for applicants will first be publicized throughout the district by distributing or posting recruitment announcements and placing them in the local newspaper or on the radio. Technical assistants will travel

through their districts and arrange for the use of testing space (usually in a government or school building) in two or three different locations. Since the technical assistant must try to find a qualified resident in each crew leader area to serve as crew leader, testing locations will be selected so that they are convenient for applicants from several crew leader areas in the district to reach.

After arrangements for testing locations have been completed, announcements will be made of the specific dates and places where technical assistants will be stationed to test applicants and accept application forms from those who pass the test. They will interview several of the applicants whose test scores and applications indicate they are satisfactory candidates. By conducting interviews and tests on the same day, applicants will need to make only one trip to apply for these positions. In areas where mail facilities are good, the technical assistant may mail the Notice to Report for Test (exhibit C-4-7) to interested persons who have already inquired about employment or to those who may have been suggested as possible candidates for the positions. The tests and applications of persons not selected as crew leaders will be reviewed and the persons will be considered for enumerator positions.

Crew leader applicants will take the same test they will later give enumerator applicants, Enumerator Selection Aid (exhibit C-4-5). Crew leaders will be required to make a higher passing score than enumerators. The Answer Key (exhibit C-4-8) is used to score the tests. Those who pass the test will be asked to enter their names on a district map in the approximate location of their homes. Each will then be required to complete Part A of an Application and Personnel Form for Temporary Service. Those meeting the requirements for experience, education, language, etc., will be interviewed to determine their ability to work unusual

hours, their willingness to be away from home overnight, and their feelings about the census.

It is the technical assistant's responsibility to notify the selected applicants when and where to report for training. In most cases, crew leader training sessions will be conducted in the DCO's. In rural areas where mail facilities are generally inadequate, the technical assistant will usually have to make the selections at the test site, immediately after scoring the tests and interviewing likely candidates. The technical assistant will give successful applicants the Notice to Report for Training (exhibit C-4-7). If for some reason the technical assistant is unable to make all the selections for that area immediately, a return trip will be made to notify the selected applicants. In urban areas where mail facilities are available, the selected applicants may be notified by mail.

If the first round of tests and interviews does not produce a sufficient number of qualified applicants to fill all positions, the technical assistant will arrange additional sessions to test and interview applicants, following the same recruitment and selection procedures.

5.14 Enumerators.--Each crew leader will have responsibility for recruiting and selecting enumerators. However, if crew leaders encounter difficulties in recruiting, the technical assistant, and in some cases the administrative assistant, will give help. Recruitment will also be partially accomplished by considering the tests and applications of persons who applied for crew leader positions but were not selected.

Each crew leader will be authorized to recruit a specific number of enumerators, and the first objective will be to find a qualified applicant for each of the large enumeration areas (EA's) which will be assigned first. The Crew

Leader Authorization for Enumerator Staff, Rates of Pay, and Travel (exhibit C-4-1) will tell the crew leader how many enumerators to hire and how much they will be paid.

The need for enumerator applicants will be widely publicized throughout the district by announcements in the local newspaper or on the radio. Crew leaders will post recruitment announcements on public buildings in various hamlets or urban places, indicating a designated time and place where applications will be accepted and tests and interviews given for enumerator positions. (Examples of posters and radio and television announcements are illustrated in figure B-2a and figure B-2b in Part B of the case study.) In urban areas where mail facilities are good, the crew leader may mail the Notice to Report for Test to interested persons who have already inquired about employment or to those who have been suggested as possible candidates for the positions.

At the time of interview, the crew leader will request the applicants to enter their names in the approximate location of their residences on the map of the CL area and fill out an Application and Personnel Form for Temporary Service.

Since arrangements will be made for training space by the DCO before the time of testing, the Notice to Report for Training can be handed out to selected enumerators immediately following the interview. Where mail facilities are adequate, crew leaders may take a little more time in making their selections and then mail the notices regarding training.

If the first round of tests and interviews does not produce a sufficient number of persons qualified for the enumerator positions, the crew leader will arrange to hold additional sessions. Section 5.26 provides a more detailed discussion on selecting the enumerator applicants.

5.2 *Qualifications and requirements of positions*

The responsibilities and requirements of the DCO staff positions also demand educated and competent personnel. The NSO will instruct the PCO supervisory staff to make every effort to find persons, preferably already holding government positions, who have the required qualifications. If it becomes necessary, assistance from the NSO's Assistant for Census Operations will be requested to obtain the cooperation of local government agencies or local offices of the ministries in making some of their best qualified persons available.

5.21 District census officer.--Candidates who are highly qualified will be sought by the province census officers to fill the position of district census officer. The candidate for this position should be a local person who has comprehensive knowledge of the district and considerable executive ability; also, the person should have some ability for handling public relations. In addition, it would be most desirable for the district census officers to have had some experience in data collection operations so that they will have some understanding of the procedures and how to handle problems.

5.22 Technical assistant.--Candidates for the technical assistant's position must meet a number of specific requirements in order to be considered by the province technician. To qualify for this position candidates must be able to provide their own means of transportation and must be free to travel; they should be local persons, thoroughly familiar with their districts. Preferably they should be persons with some personnel and training experience. In addition, the technical assistants should have had some experience in data collection techniques; for example, previous experience as an enumerator or a field supervisor

of enumerators would be most helpful. The technical assistants would then be better prepared to anticipate and resolve problems that are bound to arise during the enumeration. This type of experience would also be most valuable in making them more effective as trainers.

5.23 Administrative assistant.--Executive ability and administrative experience are the most important qualifications for candidates for the position of administrative assistant. To be considered for this position, a person should have a thorough knowledge of the district and a familiarity with data collection operations, as it may become necessary to assist in the actual field operations. The administrative assistant may also have some responsibility for supervising the office review operation when the technical assistant is traveling in the field.

5.24 Clerical staff.--Except for the administrative clerk who will have been hired by the district census officer when the office opens, the clerical staff of the DCO will be recruited by the administrative assistant. Generally, candidates sought for clerical positions should be local persons experienced in office routine. If such persons are not available, however, it will be the responsibility of the administrative assistant to give the staff intensive training and supervise them closely. Clerical skills such as filing, maintaining control forms, preparing field and office payrolls and reports, etc., can be taught in a short time. For the typist job, it is essential to find someone who already has typing skills; it will take too long to train a person to become a competent typist. The administrative assistant may use the Enumerator Selection Aid (exhibit C-4-5) as a screening device in selecting the best qualified applicants as clerks.

5.25 Crew leaders.--As mentioned earlier, crew leaders must qualify on the basis of a

test--the Enumerator Selection Aid. In addition, candidates should have a fairly comprehensive knowledge of their area and preferably have had some administrative experience in data collection techniques. For example, it would be most desirable to find persons with previous experience either as supervisors or as enumerators who would be aware of the kinds of problems that arise. As a minimum educational requirement, candidates should have a secondary school education. They must be in good physical condition and must be willing to work full time.

Another qualification for crew leader candidates, particularly in rural areas, is to have some means of transportation (bicycle, motorbike, automobile, horse, etc.) and be willing to travel, since there will be considerable distances to cover. Crew leaders in rural areas may often be required to stay away from home overnight to keep appointments with their enumerators. Finally, crew leaders must have the same skills as required for enumerators:

5.26 Enumerators.--In general, to qualify for the position of enumerator, candidates must be able to read maps in order to determine EA boundaries accurately and to ensure that the EA is completely covered; they must also be able to understand written instructions, read clearly, speak distinctly, write legibly, and have ability to perform simple arithmetic computations. An enumerator must be sufficiently intelligent to learn the enumeration rules and to understand some fairly complex concepts. As a means of determining which applicants can meet the qualifications, each must take the Enumerator Selection Aid test. Only those who make a passing score will be selected as enumerators.

It is also important that the enumerator be a person of good standing in the community, have a pleasing manner, and be able to tactfully and diplomatically persuade reluctant individuals to cooperate. The enumerator will be

successful in this effort only if a reluctant respondent is convinced of the importance of the census. Therefore, when enumerator applicants are being interviewed, they should be questioned about their attitudes toward the census. Enumerator applicants should not be present or past police officers, military personnel, or connected with tax offices. Respondents often distrust such enumerators. It is also important to be certain applicants are not just looking for a second, part-time job.

Every effort will be made to hire the best qualified persons available to work in or near the areas in which they live. It is sometimes necessary to hire enumerators who live considerable distances from the areas in which they will work. In such cases, enumerators must provide their own transportation and, if necessary, be away from home overnight. Enumerators must be willing to work some evening hours to make callbacks, consult with crew leaders, etc.

6. TRAINING AND MATERIALS

The quality of the training at all levels will have an important effect on the entire census operation--an effect that cannot be over-emphasized. The success of the census and the quality of the results depend to a very high degree on the knowledge and interest of the staff that collects the data. Crew leaders, enumerators, supervisors, and clerks must know concepts and procedures for collecting data in the field and be able to apply them consistently in all EA's throughout Popstan if census results are to be comparable and useful. The staff must have the interest and dedication essential to success. It is only through a carefully prepared and well-conducted training program that the knowledge and attitudes essential to the conduct of a good census can be provided to and instilled in the field staff. The timing and sequence of various levels of training is illustrated in figure C-4c.

Manuals for the district offices, crew leaders, and enumerators will have been prepared by the NSO. To provide uniformity of training, verbatim training guides will be used in group training sessions for crew leaders and enumerators.³ Outline training guides will be used for the staffs of the DCO's.

Verbatim guides ensure that trainers all over Popstan will complete the training within the allotted time and that all topics will be covered and properly emphasized. The Guide for Training Crew Leaders is presented in exhibits C-4-9 and C-4-10, and the Guide for Training Enumerators in exhibits C-4-11 and C-4-12.

6.1 PCO staff

PCO supervisory staff will be trained by NSO instructors who are specialists in subject matter and procedural areas. Combined training sessions will be held for the province technicians and administrative officers. The PCO clerical staff will be given on-the-job training by the administrative officer.

It was decided by the NSO staff that a separate manual of operations would not be prepared for the province level offices, and that the PCO's will use the District Office Manual (exhibits C-4-2 and C-4-3), Crew Leader's Reference Manual (exhibits C-4-13 and C-4-14), and Enumerator's Reference Manual (exhibits C-4-15 and C-4-16) as their basic guides. In addition, the NSO will initiate a special memorandum series for new or revised instructions to PCO's. The province census officers will be instructed to consult with the Field Operations Division when special problems arise.

³A verbatim training guide contains all the lecture and activity needed by the trainer (as in exhibits C-4-10 and C-4-12). An outline training guide provides only the topics to be covered. Verbatim guides are particularly effective for training large groups of people. Section 8.6 in chapter 14 in Part A of the case study describes the two types of training guides.

6.11 Province census officer.--The 15 province census officers will be brought to NSO headquarters in St. Regis for 5 days of training. A team of two NSO instructors who are knowledgeable in subject matter concepts, data collection operations, and administrative procedures will conduct the training. A detailed training outline will be prepared and followed.

This training will cover the broad technical aspects of the census and the province census officer's specific responsibilities for supervising the census. Emphasis will be given to the administrative responsibilities, which include overall PCO supervision and supervision of the DCO's. In the first 2 days of training, particular attention will be given to the field operations and how they relate to the overall census plan. In the last 3 days, the province census officers will be trained to carry out their specific duties. These include recruitment of key staff; obtaining and equipping the DCO's; arranging publicity programs; compliance with time schedules for recruitment, training, and completion of work; control of materials and establishment of schedules for distribution of materials to, and pick-up from, the DCO's; maintenance and review of personnel and payroll records; progress and cost reporting; and general supervision of census operations.

Province census officers will also be encouraged to attend a field training session for crew leaders (which will include training for enumerators) to become thoroughly familiar with the enumeration procedures.

When the province officers complete their training, each will be given an Authorization for Staff, Rates of Pay, and Travel (exhibit C-4-6), which tells how many positions are authorized at various levels, pay rates for each, and travel rates. It will also specify the entrance-on-duty dates and length of time each position may remain active.

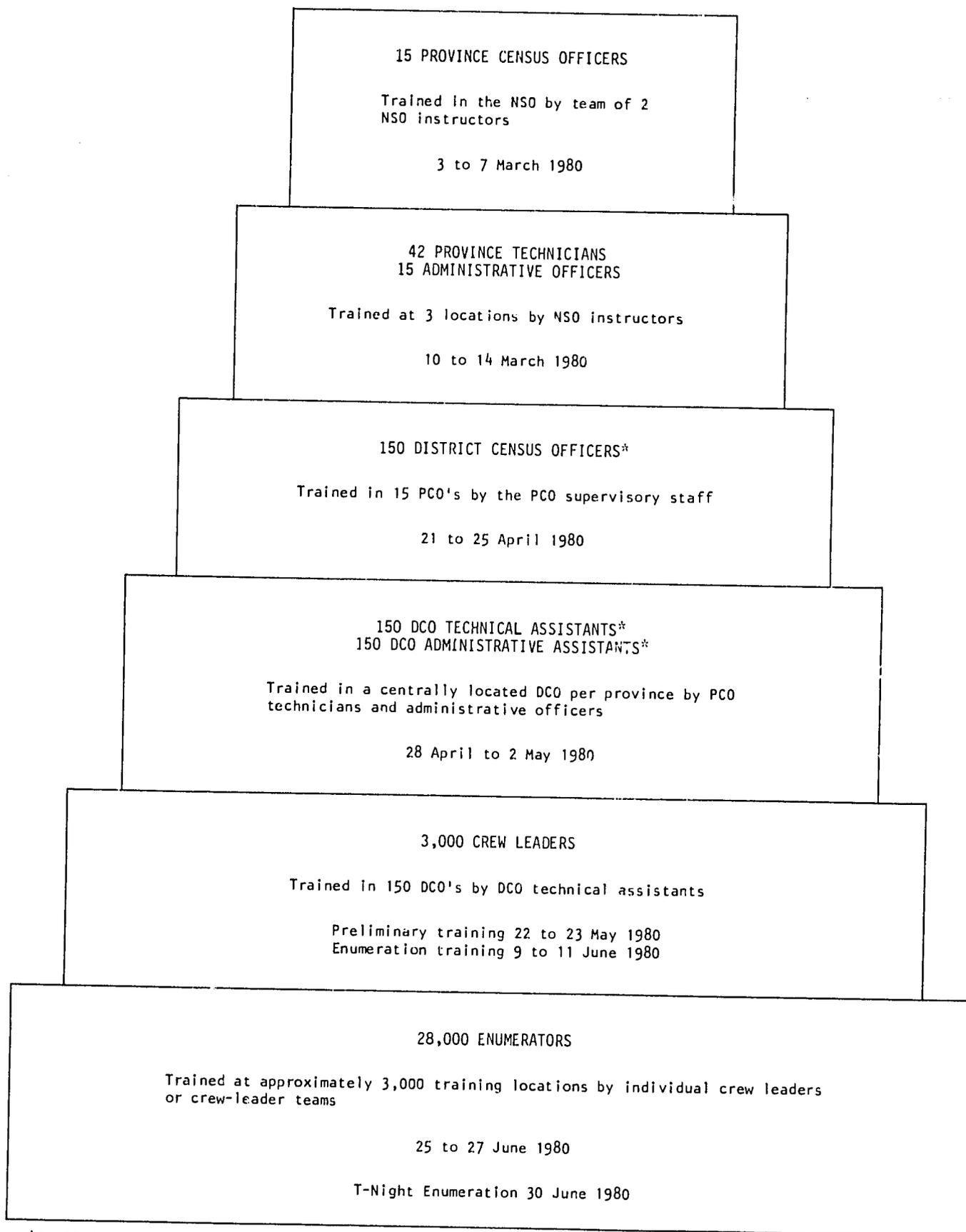
6.12 Province technicians and administrative officers.--As shown in figure C-4c, the next level of training will be conducted for 42 province technicians and 15 administrative officers at three strategically located province capitals. These training locations will be selected to minimize travel. The staffs of 5 provinces will be trained together, with an average of around 18 to 20 persons per group. The instructor for each of the three sessions, which will extend over 5 days, will be from the NSO. Administrative officers will be given the same technical training as the province technicians, since administrative officers need to understand field operations and overall plans.

The first 2 days will be spent on a somewhat condensed version of enumerator training, for which the instructor will follow the Guide for Training Enumerators. The last 3 days will cover other supervisory responsibilities, such as recruitment procedures, pay procedures, pick-up and delivery system, office review of completed work, etc. The training will also include discussion of major differences between PCO and DCO operations. Considerable emphasis, including some practice, will be given to training methods and procedures, since all staff members will have training responsibilities.

A detailed outline will be prepared for training province technicians and administrative officers. This outline will call for use of specific portions of the verbatim guides for training crew leaders and enumerators, and references to these portions will be incorporated in the outline. It is necessary to condense the guides instead of using them in their entirety because of the limited time schedule for the training.

It is recommended that province census officers be required to attend these training sessions to re-enforce their own understanding of PCO operations and procedures.

Figure C-4c. PYRAMID ORGANIZATION OF TECHNICAL TRAINING



*Small districts will be combined for purposes of census administration.

6.13 Clerical staff.--A short, formal training program is planned for the PCO clerical staff to acquaint them with census history, goals, and overall operations. Such a program is also excellent for their morale. The administrative officers will give on-the-job training to the clerks, assign specific jobs, supervise them, and thoroughly check the work at the start of a particular task to make sure that procedures are understood. The administrative officer will give additional on-the-job training to the administrative clerk, who will have been hired and given initial instructions by the province census officer the week the PCO opens. The District Office Manual will contain most of the instructions needed by PCO clerks. Each clerk will be expected to study appropriate parts and to use the manual as a reference.

Where PCO and DCO procedures vary--payroll procedures, for example--special instructions will be provided by the Field Operations Division. The administrative officer is responsible for making the office clerks aware of any differences in procedures and giving the clerks adequate instructions.⁴ Training at the PCO level will emphasize office clerical duties such as control and distribution of materials and preparation of cost and progress reports.

6.2 DCO staff

The DCO performs an important role in the overall census operation since it is responsible for supervising the field staff that actually conducts the enumeration. The DCO, in effect, is the link between the field enumeration staff and the PCO. A capable DCO and field enumeration staff will do much to ensure the success of the data collection operations. An effective training program is essential in order to produce a staff that will complete operations efficiently and on schedule.

⁴The PCO payroll clerks will not be concerned with crew leader and enumerator piece rates and hourly rates.

6.21 District census officers. The district census officers will be trained by the PCO supervisory staff (province census officer, province technician, and administrative officer) in their respective PCO's. Much of the training will be practically identical with that described above for province census officers.

There will be variations in the training, however, because of differences in some operations at the two levels. For example, the district census officer will have recruitment and training responsibilities only in case of emergencies; DCO payroll procedures will be different from those of the PCO and will include security measures for large funds used to pay enumerators; DCO responsibilities for distribution and shipment of materials will differ; and the major responsibility for review of completed EA Books will fall to the DCO's.

A detailed training outline will be provided, rather than a verbatim training guide. In the training of district census officers, extensive use will be made of the District Office Manual, which is the basic guide for DCO's.

District census officers will be advised and encouraged to attend a crew leader or enumerator training session in their respective districts in order to become familiar with the detailed enumeration procedures.

6.22 Technical and administrative assistants.--Technical and administrative assistants will be trained by province technicians and administrative officers. Each PCO technician and administrative officer will teach his or her counterpart at the DCO level separately.

Training for the DCO assistants will be very similar to that described above for province technicians and administrative assistants, with the first 2 days to be spent on a condensed version of enumerator training. The remainder of the training will be somewhat different, however. One day will be spent on the details

of the crew leader's duties and responsibilities, and 1½ days on training methods and administrative responsibilities. Administrative assistants will also be taught the exacting job of paying crew leaders and enumerators. In presenting the training, instructors will follow a detailed training outline and use selected portions of the verbatim guides prepared for training crew leaders and enumerators.

Technical assistants will be trained on supervision of crew leaders and enumerators, maintenance of quality supervision through the observation and review of crew leaders' work, and the review of completed EA's in the DCO. Training will include maintenance of personnel files and payroll registers and preparation of periodic progress and cost reports.

6.23 Clerical staff.--DCO clerical staff will have a short, formal training session, then on-the-job training by the administrative assistant. Training will follow the same general plan as described above for the PCO staff.

Additional training will be required for the office review supervisor and office review clerks. The latter will be trained on specific review procedures in accordance with the written instructions and the practical exercises on the review of the filled questionnaires provided by the NSO. Each DCO office review clerk will be provided with a separate copy of the office review chapter (chapter 7) of the District Office Manual for convenient reference. Training for office review clerks will include some training on enumeration procedures, as an understanding of the data collection forms and underlying concepts of the census is basic to the office review operation. When possible, the office review supervisor and several clerks will attend a regular enumerator training session. After enumeration starts and the workload increases, the administrative assistant will hire and train additional office review clerks. This training

will also include the pertinent portions of enumerator training. Crew leaders and enumerators who have completed their assignments and are recruited for the office review will be trained in the review procedures only.

One advantage that may result from giving enumerator training to office review clerks is that, in an emergency, an office review clerk can be assigned as a replacement enumerator to complete an EA.

6.3 *Crew leaders*

Although the enumerator staff may have the potential to do high quality work, this potential will not be realized unless crew leaders are equally capable. Consequently, the NSO plans to carry out an intensive training program for crew leaders to ensure effective preliminary work and supervision of the enumerators.

A crew leader's duties will be many and varied. They require a person with ability and versatility. Before enumeration starts, the crew leader must perform a number of preliminary duties--check EA boundaries shown on each EA map, split EA's that are too large for one enumerator, prelist a sample of housing units and collective quarters, and recruit and train enumerators. During enumeration, the crew leader will observe the enumerators, review their work, help them with problems, and keep numerous administrative records. In effect, a crew leader will be a combination of geographer, personnel officer, teacher, executive, technical expert, administrative clerk, and, at times, an enumerator. Therefore, the crew leader must be trained to play several different roles, each of which requires a different set of rules.

The duties for which crew leaders must be trained break chronologically into two parts. The first is "Preliminary Operations" and the second is "Supervision of Enumeration."

Although there will be some added expense in holding two training sessions, it is clearly neither desirable nor practicable to train crew leaders in late May on enumeration and supervision activities that will not begin until 1 July. There is too long a time period in between in which some loss of learning would occur, and during which period the crew leaders will be concerned with their preliminary duties. Therefore, it will be necessary to give crew leader training in two parts.

6.31 Preliminary field activities.--The first part of training, which covers the crew leader's preliminary duties, will be given in the DCO's by the technical assistants. The Guide for Training Crew Leader's (exhibit C-4-9) contains materials for both parts of the crew leader training. The first portion of the guide will be used for teaching the preliminary duties of (a) inspecting the crew leader areas and checking EA boundaries, (b) splitting large EA's into two or more parts, and (c) prelisting a specified number of units in each EA for the purpose of checking coverage. In addition, crew leaders will be trained at this time on procedures for recruiting, testing, and selecting enumerators. The first part of training will cover approximately the first three chapters of the Crew Leader's Reference Manual. Crew leaders will also be given administrative training on how to prepare and submit their weekly pay authorizations and how to submit their recruitment reports during the period of preliminary operations.

Upon completion of their preliminary training, crew leaders will be given the EA Books for their areas, their crew leader maps, and their Crew Leader Authorization for Enumerator Staff, Rates of Pay, and Travel (which lists all EA's in a CL area, specifies the rate of pay for each EA, and shows for which EA's travel allowance is authorized). Usually the number of enumerators authorized will not equal

the number of EA's assigned, since some small EA's will be held as second assignments for enumerators who finish their first assignments early.

Crew leaders will begin their preliminary duties immediately following their preliminary training. They will have approximately 2 weeks to complete these activities before returning to the DCO for the second part of their training--their enumeration training.

6.32 Enumeration activities.--The second part of crew leader training will be longer and more difficult since it will include all the training that will be given to enumerators plus (a) special instruction in the principles of training and supervising enumerators and (b) detailed instructions for carrying out these tasks. Thus, this training will cover selected materials in the Enumerator's Reference Manual (exhibits C-4-15 and C-4-16) as well as the remainder of the material in the Crew Leader's Reference Manual (exhibits C-4-13 and C-4-14). The training will be conducted by the technical assistants at the DCO's.

About 1 day of the training session will be spent on training for supervisory responsibilities of (a) preparing and reviewing personnel forms, (b) observing and reviewing the enumerator's work, (c) maintaining the CL Record Book (exhibit C-4-17), and (d) conducting the final review of completed EA's. Part of this session will also cover practice training and performing administrative duties. For this portion of the training, the technical assistant will continue using the verbatim Guide for Training Crew Leaders.

For part of the training, the technical assistant will use the same verbatim Guide for Training Enumerators that crew leaders will use in training enumerators. However, crew leader training will be compressed into 2 days rather than 3 days.

6.33 Crew Leader's Reference Manual.--

The Crew Leader's Reference Manual will serve as both a training document and as a reference. Although the crew leader will have to be completely familiar with the enumerator's duties, the detailed information about the enumerator's job will not be included in this manual. The Enumerator's Reference Manual, containing the detailed enumeration instructions, will be used as a supplemental training and reference document. The Crew Leader's Reference Manual will contain detailed instructions for all the other tasks which the crew leaders must perform.

These instructions will be supplemented by a discussion of the general principles involved in each activity. The manual will include:

- (1) Purpose and objectives of the census
- (2) Principles and instructions for preliminary operations
- (3) Principles and instructions for recruiting and selecting enumerators
- (4) Principles and instructions for training enumerators
- (5) Principles and detailed instructions for observing the enumerator and reviewing completed work
- (6) Instructions for performing administrative duties, including enumerator payrolling

It is not possible, or even desirable, to anticipate and discuss in the manual every situation that might possibly occur. The result would be a manual of unreadable length in which the important points would be virtually lost among the trivial ones. Rather, the aim of the manual is (a) to provide the necessary information and instructions to enable the crew leader to handle the common situations and those uncommon situations which are likely to be met at least occasionally; and (b) to provide sufficient background on the nature of the program and the principles underlying each operation so that the crew leader will have a

sound basis for exercising judgment to resolve the remaining problems.

The manual is divided into the following chapters:

- (1) Chapter 1. Introduction. This chapter gives background information on the census. It describes the role of the crew leader (duties and responsibilities) and explains conditions of employment (pay, hours of work, use of the manual, etc.). This chapter also describes the census organization, gives an overall view of the 1980 Census plans and procedures, and discusses the confidentiality requirements.
- (2) Chapter 2. Preliminary operations. This chapter gives detailed instructions for the preliminary operations: checking of EA boundaries; prelisting of a specified number of housing units and collective quarters in each EA for checking coverage; checking of supplies; splitting of large EA's; preparation for recruitment, selection and training of enumerators; preparation for T-Night enumeration; etc. The purpose and use of related forms are also discussed.
- (3) Chapter 3. Recruitment of enumerators. This chapter presents separate detailed instructions on the preliminary operations of recruitment and selection of enumerators. Topics covered include: authority delegated to crew leaders and use of crew leader authorization for staff; possible recruitment sources; recruitment procedures; issuing notices of testing; testing, interviewing, and evaluating qualifications for selection of applicants; maintenance of recruitment records; preparation of recruitment reports; etc. The purpose and use of related forms, including certain sections of the CL Record Book, are also discussed.
- (4) Chapter 4. Enumerator training. This chapter contains detailed instructions with regard to preparing for training--distributing notices, checking EA Books, assembling training materials, studying the Training Guide, and arranging the training room. The chapter also discusses how to conduct training and how to prepare a group training report.
- (5) Chapter 5. Supervision of enumeration. This chapter discusses the importance of supervision and the purpose and frequency of field observation and review. Detailed

instructions are given for scheduling and conducting observation and review of enumerators' work (first, and second if necessary, and the final review) and for taking action when work is unsatisfactory. Instructions are also given on how to make required entries for completed EA's on the EA Book cover and in the CL Record Book. Other topics covered are (a) how to handle special enumeration situations, (b) how to supervise T-Night enumeration, and (c) how to use pertinent sections of the CL Record Book.

- (6) Chapter 6. Crew leader and enumerator pay authorizations. This chapter briefly describes the overall NSO pay system and emphasizes the crew leader's responsibility for pay authorizations. Detailed instructions are given for both crew leader and enumerator pay procedures; for example, how to maintain records (of hours worked, nights in travel status, and kilometers traveled) and prepare and submit pay authorizations.
- (7) Chapter 7. Other administrative requirements. This chapter contains instructions about all other matters for which crew leaders are responsible--progress reporting (on recruitment, training, and enumeration); checking and maintenance of supplies before and during enumeration; transmittal of completed EA Books to the DCO; handling of accidents and injuries to census employees; and how to complete assignments. The purpose and use of related administrative forms are also discussed.

6.34 Crew leader kits.--Each crew leader will receive a kit containing materials to be used in training. The kits will contain the following materials:

- (1) Crew Leader's Reference Manual, Form PH-53
- (2) Guide for Training Enumerators, Form PH-54
- (3) Enumerator's Reference Manual, Form PH-55
- (4) Enumerator's Workbook, Form PH-56
- (5) Several Listing Sheets and questionnaires for training purposes
- (6) Individual Census Report, Form PH-3
- (7) A map of an area within the district for field exercises
- (8) Copies of recruitment and training forms
- (9) Copies of payroll forms
- (10) Copies of operational and quality control forms
- (11) Crew Leader's Record Book, Form PH-265
- (12) Pencils
- (13) Writing tablets
- (14) Identification Stickers, Form PH-208
- (15) Identification Card, Form PH-119

The crew leader kits and maps will have been grouped by district, within province. All the kits for a province will have been sent to the PCO in one shipment. The staff of the PCO will ensure that all the kits and maps have been received. The PCO will then ship to each DCO the kits and maps for its crew leader areas. The DCO's will check the kits and maps upon receiving them. The kits will be distributed to the crew leaders at the start of training.

Additional supplies such as blank EA Books, reporting forms, and Identification Stickers, plus the actual EA Books, CL area maps, and publicity materials will be distributed when the crew leader assignments are made.

6.4 Enumerators

The training of enumerators will consist of group classroom sessions, field exercises, on-the-job training, and remedial training, if needed. The training will be given by the crew leaders, with the help of the DCO technical assistants if needed.

At the beginning of the enumerator training classes, each enumerator will be given a kit containing materials to be used in the training. The kits will have been transmitted to the PCO, to the DCO, then to the crew leader. The contents of the kit are as follows:

- (1) Enumerator's Reference Manual, Form PH-55
- (2) Enumerator's Workbook, Form PH-56
- (3) Several Listing Sheets and questionnaires for training purposes
- (4) Individual Census Report, Form PH-3
- (5) A map of an area within the CL area for field exercises
- (6) Pencils
- (7) Writing tablets
- (8) Identification Card, Form PH-119

The enumerators will receive the actual EA Books when assignments are made. Additional supplies, if they are needed, will be distributed by the crew leaders during enumeration.

6.41 Group sessions.--The enumerators will be trained in group sessions for 3 days-- 2½ days will be used for classroom sessions and a half day for field exercises. In addition to the regular training, enumerators who will be conducting the T-Night enumeration will be trained in a special 3-hour session on 30 June.

The classroom sessions will be spent in understanding concepts; learning how to use the Enumerator's Reference Manual and the EA map; mastering the details of canvassing, listing, and completing the questionnaires; and practicing mock interviews.

As part of the training, a field exercise in using maps will be given. An area near the training center will be used to test the ability of each enumerator in locating the boundaries of an area, pacing, and following a pre-determined route of travel. The exercise will include finding a boundary which is an imaginary line. The training will not include practice enumeration in the field because of the difficulties it would create for enumerating the practice EA's after the census starts.

6.42 Verbatim training guide.--To ensure greater uniformity in the training and greater comparability of data, the crew leaders will use a verbatim training guide. As a guard against the likelihood of dull class sessions consisting of hours of monotonous reading, the training guide calls for frequent trainee participation in reading and provides frequent breaks for questions and answers, discussion, exercises, and the like.

6.43 Enumerator's Reference Manual.--The basis for the enumerator's training will be the Enumerator's Reference Manual (exhibits C-4-15 and C-4-16). This manual contains the

detailed explanations of all the concepts and procedures which the enumerator will normally need to know. It also provides instructions covering most of the usual situations that are likely to be encountered. Much of the classroom time will be devoted to studying this manual. However, the enumerators cannot be expected to remember everything they are taught. Therefore, an important part of the training will consist of familiarizing the trainees with the contents of the manual and teaching them to use the manual to find the answers they need.

Included in the manual will be a mock interview; that is, a practice interview to be used for illustrating the concepts and procedures (exhibit C-4-18). The trainer will act as the respondent while the trainees take turns acting as enumerators. The answers to be given will be prepared in advance; if the trainer attempts to make up answers as the interview progresses, inconsistent or unreasonable data will most likely be the result. The practice interview will not be too difficult or unusual; at the same time, it will not be too easy. The trainer will not respond too readily. To closely simulate an actual interview, the trainer will sometimes hesitate or act reluctant to give information.

The bulk of the manual is devoted to detailed instructions for canvassing, listing, and completing the questionnaire. The manual is divided into six chapters to enable the enumerator to read and understand it and to extract major points. The chapters are as follows:

- (1) Chapter 1. Enumerator's job. This chapter describes the enumerator's duties and responsibilities and conditions of employment (pay, hours of work, training, and supervision). Other topics include reasons for taking a census, definition of terms, description of enumeration forms, and confidentiality requirements.
- (2) Chapter 2. Introduction to the EA Book and interviewing techniques. This chapter discusses the EA Book. Other topics covered are the use of the Individual Census

Report (ICR); design of the Phase 1 questionnaire (instructions for enumerators, types of entries, how to ask the questions, etc.); how to conduct the interview; and how to review work at the end of the day.

- (3) Chapter 3. Canvassing and listing. This chapter contains a summary of canvassing, listing, and enumeration procedures. Detailed instructions are given on using the map, canvassing urban and rural EA's, and listing. Other subjects include the housing unit definition, required Listing Sheet entries, and required entries on the Summary of Page Totals.
- (4) Chapter 4. Detailed instructions for completing the questionnaire. This chapter contains instructions on whom to enumerate and detailed item-by-item instructions for population and housing items. Other instructions cover vacant housing units and filling Individual Census Reports.
- (5) Chapter 5. Special enumeration situations. This chapter contains special instructions for T-Night, enumeration of collective quarters, callbacks, finding different number of units at time of callback, vacant units, refusals, other incomplete interviews, etc.
- (6) Chapter 6. Administrative matters. This chapter is concerned with such matters as the enumerator's appointment, supervision, basis of pay, method of payment, safety, supplies, etc.

6.44 Enumerator's Workbook.--An Enumerator's Workbook will be used as a vital part of the training. The workbook will contain short training exercises consisting of questions to answer, hypothetical problems to solve, practice maps, sample forms, etc. Periodically during the training, the enumerators will complete the exercises relating to the material just covered. They will be given the correct answers so that they can evaluate their progress and raise questions about any points they have not understood.

The workbook exercises are intended as a learning device which will supplement the classroom lectures and discussion. They also help add variety to the presentation methods, and enable all enumerators to participate more fully in the training than is the case when a

single individual is called upon to answer a question orally. A portion of the Enumerator's Workbook (with answer key) is illustrated in exhibit C-4-19.

6.45 Audio-visual aids.--Audio-visual aids will be used as much as possible since they can be very helpful in clarifying parts of the discussion. Furthermore, they give variety to the presentation methods and provide a welcome break from studying the manual. Among the materials that will be used are charts, diagrams, filmstrips, chalkboards, and the like. Exhibit C-4-20 illustrates a portion of a filmstrip and accompanying narrative.

6.46 On-the-job training.--Regardless of how well planned and how well executed the training program has been, much of it will not have meaning for the enumerators until they have actually begun working. Consequently, some on-the-job training is needed to solidify what has been taught in the classroom.

As mentioned earlier, practice enumeration in the field will not be feasible. Therefore, this training will be part of the actual enumeration process. The crew leader will visit each of the enumerators as soon as possible after the enumeration has started so that necessary on-the-job training can be given to an enumerator right at the start of an assignment. The crew leader will use the prelisting of 5 units that he/she prepared to check the enumerator's coverage and systematic listing. If the enumerator has not reached the crew leader's group of 5 units, it will be necessary to re-visit the enumerator.

On-the-job training will also be used for training replacement enumerators if they are needed. One morning can be spent acquainting them with the various forms and the map. During the afternoon the crew leader will do one or two interviews with the new enumerator observing, then the enumerator will interview

while the crew leader observes. After each of these first interviews, the crew leader will correct errors made by the enumerator and give any further instruction necessary. It is possible to train an enumerator quite well in one day by this method whenever the regular 3-day classroom session is not practical.

6.47 Remedial training.--Remedial training will be given on an individual basis by the crew leader whenever it is discovered that an enumerator is not doing satisfactory work. Often it will take the form of additional on-the-job training. During the enumeration period the crew leaders will visit the enumerators in the field to observe their performance, review their work, and offer suggestions for improvement. For some enumerators, it may be necessary to go over some parts of the concepts and procedures in much the same way as was done originally in the group training sessions.

7. PRELIMINARY FIELD ACTIVITIES

At the close of crew leader training on preliminary or pre-enumeration activities, crew leaders will be given their crew leader area maps, recruiting materials, and the EA Books, which contain the EA maps.

This preliminary work will affect not only the value of the census but also the difficulty of the crew leader's work when actual enumeration begins. The more carefully the preliminary work is done, the easier the supervision of enumerators will be. This means that crew leaders should, for their own benefit, do the best possible job on their preliminary activities.

Although the preliminary activities are described in individual subsections below, they will actually be carried out at the same time during the 2 weeks provided for this work.

7.1 Field check of EA's

The crew leader's first job is to check each EA map with the map of the CL area to see that they both cover the same territory. The maps were carefully checked at the NSO but mistakes are always possible. If any errors are found, such as EA boundaries which do not agree with those shown on the crew leader map, they should be reported to the DCO immediately.

7.11 Map correction.--The next step is the field checking of individual EA maps. Some of these maps were made a year or more earlier, and they may have been based on maps several years old which can lead to inaccuracies.

The names of boundary roads and rivers will be checked to see if they are correct. If the map has buildings shown on it by various symbols, a check will be made to see if any buildings have been destroyed or new buildings built. This refers not only to dwelling places, but to churches, schools, factories, and similar structures which will be used by the enumerators to find their way through the EA's. New roads or roads which may no longer exist will be looked for and the map corrected as necessary. When any such changes are found, the proper symbols as shown in the map legend will be used to make the maps as accurate as possible. If any buildings have been demolished, an "X" will be drawn through their symbol on the map. If roads have been closed or no longer exist, they will be crossed out using a series of "X's." A wavy line will not be used since it will be confused with the wavy line for EA boundaries.

Particular attention will be paid to "invisible boundaries" which are those EA boundaries not falling on a road, river, railroad track, or some other recognized feature. Invisible boundaries are imaginary lines across

a field, through a forest, or other such undefined markers. They often are an administrative boundary such as the limits of a barrio, district, or province. When such boundaries are found they will be checked with local authorities, if possible, to find out how they can best be recognized. The crew leader will follow them to learn whether they have been changed in any way since the map was drawn. If the boundary agrees with the map, such information will be given to the enumerator. One way in which such a boundary will be checked is for the crew leader to ask the persons in each HU along that boundary which administrative area they live in. The answer will not always be correct because the persons may not know their area, but it usually helps.

If the administrative boundary is incorrectly shown on a map, the crew leader will get all the details available about its actual location. The crew leader will make a copy of the area in question from the EA map, indicate the new location of the boundary on the copy, and send the copy to the DCO. The PCO will be notified immediately and all the details given so that a temporary split can be authorized while final approval is obtained from the NSO. The NSO must always be notified of all splits and give final approval.

The administrative boundary is important because it determines in which reporting area the HU's and people in the EA will be tabulated. For example, an incorrect boundary could lead to too many people or too few people being tabulated in a barrio, district, or province.

7.12 Split EA's.--While doing the field check, an estimate of the number of housing units (HU's) will be made in each EA. Most EA's will have been based on 100 HU's, which is considered a reasonable workload for one enumerator. If an EA is found with more than 130 to 140 HU's, it should be split into two

or more, depending on the total number of HU's. Although the point suggested for splitting is 130 to 140 HU's, this is not a hard and fast rule. EA's of 160 to 170 HU's, however, should always be split. The reason is to avoid delaying the census. Asking one enumerator to complete a very large EA, particularly if he/she happens to work slowly, will cause serious delay.

Crew leaders are authorized to make all splits except those in which administrative boundaries are found to run through the EA; authority must be given by the DCO in such cases. The mechanics of splitting are not difficult. Instructions on how to make splits are included in the Crew Leader's Reference Manual. When splits are made, a letter will be added after the original EA number to identify each of the parts. For example, if EA 124 is split, then the parts are numbered 124A, 124B, etc.

The crew leader will make a copy of the EA map and prepare an EA Book for each part with a suffix letter, except A, for which the original materials will be used. To ensure that an enumerator will not cover all parts of the split EA, the crew leader will cross out the portion of the map not to be covered by drawing a series of straight lines across it.

All splits will be reported on the Crew Leader Report of Split EA's (exhibit C-4-21). This form provides space for recording the original EA number, the suffix letters, the reason the split was made, the date reported to the NSO, and an instruction to record all split EA's on the Master List of EA's for Field Operations. This last step is most important because crew leaders must be certain that the added EA parts are enumerated and, since they continue to work until all EA's on the master list have been completed, they need to have a complete list. The

Report of Split EA's should be sent to the DCO as soon as the crew leader is certain that all necessary splits have been made.

7.13 Large Special Dwelling Places.--A search will be made for Large Special Dwelling Places (dormitories, convalescent homes, penal institutions, orphanages, military barracks, monasteries, etc.). If one with 100 persons or more is found, the instructions on the front of the EA Book will be checked to see whether it has been made a Special EA by itself. If it has, this instruction will be pointed out to the enumerator when the EA Book is issued. If not, it will be made a Special EA and split from the original EA.

7.14 Starting point and route of travel.--After each EA map has been updated, the crew leader will select a good point at which the enumerator should start work. In urban areas this is usually the northwest corner of the northwest block in the EA. In rural areas it should be a point the enumerator will easily reach in traveling to the EA. The crew leader will mark the point with an "X" and the word "Start" and will draw arrows (lightly in pencil to not interfere with the enumerator's serial numbers) on both the EA map and his/her map. Travel should be orderly and systematic to ensure complete coverage and with minimum backtracking (going over same road twice).

There are two advantages to planning the enumerator's travel. Since it is done after the map is updated, it helps ensure that the enumerator will cover new roads that were added to the map. It also helps the crew leader determine where the enumerator may be working at any time. When necessary, the crew leader can locate the enumerator easily.

7.15 Unusual or hidden HU's. During the preliminary operations, the crew leader should watch for unusual or hidden quarters--tents, old busses or railroad cars, boats, shacks,

etc. Crew leaders should call attention to such cases in the special instructions on the EA Book.

7.16 Identification Stickers.--In areas where residential structures do not have identifying numbers, the crew leader will be responsible for assigning an "address number" to each structure without a number. The crew leader will place an Identification Sticker (figure C-4d) near the door of the structure so that enumerators can identify the structure. The crew leader will assign a number, beginning with "1" in each EA, and will number the unidentified structures consecutively within the EA. This "address number" will be different from the serial number assigned by the enumerator.

It had been decided initially to have the Phase I enumerators number and affix the Identification Stickers. After evaluation of the Experimental Census, the NSO decided that only the crew leaders should be responsible for this activity because of the importance of maintaining operating independence between Phase I and Phase II. If the crew leaders affix the Identification Stickers, both Phase I and Phase II enumerators will have the same opportunity to recognize where people live or might live.

Figure C-4d. IDENTIFICATION STICKER,
FORM PH-208

FORM PH-208

IDENTIFICATION STICKER



EA NO. _____

HOUSE NO. _____

Please DO NOT remove this sticker until after 1 May 1981.

The crew leader will explain the purpose of the sticker and ask that it not be removed until after 1 May 1981. Stickers will not be used on individual apartments in an apartment house. The enumerator will identify individual apartments by letter or number or by describing the location of each apartment.

7.17 EA pay rate and travel allowance check.--In traveling through an EA the crew leader should check the distance between houses, whether many are hard to get to, whether the terrain is very rough, and similar things which might affect the time and effort an enumerator must use in covering the EA. If the crew leader believes that a piece rate EA should be changed to an hourly rate EA because of such difficulties, he/she should report it promptly to the DCO and request a change of rate. Sometimes the piece rate will be satisfactory but a change to authorized travel may be advisable because of the distance between housing units. The crew leader is not authorized to make such changes but must request them from the DCO. Section 10 contains a full discussion of the enumeration pay system.

7.2 *Prelisting*

The crew leader is required to make two prelistings for each EA, each part of a split EA, and each Special EA: (a) 5 consecutive HU's or CQ's for own use in checking enumerator coverage and (b) 10 consecutive units for use of the DCO in the field review of the enumerator's work. Prelistings are to be recorded on the Crew Leader's Prelisting form (exhibit C-4-22). Instructions for prelisting are given in the Crew Leader's Reference Manual.

For the five units for own use, the crew leader is to prelist units near the enumerator's starting point. When making the first observation of the enumerator's work, the prelisting is used to check the enumerator's Listing Sheet in the EA Book to be certain that no units were

missed. If any were missed, the enumerator is to go back and enumerate them. The crew leader must again emphasize the importance of complete coverage of all living quarters.

For the 10 units for DCO use, the crew leader should pick a random starting place and a different one in each EA. Each listing should include one or more "hard to find" units, but all units should be in consecutive order.

7.3 *Publicity*

Crew leaders should carry publicity posters with them as they travel through each EA. At each likely spot where quite a few people will see the posters, the crew leader will ask if one can be left in a conspicuous place. The DCO will have arranged for and notified crew leaders of the testing places; this information, together with the date and time of testing, will be added to the posters before they are placed. If the crew leader has a telephone, it is an advantage to add the number to the poster.

7.4 *Making enumerator assignments*

In crew leader areas where there is one enumerator for each EA, assignment of EA's poses no major problem. Ideally the enumerators should be assigned the EA's in which they live. If this is not possible, the distance the enumerator is required to travel to get to an EA should be the major factor in making an assignment. Every effort should be made to keep an enumerator as close to home as possible and to minimize travel time to and from the EA.

In situations where there are fewer enumerators than EA's, the crew leader must decide how to assign the EA's. The largest EA's will be assigned first. They are the EA's that will take the longest time to complete due to geographic and/or population size. The crew leader will determine on the basis of the preliminary field check which EA's should be started first and which should be given as second assignments.

When the time comes to give a second assignment, the quality of the enumerator's work should be kept in mind. It may be better to delay making a second assignment for a few days and give the EA to one of the better enumerators than to assign it immediately to an enumerator whose work is of poor quality.

8. LISTING AND ENUMERATION

The data collection aspect of a census is the operation that is most critical to its success. The procedures developed for enumeration have been designed to ensure complete coverage and provide for obtaining the desired information from the respondent. The detailed procedures are described in the Enumerator's Reference Manual.

8.1 General field procedures

Enumeration will begin on 1 July 1980. Enumerators will be instructed to start canvassing their EA's at the point indicated on their maps and visit every HU and CQ, unless otherwise specified on the EA Books. The enumerators should follow the route of travel as indicated by the arrows drawn on the maps by the crew leaders.

Canvassing, if properly conducted, will ensure that all people in the country will be counted. It involves a careful search for HU's in unusual places, such as behind other HU's, at the end of an unmarked path in rural areas, or in a hidden alley in urban EA's. It also means searching for living quarters in back of or over a store, a tent, a converted chicken house built of scrap material, an old bus or railroad car made into a dwelling, or houseboats and rafts. Some people even live in the boiler room of a factory or the basement of a church when they are employed there. Each of these places must be found if the census is to be complete.

One family of five missed in each of the 32,000 EA's in Popstan will leave 160,000 persons uncounted and this is equal to the population of a large city. The importance of finding every place where people can and do live will be emphasized in the training and in field observations.

Close attention will be paid to the EA map to be certain that every street, alley, road, or lane which appears on it has been covered on both sides. Even though the crew leader will have checked every EA in search of new streets or roads, it is necessary that each enumerator be on the lookout for such places. One small lane with three or four HU's missed in an EA will make quite a difference in both the population and HU counts. It is the enumerator's responsibility to enumerate all persons in the EA and obtain housing information for all HU's, including vacant units.

8.11 Listing.--Beginning at the place marked "Start" on the map, the enumerator will list every HU and CQ in an orderly fashion, unless there are special instructions on the cover of the EA Book not to include a large CQ. As each HU is reached, it will be listed and then enumerated. The Enumerator's Reference Manual contains detailed instructions for the listing operation. On the Listing Sheet, the enumerator will enter the street and number or location of each HU. For occupied units, the name of the head of each household and the total number of persons enumerated will be entered. For vacant HU's, the names and addresses of owners or real estate agents will permit further follow-up for information if necessary. The Listing Sheet will be used to record the number of callbacks made, thereby accounting for some of the time the enumerator worked.

Listing Sheets must not be filled out from memory after the enumerator returns home

each night. This would defeat the value of the listing and could result in much incomplete or wrong information. Each HU or CQ must be listed as the enumerator comes to it on the prescribed route of travel. These sheets will be used during Phase II processing for matching purposes and must be as complete and accurate as possible.

8.12 Interviewing.--A pleasant introduction using the family name (it can often be obtained from a neighboring family previously interviewed), the enumerator's name, and the reason for the census is often the best key to enlist the respondent's cooperation. Enumerators will be trained and will practice such introductions during their training.

The enumerator then fills the next questionnaire in the EA Book by recording the population and housing information for the unit. If there are more than 12 persons in the HU, the enumerator will continue the interview using the next consecutive questionnaire and will mark item P-1d to indicate the household is continued on the next questionnaire. If no one is at home, the enumerator will enter the serial number for the HU on the questionnaire and use the next questionnaire for the next HU. The enumerator will find out from a neighbor the number of persons who usually live in the HU; if there are more than 12, then two questionnaires will be reserved for a callback.

Every attempt will be made by the enumerator at the time of the first visit to complete all items for each person in the HU. Up to three callbacks will be made to complete the questionnaire. If the missing information is for a nonrelative such as a lodger, the enumerator should leave an Individual Census Report (exhibit C-2-1) which can be picked up at a later visit. The enumerator will then transfer the information on the ICR to the Phase I questionnaire.

The crew leader will review the number of callbacks and the cases with incomplete information. The enumerator may not be using good judgment in selecting the best time to call.

After obtaining all the required information for the HU or CQ, the enumerator will ask item P-1b to verify that all persons have been enumerated. If for some reason not all of the information was obtained, the enumerator should enter the reason in the notes section of the Listing Sheet.

Since the data will be keyed directly from each questionnaire, it is important that the enumerator is careful in circling code numbers. Much time will be lost, and possibly incorrect data will be recorded and counted if circles take in more than one code or if written figures are not clear. This will be stressed in enumerator training.

8.13 Review of the questionnaire.--Enumerators should conduct a quick review of each completed questionnaire before they leave the respondent's house. Although they will do a more careful review when they reach home, they may prevent making a callback if they can discover errors or omissions while still with the respondent. They should be cautioned, however, not to take too long for this review as it might cause the respondent to become impatient.

8.2 *Special situations*

Although most of the interviews will be easily accomplished by following the regular enumeration procedures, there will be some special enumeration situations that will be handled somewhat differently. Most of these are described below.

8.21 Collective quarters.--Collective quarters (CQ's) are living quarters in which the residents live collectively for disciplinary, health, education, religious, military, or work reasons. They will be enumerated in

much the same way as HU's. There will be only one entry on the Listing Sheet for each CQ. Persons living in the CQ's will be asked the same population questions as those living in HU's. However, no housing information will be obtained for CQ's.

Most large CQ's will be identified before the enumeration begins and will be designated as Special EA's. If the enumerator determines there are 100 persons or more in a CQ, the crew leader should be notified. The crew leader will then decide whether to re-assign the CQ to another enumerator or to have the original enumerator complete the CQ.

In general, hospitals and prisons, ICR's will be used to enumerate those persons who will be in the hospitals or prisons for less than 30 days and have a usual place of residence elsewhere.

8.22 Homeless and transients.--The night before the beginning of the regular census will be designated as T-Night and used for enumeration of the homeless and transients. Two EA Books will be prepared for these EA's--one to be used during the regular enumeration and one to be used during T-Night. The EA number will be the same except that the number on the EA Book to be used on T-Night will have a "T" suffix. The enumerators will canvass large hotels, overnight shelters, local jails, parks, and warm doorways where the homeless may spend the night. Local welfare officials, police officials, and similar persons will be contacted to learn where the homeless usually spend the night so each place can be canvassed and enumerated.

No entries will be made on the Listing Sheet. Each person found will be enumerated on a separate line and will be marked as "non-relative" in item P-2 regardless of whether they may be related to someone else in the group.

Persons with a usual place of residence elsewhere will be asked to complete an ICR rather than being enumerated on a Phase I questionnaire. These ICR's will be sent to the home DCO's of the persons for comparison with the census forms completed at their homes to ensure that they were included.

Special training will be given during the afternoon of 30 June for those enumerators who will take part in T-Night. They should be prepared to work late that night and, if they have regular transient hotels in their EA's, to pick up completed ICR's the next morning and either transcribe them to the EA Book or deliver them to the DCO for sorting and forwarding to the DCO's of the transient's usual residence.

8.23 Nomads and tribes.--Arrangements will be made with the Ministry of the Interior to have some of its employees enumerate nomads and tribes living in villages. This Ministry oversees the day-to-day life of such people and will be most likely to know where to find them on a given date. Staff of the Ministry also have continuing relations with tribal chiefs and can readily obtain their cooperation in the enumeration of their villages.

The employees selected for this work will receive special enumerator training and will be assigned a nomadic group or a tribe to enumerate. It will be the enumerator's job to locate the group assigned and complete the enumeration. The tribe or nomadic group will be assigned to the EA in which it is located at the time of the census. The enumerator will describe the location exactly, in order to permit the assigning of the group to an EA.

The Listing Sheet will be used even though there will be no street names or HU addresses. It is needed as a record of serial numbers, names of household heads, and counts of population in each HU. It is doubtful that any CQ's will be encountered, unless tribal rules

require that all young, unmarried males live in one structure or some similar situation exists. Enumeration will be accomplished with the Phase I questionnaire.

8.24 Persons living on watercraft.--

The Popstan Census will be concerned with two different types of people who live on watercraft. One is the group whose homes are on boats or rafts moored along the rivers or in harbors. Preliminary inquiries will pinpoint where such craft are located and the occupants will be enumerated on T-Night in Special EA's. Although street names or numbers and location addresses will not be used, the name or identification number of each watercraft will be recorded on the Listing Sheet for later identification if needed. The interviews will be recorded on the Phase I questionnaire.

Popstan has a small commercial fleet, a fishing fleet, and a small navy; the crews of these make up the second group to be enumerated on watercraft. The NSO will contact the Ministry of the Navy early in 1980 to find out which ships will be in the harbor on 1 July and for a few days thereafter so their crews can be enumerated during the census. DCO's will make similar contacts with shipping and fishing companies headquartered in their areas to find out which ships will be in port and which will be at sea on 1 July. Every effort will be made to learn from both the navy and commercial companies the latest date before Census Day on which each of their ships will be in port so the crews can be enumerated.

The captain of each ship will be made responsible for distributing ICR's to each member of the crew, collecting them, and turning them over to the enumerator for that Special EA. The enumerator will identify the complete ICR's for crew members who do not have a home on shore and will transcribe the information to a regular EA Book, using a separate questionnaire for each ship. The ship's name and pier

number will be entered on the Listing Sheet as an address. ICR's for those who do have a home on shore will be sent to the appropriate DCO for matching to the EA Book for the area in which each person lives. No housing information will be recorded for these ships.

8.3 *Interview problems*

Enumerators must be prepared for problems that will call on their good nature, skill, and ability to resolve. Often there must be a willingness to do whatever is necessary to complete the enumeration.

8.31 Refusals.--In any census there will be some people who refuse to answer the enumerator's questions. This is usually prompted by fear of the consequences if certain information is turned over to the government. A belief that census information is used for new tax laws or for police action is often present and will result in a refusal. The enumerator must have a good knowledge of the purposes of the census and be prepared to overcome objections by stating those purposes clearly and convincingly. The respondent can also be shown the confidentiality statement in the upper right corner of an unused questionnaire if that will help gain cooperation.

If the enumerator's best efforts are unsuccessful, the case must be reported to the crew leader who may try again to convince the person to cooperate. If this attempt is not successful, the case will be reported to the DCO, which may direct the enumerator to obtain the best information possible from a neighbor.

8.32 Long workdays and hours.--Many, if not all, enumerators will encounter one or more cases in which no one in the housing unit will be available for interview during regular work hours. This means that either an early morning or an evening callback must be made to obtain the information for that HU. It is also probable that Saturday and Sunday work will be

required to interview persons who cannot be interviewed at any other time. This should be explained to enumerator applicants before they are hired so they will expect it and be willing to do what is necessary.

8.33 Information from neighbors.--There may be many cases in which an entire family is away from home and will not return during the census period. Since these persons cannot be omitted, the enumerators will be instructed to obtain the best possible information about the families from neighbors or local officials. The minimum acceptable information will include names of all family members, relationship to household head, sex, estimated age, and marital status. Any additional information that can be obtained will be helpful. Such cases must be noted in the remarks space on the questionnaires and reported to the crew leader so they can be approved as close-outs.

Neighbors should also be consulted to obtain as much information as possible in completing housing questions H-1 through H-10 for vacant housing units. Enumerators will be instructed to record owner's or agent's names and addresses in the "Notes" section of the Listing Sheet, if they can be obtained.

9. FIELD REPORTING SYSTEM

It is most important that the NSO receive accurate and timely reports on four specific phases of data collection: recruiting, training, progress of enumeration, and costs. Figure C-4e contains the reporting schedule for the data collection operation.

In each case the originating reporter will send a report to the next higher level where the several reports will be consolidated and forwarded to the next higher office. For example, enumerator recruitment reports will be submitted to the DCO's by crew leaders; DCO's will consolidate and forward them by tele-

phone or telegraph to the PCO, followed by a written confirmation. The PCO will consolidate all of its DCO reports and forward this information to the Field Operations Division at the NSO in the same way. Field Operations Division will consolidate reports for the entire nation and report the figures to all interested divisions in the NSO.

9.1 Recruitment reports

Since the NSO will recruit the senior staff for the PCO's, field recruitment reports will begin with the PCO recruitment of DCO supervisory staff and continue through the recruitment of enumerators. Both the PCO's and DCO's will use the PCO/DCO Summary of Recruitment Progress (exhibit C-4-23). The DCO manual contains instructions for the use of this form. Because the form covers several types of recruitment, only certain sections of the form will be used for each of the levels of recruitment. The form will be completed in duplicate the first time; the original will be kept as a master report and the copy mailed to the next higher office as confirmation of the report. Figures from each subsequent report will be added to those in the master report and a copy will be forwarded as confirmation.

The only departure from requiring each originating reporter to prepare a written report will be for crew leaders reporting enumerator recruitment. The crew leaders will each be assigned specific hours for reporting by telephone on Thursdays. This will avoid time lost in waiting for a clear line as would be the case if all tried to call at the same hour. Monday reports will be made in person. The DCO will prepare its summary report based on these reported figures. In any case, when a receiving office believes a reporting office is falling behind schedule, steps will be taken to assist the latter office in its recruiting efforts.

Figure C-4e. FIELD OFFICE REPORTING SCHEDULE

Type of report	Prepared by--	Frequency	First report date
Recruitment of--			
DCO supervisory staff	PCO	Weekly	21 March
Crew leaders	DCO	Weekly	9 May
Enumerators	Crew leaders	Twice weekly	12 June
Training of--			
District census officers	PCO	One time	25 April
DCO technical and administrative assistants	PCO	One time	2 May
Crew leaders (preliminary)	DCO	One time	23 May
Crew leaders (enumeration)	DCO	One time	11 June
Enumerators (regular)	Crew leaders	One time	27 June
Enumerators (T-Night)	Crew leaders	One time	30 June
Enumeration:			
Costs	PCO	Weekly	18 March
Costs	DCO	Weekly	6 May
Progress	Crew leaders	Twice weekly	3 July
Progress (combined with costs)	PCO's and DCO's	Weekly	8 July

9.2 Training reports

Training reports, which must be submitted as soon as each training class has been completed, will give the number who accepted EA assignments as well as the number of persons who were trained. It is not uncommon for a person to refuse an assignment after having been trained. This means that additional persons must be trained immediately if data collection is to proceed on schedule.

Training reports will be prepared on the Group Training Report (exhibit C-4-24). Detailed instructions for the use of this form are in both the DCO manual and the crew leader's manual. As noted above, crew leaders are to telephone their reports to the DCO and submit the form as confirmation. This is particularly important in areas where the mail service is slow. If two crew leaders choose to combine their classes and share the training, they may submit a combined report.

9.3 Enumeration progress and cost reports

Data collection is the single most expensive portion of any census. This means that all offices must closely watch both enumeration progress and its cost. Weekly submission of the Field Progress and Cost Report (exhibit C-4-25) keeps all offices informed on this important activity. Each office in the line of responsibility adds its own costs to the report and sends it to the next higher level; by the time the NSO receives the reports, it has the total cost of salaries and travel as well as the number of EA's completed as of the report date. Complete instructions for use of this form are in both the DCO and the crew leader's manuals.

All levels in this reporting chain are to start submitting the field report as soon as their offices are opened and functioning. Crew leaders submit reports twice weekly (Mondays and Thursdays), and the DCO's and

PCO's each Tuesday. Since each crew leader is required to personally turn in a payroll voucher each Monday, he/she will report on progress and costs at the same time. Again, it is best to assign a staggered schedule for crew leaders to arrive at the DCO.

Crew leaders will report the number of regular and Special EA's in the Cl. area, number of enumerators working, number of EA's assigned, number of EA's completed, number of hours worked by hourly rate enumerators, number of listings and persons enumerated by piece rate workers, and travel costs.

10. PAY SYSTEM

Many factors were taken into account by the NSO planners in devising the overall pay system and specific procedures for paying all temporary employees working on the census. Special attention was given to the pay system for each level of employee in the census field organization where the bulk of the temporary employees will be working. A major decision with reference to the field organization was that field employees, other than PCO staff, will be paid in cash and as promptly as possible. Consequently, arrangements have been made for employees of the local offices of the Ministry of Economy to pay DCO office personnel and field enumeration staff in cash.

10.1 PCO staff

Since the PCO employees, both supervisory and clerical, are temporary and will be employed for only a short time, they will be paid on the basis of a weekly pay period. Time and attendance records will be maintained for each employee by the payroll clerk. The records will be reviewed and certified at the end of each week by the administrative officer and then forwarded to the Administrative Section of the NSO Field Operations Division for processing.

Checks will be issued each week by the Ministry of Economy.

Province census officers, province technicians, and administrative officers who have been temporarily transferred from the Ministry of Economy or some other government office for the census assignment will generally receive their regular salaries plus travel expenses, but will be paid from NSO census funds for the duration of their assignment.

PCO supervisory staff will use separate NSO forms to request reimbursement for travel expenses, which will be paid on the basis of a daily allowance for each night in travel status during periods of travel. The allowance is intended to cover costs of transportation, lodging, and meals. Separate checks will be issued for travel claims.

The PCO's and DCO's will use the PCO/DCO Payroll Register form to record all information pertaining to the payment of their staffs. The form contains entries for each staff member on hours worked per day or week, rates of pay, and total amounts paid.

10.2 DCO staff

District census officers will be paid in the same manner as the PCO staff. A time and attendance record will be maintained in each district and submitted to the PCO each week, along with any requests for travel reimbursements. The PCO will approve and transmit these forms, along with PCO payroll forms, to the NSO. District census officers will receive weekly checks from the Ministry of Economy.

The remainder of the DCO supervisory and clerical staff will be paid in cash each week on the basis of a daily record of hours worked, which will be maintained by the timekeeper and approved by the district census officer. At the end of each weekly pay period, the payroll

clerk will prepare and submit a payroll voucher for the office staff to the local office of the Ministry of Economy; this office will provide the cash to cover the payroll. The payroll clerk will then prepare and distribute pay envelopes to the office employees who will sign the office copy of the voucher in receipt of payment.

Requests for travel reimbursement for DCO supervisory staff will be submitted in the usual manner to the PCO's for approval and submission to the NSO. Separate travel checks will be issued by the Ministry of Economy. By special arrangements these checks can be cashed in the local offices of the Ministry of Economy.

District census officers and/or technical and administrative assistants who hold regular government positions and who are only temporary for the period of the census will be paid from NSO census funds.

10.3 Crew leaders

Each crew leader will maintain a weekly record (in the CL Record Book) of the number of hours which he/she worked, the number of kilometers traveled each day, and the number of nights spent in travel status during the week. At the end of each weekly pay period, the crew leader will prepare a Crew Leader Pay Authorization (exhibit C-4-26) in duplicate. The crew leader will number the forms in order, using the next unused number, and will certify all entries in each weekly form, including the miscellaneous expenses incurred while on official duty--bridge tolls, bus fares, telephone calls, etc. Both copies will be submitted to the DCO for approval and completion on the Monday following the end of the pay period.

The crew leader will be given the completed, approved copy of the pay authorization on the following Monday. After recording the date approved and the amount of the payment in

Section VII of the CL Record Book, the form will then be presented to the local office of the Ministry of Economy for payment

After processing in the Ministry, the disbursing officer will return both copies to the DCO payroll clerk who will retain one copy for use in maintaining the Crew Leader Payroll Register (exhibit C-4-27). All crew leader payments will be posted to the register and the DCO copy of each authorization will be filed. One copy of each crew leader pay authorization will be sent to the PCO's which will then forward them to the NSO Field Operations Division for accounting purposes. The DCO payroll registers will be examined periodically by the province technicians. Under this system a crew leader normally will be paid 1 week after submitting the pay authorization to the DCO.

10.4 Enumerators

The majority of the enumerators will be paid on a piece rate basis for satisfactory completion of an EA assignment. Hourly rates will be authorized for a few enumerators who are assigned Special EA's containing large collective quarters, hard-to-enumerate EA's in congested areas of large cities, difficult EA's in sparsely-settled rural areas, or clean-up work for incomplete EA's.

It was decided to use piece rate payments for most enumerators, as it would be extremely difficult to budget for enumeration costs if all enumerators were paid by the hour or for each kilometer traveled. Cost records for the 1970 Census were studied in an effort to set equitable rates of pay for enumeration, taking into account both the interview time and the average distance traveled. It was also decided that a fixed travel allowance had to be established for certain large piece rate EA's in rural areas based on estimated

length of employment, estimated size of workload, and estimated distances to be traveled in and around EA's. The authorized allowance was based on an estimated average number of kilometers to be traveled per rural EA and an estimated average of 100 housing units and 500 persons to be enumerated in about 10 days.

The hourly enumeration rate was calculated to include compensation for time spent traveling and for the distances covered. Separate travel allowances will not be authorized.

10.41 Control over hourly rate enumeration.--In order to keep the costs of hourly rate enumeration under control and within the budget allotments, hourly rate assignments will be strictly limited. On the Authorization for Staff, Rates of Pay, and Travel, a maximum allotment of enumeration hours will be authorized for each district, and DCO's will be required to stay within the authorized amount. On each Crew Leader Authorization for Enumerator Staff, Rates of Pay, and Travel, specific EA's will be designated as hourly rate EA's and crew leaders will be limited to making only these hourly rate assignments. No EA's can be changed from piece rate to hourly rate EA's without the permission of the DCO.

10.42 Payroll procedures.--The enumerators will be paid in two installments: (a) the fee for training will be paid only after an enumerator has accepted an EA assignment and has completed at least one-third of the assignment, thus assuring that persons will not take the training, get their fee, and quit and (b) the payment for enumeration will be made only after the enumerator has satisfactorily completed his/her assignment.

For the first payment to an enumerator the crew leader will issue an Enumerator Pay Authorization (exhibit C-4-28), entering the information necessary for payment for training. This information will also be entered in the CL

Record Book for future reference if the pay authorization is misplaced. Both the crew leader and the enumerator must certify the information entered on the pay authorization.

After reviewing and accepting all materials for a completed EA, the crew leader will issue another Enumerator Pay Authorization. The crew leader will number the form and will record the counts of persons and living quarters enumerated. An indication will be made on the form as to whether or not a travel allowance is authorized for the EA and any other authorized expenses for which reimbursement is due. In addition, as the basis of pay for an EA assigned at an hourly rate, the crew leader will enter the total hours worked as reported in the enumerator's daily record.

Enumerators who are assigned second EA's to enumerate will receive a pay authorization upon satisfactory completion of the second assignment. The enumerators will be instructed to go to the DCO for payment no earlier than 10 days and no later than 30 days after the pay authorization is issued.

The crew leader will prepare a copy for the DCO and one for the NSO and will give both copies to the enumerator. The authorization will be given to the disbursing officer, who will pay the enumerator. If the enumerator has any questions about the final computation of the payment, he/she must discuss and settle them with the administrative assistant.

10.43 Payroll registers.--The DCO's and the NSO will maintain records of crew leader and enumerator payments on the Crew Leader Payroll Register and the Enumerator Payroll Register (exhibits C-4-27 and C-4-29). The PCO's will simply review the pay authorizations and post the amounts and dates of enumerator payments to the PCO's copy of the Master List of EA's for Field Operations before transmitting the authorizations to the NSO.

11. TRANSPORTATION AND COMMUNICATION

Much time and effort can be wasted through failure or delay in sending or receiving materials and messages in such a widespread operation as a census. The NSO Census Planning Group devoted considerable time and study to determining the most effective transportation and communication systems for the census. The procedures decided on as most feasible for both the NSO and the field offices are described below.

11.1 Between NSO and PCO's

The NSO will send cartons containing bulk supplies of enumeration materials to the PCO's by train, air, and truck. Since mail service is fairly adequate between St. Regis and the various province capitals, the NSO will usually send small packages of additional supplies, memoranda, and other communications to the PCO's by mail. There will be no direct shipment of materials between the NSO and DCO's, however. The PCO's are responsible for the distribution of enumeration materials to the DCO's.

Following this arrangement, PCO's will send large shipments of completed EA Books and other enumeration materials to the NSO by train, air, or truck, and send small quantities of completed EA Books, memoranda, confirmation copies of weekly progress reports, and other office communications by mail. The shipment of all materials and supplies from the NSO to the PCO's, as well as from the PCO's to NSO, will be recorded on the NSO/PCO Transmittal (exhibit C-4-30).

PCO's will use telephone or telegraph communications almost exclusively to transmit to the NSO (on the scheduled report dates) the progress and cost data summarized for the province. Confirmation copies of the reports will be mailed. Before enumeration starts, the PCO's will telephone or telegraph summary data to the NSO on costs and on the progress of crew

leader and enumerator recruitment and on the number who complete training. The PCO's are also instructed to communicate with the NSO by telephone or telegraph on all urgent matters.

11.2 Between PCO's and DCO's

The public transportation facilities within provinces are not adequate to handle rapidly the flow of enumeration materials between the PCO's and DCO's. It was therefore decided to provide each PCO with one or more trucks for pick-up and delivery service. Trips will be made to each DCO according to an established schedule.

11.21 PCO redistribution of materials to DCO's.--A major PCO function before enumeration is the redistribution of training and enumeration materials and bulk supplies of forms to each DCO. As the PCO receives bulk shipments, the supply and control clerk will determine the proper allocation of materials among the DCO's, based on the workload and number of personnel authorized for each as indicated in the DCO authorization (exhibit C-4-6). The materials will then be assembled for delivery by truck to the DCO's where the final distribution to crew leaders will be made.

11.22 DCO shipments to the PCO.--The DCO's will transmit materials to the PCO by the PCO pick-up and delivery system--EA Books, district census officer's weekly time and attendance record, confirmation copies of weekly progress and cost reports, etc. The DCO's will retain personnel forms (applications and selection tests) as personnel files for the DCO office and field enumeration staff. The shipment of all materials and supplies between the PCO's and the DCO's will be recorded on the PCO/DCO Transmittal (exhibit C-4-31).

11.23 Communications between PCO's and DCO's.--Important communications between PCO's and DCO's will be handled primarily by telephone or telegraph. DCO's will telephone or

telegraph summary progress and cost data on scheduled report dates and send confirmation copies later by truck, along with any other communications of a less urgent nature. The PCO's and DCO's will also maintain effective personal communications through frequent visits of province technicians to the DCO's.

11.3 Between DCO's and crew leaders

Due to the lack of adequate mail, transportation, and communication facilities outside of the large urban areas, the DCO's and crew leaders will be forced to depend on their own means of transportation and communication.

The DCO's will deliver the bulky enumeration and training materials (EA Books, enumerator kits, etc.) for each CL area to crew leaders at their individual enumerator training sites. District office staffs will make the deliveries, using their available means of transportation. Crew leaders, who are also required to have some means of transportation, will be responsible for picking up at the DCO the smaller items needed for enumerator training. Small items such as pencils and Identification Cards will be given to crew leaders at their training sessions.

The technical assistants will visit crew leaders in the field periodically, and crew leaders will personally visit the DCO at least once a week. On Mondays, crew leaders will turn in their own weekly pay authorizations, required reports, and completed EA Books. During the recruitment period, crew leaders will be required to personally report on recruitment progress twice weekly--on Mondays and Thursdays. The crew leader must turn in a report on group training of enumerators on the morning of 1 July, the date on which enumeration starts. After enumeration starts, the crew leader will report on enumeration progress twice a week--once in person and once by telephone.

Crew leaders may make additional trips to the DCO, as necessary, to consult with the technical assistant on problems. On all visits to the DCO, the crew leaders are expected to report to the technical assistant, who may have matters to discuss with them, or who may wish to arrange an appointment to meet them in the crew leader areas.

In large urban areas where the mail service is good, crew leaders may mail weekly pay authorizations and progress reports to the DCO. However, they will still need to make one or more personal visits a week to turn in completed EA Books and to collect their pay. In these areas, communications between technical assistants and crew leaders may be handled largely by telephone, except for technical assistants' personal visits to observe crew leaders.

11.4 Between crew leaders and enumerators

Communications between crew leaders and their enumerators will be almost entirely on a personal basis. Enumerators will receive their assignments and other enumeration materials during training. At the end of training, the crew leader will arrange appointments to observe each enumerator during the first 2 or 3 days of field enumeration. The crew leader will arrange a second observation visit at that time only with enumerators who were not performing satisfactorily. Otherwise, a second appointment will be arranged at the tentative time when the crew leader expects to give final review to an EA. If the EA is still incomplete at the scheduled time, the crew leader should estimate the amount of work remaining and then request the enumerator to complete and bring the EA to the crew leader's home on a designated date for the final review. If crew leaders need to communicate with any of their enumerators at other than the arranged times, they will generally have to make personal visits to the enumerators' homes in the evening. In large urban areas, however,

crew leaders may be able to communicate with their enumerators by telephone to arrange or change appointments, etc.

In all cases where transportation is required, crew leaders and enumerators are expected to provide their own means of transportation. The rates of pay take account of the need to provide their own form of transportation.

11.5 *Transportation for office staff*

Province technicians will travel extensively, visiting the DCO's for which they are responsible to inspect both technical and administrative operations. They may use their own personal means of transportation or public transportation, whichever is more convenient. The DCO technical assistant will provide the necessary transportation in and around the district if the province technician wishes to observe a crew leader. The province technician will telephone the DCO to make advance arrangements for the visit.

District census officers and technical assistants in the DCO's must provide their own means of transportation to carry out their duties. Technical assistants in particular need transportation for visits to observe each crew leader at least once during observation of an enumerator or during review of a completed EA, and to assist with problems.

12. CLOSE-OUT OPERATIONS

When the bulk of the enumeration has been completed for Phase I, a brief period will be scheduled for close-out operations in the DCO's. The purpose is to make a concerted effort to complete the enumeration and to release employees from the payroll.

12.1 *Closing of DCO's*

During the close-out period, clean-up enumeration will be done in EA's that were not

satisfactorily completed, and the DCO's will review the last of the completed EA Books and transmit all completed work to the PCO's for shipment to the NSO. The DCO's will conclude all their administrative and payroll work, terminate the clerical staff, dispose of furniture and equipment, etc., as quickly as possible, so that the offices may be closed by the end of the close-out period. Due to unavoidable circumstances, a few DCO's may have to remain open past the scheduled close-out date in order to complete all work. The period tentatively scheduled for close-out operations is from 1 August through 15 August 1980. All enumerators, crew leaders, and DCO staff should be off the rolls by 15 August. The PCO's will remain open for the Phase II operations.

12.2 *"Missed Persons" campaign*

Important to any census is the assurance that all housing units and households are counted. One of the procedures to be used in Popstan to improve census coverage is a "Were You Counted" Form. The form is published in local newspapers near the end of the enumeration period, filled out by households who believe they were missed, and sent to the DCO.

The DCO must then determine in which EA the address is located and check the EA Book for that area to see if the household was missed. If the EA Book has been shipped, the DCO will forward the forms to the PCO. This can be a time-consuming and unproductive job, since many of the persons returning the forms will already have been enumerated, either from information given by another household member or by neighbors during the close-out operations.

On the other hand, the checking of "Were You Counted" Forms can reveal a trouble spot. It may turn out that a large number of the forms originate from the same geographic area, leading to the discovery that a significant number of households were missed in that area.

Newspapers will be requested to publish the form at least twice, and for best results it will be published on 2 successive days. Households that believe they were missed will be asked to fill a "Were You Counted" Form giving their address and the following information for each person in the household:

- (1) Name
- (2) Relationship to head
- (3) Sex
- (4) Age as of last birthday
- (5) Marital status

The person will be instructed to give a complete description of the location of the housing unit. The DCO's will check all forms received in response to this notice against the questionnaires for the EA in which the address is located. Information for households that have been missed will be transcribed to the next available questionnaire in the appropriate EA Book. The DCO's will need to be extremely careful so as not to add households that were, in fact, enumerated in the census. The enumerator and crew leader will be asked to check the EA Books so that the proper cases are added but not duplicated. Each form will be marked to indicate whether the household was already enumerated or was added; in each case, the EA number and serial number must be written on the form. All forms, including those that arrive in the DCO too late,⁵ will be sent to the PCO, then to the NSO, where a sample will be inspected.

13. QUALITY CONTROL

A vigorous quality control program will be carried out for all data collection activities to ensure that the operation meets acceptable standards. The purposes and the principles of

⁵For each form, the DCO will indicate the geographic code (including the EA number) for the household's address.

quality control (QC) are described in chapter 12 of Part A and the overall QC program for the Popstan Census is discussed in chapter 3 of Part B. This section covers the main elements of QC procedures for the data collection activities.

13.1 Quality control of crew leader's work

The DCO's are directly responsible for supervision of crew leader activities. This includes the crew leader's recruitment and training of enumerators and the manner in which the crew leader supervises his/her enumerators. The DCO also has the responsibility for reviewing completed work which has been accepted by the crew leaders.

Throughout the crew leader's preliminary activities, the DCO staff will carefully review reports submitted by the crew leader--Crew Leader's Prelisting, Crew Leader Report of Split EA's, and recruitment reports--to see that the crew leader understands all procedures and is carrying them out properly. The DCO technical assistants will visit each crew leader to observe his/her activities and to consult on problems. Observation of enumerator training will be especially important; the technical assistants will be responsible for bringing to the attention of the crew leaders errors or omissions in the training. By the same token, DCO observers will be encouraged to commend the crew leader for well-conducted training sessions or other activities.

During the enumeration period the district census officers and technical assistants will schedule visits to observe crew leaders as they work with their enumerators. The objective of these observations is to evaluate how the crew leaders carry out their supervisory duties. The DCO staff will write reports on the crew leaders they observe. These reports will be used in the DCO only for purposes of determining which crew leaders need closer attention and supervision.

The DCO staff will also review entries in the CL Record Book during enumeration to ensure that the crew leaders are completing the form properly. The record books will be collected at the end of the enumeration phase and analyzed as part of the evaluation of the data collection operation.

13.2 *QC of enumerator's work by crew leader*

Perhaps no one in the field supervisory chain will affect the quality of data as much as the crew leader. A conscientious effort by the crew leader to carry out his/her preliminary field activities and to supervise the enumerators will contribute greatly to the overall quality of the enumeration.

13.21 Prelisting of a sample of units.--

As discussed earlier in the chapter, the crew leader is required to make two prelistings for each EA: (a) 5 consecutive units for own use in checking enumerator coverage, and (b) 10 consecutive units for use of the DCO in the field review of the enumerator's work. When the crew leader observes the enumerator during the first few days of enumeration, he/she should carefully compare the prelisting of 5 HU's or CQ's with the entries the enumerator has made on the Listing Sheet in the EA Book. Any discrepancies must be carefully investigated by the crew leader, and the enumerator must make any necessary corrections.

13.22 Training.--Enumerators will be required to complete several classroom exercises and practice interviews during their training. The crew leaders will review these exercises to ascertain the capabilities of the enumerators. By the end of enumerator training, the crew leader should know who are the weaker enumerators. The crew leader will schedule these enumerators for early observation and review of their work.

13.23 Observation.--Due to the shortness of the enumeration period (about 2 weeks), it

is absolutely essential that the crew leader spend most of the time during this period observing interviews and reviewing completed work. Appointments with the enumerators will be scheduled in advance and every attempt made to fulfill each appointment. If possible, two or three appointments will be scheduled each day. Those enumerators who are having few problems will require only one visit before final review. Enumerators whose work is unsatisfactory will need a second observation and review. On each visit, the crew leader must determine if the enumerator is working at a rate which will complete the enumeration on schedule.

The crew leader will observe the enumerator to see that procedures for canvassing and interviewing are being followed correctly. Section VI, Record of Observation and Review of Enumerator's Work in the CL Record Book (exhibit C-4-17), will be used to report observations. The crew leader will observe at least two interviews, but will not take part in them and will not interrupt the enumerator. Errors made by the enumerator are to be discussed after the interview is completed, in such a way as to improve interviewing rather than to emphasize the mistakes the enumerator made.

After the required number of observations has been made, the crew leader will review the completed work. The Record of Observation and Review of Enumerator's Work is again used as a guideline for the crew leader to determine whether the work is satisfactory or unsatisfactory. The crew leader will not only look at the specific items listed on the Record of Observation and Review of Enumerator's Work, but will review other parts of the questionnaire for consistency and completeness.

When the review is completed, the crew leader will add the "No" tallies in Part B (observation) and Part C (review) of the Record of Observation and Review. These totals will then be posted on the "First visit" line of the

section "Summary of observation and review" in Part C, and a grand total of "No" tallies obtained. The crew leader will use this total in evaluating the enumerator's performance and determining a further course of action, as follows:

<u>Total "No" tallies</u>	<u>Action</u>
0 to 5	Work acceptable
6 to 10	Second visit required
More than 10	Work unacceptable

If the enumerator's work is acceptable, he/she will continue working without further review until the EA is completed. If a second visit is required, the crew leader will discuss the errors with the enumerator and make sure that all procedures and concepts are understood. A second observation visit will be scheduled and the crew leader will again review completed work, following the same procedures used during the first review. If the enumerator has made more than 10 errors, he/she will be released according to the procedures outlined in the Crew Leader's Reference Manual.

13.24 Review by crew leader.--When work is completed for an EA, the crew leader will do a final review before accepting the EA Book and issuing a pay authorization. The Crew Leader's Final Review of EA (exhibit C-4-32) is used for this purpose. Following instructions on the form, the crew leader will review the EA map to see that all parts of the EA have been covered, check for missing questionnaires, review the Listing Sheets, review for incomplete questionnaires, check the population and housing counts, and see that all materials have been turned in by the enumerator.

It is extremely important that the crew leader give each EA a complete final review and, if necessary, return the EA to the enumerator for additional work. When an EA is

turned in as complete to the DCO, but the DCO final review discovers that the work is unsatisfactory, it is both time consuming and costly to return the EA to the crew leader for correction. It is to the crew leader's advantage, therefore, to do the best job possible in all phases of supervision in the field and to see that EA's turned in are complete before they are transmitted to the DCO.

13.3 DCO review of enumerator's work

There will be two reviews by the DCO of completed EA's. The first is for payrolling purposes. As each EA is received in the DCO, it is checked off on the Master List of EA's for Field Operations and the counts of persons enumerated and listings are checked. Totals on the Summary of Page Totals are reviewed to be sure they are consistent with the totals at the bottom of each Listing Sheet. The population totals for each of the lines of the Listing Sheet will be compared with the questionnaires to see that the entry on the Listing Sheet is the same as the count of persons enumerated on the questionnaire. Corrections will be made to the page totals and summarized by the DCO clerks, as necessary. The population counts determined from this review will be published as the preliminary counts.

The DCO will also check for number of vacant units. If the vacancy rate is out of range, the EA will be returned to the crew leader and a field check made. "Out of range" cases may be considered to have more than a 5-percent vacancy rate. In some cases, there are special reasons for a high vacancy rate, such as the presence of a large number of vacation homes which are vacant at the time of the enumeration, or recently constructed units not yet occupied.

To complete its check of an EA, the DCO will use the form, DCO Final Review of EA (exhibit C-4-33). A check on coverage will

be made by comparing the Listing Sheets with the Crew Leader's Prelisting (exhibit C-4-22). If the enumerator has missed one or more units, the EA will be returned to the crew leader for recanvassing.

The next step will be a check on content of the questionnaires, following instructions given on the DCO Final Review of EA. If the average number of errors per Phase I questionnaire is greater than two, the EA will be returned to the crew leader. When the EA Book is resubmitted to the DCO, it will again be subjected to DCO review.

These checks will give the DCO a fairly accurate evaluation of the enumerators' and crew leaders' work. After completing the review of all EA Books for a CL area, the DCO will forward them to the PCO.

13.4 PCO spot check

Upon receipt of the EA Books, the PCO will check off each EA on its Master List. The PCO clerks will then perform a review of a sample of the EA Books from each district; the sample will consist of two EA Books selected at random from each CL area within a district.

The population field counts for the sample EA's will be checked, using the procedures that were used in the DCO's. If errors are found in the counts in either of the two sample EA's of a CL area, all EA's for the CL area will be checked.

The PCO clerks will also review the sample of EA Books for content. The clerks will use the same procedures as used by the DCO (see exhibit C-4-33). If either of the sample EA's in a CL area fails this review (that is, has an average of more than 2 errors per questionnaire), all EA Books for the CL area will be returned to the DCO for correction and completion by the DCO staff or the crew leader. After completing the review for a CL area, the PCO will forward the EA Books to the NSO.

14. OPERATIONAL CONTROL

Throughout the data collection operations, as in most census activities, careful control over the progress in completing each operation and the flow of forms and other materials is a highly necessary and critical function. Control over the field operations of a census is especially critical, given the large numbers of people involved and the many questionnaires and forms which must be filled out and transmitted--all within a specified time period.

Primary responsibility for control of all census operations will be that of the Director of the NSO. Actual day-to-day responsibility for operational control of the data collection activities, however, will be delegated to the Field Census Branch of the Field Operations Division. Members of that Branch worked closely with the staff of the Census Planning Group in constructing the network analysis charts that cover the data collection activities (see exhibit A-16-1). Throughout this phase of the census the branch chief and his assistants will have to monitor every activity carefully and assess its progress against the schedule established in the network.

The branch chief knows that, once the PCO's have been opened and field operations begin, the network analysis charts must be reviewed often. Reports from field offices must be received on schedule and the status of operations analyzed promptly so senior staff of NSO can be informed of lapses or deviations from the census schedule. NSO managers realize that the network is an excellent tool to keep them informed of the status of operations, but that they must take prompt and decisive action to resolve potential and actual problems revealed by the field reports.

14.1 Receipt and distribution of material

From the time the PCO's are first established until they are closed at the end of

Phase II, the flow of forms and other supplies back and forth among all levels in the field organization hierarchy must be monitored very carefully and constantly. If the enumerators, crew leaders, and other field staff do not have proper or adequate forms and materials they cannot perform their jobs properly; if EA Books are lost in field offices or in transmittal, the quality of the census will be affected.

Census personnel from the NSO down to the crew leader must exert the greatest care in control of EA Books, checking them in and out on their copies of the Master List. Missing EA Books must be located promptly; split EA's must be carefully labelled and added to the Master Lists. Crew leader and enumerator kits must be carefully assembled, assigned, and distributed. All shipments or deliveries of materials must be checked out and checked in on the NSO/PCO and PCO/DCO transmittal forms.

14.2 Enumeration

Crew leaders have many preliminary activities which must be carefully and thoroughly done on schedule: field checking EA's, pre-listing in each EA, and planning enumerator assignments, among others. Reports on these activities must be submitted on schedule. The DCO and PCO supervisors must be alert to any problems raised in the reports and take quick action to solve the problems.

Control over operations during the enumeration period lies primarily with the crew leaders, although supervisors at the DCO's, PCO's, and NSO will monitor progress constantly. Beginning 2 days after enumeration starts, crew leaders will submit progress reports twice weekly to the DCO's. The DCO's will summarize the crew leader reports and

submit weekly reports to the PCO's. These reports, in turn, will be summarized on a weekly basis by the PCO's and submitted to the Field Census Branch of the NSO. Supervisors and technical assistants at each level from the DCO's to the NSO must give careful attention to these reports and be prepared to provide guidance or help when troubles arise.

14.3 Review of EA Books

One of the most critical periods in controlling the flow of documents for a census is during the review and close-out operations. Crew leaders are reviewing completed work of the enumerators, giving some EA Books back to the enumerator for further work, and sending some forward to the DCO's for their review. Each crew leader must keep a careful record in the CL Record Book, on the Master List of EA's, and on the Crew Leader's Final Review of EA, on the status of each EA Book and all other materials given to the enumerators.

The DCO's will receive EA Books from the crew leaders as they pass final review. All EA Books received must be checked off on the DCO Master List and given to the clerical section for review and edit. Record must be made of EA Books returned to the crew leader for additional work, and they must be checked in again when received back from the crew leader.

Completed EA Books will be forwarded from the DCO's to the PCO's, and from the PCO's to the NSO, by complete crew leader area. At each level the books must be carefully checked off on the Master Lists of EA's, and records kept of the books returned to a crew leader for further work. In both the DCO's and PCO's the control clerks will keep careful records of the progress of each EA Book through the various stages of review and editing.

Chapter C-5. MANUAL EDITING AND CODING

1. INTRODUCTION

This chapter covers the check-in of the EA Books from the PCO's, and the preparation of the EA Books for the data keying operation. The operations that are discussed will be performed by the Field Census Branch of the Field Operations Division and the Operations Branch of the Decennial Census Division.

2. RECEIPT AND CHECK-IN OPERATIONS

The EA Books will be transmitted from the PCO's to the Field Census Branch by complete crew leader (CL) areas. The staff of the Field Census Branch will perform the following operations to ensure that an EA Book is received in the NSO for every EA on the Master List of EA's for Receipt and Check-in and to prepare the Master List for subsequent operations:

- (1) Verify geographic coding on each EA Book from the list compiled by the Geography Division; enter split EA's on Master List.
- (2) Post information, as necessary, from ICR's and "Were You Counted" forms to questionnaires in EA of person's usual residence.
- (3) Post field counts of population and housing to the Master List.

All corrections or changes to the EA Books and Master List will be made with a red pencil.

There will be two sections in the Field Census Branch, each with 10 receipt and check-in clerks and one supervisor. Each clerk will be responsible for processing the completed returns for several DCO's; that is, a DCO will be assigned to one clerk and only one clerk. Each clerk will receive a copy of the Master List of EA's for Receipt and Check-in for each DCO for which he/she is responsible.

2.1 Verification of geographic codes and correction of Master List

As the EA Books are received from the field, the geographic information entered on the covers (items A through J) will be checked against the Master List of EA's to ensure that the codes are accurate and legible. The clerk will draw a line through any inaccurate or illegible entry and write the correct code above the original entry (see figure C-5a). The clerk's initials and the date will be entered in items 20 and 21 on the cover of the EA Book. The date received will be entered in the appropriate column on the Master List (see figure C-5b).

As the geographic information is being verified, the clerk may find some split EA's that were not previously reported. If the split is a result of population size or difficult terrain, the clerk will enter the split on the Master List (see figure C-5b). If the split is due to a boundary change, the geography staff will be notified immediately. If the split is verified as correct, the Geography Division will assign new geographic codes. The clerk will correct the codes on the EA Book and on the Master List of EA's.

2.2 Posting of information from ICR's and "Were You Counted" forms

ICR's and "Were You Counted" forms that do not reach the DCO in time will be forwarded to the Field Census Branch in the NSO. The forms will be sorted by EA of usual residence, then checked against the questionnaire for the address that is reported as the usual residence. If the person is not recorded on the questionnaire, the clerk will transcribe the information

Figure C-5a. PORTION OF EA BOOK COVER

A. PROVINCE TERRA	CODE 42	B. DISTRICT ANTIGUA ANTIGUA	CODE 05	
C. BARRIO/VILLAGE DORETA	CODE 009 009	D. PLACE CASSETA	CODE 079	
E. WARD/TRACT CODE 999	F. BLOCK NO. 99	G. CL AREA NO. 01		
H. TYPE-OF-PLACE CODE 2	I. METRO AREA _____	CODE 9	J. EA NO. 002 B	
K. SPECIAL ENUMERATION INSTRUCTIONS				
FOR NSO USE				
	Original		Recycled	
	Date (a)	Initials (b)	Date (a)	Initials (b)
20. Receipt and check in	2/8	CR		
21. Review of geographic coding; posting to Master List of EA's	2/8	CR		
22. Manual edit:				
a. Editing; preparation of control counts				

from the ICR to the appropriate Phase I questionnaire and correct the counts on the questionnaire, on the Listing Sheet, and on the EA Book cover.

2.3 Verification and posting of field counts

The field counts of population and living quarters (housing units and collective quarters) will be verified for each EA. The clerk will follow the same procedures as used by the DCO's (see chapter C-4). If the counts are incorrect due to errors in the field or the addition of persons from the ICR's, the clerk will draw a line through the counts on the front cover of the EA Book and enter the correct counts above the origin. After verifying the counts, the control clerk will post them to the Master List of EA's (see figure C-5b).

When EA's were delineated, it was not always possible to estimate the population in

the EA or to determine with certainty that anyone lived in the area. For example, the EA may consist entirely of desert land or entirely of commercial buildings with no living quarters, or all the houses may have been demolished to make way for a highway or public park. Consequently, a few EA Books will probably be returned from the field with zero counts for both population and housing. Even if there is no population or housing, the EA must remain on the Master List so that it has a chance of being selected for the Phase II sample.

2.4 Transmittal of CL area EA Books

When all the EA Books for a CL area have been processed, they will be transmitted to the Operations Branch of the Decennial Census Division. A processing transmittal (figure C-5c) will be prepared in triplicate by the control clerk of the Field Census Branch. The

Figure G-5b. MASTER LIST OF EA'S FOR RECEIPT AND CHECK-IN

FORM GEO-501A		MASTER LIST OF EA'S FOR RECEIPT AND CHECK-IN				PROVINCE: TERRA 42 DISTRICT: ANTIGUA 42 05	
						TOTAL EA'S: 103	
AREA NAME	GEOGRAPHIC CODE	DATE RE- CEIVED	FIELD COUNTS POPULATION	HOUSING	DATE SENT TO EDITING	COMMENTS	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	
CREW LEADER AREA 01							
ARIEL BARRIO.....	003	2/8			3/8		
RURAL BALANCE...	003 999 999 99 9 9 001		649	110			
	003 999 999 99 9 9 005		347	70			
	003 999 999 99 9 9 006		765	129			
CUTA BARRIO.....	006						
BERI HAMLET.....	006 059 999 99 4 9 005		513	93			
	006 059 999 99 4 9 006		691	121			
RURAL BALANCE...	006 999 999 99 9 9 001		226	40			
	006 999 999 99 9 9 007		304	56			
DORETA BARRIO.....	009						
CASSETA CITY....	009 079 999 99 2 9 001		536	99			
	009 079 999 99 2 9 002A 002B		678	123			
	009 079 999 99 2 9 003		567	102			
	009 079 999 99 2 9 004		609	113			
			652	118			
CREW LEADER AREA 02							
ARIEL BARRIO.....	003						
RURAL BALANCE...	003 999 999 99 9 9 002						
	003 999 999 99 9 9 003						
	003 999 999 99 9 9 004						
	003 999 999 99 9 9 007						
	003 999 999 99 9 9 008						
DORETA BARRIO.....	009						
FERI HAMLET.....	009 112 999 99 4 9 009						

(Continued)

Figure C-5c. PHASE I PROCESSING TRANSMITTAL

FORM PH-120 (April 1979)		MINISTRY OF ECONOMY NATIONAL STATISTICAL OFFICE	
Phase I PROCESSING TRANSMITTAL 1980 CENSUSES OF POPULATION AND HOUSING		a. Province code 42	
		b. District code 05	
		c. CL Area No. (If appropriate) 01	
		d. Date 2 August 1980	
1. FROM		2. TO	
<input checked="" type="checkbox"/> Field Census Branch <input type="checkbox"/> Central Control <input type="checkbox"/> Editing-coding <input type="checkbox"/> Data Entry <input type="checkbox"/> Computer Processing <input type="checkbox"/> Tabulations Review <input type="checkbox"/> Other (Specify) \nearrow		<input type="checkbox"/> Field Census Branch <input type="checkbox"/> Central Control <input checked="" type="checkbox"/> Editing-coding <input type="checkbox"/> Data Entry <input type="checkbox"/> Computer Processing <input type="checkbox"/> Tabulations Review <input type="checkbox"/> Other (Specify) \nearrow	
3. MATERIALS TRANSMITTED		4. REMARKS	
<input checked="" type="checkbox"/> EA Books <input type="checkbox"/> Tapes <input type="checkbox"/> Diary (Specify) \nearrow		Splits 009 079 999 99 2 9 002A B	
<input type="checkbox"/> Tabulations <input type="checkbox"/> Other (Specify) \nearrow			

White- Receiver

Pink- Central Control

Yellow- Originator

original will be attached to the EA Books, one copy will be sent to Central Control, and the other copy will be kept for reference.

2.5 Updating of Master File of EA's

After all the EA Books for a district have been received and checked, the corrected Master List for the district will be sent to the Data Processing Division. The corrected list will be used to update the Master File of EA's and to prepare a new file for selecting the sample for Phase II (see chapter D-2).

3. ORGANIZATION AND FLOW OF WORK

Upon receipt of the EA Books for a CL area from the Field Census Branch, the control clerk of the Operations Branch will verify that all EA Books have been received. The CL area will then be assigned to a manual editing-coding section. Insofar as possible, the control clerk will assign the work so that whole districts can be completed.

The editing-coding operation will be performed on a two-shift basis--three sections on the day shift and two on the evening shift. Each section will have 1 supervisor, 1 control clerk, 8 editors, and 2 verifiers.

3.1 Responsibility of the supervisor

It is the responsibility of the supervisor to train the editor-coders, resolve problems, direct the quality control operation, see that the required progress reports are prepared correctly and promptly, and refer the "out-of-tolerance" EA's to the professional staff for review and correction.

3.2 Distribution of work

The EA Books will be delivered to the sections by CL area. However, the work will be assigned to the editor-coders one EA at a time, or several EA's if they are small (in population size). A crew leader area would normally

take the editor-coder too long to process and it would delay releasing EA Books to the next operation. The section control clerk will keep a record of each editor-coder's work and will see that the edited EA Books are refiled in the correct CL area.

3.3 Steps in the editing-coding process

The manual editing-coding operations for Phase I are limited to operations that will (a) ensure the processibility of the questionnaires and (b) establish a hand count of population and housing records for control purposes. The operations include the following steps:

- (1) Review of every population line on every questionnaire for processibility.
- (2) Review of line numbers on each questionnaire to ensure that each person has a unique line number.
- (3) Review of the serial number on each questionnaire to ensure that each HU or CQ has a unique identification number.
- (4) Marking on the questionnaires any instructions for the keying personnel, such as indicating last population line.
- (5) Preparation of counts of population and housing records that should be keyed and machine-processed for each EA.
- (6) Verification of the steps on a sample basis.¹

Although the steps are discussed separately, all the steps for one EA Book will be done by one editor. The staff decided that specialization of operations was not feasible or efficient. The number of steps is limited and the procedure is relatively simple.

All corrections to the questionnaire by the editors will be made with a red pencil. Corrections by the verifiers will be made with a green pencil.

¹The NSO originally planned to verify the steps 100 percent. After processing the Experimental Census, it was decided that sample verification will be satisfactory.

4. POPULATION EDITS

The manual processing plan for Phase I calls for a minimum of manual editing. Problem cases will be referred to the supervisor. In some cases, an EA Book or several questionnaires may have to be reviewed by subject matter specialists; for example, if the number of lines cancelled for an EA is outside the expected range, the book will be sent for review. Following are the edits to be performed on each questionnaire.

4.1 Block number

Block number (item A) will be checked only for the EA Books for St. Regis and Tanga cities; in all other cases the editor will draw a line in the space. For each EA in the two cities, the editor will first compare the Listing Sheets with the EA map to verify that the correct block numbers were transcribed to the listing for each serial number. The editor-coder will then verify that the correct block number was entered on the questionnaire. If the number is incorrect or missing, the editor will insert the correct number.

4.2 Serial number

The serial number (item B) is extremely important, since it is used to identify an individual HU or CQ (collective quarters) and the persons living in it. An HU or CQ must have a unique serial number. The editor will first go through all questionnaires in the EA Book to make sure that a serial number is used for one and only one HU or CQ. If more than one questionnaire has the same serial number, the editor will check item D on the questionnaire to see if the second and succeeding forms are continuation forms, in which case the same serial number must appear on each form.

If the serial number is missing, the editor will enter the serial number of the previous questionnaire if it is a continuation

form. Otherwise, the editor will refer back to the Listing Sheet to determine the number. If it is missing from the Listing Sheet, the next unused number will be entered on the Listing Sheet and on the questionnaire. If the HU or CQ is not listed at all, the editor will add it to the Listing Sheet. Conversely, if there is a serial number on the Listing Sheet but no questionnaire, the editor will delete the number on the Listing Sheet.

4.3 Inmates

The code in item C will be used to recode relationship for persons who are inmates of an institution. If item C is blank, if relationship is blank,² and the type of living quarters is collective quarters, the editor will check the YES box. Otherwise, the editor will check the NO box.

4.4 Line number

Each person in a housing unit or CQ must have a unique line number (item E). The line number is used to identify individual records during computer editing and tabulation.

If the questionnaire is marked as a continuation, the first line should have been changed by the enumerator to number 13, the second to 14, etc. Very large households or collective quarters may extend over three or more questionnaires. In such cases, the third questionnaire should begin with line 25, the fourth with line 37, etc. If the line numbers have not been changed by the enumerator, the editor-coder will cross out each printed line number and enter the correct number above it. If the editor changes a line number, item P-6 (line number of husband) and item P-8 (line number of mother) must be edited to reflect the change.

²The enumerator was instructed to omit relationship (item P-2) for inmates of an institution.

If a line on the questionnaire is cancelled, the line numbers will not be changed. Changing line numbers may affect other information on the questionnaire, such as line number of mother, and might create inconsistencies.

4.5 Cancellation of lines and population count

The name (item P-1) is not coded or keyed, but it is an important item in determining if the line does represent a person. For each name entered in P-1, there must be entries for at least two personal characteristics (items P-2 to P-5). If there is only a name or a name plus one other entry, the editor will draw a line through the line number and the name. If there is no name in P-1, but information has been entered for at least two personal characteristics, the questionnaire will be referred for professional review.

After editing all the population lines for a housing unit or CQ, the editor-coder will record the number of cancelled lines in P-26 and the final population count in P-27 (see figure C-5d). If there is more than one questionnaire for a housing unit or CQ, the counts will be entered on the first questionnaire; a "C" will be entered on the other questionnaires. After the entire EA has been processed, the editor will add the entries in P-26 and P-27 and enter the total counts in item 25 on the front cover of the EA Book. These counts become the control counts for all subsequent processing operations.

If there is more than one book for an EA, the editor will add all the entries in all of the books. The total counts will be entered in item 25 on the cover of the first book and a "C" will be entered on all other EA Books.

4.6 Indicators for keying

As part of editing the population items, entries will be made on the questionnaires to facilitate the keying operation. For persons

under 5 years of age a line will be drawn through items P-11 to P-25. The line will indicate that the rest of the record is to be left blank. For persons 5 to 11 years of age, a line will be drawn through items P-14 to P-25 (see figure C-5d).

The editor-coder will draw a heavy line across the questionnaire (see figure C-5d) after the last person listed for the HU or CQ. The line indicates to the keyer that a housing record should be keyed next.

If there are no entries at all in the population part of the questionnaire, or if item P-1c is marked,³ the editor will print the word "VACANT" across the front of the questionnaire. This will indicate to the keyer that only a housing record should be keyed. If there are no entries in either the population or housing part of the questionnaire, a large "X" should be made across the front of the questionnaire. The "X" indicates to the keyer that no records need to be keyed for this questionnaire and to go to the next questionnaire. (If the questionnaire has been given a serial number and it has been entered on the Listing Sheet, the editor will draw a line through the entry on the Listing Sheet.)

5. HOUSING EDITS

A housing record must be keyed for each serial number; therefore, it is important that there be an entry in at least one of the housing items. If the enumerator left all the housing items blank, the editor will circle one of the codes in item H-1, type of living quarters. The editor will circle code 4 if (a) the quarters are occupied by inmates (YES

³Living quarters occupied entirely by non-residents are treated as vacant quarters since the persons occupying the unit have a residence elsewhere and should be enumerated as occupants of the quarters at their usual place of residence.

in item C) or if (b) the relationship for all persons in the living quarters is nonrelative (code 5 in item P-2). In all other cases, code 1 is to be circled for item H-1.

If there is more than one questionnaire for a housing unit, the editor will verify that the housing items are completed only on the last one. If the enumerator has completed them on one of the other questionnaires, the editor will transfer the information to the last questionnaire and cross out all other entries.

6. HOUSING COUNTS

After all the questionnaires for an EA have been edited, the editor will make sure that there is a Phase I questionnaire for each serial number listed on the Listing Sheet. The total count of serial numbers should equal the number of housing records to be keyed. The count is to be entered in item 25 on the front cover of the EA Book.

If there is more than one book for the EA, the total housing count will include all the entries on all the Listing Sheets for the EA. The count will be entered on the cover of the first book and the letter "C" entered on all the other books. The editor will add population and housing record counts to get the total. Note that the review of the serial numbers (see section 4.2) can be combined with counting the number of housing records for the EA.

7. QUALITY CONTROL AND OPERATIONAL CONTROL

The verification procedure calls for an editor-coder's work to be verified 100 percent for the first 16 EA's. If the last two consecutive groups of 4 EA's each (out of 16 EA's) have an error rate of 3 percent or less, the editor will qualify for sample verification.⁴ If the

editor fails to qualify after 16 EA's, an additional 16 EA's will be verified. The editor will then be qualified if the last two consecutive groups of 4 EA's have an error rate of 3 percent or less. Those who fail to qualify for sample verification after editing-coding 32 EA's will be removed from the operation.

After qualification, an editor's work will be verified on the basis of 1 in 10 units. A random number will designate the first questionnaire to be verified for each EA. Thereafter, the verifier will verify the questionnaire for every 10th unit. The verifier's assignment for sample verification will be a "work lot" of one or more consecutive EA's processed by an individual editor. The lot for sample verification will consist of the number of EA's required to yield a 10-percent sample of approximately 95 to 105 population lines and 15 to 20 housing units (or CQ's) for a total of 110 to 125 cases. In some instances, the sample size may be larger due to the variability in the size of the EA's. For example, an editor may process consecutively two EA's with total counts in item 25(b) on the cover of the EA Books of 735 and 570; each EA would yield a sample size that is too small but together they yield a sample of 130 cases.

7.1 Records of individual performance

The record of individual performance will be maintained on the Daily Record of Work Completed (figure C-5e). Every employee in the section will be listed on the form, and when an EA is completed the population total will be recorded opposite the name of the person who completed the EA. At the end of each day, the daily record will be summarized for progress reports.

Control clerks will maintain an Individual Production Summary record (figure C-5f) for each of the employees. The form will be used by the supervisor to identify employees whose production is below standard. These employees may need extra instruction and training.

⁴The number of persons plus the number of HU's (or CQ's) in error as a percent of the total number of persons plus HU's (or CQ's) verified.

Figure C-5e. PHASE I DAILY RECORD OF WORK COMPLETED, FORM PH-164

FORM PH-164 (January 1980)			MINISTRY OF ECONOMY NATIONAL STATISTICAL OFFICE			a. Operation <input checked="" type="checkbox"/> Manual editing and coding <input type="checkbox"/> Verification of manual editing and coding <input type="checkbox"/> Data keying <input type="checkbox"/> Verification of data keying			
Phase I DAILY RECORD OF WORK COMPLETED						b. Verification (if applicable) <input type="checkbox"/> 100 percent <input checked="" type="checkbox"/> Sample		c. Date 22 August	
d. Supervisor R. Adama						e. Section No. 1			
Name of clerk or operator	Number of hours worked	Number of EA's completed	Population of completed EA's						
			Total	EA 1	EA 2	EA 3	EA 4	EA 5	EA 6
R. Vega	8	5	3,567	673	509	918	832	635	-
C. Matino	8	6	3,289	497	614	712	381	599	486
K. Dorma	8	5	3,642	611	483	629	943	976	-
(etc.)									
TOTAL									

As a part of the verification operation all errors will be reported on the Verifier's Tally of Errors (figure C-5g). This form lists the types of errors detected and the number of times each type of error was made. The supervisor will discuss the verification results with the editor-coder and will give additional training if necessary. During the initial phases of the operation, this review is extremely important to ensure that the instructions have been understood and the work is being processed correctly.

The control clerk will also maintain the Individual Performance Record (see figure C-6c). The number of cases verified, number of errors, and whether or not an EA (or lot) is accepted will be entered on this form. The form will be used to determine if an editor qualifies for sample verification.

7.2 Assignment of work lot

From information on the Individual Performance Record, the control clerk will make a decision as to whether a work lot is to be verified 100 percent or on a sample basis. If the EA is to be verified 100 percent, the clerk will enter 100 percent on the front cover of the book and assign it to a verifier. The verifier's name and the date and time are entered on the Master List.

If an editor's work is to be sample verified, the clerk will accumulate EA's for that editor until a work lot which will yield the minimum sample size is reached before assigning the EA's to a verifier. When the EA's are accumulated, the clerk will select a "start with" number between 1 and 10 from a list of random numbers. The control clerk will write the number on the cover of the first EA Book. Then the verifier's name and the date and time will be entered on the Master List for each EA in the lot.

7.3 Verification procedures

If an EA is to be verified 100 percent, the verifier will open the book to the first questionnaire and proceed to verify all the questionnaires consecutively. If the verifier is assigned a lot for sample verification, the verifier will search the first EA Book for the first serial number in which the last digit is the same as the random number, and start verifying. The verifier will then verify every 10th serial number until all the EA's in the lot are verified. For example, if the start number is 06, the verifier would verify the questionnaires in the first book that had serial numbers 006, 016, 026, 036, etc. If the first book ended with serial number 108, the verifier would start with serial number 008 for the second book, etc.

Whether the EA's are to be verified 100 percent or on a sample basis, the verifier will use the same procedures as the original editors, with the modifications specified below.

- (1) If a line has been cancelled incorrectly, the line number will be circled; this will indicate to the keyer that a record should be keyed.
- (2) The verifier will verify all control counts and correct them.

The verifiers will keep a record of the errors by item and cases in error, using a copy of the Verifier's Tally of Errors (figure C-5g). If the EA Books are verified on a sample basis, the control clerk will use the record and the table of acceptance numbers (figure C-5h) to decide whether the editor's work should be accepted or rejected. For example, if the sample size is 115 cases, the work will be accepted if there are no more than 6 cases in error and rejected if 7 or more errors.⁵ Rejected work will then be verified 100 percent. If more than two

⁵For detailed discussion on quality control, see chapter 12 in Part A of the case study.

Figure C-5g. PHASE I VERIFIER'S TALLY OF ERRORS FOR MANUAL EDITING-CODING, FORM PH-161

FORM PH-161 (June 1979)		MINISTRY OF ECONOMY NATIONAL STATISTICAL OFFICE		
Phase I VERIFIER'S TALLY OF ERRORS FOR MANUAL EDITING-CODING				
a. Verification <input type="checkbox"/> 100 percent <input checked="" type="checkbox"/> Sample				
b. Edited by- A. Melia				Date 14/8
c. Verified by- C. Donia				Date 15/8
d. Total cases in work lot 684		e. Total cases verified 68		
f. Posted by- R. Subia				Date 15/8
Errors in-	Number of errors			
	Total	EA 1	EA 2	EA 3
ITEM A	2	//	—	—
ITEM B	0	—	—	—
ITEM E	2	—	—	//
INDICATORS	4	///	—	—
ITEM P-26	0	—	—	—
ITEM P-27	0	—	—	—
ITEM 25 ON EA COVER	0	—	—	—
TOTAL ERRORS	8	6	—	2
TOTAL CASES IN ERROR	5	///		//

Figure C-5h. SAMPLE SIZE RANGES AND ACCEPTANCE NUMBERS

Sample size range	Acceptance number
35 to 49	2
50 to 69	3
70 to 89	4
90 to 109	5
110 to 129	6
130 to 169	7
170 to 204	8

Note: For samples of fewer than 35 cases, 100-percent verification is required.

work lots in the last 10 for an editor are rejected, the editor must re-qualify for sample verification. As explained in the first paragraph of section 7, the editor must attain an error rate of 3 percent or less for each of 2 consecutive groups of 4 EA's to qualify or re-qualify for sample verification.

If the work is verified 100 percent, the supervisor will review the errors with the editor. They will analyze the items in error and determine if re-training or other action is needed.

7.4 Review of control counts

After verification, the control clerk will conduct an "out-of-tolerance" check of the control counts. EA's that fail these checks will be subject to further review.

Out-of-tolerance EA's will be held aside. Professional staff will normally review out-of-tolerance EA's at the work location. If an EA is removed from the section for further review, a Record of EA Removal is attached to the work lot to indicate that the EA has been removed. When the EA is returned to the work lot, the Record of EA Removal is discarded.

7.41 Review of cancelled lines.--The editor will compare the count of cancelled lines (persons) with the total population

count of the EA. If the number of cancelled lines is greater than 2 percent of the population count, or greater than 10 in number, the EA is considered to be "out-of-tolerance." The count of cancelled lines will be circled, using a red pencil, to indicate that it is out-of-tolerance and referred for professional (subject matter) staff review and decision as to whether the EA can be accepted.

7.42 Review of population control count.--

The clerk will compare the population control count total entered in item 25(c) on the EA Book cover with the field count of population entered in item 7b. If the population count plus the cancelled line count is within ± 10 of the field count, the EA is acceptable. If the difference between the count is greater than ± 10 , the control clerk will check to make certain that the entry in 7b has been transcribed correctly from the Summary of Page Totals on the inside front cover. If the entry in 7b is incorrect, the EA will be accepted; if correct, the field counts will be circled in red and referred to the subject matter staff for review.

7.5 *Transmittal of completed CL areas*

Completed CL areas will be transmitted to the Data Entry Branch at the end of each day. For each CL area, the section control clerk will prepare a transmittal (see figure C-5c). The original of the transmittal is sent with the CL area to the Data Entry Branch, one copy is sent to the Central Control, and the third copy is kept and filed for reference purposes in the Operations Branch.

The major operational control form will be the Master List of EA's for Manual Editing and Coding. Upon receiving a CL area, the clerk will enter the date received in column (3) and add any split EA's to the Master List (see figure C-5i). As the work progresses for each EA, the clerk will enter the pertinent information in columns (4) through (10).

8. RECRUITMENT AND TRAINING OF PERSONNEL

Because the census processing must be completed in a short time, it will be necessary to recruit and train a number of temporary employees in addition to the permanent NSO staff. The selection of clerks and editor-coders and their training will be carefully planned and carried out.

8.1 *Recruitment*

Supervisory personnel for the receipt and check-in and manual editing-coding operations will be recruited from the permanent staff of the NSO. The receipt and check-in clerks and the editor-coders will be recruited in St. Regis through local newspaper and radio announcements.

The NSO estimated that during the time of the peak workload 20 receipt and check-in clerks and 50 editors will be required. These estimates were determined using the production rates for the Experimental Census and time allotted for each operation as shown by the calendar of data processing activities (see figure B-9a, which is included in this document as a reference exhibit). The NSO also decided that, since the time allotted for receipt and check-in overlapped for only 2 weeks with the editing operation, most of the clerks could be trained as editors. Therefore, the NSO estimated that approximately 55 persons need to be hired. All clerks will be recruited and trained by 11 July and the majority of the editors by 18 July.

Selection of the best qualified persons will be based on (a) the formal education and work experience of the applicants, as indicated on their applications, and (b) the results of a selection test which will indicate the applicants' clerical and verbal abilities. The test will be similar to that used for crew leaders and enumerators, except for the map reading test (see exhibit C-4-5). Supervisory staff will be subject also to a personal interview conducted by a personnel specialist.

Figure C-51. MASTER LIST OF EA'S FOR MANUAL EDITING AND CODING

FORM GEO-501B		MASTER LIST OF EA'S FOR MANUAL EDITING AND CODING				PROVINCE: TERRA 42 DISTRICT: ANTIGUA 42 05 TOTAL EA'S: 103			
AREA NAME	GEOGRAPHIC CODE	DATE RECEIVED	EDITOR NAME	DATE AND TIME STARTED	DATE AND TIME COMPLETED	VERIFIERS NAME	DATE AND TIME STARTED	DATE AND TIME COMPLETED	DATE SENT TO DATA ENTRY
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
CREW LEADER AREA 01									
4/8									
ARIEL BARRIO.....	003								
RURAL BALANCE...	003 999 999 99 9 9 991		Cabi	5/8 7:39	8:20	Thomas	5/8 8:37		
	003 999 999 99 9 9 005		Toba	7:39	8:06				
	003 999 999 99 9 9 006		Naria	7:39	8:20	Silva	8:42		
CUTA BARRIO.....	006								
BERI HAMLET.....	006 059 999 99 4 9 005		Mega	7:58					
	006 059 999 99 4 9 006		Doret	8:03					
RURAL BALANCE...	006 999 999 99 9 9 001		Toba	8:06					
	006 999 999 99 9 9 007		Toba	8:06					
DORETA BARRIO.....	009								
CASSETA CITY....	009 079 999 99 2 9 001		Eddy	8:12					
	009 079 999 99 2 9 002A		Naria	8:20					
	009 079 999 99 2 9 003		Cabi	8:21					
	009 079 999 99 2 9 004		Subi	8:29					
	009 079 999 99 2 9 004		Lanko	8:31					
CREW LEADER AREA 02									
ARIEL BARRIO.....	003								
RURAL BALANCE...	003 999 999 99 9 9 002								
	003 999 999 99 9 9 003								
	003 999 999 99 9 9 004								
	003 999 999 99 9 9 007								
	003 999 999 99 9 9 008								
DORETA BARRIO.....	009								
FERI HAMLET.....	009 112 999 99 4 9 009								

(Continued)

8.2 *Training of clerks and editors*

Training of the clerks and editors will consist of classroom and on-the-job training. The NSO will prepare a trace sample⁶ that illustrates most of the situations with which the clerks and editors will be confronted. The trace sample will enable the supervisor to correct the work of all the editor-coders in a very short time. If live data were used, the supervisor would need to review many documents; in the meantime, the editor-coder would continue making mistakes. Reference manuals

⁶A trace sample consists of a small sample of cases that represent a wide range of situations. The data may be simulated or actual. The data should contain errors so that the editing and tabulating procedures can be fully tested.

will be prepared, and the clerks and editors will be trained in their use. Training will be conducted by the supervisors.

8.3 *Training of supervisory staff*

The supervisory staff will be trained in two stages. First, they will receive the same training as the personnel they will supervise. The persons selected as supervisors will receive this training during the Experimental Census. Second, about 2 weeks before the first clerks and editors are to be trained the supervisors will attend classes on how to train and supervise the clerical staff. During this second training period, they will review the procedures and will be advised of any changes that were made.

Chapter C-6. DATA KEYING AND COMPUTER PROCESSING

1. INTRODUCTION

The following chapter describes the keying and computer procedures required to transform the data from the questionnaire into aggregated tabulations ready for publication. The processes that are covered include creating the EA Master File, data keying, data consolidation and computer check-in, computer editing, diary review, and computer tabulation.

1.1 Flow chart of major operations

Early in the planning stage, the staff of the Data Processing Division prepared a flow chart of the major data processing operations, which include the data keying and computer processing operations (see exhibit C-6-1). As mentioned in chapter C-1, the chart was useful in planning the operational control procedures. The chart was also used to ascertain programming requirements.

1.2 Custom programs

Although package programs could be acquired for the computer editing and tabulating operations, the chart pointed out the need for several custom programs: creation of the EA Master File, generation of the Master List of EA's, consolidation of disks by district, etc. The computer processes for which custom programs will be needed are designated by an asterisk in exhibit C-6-1.

The custom programs differ from those originally planned. As the analysts designed the system, they revised the plans for custom programs to maximize the use of package programs.

2. EA MASTER FILE

The establishment of the EA Master File is one of the earliest and most important data processing operations. The writing of the computer programs and keying procedures to create and maintain the Master File and to generate the Master List of EA's will be given first priority.

2.1 Establishing the Master File

As the geography staff delineated the EA's, the geographic codes that uniquely identify each EA were entered on the EA Delineation Worksheet (see figure B-4n, which is included in this document as a reference exhibit). As soon as all the EA's for a district are delineated, the worksheets will be submitted to the Data Entry Branch for the key-to-disk operation.

Information will be keyed directly from the worksheets; a separate record for each line of the worksheets will be keyed. The province and district codes will be entered once and then automatically duplicated into all the records for the district. The alphabetic description and identification codes for each line will be keyed. The alphabetic descriptions are extremely important since they are used on the Master List for control purposes and during tabulation as stub captions. A record length of 40 columns will be used; the first 19 columns will be used for the alphabetic description. For some of the districts, more than one disk may be needed to key all of the records. St. Regis District, for example, will have approximately 2,000 EA's; two disks will be needed.

As shown in exhibit C-6-1, a merging operation will be necessary to consolidate the individual disks onto one on-line disk file. The file will then be read into a COBOL program that will produce a formatted listing similar to the worksheets. The listing will be compared manually with the original worksheets to verify the keyed records. Corrections will be made on the listing and then keyed. The corrections will be inserted into the file using a COBOL update program and a new listing will be generated and verified. This process will continue until the manual verification produces no corrections.

After all corrections have been made, the EA Master File will be sorted by crew leader area within district. The sorted file will then be read into a COBOL program that will generate several lists--Master List of EA's for Field Operations, Master List of EA's for Receipt and Check-In, Master List of EA's for Manual Editing and Coding, and Master List of EA's for Data Keying. All the lists have the same area names and identification codes but the boxheads are appropriate to the operation for which the list will be used.

2.2 Updating the Master File

As the completed EA Books are received from the field, the receipt and check-in clerks will correct the Master List. The clerks will indicate additions (split EA's), deletions, and any EA's for which the geographic codes have been changed (see chapter C-5). After the receipt and check-in operation is completed for a district, the updated Master List will be sent to the Data Processing Division. The changes will be keyed and the Master File will be updated.

3. DATA KEYING

After the manual edit and hand count operations are completed for a CL area, the central control staff of the Operations Branch will

transmit the EA Books to the Data Entry Branch. The control clerk in the Data Entry Branch will determine the keying section to which the work is to be assigned, and insofar as possible will assign the work so that whole districts will be completed.

As discussed in chapter B-9, a key-to-disk device will be used to convert the data on the questionnaires to machine readable form. Key entry equipment will be operated on a two-shift basis to save space and machine rental. In order to complete the keying and verification of all Phase I data in 5½ months, 48 key entry stations will be rented and set up in three sections of 16 stations. Each section will consist of 1 supervisor, 1 assistant supervisor, 16 key entry operators, and 1 control clerk. The key entry operators will be assigned original keying and verification keying on a rotating basis. However, precaution will be taken so that an operator will never verify his/her own work.

As mentioned above, a section will receive work by CL area. However, a work assignment for each key entry operator will be one EA; if there are two EA Books for an EA, the work assignment will be both books. An operator may be assigned more than one EA at one time if the EA's are small in population size.

3.1 Record layout

Three types of data records will be keyed for each EA in Phase I: header record, population record, and housing record. The first data record on the disk will be the header record, which will be keyed by the supervisor. The record will contain the geographic codes for the EA and the population and housing control counts (see figure C-6a). In order to minimize errors in keying the geographic codes, the codes will be automatically duplicated from the header record into the individual population and housing records. The control counts

will be used during the key verification, data consolidation, and computer check-in operations to ensure that all the data have been keyed and are available for editing.

The formats of the population and housing records were designed to facilitate the keying and the computer processing operations. As shown in figure C-6a, the data will be keyed in item sequence. Otherwise, a higher rate of error may result; the keyers are more likely to forget to key parts of the questionnaire.

In designing the record formats, the staff took into consideration the needs of the computer programs. The editing program will not accept records of different lengths; therefore, the housing record must be the same length as the population record even though there are fewer housing items. Also, the records going into the edit program must be the same length as those coming out of the program. During editing, a recode will be added to each record (see figure C-6b); therefore, an extra field will be reserved for the recode at the end of each record.

For each type of record, a program or instruction must be prepared and entered into the machine. The programs are put on a special disk and mounted onto the machine at the beginning of the key operation. The systems analyst will design the programs and the supervisory staff will key the program disks.

3.2 Recruitment and training of key entry personnel

The NSO estimated that 6 supervisors, 6 assistant supervisors, and 96 keyers will be required to perform the key entry operation, within the 5½ months scheduled for the operation. (See figure B-9a, which is included in this document as a reference exhibit.) To fill these positions, it will be necessary to recruit and train a number of temporary employees in addition to the permanent staff.

3.21 Supervisory personnel.--Supervisors and assistant supervisors will be drawn from the permanent staff of the NSO. Experienced key entry operators will be given supervisory training and promoted to supervisory positions for the duration of the census processing.

The supervisors will be given training on the equipment by the manufacturer. Since the first machines will be delivered 6 months before the Experimental Census, the staff will have time to experiment with the devices, keying and verifying results of the pretests. They should be thoroughly familiar with the keying and verifying operations and with all the capabilities of the equipment before the Experimental Census is processed.

3.22 Key entry operators.--The data keyers will be recruited in St. Regis through newspaper and radio announcements. If possible, the NSO will select persons who have had experience with some type of keying device, such as the key-punch. If experienced personnel are not available, persons who score high in dexterity will be recruited; typists adapt rather quickly to training on most key entry devices.

The training will consist of three stages. The trainees will first be given instructions on how to operate the equipment. They will then learn how to perform the census operation by being assigned to verify already keyed data. The data will be prepared by the supervisors and will be error free. (Research on training of data keyers has proved that this training method is the most successful for key-to-disk equipment.) Lastly, the trainees will begin to key actual Phase I data.

During the third stage of training, each operator's work will be verified 100 percent. The first EA keyed by each operator will be verified by the supervisor or the assistant supervisor, so areas of misunderstanding can be identified and clarified. Subsequent EA's

Figure C-6a. RECORD LAYOUTS FOR KEY ENTRY

HEADER RECORD		POPULATION RECORD		HOUSING RECORD		
1	Province	1	Province	1	Province	
2		2		2		
3	District	3	District	3	District	
4		4		4		
5	Barrio/village	5	Barrio/village	5	Barrio/village	
6		6		6		
7	Place/hamlet	7	Place/hamlet	7	Place/hamlet	
8		8		8		
9	Ward/tract	9	Ward/tract	9	Ward/tract	
10		10		10		
11	Type of place	11	Type of place	11	Type of place	
12	Metropolitan area	12	Metropolitan area	12	Metropolitan area	
13		13		13		
14	EA number	14	EA number	14	EA number	
15		15		15		
16	EA suffix	16	EA suffix	16	EA suffix	
17		17		17		
18	Not used	18	Block number	18	Block number	
19			19	Serial number	19	Serial number
20			20		20	
21			21	Inmate	21	Inmate
22			22	Record type code 2	22	Record type code 3
23		23	Line number	23	Type of quarters	
24		24	Relationship to head	24	Number of HU's	
25		25	Sex	25	Walls	
26	Record type code 1	26	Age	26	Roof	
27		27	Marital status	27	Floors	
28	Total record count	28	Husband's line number	28	Rooms	
29		29	Mother alive	29	Tenure	
30		30	Mother's line number	30	Rent	
31	Population record count	31	Country of birth	31	Vacancy status	
32		32	Years lived in district	32	Condition	
33		33	School attendance	33	Period of construction	
34		34	Grade completed	34	Running water	
35		35	Literacy	35	Drinking water	
36	Housing record count	36	Children born	36	Toilet facilities	
37		37	Living in HU	37	Bathing facilities	
		38	Living elsewhere	38	Television	
		39	Dead	39	Lighting	
		40	Born last 12 months	40	Cooking fuel	
		41	Major activity	41	Articles produced	
		42	Any work	42	Not used	
		43	Looking	43		
		44	Why not looking	44		
		45	Hours worked	45		
		46	Industry	46		
		47	Status	47		
		48	Not used	48		
		49		49		
		50		50		
		51		51		
		52		52		
		53		53		
		54		54		
		55		55		
		56		56		
		57		57		
		58		58		
		59		59		
		60		60		
		61		61		
		62		62		
		63		63		

Figure C-6b. RECORD LAYOUTS FOR TABULATION

POPULATION RECORD		HOUSING RECORD	
1		1	Province
2	Province	2	Province
3		3	District
4	District	4	District
5		5	
6	Barrio/village	6	Barrio/village
7		7	
8		8	
9	Place/hamlet	9	Place/hamlet
10		10	
11		11	
12	Ward/tract	12	Ward/tract
13		13	
14	Type of place	14	Type of place
15	Metropolitan area	15	Metropolitan area
16		16	
17	EA number	17	EA number
18		18	
19	EA suffix	19	EA suffix
20		20	
21	Block number	21	Block number
22		22	
23	Serial number	23	Serial number
24		24	
25	Inmate	25	Inmate
26	Record type 2	26	Record type 3
27	Line number	27	Type of quarters
28		28	Number of HU's
29	Relationship to head	29	Walls
30	Sex	30	Roof
31		31	Floors
32	Age	32	Rooms
33	Marital status	33	
34	Husband's line number	34	Tenure
35		35	
36	Mother alive	36	Rent
37		37	
38	Mother's line number	38	Vacancy status
39	Country of birth	39	Condition
40		40	Period of construction
41	Years lived in district	41	Running water
42	School attendance	42	Drinking water
43		43	Toilet facilities
44	Grade completed	44	Bathing facilities
45	Literacy	45	Television
46		46	Lighting
47	Children born	47	Cooking fuel
48		48	Articles produced
49	Living in HU	49	Number of persons
50		50	in housing unit
51	Living elsewhere	51	Head married w/spouse
52		52	Family nuclei recode
53	Dead	53	} <i>not used</i>
54	Born last 12 months	54	
55	Major activity	55	
56	Any work	56	
57	Looking	57	
58	Why not looking	58	
59		59	
60	Hours worked	60	
61		61	
62	Industry	62	
63	Status	63	
64			
65	Economic activity recode		

will be verified 100 percent by those trainees who show a good understanding of the requirements. As sufficient trainees show understanding of the process, they will be assigned to verification. Verifiers and keyers will be rotated to achieve higher quality work.

After each trainee has keyed two EA's, the production and error rates will be monitored. At the end of the training period, trainees whose production is below 80 percent of standard, and whose error rate exceeds 6 percent, will be reassigned to other work.

The keyers will be trained one section at a time over a 6-week period. The training period for each section will be 1 week: 1 day for stage one, $1\frac{1}{2}$ days for stage two, and 3 days for stage three. The first section of operators will be ready for productive work by 21 July. The full complement of key operators will be trained and ready for production work by 18 August.

3.3 *General procedures*

When the EA Books for a CL area are received in a section, the control clerk will verify that there is a book for each EA in the CL area. For each EA, the section supervisor or assistant supervisor will key a header record on a disk. The EA Books and the corresponding disks will be distributed to the operators as work is needed. The control clerk will see that a new CL area is not started until all EA Books for a preceding one have been assigned for keying.

3.31 Preparation of header records.--For each EA Book in a CL area, the supervisor or assistant will select a free disk and mount it on the supervisor's key entry device. From the EA Book cover, the supervisor will prepare a header record, according to the prescribed format (see figure C-6a). As mentioned earlier, this header will be used by the operator as a master for duplicating geographic codes into

the data records keyed for the EA. An external label containing the geographic codes will be attached to the disk.

3.32 Assignment of work.--When an operator is ready for an assignment, the control clerk will select an EA Book and its corresponding disk from the storage facility. On the Master List of EA's for Data Keying, the clerk will record the operator's name, the date, and the time the work is assigned.

3.33 Keying.--At the beginning of each shift, the operator will load the appropriate programs for keying into the machine. The presence of the program will be verified by displaying it after loading. Upon receiving an assignment, the operator will mount the EA disk in the device and display the header record. The operator will verify the codes on the header record to make sure that the disk is the correct one for the EA.

The operator will proceed to key one record for each person on the first questionnaire. The questionnaires and the information for each individual must be keyed in order. When the operator has keyed the information for the last person in the HU or CQ, the operator will key the housing record. The operator will then go to the next questionnaire and repeat the procedure.

If the word "Vacant" is written across the front of a questionnaire, the operator will key the serial number for the unit, then turn to the back of the questionnaire and key the housing information.

When an operator finishes keying all the questionnaires for an EA, the number of population and housing data records will be recorded in a trailer record on the disk. Then the disk will be removed and returned, with the EA Book, to the control clerk. The clerk will record, on the Master List of EA's for Data Keying, the date and time the work has been completed.

3.4 *Quality control*

The requirements for sample verification will be the same as those for the manual editing-coding operation (see chapter C-5). However, there are some slight differences in the procedure, as specified below.

When the key operator returns the EA Book and disk to the control clerk, a comparison will be made between the control counts on the EA Book and the counts in the trailer record. If the number of population records keyed are within ± 10 of the population control count and the number of housing records within ± 1 of the housing control count, the EA will be within tolerance. If the operator has been qualified for sample verification, the EA will be verified on a sample basis. If the counts differ by more than the acceptance number, the EA must be verified 100 percent even though the operator may have been qualified for sample verification. The type of verification will be indicated on the cover of the EA Book. The EA should not be classified as rejected until after 100-percent verification has revealed where the discrepancy in record counts is located. The control counts may be in error or a continuation book may have been mislaid. If the EA is rejected because of omissions or duplication of records, the EA must be re-keyed.

As stated above, keying of EA's that pass the control count tolerance test will be verified 100 percent or on a sample basis according to the status of the key operator. As the verification keying is completed for each EA, the total number of records verified and the total number of records that contained errors will be inserted into the trailer record. The EA will then be returned to the control clerk. The clerk or supervisor will display the statistics from the trailer record and record them on the Individual Performance Record (see figure C-6c) for the key operator. A decision will be made on whether to accept or reject the EA. If

the EA was verified on a sample basis, the clerk will refer to the acceptance number in the table of acceptance (see figure C-5h) in order to make this decision. Rejected EA's will be verified 100 percent. If more than two work lots in the last 10 are rejected, the operator must then re-qualify for sample verification.

In 100-percent verification, the work is corrected as it is verified and is accepted for further processing. Nevertheless, the number of records with errors will be recorded in the trailer record and on the Individual Performance Record for evaluation of the key operator.

After an EA has been accepted, the control counts in the header record will be replaced by the control counts in the trailer record. The trailer record will be eliminated from the disk. The disk will then be ready for further processing.

3.5 *Release of EA's*

After the data for all the EA's of a CL area have been keyed and found acceptable, the data are ready for the consolidation operation. The EA Books and the corresponding disks will be transmitted to the control clerks in the Data Entry Branch.

The Data Entry Branch control clerk will verify external labels on the disks against the Master List to ensure that there is a disk for every EA. EA Books will be temporarily stored until after the computer edit diary review operation and after the decision whether to accept or reject the EA. The disks, in sequence by EA number, will be transmitted to the consolidation operation.

The disks will be transmitted twice a day. For each CL area, a transmittal will be prepared in triplicate (see figure C-5c). The original of the transmittal will be sent with the disks, one copy will be sent to Central Control, and the third copy will be kept and filed for reference purposes.

3.6 Operational control

The major operational control form will be the Master List of EA's for Data Keying. The Master List will be used to monitor the flow of the EA Books through the keying operation from receipt of the EA Books to the release of the disks. The Master List will be maintained by the section control clerk. The Data Entry Branch control clerk will maintain a record of CL area assignments by section.

The section control clerk will also be responsible for maintaining the Daily Record of Work Completed and the Individual Production Summary. See chapter C-5 for discussion on purpose and use of these forms.

4. DISTRICT CONSOLIDATION AND COMPUTER CHECK-IN

The disks on which the data are keyed will not be compatible with the computer; therefore, the data will be copied onto computer-compatible tapes. Moreover, the EA is too small an entity to be used for the computer editing. It was decided that the data will be edited at the district level; this will minimize the number of tapes and the number of computer runs needed, thus saving time and money.

When all the EA's for a district have been keyed, a disk-to-tape operation will be performed. In some cases, the data will be put on tapes as the CL areas are released from keying, thus making the disks available for re-use. However, the editing operation will not be performed until all the data are on tape or the tape is full; for a few districts, more than one tape will be needed.

Each completed district tape will be passed through the computer using a COBOL program. The program will check the records for accuracy of the geographic codes and duplicate or missing EA's by matching the geographic codes on the records to the EA Master File. The program will also count the individual population and

housing records for each EA. During the operation, the header records will be removed and put on a separate tape. The program will produce a tape which contains only the EA's successfully matched to the Master File.

The program will produce a diary which will indicate the (a) number of valid EA's, (b) number of EA's with incorrect geographic codes, (c) number of EA's for which there were duplicate records, (d) number of EA's missing, (e) counts of the population and housing records by EA and for total district, and (f) geographic codes of the missing, duplicated, and non-valid EA's. A listing of the header cards will also be included so that a comparison can be made between the control counts on the header records and the counts of records actually put on the tape.

The diary will be submitted for review. The geographic codes for non-valid EA's will be verified. If the codes that are keyed are valid, the Master File will be updated; some of the corrections found earlier may not have been made in the Master File. If the codes are not valid, the EA will be re-keyed. The EA's for which the record counts on tape do not match the record counts on the header record will also be reviewed and re-keyed if necessary. The re-keyed EA's will be merged with the tape containing the valid EA's for the district and the tape will be passed through the program again. The program will recognize the previously accepted EA's by the absence of the header records. This process will be repeated until all valid EA's for the district are accounted for on the tape. Computer editing of the tape will proceed as soon as all the EA's are present.

5. GENERAL EDITING PROCEDURES

The purpose of the computer edit is to discover and correct omissions and inconsistencies in the data records as keyed from the

questionnaires. Specific procedures are followed to define and deal with omissions and particular types of unacceptable entries. The desired end product is a data tape for use in tabulation that contains acceptable and consistent entries for all applicable data items for every housing unit and person enumerated.

In preparing the edit specifications, the staff took into consideration the capabilities of the computer program, the relationship of the items, and the tabulation requirements. The edit specifications were prepared in flow chart form with supporting text by the subject matter specialists even before the Experimental Census.

5.1 Capabilities of the software

As mentioned in chapter B-9, the software package can perform the types of checks, tests, or imputations that are required for editing census data:

- (1) Determine whether the types of records that should be present are in fact present; there must be a housing record for each serial number.
- (2) Generate records if they are missing.
- (3) Determine if the value for every variable is within range.
- (4) Test the consistency between two or more characteristics in the same record.
- (5) Store all or parts of records that already have been edited.
- (6) Test the consistency with responses for previous household members.
- (7) Impute values by the hot deck technique.
- (8) Perform basic mathematical calculations--add, subtract, multiply, and divide.
- (9) Use several values within a record or from multiple records to construct a recode and insert the recode in the appropriate record.
- (10) Identify and eliminate duplicate records.
- (11) Produce a diary of errors found and changes made, by EA and other designated areas.

The program edits one record at a time. As stated above, records already edited can be altered and referenced but they cannot be altered on the basis of subsequent records. For example, if a female reports that she has four children living in the housing unit (in item P-15) but her line number is reported as line number of mother (item P-8) in five subsequent records, item P-15 cannot be changed to reflect this fact.

A safeguard procedure is designed into the computer edit. This consists of a diary output in which all data changes or cases of substituted values are tallied. By reference to the diary, it will be determined whether the number of edit changes are sufficiently low for the group of records to be accepted.

5.2 Use of hot decks

The subject matter staff also prepared the appropriate hot decks. Only valid responses will be used to update the hot decks; allocated or imputed values will not be used. The edit specifications and hot decks will be carefully checked by both the subject matter specialists and the programming staff for consistency and completeness.

5.3 Editing principles

The first requirement in the editing is that no item may contain values that are non-valid. Next, there must be consistency of responses for all related items within a record and, to the extent possible, between records.

In some cases, a consistency check will be made before the validity of an entry is determined. If a value is to be assigned on the basis of the consistency check, the value will be compared to the original entry to ascertain whether it is an actual change. If it is not a change, the original entry will be left. For example, during the edit for marital status, relationship is first checked to see if

the entry is spouse; if it is, MARRIED is to be assigned to marital status. Before the assignment of the code for MARRIED, the program will check to see what was the original response. If the code for MARRIED is already present, the program will not change the entry and an error will not be counted.

In some of the edits, the value for an item will be changed more than once; an imputed value could be inconsistent with other data. For example, a child's age imputed on the basis of the mother's age could be inconsistent with the child's reported years of school or years lived in district. In this instance, the age will be re-imputed until it is consistent. An imputed age will be considered an intermediate variable until final assignment. Imputed intermediate variables will not be counted as changes until the final assignment.

For a few items and conditions, a blank or "not reported" entry will be accepted. However, for most items in the Phase I questionnaire that are left blank or have erroneous entries, a reasonable entry will be supplied from related information for the same person or housing unit, or responses to the same item for other individuals or housing units with similar characteristics. Entries supplied in this manner may or may not be correct in the individual case. However, the extensive capabilities and speed of the computer for comparing different stored values permit the determination of replacement entries that can be shown to reasonably describe the true situation. The resulting tabulations in most cases will be more accurate than those from unedited records or records in which all unacceptable entries are converted into "not reported."

There will be a check for duplicate records; only one housing record will be allowed for a serial number and only one population record per line number will be allowed for a serial number. In addition, several recodes

required for the tabulation will be performed during editing and inserted into the appropriate records.

5. POPULATION EDITS

For the population data, it would be desirable to look at all the people in a housing unit simultaneously.¹ However, as discussed above, the editing package works with only one record (or person) at a time. The data for previous persons in a household can be saved, and referenced, but cannot be altered. Therefore, the inter-record consistency edits planned will be minimal.

Data items will first be checked for consistency with other data reported for the same person. For example, if a female over 12 years of age reports five children living in the same HU (item P-15), none living elsewhere or dead (items P-16 and P-17), but only three live births in item P-14, the entry in P-14 will be changed to "five." Several items will be checked for consistency with preceding persons in the household. If data are missing, inconsistent, or not valid, they will sometimes be imputed from a previous person. For example, if the sex is unknown for a person whose relationship is "spouse," the sex will be assigned as opposite to that of the head of the household.

When it is not possible to determine reasonable values for items from other responses in the person's record or from responses in other persons' records in the same housing unit, a value will be supplied by the hot deck technique.² Subsequently, when a value is needed

¹See Part F for edit specifications for use with programs that are capable of unlimited inter-record checks.

²As discussed in chapter A-9, a hot deck is an array of possible values for an item stored by relevant characteristics. As the data are processed, the values stored are constantly updated by valid responses.

for an individual, it is allocated from the hot deck. For example, there will be a hot deck for item P-20, "Did . . . do any work?" The hot deck will be classified by a major activity during the month (item P-19) by age, sex, and school attendance. Assume that a 25-year old woman reports own housework as her major activity, is not attending school, and does not answer P-20. The entry for item P-20 for the last female with the same characteristic is assigned.

The subject matter specialist decided that "not reported" categories for population items will be allowed only for hours worked and industry (items P-23 and P-24). All other items will have entries supplied. The edit specifications are illustrated in the flow charts contained in exhibit C-6-2.

5.1 Duplicate line number

During keying, duplicate records for a person may be keyed or the line number may be keyed in error so that there is a duplicate record. As each record is read into the program, it will be compared with the previous population records for the housing unit. If the line number and all of the characteristics are identical or if only one or two characteristics are different, the record will be eliminated. If three or more characteristics are different, the line number will be changed.

6.2 Inmates

For tabulation purposes, inmates of institutions must be designated as such. When enumerating collective quarters (CQ) inhabited by inmates, the enumerator is instructed to mark YES in item C and to leave relationship (item P-2) blank. It is assumed that CQ's inhabited by inmates do not have a head of household. Therefore, the edit program will check the code in item C in the initial population record for each serial number. If "inmates" is checked YES, a relationship code 6 will be assigned in

the first record. This code will then be assigned to relationship in all succeeding population records for the serial number.

If the code for inmates is out-of-range (not 1 or 2), the code for relationship will be checked. If relationship is blank, the code for YES will be assigned to item C and code 6 (for inmates) assigned to relationship. In all other cases, the code for NO will be assigned to item C.

6.3 Basic characteristics

Data on relationship, sex, age, and marital status for each person are basic to any census. These items are essential to produce meaningful tabulations; almost all other characteristics are analyzed on the basis of age and sex distributions.

6.31 Relationship.--For editing purposes, relationship is one of the most important characteristics, since it will be used in many of the other edits for the household. The edit is designed to ensure that there is one and only one head of the household. Since a search of all of the household records cannot be made, one of the first two persons will be made HEAD if not already coded as such; for any subsequent person coded as HEAD, the relationship code will be changed.

For all other household members, relationship will be imputed only if the relationship code is out-of-range (not 2 through 5). In assigning relationship, the code for a previous related person is used. For example, the entry in line number of husband is checked to see if it is equivalent to head's line number; if it is, the code for SPOUSE will be assigned. If this fails, the entry in mother's line number will be checked. If mother's line number is equal to that of the head or spouse, the relationship code for SON/DAUGHTER will be assigned. If relationship cannot be assigned using the line number of mother or husband in the person's

record, then a test will be made to see if the line number of the person is reported as a husband's or mother's line number of a previous person.

Tests will be run until all possible assignments based on husband's and mother's line numbers in all previous persons' records have been made. If all these tests fail and relationship cannot be assigned, then relationship will be allocated from a hot deck by age and sex. (Since age and sex have not been edited, at this point, the hot deck will allow for not reported.)

6.32 Sex.--Sex will be changed only when the entry is not valid (not 1 or 2). If relationship is SPOUSE and a previous person is head, the sex of the head is checked and the opposite sex is assigned to the spouse; for example, if the head is MALE, the code for FEMALE will be assigned.

If the person is not spouse of head or is the first person in the household, there are no other persons to refer to; therefore, other items within the person's record will be checked. If there is an entry in any of the fertility items (P-14 to P-18) or in line number of husband (P-6), which are asked of females only, FEMALE will be assigned. If the person is not the first person in the household, records of the previous person will be referenced. If the line number of the record being edited has been reported as a previous person's line number of husband (item P-6), MALE will be assigned. If there is insufficient data to impute sex from the above items, an entry will be allocated from a hot deck which has been set up to store sex by relationship.

6.33 Marital status.--Although marital status will be tabulated only for persons 12 years or older, it will be edited for everyone, and age will not be edited until after marital status. The edit for marital status is designed

to (a) impute a code when an entry is out-of-range (not 1 to 5) and (b) check for consistency between reported marital status and relationship and age. All persons coded SPOUSE in relationship will be coded as MARRIED. A person reporting a previous person's line number as line number of husband and a person whose line number has been reported by a previous person as line number of husband will be coded as MARRIED.

For persons with out-of-range codes who cannot be assigned a code based on the above tests, age will be checked. If age has a valid entry of 00 to 11, NEVER MARRIED will be assigned. In all other cases, an entry will be assigned using a hot deck. The hot deck will be set up by sex, age, relationship and number of children ever born. Since only sex and relationship have been edited at this point, the hot deck will allow for not reported in the other items.

For all persons reporting a marital status other than NEVER MARRIED a consistency check with age will be made; all ever-married persons must be 12 years or older. If age is less than 12 or blank, further consistency checks will be made based on entries in husband's line number, number of children ever born, and economic activity. The absence of valid entries in these items will result in NEVER MARRIED being assigned to marital status; in all other cases marital status will not be changed.

6.34 Age.--Age is one of the most difficult characteristics to collect and to edit. It is an important variable since almost all characteristics are tabulated by age. Age allocation requires extensive comparison with other variables. In most cases, age will be based on stored differences between ages of related persons. If allocation cannot be made on this basis, then other characteristics within the person's record will be used. The edit

requires four hot decks: age by sex, marital status, relationship, and school attendance; age difference between mother and child; age difference between husband and wife; and age difference between head and spouse.

The edit for age is designed to (a) assign age where age is blank, (b) check for minimum age of ever-married persons, (c) check for minimum age of head, (d) check for minimum age of mothers, and (e) check for children with ages in months instead of years.

The edits are designed to check consistency of the reported age of person with the reported age of the person's mother or child. The edit provides for a minimum difference of 12 years. When the age is imputed, consistency checks will be made with entries for years lived in the district and highest grade of school completed. All checks will be made before age is changed or before an imputed age is assigned.

6.4 Line number of husband

Line number of husband is relevant only for married females; therefore, for persons other than married females, entries will be eliminated. If the person is head and the previous person is reported as SPOUSE, the entry in line number will be compared to the previous person's line number. If they are not the same, the entry in line number will be changed. If the person is SPOUSE OF HEAD and the head is the previous person, the same edit will be made. If the person being edited is spouse of head and is the first person in the household, line number 02 will be assigned and the next person will be designated as head. In all other cases, the entry will be checked to see if it is equal to a line number for a previous person who is a married male or if it is greater than the person's line number and, therefore, the line number of a subsequent person; if the entry does not pass these tests, the code for LIVING ELSEWHERE will be assigned.

6.5 Mother living and mother's line number

Although the edits for these items are shown as independent of each other, they are interrelated. For persons who report other than YES for mother living, mother's line number will be checked for a valid entry; if there is a valid entry, the code for YES will be assigned for mother living. If the entry in line number of mother is not valid and mother living is coded NO or DOES NOT KNOW, the entry in mother's line number will be eliminated. In all other cases, the code for DOES NOT KNOW will be assigned to mother living, and any entry in line number will be eliminated.

Mother's line number will not be edited for persons who reported NO or DOES NOT KNOW if mother is living. In all other cases, line number will be checked for consistency or will be imputed using relationship of person and line number, sex, relationship, and age of person who was reported as mother. Where inconsistencies exist or mother cannot be determined, the code for LIVING ELSEWHERE will be assigned.

6.6 Migration

Data on country of birth and years living in the district will be checked for consistency, since there are some obvious relationships between the two items. Additionally, there are some reasonable relationships between responses for various members of the household. For example, if there is no response for a child, it is imputed from the response for the mother (but not to exceed the child's age).

6.61 Country of birth.--The entry for country of birth will only be altered if it is out of range (not 1 through 4). If the code for years in district is ALWAYS, the code for POPSTAN will be assigned. If the entry is other than ALWAYS, information for a previous person is used. For example, if a previous person is the mother, the number of years the mother

has lived in the district will be compared with the person's age. If mother's entry is greater or equal to the person's age, the code for POPSTAN will be assigned; otherwise, mother's country of birth will be assigned. If country of birth cannot be assigned based on mother's entries, entries of other related persons will be used in the same way. If an entry cannot be assigned after these tests, country of birth will be imputed by age and sex using a hot deck.

6.62 Years lived in district.--Like country of birth, this question is important in compiling statistics on the mobility of the population. In some instances, a subgroup of the population may be far more mobile than the nation as a whole. The edit will take account of the person's place of birth and the responses for other members of the households.

The first part of the edit is designed to check for consistency between age and place of birth and a valid entry (00 to 98) in years lived in the district. The number of years a person has lived in a district cannot be greater than the person's age. Also, a person who was born outside of Popstan cannot have always lived in the district. The program will assign ALWAYS to years lived in district, if years in district is greater than age and country of birth is Popstan. If years in district is greater but country of birth is not Popstan, the person's age will be assigned to years in district. It is assumed that although born outside of Popstan the person moved into the district when he/she was less than 1 year of age.

In the case of out-of-range entries, the same tests as used for place of birth will be made. A search will be made for related previous persons (mother, head, husband, child) and allocation will be made on the basis of the information found. However, before a value is assigned it must be consistent with age and place of birth of the person whose record is being edited.

Hot decks will be used in cases where a son/daughter precedes the head or a child precedes a mother and in cases where an entry cannot be based on a previous person's record. The hot deck will store percent of life lived in district by place of birth and age. For heads and mothers, the hot deck will store percent of life lived in district before the child was born by place of birth (Popstan or other country).³ If the percent lived in district is 100, ALWAYS will be assigned. If the percent lived in the district, in the hot deck, is under 100, this percent will be applied the difference in the mother's or head's age and the child's age, and this figure will be added to the child's age. (The difference in age of mother or head and the child is assumed to be the number of years lived in the district before the child was born.)

6.7 *Education and Literacy*

The remaining population items on the questionnaire apply to specific age groups--all of which are 5 years or older. Further editing is unnecessary for children under 5 years; however, to facilitate all tabulations, it is advisable to remove any response for items P-11 through P-25 which may have accidentally been entered for the wrong age group.

6.71 School attendance.--The question on school attendance is asked only of the population 5 to 34 years of age; entries for all other persons will be eliminated. The enumerator was instructed to omit P-11 for persons 35 years or older.

A consistency edit with major activity (item P-19) will be performed first. If a person reported major activity as going to school, the code for YES will be assigned to school attendance. In all other cases, valid responses will be accepted.

³If the person was not born in Popstan, the percent cannot be 100.

If the entry is out-of-range and the entry in highest grade completed (P-12) is valid, an entry will be assigned using a hot deck based on age, sex, and highest grade. If highest grade does not have a valid code, then the entry in literacy (P-13) will be used to assign school attendance. If literacy does not have a valid code, then an entry for school attendance will be assigned based on age and sex alone.

Note that three hot decks are needed for this edit. The hot decks will be set up by sex and age groups 5 to 10 years, 11 to 13 years, 14 to 17 years, and 17 to 34 years. The hot decks reflect the different patterns of school attendance by age and sex; for example, females 14 years or older are less likely to be attending school than males 14 years or older.

6.72 Highest grade completed.--The edit for highest grade consists of (a) a consistency check between a valid entry and age and (b) allocation of an entry when the original entry is out-of-range (not 00 to 17). The minimum age for entering school in Popstan is 5 years; therefore, the highest grade completed ordinarily will not exceed the person's age plus 4. It is assumed that changing the few exceptional cases where this is not true will be less harmful than accepting the larger number of responses that are truly inconsistent.

For cases where the original entry is out-of-range, an entry will be assigned by a hot deck based on age, sex, school attendance, and ability to read and write. The hot deck will provide for cases where the entry for ability to read and write is not valid.

6.73 Ability to read and write (literacy).--Although literacy will be tabulated only for persons 10 years or older, it will be edited for all persons 5 years or older. The enumerator was instructed to omit P-13 if a person answered 04 or more in highest grade. The edit first checks the highest grade completed; if highest grade has an entry of 04 or more, the

code for YES will be assigned in P-13.⁴ It is assumed that persons with 4 years of schooling are literate. In cases where there is an out-of-range code in P-13, an entry will be assigned using a hot deck based on highest grade and sex.

6.8 Fertility

The questions on fertility, items P-14 through P-17, are asked of all females 12 years or older and item P-18 is asked only of females 12 to 49 years old.

The purpose of the edit is to make the entries consistent with each other and with age. A hot deck will not be used to impute entries for items P-14 through P-17. The total number of children ever born alive cannot be greater than the person's age plus 11 or the sum of the number of children living in the HU, living elsewhere, and dead (items P-15 through P-17). The total number of children also cannot be smaller than the sum of the entries in P-15 through P-17 or smaller than the entry in children born in last 12 months (item P-18). If the sum of the entries in P-15 to P-17 is greater than the entry in P-14 and is not inconsistent with age, the sum will be assigned to P-14. If the sum is smaller, the individual entries will be adjusted until the sum is equal. Items P-14 through P-17 may be adjusted several times before final entries are assigned. For item P-18 a hot deck will be used to allocate a response by age. The maximum number of births that will be allocated is three; demographic experts in the NSO have determined that it is very unlikely that a female would have more than three children within 12 months.

6.9 Economic characteristics

Items P-19 through P-25 provide information on economic activity. The items are to

⁴The insertion of YES is for convenience in tabulating; it will not be considered an error.

be tabulated for persons 12 years or older; therefore, editing for children under 12 years old will not be necessary. However, to facilitate all tabulations, any responses that may have been entered for children under 12 will be eliminated.

6.91 Major activity.--Any valid code will be accepted. For persons who reported WORKING, entries in P-20 through P-22 will be eliminated. Although persons reporting WORKING as their major activity may have been looking for another job, neither the enumeration procedure nor tabulations were designed to provide this statistic.

For cases with out-of-range codes in major activity, items P-23 through P-25 (hours worked, industry, and status in employment) will be tested for valid entries. If there is a valid entry in any one of these items, WORKING will be assigned to major activity. Otherwise, a hot deck will be used to allocate an entry. The allocation will be made based on age, sex, and school attendance. However, the response in school attendance (item P-11) will not be used by itself to impute an entry for major activity; previous studies have shown that many students work full time.

6.92 Do any work.--This item will be edited for persons who did not report WORKING in P-19. The purpose of the edit is to make the entry in P-20 consistent with the entries in P-21 through P-25 and to impute or allocate a response for an out-of-range code in P-20.

If there are any valid responses in items P-23 through P-25, the code for YES will be assigned in P-20 and any entries in P-21 and P-22 will be eliminated. If this test fails, the program will check for a legitimate response for items P-21 and P-22 (looking for work and why not looking for work). If there is a valid response in P-21 or P-22, the code for NO will be assigned in P-20. If there is no valid response in P-21 or P-22, an entry for P-20 will

be allocated using a hot deck based on age, sex, and school attendance.

6.93 Looking for work.--As with the edit for P-20, the object of editing P-21 is to make the response consistent with the other economic items and to assign an entry to replace an out-of-range code. If there is a valid response for P-22, P-24, or P-25, the code for NO will be assigned in P-21. If an entry cannot be supplied on the basis of other items, a hot deck will be used. The hot deck will be set up by age, sex, and major activity. The categories for major activity will not include WORKING, however, since persons who are working are not asked whether they are looking for work.

6.94 Why not looking for work.--This item will be edited only for persons with a NO entry in looking for work (item P-21). If there is a valid entry in items P-24 and P-25 (industry and status in employment), the code for HAD JOB will be entered; this code designates economically active persons who were employed but were not at work during the reference period. In all other cases, an entry will be allocated using a hot deck. The hot deck will be set up by age, sex, and major activity.

6.95 Hours worked.--This item will be edited only for persons whose major activity was working or who reported YES for any work (item P-20). Any numerical entry will be accepted. It is felt that the number of hours a person works differs greatly among individuals. Blank, zero, or non-numeric codes will be changed to NOT REPORTED.

6.96 Industry.--This item will be edited only for persons reporting WORKING in item P-19, YES in item P-20, or HAD A JOB in item P-22. Any valid code will be accepted; for a blank or non-numeric code, a code for NOT REPORTED will be assigned. However, the industry code may be changed during the edit for status in employment (item P-25).

6.97 Status in employment.--For all persons who reported ARMED FORCES, the entry in industry must be PUBLIC ADMINISTRATION. If this consistency check fails, then the entry in industry will be changed so that it is consistent.

All electric, gas, and water industries in Popstan are government owned; therefore, persons who work in these industries cannot have a status of EMPLOYER or SELF-EMPLOYED. Entries for persons in the above industries will be changed to EMPLOYEE, if not already reported as EMPLOYEE. No other tests for consistency will be made. For out-of-range responses, an entry will be assigned using hot decks that store status by sex, age, and industry.

7. RECODES

A recode is a sort of summary code based on a combination of entries in the record. For example, the classification NOT ECONOMICALLY ACTIVE--GOING TO SCHOOL requires looking at the responses for at least four items. An examination of the table formats for Popstan indicates that recodes for three subjects will be desirable: (a) economic activity, (b) family nuclei and (c) head, married with spouse present.

7.1 *Economic activity*

The recode for economic activity will be used quite frequently in the tabulations. It involves all of items P-19 to P-25 except P-24. The recode consists of nine categories:

- Economically active
 - Employed
 - 1 - At work
 - 2 - With job, not at work
 - 3 - In Armed Forces
 - Unemployed
 - 4 - Looking for work
 - 5 - Discouraged worker
- Not economically active
 - 6 - Homemaker
 - 7 - Student
 - 8 - Unable to work
 - 9 - Other

Since the various classifications of economic activity are used in a number of tables, it will be more efficient to insert a recode into the data records than to program the classification during tabulation. The specifications for the recode will be prepared by the specialists in economic characteristics of the population. These specialists will work with the systems analysts and the programmers to ensure that the recodes are consistent with the concepts. For example, a person who reported GOING TO SCHOOL in P-19, NO in P-20, NO in P-21, and JOB NOT AVAILABLE in P-22 is "unemployed." Figure C-6d contains the specifications for the recodes. Note that "at work," takes precedence over "With job, not at work," which in turn takes precedence over "Looking for work."

7.11 Armed Forces.--All persons in the Armed Forces are considered employed. These persons are given a unique code to distinguish them from the civilian population; many of the tabulations are for civilian workers only.

7.12 Employed--at work.--During the reference period, the person must have worked for 1 hour or more for pay or profit. Persons who reported that they worked as unpaid workers in a family business or family farm must have worked 15 hours or more a week to be considered employed--at work.

7.13 Employed--with job, not at work.--During the reference period some persons will report they were not working and were not looking for work but will report HAD JOB as the reason for not looking for work.

7.14 Unemployed.--Persons who are "looking for work" constitute the unemployed segment of the economically active population. Some are actively looking for work (YES in P-22) and others would be looking but they believe no jobs are available (JOB NOT AVAILABLE in P-22). The latter are considered "discouraged workers."

Figure C-6d. ECONOMIC ACTIVITY RECODE

P-19	P-20	P-21	P-22	P-25	P-23	Activity recode
-	-	-	-	5	-	3 - Armed Forces
1	-	-	-	1-3	-	1 - Employed--at work
1	-	-	-	4	15+	1 - Employed--at work
1	-	-	-	4	1-14, NR	9 - Other
2	1	-	-	1-3	-	1 - Employed--at work
2	1	-	-	4	15+	1 - Employed--at work
2	1	-	-	4	1-14, NR	6 - Homemaker
2	2	1	-	-	-	4 - Unemployed--looking for work
2	2	2	1	1-3	-	2 - Employed--with job, not at work
2	2	2	1	4	-	6 - Homemaker
2	2	2	2	-	-	5 - Unemployed--discouraged worker
2	2	2	3-4	-	-	6 - Homemaker
3	1	-	-	1-3	-	1 - Employed--at work
3	1	-	-	4	15+	1 - Employed--at work
3	1	-	-	4	1-14, NR	7 - Student
3	2	1	-	-	-	4 - Unemployed--looking for work
3	2	2	1	1-3	-	2 - Employed--with job, not at work
3	2	2	1	4	-	7 - Student
3	2	2	2	-	-	5 - Unemployed--discouraged worker
3	2	2	3-4	-	-	7 - Student
4	1	-	-	1-3	-	1 - Employed--at work
4	1	-	-	4	15+	1 - Employed--at work
4	1	-	-	4	1-14, NR	9 - Other
4	2	1	-	-	-	4 - Unemployed--looking for work
4	2	2	1	1-3	-	2 - Employed--with job, not at work
4	2	2	1	4	-	9 - Other
4	2	2	2	-	-	5 - Unemployed--discouraged worker
4	2	2	3	-	-	9 - Other
4	2	2	4	-	-	8 - Unable
-	Ignored in the recode		ECONOMICALLY ACTIVE			NOT ECONOMICALLY ACTIVE
NR	Not reported		Employed			6- Homemaker
			1- At work			7- Student
			2- With job, not at work			8- Unable
			3- Armed Forces			9- Other
			Unemployed			
			4- Looking for work			
			5- Discouraged worker			

7.15 Not economically active.--Persons will be classified in one of the not economically active categories (homemaker, student, unable, or other) if they did not meet the conditions for employed or unemployed. To be classified as "unable," a person must report SOMETHING ELSE in major activity and UNABLE in why not looking for work. Persons who reported WORKING or SOMETHING ELSE in major activity and worked less than 15 hours as unpaid family workers will be classified as "other." In all other cases, the responses of HOME MAKING or ATTENDING SCHOOL (student) in major activity will take priority.

7.2 *Family nuclei*

A one-digit code containing the number of family nuclei within the housing unit will be inserted into the housing record. The rules for this recode are somewhat complicated and require the availability of the records for all persons in the housing unit, which occurs only when the housing record is being processed. A family nucleus will consist of a married couple with or without children or a parent with one or more unmarried children under 18 years of age.

7.3 *Head, married with spouse present*

The marital status of the head of the household will be recoded according to whether the spouse of the head is present in the household. In each housing unit, the population records will be scanned for a person with SPOUSE as relationship. A single YES/NO code is placed in the housing record in the appropriate field (see figure C-6b). For collective quarters, this column will be assigned code 3. For population tables, married persons with spouse present will be identified during tabulation.

7.4 *Population count*

Although not a true recode, the number of persons in the HU will be needed for many housing tabulations. As with family nuclei, this

count will not be known until all the population records for an HU have been processed; for convenience during tabulation, the count will be inserted in the housing record.

8. HOUSING EDITS

The specifications for editing housing information assume some correlation and consistency between items. For example, it will be unlikely that a housing unit would have walls constructed of bamboo and a roof constructed of cement. Also, units must have piped water inside the house in order to have a flush toilet or a bathtub or shower inside the structure. Knowledge of relationships among items makes it possible to plan consistency edits to assure higher quality data for the tabulation.

The hot deck technique will be used to supply entries for blanks when there are no other related items with valid responses. In Popstan, there is some variety in housing characteristics across the nation, but very little variation in most localities. Thus, when an entry must be supplied for a blank, it is reasonable to assume that a likely entry is the one for the previous housing unit (with other similar characteristics).

There must be one housing record for each serial number. If the housing record is missing, a record will be created. If there are duplicate records, the first record will be eliminated.

Each housing record will be edited for applicable items only; that is, the items on the questionnaire for which information was to be obtained for the housing unit. The items for which information was to be obtained depended on type of living quarters (HU or CQ) and whether the HU was vacant or occupied (see chapter C-2). For CQ's, only item H-1 (type of living quarters) and item H-19 (production of goods for sale or barter) will be edited; these were the only items required for

CQ's. The housing records for homeless will be treated like those for collective quarters. For HU's, the applicable items to be edited are specified in figure C-6e. Flow charts illustrating the specific editing procedures are found in exhibit C-6-3.

Figure C-6e. APPLICABLE ITEMS FOR HOUSING UNITS

Item	Vacant	Occu- pied
H-1 Type of living quarters....	x	x
H-2 Number of housing units in structure.....	x	x
H-3 Material of outer walls....	x	x
H-4 Material of roof.....	x	x
H-5 Material of floors.....	x	x
H-6 Number of rooms.....	x	x
H-7 Tenure.....	x	x
H-8 Monthly rent*.....	-	x
H-9 Vacancy status.....	x	-
H-10 Condition of vacant unit...	x	-
H-11 Period of construction....	-	x
H-12 Water supply.....	-	x
H-13 Drinking water.....	-	x
H-14 Toilet facilities.....	-	x
H-15 Bathing facilities.....	-	x
H-16 Television.....	-	x
H-17 Type of lighting.....	-	x
H-18 Cooking fuel.....	-	x
H-19 Home industry.....	-	x

*Only for units rented for cash.

There will be several items for which a "not reported" entry will be allowed. They include (a) item H-8, monthly rent; (b) item H-11, period of construction; (c) item H-16, presence of a television set; and (d) item H-19, production of goods for sale or barter. The subject matter staff felt that there was no good basis for imputing responses for these characteristics.

9. CONSOLIDATION BY PROVINCE

After the data for all the districts in a province have been edited, the data will be consolidated onto a province tape for tabulation. During the consolidation operation, the

data records will be sorted by geographic code and serial number. In addition, the housing record will be inserted first for each serial number. This means that the records will have to be sorted by record type code in descending order since the code for the housing record is 3 and the code for the population record is 2. (Record type 1 is the header record.)

10. TABULATION PROCEDURES

As discussed in Part B, the tabulation software that was selected works entirely from parameter or command cards. The program can tabulate and print a number of tables during one run. As part of the preparatory work, the subject matter staff will prepare specifications for each table. The specifications will include the subgroup of the population to be tabulated, the level of tabulation, and the variables to be used. The grouping of the values of the variables for the rows and columns (see figure C-6f) will also be given. By level of tabulation is meant the administrative or statistical areas for which data are to be tabulated and published. The processing staff will code the parameter cards for each table. The cards will be keyed and then tested, using test decks and data from the Experimental Census. The computer-generated tables will be manually compared to the table outlines (see exhibits C-3-1 through C-3-6); corrections will be made as required. After tabulation, the table totals will be compared to control counts to make sure that all the records are correctly included in the tabulation area.

11. CONTROL OF COMPUTER PROCESSING

As with all other operations, the computer processing operations are subject to quality control and operational control. These controls are concerned with three main points:

- (1) Corruption or distortion of data
- (2) Duplication of data
- (3) Loss of data

P-139. CHILDREN EVER BORN BY AGE OF WOMAN, FOR WOMEN 12 YEARS OR OLDER, FOR DISTRICTS AND FOR URBAN PLACES OF 10,000 TO 49,999 INHABITANTS: 1980

DISTRICT AND URBAN PLACE	TOTAL WOMEN 12 YEARS OR OLDER		WOMEN 12 TO 24 YEARS OLD		WOMEN 25 TO 34 YEARS OLD		WOMEN 35 TO 44 YEARS OLD		WOMEN 45 YEARS OR OLDER	
	WOMEN	CHILDREN EVER BORN PER 1000 WOMEN	WOMEN	CHILDREN PER 1000 WOMEN	WOMEN	CHILDREN PER 1000 WOMEN	WOMEN	CHILDREN PER 1000 WOMEN	WOMEN	CHILDREN PER 1000 WOMEN
DONGO DISTRICT										
IDFU DISTRICT										
JUMNU DISTRICT										
<i>(Continue with districts)</i>										
ALORA CITY										
BULNES CITY										
OSAKA CITY										
<i>(Continue with urban places)</i>										

Universe: Women 12 years or older—2 in position 30 and 12 to 99 in positions 31 and 32

Column variable: (a) Age—12 to 99 in positions 31 and 32

Categories: 12 to 24
25 to 34
35 to 44
45 to 99

(b) Children ever born—00 to 99 in positions 46 and 47

(c) Children ever born per 1000 women = $\frac{\text{number of children}}{\text{number of women}} \times 1000$

Row variable: Area break for district

Area break for urban place

11.1 Quality control

Quality control of computer processing will be maintained mostly through the generation of diaries.

11.11 Use of edit diary.--The most important diary will be the edit diary. This diary will be produced each time the data for a district are put through the edit program. The diary will provide information that will enable the analysts to determine whether the edit procedure had an adverse effect on the data and whether the rules are reasonable.

The diary will be able to provide a history of all errors found in the editing, by questionnaire. In addition, summary statistics will be generated that will be used to determine the quality of data at the EA and the district level. The diary will report the number and percentage of changes and will designate which are outside the tolerance previously established by the professional staff of the NSO.

The diary will be reviewed by the subject matter analysts. The review has a two-fold purpose:

- (1) To ensure that the out-of-tolerance condition is not the result of errors in data keying, which would require the EA to be reprocessed.
- (2) To determine whether clerical correction of the "out-of-tolerance" questionnaires is required or whether the computer corrections are acceptable.

To evaluate the effect of the edit on the data, the subject matter specialists will review the first edit runs. The purpose of the review is to determine whether the tolerance levels established for the census are satisfactory and, if not, how much and in what direction they should be changed.

Once the professional staff is satisfied that the computer edits are producing correct results, tolerance levels may be changed. To continue to review EA's which are being handled

correctly by the computer programs is both inefficient and uneconomical.

11.12 Diary output.--The diary will contain statistics on the EA's that were accepted and those that were rejected. In addition, two groups of summary statistics will be produced for each EA and the total district. The first is a summary of errors by error number; each edit test for an item will be assigned an error number. The second group of statistics is a summary count by item and type of test (range or consistency). This summary will also include a count of the number and percent of changes or imputations by item. This percentage will be used for tolerance testing.

If requested, the program will also provide a detailed error-by-error history of all cases failing the specified edit tests. The error messages will be displayed for each questionnaire and will include error number, the number of responses in error, and the new values assigned to make the data consistent.

Depending on the number or severity of the problems encountered, the contents of the questionnaire may also be displayed. This additional information will make it easy for the analyst to determine whether the edit procedure being used is reasonable.

11.13 Tolerance levels.--The subject matter staff will determine what level of imputation will affect the validity of the statistics. For both population and housing items, the tolerance will be set at 0.8 percent, based respectively on the number of population items and the number of housing items.⁵ The number of population and housing items in the EA will be added by the computer and listed in the diary.

As stated earlier, once production begins and the subject matter staff is satisfied that

⁵There are approximately 1,800 population items per 100 persons and 1,300 housing items per 100 housing units.

the programs are working correctly, the tolerance levels may be changed. They may also be changed if the number of EA's rejected is so high that an undue proportion of the resources is needed to review and correct the EA's. The subject matter staff will review the edit specifications and the data. The specifications may be too exacting or the wrong assumptions may have been made.

11.14 Tabulations.--Quality control of the tabulations consists of (a) clerical checks and (b) analytical review. The clerical checks are largely mechanical checks of figures within a table and between tables. The analytical review, which is carried out by professionals on the subject matter staff, is concerned with reasonable relationships between categories.

11.2 *Operational control*

Although the computer program may be fully tested and found to be accurate, input to a program is subject to human error. Wrong tapes may be used or some tapes may be missing; therefore, operational controls are needed. Control counts will be produced at several stages of the machine processing--during the consolidation of district data, consolidation of province data, and editing. These counts will be used to ensure that all the data are processed. For example, the count produced during consolidation of province data will be compared with the sum of the district counts of that province produced during editing to ensure all the data have been transcribed to

the province tape. Controls are also needed to monitor the progress of the operations to ensure that the data are edited and tabulated in time for publication.

Records will be maintained to monitor the progress of each district through the editing operation. The tabulation process will be monitored by province.

As part of the operational control, a filing system for the computer tapes will be established and maintained, and a check-in and check-out system will be used. A storage area will be set aside for storing the tapes.

11.21 External labels.--A label will be physically attached to each reel of tape. The label will indicate the geographic codes of the area contained on the reel--district for editing and province for tabulating. If there is more than one tape for an area and the tapes must be processed in a definite sequence, the label will contain the sequence number and the total number of tapes for the area (1 of 6, 2 of 6, 3 of 6, etc.). The labels will also contain information on the completeness of the tape and dates of the editing runs.

11.22 Back-up tapes.--Occasionally data on magnetic tapes will be accidentally erased. To provide for this contingency, back-up tapes can be made and kept in the library. The NSO decided it would be too expensive to keep a complete file of back-up tapes; therefore, back-up tapes will be created only for the final province tapes.

Chapter C-7. VOLUME I(A): NUMBER OF INHABITANTS

1. PRELIMINARY POPULATION COUNTS

Publication of final results in Volume I(A) will be preceded by the release of preliminary counts. Preliminary reports will be prepared for each province showing 1980 and 1970 counts for each district and for each place of 5,000 inhabitants or more. The figures, which will be based on field payroll counts, will be compiled by each DCO and summarized by the PCO. They will be released within about 3 months after the census date. Because they are preliminary, they will be rounded to the nearest 25, 50, or other number, as appropriate.

The NSO will provide each field office with a worksheet, which will list all the areas and will have the 1970 Census figures already posted. The NSO will review the figures compiled by the field offices and approve their release by the PCO's. The preliminary counts will be released as informal reports, for which preprinted mastheads will be used, as shown in figure C-7a. The preliminary reports will be identified as PR 1 to 16, for the country total and for each province.

The preliminary counts have two purposes. They satisfy the demand for prompt release of the census results and they serve as a sort of quality control. If local officials have cause to believe that some figures are unreasonable, they can notify the NSO before final counts are published. On the negative side, giving local officials an opportunity to question the preliminary counts could delay processing and publication when no irregularities will be found. Nevertheless, it is a necessary procedure to avoid serious errors in the final figures.

2. CONTENTS OF VOLUME I(A)

Volume I(A) of Popstan will contain the final official counts of the number of inhabitants enumerated in the census. Counts will be published for all administrative divisions down to hamlets of 500 inhabitants or more. These are the first figures available from the census and the figures most in demand by the users.

In addition to the 1980 population counts, the volume will contain 1970 and 1960 counts, summary of findings, maps, charts, and definitions and explanations. Specifically, Volume I(A) will contain:

- (1) Front pages--title page, contents, etc.
- (2) Summary of findings, graphics, and text tables
- (3) Definitions and explanations, including concepts and procedures
- (4) Detailed tables

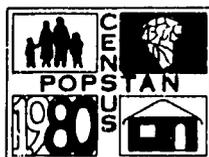
To save time, table formats, 1960 and 1970 counts, and much of the text will be prepared in advance of the census enumeration and the 1960 and 1970 figures will be typed to the final table formats. The 1980 figures will be added as soon as they are tabulated and accepted as final figures.

3. DETAILED TABLES

The detailed tables were outlined during the planning stages of Popstan's census. As described in chapter C-3, there are 10 detailed tables as follows:

- (1) Tables 1 to 3 for regions and provinces--population by urban-rural residence, land area, population density, and rank, 1960 to 1980.

Figure C-7a. PRELIMINARY REPORT FOR GIRDA PROVINCE



1980 CENSUSES OF POPULATION AND HOUSING

PRELIMINARY POPULATION COUNT

Ministry of Economy
National Statistical Office
St. Regis, Popstan

PR No. 5
15 August 1980

Girda Province

(This report is based on preliminary counts of the population compiled in the 1980 Census field offices. The series consists of 16 reports--one for each province and one for Popstan. Reports are numbered in alphabetical order rather than in order of publication)

The population of Girda Province as of 1 July 1980 was 1,205,300 according to a preliminary count of the returns of the 1980 Census. The figure represents a gain of approximately 220,100, or 22.6 percent, over the 983,183 inhabitants in the province in 1970.

This report presents preliminary counts for the province and for districts and places of 5,000 inhabitants or more in 1980. These preliminary figures will be superseded by the final counts to be published in Volume I(A), Number of Inhabitants.

The population census enumerated persons at their usual places of residence. Thus, persons who were temporarily away from home on business or vacation were enumerated at their homes. Persons who had no usual place of residence anywhere were enumerated where they were found on Census Day.

An outline of the publication program for the 1980 Population and Housing Censuses may be obtained free of charge from the National Statistical Office in St. Regis or from any of the census field offices.

Table 1. PRELIMINARY POPULATION COUNTS FOR DISTRICTS AND PLACES OF 5,000 INHABITANTS OR MORE: 1980 AND 1970

(Minus sign denotes decrease)

District	1980 (preliminary)	1970	Per- cent change	District	1980 (preliminary)	1970	Per- cent change
Girda Province..	1,205,300	983,193	22.6	Kabala.....	63,000	47,253	33.3
Brazilia.....	65,425	52,170	25.4	Addis Ababa barrio...	7,650	7,560	1.2
Cairo barrio.....	8,100	7,347	10.3	Freetown village.....	19,675	10,395	89.3
Delhi village.....	16,750	17,477	-4.2	Port Louis village...	16,575	17,483	-5.2
Himo city.....	9,250	8,426	9.8	Volta barrio.....	6,025	4,230	42.4
Lima village.....	8,350	6,260	33.4	Kle.....	31,350	24,049	30.4
Monte Carlo barrio...	18,100	10,737	68.6	Dacca barrio.....	9,650	6,493	48.6
Fiji.....	78,150	63,111	23.8	La Paz village.....	18,425	12,341	49.3
Caracas village.....	9,625	6,204	55.1	Pisa city.....	10,850	7,258	49.5
Chad village.....	5,250	4,417	18.9	Lagos.....	110,275	88,551	24.5
Djakarta barrio.....	23,700	26,408	-10.3	Accra barrio.....	27,750	19,886	39.6
Limon city.....	11,025	11,918	-7.5	Bearda city.....	6,425	4,976	29.1
Morocco barrio.....	11,275	12,515	-9.9	Salamanca city.....	10,350	7,890	31.2
Pico city.....	6,750	5,212	29.5	Monrovia village.....	41,600	34,176	21.7
San Jose village.....	5,200	3,786	37.4				

(Continue)

- (2) Tables 4 to 6 for districts--population by urban-rural residence, 1980 and 1970; land area, population density, and size groups, 1960 to 1980.
- (3) Table 7 for barrios, villages, and hamlets--total population, 1980 and 1970.
- (4) Table 8 for metropolitan areas--population, land area, and population density, inside and outside central city, 1980 and 1970.
- (5) Tables 9 and 10 for urban places--population, rank, and size group, 1960 to 1980, and location by district and province.

Table 7 shows the most geographic detail. It presents population counts for every level of administrative area--the province, district, barrio/village, urban place (by ward for St. Regis and Tanga), and hamlet. Except for data for tracts and city blocks in St. Regis and Tanga and for unpublished EA counts, no greater detail will be tabulated.

The detailed tables will be prepared for offset printing. They will be typed tables rather than computer printouts. Figures will be posted to worksheets, and the typed computations will be carefully checked.

As seen on the table formats (exhibit C-3-1), titles are brief, yet descriptive of the content of the tables. For easy reference, the designation of areas covered by the table precedes the title. For Volume I(A), the geographic areas shown in a table are of considerable importance.

4. SUMMARY OF FINDINGS

The summary of findings for Volume I(A) will be based almost entirely on the statistics in the detailed tables. As appropriate, text tables are inserted. Analysis will be limited, so as not to delay the publication. This section of chapter C-7 describes some of the points that will be highlighted in the text of Volume I(A). Extensive analyses will be incorporated in the Special Reports series, which will be issued from time to time.

4.1 Population distribution and density

The relationship between a population and the area it occupies may be studied in various ways. However, the relationships of greatest interest to demographers involve the geographic distribution of the population and the amount of population per unit of land.

4.11 Distribution by region, province, and district.--The extent to which people are concentrated in one or a few parts of the country has far-reaching economic and social implications. Table 2 shows the distribution of the population and land area by province. Direct visual comparison of the percentages of population and area is enough to provide a rough indication of the degree of concentration. Table 4 shows similar distributions by district.

4.12 Population density.--Density of the population is concerned with the quantity of people in relation to the quantity of land. Conventionally, population density is measured in terms of the average number of inhabitants per unit of area such as a square kilometer or square mile. The statistics in the text table shown below (figure C-7b) give an overall picture of the population density of the country since 1960; however, since this measure for the country as a whole (or for any large area) does not reveal the wide variations within the country, population density will be calculated for each district (see map 6 in section 5).

The analysis will point out differences in land quality that may be important. For example, arid territory with only 50 persons per square kilometer may be more over-populated than humid regions with 500 persons per square kilometer.

Figure C-7b. POPULATION DENSITY, 1960 TO 1980

Census date	Population	Land area (km ²)	Population per km ²
1980.....	17,529,801	670,781	26.1
1970.....	13,384,422	670,781	20.0
1960.....	10,285,033	670,781	15.3

4.13 Center of population.--The center of the population is a summary measure of the population distribution. It is the point on which an area would balance if it were a rigid plane with inhabitants who are assumed (a) to have equal weight and (b) to exert an influence on a central point proportional to their distances from that point. The coordinates for the point (center of population) are computed thus:

$$\bar{x} = \frac{\sum p_i x_i}{\sum p_i} \quad \text{and} \quad \bar{y} = \frac{\sum p_i y_i}{\sum p_i}$$

where p_i is the population of the i^{th} district and x_i and y_i are the coordinates at the center of the i^{th} district. If resources permit, the computation will be done by computer, using EA's instead of districts. A map will be prepared to show the centers for 1980, 1970, and 1960.

4.2 *Population growth*

This section of the text will point out the areas of greatest growth, as well as those areas with little growth or even loss in the last decade. Several tables provide the statistics for this type of analysis. Section 5 describes graphic presentation of rates of increase or decrease for various areas.

4.3 *Urban-rural residence*

One of the most fundamental qualitative distributions which can be made in studying the population is that between the urban and rural elements. Urban-rural contrasts in Popstan are so great that the NSO designed most of the census tables to give users separate statistics for urban and rural populations. The analysis in Volume I(A) will describe the distribution of the urban and rural populations by province and district and will note differential growth rates (see tables 3 and 5).

4.4 *Urban places by size group*

For practical reasons, Popstan defines urban places rather simply: they are settlements

of 2,000 or more whose inhabitants live close together and engage primarily in non-agricultural activities. There is definitely a gradation from small urban places that are semi-rural to very large industrialized centers. For this reason, tables 9 and 10 are included in Volume I(A). Examination of these tables will show the number of places in various size categories, the proportion of the urban population in each group, and change since 1960 and 1970.

4.5 *Metropolitan areas*

For each of the two large centers, the NSO recognizes an entity consisting of a large city and outlying area that function as a single economic and social unit. The analysis will point out the significant change in each metropolitan area since 1970, separately for the central city and the outlying area (see table 8).

5. GRAPHICS AND TEXT TABLES

Publication graphics serve two purposes. The first, and the more essential purpose, is to provide census area identification maps; the maps show the boundaries of all administrative areas for which population counts are published. The second purpose is to present significant results of the census in the form of statistical maps and graphs (charts), thus making it easier for the general user to understand geographic distributions and patterns. If graphics are attractively designed, they can arouse interest and stimulate the use of census results.

In Volume I(A), Popstan will intersperse maps and graphs with the text or will place them at the end of the text preceding the statistical tables. The following maps and charts will be included in the report:

Census area identification maps

- (1) Map of Popstan showing boundaries of the regions and provinces.
- (2) Map of each province, showing boundaries of each district, boundaries of each

barrio or village, and the location of each urban place and hamlet.

Statistical maps

- (3) Map showing the geographic center and the population center of Popstan, 1960 to 1980.
- (4) Dot map showing population by district in 1980.
- (5) Map showing percent change in total population, by province, 1970 to 1980. This will be a choropleth map with shadings denoting amount of increase or decrease.
- (6) Map showing 1980 population density, by district. This will be a choropleth map with shadings to denote various intervals of density.
- (7) Map showing percent change in total population, by district, 1970 to 1980. The map will use the same shading patterns as were used for the province map.
- (8) Map showing percent urban, by district, in 1980 (choropleth map).
- (9) Map showing percent change in urban population, by district, 1970 to 1980 (choropleth map).

Statistical charts

- (10) Bar chart showing provinces ranked by size of total population, 1980.
- (11) Bar chart showing provinces ranked by percent change in total population, 1970 to 1980.
- (12) Bar chart showing provinces ranked by population density, 1980.
- (13) Pie chart showing percent of total population in Popstan living in each province in 1980.
- (14) Double bar chart showing number of districts by population size, 1980 and 1970.
- (15) Bar chart showing cities of 25,000 inhabitants or more ranked by size in 1980.

Except for the census area identification maps, each of which will require one page, the maps and charts can be placed two or four to a page. Text tables highlighting some of the important census results will also be interspersed with the verbal portion of the text.

6. DEFINITIONS AND EXPLANATIONS

The purpose of a section on definitions and explanations is to give the report user the necessary background on how the census was conducted, what concepts were used, how they differ from those used in previous censuses, and what effect the changes have on the data.

6.1 Definitions

Concepts and terms that will be defined in Volume I(A) include the following:

- (1) Usual residence. The definition will state that each person was counted at his or her usual place of abode, which was not necessarily the legal residence. Interpretation of residence for persons in hotels, institutions, military installations, workers' camps, and other collective quarters will be discussed also.
- (2) Urban place and hamlet. The criteria for defining and identifying urban places and hamlets will be described.
- (3) Metropolitan area. The definition will give the basis for setting up metropolitan areas, the designation of the central city, and the districts that make up the area.

6.2 Explanations

Explanations are closely related to definitions. In Volume I(A), the explanations are woven into the concepts. Changes in concepts or procedures from the 1970 Census will be included. The following are some of the items to be covered and the points to be emphasized:

- (1) Date and source of data.
- (2) Coverage of population groups--for example, Popstan citizens serving in the military outside the country, foreigners who work in Popstan, persons living aboard ships docked in the harbors on Census Day, etc.
- (3) Enumeration procedure--division of Popstan into EA's, obtaining information by direct interview, selection of respondents, and callback procedure.
- (4) Efforts to improve coverage--intensive training of enumerators, special enumeration of transients and homeless on T-Night,

publicity efforts to identify persons who might have been missed in the enumeration, use of the Listing Sheets to achieve an orderly listing of all living quarters in the EA and to keep a record of visits to each housing unit, use of EA maps instead of verbal descriptions of the EA's, and follow-up of EA's with reported high numbers of vacant units.

- (5) Quality control--supervision of enumerators by crew leaders, who in turn were supervised by the census officers in the DCO, review of the enumerators' work, comparison of each enumerator's listing of HU's and CQ's with the crew leader's advance listing of 10 consecutive HU's and CQ's, additional enumerator training as appropriate, verification of data keying and tabulating, and comparison of field preliminary counts with tabulated counts by area.

For Volume I(A) of Popstan, the concept of number of inhabitants is generally simple. It is complicated only by the existence of certain "special groups" of people whose treatment in the census is subject to doubt unless specific provisions have been made for enumerating them. In some cases, it is a matter of where to enumerate the people; for example, enumerating general hospital patients at their homes or at the hospital, enumerating persons in institutions at their homes or at the institution, etc. Although these persons comprise an insignificant proportion of the total population of Popstan, their numbers can affect the population of an individual locality. The NSO had prepared specific instructions on whom to enumerate in the census.

7. FRONT PAGES

The first few pages of the volume are referred to as the "front" pages. In Volume I(A), these pages will be numbered in Roman numerals. The pages consist of the following:

- (1) Cover. The volume will have a hard cover with the title *Volume I(A): Number of Inhabitants, 1980 Censuses of Population and Housing*. Also on the cover will be the identification "Ministry of Economy, National Statistical Office." The inside front cover will be blank.

- (2) Title page. The same title and agency identification will appear on the title page with the addition "Population counts for provinces, districts, barrios, villages, hamlets, etc."
- (3) Roster. The names and titles of senior officials of the NSO will be listed on the back of the title page.
- (4) Preface. The preface will describe the overall contents of the volume and the source of the data. Included also will be the recognition of the contributions of persons who were responsible for the various parts of the census undertaking. Persons will be mentioned by name, title, and specific contribution to the census.
- (5) Description of reports. On the back of the preface will be a list and brief description of the contents of reports to be published for the census.
- (6) Contents. The contents will list (a) the topical headings and subheadings included in the text, (b) titles of the text tables, maps, and charts included in the verbal portion of the report, and (c) the titles of the detailed tables.

8. CONTROLS

In order to assure accurate and timely publication of census data, both operational and quality controls are needed. It is especially important to control costs and timing as well as details in data collection and processing so that adequate resources are available for this final step in a long series of activities. The Popstan NSO has set aside specific funding for each of the publication series.

8.1 Operational control

Control of the data to be published starts with the delineation and listing of EA's with proper geographic identification to make it possible to combine them into publication areas. All EA's will be accounted for, from the time the completed questionnaires are received in the NSO through the final tabulation steps.

The hand count made during the manual edit of the Phase I questionnaires in each EA will establish the count of persons whose records

will be keyed, edited, and tabulated. Differences between the manual and machine counts will be resolved so that there is an accepted final count of persons for each EA before EA's are combined into publication areas. Operational controls for these pre-publication operations are covered elsewhere in Part C.

In the publication activities, a record of materials and progress is needed at several key points. The following is a list of the principal activities to be accomplished:

- (1) Design the table formats, the cover, and the general layout of the volume.
- (2) Prepare the stubs for the detailed tables; post the 1970 and 1960 figures on worksheets for typing; prepare appropriate footnotes regarding new settlements, name and boundary changes.
- (3) Type the tables, except for the 1980 counts and the computations dependent on the 1980 figures.
- (4) Prepare the front pages and the text.
- (5) Post the 1980 figures on worksheets; complete the tables.
- (6) Prepare the text--analysis, graphics, definitions and explanations.

For the detailed tables in Volume I(A), control will be maintained for each of the major activities outlined above. Responsibility for seeing that the various parts are completed by the appropriate persons and completed without delay will be assigned to a senior staff member in the newly created Operations Branch in the Decennial Census Division, rather than in the Reports and Control Branch, which handles the flow of bulk materials. Volume I(A) uses relatively simple materials, which do not require a large amount of routine handling.

8.2 *Quality control*

The chapters on computer processing discuss the examination of the edit diary, the tolerance limits for differences between hand counts and machine counts of records, and the procedure for accounting for every EA in Popstan.

The 1980 figures for Volume I(A) are largely simple population counts by area. The same totals and subtotals (for provinces and regions, for example) appear in several tables. The NSO will set up a checklist of important items to verify so that none are overlooked.

8.21 Clerical checks.--A review process to detect "mechanical" errors will be applied to every table and to every page of the report. Clerical review covers such operations as the following:

- (1) Verification of spelling and punctuation of verbal portions of the text and tables, including titles, stubs, footnotes, headnotes.
- (2) Verification for completeness of areas in the stubs of the detailed tables.
- (3) Within-table and between-table verification of the figures; (in addition to proofreading) by comparing same categories for some areas.
- (4) Verification of figures by adding distributions (where applicable) and recomputing percentages, averages, etc.
- (5) Verification of page sequence.

8.22 Analytical review.--Subject matter specialists will (a) verify all the figures and statistical statements in the analytical part of the text and (b) examine the detailed tables for reasonableness of figures by comparing with data from the previous censuses. The preliminary reports that are issued shortly after the data are collected serve as quality control. Local officials are expected to advise the NSO if they have reason to believe that the counts or area identifications are incorrect. The subject matter specialists will also review the verbal portions of the text for accuracy of the statements.

8.23 Inspection of printing.--While individual pages are being printed, an inspector will examine the margins, uniformity of inking, sequence of pages, and general appearance of the work. Quality of paper and material for the cover will have been approved in advance

of the printing. Unsatisfactory work will be rejected, and corrective measures will be taken.

9. DISTRIBUTION OF REPORTS

Volume I(A) will be distributed at no charge to national, province, and district government agencies; census advisory committees; elected national officials; depository libraries; and major radio and television stations. Copies to other organizations or persons will be sold; the price will be nominal, since the

purchaser pays only the cost to print extra copies. The sales will be handled by the government printing service.

The Information Office of the NSO will make every effort to publicize the census publications and will prepare a series of announcements to explain the value and use of the data. Order forms will be distributed and the volume will be advertised in periodicals, professional journals, and commercial magazines to reach all kinds of potential users.

Chapter C-8. VOLUME I(B): GENERAL CHARACTERISTICS

1. INTRODUCTION

The results of the 1980 Censuses of Population and Housing for Popstan are being issued in the form of printed reports. Volume I(A), which contains final official counts of the population down to the smallest administrative division, is described in the preceding chapter. Volume I(B) is the subject of this present chapter (chapter C-8).

1.1 Contents of Volume I(B)

Statistics on population and housing characteristics will be presented for Popstan and regions, provinces, districts, metropolitan areas, villages, barrios, and all urban places. The data will be tabulated from the 100-percent enumeration in Phase I. Volume I(B) will consist of the following:

- (1) Front pages
- (2) Summary of findings
- (3) Definitions and explanations
- (4) Detailed tables
- (5) Appendix

The detailed tables will constitute the bulk of the volume. They will follow the analysis of data and the section on definitions and explanations.

1.2 Organization of the bound volume

Volume I(B), though produced separately province by province, will be bound as one book. The detailed tables will be tabulated for the whole country and regions in the first chapter, followed by 15 chapters for the provinces--one for each province. The tables for the whole country will be the sum of the province figures and therefore will be the last to be tabulated.

The publication will have a number for reference purposes. Volume I(B) will be designated "PH(IB)," for "Population and Housing, Volume I(B)." The front pages, analysis of data, and definitions and explanations will be numbered consecutively, with Roman numerals.

Each province will make up a chapter in the volume and will be assembled in alphabetic order. Since the provinces are not necessarily tabulated in alphabetic order, a scheme was devised so that pages can be numbered independently for each chapter. Each chapter will consist of brief definitions and the detailed tables. Pages for the definitions will be numbered with Roman numerals. For the detailed tables, the plan uses a number prefix representing the chapter, followed by a dash and then the page number for that chapter. The first chapter, for Popstan and regions, will be numbered 1-1, 1-2, 1-50, etc. The second chapter, for the province of Artesia, will be numbered 2-1, 2-2, 2-50, etc.; the last chapter, for the province of Tumar, will be 16-1, 16-2, 16-50, etc. In the published volume, the brief text pages in the province chapters will be replaced with the full analysis and definitions prepared for the complete volume. Over-runs¹ of the detailed tables will be printed when the chapters are printed; these will be used for the final volume.

The NSO prefers to publish Volume I(A) and Volume I(B) as one bound volume. Both are

¹Over-runs are simply additional copies of the province tables. As the chapters are printed, over-runs are printed for later use in the bound volume.

based on the 100-percent census (Phase I), and it would be helpful to the users of I(B) to have available the population counts for all areas, which are contained in I(A). Since Volume I(A) will be relatively small (in terms of the number of pages), Popstan will reprint I(A) when I(B) is being printed and bind the two separate parts as one book. As a matter of convenience, the two parts will be numbered separately and will otherwise be self-contained (although there will be a small amount of duplication with respect to some of the definitions and explanations).

2. FRONT PAGES

The front pages will be similar in content and numbering to those in Volume I(A). They will consist of the following:

- (1) Cover. The report will carry the title "Volume I(B): General Characteristics, 1980 Censuses of Population and Housing." The identification "Ministry of Economy, National Statistical Office" will also appear on the front cover. The inside front cover will be blank.
- (2) Title page. The same title and agency identification will appear on the title page, with the addition "Population and housing characteristics for provinces, districts, metropolitan areas, villages, barrios, and urban places of 2,000 inhabitants or more."
- (3) Roster. The names and titles of senior officials of the NSO will be listed on the back of the title page.
- (4) Preface. The preface will describe the overall contents of the volume and the source of the data. Recognition of the contributions of persons who were responsible for the various parts of the census undertaking will be made. Persons will be mentioned by name, title, and specific contribution to the census.
- (5) Description of reports. On the back of the preface, the contents of reports to be published for the census will be listed and briefly described.
- (6) Table finding guide. The table finding guide will precede the contents pages.
- (7) Contents. The contents will list (a) the topical headings and subheadings in the text, (b) the titles of the text tables, maps, and charts included in the verbal portion of the report, (c) the titles of the detailed tables, and (d) a list of items included in the appendix.

3. SUMMARY OF FINDINGS

The NSO regards the 1980 Census as a long-term investment, the results of which will make major contributions to many types of decision-making and research for another decade or more. Yet, the value of some of the census results declines constantly with the passage of time.

Because timeliness is important, some degree of urgency is attached to the publication of the census results. The vast majority of users can be served well if a summary of substantive results appears in the report. This summary of findings will reflect only basic analysis of a type usually found in census reports. More thorough analysis of a specialized nature, such as a study of social and economic characteristics of the foreign-born population, will be incorporated in the Special Reports series.

3.1 Population characteristics

A profile of the Popstani people will be developed from information collected in Phase I. For the most part, the analysis will point out important findings and will indicate inter-relationships. Below are a few characteristics that will be discussed in the summary of findings. It is by no means a complete list.

3.11 Age and sex.--Age is perhaps the most useful single variable for analysis of the population. The age distribution for the urban and the rural population for 1970 and 1980 can indicate the internal migration to the cities. The age distribution by single years permits analysis for ages that do not coincide with the 5- and 10-year groupings.

As indicated in exhibits C-3-2 and C-3-4, most of the population tables for Volume I(B) show characteristics by age and sex.

The sex ratio is the basic tool for the analysis of the sex composition of the population. It is defined as the number of males per 100 females. Because of differential migration by sex to different areas of the country, the sex ratios will differ. An analysis will be made by urban-rural residence and by regions and provinces.

It is well established that males outnumber females at birth, normally with a sex ratio of about 105. Consequently, a "young" population, in the sense that young persons comprise an unusually large percentage of the total, would be expected to have a high sex ratio if other things were equal. In Volume I(B), the sex ratio by age will be examined and compared to sex ratios expected on the basis of current life tables.

3.12 Marital status.--Marital status of women is especially useful in the analysis of fertility. A large proportion of young married women can contribute substantially to the fertility in a country. Urban-rural differences will be noted, as well as changes since 1970.

3.13 Foreign-born population.--An indication of the past migration to the country can be seen from the tables on place of birth. Popstan has had a recent surge of in-migration (immigration) from the bordering countries of Victoria and Endar. The analyst will look for characteristics that differentiate the foreign-born from the native population, particularly differences in sex and age composition, economic activity, and literacy.

3.14 Education.--Officials of the government of Popstan are interested in the results of the censuses with regard to literacy, school attendance, and educational attainment. Text tables will illustrate the results on education

by condensing the detailed tables and emphasizing the younger ages. Data will be examined to pinpoint areas where school-age children are not attending school. Changes since 1970 will be evaluated with respect to school programs.

3.15 Fertility and mortality.--Age-specific fertility rates derived from the number of children born within the past 12 months will be displayed in a chart. Fertility rates will be analyzed by educational attainment and age of woman, for the urban and rural populations separately.

In addition to the analysis of current fertility, analysis of lifetime cumulative fertility will note distributions of women by number of children ever born. Analysis of number of children born and number surviving can indicate the trend in fertility and mortality. This information will serve as baseline data for family health clinics throughout Popstan to demonstrate the effects of the maternal and child health program. Infant mortality has been high and the government has introduced a program in maternal health and family planning concentrating on girls 12 to 17.

3.16 Economic activity.--Although an extensive analysis of economic items will appear in Volume II (from the results of the sample enumeration), statistics in Volume I(B) present an opportunity for comparisons and analysis for many variables. Data on status in employment, hours worked, and industry of employed persons will be examined for indication of segments of the population that are underemployed. Since an increasing number of women are entering the labor force in Popstan, characteristics of economically active women will be noted. Special note will be made of changes since 1970.

3.17 Migration.--Migration will be indicated by duration of residence in the district. Special attention will be paid to the

duration of residence in the large cities to estimate the amount of recent migration to urban areas, which has caused congestion, strain on the electric, sewer, and water systems, and an aggravation of the unemployment problem.

3.2 *Housing characteristics*

Adequate housing is vital to the welfare of the inhabitants of Popstan. The 1980 Census of Housing is for that reason an essential part of the statistical program of the NSO. Timely publication is awaited by the users of housing data--national and local agencies, construction industry, banking establishments, producers of raw materials such as lumber and cement blocks, manufacturers of plumbing and other household equipment, and the many construction workers who depend on the country's housing program and its aspirations to raise the level of living.

3.21 Housing inventory.--Most housing deteriorates with age, while some is lost to the inventory through fires, demolition, or decay. New housing is constantly being built. Important items of analysis will be a description of housing by type and a measure of any changes since the previous census.

An inventory of housing is meaningless, however, unless it is related to the people who need it. A serious question to be answered is how the housing of the country is keeping pace with the increase in population.

3.22 Occupancy characteristics.--Population per occupied unit is one indicator of the crowding of households, and the number of persons per room is another indicator. It is a major goal of the government's housing program for Popstan to relieve overcrowded conditions. The indicators will be examined for differences in various parts of the country.

The government of Popstan is also assisting persons to purchase their homes so that they will feel established in the community and

will make greater efforts to improve their housing. The analysis will take note of any trends in home ownership and compare characteristics of owner and renter households.

The vacancy status of the housing stock is also of great concern. The supply of vacant housing units on the market for rent or sale affects the ability of newly formed households to obtain separate quarters and the ability of others to better their living arrangements.

3.23 Quality of housing.--The quality of housing is indicated by such items as the construction materials of outer walls, floors, and roof, the number of rooms in the unit, availability of piped running water, and existence of standard toilet and bathing facilities. A most serious source of disease in some parts of Popstan is contaminated drinking water, and the census figures will reveal the individual areas where this is a major problem. The kind of lighting and cooking fuel provides a measure of the conveniences available in the home. The number of television sets will provide information on the educational potential of this instrument and its importance for communication.

Finally, the data on improvised dwellings in the country will be closely reviewed. The two metropolitan areas are troubled by a rapid influx of laborers and their families. In the fringe areas around these two cities are thousands of improvised dwellings constructed of scraps of metal and wood. The census will provide a measure of the number of such dwellings and the characteristics of the families that occupy them. Comparison will be made with the 1970 results to note the extent of change in this type of housing.

3.3 *Text tables and 1970 comparison*

Text tables will be scattered throughout the analysis. The tables will pull together and summarize pertinent data referred to in

the verbal analysis. The text tables will also show 1970 data (and 1960 data, as applicable), so that trends and changes can be observed. Since many of the 1970 topics were collected for a sample, a note to this effect will be added to the text tables, as appropriate.

3.4 Graphics

In Volume I(B), graphics will be interspersed in the text to clarify and summarize data. Maps will be included to identify the census areas for which statistical data are tabulated. Statistical charts will be used to present significant results allowing users to understand at a glance some of the more important features of the population. Since I(A) and I(B) will be bound into one book, census area identification maps will already be a part of the volume. Maps and charts which will present results in I(B) include the following:

- (1) Age pyramid for the country with 1980 and 1970 data. The pyramid will show changes in the sex and age distribution in the intercensal period.
- (2) Bar chart showing the percentage of native- and foreign-born persons.
- (3) Graph showing age-specific fertility rates by age of woman. Age-specific fertility rates will be derived from number of live births in the last 12 months.
- (4) Bar chart showing literate population 10 years or older, by province, 1980 and 1970.
- (5) Map showing the percent literate population 10 years or older, by province.
- (6) Map showing the percentage of school-age children attending school, by district.
- (7) Pie chart showing industry for employed persons.
- (8) Map of Popstan showing percent increase in total housing units, by province, 1970 to 1980.
- (9) Bar chart showing percentage of home ownership and change since 1970, by province.
- (10) Bar chart showing crowding (persons per room), by province.

- (11) Bar charts showing types of construction material for outer walls, roof, and floors, by province.
- (12) Bar chart comparing water supply by urban and rural residence, 1980 and 1970.
- (13) Map showing percentage of new construction in the past year, by district.

Figure C-8a contains several examples of graphic presentations of census data. They illustrate the effectiveness of graphics to supplement the tabular presentations.

4. DEFINITIONS AND EXPLANATIONS

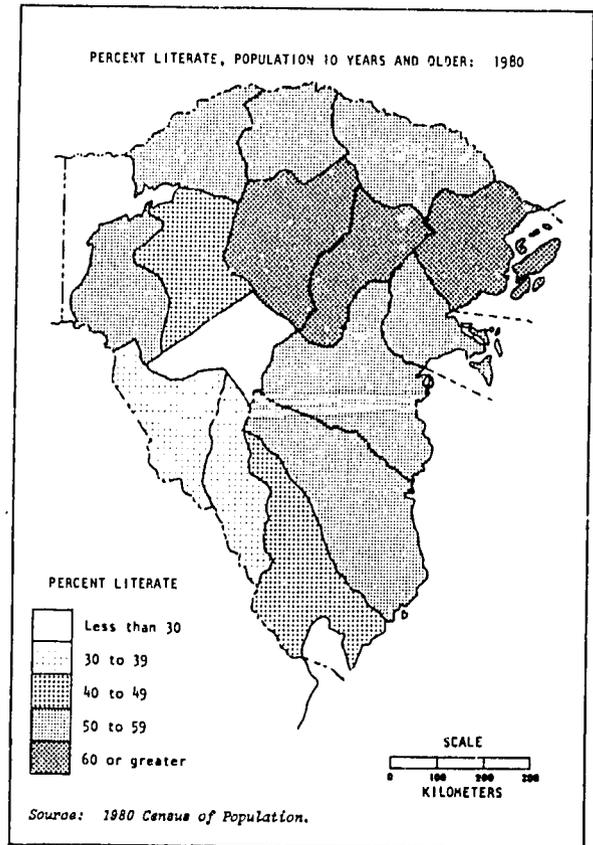
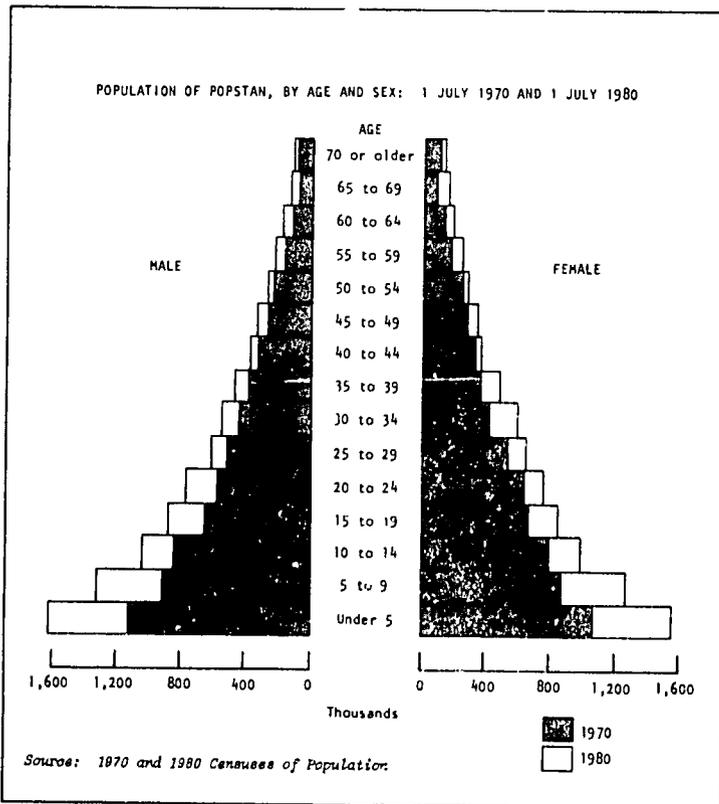
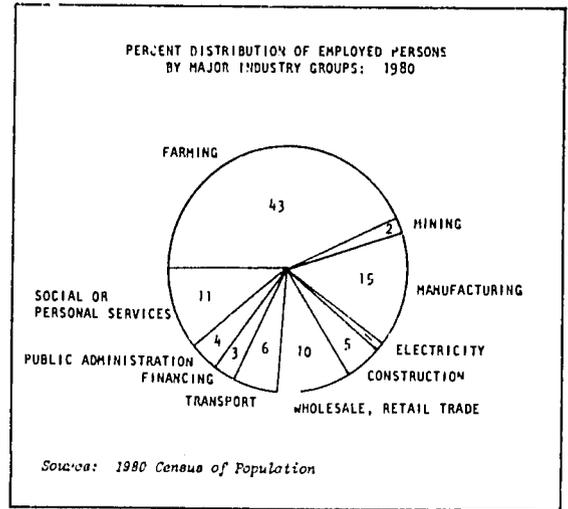
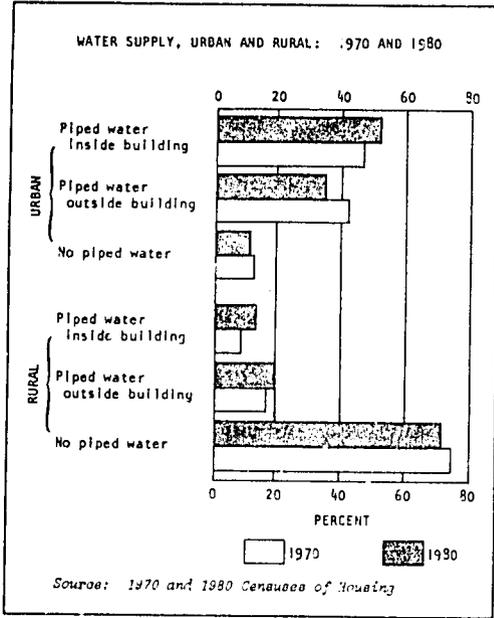
In the section on definitions and explanations, each important concept will be defined according to its use in the detailed tables. Where there were definition changes since the previous censuses, such changes will be noted. Appropriate aspects of the collection and processing procedures also will be included.

4.1 Concepts

An explanation of the concepts used in the census is a necessity. Users need to understand the concepts in order to interpret the statistics. As a minimum, Popstan will define the following:

- (1) Demographic and social concepts--usual resident, household, age, relationship, marital status, married couples and mother-child groups.
- (2) Migration--countries of birth and years lived in district of current residence.
- (3) Fertility--live births, presence of own children in the household.
- (4) Education and literacy--school attendance, year completed, and literacy.
- (5) Economic concepts--economically active, employed, unemployed, average weekly hours worked, industry, status in employment, reference period, and home industry.
- (6) Housing--housing unit, type of quarters, construction material, year of construction, room, tenure and vacancy, monthly rent, water supply, sanitary facilities, cooking fuel, lighting, and television.

Figure C-8a. ILLUSTRATIVE GRAPHICS FOR VOLUME I(B)



The definitions will include some explanation, or rationale; for example, why literacy was not asked of persons who have completed 4 or more years of school, why 1 month instead of 1 week or 1 year was used as the reference period for economic activity, why the categories for marital status did not distinguish between legal and de facto separations, etc. Another explanation would be a statement on the tendency to report ages in years ending in 0 or 5.

4.2 Collection and processing of data

In Volume I(A), the text included a brief description of the (a) date and source of census data, (b) coverage of population groups, (c) enumeration procedure, (d) efforts to improve coverage, and (e) quality control of the field enumeration and office processing (refer to chapter C-7).

The text of Volume I(B) will also include discussion of these items but in more detail. It will discuss the field review for missing entries, manual review in the NSO, data keying procedure, editing and imputation rules, and review of the tabulated results. An innovation for the 1980 report will be a table on the extent of edit imputation; the text will inform users as to the manner of handling nonresponses and inconsistencies.

4.3 Coverage evaluation

Of particular importance will be a brief analysis of the coverage evaluation, which is an essential part of Phase II. Since coverage evaluation measures the completeness of the 100-percent enumeration, a brief analysis of the results is appropriate in Volume I(B) if results are available without delaying the publication of Volume I(B); otherwise, the results and analysis will be included in the Special Reports series. A more detailed description of coverage evaluation is given in chapter D-11.

4.4 Comparability with the 1970 Census

For concepts and procedures that were the same in 1970, a statement will be made to that effect. Where they have changed, the differences will be explained. For example, the reference period for the economic questions was the preceding week in 1970 and the preceding month in 1980. The reason for the change and a statement as to comparability of the data will be included in the text.

Data for a number of the 1970 topics are subject to sampling error. The user will be informed as to how to interpret the 1970 sample figures and the 100-percent data for 1980.

5. DETAILED TABLES

The detailed tables are the essence of the census program. From the detailed tables alone, it is possible for the users to obtain a considerable amount of data. The other parts of the volume enhance the understanding and readability of the publication.

5.1 Organization of the tables

Population tables for an area will be presented first, followed by the housing tables. For a complete description of table formats, reference is made to chapter C-3 (exhibits C-3-2 to C-3-6).

For each of the province chapters, there will be both population and housing data. The statistics will be presented on three levels: (a) province, metropolitan areas, and urban places of 50,000 inhabitants or more, (b) districts and urban places of 10,000 up to 49,999 inhabitants, and (c) barrios, viilages, and urban places of 2,000 to 9,999. For the total country and the regions, the tables contain the same items as those for the province totals, metropolitan areas, and urban places of 50,000 inhabitants or more.

As a general rule, the need for data is more pressing at the higher level of presentation. Therefore, at the country and regional level, as at the province level, Volume I(B) will have 33 tables on population and 33 tables on housing characteristics. At the district level, there will be 16 population and 10 housing tables; and at the barrio/village and lower level, 5 population and 2 housing tables will be published. Any information presented for the smallest administrative division will be found in similar tables at the higher levels.

Finally, two tables present selected population and housing characteristics for tracts and blocks in St. Regis and Tanga (see exhibit C-3-6). For other large cities, similar data can be provided, at cost, for combinations of EA's (rather than blocks or tracts).

5.2 Table finding guide

Volume I(B) will contain approximately 1,550 individual tables. A user searching for information among so many tables will be overwhelmed. The table finding guide will be used as a tool to assist the reader in locating the topic of interest. Table finding guides for Volume I(B) are presented in chapter C-3.

6. APPENDIX

The appendix follows the detailed tables for the last province. It will contain (a) the Phase I questionnaire, (b) excerpts of enumerator instructions for major questionnaire items and field procedures, and (c) the census law. The excerpts from the enumerator instructions will be carefully selected and annotated when necessary so as not to mislead the user.²

²As a simple example, the enumerator was instructed to report marital status for all persons, although marital status for persons under 12 years old is not tabulated. The "skip" pattern on the questionnaire would have been more complicated if answers had been limited to persons 12 years or older.

7. CONTROLS

The staff of the NSO is mindful of the disheartening possibility of collecting census information but not having the human and financial resources to complete the publication program. Although separate funds have been set aside for each of the publications, the staff realizes that unexpected and costly problems may adversely affect the publication program. Both operational and quality controls have been established to ensure successful completion of the numerous activities involved in the census.

7.1 Operational control

The preceding chapters in Part C of the case study describe the operational controls for the pre-enumeration activities, the field operations, the manual editing and coding, the data keying, and the computer editing and tabulating. In the publication activities, many of the controls for Volume I(A) are applicable to Volume I(B), while others involve more steps. The following is a list of major activities to be accomplished:

- (1) Design the general layout of the report.
- (2) Prepare formats, headnotes, footnotes, and page layouts for the detailed tables.
- (3) Prepare preprinted table titles, headnotes, and footnotes.
- (4) Prepare the front pages, the section on definitions and explanations (including collection and processing of the data), and the appendix.
- (5) Prepare a rough outline of the summary of findings and the graphics.
- (6) Enter the 1970 and 1960 data on tape so that the data can be merged and printed with the 1980 data.

Much of the above will be accomplished in advance of the enumeration. Other operational controls will be needed as the publications are being processed. Control of the front pages, appendix, definitions, and the other steps outlined above will be the responsibility

of a senior staff member in the newly created Operations Branch of the Decennial Census Division. Operational control of the following steps is the responsibility of the Reports and Control Branch:

- (7) Stripping in the table titles, headnotes, and footnotes.
- (8) Clerical checks of the computer printouts.

Although the Reports and Control Branch (Central Control) will see that tables are completed, the Publications Division staff will strip in the titles, headnotes, and footnotes. The Tabulations Review staff in the Decennial Census Division will do the clerical checks.

7.2 *Quality control*

The handling of differences in hand counts (control counts) and machine counts or records of the count of people will have been taken care of by the professional staff in the procedures for Volume I(A). Volume I(B), however, will have some additional quality checks because it is concerned with much more than simple counts of inhabitants.

7.21 Clerical checks.--Although the NSO checked the computer programs with test cases, there will still be some review to detect any "mechanical" errors. The steps in the review will include the following:

- (1) Spot check of totals and calculations, and between-table checks of totals and sub-totals that should be the same figures. Subject specialists will have prepared a checklist of every item to be reviewed and the clerk will be required to verify each item.
- (2) Verification of the spelling and punctuation of the verbal portions of the report, including text, text tables, graphics, and the appendix.
- (3) Verification of the contents pages and the page sequence of the report.

7.22 Analytical review.--The NSO plans to assign a number of demographers and housing statisticians to carry out the analytical review.

The following are among the tasks they are to perform:

- (1) Verify all the statistics that are used in the summary of findings, including those used in the statistical maps and charts. Review them for reasonable relationships and change since the last census.
- (2) Review the definitions and other portions of the text for accuracy of statement. Review the appendix.
- (3) Examine key items in the detailed tables for reasonableness.

It is expected that the review of the edit diaries and the tabulations from pretests and the Experimental Census will alert the staff to potential items that need to be examined before publication. However, there may be unexpected difficulties that arise in the final tabulations that require adjustment or special handling.

7.23 Inspection of printing.--Printing inspection will involve the same procedures as for Volume I(A). The only exception is that Volume I(B) is much larger and will require closer and more frequent control to avoid the necessity for reprinting.

8. DISTRIBUTION OF REPORTS

As stated earlier in the chapter, the NSO prefers to publish Volume I(A) and Volume I(B) as one bound book. Furthermore, as the detailed tables for a province are completed, over-runs will be printed and distributed to persons who are interested in that province.

Copies of Volume I will be distributed without charge to certain government agencies at the national, province, and local levels; to libraries; to research centers; and to other designated organizations (those mentioned in chapter C-7). Other copies will be sold to the general public at the lowest possible cost. The NSO will prepare announcements in advance of the publication date and will distribute

informational booklets to inform the public about the availability and use of census results. Such announcements and feature articles with supporting graphics will appear in newspapers, professional journals, and documents prepared for conferences and meetings of potential users of census data. The NSO will also invite key government officials and researchers to participate in seminars to illustrate practical uses of the statistics.

9. AVAILABILITY OF UNPUBLISHED DATA AND TAPES

Unpublished tabulations can also be made available, at cost, to persons who request the information. With software programs that are available, the cost to make special tabulations is modest. Computer tapes can also be provided for additional analysis and research. The NSO will publicize the availability of tapes and encourage their use (see chapter C-3).

APPENDIX

Exhibit C-2-1. INDIVIDUAL CENSUS REPORT

FORM PH-3 (JANUARY 1980)		MINISTRY OF ECONOMY NATIONAL STATISTICAL OFFICE	
INDIVIDUAL CENSUS REPORT POPSTAN 1980 CENSUSES OF POPULATION AND HOUSING			
CONFIDENTIAL – This inquiry is required by law. The information is accorded confidential treatment and cannot be used for taxation, investigation, or regulation.			
ENUMERATOR INSTRUCTIONS: Complete items A through O.			
A. Enumerator's name		B. Date	
C. Province	Code	D. District	Code
E. Barrio/village	Code	F. Place	Code
G. Ward/tract code	H. Block number		I. CL area number
J. Type-of-place code	K. Metro area	Code	L. EA number
M. Number or name of street or road		N. Serial number	
O. House number, apartment number, location or description			
<p>The National Statistical Office is making every effort to take a complete and accurate 1980 Census. The Census Taker was not able to obtain from you personally the information required for the Census. Please complete this form (items 1 through 15) as soon as you can. PLEASE PRINT. If this form is filled by someone else, the term "your" applies to the person for whom this form is intended. Seal the completed form in the envelope provided. Do <u>not</u> mail the form; the Census Taker will return in the next few days to pick it up. Thank you for your cooperation.</p>			
PLEASE PRINT			
1. What is your full name? <i>Enter family name first.</i>		4. District of your usual residence	
2. Where do you usually live; that is, where do you live most of the time? 1 – Usually live here 2 – Have no usual place of residence 3 – Usually live elsewhere – <i>Continue with 3.</i>		5. Barrio/village of your usual residence	
3. Province of your usual residence		6. Urban place/hamlet of your usual residence	

Continue on back

Exhibit C-2-1. INDIVIDUAL CENSUS REPORT--Continued

<p>7. Address of your usual residence Give house number, apartment number, street or road name, or other description.</p>	<p>11. Who is head of the household at your usual place of residence? Enter full name.</p>		
<p>8. At your usual residence, what are the names of nearby intersecting streets (roads)?</p>	<p>12. What is your relationship to the head of household where you usually live? Circle one.</p> <p>1 – Head 2 – Spouse of head 3 – Son or daughter of head/spouse 4 – Other relative 5 – Nonrelative</p>		
<p>9. At your usual residence, what are the names of nearby landmarks (rivers, churches, schools, etc.)?</p>	<p>13. Sex Circle one.</p> <p>1 – Male 2 – Female</p>		
<p>10. At your usual residence, what are the names of two of the nearest neighbors?</p>	<p>14. What is your age as of last birthday? If under 1 year, enter 00.</p> <p style="text-align: center;">_____ Years</p>		
	<p>15. What is your marital status? Circle one.</p> <p>1 – Married 2 – Divorced 3 – Separated 4 – Widowed 5 – Never married</p>		
<p>OFFICE USE ONLY</p>	<p>Transcribed by <input type="checkbox"/> Enumerator <input type="checkbox"/> DCO <input type="checkbox"/> NSO</p>	<p>Name</p>	<p>Date</p>
<p>INSTRUCTIONS: If code 1 or 2 in question 2, it is assumed that the information for the person is transcribed to the EA and Serial Number indicated in items C to N. If code 3 in question 2, enter in items C to N, in RED, the identification of the EA where the information was transcribed.</p>			

Exhibit C-3-1. VOLUME 1(A) TABLE TITLES AND FORMATS--Continued

Table 2. REGIONS AND PROVINCES--POPULATION, LAND AREA, POPULATION DENSITY, AND RANK: 1960 TO 1980

Region and province	1980								Population per km ²	
	Popu-lation	Per-cent	Land area		Popula-tion per km ²	Rank			1970	1960
			Km ²	Per-cent		Popu-lation	Land area	Popula-tion per km ²		
(SAME STUB AS TABLE 1)	xx,xxx,xxx	100.0	xxx,xxx	100.0	xx.x	xx	xx	xx	xx.x	xx.x

Table 3. REGIONS AND PROVINCES--POPULATION BY URBAN-RURAL RESIDENCE: 1960 TO 1980
(Minus sign denotes decrease)

Province and residence	1980				1970				1960 population	
	Population		Increase over preceding census		Population		Increase over preceding census		Number	Per-cent
	Number	Per-cent	Number	Per-cent	Number	Per-cent	Number	Per-cent		
POPSTAN										
Total.....	xx,xxx,xxx	100.0	x,xxx,xxx	xxx.x	xx,xxx,xxx	100.0	x,xxx,xxx	xxx.x	xx,xxx,xxx	100.0
Urban.....										
Rural.....										
REGIONS										
Samchok.....										
Urban.....										
Rural.....										
Gold Coast.....										
Urban.....										
Rural.....										
Western.....										
Urban.....										
Rural.....										
Atlifca.....										
Urban.....										
Rural.....										
PROVINCES										
Artesia.....										
Urban.....										
Rural.....										
Copal.....										
Urban.....										
Rural.....										
Kerac.....										
Urban.....										
Rural.....										
(etc.)										

Exhibit C-3-1. VOLUME 1(A) TABLE TITLES AND FORMATS--Continued

Table 7. BARRIOS, VILLAGES, AND HAMLETS--POPULATION: 1980 AND 1970
(Minus sign denotes decrease)

Area by province	Population		Per- cent change	Area by province	Population		Per- cent change
	1980	1970			1980	1970	
ARTESIA				COPAL			
Dongo District.....	x,xxx,xxx	x,xxx,xxx	xxx.x	Baja District.....	x,xxx,xxx	x,xxx,xxx	xxx.x
Ajmer barrio.....				Bayla barrio.....			
London city.....				El Shab city (part)..			
Wadi hamlet.....				Kolar hamlet.....			
Chanda village.....				Burdura barrio.....			
Chanda hamlet.....				Dabhor hamlet.....			
Gisor barrio.....				Logrono hamlet.....			
Kanput hamlet.....				Dashi barrio.....			
Shendi hamlet.....				El Shab city (part)..			
Kula barrio.....				(etc.)			
San Demetrio city....							
Ubi hamlet.....							
Malega barrio.....							
Tamero hamlet.....							
Idfu District.....							
Arko barric.....							
Nagina hamlet.....							
Bamko barrio.....							
Cahors hamlet.....							
Verona city.....							
(etc.)							

Table 8. METROPOLITAN AREAS--POPULATION, LAND AREA, AND POPULATION DENSITY, INSIDE AND OUTSIDE
CENTRAL CITY: 1980 AND 1970

Metropolitan area	1980				1970				Popula- tion increase 1970-1980 (percent)
	Population		Land area (km ²)	Popula- tion per km ²	Population		Land area (km ²)	Popula- tion per km ²	
	Number	Per- cent			Number	Per- cent			
ST REGIS ¹									
Total.....	x,xxx,xxx	100.0	x,xxx	xxxx.x	x,xxx,xxx	100.0	x,xxx	xxxx.x	xxx.x
Inside central city.....									
Outside central city.....									
TANGA ²									
Total.....		100.0				100.0			
Inside central city.....									
Outside central city.....									

¹Comprises St. Regis and Yapei Districts.²Comprises Rocha District.

Exhibit C-3-2. VOLUME I(B) POPULATION TABLE TITLES AND FORMATS FOR POPSTAN AND REGIONS

Table

- P-1 Summary of general population characteristics for Popstan: 1980
P-2 Population in localities by size of locality and by sex: 1980 and 1970
- P-3 Age and sex of the population, urban and rural: 1980 and 1970
P-4 Single years of age by sex, urban and rural: 1980
P-5 Relationship to household head, and population in collective quarters, by age and sex, urban and rural: 1980
- P-6 Marital status by age and sex, for persons 12 years or older, urban and rural: 1980
P-7 Marital status by sex, relationship to household head, and population in collective quarters, for persons 12 years or older, urban and rural: 1980
- P-8 Nativity by age and sex, urban and rural: 1980
P-9 Country of birth by age and sex, for foreign-born persons, urban and rural: 1980
P-10 Duration of residence in district by age and sex, urban and rural: 1980
- P-11 Children ever born by age of woman, for women 12 years or older, urban and rural: 1980
P-12 Surviving children by age of woman, for women 12 years or older, urban and rural: 1980
P-13 Children born alive in last 12 months by age of woman, for women 12 to 49 years old, urban and rural: 1980
P-14 Maternal survivorship by age and sex of person, urban and rural: 1980
- P-15 Literacy by age and sex, for persons 10 years or older, urban and rural: 1980
P-16 Literacy by age and sex, for foreign-born persons 10 years or older, urban and rural: 1980
P-17 Literacy by children ever born and age of woman, for women 12 years or older, urban and rural: 1980
P-18 School attendance by age and sex, for persons 5 to 29 years old, urban and rural: 1980
- P-19 Educational attainment by age and sex, for persons 5 to 14 years old, urban and rural: 1980
P-20 Educational attainment by age and sex, for persons 15 years or older, urban and rural: 1980
P-21 Educational attainment by age and sex, for persons 5 to 29 years old not attending school, urban and rural: 1980
P-22 Educational attainment by children ever born and age of woman, for women 12 years or older, urban and rural: 1980
- P-23 Economic activity by age and sex, for persons 12 years or older, urban and rural: 1980
P-24 Industry by age and sex, for employed civilians 12 years or older, urban and rural: 1980
P-25 Status in employment by age and sex, for employed civilians 12 years or older, urban and rural: 1980
P-26 Status in employment by industry and sex, for employed civilians 12 years or older, urban and rural: 1980
- P-27 Hours worked by age and sex, for employed civilians 12 years or older, urban and rural: 1980
P-28 Hours worked by status in employment and sex, for employed civilians 12 years or older, urban and rural: 1980
- P-29 Economic activity by age, relationship to household head, and presence of own children under 12 years old, for women 12 years or older, urban and rural: 1980
P-30 Economic activity by age and sex, for foreign-born persons 12 years or older, urban and rural: 1980
P-31 Marital status by age and sex, for economically active persons 12 years or older, urban and rural: 1980
- P-32 Households by size of household and number of children, urban and rural: 1980
P-33 Households by size of household, presence of nonrelatives, number of family nuclei, and number of economically active members, urban and rural: 1980

Exhibit C-3-2. VOLUME I(B) POPULATION TABLE TITLES AND FORMATS FOR POPSTAN AND REGIONS--Continued

P-1. SUMMARY OF GENERAL POPULATION CHARACTERISTICS FOR POPSTAN: 1980

AREA	POPULATION							HOUSEHOLDS		
	1980	1970	PER- CENT CHANGE	MEDI- AN AGE	CHILDREN EVER BORN PER 1000 WOMEN	PERCENT			NUMBER	MEDI- AN SIZE
						FOREIGN BORN	ALWAYS LIVED IN DISTRICT	LITERATE		
POPSTAN										
TOTAL										
SAMCHOK REGION										
GOLD COAST REGION										
WESTERN REGION										
ATLIFICA REGION										
PROVINCES										
ARTESIA										
COPAL										
DARI										
ERIS										
GIRDA										
HALI										
KERAC										
LACUNA										
LAYA										
LIRA										
MATANGA										
FATAN										
RIFT										
TERRA										
TUMAR										
METROPOLITAN AREAS										
ST. REGIS										
TANGA										
URBAN PLACES 50,000 OR MORE										
AMABAD										
BALI										
BARA										
CAYRO										
<i>(Continue with urban places)</i>										

P-2. POPULATION IN LOCALITIES BY SIZE OF LOCALITY AND BY SEX: 1980 AND 1970

REGION AND POPULATION SIZE OF LOCALITY	NUMBER OF LOCAL- ITIES	1980				1970				PERCENT CHANGE, 1970 TO 1980		
		POPULATION			MALES PER 100 FEMALES	POPULATION			MALES PER 100 FEMALES	BOTH SEXES	MALE	FEMALE
		BOTH SEXES	MALE	FEMALE		BOTH SEXES	MALE	FEMALE				
POPSTAN												
TOTAL												
URBAN												
500,000 OR MORE												
100,000 TO 499,999												
50,000 TO 99,999												
20,000 TO 49,999												
10,000 TO 19,999												
5,000 TO 9,999												
2,000 TO 4,999												
RURAL												
1,000 TO 1,999												
500 TO 999												
200 TO 499												
LESS THAN 200												
NOT IN LOCALITIES												
SAMCHOK REGION <i>(Repeat)</i>												
GOLD COAST REGION <i>(Repeat)</i>												
WESTERN REGION <i>(Repeat)</i>												
ATLIFICA REGION <i>(Repeat)</i>												

Exhibit C-3-2. VOLUME I(B) POPULATION TABLE TITLES AND FORMATS FOR POPSTAN AND REGIONS--Continued

P-3. AGE AND SEX OF THE POPULATION, URBAN AND RURAL: 1980 AND 1970

REGION, RESIDENCE, AND AGE	1980					1970				PERCENT CHANGE, 1970 TO 1980			
	BOTH SEXES		MALE	FEMALE	MALES PER 100 FEMALES	BOTH SEXES		MALE	FEMALE	MALES PER 100 FEMALES	BOTH SEXES	MALE	FEMALE
	NUMBER	PER- CENT				NUMBER	PER- CENT						
POPSTAN													
TOTAL													
UNDER 5 YEARS													
5 TO 9 YEARS													
10 TO 14 YEARS													
15 TO 19 YEARS													
20 TO 24 YEARS													
25 TO 29 YEARS													
30 TO 34 YEARS													
35 TO 39 YEARS													
40 TO 44 YEARS													
45 TO 49 YEARS													
50 TO 54 YEARS													
55 TO 59 YEARS													
60 TO 64 YEARS													
65 TO 69 YEARS													
70 TO 74 YEARS													
75 TO 79 YEARS													
80 TO 84 YEARS													
85 YEARS OR OLDER													
MEDIAN AGE													
URBAN													
(Repeat)													
RURAL													
(Repeat)													
(Repeat for each region)													

P-4. SINGLE YEARS OF AGE BY SEX, URBAN AND RURAL: 1980

REGION AND AGE	TOTAL				URBAN				RURAL			
	BOTH SEXES		MALE	FEMALE	BOTH SEXES		MALE	FEMALE	BOTH SEXES		MALE	FEMALE
	NUMBER	PER- CENT			NUMBER	PER- CENT			NUMBER	PER- CENT		
POPSTAN												
ALL AGES												
UNDER 1 YEAR												
1 YEAR												
2 YEARS												
3 YEARS												
(By single years)												
96 YEARS												
97 YEARS												
98 YEARS OR OLDER												
MEDIAN AGE												
(Repeat for each region)												

Exhibit C-3-2. VOLUME I(B) POPULATION TABLE TITLES AND FORMATS FOR POPSTAN AND REGIONS--Continued

P-5. RELATIONSHIP TO HOUSEHOLD HEAD, AND POPULATION IN COLLECTIVE QUARTERS, BY AGE AND SEX, URBAN AND RURAL: 1980

REGION, RESIDENCE, AGE, AND SEX	TOTAL POPULATION	IN HOUSEHOLDS					IN COLLECTIVE QUARTERS			HOMELESS POPULATION
		TOTAL	HEAD	SPOUSE OF HEAD	SON OR DAUGHTER OF HEAD OR SPOUSE	OTHER RELATIVE	NON- RELATIVE	TOTAL	IN INSTI- TUTIONS	
POPSTAN										
BOTH SEXES										
UNDER 5 YEARS										
5 TO 14 YEARS										
15 TO 24 YEARS										
25 TO 34 YEARS										
35 TO 44 YEARS										
45 TO 54 YEARS										
55 TO 64 YEARS										
65 YEARS OR OLDER										
MEDIAN AGE										
MALE										
<i>(Repeat)</i>										
FEMALE										
<i>(Repeat)</i>										
URBAN										
BOTH SEXES										
<i>(Repeat)</i>										
MALE										
<i>(Repeat)</i>										
FEMALE										
<i>(Repeat)</i>										
RURAL										
<i>(Repeat as shown for urban)</i>										
<i>(Repeat for each region)</i>										

P-6. MARITAL STATUS BY AGE AND SEX, FOR PERSONS 12 YEARS OR OLDER, URBAN AND RURAL: 1980

REGION, RESIDENCE, AGE, AND SEX	PERSONS 12 YEARS OR OLDER	NEVER MARRIED		MARRIED				SEPARATED	WIDOWED	DIVORCED
		NUMBER	PERCENT	TOTAL		SPOUSE PRESENT	SPOUSE ABSENT			
				NUMBER	PERCENT					
POPSTAN										
BOTH SEXES										
12 TO 14 YEARS										
15 TO 19 YEARS										
20 TO 24 YEARS										
25 TO 29 YEARS										
30 TO 34 YEARS										
35 TO 39 YEARS										
40 TO 44 YEARS										
45 TO 49 YEARS										
50 TO 54 YEARS										
55 TO 59 YEARS										
60 TO 64 YEARS										
65 TO 69 YEARS										
70 TO 74 YEARS										
75 YEARS OR OLDER										
MEDIAN AGE										
MALE										
<i>(Repeat)</i>										
FEMALE										
<i>(Repeat)</i>										
<i>(Repeat for urban both sexes, urban male, urban female, rural both sexes, rural male, rural female)</i>										
<i>(Repeat for each region)</i>										

Exhibit C-3-2. VOLUME 1(B) POPULATION TABLE TITLES AND FORMATS FOR POPSTAN AND REGIONS--Continued

P-7. MARITAL STATUS BY SEX, RELATIONSHIP TO HOUSEHOLD HEAD, AND POPULATION IN COLLECTIVE QUARTERS, FOR PERSONS 12 YEARS OR OLDER, URBAN AND RURAL: 1980

REGION, RESIDENCE, SEX, AND MARITAL STATUS	PERSONS 12 YEARS OR OLDER	IN HOUSEHOLDS					IN COLLECTIVE QUARTERS			HOMELESS POPULATION
		TOTAL	HEAD	SPOUSE OF HEAD	SON OR DAUGHTER OF HEAD OR SPOUSE	OTHER RELATIVE	NON-RELATIVE	TOTAL	IN INSTITUTIONS	
POPSTAN										
BOTH SEXES										
NEVER MARRIED										
MARRIED										
PERCENT										
SPOUSE PRESENT										
SPOUSE ABSENT										
SEPARATED										
WIDOWED										
DIVORCED										
MALE										
<i>(Repeat)</i>										
FEMALE										
<i>(Repeat)</i>										
<i>(Repeat for urban both sexes, urban male, urban female, rural both sexes, rural male, rural female)</i>										
<i>(Repeat for each region)</i>										

P-8. NATIVITY BY AGE AND SEX, URBAN AND RURAL: 1980

REGION, RESIDENCE, AND AGE	BOTH SEXES				MALE				FEMALE			
	TOTAL	NATIVE BORN	FOREIGN BORN		TOTAL	NATIVE BORN	FOREIGN BORN		TOTAL	NATIVE BORN	FOREIGN BORN	
			NUMBER	PER-CENT			NUMBER	PER-CENT			NUMBER	PER-CENT
POPSTAN												
TOTAL												
UNDER 5 YEARS												
5 TO 9 YEARS												
10 TO 14 YEARS												
15 TO 19 YEARS												
20 TO 24 YEARS												
25 TO 29 YEARS												
30 TO 34 YEARS												
35 TO 39 YEARS												
40 TO 44 YEARS												
45 TO 49 YEARS												
50 TO 54 YEARS												
55 TO 59 YEARS												
60 TO 64 YEARS												
65 TO 69 YEARS												
70 TO 74 YEARS												
75 TO 79 YEARS												
80 TO 84 YEARS												
85 YEARS OR OLDER												
MEDIAN AGE												
URBAN												
<i>(Repeat)</i>												
RURAL												
<i>(Repeat)</i>												
<i>(Repeat for each region)</i>												

Exhibit C-3-2. VOLUME I(B) POPULATION TABLE TITLES AND FORMATS FOR POPSTAN AND REGIONS--Continued

P-11. CHILDREN EVER BORN BY AGE OF WOMAN, FOR WOMEN 12 YEARS OR OLDER, URBAN AND RURAL: 1980

REGION, RESIDENCE, AND AGE OF WOMAN	ALL WOMEN 12 YEARS OR OLDER	WOMEN BY NUMBER OF CHILDREN EVER BORN											CHILDREN PER 1000 WOMEN
		NONE	1	2	3	4	5	6	7	8	9	10 OR MORE	
POPSTAN													
TOTAL													
12 TO 14 YEARS													
15 TO 19 YEARS													
20 TO 24 YEARS													
25 TO 29 YEARS													
30 TO 34 YEARS													
35 TO 39 YEARS													
40 TO 44 YEARS													
45 TO 49 YEARS													
50 TO 54 YEARS													
55 TO 59 YEARS													
60 TO 64 YEARS													
65 TO 69 YEARS													
70 TO 74 YEARS													
75 YEARS OR OLDER													
URBAN													
(Repeat)													
RURAL													
(Repeat)													
(Repeat for each region)													

P-12. SURVIVING CHILDREN BY AGE OF WOMAN, FOR WOMEN 12 YEARS OR OLDER, URBAN AND RURAL: 1980

REGION, RESIDENCE, AND AGE OF WOMAN	ALL WOMEN 12 YEARS OR OLDER	WOMEN BY NUMBER OF SURVIVING CHILDREN											CHILDREN PER 1000 WOMEN
		NONE	1	2	3	4	5	6	7	8	9	10 OR MORE	
POPSTAN													
TOTAL													
12 TO 14 YEARS													
15 TO 19 YEARS													
20 TO 24 YEARS													
25 TO 29 YEARS													
30 TO 34 YEARS													
35 TO 39 YEARS													
40 TO 44 YEARS													
45 TO 49 YEARS													
50 TO 54 YEARS													
55 TO 59 YEARS													
60 TO 64 YEARS													
65 TO 69 YEARS													
70 TO 74 YEARS													
75 YEARS OR OLDER													
URBAN													
(Repeat)													
RURAL													
(Repeat)													
(Repeat for each region)													

P-13. CHILDREN BORN ALIVE IN LAST 12 MONTHS BY AGE OF WOMAN, FOR WOMEN 12 TO 49 YEARS OLD, URBAN AND RURAL: 1980

REGION AND AGE OF WOMAN	TOTAL					URBAN				RURAL			
	ALL WOMEN 12 TO 49 YEARS	CHILDREN BORN ALIVE IN LAST 12 MONTHS			ALL WOMEN 12 TO 49 YEARS	CHILDREN BORN ALIVE IN LAST 12 MONTHS			ALL WOMEN 12 TO 49 YEARS	CHILDREN BORN ALIVE IN LAST 12 MONTHS			
		NUMBER OF WOMEN	PERCENT OF ALL WOMEN	NUMBER OF CHILDREN		NUMBER OF WOMEN	PERCENT OF URBAN WOMEN	NUMBER OF CHILDREN		NUMBER OF WOMEN	PERCENT OF RURAL WOMEN	NUMBER OF CHILDREN	
POPSTAN													
TOTAL													
12 TO 14 YEARS													
15 TO 19 YEARS													
20 TO 24 YEARS													
25 TO 29 YEARS													
30 TO 34 YEARS													
35 TO 39 YEARS													
40 TO 44 YEARS													
45 TO 49 YEARS													
(Repeat for each region)													

Exhibit C-3-2. VOLUME I(B) POPULATION TABLE TITLES AND FORMATS FOR POPSTAN AND REGIONS--Continued

P-14. MATERNAL SURVIVORSHIP BY AGE AND SEX OF PERSON, URBAN AND RURAL: 1980

REGION, RESIDENCE, AND AGE OF PERSON	BOTH SEXES				MALE				FEMALE			
	TOTAL	MOTHER ALIVE	MOTHER DEAD	NOT KNOWN	TOTAL	MOTHER ALIVE	MOTHER DEAD	NOT KNOWN	TOTAL	MOTHER ALIVE	MOTHER DEAD	NOT KNOWN
POPSTAN												
TOTAL												
UNDER 1 YEAR												
1 TO 4 YEARS												
5 TO 9 YEARS												
10 TO 14 YEARS												
15 TO 19 YEARS												
20 TO 24 YEARS												
25 TO 29 YEARS												
30 TO 34 YEARS												
35 TO 39 YEARS												
40 TO 44 YEARS												
45 TO 49 YEARS												
50 TO 54 YEARS												
55 TO 59 YEARS												
60 TO 64 YEARS												
65 YEARS OR OLDER												
URBAN												
(Repeat)												
RURAL												
(Repeat)												
(Repeat for each region)												

P-15. LITERACY BY AGE AND SEX, FOR PERSONS 10 YEARS OR OLDER, URBAN AND RURAL: 1980

REGION, RESIDENCE, AND AGE	BOTH SEXES				MALE				FEMALE			
	PERSONS 10 YEARS OR OLDER	LITERATE		ILLIT- ERATE	PERSONS 10 YEARS OR OLDER	LITERATE		ILLIT- ERATE	PERSONS 10 YEARS OR OLDER	LITERATE		ILLIT- ERATE
		NUMBER	PERCENT OF AGE GROUP			NUMBER	PERCENT OF AGE GROUP			NUMBER	PERCENT OF AGE GROUP	
POPSTAN												
TOTAL												
10 TO 14 YEARS												
15 TO 19 YEARS												
20 TO 24 YEARS												
25 TO 29 YEARS												
30 TO 34 YEARS												
35 TO 39 YEARS												
40 TO 44 YEARS												
45 TO 49 YEARS												
50 TO 54 YEARS												
55 TO 59 YEARS												
60 TO 64 YEARS												
65 OR OLDER												
URBAN												
(Repeat)												
RURAL												
(Repeat)												
(Repeat for each region)												

P-16. LITERACY BY AGE AND SEX, FOR FOREIGN-BORN PERSONS 10 YEARS OR OLDER, URBAN AND RURAL: 1980

REGION, RESIDENCE, AND AGE	BOTH SEXES				MALE				FEMALE			
	FOREIGN- BORN PERSONS 10 YEARS OR OLDER	LITERATE		ILLIT- ERATE	FOREIGN- BORN PERSONS 10 YEARS OR OLDER	LITERATE		ILLIT- ERATE	FOREIGN- BORN PERSONS 10 YEARS OR OLDER	LITERATE		ILLIT- ERATE
		NUMBER	PERCENT OF AGE GROUP			NUMBER	PERCENT OF AGE GROUP			NUMBER	PERCENT OF AGE GROUP	
POPSTAN												
TOTAL												
10 TO 14 YEARS												
15 TO 24 YEARS												
25 TO 34 YEARS												
35 TO 44 YEARS												
45 TO 54 YEARS												
55 TO 64 YEARS												
65 YEARS OR OLDER												
URBAN												
(Repeat)												
RURAL												
(Repeat)												
(Repeat for each region)												

Exhibit C-3-2. VOLUME I(B) POPULATION TABLE TITLES AND FORMATS FOR POPSTAN AND REGIONS--Continued

P-17. LITERACY BY CHILDREN EVER BORN AND AGE OF WOMAN, FOR WOMEN 12 YEARS OR OLDER, URBAN AND RURAL: 1980

REGION, RESIDENCE, AND AGE OF WOMAN	TOTAL				LITERATE				ILLITERATE					
	ALL WOMEN 12 YEARS OR OLDER		WOMEN WITH 1 OR MORE CHILDREN		CHILDREN EVER BORN		PER 1000 LIT- ERATE WOMEN		ALL WOMEN 12 YEARS OR OLDER		WOMEN WITH 1 OR MORE CHILDREN		CHILDREN EVER BORN	
	NUMBER	PER 1000 ALL WOMEN	NUMBER	PER 1000 ALL WOMEN	NUMBER	PER 1000 LIT- ERATE WOMEN	NUMBER	PER 1000 LIT- ERATE WOMEN	NUMBER	PER 1000 ILLIT- ERATE WOMEN	NUMBER	PER 1000 ILLIT- ERATE WOMEN	NUMBER	PER 1000 ILLIT- ERATE WOMEN
POPSTAN														
TOTAL														
12 TO 14 YEARS														
15 TO 19 YEARS														
20 TO 24 YEARS														
25 TO 29 YEARS														
30 TO 34 YEARS														
35 TO 39 YEARS														
40 TO 44 YEARS														
45 TO 49 YEARS														
50 TO 54 YEARS														
55 TO 59 YEARS														
60 TO 64 YEARS														
65 OR OLDER														
URBAN														
(Repeat)														
RURAL														
(Repeat)														
(Repeat for each region)														

P-18. SCHOOL ATTENDANCE BY AGE AND SEX, FOR PERSONS 5 TO 29 YEARS OLD, URBAN AND RURAL: 1980

REGION, RESIDENCE, AND AGE	BOTH SEXES				MALE			FEMALE		
	PERSONS 5 TO 29 YEARS OLD	ATTENDING SCHOOL		NOT ATTENDING SCHOOL	PERSONS 5 TO 29 YEARS OLD	ATTENDING SCHOOL		PERSONS 5 TO 29 YEARS OLD	ATTENDING SCHOOL	
		NUMBER	PERCENT OF AGE GROUP			NUMBER	PERCENT OF AGE GROUP		NUMBER	PERCENT OF AGE GROUP
POPSTAN										
TOTAL										
5 YEARS										
6 YEARS										
7 YEARS										
8 YEARS										
9 YEARS										
10 YEARS										
11 YEARS										
12 YEARS										
13 YEARS										
14 YEARS										
15 YEARS										
16 YEARS										
17 YEARS										
18 YEARS										
19 YEARS										
20 YEARS										
21 YEARS										
22 YEARS										
23 YEARS										
24 YEARS										
25 YEARS										
26 YEARS										
27 YEARS										
28 YEARS										
29 YEARS										
URBAN										
(Repeat)										
RURAL										
(Repeat)										
(Repeat for each region)										

Exhibit C-3-2. VOLUME I(B) POPULATION TABLE TITLES AND FORMATS FOR POPSTAN AND REGIONS--Continued

P-19. EDUCATIONAL ATTAINMENT BY AGE AND SEX, FOR PERSONS 5 TO 14 YEARS OLD, URBAN AND RURAL: 1980

REGION, RESIDENCE, SEX, AND YEARS OF SCHOOL COMPLETED	PERSONS 5 TO 14 YEARS OLD	AGE									
		5 YEARS	6 YEARS	7 YEARS	8 YEARS	9 YEARS	10 YEARS	11 YEARS	12 YEARS	13 YEARS	14 YEARS
POPSTAN											
BOTH SEXES											
NONE											
PRIMARY SCHOOL:											
1 YEAR											
2 YEARS											
3 YEARS											
4 YEARS											
5 YEARS											
MIDDLE SCHOOL:											
6 YEARS											
7 YEARS											
8 YEARS											
HIGH SCHOOL:											
1 YEAR											
2 YEARS OR MORE											
MEDIAN YEARS											
MALE											
<i>(Repeat)</i>											
FEMALE											
<i>(Repeat)</i>											
<i>(Repeat for urban both sexes, urban male, urban female, rural both sexes, rural male, rural female.)</i>											
<i>(Repeat for each region)</i>											

P-20. EDUCATIONAL ATTAINMENT BY AGE AND SEX, FOR PERSONS 15 YEARS OR OLDER, URBAN AND RURAL: 1980

REGION, RESIDENCE, SEX, AND YEARS OF SCHOOL COMPLETED	PERSONS 15 YEARS OR OLDER	AGE										
		15 TO 19 YEARS	20 TO 24 YEARS	25 TO 29 YEARS	30 TO 34 YEARS	35 TO 39 YEARS	40 TO 44 YEARS	45 TO 49 YEARS	50 TO 54 YEARS	55 TO 59 YEARS	60 TO 64 YEARS	65 OR OLDER
POPSTAN												
BOTH SEXES												
NONE												
PRIMARY SCHOOL:												
1 YEAR												
2 YEARS												
3 YEARS												
4 YEARS												
5 YEARS												
MIDDLE SCHOOL:												
6 YEARS												
7 YEARS												
8 YEARS												
HIGH SCHOOL:												
1 YEAR												
2 YEARS												
3 YEARS												
4 YEARS												
UNIVERSITY:												
1 YEAR												
2 YEARS												
3 YEARS												
4 YEARS												
5 YEARS OR MORE												
MEDIAN YEARS												
MALE												
<i>(Repeat)</i>												
FEMALE												
<i>(Repeat)</i>												
<i>(Repeat for urban both sexes, urban male, urban female, rural both sexes, rural male, rural female)</i>												
<i>(Repeat for each region)</i>												

Exhibit C-3-2. VOLUME I(B) POPULATION TABLE TITLES AND FORMATS FOR POPSTAN AND REGIONS--Continued

P-21. EDUCATIONAL ATTAINMENT BY AGE AND SEX, FOR PERSONS 5 TO 29 YEARS OLD NOT ATTENDING SCHOOL, URBAN AND RURAL: 1980

REGION, RESIDENCE, AGE, AND SEX	PERSONS 5 TO 29 YEARS OLD NOT ATTENDING SCHOOL	YEARS OF SCHOOL COMPLETED											MEDIAN YEARS	
		NONE	PRIMARY SCHOOL					MIDDLE SCHOOL			HIGH SCHOOL, 1 TO 4 YEARS	UNIVERSITY		
			1 YEAR	2 YEARS	3 YEARS	4 YEARS	5 YEARS	6 YEARS	7 YEARS	8 YEARS		1 TO 4 YEARS		5 YEARS OR MORE
POPSTAN														
BOTH SEXES														
5 YEARS														
6 YEARS														
7 YEARS														
8 YEARS														
9 YEARS														
10 YEARS														
11 YEARS														
12 YEARS														
13 YEARS														
14 YEARS														
15 YEARS														
16 YEARS														
17 YEARS														
18 YEARS														
19 YEARS														
20 YEARS														
21 YEARS														
22 YEARS														
23 YEARS														
24 YEARS														
25 YEARS														
26 YEARS														
27 YEARS														
28 YEARS														
29 YEARS														
MALE														
(Repeat)														
FEMALE														
(Repeat)														
(Repeat for urban both sexes, urban male, urban female, rural both sexes, rural male, rural female)														
(Repeat for each region)														

P-22. EDUCATIONAL ATTAINMENT BY CHILDREN EVER BORN AND AGE OF WOMAN, FOR WOMEN 12 YEARS OR OLDER, URBAN AND RURAL: 1980

REGION, RESIDENCE, AND AGE OF WOMAN	NONE CHILDREN PER 1000 OF WOMEN	YEARS OF SCHOOL COMPLETED									
		PRIMARY SCHOOL		MIDDLE SCHOOL, 5 TO 8 YEARS		HIGH SCHOOL, 1 TO 4 YEARS		UNIVERSITY, 1 YEAR OR MORE			
		1 TO 3 YEARS CHILDREN PER 1000 OF WOMEN	4 OR 5 YEARS CHILDREN PER 1000 OF WOMEN	5 TO 8 YEARS CHILDREN PER 1000 OF WOMEN	1 TO 4 YEARS CHILDREN PER 1000 OF WOMEN	1 YEAR OR MORE CHILDREN PER 1000 OF WOMEN					
POPSTAN											
TOTAL											
12 TO 14 YEARS											
15 TO 19 YEARS											
20 TO 24 YEARS											
25 TO 29 YEARS											
30 TO 34 YEARS											
35 TO 39 YEARS											
40 TO 44 YEARS											
45 TO 49 YEARS											
50 TO 54 YEARS											
55 TO 59 YEARS											
60 TO 64 YEARS											
65 YEARS OR OLDER											
URBAN											
(Repeat)											
RURAL											
(Repeat)											
(Repeat for each region)											

Exhibit C-3-2. VOLUME I(B) POPULATION TABLE TITLES AND FORMATS FOR POPSTAN AND REGIONS--Continued

P-23. ECONOMIC ACTIVITY BY AGE AND SEX, FOR PERSONS 12 YEARS OR OLDER, URBAN AND RURAL: 1980

REGION, RESIDENCE, AGE, AND SEX	PERSONS 12 YEARS OR OLDER	ECONOMICALLY ACTIVE					NOT ECONOMICALLY ACTIVE			
		TOTAL		ARMED FORCES	CIVILIAN		TOTAL	HOME-MAKER	STUDENT	OTHER
		NUMBER	PERCENT		TOTAL EMPLOYED	UNEMPLOYED NUMBER PERCENT				
POPSTAN										
BOTH SEXES										
12 TO 14 YEARS										
15 TO 19 YEARS										
<i>(By 5-year groups)</i>										
60 TO 64 YEARS										
65 YEARS OR OLDER										
MALE										
<i>(Repeat)</i>										
FEMALE										
<i>(Repeat)</i>										
<i>(Repeat for urban both sexes, urban male, urban female, rural both sexes, rural male, rural female)</i>										
<i>(Repeat for each region)</i>										

P-24. INDUSTRY BY AGE AND SEX, FOR EMPLOYED CIVILIANS 12 YEARS OR OLDER, URBAN AND RURAL: 1980

REGION, RESIDENCE, SEX, AND INDUSTRY	EMPLOYED CIVILIANS 12 YEARS OR OLDER	12 TO 14 YEARS	15 TO 19 YEARS	20 TO 24 YEARS	25 TO 29 YEARS	30 TO 34 YEARS	35 TO 39 YEARS	40 TO 44 YEARS	45 TO 54 YEARS	55 TO 64 YEARS	65 TO 74 YEARS	75 YEARS OR OLDER
		YEARS										
POPSTAN												
BOTH SEXES												
FARMING, FORESTRY, FISHING, HUNTING												
MINING, QUARRYING												
MANUFACTURING												
ELECTRICITY, GAS, WATER												
CONSTRUCTION												
WHOLESALE OR RETAIL TRADE												
TRANSPORTATION, STORAGE, COMMUNICATION												
FINANCING, BUSINESS SERVICES												
PUBLIC ADMINISTRATION												
SOCIAL OR PERSONAL SERVICES												
NOT REPORTED												
MALE												
<i>(Repeat)</i>												
FEMALE												
<i>(Repeat)</i>												
<i>(Repeat for urban both sexes, urban male, urban female, rural both sexes, rural male, rural female)</i>												
<i>(Repeat for each region)</i>												

P-25. STATUS IN EMPLOYMENT BY AGE AND SEX, FOR EMPLOYED CIVILIANS 12 YEARS OR OLDER, URBAN AND RURAL: 1980

REGION, RESIDENCE, AND AGE	MALE					FEMALE				
	EMPLOYED CIVILIANS 12 YEARS OR OLDER	EMPLOYER	EMPLOYEE	SELF-EMPLOYED WORKER	UNPAID FAMILY WORKER	EMPLOYED CIVILIANS 12 YEARS OR OLDER	EMPLOYER	EMPLOYEE	SELF-EMPLOYED WORKER	UNPAID FAMILY WORKER
POPSTAN										
TOTAL										
12 TO 14 YEARS										
15 TO 19 YEARS										
<i>(By 5-year groups)</i>										
60 TO 64 YEARS										
65 YEARS OR OLDER										
MEDIAN AGE										
URBAN										
<i>(Repeat)</i>										
RURAL										
<i>(Repeat)</i>										
<i>(Repeat for each region)</i>										

Exhibit C-3-2. VOLUME I(B) POPULATION TABLE TITLES AND FORMATS FOR POPSTAN AND REGIONS--Continued

P-28. HOURS WORKED BY STATUS IN EMPLOYMENT AND SEX, FOR EMPLOYED CIVILIANS 12 YEARS OR OLDER, URBAN AND RURAL: 1980

REGION, RESIDENCE, AND USUAL HOURS WORKED	MALE					FEMALE				
	EMPLOYED CIVILIANS 12 YEARS OR OLDER	EMPLOYER	EMPLOYEE	SELF- EMPLOYED WORKER	UNPAID FAMILY WORKER	EMPLOYED CIVILIANS 12 YEARS OR OLDER	EMPLOYER	EMPLOYEE	SELF- EMPLOYED WORKER	UNPAID FAMILY WORKER
POPSTAN										
TOTAL										
WITH JOB NOT AT WORK										
AT WORK BY HOURS WORKED WEEKLY:										
1 TO 14 HOURS										
15 TO 24 HOURS										
25 TO 34 HOURS										
35 HOURS										
36 TO 44 HOURS										
45 TO 59 HOURS										
60 HOURS OR MORE										
NOT REPORTED										
MEDIAN HOURS										
URBAN										
(Repeat)										
RURAL										
(Repeat)										
(Repeat for each region)										

P-29. ECONOMIC ACTIVITY BY AGE, RELATIONSHIP TO HOUSEHOLD HEAD, AND PRESENCE OF OWN CHILDREN UNDER 12 YEARS OLD, FOR WOMEN 12 YEARS OR OLDER, URBAN AND RURAL: 1980

REGION, RESIDENCE, AND AGE OF WOMAN, BY PRESENCE OF OWN CHILDREN UNDER 12 YEARS OLD	WOMEN 12 YEARS OR OLDER	HEAD			WIFE OF HEAD			OTHER RELATIVE			NONRELATIVE		
		TOTAL	ECONOMICALLY ACTIVE		TOTAL	ECONOMICALLY ACTIVE		TOTAL	ECONOMICALLY ACTIVE		TOTAL	ECONOMICALLY ACTIVE	
			NUMBER	PER- CENT		NUMBER	PER- CENT		NUMBER	PER- CENT		NUMBER	PER- CENT
POPSTAN													
TOTAL													
12 TO 14 YEARS													
15 TO 24 YEARS													
25 TO 34 YEARS													
35 TO 44 YEARS													
45 TO 54 YEARS													
55 TO 64 YEARS													
65 YEARS OR OLDER													
WITH OWN CHILDREN													
12 TO 14 YEARS													
15 TO 24 YEARS													
25 TO 34 YEARS													
35 TO 44 YEARS													
45 TO 54 YEARS													
55 TO 64 YEARS													
65 YEARS OR OLDER													
NO OWN CHILDREN													
12 TO 14 YEARS													
15 TO 24 YEARS													
25 TO 34 YEARS													
35 TO 44 YEARS													
45 TO 54 YEARS													
55 TO 64 YEARS													
65 YEARS OR OLDER													
URBAN													
(Repeat)													
RURAL													
(Repeat)													
(Repeat for each region)													

Exhibit C-3-2. VOLUME I(B) POPULATION TABLE TITLES AND FORMATS FOR POPSTAN AND REGIONS--Continued

P-32. HOUSEHOLDS BY SIZE OF HOUSEHOLD AND NUMBER OF CHILDREN, URBAN AND RURAL: 1980

REGION, RESIDENCE, AND SIZE OF HOUSEHOLD	TOTAL HOUSE- HOLDS	NUMBER OF CHILDREN UNDER 6 YEARS OLD				NUMBER OF CHILDREN UNDER 12 YEARS OLD				NUMBER OF CHILDREN UNDER 18 YEARS OLD			
		NONE	1	2	3 OR MORE	NONE	1	2	3 OR MORE	NONE	1	2	3 OR MORE
POPSTAN													
TOTAL													
1 PERSON													
2 PERSONS													
3 PERSONS													
4 PERSONS													
5 PERSONS													
6 PERSONS													
7 PERSONS													
8 PERSONS													
9 PERSONS													
10 PERSONS OR MORE													
MEDIAN													
URBAN													
(Repeat)													
RURAL													
(Repeat)													
(Repeat for each region)													

P-33. HOUSEHOLDS BY SIZE OF HOUSEHOLD, PRESENCE OF NONRELATIVES, NUMBER OF FAMILY NUCLEI, AND NUMBER OF ECONOMICALLY ACTIVE MEMBERS, URBAN AND RURAL: 1980

REGION, RESIDENCE, AND SIZE OF HOUSEHOLD	POPULATION IN HOUSE- HOLDS	NUMBER OF HOUSEHOLDS									
		TOTAL	WITH NONRELATIVES	NUMBER OF FAMILY NUCLEI				NUMBER OF ECONOMICALLY ACTIVE PERSONS			
			AVERAGE NUMBER OF NON- RELATIVES	NONE	1	2	3 OR MORE	NONE	1	2	3 OR MORE
POPSTAN											
TOTAL											
1 PERSON											
2 PERSONS											
3 PERSONS											
4 PERSONS											
5 PERSONS											
6 PERSONS											
7 PERSONS											
8 PERSONS											
9 PERSONS											
10 PERSONS OR MORE											
URBAN											
(Repeat)											
RURAL											
(Repeat)											
(Repeat for each region)											

Exhibit C-3-3. VOLUME I(B) HOUSING TABLE TITLES AND FORMATS FOR POPSTAN AND REGIONS

Table

- H-1 Summary of general housing characteristics for Popstan: 1980
H-2 Population by type of living quarters, urban and rural: 1980 and 1970
- H-3 Tenure and vacancy by type of unit, for all housing units, urban and rural: 1980 and 1970
H-4 Tenure and vacancy by number of units in structure, for conventional housing units, urban and rural: 1980
- H-5 Material of walls, roof, and floors, by type of unit, for all housing units, urban and rural: 1980
H-6 Material of walls, roof, and floors, by number of units in structure, for conventional housing units, urban and rural: 1980
H-7 Material of walls, roof, and floors, by tenure and vacancy, for conventional housing units, urban and rural: 1980
- H-8 Number of rooms in unit by tenure and vacancy, for conventional housing units, urban and rural: 1980
H-9 Number of persons in unit by type of unit, for all occupied housing units, urban and rural: 1980
H-10 Number of rooms by number of persons in unit and tenure, for occupied conventional housing units, urban and rural: 1980
H-11 Persons per room by tenure, for occupied conventional housing units, urban and rural: 1980
- H-12 Water supply and source of drinking water, by type of unit, for all occupied housing units, urban and rural: 1980
H-13 Water supply by tenure, for occupied conventional housing units, urban and rural: 1980
H-14 Toilet and bathing facilities by type of unit, for all occupied housing units, urban and rural: 1980
H-15 Toilet and bathing facilities by tenure, for occupied conventional housing units, urban and rural: 1980
H-16 Water supply, toilet and bathing facilities, by number of rooms in unit, for occupied conventional housing units, urban and rural: 1980
- H-17 Lighting and television, by type of unit, for all occupied housing units, urban and rural: 1980
H-18 Lighting and television, by tenure, for occupied conventional housing units, urban and rural: 1980
H-19 Cooking fuel by type of unit, for all occupied housing units, urban and rural: 1980
H-20 Cooking fuel by tenure, for occupied conventional housing units, urban and rural: 1980
- H-21 Monthly rent by number of units in structure, for occupied conventional housing units rented for cash, urban and rural: 1980
H-22 Monthly rent by number of rooms in unit, for occupied conventional housing units rented for cash, urban and rural: 1980
H-23 Monthly rent by water supply, toilet and bathing facilities, for occupied conventional housing units rented for cash, urban and rural: 1980
- H-24 Period of construction by number of units in structure, by tenure, for occupied conventional housing units, urban and rural: 1980
H-25 Period of construction by material of walls, roof, and floors, for occupied conventional housing units, urban and rural: 1980
H-26 Period of construction by number of rooms in unit, for occupied conventional housing units, urban and rural: 1980
H-27 Period of construction by water supply, toilet and bathing facilities, for occupied conventional housing units, urban and rural: 1980
H-28 Period of construction by lighting and cooking fuel, for occupied conventional housing units, urban and rural: 1980
H-29 Period of construction by persons per room, for occupied conventional housing units, urban and rural: 1980
- H-30 Age and sex of household head by type of unit, for all occupied housing units, urban and rural: 1980
H-31 Age and sex of household head by tenure, for occupied conventional housing units, urban and rural: 1980
H-32 Age and sex of household head by period of construction, for occupied conventional housing units, urban and rural: 1980
H-33 Articles produced in the home for sale or barter, by type of unit, for all occupied housing units, urban and rural: 1980

Exhibit C-3-3. VOLUME I(B) HOUSING TABLE TITLES AND FORMATS FOR POPSTAN AND REGIONS--Continued

H-1. SUMMARY OF GENERAL HOUSING CHARACTERISTICS FOR POPSTAN: 1980

AREA	ALL HOUSING UNITS			PERSONS PER HOUSING UNIT	PERCENT					MEDIAN NUMBER OF ROOMS	MEDIAN MONTHLY RENT
	1980	1970	PERCENT CHANGE		BUILT IN LAST 12 MONTHS	OWNER OCCUPIED	AVAIL- ABLE VACANT	WITH 2.01 PERSONS OR MORE PER ROOM	WITH PIPED WATER INSIDE		
POPSTAN											
TOTAL											
SAMCHOK REGION											
GOLD COAST REGION											
WESTERN REGION											
ATLIFICA REGION											
PROVINCES											
ARTESIA											
COPAL											
DARI											
ERIS											
GIRDA											
HALI											
KERAC											
LACUNA											
LAYA											
LIRA											
MATANGA											
PATAN											
RIFT											
TERRA											
TUMAR											
METROPOLITAN AREAS											
ST. REGIS											
TANGA											
URBAN PLACES 50,000 OR MORE											
AMBABAD											
BALI											
BAYA											
CAYRO											
<i>(Continue with urban places)</i>											

Note: Available vacant units are year-round habitable housing units for rent or sale. Housing units with standard plumbing have piped water inside the structure and flush toilet and bathing facilities for exclusive use of the occupants.

H-2. POPULATION BY TYPE OF LIVING QUARTERS, URBAN AND RURAL: 1980 AND 1970

REGION, RESIDENCE, AND CENSUS DATE	TOTAL POPULATION	POPULATION BY TYPE OF HOUSING UNIT				POPULATION IN COLLECTIVE QUARTERS			HOMELESS POPULA- TION
		ALL HOUSING UNITS	CONVEN- TIONAL	IMPRO- VISED	MOBILE	TOTAL	IN INSTI- TUTIONS	OTHER	
POPSTAN									
TOTAL									
1980									
1970									
PERCENT CHANGE									
URBAN									
1980									
1970									
PERCENT CHANGE									
RURAL									
1980									
1970									
PERCENT CHANGE									
<i>(Report for each region)</i>									

Exhibit C-3-3. VOLUME I(B) HOUSING TABLE TITLES AND FORMATS FOR POPSTAN AND REGIONS--Continued

H-3. TENURE AND VACANCY BY TYPE OF UNIT, FOR ALL HOUSING UNITS, URBAN AND RURAL: 1980 AND 1970

REGION, RESIDENCE, TENURE, AND VACANCY	1980				1970				PERCENT CHANGE, 1970 TO 1980			
	ALL HOUSING UNITS	CONVEN- TIONAL	IMPRO- VED	MOBILE	ALL HOUSING UNITS	CONVEN- TIONAL	IMPRO- VED	MOBILE	ALL HOUSING UNITS	CONVEN- TIONAL	IMPRO- VED	MOBILE
POPSTAN												
TOTAL												
OCCUPIED												
OWNER OCCUPIED												
PERCENT OF OCCUPIED												
RENTED FOR CASH												
OTHER OCCUPIED												
VACANT												
HABITABLE YEAR ROUND												
FOR RENT OR SALE												
PERCENT OF TOTAL												
NOT FOR RENT OR SALE												
HABITABLE SEASONAL												
NOT HABITABLE												
URBAN												
(Repeat)												
RURAL												
(Repeat)												
(Repeat for each region)												

H-4. TENURE AND VACANCY BY NUMBER OF UNITS IN STRUCTURE, FOR CONVENTIONAL HOUSING UNITS, URBAN AND RURAL: 1980

REGION, TENURE, AND VACANCY	CONVEN- TIONAL HOUSING UNITS	TOTAL				URBAN					RURAL	
		1 UNIT	2 TO 4 UNITS	5 TO 9 UNITS	10 OR MORE	1 UNIT DETACHED	1 UNIT ATTACHED	2 TO 4 UNITS	5 TO 9 UNITS	10 OR MORE	1 UNIT	2 OR MORE
POPSTAN												
TOTAL												
OCCUPIED												
OWNER OCCUPIED												
RENTED FOR CASH												
OTHER OCCUPIED												
VACANT												
AVAILABLE												
OTHER VACANT												
(Repeat for each region)												

H-5. MATERIAL OF WALLS, ROOF, AND FLOORS, BY TYPE OF UNIT, FOR ALL HOUSING UNITS, URBAN AND RURAL: 1980

REGION AND MATERIAL OF CONSTRUCTION	TOTAL				URBAN				RURAL			
	ALL HOUSING UNITS	CONVEN- TIONAL	IMPRO- VED	MOBILE	ALL HOUSING UNITS	CONVEN- TIONAL	IMPRO- VED	MOBILE	ALL HOUSING UNITS	CONVEN- TIONAL	IMPRO- VED	MOBILE
POPSTAN												
TOTAL												
WALLS:												
STONE, CEMENT, BRICK												
METAL												
WOOD												
BAMBOO, REED, MUD												
OTHER MATERIAL												
ROOF:												
STONE, CEMENT, TILE												
METAL												
WOOD												
BAMBOO, REED, MUD												
OTHER OR NONE												
FLOORS:												
STONE, CEMENT, LIME												
TILE, SLATE, MARBLE												
WOOD												
LEAVES, REED, MUD												
OTHER MATERIAL												
(Repeat for each region)												

Exhibit C-3-3. VOLUME I(B) HOUSING TABLE TITLES AND FORMATS FOR POPSTAN AND REGIONS--Continued

H-6. MATERIAL OF WALLS, ROOF, AND FLOORS, BY NUMBER OF UNITS IN STRUCTURE, FOR CONVENTIONAL HOUSING UNITS, URBAN AND RURAL: 1980

REGION AND MATERIAL OF CONSTRUCTION	TOTAL				URBAN			RURAL				
	CONVENTIONAL HOUSING UNITS	1 UNIT	2 TO 4 UNITS	5 TO 9 UNITS	10 OR MORE	CONVENTIONAL HOUSING UNITS	1 UNIT	2 TO 4 UNITS	5 OR MORE	CONVENTIONAL HOUSING UNITS	1 UNIT	2 OR MORE
POPSTAN												
TOTAL												
WALLS:												
STONE, CEMENT, BRICK												
METAL												
WOOD												
BAMBOO, REED, MUD												
OTHER MATERIAL												
ROOF:												
STONE, CEMENT, TILE												
METAL												
WOOD												
BAMBOO, REED, MUD												
OTHER OR NONE												
FLOORS:												
STONE, CEMENT, LIME												
TILE, SLATE, MARBLE												
WOOD												
LEAVES, REED, MUD												
OTHER MATERIAL												

(Repeat for each region)

H-7. MATERIAL OF WALLS, ROOF, AND FLOORS, BY TENURE AND VACANCY, FOR CONVENTIONAL HOUSING UNITS, URBAN AND RURAL: 1980

REGION AND MATERIAL OF CONSTRUCTION	CONVENTIONAL HOUSING UNITS	TOTAL				URBAN				RURAL			
		OCCUPIED		VACANT		OCCUPIED		VACANT		OCCUPIED		VACANT	
		OWNER	RENTER AND OTHER	AVAIL-ABLE	OTHER	OWNER	RENTER AND OTHER	AVAIL-ABLE	OTHER	OWNER	RENTER AND OTHER	AVAIL-ABLE	OTHER
POPSTAN													
TOTAL													
WALLS:													
STONE, CEMENT, BRICK													
METAL													
WOOD													
BAMBOO, REED, MUD													
OTHER MATERIAL													
ROOF:													
STONE, CEMENT, TILE													
METAL													
WOOD													
BAMBOO, REED, MUD													
OTHER OR NONE													
FLOORS:													
STONE, CEMENT, LIME													
TILE, SLATE, MARBLE													
WOOD													
LEAVES, REED, MUD													
OTHER MATERIAL													

(Repeat for each region)

H-8. NUMBER OF ROOMS IN UNIT BY TENURE AND VACANCY, FOR CONVENTIONAL HOUSING UNITS, URBAN AND RURAL: 1980

REGION AND NUMBER OF ROOMS IN UNIT	CONVENTIONAL HOUSING UNITS	TOTAL				URBAN				RURAL			
		OCCUPIED		VACANT		OCCUPIED		VACANT		OCCUPIED		VACANT	
		OWNER	RENTER AND OTHER	AVAIL-ABLE	OTHER	OWNER	RENTER AND OTHER	AVAIL-ABLE	OTHER	OWNER	RENTER AND OTHER	AVAIL-ABLE	OTHER
POPSTAN													
TOTAL													
1 ROOM													
2 ROOMS													
3 ROOMS													
4 ROOMS													
5 ROOMS													
6 ROOMS													
7 ROOMS													
8 ROOMS													
9 ROOMS													
10 ROOMS OR MORE													
MEDIAN ROOMS													

(Repeat for each region)

Exhibit C-3-3. VOLUME 1(B) HOUSING TABLE TITLES AND FORMATS FOR POPSTAN AND REGIONS--Continued

H-9. NUMBER OF PERSONS IN UNIT BY TYPE OF UNIT, FOR ALL OCCUPIED HOUSING UNITS, URBAN AND RURAL: 1980

REGION AND NUMBER OF PERSONS IN UNIT	TOTAL				URBAN				RURAL			
	ALL OCCUPIED HOUSING UNITS	CONVENTIONAL	IMPROVED	MOBILE	ALL OCCUPIED HOUSING UNITS	CONVENTIONAL	IMPROVED	MOBILE	ALL OCCUPIED HOUSING UNITS	CONVENTIONAL	IMPROVED	MOBILE
POPSTAN												
TOTAL												
1 PERSON												
2 PERSONS												
3 PERSONS												
4 PERSONS												
5 PERSONS												
6 PERSONS												
7 PERSONS												
8 PERSONS												
9 PERSONS												
10 PERSONS OR MORE												
MEDIAN PERSONS . . .												
<i>(Repeat for each region)</i>												

H-10. NUMBER OF ROOMS BY NUMBER OF PERSONS IN UNIT AND TENURE, FOR OCCUPIED CONVENTIONAL HOUSING UNITS, URBAN AND RURAL: 1980

REGION, RESIDENCE, TENURE, AND NUMBER OF PERSONS IN UNIT	OCCUPIED CONVENTIONAL HOUSING UNITS	NUMBER OF PERSONS IN UNIT										MEDIAN ROOMS
		1 ROOM	2 ROOMS	3 ROOMS	4 ROOMS	5 ROOMS	6 ROOMS	7 ROOMS	8 ROOMS	9 ROOMS OR MORE	10 ROOMS OR MORE	
POPSTAN												
TOTAL												
1 PERSON												
2 PERSONS												
3 PERSONS												
4 PERSONS												
5 PERSONS												
6 PERSONS												
7 PERSONS												
8 PERSONS												
9 PERSONS												
10 PERSONS OR MORE												
MEDIAN PERSONS . . .												
OWNER OCCUPIED												
<i>(Repeat)</i>												
RENTER AND OTHER . . .												
<i>(Repeat)</i>												
URBAN												
<i>(Repeat as shown for Popstan)</i>												
RURAL												
<i>(Repeat as shown for Popstan)</i>												
<i>(Repeat for each region)</i>												

H-11. PERSONS PER ROOM BY TENURE, FOR OCCUPIED CONVENTIONAL HOUSING UNITS, URBAN AND RURAL: 1980

REGION AND PERSONS PER ROOM	TOTAL				URBAN				RURAL			
	OCCUPIED CONVENTIONAL HOUSING UNITS	OWNER OCCUPIED	RENTED FOR CASH	OTHER OCCUPIED	OCCUPIED CONVENTIONAL HOUSING UNITS	OWNER OCCUPIED	RENTED FOR CASH	OTHER OCCUPIED	OCCUPIED CONVENTIONAL HOUSING UNITS	OWNER OCCUPIED	RENTED FOR CASH	OTHER OCCUPIED
POPSTAN												
TOTAL												
1.00 OR LESS												
1.01 TO 2.00												
2.01 TO 3.00												
3.01 TO 4.00												
4.01 OR MORE												
PERCENT 2.01 OR MORE . .												
<i>(Repeat for each region)</i>												

Exhibit C-3-3. VOLUME 1(B) HOUSING TABLE TITLES AND FORMATS FOR POPSTAN AND REGIONS--Continued

H-12. WATER SUPPLY AND SOURCE OF DRINKING WATER, BY TYPE OF UNIT, FOR ALL OCCUPIED HOUSING UNITS, URBAN AND RURAL: 1980

REGION, WATER SUPPLY, AND SOURCE OF DRINKING WATER	TOTAL				URBAN				RURAL			
	ALL OCCUPIED HOUSING UNITS	CONVENTIONAL	IMPROVED	MOBILE	ALL OCCUPIED HOUSING UNITS	CONVENTIONAL	IMPROVED	MOBILE	ALL OCCUPIED HOUSING UNITS	CONVENTIONAL	IMPROVED	MOBILE
POPSTAN												
TOTAL												
WATER SUPPLY												
PIPE WATER INSIDE												
PIPED WATER OUTSIDE:												
WITHIN 100 METERS												
BEYOND 100 METERS												
NO PIPED WATER												
DRINKING WATER												
PIPED OR PUMP INSIDE												
PIPED OR PUMP OUTSIDE												
BOTTLED OR CANNED WATER												
CLOSED WELL OR SPRING												
OPEN WELL OR SPRING												
RIVER, LAKE, OTHER												
<i>(Repeat for each region)</i>												

H-13. WATER SUPPLY BY TENURE, FOR OCCUPIED CONVENTIONAL HOUSING UNITS, URBAN AND RURAL: 1980

REGION AND WATER SUPPLY	TOTAL				URBAN				RURAL			
	OCCUPIED CONVENTIONAL HOUSING UNITS	OWNER OCCUPIED	RENTED FOR CASH	OTHER OCCUPIED	OCCUPIED CONVENTIONAL HOUSING UNITS	OWNER OCCUPIED	RENTED FOR CASH	OTHER OCCUPIED	OCCUPIED CONVENTIONAL HOUSING UNITS	OWNER OCCUPIED	RENTED FOR CASH	OTHER OCCUPIED
POPSTAN												
TOTAL												
PIPE WATER INSIDE												
PIPED WATER OUTSIDE:												
WITHIN 100 METERS												
BEYOND 100 METERS												
NO PIPED WATER												
<i>(Repeat for each region)</i>												

H-14. TOILET AND BATHING FACILITIES BY TYPE OF UNIT, FOR ALL OCCUPIED HOUSING UNITS, URBAN AND RURAL: 1980

REGION, TOILET AND BATHING FACILITIES	TOTAL				URBAN				RURAL			
	ALL OCCUPIED HOUSING UNITS	CONVENTIONAL	IMPROVED	MOBILE	ALL OCCUPIED HOUSING UNITS	CONVENTIONAL	IMPROVED	MOBILE	ALL OCCUPIED HOUSING UNITS	CONVENTIONAL	IMPROVED	MOBILE
POPSTAN												
TOTAL												
TOILET FACILITIES												
FLUSH TOILET, EXCLUSIVE												
FLUSH TOILET, SHARED												
OUT-HOUSE												
COVERED PIT												
OPEN PIT												
OTHER												
BATHING FACILITIES												
INSTALLED BATHTUB OR SHOWER, EXCLUSIVE												
INSTALLED BATHTUB OR SHOWER, SHARED												
HAND BASIN, PIPED WATER												
PORTABLE TUB OR BASIN												
OTHER												
<i>(Repeat for each region)</i>												

Exhibit C-3-3. VOLUME I(B) HOUSING TABLE TITLES AND FORMATS FOR POPSTAN AND REGIONS--Continued

H-15. TOILET AND BATHING FACILITIES BY TENURE, FOR OCCUPIED CONVENTIONAL HOUSING UNITS, URBAN AND RURAL: 1980

REGION, TOILET AND BATHING FACILITIES	TOTAL				URBAN				RURAL			
	OCCUPIED CONVENTIONAL HOUSING UNITS	OWNER OCCUPIED	RENTED FOR CASH	OTHER OCCUPIED	OCCUPIED CONVENTIONAL HOUSING UNITS	OWNER OCCUPIED	RENTED FOR CASH	OTHER OCCUPIED	OCCUPIED CONVENTIONAL HOUSING UNITS	OWNER OCCUPIED	RENTED FOR CASH	OTHER OCCUPIED
POPSTAN												
TOTAL												
TOILET FACILITIES												
FLUSH TOILET, EXCLUSIVE												
FLUSH TOILET, SHARED												
OUT-HOUSE												
COVERED PIT												
OPEN PIT												
OTHER												
BATHING FACILITIES												
INSTALLED BATHTUB OR SHOWER, EXCLUSIVE												
INSTALLED BATHTUB OR SHOWER, SHARED												
HAND BASIN, PIPED WATER												
PORTABLE TUB OR BASIN												
OTHER												
<i>(Repeat for each region)</i>												

H-16. WATER SUPPLY, TOILET AND BATHING FACILITIES, BY NUMBER OF ROOMS IN UNIT, FOR OCCUPIED CONVENTIONAL HOUSING UNITS, URBAN AND RURAL: 1980

REGION, RESIDENCE, WATER SUPPLY, TOILET AND BATHING FACILITIES	OCCUPIED CONVENTIONAL HOUSING UNITS	NUMBER OF ROOMS										MEDIAN ROOMS
		1 ROOM	2 ROOMS	3 ROOMS	4 ROOMS	5 ROOMS	6 ROOMS	7 ROOMS	8 ROOMS	9 ROOMS	10 ROOMS OR MORE	
POPSTAN												
TOTAL												
WATER SUPPLY												
PIPED WATER INSIDE												
PIPED WATER OUTSIDE												
NO PIPED WATER												
TOILET FACILITIES												
FLUSH TOILET, EXCLUSIVE												
FLUSH TOILET, SHARED												
NO FLUSH TOILET												
BATHING FACILITIES												
INSTALLED BATHTUB OR SHOWER, EXCLUSIVE												
INSTALLED BATHTUB OR SHOWER, SHARED												
NO INSTALLED BATHTUB OR SHOWER												
URBAN												
<i>(Repeat)</i>												
RURAL												
<i>(Repeat)</i>												
<i>(Repeat for each region)</i>												

H-17. LIGHTING AND TELEVISION, BY TYPE OF UNIT, FOR ALL OCCUPIED HOUSING UNITS, URBAN AND RURAL: 1980

REGION, LIGHTING, AND TELEVISION	TOTAL				URBAN				RURAL			
	ALL OCCUPIED HOUSING UNITS	CONVENTIONAL	IMPROVED	MOBILE	ALL OCCUPIED HOUSING UNITS	CONVENTIONAL	IMPROVED	MOBILE	ALL OCCUPIED HOUSING UNITS	CONVENTIONAL	IMPROVED	MOBILE
POPSTAN												
TOTAL												
LIGHTING												
ELECTRIC												
GAS												
KEROSENE												
OTHER OR NONE												
TELEVISION												
WITH TELEVISION												
NO TELEVISION												
NOT REPORTED												
<i>(Repeat for each region)</i>												

Exhibit C-3-3. VOLUME I(B) HOUSING TABLE TITLES AND FORMATS FOR POPSTAN AND REGIONS--Continued

H-25. PERIOD OF CONSTRUCTION BY MATERIAL OF WALLS, ROOF, AND FLOORS, FOR OCCUPIED CONVENTIONAL HOUSING UNITS, URBAN AND RURAL: 1980

REGION AND MATERIAL OF CONSTRUCTION	TOTAL					URBAN					RURAL				
	OCCUPIED CONVENTIONAL HOUSING UNITS	PERIOD OF CONSTRUCTION			OCCUPIED CONVENTIONAL HOUSING UNITS	PERIOD OF CONSTRUCTION			OCCUPIED CONVENTIONAL HOUSING UNITS	PERIOD OF CONSTRUCTION					
		LAST 12 MONTHS	EARLIER	NOT RE-PORTED		LAST 12 MONTHS	EARLIER	NOT RE-PORTED		LAST 12 MONTHS	EARLIER	NOT RE-PORTED			
POPSTAN															
TOTAL															
WALLS:															
STONE, CEMENT, BRICK															
METAL															
WOOD															
BAMBOO, REED, MUD															
OTHER MATERIAL															
ROOF:															
STONE, CEMENT, TILE															
METAL															
WOOD															
BAMBOO, REED, MUD															
OTHER OR NONE															
FLOORS:															
STONE, CEMENT, LIME															
TILE, SLATE, MARBLE															
WOOD															
LEAVES, REED, MUD															
OTHER MATERIAL															

(Repeat for each region)

H-26. PERIOD OF CONSTRUCTION BY NUMBER OF ROOMS IN UNIT, FOR OCCUPIED CONVENTIONAL HOUSING UNITS, URBAN AND RURAL: 1980

REGION AND NUMBER OF ROOMS IN UNIT	TOTAL					URBAN					RURAL				
	OCCUPIED CONVENTIONAL HOUSING UNITS	PERIOD OF CONSTRUCTION			OCCUPIED CONVENTIONAL HOUSING UNITS	PERIOD OF CONSTRUCTION			OCCUPIED CONVENTIONAL HOUSING UNITS	PERIOD OF CONSTRUCTION					
		LAST 12 MONTHS	EARLIER	NOT RE-PORTED		LAST 12 MONTHS	EARLIER	NOT RE-PORTED		LAST 12 MONTHS	EARLIER	NOT RE-PORTED			
POPSTAN															
TOTAL															
1 ROOM															
2 ROOMS															
3 ROOMS															
4 ROOMS															
5 ROOMS															
6 ROOMS															
7 ROOMS															
8 ROOMS															
9 ROOMS															
10 ROOMS OR MORE															
MEDIAN ROOMS															

(Repeat for each region)

H-27. PERIOD OF CONSTRUCTION BY WATER SUPPLY, TOILET AND BATHING FACILITIES, FOR OCCUPIED CONVENTIONAL HOUSING UNITS, URBAN AND RURAL: 1980

REGION, WATER SUPPLY, TOILET AND BATHING FACILITIES	TOTAL					URBAN					RURAL				
	OCCUPIED CONVENTIONAL HOUSING UNITS	PERIOD OF CONSTRUCTION			OCCUPIED CONVENTIONAL HOUSING UNITS	PERIOD OF CONSTRUCTION			OCCUPIED CONVENTIONAL HOUSING UNITS	PERIOD OF CONSTRUCTION					
		LAST 12 MONTHS	EARLIER	NOT RE-PORTED		LAST 12 MONTHS	EARLIER	NOT RE-PORTED		LAST 12 MONTHS	EARLIER	NOT RE-PORTED			
POPSTAN															
TOTAL															
WATER SUPPLY															
PIPED WATER INSIDE															
PIPED WATER OUTSIDE															
NO PIPED WATER															
TOILET FACILITIES															
FLUSH TOILET, EXCLUSIVE															
FLUSH TOILET, SHARED															
NO FLUSH TOILET															
BATHING FACILITIES															
INSTALLED BATHTUB OR SHOWER, EXCLUSIVE															
INSTALLED BATHTUB OR SHOWER, SHARED															
NO INSTALLED BATHTUB OR SHOWER															

(Repeat for each region)

Exhibit C-3-3. VOLUME I(B); HOUSING TABLE TITLES AND FORMATS FOR POPSTAN AND REGIONS--Continued

H-28. PERIOD OF CONSTRUCTION BY LIGHTING AND COOKING FUEL, FOR OCCUPIED CONVENTIONAL HOUSING UNITS, URBAN AND RURAL: 1980

REGION, LIGHTING, AND COOKING FUEL USED MOST	TOTAL						URBAN						RURAL					
	OCCUPIED CONVEN- TIONAL HOUSING UNITS	PERIOD OF CONSTRUCTION			OCCUPIED CONVEN- TIONAL HOUSING UNITS	PERIOD OF CONSTRUCTION			OCCUPIED CONVEN- TIONAL HOUSING UNITS	PERIOD OF CONSTRUCTION								
		LAST 12 MONTHS	EARLIER	NOT RE- PORTED		LAST 12 MONTHS	EARLIER	NOT RE- PORTED		LAST 12 MONTHS	EARLIER	NOT RE- PORTED						
POPSTAN																		
TOTAL																		
LIGHTING																		
ELECTRIC																		
GAS																		
KEROSENE																		
OTHER OR NONE																		
COOKING FUEL																		
ELECTRICITY																		
GAS																		
KEROSENE																		
COAL OR CHARCOAL																		
WOOD																		
OTHER OR NONE																		
(Repeat for each region)																		

H-29. PERIOD OF CONSTRUCTION BY PERSONS PER ROOM, FOR OCCUPIED CONVENTIONAL HOUSING UNITS, URBAN AND RURAL: 1980

REGION AND PERSONS PER ROOM	TOTAL						URBAN						RURAL					
	OCCUPIED CONVEN- TIONAL HOUSING UNITS	PERIOD OF CONSTRUCTION			OCCUPIED CONVEN- TIONAL HOUSING UNITS	PERIOD OF CONSTRUCTION			OCCUPIED CONVEN- TIONAL HOUSING UNITS	PERIOD OF CONSTRUCTION								
		LAST 12 MONTHS	EARLIER	NOT RE- PORTED		LAST 12 MONTHS	EARLIER	NOT RE- PORTED		LAST 12 MONTHS	EARLIER	NOT RE- PORTED						
POPSTAN																		
TOTAL																		
1.00 OR LESS																		
1.01 TO 2.00																		
2.01 TO 3.00																		
3.01 TO 4.00																		
4.01 OR MORE																		
PERCENT 2.01 OR MORE																		
(Repeat for each region)																		

H-30. AGE AND SEX OF HOUSEHOLD HEAD BY TYPE OF UNIT, FOR ALL OCCUPIED HOUSING UNITS, URBAN AND RURAL: 1980

REGION AND AGE AND SEX OF HEAD	TOTAL				URBAN				RURAL			
	ALL OCCUPIED HOUSING UNITS	CONVEN- TIONAL	IMPRO- VED	MOBILE	ALL OCCUPIED HOUSING UNITS	CONVEN- TIONAL	IMPRO- VED	MOBILE	ALL OCCUPIED HOUSING UNITS	CONVEN- TIONAL	IMPRO- VED	MOBILE
TOTAL												
UNDER 20 YEARS												
20 TO 29 YEARS												
30 TO 39 YEARS												
40 TO 49 YEARS												
50 TO 69 YEARS												
70 YEARS OR OLDER												
MARRIED HEAD, SPOUSE PRESENT												
(Repeat)												
OTHER MALE HEAD												
(Repeat)												
OTHER FEMALE HEAD												
(Repeat)												
(Repeat for each region)												

Exhibit C-3-4. VOLUME I(B) POPULATION TABLE TITLES AND FORMATS FOR EACH PROVINCE AND ITS SUBDIVISIONS

Table Province, metropolitan area, and urban places of 50,000 inhabitants or more

P-101 Summary of general population characteristics for the province: 1980

P-102 *These tables have the same subject content as tables P-2 to P-33. They are presented for (a) each province by total, urban, rural, (b) each metropolitan area in the province by total, urban, rural, and (c) each urban place of 50,000 inhabitants or more in the province. Figures for the metropolitan area and urban places follow the province figures in the stub of each table. Statistics for each urban place appear only as a total (not total, urban, rural). Table titles should be modified to include "metropolitan area and each urban place of 50,000 inhabitants or more."*

Districts and urban places of 10,000 to 49,999 inhabitants*

P-134 Age and sex of the population: 1980

P-135 Relationship to household head, and population in collective quarters, by sex: 1980

P-136 Marital status by sex, for persons 12 years or older: 1980

P-137 Nativity by sex: 1980

P-138 Duration of residence in district, by sex: 1980

P-139 Children ever born by age of woman, for women 12 years or older: 1980

P-140 Literacy by sex, for persons 10 years or older: 1980

P-141 School attendance by age and sex, for persons 5 to 29 years old: 1980

P-142 Educational attainment by sex, for persons 15 years or older: 1980

P-143 Economic activity by sex, for persons 12 years or older: 1980

P-144 Industry by sex, for employed civilians 12 years or older: 1980

P-145 Status in employment by sex, for employed civilians 12 years or older: 1980

P-146 Hours worked by sex, for employed civilians 12 years or older: 1980

P-147 Households by size: 1980

P-148 Households by number of children related to head: 1980

P-149 Households by presence of nonrelatives, number of family nuclei, and number of economically active members: 1980

Barrios/villages and urban places of 2,000 to 9,999 inhabitants**

P-150 Age and sex of the population: 1980

P-151 Marital status by sex, for persons 12 years or older: 1980

P-152 School attendance by age and sex, for persons 5 to 19 years old: 1980

P-153 Educational attainment by sex, for persons 15 years or older: 1980

P-154 Economic activity by sex, for persons 12 years or older: 1980

*When placed on the tables, the titles should include "for districts and for urban places of 10,000 to 49,999 inhabitants."

**When placed on the tables, the titles should include "for barrios/villages and for urban places of 2,000 to 9,999 inhabitants."

Exhibit C-3-4. VOLUME I(B) POPULATION TABLE TITLES AND FORMATS FOR EACH PROVINCE AND ITS SUBDIVISIONS--Continued

P-139. CHILDREN EVER BORN BY AGE OF WOMAN, FOR WOMEN 12 YEARS OR OLDER, FOR DISTRICTS AND FOR URBAN PLACES OF 10,000 TO 49,999 INHABITANTS: 1980

DISTRICT AND URBAN PLACE	TOTAL WOMEN 12 YEARS OR OLDER		WOMEN 12 TO 24 YEARS OLD	WOMEN 25 TO 34 YEARS OLD	WOMEN 35 TO 44 YEARS OLD	WOMEN 45 YEARS OR OLDER
	WOMEN	CHILDREN EVER BORN PER 1000 WOMEN	CHILDREN PER 1000 WOMEN	CHILDREN PER 1000 WOMEN	CHILDREN PER 1000 WOMEN	CHILDREN PER 1000 WOMEN
DONGO DISTRICT						
IDFU DISTRICT						
JUMMU DISTRICT						
<i>(Continue with districts)</i>						
ALORA CITY						
BULNES CITY						
OSAKA CITY						
<i>(Continue with urban places)</i>						

P-140. LITERACY BY SEX, FOR PERSONS 10 YEARS OR OLDER, FOR DISTRICTS AND FOR URBAN PLACES OF 10,000 TO 49,999 INHABITANTS: 1980

DISTRICT AND URBAN PLACE	BOTH SEXES			MALE			FEMALE				
	PERSONS 10 YEARS OR OLDER	LITERATE		ILLIT-ERATE	PERSONS 10 YEARS OR OLDER	LITERATE		PERSONS 10 YEARS OR OLDER	LITERATE		ILLIT-ERATE
		NUMBER	PER-CENT			NUMBER	PER-CENT		NUMBER	PER-CENT	
DONGO DISTRICT											
IDFU DISTRICT											
JUMMU DISTRICT											
<i>(Continue with districts)</i>											
ALORA CITY											
BULNES CITY											
OSAKA CITY											
<i>(Continue with urban places)</i>											

P-141. SCHOOL ATTENDANCE BY AGE AND SEX, FOR PERSONS 5 TO 29 YEARS OLD, FOR DISTRICTS AND FOR URBAN PLACES OF 10,000 TO 49,999 INHABITANTS: 1980

DISTRICT, URBAN PLACE, AND SEX	PERSONS 5 TO 29 YEARS OLD		5 TO 7 YEARS OLD	8 TO 11 YEARS OLD	12 TO 14 YEARS OLD	15 TO 19 YEARS OLD	20 TO 29 YEARS OLD
	TOTAL IN AGE GROUP	ATTENDING SCHOOL		TOTAL PERCENT IN AGE GROUP	TOTAL PERCENT IN AGE ATTENDING GROUP	TOTAL PERCENT IN AGE ATTENDING GROUP	TOTAL PERCENT IN AGE ATTENDING GROUP
		NUMBER	PERCENT OF AGE GROUP				
DONGO DISTRICT							
MALE							
FEMALE							
<i>(Continue with districts)</i>							
ALORA CITY							
MALE							
FEMALE							
<i>(Continue with urban places)</i>							

P-142. EDUCATIONAL ATTAINMENT BY SEX, FOR PERSONS 15 YEARS OR OLDER, FOR DISTRICTS AND FOR URBAN PLACES OF 10,000 TO 49,999 INHABITANTS: 1980

DISTRICT, URBAN PLACE, AND SEX	PERSONS 15 YEARS OR OLDER	YEARS OF SCHOOL COMPLETED										MEDIAN YEARS
		NONE	PRIMARY SCHOOL		MIDDLE SCHOOL		HIGH SCHOOL		UNIVERSITY			
			1 TO 4 YEARS	5 YEARS	6 OR 7 YEARS	8 YEARS	1 TO 3 YEARS	4 YEARS	1 TO 3 YEARS	4 YEARS	5 YEARS OR MORE	
DONGO DISTRICT												
MALE												
FEMALE												
<i>(Continue with districts)</i>												
ALORA CITY												
MALE												
FEMALE												
<i>(Continue with urban places)</i>												

Exhibit C-3-4. VOLUME I(B) POPULATION TABLE TITLES AND FORMATS FOR EACH PROVINCE AND ITS SUBDIVISIONS--Continued

P-143. ECONOMIC ACTIVITY BY SEX, FOR PERSONS 12 YEARS OR OLDER, FOR DISTRICTS AND FOR URBAN PLACES OF 10,000 TO 49,999 INHABITANTS: 1980

DISTRICT, URBAN PLACE, AND SEX	PERSONS 12 YEARS OR OLDER	ECONOMICALLY ACTIVE					NOT ECONOMICALLY ACTIVE			
		TOTAL		ARMED FORCES	CIVILIAN		TOTAL	HOME-MAKER	STUDENT	OTHER
		NUMBER	PERCENT		TOTAL EMPLOYED	UNEMPLOYED				
		NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT			
DONGO DISTRICT										
MALE										
FEMALE										
<i>(Continue with districts)</i>										
ALORA CITY										
MALE										
FEMALE										
<i>(Continue with urban places)</i>										

P-144. INDUSTRY BY SEX, FOR EMPLOYED CIVILIANS 12 YEARS OR OLDER, FOR DISTRICTS AND FOR URBAN PLACES OF 10,000 TO 49,999 INHABITANTS: 1980

DISTRICT, URBAN PLACE, AND SEX	EMPLOYED CIVILIANS 12 YEARS OR OLDER	FARMING		MINING	MANUFACTURING	ELECTRICITY, GAS, WATER	CONSTRUCTION	TRADE	TRANSPORTATION	FINANCING, BUSINESS SERVICES	PUBLIC ADMINISTRATION	SOCIAL OR PERSONAL SERVICES	NOT REPORTED
		FARMING	MINING	TURING	WATER	STRUC-TION	TRADE	TATION	SERVICES	TRATION	SERVICES	PORTED	
DONGO DISTRICT													
MALE													
FEMALE													
<i>(Continue with districts)</i>													
ALORA CITY													
MALE													
FEMALE													
<i>(Continue with urban places)</i>													

P-145. STATUS IN EMPLOYMENT BY SEX, FOR EMPLOYED CIVILIANS 12 YEARS OR OLDER, FOR DISTRICTS AND FOR URBAN PLACES OF 10,000 TO 49,999 INHABITANTS: 1980

DISTRICT AND URBAN PLACE	MALE					FEMALE				
	EMPLOYED CIVILIANS 12 YEARS OR OLDER	EMPLOYER	EMPLOYEE	SELF-EMPLOYED WORKER	UNPAID FAMILY WORKER	EMPLOYED CIVILIANS 12 YEARS OR OLDER	EMPLOYER	EMPLOYEE	SELF-EMPLOYED WORKER	UNPAID FAMILY WORKER
DONGO DISTRICT										
IDFU DISTRICT										
JUMBU DISTRICT										
<i>(Continue with districts)</i>										
ALORA CITY										
BULHES CITY										
OSAKA CITY										
<i>(Continue with urban places)</i>										

P-146. HOURS WORKED BY SEX, FOR EMPLOYED CIVILIANS 12 YEARS OR OLDER, FOR DISTRICTS AND FOR URBAN PLACES OF 10,000 TO 49,999 INHABITANTS: 1980

DISTRICT, URBAN PLACE, AND SEX	EMPLOYED CIVILIANS 12 YEARS OR OLDER	WITH JOB NOT AT WORK	AT WORK BY USUAL HOURS WORKED PER WEEK									
			TOTAL	1 TO 14 HOURS	15 TO 24 HOURS	25 TO 34 HOURS	35 TO 44 HOURS	45 TO 59 HOURS	60 HOURS OR MORE	NOT REPORTED	MEDIAN HOURS	
			HOURS	HOURS	HOURS	HOURS	HOURS	HOURS	HOURS	HOURS	HOURS	
DONGO DISTRICT												
MALE												
FEMALE												
<i>(Continue with districts)</i>												
ALORA CITY												
MALE												
FEMALE												
<i>(Continue with urban places)</i>												

Exhibit C-3-4. VOLUME I(B) POPULATION TABLE TITLES AND FORMATS FOR EACH PROVINCE AND ITS SUBDIVISIONS--Continued

P-147. HOUSEHOLDS BY SIZE, FOR DISTRICTS AND FOR URBAN PLACES OF 10,000 TO 49,999 INHABITANTS: 1980

DISTRICT AND URBAN PLACE	TOTAL HOUSEHOLDS	PERSONS									MEDIAN
		1 PERSON	2 PERSONS	3 PERSONS	4 PERSONS	5 PERSONS	6 PERSONS	7 PERSONS	8 PERSONS	9 PERSONS OR MORE	
DONGO DISTRICT											
IDFU DISTRICT											
JUMMU DISTRICT											
<i>(Continue with districts)</i>											
ALORA CITY											
BULNES CITY											
OSAKA CITY											
<i>(Continue with urban places)</i>											

P-148. HOUSEHOLDS BY NUMBER OF CHILDREN RELATED TO HEAD, FOR DISTRICTS AND FOR URBAN PLACES OF 10,000 TO 49,999 INHABITANTS: 1980

DISTRICT AND URBAN PLACE	TOTAL HOUSEHOLDS	NUMBER OF CHILDREN UNDER 6 YEARS OLD RELATED TO HEAD				NUMBER OF CHILDREN UNDER 12 YEARS OLD RELATED TO HEAD				NUMBER OF CHILDREN UNDER 18 YEARS OLD RELATED TO HEAD			
		NONE	1	2	3 OR MORE	NONE	1	2	3 OR MORE	NONE	1	2	3 OR MORE
IDFU DISTRICT													
JUMMU DISTRICT													
<i>(Continue with districts)</i>													
ALORA CITY													
BULNES CITY													
OSAKA CITY													
<i>(Continue with urban places)</i>													

P-149. HOUSEHOLDS BY PRESENCE OF NONRELATIVES, NUMBER OF FAMILY NUCLEI, AND NUMBER OF ECONOMICALLY ACTIVE MEMBERS, FOR DISTRICTS AND FOR URBAN PLACES OF 10,000 TO 49,999 INHABITANTS: 1980

DISTRICT AND URBAN PLACE	POPULATION IN HOUSEHOLDS	NUMBER OF HOUSEHOLDS											
		TOTAL	WITH NONRELATIVES			NUMBER OF FAMILY NUCLEI				NUMBER OF ECONOMICALLY ACTIVE PERSONS			
			NUMBER	AVERAGE NUMBER OF NON-RELATIVES	RELATIVES	NONE	1	2	3 OR MORE	NONE	1	2	3 OR MORE
DONGO DISTRICT													
IDFU DISTRICT													
JUMMU DISTRICT													
<i>(Continue with districts)</i>													
ALORA CITY													
BULNES CITY													
OSAKA CITY													
<i>(Continue with urban places)</i>													

P-150. AGE AND SEX OF THE POPULATION, FOR BARRIOS/VILLAGES AND FOR URBAN PLACES OF 2,000 TO 9,999 INHABITANTS: 1980

DISTRICT, BARRIO/VILLAGE, AND URBAN PLACE	TOTAL POPULATION	MALE						FEMALE					
		TOTAL	UNDER 5 YEARS	5 TO 14 YEARS	15 TO 24 YEARS	25 TO 64 YEARS	65 OR OLDER	TOTAL	UNDER 5 YEARS	5 TO 14 YEARS	15 TO 24 YEARS	25 TO 64 YEARS	65 OR OLDER
			AGE	AGE	AGE	AGE	AGE		AGE	AGE	AGE	AGE	AGE
DONGO DISTRICT													
ATESSO BARRIO													
ISHA BARRIO													
LONDON													
RULINDA BARRIO													
SAN DEMETRIO													
UBI VILLAGE													
<i>(Continue with districts)</i>													

Exhibit C-3-5. VOLUME 1(B) HOUSING TABLE TITLES AND FORMATS FOR EACH PROVINCE AND ITS SUBDIVISIONS

Table	<u>Province, metropolitan area, and urban places of 50,000 inhabitants or more</u>
H-101	Summary of general housing characteristics for the province: 1980
H-102	<i>These tables have the same subject content as tables H-2 to H-37. They are presented for (a) each province by total, urban, rural, (b) each metropolitan area in the province by total, urban, rural, and (c) each urban place of 50,000 inhabitants or more in the province. Figures for the metropolitan area and urban places follow the province figures in the stub of each table. Statistics for each urban place appear only as a total (not total, urban, rural). Table titles should be modified to include "metropolitan area and each urban place of 50,000 inhabitants or more."</i>
	<u>Districts and urban places of 10,000 to 49,999 inhabitants*</u>
H-134	Type of unit and population, by type of living quarters: 1980
H-135	Tenure and vacancy by number of rooms in unit, for conventional housing units: 1980
H-136	Material of walls and roof for conventional housing units: 1980
H-137	Material of floors and number of units in structure, for conventional housing units: 1980
H-138	Number of persons in unit and persons per room, by tenure, for occupied conventional housing units: 1980
H-139	Period of construction, water supply, and source of drinking water, for occupied conventional housing units: 1980
H-140	Toilet and bathing facilities for occupied conventional housing units: 1980
H-141	Lighting, television, cooking fuel, and home industry, for occupied conventional housing units: 1980
H-142	Monthly rent for occupied conventional housing units rented for cash: 1980
H-143	Age and sex of household head by tenure, for occupied conventional housing units: 1980
	<u>Barrios/villages and urban places of 2,000 to 9,999 inhabitants**</u>
H-144	Type of unit, tenure and vacancy, material of construction, and monthly rent: 1980
H-145	Selected characteristics for occupied conventional housing units: 1980

*When placed on the tables, the titles should include "for districts and for urban places of 10,000 to 49,999 inhabitants."

**When placed on the tables, the titles should include "for barrios/villages and for urban places of 2,000 to 9,999 inhabitants."

Exhibit C-3-5. VOLUME 1(B) HOUSING TABLE TITLES AND FORMATS FOR EACH PROVINCE AND ITS SUBDIVISIONS--Continued

H-135. TENURE AND VACANCY BY NUMBER OF ROOMS IN UNIT, FOR CONVENTIONAL HOUSING UNITS, FOR DISTRICTS AND FOR URBAN PLACES OF 10,000 TO 49,999 INHABITANTS: 1980

DISTRICT, URBAN PLACE, TENURE AND VACANCY	CONVENTIONAL HOUSING UNITS	1	2	3	4	5	6	7	8	9	10	MEDIAN ROOMS
		ROOM	ROOMS OR MORE									
DONGO DISTRICT												
TOTAL												
OCCUPIED												
OWNER												
RENTER AND OTHER												
VACANT												
AVAILABLE												
NOT AVAILABLE												
<i>(Repeat for each district and urban place)</i>												

H-136. MATERIAL OF WALLS AND ROOF FOR CONVENTIONAL HOUSING UNITS, FOR DISTRICTS AND FOR URBAN PLACES OF 10,000 TO 49,999 INHABITANTS: 1980

DISTRICT AND URBAN PLACE	CONVENTIONAL HOUSING UNITS	CONSTRUCTION MATERIAL OF WALLS					CONSTRUCTION MATERIAL OF ROOF				
		STONE, CEMENT, BRICK	METAL	WOOD	BAMBOO, REED, MUD		STONE, CEMENT, TILE	METAL	WOOD	BAMBOO, REED, MUD	
					OTHER	OTHER				OTHER	
DONGO DISTRICT											
IDFU DISTRICT											
JUMMU DISTRICT											
<i>(Continue with districts)</i>											
ALORA CITY											
BULNES CITY											
OSAKA CITY											
SAN RAMON CITY											
TERRA CITY											

H-137. MATERIAL OF FLOORS AND NUMBER OF UNITS IN STRUCTURE, FOR CONVENTIONAL HOUSING UNITS, FOR DISTRICTS AND FOR URBAN PLACES OF 10,000 TO 49,999 INHABITANTS: 1980

DISTRICT AND URBAN PLACE	CONVENTIONAL HOUSING UNITS	CONSTRUCTION MATERIAL OF FLOORS					NUMBER OF UNITS IN STRUCTURE				
		STONE, CEMENT, LIME	TILE, SLATE, MARBLE	WOOD	LEAVES, REED, MUD		1 UNIT DETACHED	1 UNIT ATTACHED	2 TO 4	5 TO 9	10 OR MORE
					OTHER	OTHER					
DONGO DISTRICT											
IDFU DISTRICT											
JUMMU DISTRICT											
<i>(Continue with districts)</i>											
ALORA CITY											
BULNES CITY											
OSAKA CITY											
SAN RAMON CITY											
TERRA CITY											

H-138. NUMBER OF PERSONS IN UNIT AND PERSONS PER ROOM, BY TENURE, FOR OCCUPIED CONVENTIONAL HOUSING UNITS, FOR DISTRICTS AND FOR URBAN PLACES OF 10,000 TO 49,999 INHABITANTS: 1980

DISTRICT, URBAN PLACE, AND TENURE	OCCUPIED CONVENTIONAL HOUSING UNITS	NUMBER OF PERSONS IN UNIT							PERSONS PER ROOM				
		1	2	3	4		6	8	10 OR MORE	1.00 OR LESS	1.01 TO 2.00	2.01 TO 3.00	3.01 OR MORE
					OR 5	OR 7							
DONGO DISTRICT													
TOTAL													
OWNER OCCUPIED													
RENTER AND OTHER													
<i>(Repeat for each district and urban place)</i>													

Exhibit C-3-5. VOLUME 1(B) HOUSING TABLE TITLES AND FORMATS FOR EACH PROVINCE AND ITS SUBDIVISIONS--Continued

H-143. AGE AND SEX OF HOUSEHOLD HEAD BY TENURE, FOR OCCUPIED CONVENTIONAL HOUSING UNITS, FOR DISTRICTS AND FOR URBAN PLACES OF 10,000 TO 49,999 INHABITANTS: 1980

DISTRICT, URBAN PLACE, AND TENURE	OCCUPIED CONVENTIONAL HOUSING UNITS	MARRIED HEAD, SPOUSE PRESENT					OTHER MALE HEAD					OTHER FEMALE HEAD				
		UNDER 30 YEARS	30 TO 39 YEARS	40 TO 49 YEARS	50 TO 64 YEARS	65 OR OLDER	UNDER 30 YEARS	30 TO 49 YEARS	50 TO 64 YEARS	65 OR OLDER	UNDER 30 YEARS	30 TO 49 YEARS	50 TO 64 YEARS	65 OR OLDER		
		DONGO DISTRICT TOTAL OWNER OCCUPIED RENTER AND OTHER (Repeat for each district and urban place)														

H-144. TYPE OF UNIT, TENURE AND VACANCY, MATERIAL OF CONSTRUCTION, AND MONTHLY RENT, FOR BARRIOS/VILLAGES AND FOR URBAN PLACES OF 2,000 TO 9,999 INHABITANTS: 1980

DISTRICT, BARRIO/VILLAGE, AND URBAN PLACE	TYPE OF HOUSING UNIT				CONVENTIONAL HOUSING UNITS				PERCENT WITH--		MEDIAN MONTHLY RENT
	ALL HOUSING UNITS	CONVENTIONAL	IMPROVED	MOBILE	OCCUPIED		VACANT		STONE OR METAL ROOF	STONE OR METAL WALLS	
					OWNER NUMBER	PERCENT	RENTER AND OTHER	AVAILABLE OTHER			
DONGO DISTRICT ATESSO BARRIO ISHA BARRIO LONDON RULINDA BARRIO SAN DOMETRIO UBI VILLAGE (Continue with districts)											

H-145. SELECTED CHARACTERISTICS FOR OCCUPIED CONVENTIONAL HOUSING UNITS, FOR BARRIOS/VILLAGES AND FOR URBAN PLACES OF 2,000 TO 9,999 INHABITANTS: 1980

DISTRICT, BARRIO/VILLAGE, AND URBAN PLACE	OCCUPIED CONVENTIONAL HOUSING UNITS	PERCENT WITH--										2.01 PERSONS OR MORE PER ROOM	MEDIAN ROOMS IN UNIT	MEDIAN PERSONS IN UNIT	PERCENT BUILT IN LAST 12 MONTHS	
		PIPED WATER IN STRUCTURE	FLUSH TOILET, EXCLUSIVE	BATHTUB OR SHOWER, EXCLUSIVE	ELECTRIC LIGHTING	ELEC-TRIC OR GAS COOKING FUEL	TELE-VISION	HOME INDUSTRY								
DONGO DISTRICT ATESSO BARRIO ISHA BARRIO LONDON RULINDA BARRIO SAN DOMETRIO UBI VILLAGE (Continue with districts)																

Exhibit C-3-6. VOLUME I(B) TABLE TITLES AND FORMATS FOR CENSUS TRACTS AND BLOCKS

(Tables 201 and 202 are published for St. Regis and Tanga cities. As appropriate, they are prepared for wards or other subdivisions of cities of 50,000 inhabitants or more)

Table

PH-201 Selected demographic, social, and economic characteristics for census tracts: 1980

PH-202 Selected population and housing characteristics for blocks, by census tract: 1980

PH-201. SELECTED DEMOGRAPHIC, SOCIAL, AND ECONOMIC CHARACTERISTICS FOR CENSUS TRACTS: 1980

TRACT	POPULATION		MEDIAN AGE	FOREIGN BORN	RESIDENCE IN THIS DISTRICT		CHILDREN EVER BORN PER 1000 WOMEN	PERSONS 5 TO 11 YEARS OLD		PERSONS 10 YEARS OR OLDER		MALES, 12 YEARS OR OLDER		FEMALES, 12 YEARS OR OLDER	
	TOTAL	IN COLLECTIVE QUARTERS			1 TO 4 YEARS	ALWAYS		ATTEND-ING	LIT-RATE	ECONOM-ICALLY ACTIVE	ECONOM-ICALLY ACTIVE				
001															
002															
003															
004															
005															
006															
007															
008															
009															
010															
011															
012															
013															
014															
015															
016															
017															
018															

(Continue with tracts)

PH-202. SELECTED POPULATION AND HOUSING CHARACTERISTICS FOR BLOCKS, BY CENSUS TRACT: 1980

BLOCKS WITHIN TRACTS	TOTAL POPULATION	HOUSEHOLDS		IMPROVED OR MOBILE	HOUSING UNITS				OCCUPIED CONVENTIONAL HOUSING UNITS						
		NUMBER	POPULATION PER HOUSEHOLD		TOTAL	CONVENTIONAL	WITH STONE OR METAL WALLS	WITH INSIDE PIPED WATER	WITH ELECTRIC LIGHTING	2.01 OR MORE PER ROOM	MEDIAN ROOMS	MEDIAN MONTHLY RENT			
TRACT 001															
1															
2															
3															
4															
5															
6															
8															
9															
10															
11															
12															
TRACT 002															
1															
2															
3															
4															
5															
6															
7															
9															
10															
11															
12															

(Continue with tracts)

Exhibit C-3-7. TABLE FINDING GUIDE FOR VOLUME I(B) POPULATION SUBJECTS

(By publication area and table number)

Subject	Popstan and Regions (urban/rural)	Provinces (urban/rural)	Dis-tricts	Metro-politan areas	Urban places			Barrios/villages
					50,000 or more	10,000 to 49,999	2,000 to 9,999	
DEMOGRAPHIC CHARACTERISTICS								
Population:								
Total, 1980 and 1970.....	1*	1*, 101*	101	1	1, 101	101		
Percent change, 1970 to 1980.....	1*	1*, 101*	101	1	1, 101	101		
By size of locality and sex,								
1980 and 1970.....	2	102		102	102			
Percent change, 1970 to 1980.....	2	102		102	102			
Age:								
Single years, by sex.....	4	104		104	104			
5-year age groups, by sex, 1980 and 1970.....	3	103		103	103			
Percent change, 1970 to 1980.....	3	103		103	103			
5-year age groups,** by sex, 1980.....			134			134		
Broad age groups, by sex.....							134	
Median.....	1*	1*, 101*	101, 134	1	1, 101	101, 134	150	150
Sex ratio.....	2, 3	102, 103		102, 103	102, 103		150	150
Relationship to household head:								
By sex.....			135			135		
By age and sex.....	5	105		105	105			
By marital status and sex.....	7	107		107	107			
By economic activity, presence of own children, and age (for women).....	29	129		129	129			
Median age.....	5	105		105	105			
Population in collective quarters:								
By sex.....			135			135		
By age and sex.....	5	105		105	105			
By marital status and sex.....	7	107		107	107			
Median age.....	5	105		105	105			
Homeless population:								
By sex.....			135			135		
By age and sex.....	5	105		105	105			
By marital status and sex.....	7	107		107	107			
Median age.....	5	105		105	105			
Marital status:								
By sex.....			136			136	151	151
By age and sex.....	6	106		106	106			
By relationship to household head and sex.....	7	107		107	107			
By age and sex for economically active persons.....	31	131		131	131			
Median age.....	6	106		106	106			
Children ever born:								
By age of woman.....	11	111	139	111	111	139		
By literacy and age of woman.....	17	117		117	117			
By educational attainment and age of woman.....	22	122		122	122			
Per 1,000 women.....	1*, 11	1*, 101*	101, 139	1, 111	1, 101	101, 139		
Surviving children:								
By age of woman.....	12	112		112	112			

Exhibit C-3-7. TABLE FINDING GUIDE FOR VOLUME I (B) POPULATION SUBJECTS--Continued

Subject	Popstan and Regions (urban/rural)	Provinces (urban/rural)	Dis-tricts	Metro-politan areas	Urban places			Barrios/villages
					50,000 or more	10,000 to 49,999	2,000 to 9,999	
Children born alive in last 12 months:								
By age of woman.....	13	113		113	113			
Maternal survivorship:								
By age and sex of person.....	14	114		114	114			
Households:								
By size.....			147			147		
By number of children related to head..			148			148		
By size and number of children related to head.....	32	132		132	132			
By presence of nonrelatives.....			149			149		
By size and presence of nonrelatives...	33	133		133	133			
By number of family nuclei.....			149			149		
By size and number of family nuclei...	33	133		133	133			
By number of economically active persons.....			149			149		
By size and number of economically active persons.....	33	133		133	133			
Median size.....	1*, 32	1*, 101*	101, 147	1, 132	1, 101	101, 147		
		132			132			
SOCIAL CHARACTERISTICS								
Native population:								
By sex.....			137			137		
By age and sex.....	8	108		108	108			
Median age.....	8	108		108	108			
Foreign-born population:								
By sex.....			137			137		
By age and sex.....	8	108		108	108			
By country of birth, age, and sex.....	9	109		109	109			
By literacy, age, and sex.....	16	116		116	116			
By economic activity, age, and sex.....	30	130		130	130			
Median age.....	8	108		108	108			
Percent of total population.....	1*	1*, 101*	101, 137	1	1, 101	101, 137		
Duration of residence in district:								
By sex.....			138			138		
By age and sex.....	10	110		110	110			
Percent in district since birth.....	1*, 10	1*, 101*	101, 138	1, 110	1, 101	101, 138		
Median age.....	10	110		110	110			
Literacy:								
By sex.....			140			140		
By age and sex.....	15	115		115	115			
By age and sex of foreign born.....	16	116		116	116			
By children ever born and age of woman.....	17	117		117	117			
Percent literate.....	1*	1*, 101*	101, 140	1	1, 101	101, 140		
School attendance:								
By age and sex for persons 5 to 29 years old.....	18	118	141	118	118	141		
By age and sex for persons 5 to 19 years old.....							152	152

Exhibit C-3-7. TABLE FINDING GUIDE FOR VOLUME I(B) POPULATION SUBJECTS--Continued

Subject	Popstan and Regions (urban/rural)	Provinces (urban/rural)	Dis-tricts	Metro-politan areas	Urban places			Barrios/villages
					50,000 or more	10,000 to 49,999	2,000 to 9,999	
Educational attainment:								
By age and sex for persons 5 to 14 years old.....	19	119		119	119			
By age and sex for persons 15 years or older.....	20	120		120	120			
By age and sex for persons 5 to 29 years old not attending school.....	21	121		121	121			
By children ever born and age of woman.....	22	122		122	122			
By sex for persons 15 years or older...	19, 20	119, 120	142	119, 120	119, 120	142	153	153
Median years of school completed.....	21	121	142	121	121	142	153	153
Economic activity:								
By sex.....			143			143	154	154
By age and sex.....	23	123		123	123			
By relationship to household head and age (for women).....	29	129		129	129			
By presence of own children and age (for women).....	29	129		129	129			
By age and sex of foreign born.....	30	130		130	130			
Percent economically active.....	1*	1*, 101*	101, 143	1	1, 101	101, 143		
Industry:								
By sex.....			144			144		
By age and sex.....	24	124		124	124			
By status in employment and sex.....	26	126		126	126			
Status in employment:								
By sex.....			145			145		
By age and sex.....	25	125		125	125			
By industry and sex.....	26	126		126	126			
By hours worked and sex.....	28	128		128	128			
Median age by sex.....	25	125		125	125			
Hours worked:								
By sex.....			146			146		
By age and sex.....	27	127		127	127			
By status in employment and sex.....	28	128		128	128			
Median hours worked by sex.....			146			146		
Median hours worked by age and sex....	27	127		127	127			
Median hours worked by status in employment and sex.....	28	128		128	128			

*Excluding urban and rural.

**10-year age groups beyond age 25.

Exhibit C-3-8. TABLE FINDING GUIDE FOR VOLUME I(B) HOUSING SUBJECTS
(By publication area and table number)

Subject	Popstan and Regions (urban/ rural)	Provinces (urban/ rural)	Dis- tricts	Metro- politan areas	Urban places			Barrios/ villages
					50,000 or more	10,000 to 49,999	2,000 to 9,999	
OCCUPANCY CHARACTERISTICS								
All housing units:								
Total, 1980 and 1970.....	1*	1*, 101*	101	1	1, 101	101		
Percent change, 1970 to 1980.....	1*	1*, 101*	101	1	1, 101	101		
Population:								
By type of housing unit, 1980 and 1970..	2	102		102	102			
Percent change, 1970 to 1980.....	2	102		102	102			
By type of housing unit, 1980.....			134			134		
In collective quarters, 1980 and 1970...	2	102		102	102			
Percent change, 1970 to 1980.....	2	102		102	102			
In collective quarters, 1980.....			134			134		
Homeless population, 1980 and 1970.....	2	102		102	102			
Percent change, 1970 to 1980.....	2	102		102	102			
Homeless population, 1980.....			134			134		
Per housing unit.....	1*	1*, 101*	101	1	1, 101	101		
Tenure and vacancy.....							144	144
By type of unit, 1980 and 1970.....	3	103		103	103			
Percent change, 1970 to 1980.....	3	103		103	103			
By number of units in structure.....	4	104		104	104			
By material of walls, roof, and floors..	7	107		107	107			
By number of rooms in unit.....	8	108	135	108	108	135		
By median number of rooms.....	8	108	135	108	108	135		
Percent owner occupied.....	1*, 3	1*, 101*	101	1, 103	1, 101	101	144	144
		103			103			
Percent available vacant.....	1*, 3	1*, 101*	101	1, 103	1, 101	101		
		103			103			
Tenure:								
By number of rooms in unit.....	10	110		110	110			
By persons per room.....	11	111	138	111	111	138		
By water supply.....	13	113		113	113			
By toilet and bathing facilities.....	15	115		115	115			
By lighting and television.....	18	118		118	118			
By cooking fuel.....	20	120		120	120			
By period of construction.....	24	124		124	124			
By number of units in structure.....	24	124		124	124			
By age and sex of household head.....	31	131	143	131	131	143		
By number of persons in unit.....	10	110	138	110	110	138		
Age and sex of household head:								
By type of unit.....	30	130		130	130			
By tenure.....	31	131	143	131	131	143		
By period of construction.....	32	132		132	132			
Number of persons in unit:								
By type of unit.....	9	109		109	109			
By number of rooms.....	10	110		110	110			
By median number of rooms.....	10	110		110	110			
By tenure.....	10	110	138	110	110	138		
Median persons in unit.....	9, 10	109, 110		109, 110	109, 110		145	145
Number of persons per room:								
By tenure.....	11	111	138	111	111	138		
By period of construction.....	29	129		129	129			
Percent overcrowded.....	1*, 11	1*, 101*	101	1, 111	1, 101	101	145	145
	29	111, 129		129	111, 129			

Exhibit C-3-8. TABLE FINDING GUIDE FOR VOLUME I(B) HOUSING SUBJECTS--Continued

Subject	Popstan and Regions (urban/rural)	Provinces (urban/rural)	Dis-tricts	Metro-politan areas	Urban places			Barrios/villages
					50,000 or more	10,000 to 49,999	2,000 to 9,999	
OCCUPANCY CHARACTERISTICS								
Type of housing unit.....			134			134	144	144
By tenure and vacancy, 1980 and 1970....	3	103		103	103			
Percent change, 1970 to 1980.....	3	103		103	103			
By material of walls, roof, and floors..	5	105		105	105			
By number of persons in unit.....	9	109		109	109			
By median number of persons.....	9	109		109	109			
By water supply.....	12	112		112	112			
By source of drinking water.....	12	112		112	112			
By toilet and bathing facilities.....	14	114		114	114			
By lighting and television.....	17	117		117	117			
By cooking fuel.....	19	119		119	119			
By age and sex of household head.....	30	130		130	130			
By articles produced in the home for sale or barter.....	33	133		133	133			
STRUCTURAL CHARACTERISTICS								
Material of walls and roof.....			136			136		
By type of unit.....	5	105		105	105			
By number of units in structure.....	6	106		106	106			
By tenure and vacancy.....	7	107		107	107			
By period of construction.....	25	125		125	125			
Percent with stone or metal roof.....							144	144
Percent with stone or metal walls.....							144	144
Material of floors.....			137			137		
By type of unit.....	5	105		105	105			
By number of units in structure.....	6	106		106	106			
By tenure and vacancy.....	7	107		107	107			
By period of construction.....	25	125		125	125			
Number of units in structure.....			137			137		
By tenure and vacancy.....	4	104		104	104			
By material of walls, roof, and floors..	6	106		106	106			
By monthly rent.....	21	121		121	121			
By period of construction.....	24	124		124	124			
By tenure.....	24	124		124	124			
Number of rooms in unit:								
By tenure and vacancy.....	8	108	135	108	108	135		
By number of persons in unit.....	10	110		110	110			
By tenure.....	10	110		110	110			
By median number of persons.....	10	110		110	110			
By water supply.....	16	116		116	116			
By toilet and bathing facilities.....	16	116		116	116			
By monthly rent.....	22	122		122	122			
By median rent.....	22	122		122	122			
By period of construction.....	26	126		126	126			
Median number of rooms.....	1*	1*, 101*	101	1	1, 101	101	145	145
Period of construction.....			139			139		
By number of units in structure.....	24	124		124	124			
By tenure.....	24	124		124	124			
By material of walls, roof, and floors..	25	125		125	125			
By number of rooms in unit.....	26	126		126	126			
By median number of rooms.....	26	126		126	126			
By water supply.....	27	127		127	127			
By toilet and bathing facilities.....	27	127		127	127			
By lighting.....	28	128		128	128			
By cooking fuel.....	28	128		128	128			
By number of persons per room.....	29	129		129	129			
By percent overcrowded.....	29	129		129	129			
By age and sex of household head.....	32	132		132	132			
Percent built in last 12 months.....	1*	1*, 101*	101	1	1, 101	101	145	145

Exhibit C-3-8. TABLE FINDING GUIDE FOR VOLUME 1(B) HOUSING SUBJECTS--Continued

Subject	Popstan and Regions (urban/ rural)	Provinces (urban/ rural)	Dis- tricts	Metro- politan areas	Urban places			Barrios/ villages
					50,000 or more	10,000 to 49,999	2,000 to 9,999	
PLUMBING FACILITIES								
Water supply.....			139			139		
By type of unit.....	12	112		112	112			
By tenure.....	13	113		113	113			
By number of rooms in unit.....	16	116		116	116			
By median number of rooms.....	16	116		116	116			
By monthly rent.....	23	123		123	123			
By median rent.....	23	123		123	123			
By period of construction.....	27	127		127	127			
Percent with piped water inside.....	1*	1*, 101*	101	1	1, 101	101	145	145
Source of drinking water.....			139			139		
By type of unit.....	12	112		112	112			
Toilet and bathing facilities.....			140			140		
By type of unit.....	14	114		114	114			
By tenure.....	15	115		115	115			
By number of rooms in unit.....	16	116		116	116			
By median number of rooms.....	16	116		116	116			
By monthly rent.....	23	123		123	123			
By median rent.....	23	123		123	123			
By period of construction.....	27	127		127	127			
Percent with standard plumbing.....	1*	1*, 101*	101	1	1, 101	101		
Percent with flush toilet, exclusive...							145	145
Percent with bathtub or shower, exclusive.....							145	145
APPLIANCES AND FUELS								
Lighting.....			141			141		
By type of unit.....	17	117		117	117			
By tenure.....	18	118		118	118			
By period of construction.....	28	128		128	128			
Percent with electric lighting.....			141			141	145	145
Television.....			141			141		
By type of unit.....	17	117		117	117			
By tenure.....	18	118		118	118			
Percent with television.....							145	145
Cooking fuel.....			141			141		
By type of unit.....	19	119		119	119			
By tenure.....	20	120		120	120			
By period of construction.....	28	128		128	128			
Percent with electric or gas cooking fuel.....							145	145
FINANCIAL CHARACTERISTICS								
Monthly rent.....			142			142		
By number of units in structure.....	21	121		121	121			
By number of rooms in unit.....	22	122		122	122			
By median number of rooms.....	22	122		122	122			
By water supply, toilet, and bathing facilities.....	23	123		123	123			
Median monthly rent.....	1*	1*, 101*	101, 142	1	1, 101	101, 142	144	144
Home industry.....			141			141		
By type of unit.....	33	133		133	133			
Percent with home industry.....							145	145

*Excluding urban and rural.

Note: This guide does not distinguish subjects by type of housing unit (conventional, occupied conventional, etc.); these distinctions are noted in the table titles.

Exhibit C-4-2. OUTLINE OF DISTRICT OFFICE MANUAL

CHAPTER 1. BACKGROUND INFORMATION

1. General introduction to the census
 - a. History
 - b. Authority
 - c. Value and uses of census information
2. Facts about 1980 Census
 - a. Development of plans and procedures
 - b. Basic enumeration plans
 - c. Special procedures
 - d. Census Day
3. Confidentiality of information
 - a. Census law
 - b. Census rules
4. Census organization
 - a. National Statistical Office (NSO)
 - b. Field offices
5. Purpose and use of manual

CHAPTER 2. PERSONNEL

1. General
2. DCO staff positions
 - a. District census officer
 - b. Technical assistant
 - c. Administrative assistant
 - d. Administrative clerk
 - e. Payroll clerk
 - f. Office review clerks
 - g. Clerk typists
 - h. Crew leaders
 - i. Enumerators
3. Authorization for personnel
 - a. Authorization for Staff, Rates of Pay, and Travel
 - b. Crew Leader Authorization for Enumerator Staff, Rates of Pay, and Travel
4. Rates of pay and travel allowances
 - a. Pay, travel, and other reimbursements
 - b. Payment procedures
5. Recruitment procedures
 - a. Sources
 - b. Publicity materials
6. Testing applicants
 - a. Notice to Report for Test
 - b. Enumerator Selection Aid
 - c. Answer Key to Enumerator Selection Aid
 - d. Application and Personnel Form for Temporary Service
7. Interviewing applicants
8. Selection and appointment procedures
 - a. Guidelines for determining eligibility
 - b. Authority to appoint
 - c. Notice to Report for Training
 - d. Authority to administer Oath of Office

9. Processing personnel forms
10. Appointment actions
 - a. Reassignments
 - b. Resignations
 - c. Terminations
11. Identification Cards
12. General training plan
 - a. Supervisory staff
 - b. Office staff
 - c. Field enumeration staff
13. Summary of purpose and use of related forms

CHAPTER 3. DUTIES AND RESPONSIBILITIES OF DISTRICT OFFICE STAFF

1. DCO operations
 - a. Recruitment
 - b. Training
 - c. Preparation of payrolls and reports
 - d. Maintenance and distribution of supplies
 - e. Supervision of enumeration
 - f. Receipt of work from crew leaders
 - g. Office review of completed EA's
 - h. Public relations
 - i. Handling of accidents and injuries
 - j. Correspondence and files
 - k. Transmittal of completed work to PCO
2. Relationship of DCO to PCO
3. Specific duties of office staff positions
 - a. District census officer
 - b. Technical assistant
 - c. Administrative assistant
 - d. Administrative clerk
 - e. Payroll clerk
 - f. Office review clerks
 - g. Clerk typists

CHAPTER 4. TRAINING

1. Types of training
 - a. Classroom
 - b. On-the-job
2. Training schedule
 - a. Supervisory staff
 - b. Office clerical staff
 - c. Field enumeration staff
3. Training space
 - a. Requirements
 - b. DCO responsibility
 - c. Crew leader responsibility
4. DCO observation of enumerator training
5. Purpose and use of specific training materials
 - a. Guide for Training Crew Leaders
 - b. Crew Leader's Reference Manual
 - c. Guide for Training Enumerators
 - d. Enumerator's Reference Manual
 - e. Enumerator's Workbook

Exhibit C-4-2. OUTLINE OF DISTRICT OFFICE MANUAL--Continued

CHAPTER 5. PAYROLLS AND TRAVEL

1. General
2. Pay system for district census officer
3. Pay system for office staff
 - a. Frequency of pay period
 - b. Pay rates
 - c. Time and attendance forms
 - d. Method of disbursement
 - e. DCO payroll vouchers
4. Pay system for field enumeration staff
 - a. Crew Leader Pay Authorization
 - b. Enumerator Pay Authorization
 - c. Frequency and method of disbursement
5. Travel allowance authorizations
 - a. Office supervisors
 - b. Forms for requesting travel reimbursement
 - c. Crew leaders
 - d. Enumerators
6. DCO payroll procedure
 - a. District census officer
 - b. Supervisory and clerical staff
 - c. Crew leaders
 - d. Enumerators
 - e. Duties of disbursing officer
 - f. Enumerator Payroll Register
 - g. Crew Leader Payroll Register
 - h. PCO/DCO Payroll Register
7. Summary of purpose and use of related forms

CHAPTER 6. PROGRESS AND COST REPORTING

1. General
2. Authorizations and control forms
 - a. Authorization for Staff, Rates of Pay, and Travel
 - b. Crew Leader Authorization for Enumerator Staff, Rates of Pay, and Travel
 - c. DCO Master List of EA's
 - d. Crew Leader's Master List of EA's
 - e. Crew Leader Payroll Register
 - f. Enumerator Payroll Register
 - g. PCO/DCO Transmittal
3. Reporting system
- *4. Reports on recruitment progress
 - *a. Recruitment of crew leaders by DCO
 - *b. Recruitment of enumerators by crew leaders
 - *c. Use of PCO/DCO Summary of Recruitment Progress
5. Reports on training
 - a. Preliminary training of crew leaders
 - b. Enumeration training of crew leaders
 - c. Training of enumerators by crew leaders

- d. Training of enumerators for T-Night enumeration
- e. Group Training Report
6. Reports on enumeration progress and cost
 - a. DCO cost reports before enumeration
 - b. DCO combined enumeration progress and cost reports after start of enumeration
 - c. Enumeration progress report to DCO by crew leaders
 - d. Field Progress and Cost Report
7. Procedure for late crew leader reports
8. Summary of purpose and use of related forms

CHAPTER 7. OFFICE REVIEW PROCEDURES

1. General
2. Office review staff
 - a. Technical and/or administrative assistant
 - b. Office review clerks
3. Training of office review staff by administrative assistant
 - a. Classroom
 - b. On-the-job
4. Receipt and check-in of completed EA's
 - a. Receipt of each EA
 - b. Preliminary check of EA for payroll purposes
 - c. Pay authorizations
5. Coverage check of EA Books
 - a. General procedure for office review
 - b. Crew Leader's Prelisting
6. Review of questionnaires for completeness and consistency
 - a. Serial number and name of household head on Phase I questionnaire and Listing Sheet
 - b. Missing entries
 - c. Extraneous entries
 - d. Proper "skip" pattern
 - e. Entry in P-1b of Phase I questionnaire, and count in column (7) of Listing Sheet
 - f. DCO Final Review of EA
 - g. Basis for accepting or rejecting EA
7. Action to take for rejected EA Books
 - a. By office review staff
 - b. By technical assistant
 - c. By crew leader
8. Action to take for accepted EA Books
 - a. Record the population counts on DCO Master List of EA's
 - b. Record the date approved
 - c. Assemble and package for shipment all approved EA's

Note: Only those portions of the outline marked with an asterisk (*) are illustrated in the case study.

Exhibit C-4-2. OUTLINE OF DISTRICT OFFICE MANUAL--Continued

- d. Record the date of shipment to PCO
 - e. Prepare PCO/DCO Transmittal
9. DCO second review of rejected EA's
 - a. Record the second date of receipt on DCO Master List of EA's
 - b. Prepare pay authorization for "clean-up" enumerator
 - c. Place appropriate forms in EA Book
 - d. Repeat regular procedures for office review
 - e. Verify that all corrections have been made
 - f. Prepare approved EA Books; send to PCO
 10. Summary of purpose and use of related forms

CHAPTER 8. PUBLIC RELATIONS

1. General
2. National campaign
 - a. Timing
 - b. Materials
 - c. Publicity media
3. Publicity program at PCO level
 - a. Timing
 - b. Materials
 - c. Role of province census officer
4. Publicity program at DCO level
 - a. Responsibilities of district census officer
 - b. Responsibilities of DCO administrative assistant
 - c. Assignment of responsibility to crew leaders in remote areas
5. Recruitment publicity
 - a. Special recruitment posters and literature
 - b. Distribution of recruitment literature
6. "Missed Persons" campaign
 - a. Purpose
 - b. Method
 - c. "Were You Counted" Form
7. Announcement of preliminary population counts
 - a. Preparation of worksheet
 - b. Approval of PCO before counts are released
 - c. Presentation of counts to district government

CHAPTER 9. OTHER ADMINISTRATIVE PROCEDURES

1. District office facilities, services, and supplies
 - a. Arrangement of office space
 - b. Office equipment
 - c. Ordering of additional supplies from PCO
 - d. Obtaining free testing and training space
 - e. PCO/DCO communication facilities
 - f. PCO/DCO transportation facilities
2. Receipt and distribution of materials from the PCO
 - a. Checking shipments against PCO/DCO Transmittal
 - b. Checking EA materials against DCO Master List of EA's
 - c. Checking and assembling EA materials for each crew leader area
 - d. Distributing supplies of small items (Identification Cards, pencils, etc.) to each crew leader
 - e. Distributing bulk supplies of enumeration materials to enumerator training sites
3. Preparation of shipments to PCO
 - a. Transmittal of completed EA's
 - b. Transmittal of other materials to PCO via weekly pick-up and delivery service
4. Correspondence and files
 - a. Handling of incoming correspondence
 - b. Handling of PCO/DCO communications
 - c. Maintenance of DCO files
5. Handling of accidents and injuries
 - a. General
 - b. Right of government employees to medical treatment and compensation
 - c. Warning office employees about hazards
 - d. Warning field enumeration staff about possible dangers
 - e. Administrative assistant's responsibilities relating to accident and injury
6. Closing the DCO
 - a. Closing date
 - b. Close-out procedures
 - c. Final reports

Exhibit C-4-3. PORTION OF DISTRICT OFFICE MANUAL

CHAPTER 6. PROGRESS AND COST REPORTING (Part)

4. Reports on recruitment progress
- Reports on progress made in recruitment of field enumeration staff at the DCO level are an important part of the overall progress reporting system by which the NSO is kept informed on the status of all major field operations.
- DCO's must make periodic reports on recruitment of crew leaders and enumerators to the PCO. The PCO's must then consolidate all DCO recruitment reports for the province and submit the summary province report to the NSO. If it appears that recruitment is lagging in any area, the NSO will take action to ensure that sufficient staff is hired and trained and ready to begin the enumeration on Census Day, 1 July.
- a. Recruitment of crew leaders by DCO
- The first DCO recruitment reports will cover recruitment of crew leaders during the period from about the 5th to the 20th of May, to be carried out in accordance with procedures described in chapter 2 of this manual. Since the technical assistant is responsible for recruiting crew leaders, he/she will be responsible for compiling the DCO recruitment progress report on scheduled report dates. The report should be telephoned to the DCO if the technical assistant is traveling on the report date.
- (1) Frequency of report--weekly beginning 9 May
- The DCO must submit a report on crew leader recruitment to the PCO each Friday during the recruitment period, which means reports on the 9th and 16th of May. If recruitment is not complete by 22 May when crew leaders' preliminary training starts, recruitment activities should continue, and an additional recruitment report should be made on 23 May.
- If some crew leaders drop out during the preliminary operations and replacement crew leaders have to be recruited, the PCO should be notified of such changes as soon as possible.
- (2) Required information
- Only two basic items of information are required for DCO recruitment reports:
- (1) The total number of applicants tested for crew leader positions.
 - (2) The total number of applicants who have been selected as crew leaders. The number of selected applicants means the number who have been offered and have accepted positions as crew leaders. Such persons should also have been instructed to report for crew leaders' preliminary training on 22 May.
- (3) Use of PCO/DCO Summary of Recruitment Progress, Form PH-261
- Information on progress in recruitment will be recorded by both the DCO and the PCO on the PCO/DCO Summary of Recruitment Progress, Form PH-261. The DCO will maintain one copy of the report as the DCO master and will record information on both crew leader and enumerator recruitment on the DCO master. Similarly, the PCO will maintain and use a master of the report for recording recruitment information for DCO supervisory positions in each district office, as well as for crew leader and enumerator positions.
- On each scheduled report date, the DCO clerk responsible for preparing the report will enter recruitment information on the DCO master and will use carbon paper to make a copy for the PCO.
- After the district census officer or technical assistant reviews the report, the clerk will telephone or telegraph the report figures to the PCO. Following each report, the DCO will promptly transmit the PCO copy to the PCO as confirmation of the recruitment report.
- (a) Procedures for first recruitment report
- For the first DCO recruitment report, the report clerk should prepare the report in duplicate with entries as follows:
- (1) Fill heading identification items a to c.
 - (2) On the line where your district office code number is entered in Section II, enter in the "Number authorized" column the number of crew leaders authorized for your district as shown in your Authorization for Staff, Rates of Pay, and Travel.
 - (3) Enter the first report date in the column heading above the first double column for report figures.

Note: Only one section of the chapter on Progress and Cost Reporting is illustrated in the case study.

Exhibit C-4-3. PORTION OF DISTRICT OFFICE MANUAL--Continued

- (4) Enter the appropriate totals for crew leader applicants as of the report date under the "Number tested" and "Number selected" headings in the double column.
- (b) Report to PCO by telephone or telegraph According to the facilities available, telephone or telegraph the following information from form PH-261 to the PCO on the report date:
- (1) District office code number
 - (2) Number of applicants tested
 - (3) Number of crew leaders selected
- After making your report, enter the date in heading item d.
- (c) Transmit confirmation copy to the PCO As soon as possible after telephoning or telegraphing your report, transmit the PCO copy to the PCO as confirmation of the report. Either mail the report or send it by the pick-up and delivery truck, whichever is the faster method.
- (d) Procedures for second and subsequent reports For the second and subsequent reports, post the information on progress in recruiting crew leaders in the next available double column on your master. Fill a new PCO copy at the same time by using carbon paper, and be sure to fill all heading items. After telephoning or telegraphing the information to the PCO on the report date, transmit the PCO copy to the PCO as confirmation of the report.
- b. Recruitment of enumerators by crew leaders Crew leaders must report periodically to the DCO on their progress in recruiting enumerators during the period from the 12th to the 24th of June, the period when they are preparing for their enumerator training. Recruitment activities during this period will necessarily be combined with preparing the enumerator assignments, selecting a training site, and all other preliminary duties.
- (1) Frequency of report--twice weekly, beginning 12 June Since recruitment of a field staff of enumerators is critical to the successful conduct of the census, crew leaders will report to the DCO twice weekly during the recruitment period on their progress in recruiting enumerators.
- Each crew leader will be assigned a specific time for reporting enumerator recruitment. This would avoid time lost in waiting as would be the case if all tried to make their reports at the same time. Monday reports will be made in person and Thursday reports will be made by telephone. The DCO will prepare its summary report based on these figures.
- (2) Required information from crew leaders--Section IV (A), Reports, CL Record Book Crew leaders will maintain detailed records of enumerator applicants tested, interviewed, and selected in Section III of their CL Record Book. On scheduled report dates crew leaders will summarize the recruitment data, and enter the figures required for their progress reports on recruitment in Part A of Section IV of the CL Record Book.
- The crew leaders will report the following figures to the clerk responsible for preparing the report.
- (1) The total number of enumerator applicants tested as shown in column 3 for the report date appearing in column 1.
 - (2) The total number of enumerators selected as shown in column 4 for the report date. Selected applicants are those who have been offered and who have accepted positions as enumerators and who have been instructed to attend enumerator training on 25 June.
- c. Use of PCO/DCO Summary of Recruitment Progress In Section III of the DCO master copy of the PCO/DCO Summary of Recruitment Progress, the report clerk will enter the figures reported by the crew leaders.
- (1) Preparation for transcription Prior to the first report date the report clerk will prepare Section III of the DCO master along with one new PCO copy according to the following instructions:
- (1) Enter in the first column the number of enumerators authorized for each CL area in the district, as shown in heading item e of the DCO copies of each Crew Leader Authorization for Enumerator Staff, Rates of Pay, and Travel. This total number authorized for the district should then be posted to the appropriate line of Section II in the "Number authorized" column.

Exhibit C-4-3. PORTION OF DISTRICT OFFICE MANUAL--Continued

- (2) Enter the report date in the heading above the double column to be used for the first crew leader report.
- (2) For receiving reports from crew leaders The report clerk will transcribe to the appropriate columns the total number of enumerator applicants tested and selected for each CL area. Repeat this procedure on each scheduled report date.
- (3) For consolidation of DCO crew leader reports When all crew leader reports for a specific report date have been transcribed to the DCO master copy, the report clerk will obtain and enter the total number of applicants tested and selected for the district on the "Total" line in Section III.
- The clerk should then post the district totals on enumerator recruitment to the next available column in Section II of the report, on the line where DCO figures on crew leader recruitment are already entered. The report clerk will enter the recruitment totals for the district in the lower half of the line designated "Enumerator" and the current report date in the column heading.
- (4) For DCO telephone or telegraph report to PCO The report clerk will then follow the usual procedure of telephoning or telegraphing the Section II figures to the PCO on the report date. The required figures are the following:
- (1) Number of crew leaders and enumerators authorized
 - (2) Number of applicants tested
 - (3) Number of applicants selected
- (5) For confirmation of DCO telephone or telegraph report After telephoning or telegraphing the report figures, the report clerk should promptly transmit the new PCO copy, with heading identification items entered, to the PCO as confirmation. The copy may be sent either by mail or by pick-up and delivery service, whichever is faster.

[CONTINUE WITH DISCUSSION OF REPORTS ON TRAINING]

Exhibit C-4-4. APPLICATION AND PERSONNEL FORM FOR TEMPORARY SERVICE, FORM PH-206

Form PH-206 (January 1980)		MINISTRY OF ECONOMY NATIONAL STATISTICAL OFFICE		Appointed for 1980 Population and Housing Censuses																																				
APPLICATION AND PERSONNEL FORM FOR TEMPORARY SERVICE																																								
INSTRUCTIONS - This form will be used only for employees for major censuses. Appointments may not exceed 12 months. All entries, except signatures, must be made by typewriter or printed with heavy pressure by ballpoint pen. All copies must be legible.																																								
Part A - APPLICATION (To be completed by applicant)			Part B - NOTICE OF PERSONNEL ACTION (To be completed by supervisor)																																					
1. Name (Family name - given name) PLEASE PRINT			19. Temporary appointment <table style="width:100%; border: none;"> <tr> <td><input type="checkbox"/> Enumerator</td> <td><input type="checkbox"/> Office worker</td> </tr> <tr> <td><input type="checkbox"/> Crew leader</td> <td><input type="checkbox"/> Other</td> </tr> </table> (Rate of pay shown in item 25)		<input type="checkbox"/> Enumerator	<input type="checkbox"/> Office worker	<input type="checkbox"/> Crew leader	<input type="checkbox"/> Other																																
<input type="checkbox"/> Enumerator	<input type="checkbox"/> Office worker																																							
<input type="checkbox"/> Crew leader	<input type="checkbox"/> Other																																							
2. Home address (Road, city or hamlet, or other description of location, District)		3. Province																																						
4. Date of birth (Day, month, year)		5. Telephone No.																																						
6. Have you had previous civilian government service? <table style="width:100%; border: none;"> <tr> <td><input type="checkbox"/> Yes</td> <td>Agency _____</td> </tr> <tr> <td><input type="checkbox"/> No</td> <td>Dates of service from _____ to _____</td> </tr> </table>			<input type="checkbox"/> Yes	Agency _____	<input type="checkbox"/> No	Dates of service from _____ to _____	This appointment is subject to conditions outlined below. It may be terminated at any time within 12 months. It may be terminated without further written notice at the close of the last day you are assigned to duty.																																	
<input type="checkbox"/> Yes	Agency _____																																							
<input type="checkbox"/> No	Dates of service from _____ to _____																																							
Answer by placing "X" in appropriate column <table style="width:100%; border: none;"> <tr> <td style="width: 50%;"></td> <td style="width: 10%; text-align: center;">Yes</td> <td style="width: 10%; text-align: center;">No</td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> </tr> </table>				Yes	No			20. APPOINTMENT AUTHORITY: Census Law of 1957																																
	Yes	No																																						
7. Are you a citizen of POPSTAN? If No, give country of which you are a citizen.			21. AGENCY CODE: NSO (068) Ministry of Economy																																					
8. Do you now have any physical defect or disability? If Yes, explain in item 17.			22. Place of work <table style="width:100%; border: none;"> <tr> <td style="width: 50%;">Province</td> <td style="width: 50%;"></td> </tr> <tr> <td>District</td> <td>City (if applicable)</td> </tr> </table>		Province		District	City (if applicable)																																
Province																																								
District	City (if applicable)																																							
9. Are you now employed? If Yes, give name of employer, type of work, hours of work, salary, etc. in item 17.			23. Effective date of appointment <table style="width:100%; border: none;"> <tr> <td style="width: 50%;">Day, month, year</td> <td style="width: 50%;"></td> </tr> </table>		Day, month, year																																			
Day, month, year																																								
10. Have you ever been discharged (fired) from a job, or have you quit after being informed that your employer intended to discharge (fire) you? If Yes, give in item 17 the name and address of employer, date, and reason in each case.			24. Compensation from: 1980 Population and Housing Censuses																																					
11. Have you been arrested since your 16th birthday? If Yes, give in item 17 the date, charge, place, and action taken in each case.			25. Remarks and salary rates - Insert rates of pay appropriate for the type of appointment indicated in item 19.																																					
12a. Have you had previous interviewing experience?			<table style="width:100%; border: none;"> <tr> <td style="width: 80%;"></td> <td style="width: 10%; text-align: center;">Rates</td> </tr> <tr> <td><input type="checkbox"/> a. Enumerator</td> <td></td> </tr> <tr> <td>(1) Training (fee)</td> <td></td> </tr> <tr> <td>(2) Listing (each)</td> <td></td> </tr> <tr> <td>(3) Persons enumerated (each)</td> <td></td> </tr> <tr> <td>(4) Hourly rate</td> <td></td> </tr> <tr> <td>(5) Travel fee</td> <td></td> </tr> <tr> <td><input type="checkbox"/> b. Crew leader</td> <td></td> </tr> <tr> <td>(1) Hourly pay rate</td> <td></td> </tr> <tr> <td>(2) Travel (per kilometer)</td> <td></td> </tr> <tr> <td>(3) Nights in travel status (each)</td> <td></td> </tr> <tr> <td><input type="checkbox"/> c. Office worker</td> <td></td> </tr> <tr> <td>(1) Hourly pay rate</td> <td></td> </tr> <tr> <td>(2) Travel (per kilometer)</td> <td></td> </tr> <tr> <td>(3) Nights in travel status (each)</td> <td></td> </tr> <tr> <td><input type="checkbox"/> d. Other - Specify duties and rates</td> <td></td> </tr> <tr> <td>(1) _____</td> <td></td> </tr> <tr> <td>(2) _____</td> <td></td> </tr> </table>			Rates	<input type="checkbox"/> a. Enumerator		(1) Training (fee)		(2) Listing (each)		(3) Persons enumerated (each)		(4) Hourly rate		(5) Travel fee		<input type="checkbox"/> b. Crew leader		(1) Hourly pay rate		(2) Travel (per kilometer)		(3) Nights in travel status (each)		<input type="checkbox"/> c. Office worker		(1) Hourly pay rate		(2) Travel (per kilometer)		(3) Nights in travel status (each)		<input type="checkbox"/> d. Other - Specify duties and rates		(1) _____		(2) _____	
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(3) Nights in travel status (each)																																								
<input type="checkbox"/> d. Other - Specify duties and rates																																								
(1) _____																																								
(2) _____																																								
12b. Have you had any previous experience working in an office? If Yes, to a or b above, give details.																																								
13. Are you willing to work full days, 6 days a week? If No, explain.																																								
14. If hired, do you understand and agree that this work must be done during a specified period, not when you want to do it?																																								
15. Education - Circle highest year completed. <table style="width:100%; border: none;"> <tr> <td style="width: 15%;">Primary</td> <td style="width: 15%;">Middle</td> <td style="width: 15%;">High School</td> <td style="width: 15%;">University</td> </tr> <tr> <td>1 2 3 4 5</td> <td>6 7 8</td> <td>9 10 11 12</td> <td>1 2 3 4 5</td> </tr> </table>			Primary	Middle	High School	University	1 2 3 4 5	6 7 8	9 10 11 12	1 2 3 4 5	26. Appointing officer's signature _____ Date _____																													
Primary	Middle	High School	University																																					
1 2 3 4 5	6 7 8	9 10 11 12	1 2 3 4 5																																					
16. Indicate your knowledge of languages or dialects by entering "E" for excellent, "G" for good, or "F" for fair opposite each.																																								
Language or dialect	Reading	Speaking	Understanding	Writing																																				
17. Remarks																																								
18. I certify that the statements made in this application are true to the best of my knowledge and belief. Applicant's signature _____ Date _____																																								
Part C - OATH AND APPOINTMENT AFFIDAVITS																																								
27. I have read the Oath and Appointment Affidavits and I hereby swear (or affirm) to them as prescribed by the National Statistical Office. Appointee's signature _____																																								
28. (To be completed by person administering oath) Subscribe and sworn (or affirmed) before me this _____ day of _____ 19__ A.D. at _____ (Place) _____ (Province) Officer's signature _____ Title _____ I have been designated to administer oaths under Section _____, Act of _____																																								

Personnel folder (White) Employee (Yellow) NSO payroll (Pink)

Exhibit C-4-5. ENUMERATOR SELECTION AID, FORM PH-204

Form PH-204 (January 1980)	Ministry of Economy National Statistical Office	DO NOT USE
ENUMERATOR SELECTION AID		Number right
		Parts I and II
		Parts III and IV
A. Name (Family name - given name) Please PRINT	C. Year of birth	
B. Address	D. Date of test	
GENERAL INSTRUCTIONS		
<p>This test contains questions on map reading, arithmetic, vocabulary, and reading. The questions need not be answered in order. Answer first those that you can without delay. Then go back and answer those questions you passed over. Give an answer to all questions even though you are not sure your answer is correct. A perfect score is not required in order to be eligible.</p>		
<p>There are two ways to answer questions on this test. The first is to put your answer in the space provided. For example:</p>		
I. Multiply 4 by 7.	Answer	<u>28</u>
<p>The correct answer is 28 and is entered in the space provided.</p>		
<p>The second way to give an answer is to select the letter which represents the correct answer and enter that letter in the space provided. For example, you are instructed to select the word which means the same as the word in capital letters.</p>		
<p>II. The National Statistical Office will HIRE people to take the Population and Housing Censuses.</p>		
<p>A - help B - train C - employ D - want E - allow</p>	Answer	<u>C</u>
<p>The correct answer for this question is employ, represented by the letter "C." The letter "C" is entered in the answer space.</p>		
TIME ALLOWED - 60 MINUTES		

Exhibit C-4-5. ENUMERATOR SELECTION AID, FORM PH-204--Continued

PART II - ARITHMETIC

Read each question carefully and enter your answer in the space provided.

8. Use the following information to answer question 8.

"To change weekly rent to monthly rent, you must multiply the weekly figure by 4 1/3."

Mrs. Lopez reports her weekly rent as \$12. What is her monthly rent?..... Answer\$ _____

9. Use the following information to answer question 9.

"To change yearly rent to monthly rent, you must divide the yearly figure by 12."

Mr. Agru reports his yearly rent as \$660. What is his monthly rent?..... Answer\$ _____

10. Mr. Moran tells you that he was born in October 1907 but he isn't sure of his age. Enter his age as of his last birthday. (Assume that you are enumerating on 1 July 1980)..... Answer _____

11. Mr. Cato tells you he will be 37 years old in about 2 weeks. What will you record as his age at his last birthday?..... Answer _____

12. You have enumerated 5 families in your work area with the following results:

- family 1 - 4 males, 5 females
- family 2 - 6 males, 3 females
- family 3 - 4 males, 1 female
- family 4 - 5 males, 3 females
- family 5 - 3 males, 6 females

What is the total number of persons enumerated?..... Answer _____

13. Add

63
318
121
176
87
220
47
<u>22</u>

Answer _____

SPACE FOR CALCULATIONS

PART III - VOCABULARY

For each question choose the one answer which BEST fits the meaning of the word in capital letters, then mark the letter which corresponds to your answer in the space provided.

14. Do not PERMIT anyone but NSO employees to see the completed census forms.

A - forbid
 B - encourage
 C - allow
 D - command
 E - require

Answer _____

16. He was RELUCTANT to answer the question.

A - unable
 B - unwilling
 C - unqualified
 D - anxious
 E - pleased

Answer _____

15. Census information remains CONFIDENTIAL.

A - essential
 B - important
 C - interesting
 D - reliable
 E - secret

Answer _____

17. John gets \$20 a week in WAGES.

A - pay
 B - rent
 C - interest
 D - dividends
 E - bonds

Answer _____

Exhibit C-4-5. ENUMERATOR SELECTION AID, FORM PH-204--Continued

PART IV - READING

Read questions 18 and 19 carefully and enter the letter which represents the correct answer in the answer space.

18. A housing unit is vacant if no persons are living in it at the time of enumeration. However, if the occupants are only temporarily absent, consider the unit as occupied. A vacant unit may be furnished or unfurnished; it may be for rent or for sale; it may already have been rented or sold, but the new occupants have not moved in.

Which of the following is a vacant housing unit?

- A - Empty house with no furniture that has a "Sold" sign in front.
- B - A house whose occupants have gone on a 1-week vacation.
- C - A large house where only a caretaker lives.
- D - A furnished apartment whose new occupants have just moved in.
- E - A trailer with only one person living in it.....

Answer _____

19. The count of rooms will include living rooms, dining rooms, kitchens, bedrooms, studies, playrooms, and servants' quarters. Bathrooms, halls, closets, foyers, and porches are NOT to be counted as rooms.

A respondent tells you that he has two bedrooms, two large storage closets, a kitchen, a living room, 1 bathroom, and a room he uses as a study. How many rooms would you report for this house?

- A - 3
- B - 5
- C - 6
- D - 4
- E - 8.....

Answer _____

Read questions 20 through 26 carefully and enter your answer in the space provided.

20. The school system consists of 5 years of primary school, 3 years of middle school, 4 years of high school, and 4 years of undergraduate university education.

If a respondent states that he/she completed middle school and started but did not complete the 4th year of high school, what would you record as the highest grade or year completed?.....

Answer _____

21. The respondent said she attended her college classes as a full-time student last month. She also worked as a waitress 3 hours each Saturday.

In recording what she did most of last month, which would you select--working, own housework, going to school, or something else?.....

Answer _____

QUESTIONS 22 THROUGH 26 REFER TO THE FOLLOWING STATEMENT.

In the census, relationship for each person is to be expressed in terms of relationship to the head of the household.

From these examples select the correct relationship description for the household member described in 22-26 below:

Spouse
of head

Son or daughter
of head/spouse

Other
relative

Nonrelative

22. Sister of the spouse of head..... Answer _____

23. Daughter of head..... Answer _____

24. Lodger..... Answer _____

25. Wife of head..... Answer _____

26. Daughter of head's brother..... Answer _____

Exhibit C-4-7. NOTICE TO REPORT FOR TEST, FORM PH-203, NOTICE TO REPORT FOR TRAINING, FORM PH-207, AND IDENTIFICATION CARD, FORM PH-119

FORM PH-203 (January 1980)	MINISTRY OF ECONOMY NATIONAL STATISTICAL OFFICE
NOTICE TO REPORT FOR TEST 1980 Population and Housing Censuses	
<p>We understand that you are interested in participating as a temporary employee in POPSTAN'S 1980 Population and Housing Censuses to be conducted soon.</p> <p>A requirement for such employment is to pass a written test. The test in your area will be given on the date and at the time and place indicated below. Please bring this card and a pencil and ballpoint pen with you.</p> <p style="text-align: center;">Sincerely,</p> <p style="text-align: right;">Census Supervisor _____</p>	
Date	Place
Time	_____

FORM PH-207 (January 1980)	MINISTRY OF ECONOMY NATIONAL STATISTICAL OFFICE
NOTICE TO REPORT FOR TRAINING 1980 Population and Housing Censuses	
<p>You have been selected for the position of _____ for the 1980 Population and Housing Censuses. Please report for _____ days of training on the date and at the time and place shown below.</p> <p>If you cannot attend the training session, please notify me or the Census Office in _____.</p> <p style="text-align: center;">Sincerely,</p> <p style="text-align: right;">Census Supervisor _____</p>	
Date	Place
Time	_____

FORM PH-119 (January 1980)	
MINISTRY OF ECONOMY POPSTAN NATIONAL STATISTICAL OFFICE	
1980 POPULATION AND HOUSING CENSUSES	
CENSUS	EMPLOYEE
	
OFFICIAL CREDENTIAL	
	(Employee's signature)

Exhibit C-4-8. ANSWER KEY TO ENUMERATOR SELECTION AID, FORM PH-205

Form PH-205
(January 1980)Ministry of Economy
National Statistical Office**ANSWER KEY TO ENUMERATOR SELECTION AID**

INSTRUCTIONS TO EXAMINER - If the applicant clearly indicates by an answer in the booklet that the correct answer is known even though it is expressed in some way other than shown in the scoring key, mark the question correct. Persons failing to earn at least the minimum score are rated ineligible.

- PART I:
- 1 - lines through Rayco Street, River Road, Ting Street and Route 12
 - 2 - 4
 - 3 - no
 - 4 - on map - arrows go to southeast on Dell Road to Route 12, south on Route 12 to High Street
 - 5 - 1
 - 6 - 350 meters
 - 7 - 12 kilometers
- PART II:
- 8 - 852
 - 9 - 855
 - 10 - 72
 - 11 - 36
 - 12 - 40
 - 13 - 1054
- PART III:
- 14 - C
 - 15 - E
 - 16 - B
 - 17 - A
- PART IV:
- 18 - A
 - 19 - B
 - 20 - 11
 - 21 - going to school
 - 22 - other relative
 - 23 - son or daughter of head/spouse
 - 24 - nonrelative
 - 25 - spouse of head
 - 26 - other relative

Day and period	Subject	Day and period	Subject
22 May morning	Part 1. PRELIMINARY OPERATIONS		
	<ol style="list-style-type: none"> 1. Introduction and orientation to job <ol style="list-style-type: none"> a. Opening remarks b. Objectives of the 1980 Censuses of Population and Housing c. Significance of Oath of Office d. Administration of Oath of Office e. Completion of Application and Personnel Form for Temporary Service f. Importance of confidentiality g. Use of Identification Card h. Conditions of employment 2. Overview of crew leader's job <ol style="list-style-type: none"> a. Overall census organization <ol style="list-style-type: none"> (1) National Statistical Office (NSO) (2) Province Census Office (PCO) (3) District Census Office (DCO) (4) Crew leader (CL) area (5) Enumeration area (EA) b. Relation of the crew leader to the DCO c. Purpose of Crew Leader Authorization for Enumerator Staff, Rates of Pay, and Travel d. Completion of preliminary operations e. Supervision of enumeration 3. Preview of training program on preliminary operations <ol style="list-style-type: none"> a. Using crew leader and enumerator maps b. Splitting large EA's c. Recruiting and selecting enumerators d. Preparing for enumerator training 4. Materials for preliminary operations <ol style="list-style-type: none"> a. CL area map b. Crew Leader's Reference Manual c. Crew Leader's (CL) Record Book d. Master List of EA's for Field Operations e. Crew Leader's Prelisting f. Crew Leader Authorization for Enumerator Staff, Rates of Pay, and Travel g. Recruitment posters and other publicity materials h. Notice to Report for Test i. Enumerator Selection Aid j. Answer Key to Enumerator Selection Aid k. Application and Personnel Form for Temporary Service l. Notice to Report for Training m. Crew Leader Pay Authorization 	22 May afternoon	<ol style="list-style-type: none"> 5. Review of maps and area <ol style="list-style-type: none"> a. Using census maps b. Locating EA and CL area boundaries c. Adding and deleting detail on maps d. Making sketch maps e. Identifying large collective quarters f. Prelisting 5 consecutive units in each EA for crew leader check of enumerator's listing g. Prelisting 10 consecutive units in each EA for DCO check on coverage 6. Splitting large EA's <ol style="list-style-type: none"> a. Select boundary b. Number each part c. Prepare maps d. Record the information on Master List of EA's e. Transmit Crew Leader Report of Split EA's
		23 May morning	<ol style="list-style-type: none"> 7. Recruitment procedures for enumerators <ol style="list-style-type: none"> a. Distribute publicity materials b. Contact local officials for recommendations and assistance in finding applicants c. Arrange with DCO for use of suitable testing and training space d. Post announcement of date and place of testing 8. Testing and selection of enumerators <ol style="list-style-type: none"> a. Arrange furniture and equipment at testing site b. Administer and score the Enumerator Selection Aid test c. Review Application and Personnel Form for Temporary Service d. Interview enumerator applicants e. Select best qualified applicants f. Notify enumerators of time and place of training 9. Recruitment records and reports <ol style="list-style-type: none"> a. Use CL Record Book to record names of applicants and enumerators selected b. Report recruitment progress to DCO on specified dates
23 May afternoon	<ol style="list-style-type: none"> 10. Preparatory activities for enumerator training <ol style="list-style-type: none"> a. Decisions on holding joint training sessions combining two or three crew leader areas b. Responsibility for obtaining training space for joint sessions c. Specifications for training space and persons to contact 		

Day and period	Subject	Day and period	Subject
9 June morning	<ul style="list-style-type: none"> d. Specifications for lodging facilities for enumerators and persons to contact e. Assembly of materials needed for training 11. Administrative requirements <ul style="list-style-type: none"> a. Record of hours worked and kilometers traveled b. Weekly preparation and transmittal of Pay Authorization to ECO c. Pick-up and delivery schedule in each district d. Handling accidents and injuries 12. Closing remarks <ul style="list-style-type: none"> a. Time and place for next training session b. Reports and materials to bring to next session 	9 June morning through 10 June afternoon	17. Enumerator training (training as it will be given to enumerators except that it must be compressed and completed in 2 days).
	<p style="text-align: center;">Part 2. SUPERVISION OF ENUMERATION</p>	11 June morning	18. Supervisory responsibilities during training <ul style="list-style-type: none"> a. Making initial enumerator assignments b. Scheduling first visit to observe each enumerator <ul style="list-style-type: none"> (1) Record date, time, and place of appointment in CL Record Book (and make sure enumerator enters it on the front of EA Book) (2) Schedule first visits to weakest enumerators c. Reviewing and completing personnel forms d. Completing Group Training Report e. Transmitting Group Training Report, personnel forms, and enumerator tests to DCO
9 June morning	<ul style="list-style-type: none"> 13. Opening remarks 14. Review of crew leader's preliminary field operations <ul style="list-style-type: none"> a. General discussion and review b. Instruction for completing unfinished preliminary operations 15. Preview of training and supervision of enumeration <ul style="list-style-type: none"> a. Introduction to enumerator's job <ul style="list-style-type: none"> (1) Canvassing the EA and listing all HU's and CQ's on Listing Sheet (PH-1) (2) Assigning serial numbers (3) Filling Phase I questionnaires b. Introduction to crew leader's job <ul style="list-style-type: none"> (1) Preparing assignments (2) Training enumerators (3) Visiting enumerators to observe and review their work (4) Issuing pay authorizations (5) Transmitting completed EA's to DCO (6) Recording appropriate information in CL Record Book (7) Reporting weekly progress 16. Preparation for enumerator training <ul style="list-style-type: none"> a. Mail Notice to Report for Training b. Prepare name cards for seating chart c. Complete Part B of Application and Personnel Form for Temporary Service d. Arrange training room to best advantage 		<ul style="list-style-type: none"> 19. Preparation for enumerator assignments <ul style="list-style-type: none"> a. Set up initial assignments of largest EA's--one per enumerator b. Record assignment in CL Record Book and Crew Leader Authorization for Enumerator Staff, Rates of Pay, and Travel c. Transfer detail from crew leader's map to enumerator's map d. Assemble materials in enumerator kits <ul style="list-style-type: none"> (1) EA Book (2) EA map (3) Six pencils (4) ICR forms and envelopes 20. Supervision of enumerators in field <ul style="list-style-type: none"> a. Plan schedule of initial visits to observe each enumerator in first 2 days of enumeration and review completed work b. Observe and review work of enumerators <ul style="list-style-type: none"> (1) Accompany enumerator and fill Observation and Review Form in CL Record Book (2) Review Listing Sheet entries and filled questionnaires (3) Discuss the observation and review--both good points and weak points c. Verify the Summary of Page Totals on inside cover of EA Book d. Make appointments for additional observation as necessary

Day and period	Subject	Day and period	Subject
	<ul style="list-style-type: none"> e. Retrain or replace incompetent enumerators f. Conduct final review of completed EA's <ul style="list-style-type: none"> (1) Make specified checks of Phase I questionnaire (2) Complete Crew Leader's Final Review of EA (3) Resolve problems and assist with non-responses (4) Complete items 4 through 8 on front cover of EA Book (5) Check coverage with Crew Leader's Pre-listing (6) Verify that interviews were completed (7) Close out EA g. Assign additional EA's h. Assign Special EA's 		<ul style="list-style-type: none"> 24. Transmitting to DCO <ul style="list-style-type: none"> a. Materials to be transmitted <ul style="list-style-type: none"> (1) Completed EA Books (and EA maps) (2) Crew Leader's Pay Authorizations (3) Enumerator's Pay Authorizations (4) Field Progress and Cost Reports (5) Miscellaneous communications to DCO staff (regarding problems, refusals, etc.) b. Method of transmittal 25. Final transmittal to DCO at end of assignment <ul style="list-style-type: none"> a. Crew leader's materials <ul style="list-style-type: none"> (1) Completed crew leader's Master List of EA's for Field Operations (2) List of Special EA's (3) Map of CL area (4) CL Record Book (5) Identification Card (6) Blank forms (EA Books, Field Progress and Cost Reports, Pay Authorizations, etc.) b. Enumerator kits
11 June afternoon	<ul style="list-style-type: none"> *21. Practice training <ul style="list-style-type: none"> *a. Importance of role as trainer *b. Training principles *c. Study and use of Training Guide *d. Practice presentations 22. Enumerator Pay Authorizations <ul style="list-style-type: none"> a. Issuing procedures <ul style="list-style-type: none"> (1) Upon completion of training and enumeration of one-third of the assigned EA (2) Upon crew leaders final review of the EA Book b. Preparation of pay authorizations 23. Progress and cost reports <ul style="list-style-type: none"> a. Filling Field Progress and Costs Reports b. Source of information for the report 		<ul style="list-style-type: none"> 26. Checklist of enumeration supplies <ul style="list-style-type: none"> a. Small items which crew leaders will take to training site with them (Identification Cards for enumerators, Pay Authorizations, etc.) b. Bulk supplies to be delivered by DCO to each crew leader training site (kits with EA Books and maps, pencils, Enumerator's Reference Manuals, Enumerator's Workbooks, etc.) 27. Closing remarks <ul style="list-style-type: none"> a. Reminder about progress reporting b. Reminder about DCO field observation c. Review of crew leader's responsibilities

Note: Only those portions of the outline with an asterisk (*) are illustrated in the case study.

Exhibit C-4-10. PORTION OF GUIDE FOR TRAINING CREW LEADERS

Outline	Narrative
21. Practice training	<p>Good morning. I hope all of you are ready for this part of your training. Today we are going to be concerned with how you train your enumerators; one of your most important supervisory duties is the training of your enumerators. When you train, you will use the same Guide for Training Enumerators that I used in training you--the one which I gave you to study yesterday when we completed the enumerator training. A little later this morning, each of you will have the opportunity to do some practice training, using the portion of the Guide which I assigned to you.</p>
a. Importance of role as trainer	<p>I can't stress enough the importance of your role as trainer. Census work is highly specialized work for which the necessary knowledge and skills must be taught quickly and effectively. Successful <u>enumeration</u> in your district will depend in a large measure on a successful training session. The success of your <u>training</u> session will depend on how thoroughly you prepare yourself for training and how effectively you use the training materials.</p>
b. Training principles	<p>As you probably know, there are certain basic training principles which pertain to all types of training. Some of these are particularly applicable to your training of enumerators when you will be using a verbatim Training Guide.</p>
<p>As you begin discussing each principle, write a <u>brief</u> version of it on the blackboard. For the first principle, write:</p> <p>1. Prepare yourself.</p>	
(i) Prepare yourself	<p>The first principle you should follow is to prepare yourself by knowing your material thoroughly. Go over the main concepts and procedures for enumeration until you understand them fully. Study your Training Guide and practice using it, so that you are completely familiar with it. Trainees can sense very quickly when an instructor is not prepared.</p>
<p>Write:</p> <p>2. Plan your presentation.</p>	
(2) Plan your presentation	<p>Second, plan your own presentation by marking key points in your Guide for emphasis and repetition. Also note special explanations of illustrations from your own experience which will help to clarify certain points.</p>
<p>Write:</p> <p>3. Present topics in logical order.</p>	

Exhibit C-4-10. PORTION OF GUIDE FOR TRAINING CREW LEADERS--Continued

Outline	Narrative
(3) Present topics in logical order	<p>Third, present topics in logical order by following the exact order of presentation in the prepared Guide. The order of topics in your Guide has been carefully planned. You must follow it.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: fit-content;"> <p>Write:</p> <p style="text-align: center;">4. Encourage trainee participation.</p> </div>
(4) Encourage trainee participation	<p>Fourth, make full use of trainee participation through the various methods provided in the Guide. These include asking questions, doing practice exercises and mock interviews, having trainees read, etc. By having trainees participate, you will hold their interest and keep them alert. However, a word of caution about calling on trainees--call on the timid trainees as well as the eager ones who are always volunteering.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: fit-content;"> <p>Write:</p> <p style="text-align: center;">5. Vary the presentation.</p> </div>
(5) Vary the presentation	<p>Make full use of any devices which are called for in the Guide to vary the presentation. These include the use of the blackboard for emphasis or sketching, use of illustrations or enlargements of forms, and use of any other visual or audio-visual training materials provided, such as filmstrips, recordings, and movies.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: fit-content;"> <p>Write:</p> <p style="text-align: center;">6. Create interest.</p> </div>
(6) Create interest	<p>Next, create interest by your own example. You and your own attitude are major factors in creating interest and arousing enthusiasm on the part of your trainees. Only by showing interest in the subject yourself will you be able to stimulate the interest of your trainees. Also, by always being cheerful and confident in your role as trainer, you will establish rapport with your class and be more effective in accomplishing your training objectives.</p> <p>Above all, be honest in your answers to trainees. They can quickly tell when you are guessing. If you are unsure about an answer, suggest that all of you look up the answer together. If the answer can't be found in the manual, then promise to get the answer and be sure to keep your promise. After all, you are a new employee too, and it is understandable that you would not be prepared to answer every question that could be raised. It is important, however, that you follow through on any promises.</p>

Exhibit C-4-10. PORTION OF GUIDE FOR TRAINING CREW LEADERS--Continued

Outline	Narrative
	<div style="border: 1px solid black; padding: 10px; text-align: center;"> <p>Write:</p> <p>7. Have trainees practice.</p> </div>
<p>(7) Have trainees practice</p>	<p>Finally, it is essential that trainees be given the opportunity to <u>practice</u> what they are taught as soon as they are ready. Therefore, as soon as your enumerators have learned the questionnaire items and the related enumeration procedures, they must have practice in using the questionnaire. This is provided through mock interviews in the classroom. This practice cannot be omitted. You are responsible for seeing that the trainees get this necessary practice.</p>
	<p>Are there any questions about these training principles?</p> <div style="border: 1px solid black; padding: 10px; text-align: center;"> <p>Answer any questions.</p> </div>
<p>c. Study and use of Training Guide</p>	<p>Even though this may be your first experience at training, you should not be timid about it. The verbatim Guide for Training Enumerators, as you have probably observed when you studied it, contains complete and explicit instructions for every step of the training. The material has been carefully planned so that every subject is given the proper amount of attention, and the important points are emphasized.</p> <p>If you are thoroughly prepared and follow the instructions faithfully, you should achieve the desired results. You will have a smooth and effective training session. Now I want to discuss some specific features of your Training Guide, as described in the introduction.</p>
	<div style="border: 1px solid black; padding: 10px; text-align: center;"> <p>Ask trainees to turn to the introduction in the front of the Guide.</p> </div>
<p>(1) Importance of adhering closely to the presentation and instructions in the Guide</p>	<p>It is most important to study this introduction carefully as it contains all the necessary instructions on how to use the Guide. You must understand the format of the Guide and be able to follow the instructions in order to present the training effectively. For example, the introduction explains that the Guide has a two-column format with the main points of the training content given in the "Outline" column on the left and the verbatim text that you must follow given in the "Narrative" column on the right. Turn to page 1 of the Guide and note the two columns.</p>

Pause

Exhibit C-4-10. PORTION OF GUIDE FOR TRAINING CREW LEADERS--Continued

Outline	Narrative
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Now look in the introduction again at the explanation of the various symbols used in the Guide. You will see that instructions you are to carry out are enclosed in a six-sided box; of course, you will not read these aloud. These instructions might direct you to use the blackboard, to conduct a mock interview or have the trainees do a workbook exercise. Questions you are to ask of the trainees and the expected answers are enclosed in rectangular boxes. You will need to become familiar with these symbols and follow all instructions in presenting the training. Glance through a few pages in the Guide now and look for some of these symbols.



The introduction also contains reminders of specific preparations which you should carry out in advance of training, such as preparation of name cards and a seating chart for your use. Be sure you check yourself to see that all advance preparations have been carried out as required.

(2) Importance of adhering to time schedule

Now look in the introduction at the daily timetable by hours.



You should adhere to this daily timetable as closely as possible. It gives time allowances for each training topic; these allowances are based on test sessions and are believed to be adequate. In order to cover every topic completely, it is important that you control discussions so that they won't cause departures from the schedule. If a question relates to a subject that will be covered later, ask the trainee to hold the question until you get to that subject. Most questions anticipate material which will be covered later in the training. If a trainee has difficulty understanding a procedure and you feel that you should not take class time to further explain the procedure, explain it to the trainee during a break or at the end of the day.

Once you get behind schedule it is very difficult to catch up. You may find that your time has run out and you haven't covered some of the important topics or that you are ahead of schedule and have not thoroughly covered some subjects. I suggest you note the beginning time for each subject on the page where it starts.

<p>Question: According to the timetable, what time will you note on the page where the training on the housing questions starts, Mr./Ms. _____?</p> <hr style="border-top: 1px dashed black;"/> <p>Answer: 1 p.m. (on 26 June).</p>

(3) Techniques for using Training Guide

The introduction also points out various techniques for using the Guide effectively. For example, it explains that a blank line is used at the end of a question to remind you to call on a trainee by name after you have asked the question, not before. This technique keeps all of the trainees

Exhibit C-4-10. PORTION OF GUIDE FOR TRAINING CREW LEADERS--Continued

Outline	Narrative
	<p>alert. If you call on a trainee first, then ask the question, the others may not give close attention. Occasionally it is a good idea to call on the same trainee twice in a row. This prevents the trainee from relaxing after having just answered a question. As the training progresses you should know which trainees are weak. You may choose to ask more questions of these trainees than of the stronger ones.</p> <p>Another suggested technique is to read the prepared text clearly, with as much expression as possible. If the trainees are unable to answer your questions unless you repeat them, or if they seem to be having a difficult time understanding you, ask if you are speaking clearly enough. You should also look up at the class frequently. In fact, it should appear as if you are talking rather than reading. Be sure to follow the instructions to "pause"--this is done for emphasis. Don't read too fast or in a monotone, and don't keep your eyes on the text constantly. You must practice this reading technique before you actually train. Also, by standing rather than sitting to make your presentation, you will have better control of the class, be able to project your voice better, and have more freedom to move around. You should elevate your Guide so that it is at a comfortable height for reading from a standing position.</p> <p>If you have an instruction to use the blackboard, mark your place in the Guide with a pencil so that you can find it again easily. Write large and clearly enough on the blackboard, so that it can be easily seen by all trainees. You should know ahead of time when the use of the blackboard is required. A suggested technique to save training time, is to put illustrations on your blackboard in advance--during lunch time, or at a break, or when trainees are doing workbook exercises. There are other helpful techniques mentioned in this part of the introduction. You should study and apply all of them when you are training.</p>
d. Practice presentations	<p>We are about to begin the practice training presentations for which you studied last night. When you take your turn at being the trainer, you are to carry out all the instructions contained in your assigned portion of the Guide. The rest of the group will act as trainees and will answer questions or follow whatever instructions you give them. At the same time, we will also be observing your use of the Guide and how well you apply the training principles and techniques we have discussed. The main purpose of these training presentations is to try to help each of you with constructive criticism which will improve your training techniques. Constructive criticism includes commenting on good points as well as weak points that need improvement. Calling attention to good points may help someone else. I will first ask each of you to comment on your own presentation, then I will ask for comments from the class. After that, I will offer any additional suggestions that I think will be helpful. Now, let's begin with Mr./Ms. _____ as the first trainer.</p>

Exhibit C-4-10. PORTION OF GUIDE FOR TRAINING CREW LEADERS--Continued

Outline	Narrative
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Call on trainees in the order in which you made the assignments yesterday:

<u>Name</u>	<u>Page</u>	<u>Paragraphs</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

As each trainee makes his presentation, follow along in your copy of the Training Guide. Also, fill the "Practice-Training Rating Sheet" which follows.

Sit with trainees, preferably in the back of the room, during the presentations.

Allow from 5 to 10 minutes per trainee for the presentation and critique.

(1) Comments from practice trainer

Thank you very much, Mr./Ms. _____. Would you like to make some comments on your own presentation?

Allow time for the practice trainer to make some comments.

(2) Comments from other trainees

Does anyone have a special comment to make that will be helpful to Mr./Ms. _____ or to the rest of the group?

After comments from the group offer any helpful suggestions of your own that have not yet been covered, using your rating sheet. Try to commend each trainee on some good points. Then call on the next trainee and follow the same procedure for the critique.

(3) Your comments and suggestions

Now all of you have had a chance to present part of the training and to observe and comment on the presentations of others. At this point you should know something about your own strengths and weaknesses and which techniques you need to concentrate on and practice most before you train

Exhibit C-4-10. PORTION OF GUIDE FOR TRAINING CREW LEADERS--Continued

Outline	Narrative
	<p>your enumerators. The more you practice and the more familiar you are with the Training Guide, the easier the training will become.</p> <p>Do you have any questions about the use of the Training Guide before we go on?</p>

Answer any questions.

CONTINUE WITH DISCUSSION OF ENUMERATOR PAY AUTHORIZATIONS

PRACTICE-TRAINING RATING SHEET																						
Did the trainee--	Name of trainee																					
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
1. Read clearly and loudly enough?																						
2. Read at a pleasing rate of speed (neither too slowly nor too rapidly for easy understanding)?																						
3. Have ready and close at hand all materials needed for his/her presentation?																						
4. Hold the attention of the class by looking up frequently?																						
5. Read the verbatim materials as printed?																						
6. Follow instructions as printed in the Guide?																						
7. Cover the material in the time allowed in the Guide?																						
8. Handle exhibit materials effectively and as instructed?																						
9. Use the blackboard effectively and as instructed?																						
10. Allow enough time for majority of class to follow instructions for locating materials, making entries on forms, etc.?																						
11. Handle questions from class properly (refer trainees to instructions in the Reference Manual, ask trainees to hold questions that would be answered later, or answer questions properly from own knowledge)?																						
Instructions: Answer each question for each trainee by marking an X in the YES or NO column; if the question does not apply, leave it blank. Use the reverse side for additional comments or explanations of your rating.																						

Day and period	Subject	Day and period	Subject
25 June morning	<ol style="list-style-type: none"> 1. Introduction and orientation to job <ol style="list-style-type: none"> a. Opening remarks b. Objectives of the 1980 Censuses of Population and Housing c. Significance of Oath of Office d. Administration of Oath of Office e. Completion of Application and Personnel Form for Temporary Service f. Importance of confidentiality g. Use of Identification Card h. Conditions of employment i. Census organization <ol style="list-style-type: none"> (1) National Statistical Office (NSO) (2) Province Census Office (PCO) (3) District Census Office (DCO) (4) Crew leader (CL) area (5) Enumeration area (EA) 2. Preview of training program <ol style="list-style-type: none"> a. Introduction to enumerator's job b. Introduction to Enumerator's Reference Manual c. Introduction to EA Book d. Introduction to Enumerator's Workbook e. Identification of other materials in the enumerator kits f. Illustrative interview with filled Phase I questionnaire 3. Canvassing procedures <ol style="list-style-type: none"> a. Definition of canvassing b. Map interpretation <ol style="list-style-type: none"> (1) Orientation (2) Meaning of symbols and legend (3) Use of map scale for measuring distances (4) Relationship of map to ground features (5) Use of north arrow (6) Identification of boundaries (7) Addition and deletion of detail on map c. Canvassing the EA <ol style="list-style-type: none"> (1) Locate the EA (2) Orient the map (3) Determine route of travel (4) Look for hidden HU's and living quarters in nonresidential buildings 4. Geographic identification code scheme <ol style="list-style-type: none"> a. Province b. District c. Barrio/village d. Urban place/hamlet e. Ward/tract f. Block 	25 June afternoon	<ol style="list-style-type: none"> g. Type of place h. Metropolitan area i. EA <hr style="border-top: 1px dashed black;"/> <ol style="list-style-type: none"> 5. Listing all living quarters <ol style="list-style-type: none"> a. Definition and purpose of listing b. Use of Listing Sheet c. Terms pertaining to listing <ol style="list-style-type: none"> (1) Housing unit (HU) (2) Household (3) Collective quarters (CQ) 6. Filling Listing Sheet <ol style="list-style-type: none"> a. EA number and page number b. Columns 1, 2--Block number, number or name of street or road c. Column 3--Serial number d. Column 4--House number, apartment number, location or description e. Column 5--Vacancy status f. Column 6--Name of head of HU or name and type of CQ g. Column 7--Total persons in unit h. Columns 9 to 12--Interview record i. Column 14--Notes 7. Completion of Listing Sheet <ol style="list-style-type: none"> a. Page totals for columns 5, 6, and 7 b. Transcription of page totals to summary page c. Consistency in page totals 8. Overall look at the Phase I questionnaire <ol style="list-style-type: none"> a. Purpose b. General instructions about format <ol style="list-style-type: none"> (1) Light and dark type; italic type (2) Questions and question headings (3) Explanation of codes (4) Write-in entries (5) "Skip" instructions c. Number of lines d. Types of items <ol style="list-style-type: none"> (1) Serial number (2) Population items (P-1 to P-25) (3) Housing items (H-1 to H-19) (4) Items to indicate household continued (P-1a and P-1d) (5) "Check" items (P-1b and P-1c) (6) Principal respondent and date of interview (7) "Remarks" section e. Use of questionnaire for Special EA's f. Workbook exercise No. 1

Day and period	Subject	Day and period	Subject
26 June morning	9. Review <ul style="list-style-type: none"> a. Canvassing procedures b. Listing Sheet c. Phase I questionnaire 10. Discussion of population items (P-1 to P-10) <ul style="list-style-type: none"> a. For all persons b. Names of all household members and "check" questions (P-1, P-1b, P-1c) c. Residence rules d. Household continued (P-1a, P-1d) e. Relationship to household head (P-2) f. Sex (P-3) g. Age as of last birthday (P-4) h. Marital status (P-5) i. Explanation of "skip" instruction j. Line number of husband for married females (P-6) k. Maternal survivorship (P-7) l. Explanation of "skip" instruction m. Residence of mother (P-8) n. Country of birth (P-9) o. Length of residence in this district (P-10) p. Workbook exercise No. 2 11. Education and literacy (P-11 to P-13) <ul style="list-style-type: none"> a. For persons 5 years or older b. School attendance (P-11) c. Highest grade or year completed (P-12) d. Explanation of "skip" instruction e. Literacy (P-13) 12. Fertility (P-14 to P-18) <ul style="list-style-type: none"> a. For females 12 years or older b. Number of children born alive (P-14) c. Explanation of "skip" instruction d. Number of children living in HU (P-15) e. Number of children living elsewhere (P-16) f. Number of children dead (P-17) g. Number of children born alive in last 12 months (P-18) h. Workbook exercise No. 3 *13. Economic characteristics (P-19 to P-25) <ul style="list-style-type: none"> *a. For persons 12 years or older *b. Reference period *c. Purpose of questions *d. Principal activity (P-19) *e. Explanation of "skip" instruction *f. Any work at all (P-20) *g. Explanation of "skip" instruction 	26 June afternoon	*h. Looking for work (P-21) *i. Reason for not looking for work (P-22) *j. Explanation of "skip" instruction *k. Hours worked at all jobs (P-23) *l. Business or industry of principal job (P-24) *m. Status in employment (P-25) *n. Workbook exercise No. 4
			14. Discussion of housing items (H-1 to H-8) <ul style="list-style-type: none"> a. Review of HU definition b. Type of living quarters (H-1) c. Explanation of "skip" instruction d. Number of housing units in structure (H-2) e. Construction material of outer walls (H-3) f. Construction material of roof (H-4) g. Construction material of floors (H-5) h. Number of rooms in unit (H-6) i. Tenure and occupancy status (H-7) j. Explanation of "skip" instructions k. Amount of monthly rent (H-8) l. Explanation of "skip" instruction 15. Vacant units (H-9 and H-10) <ul style="list-style-type: none"> a. Vacancy status (H-9) b. Condition of vacant unit (H-10) 16. Occupied units (H-11 to H-19) <ul style="list-style-type: none"> a. Constructed in past 12 months (H-11) b. Piped running water (H-12) c. Source of the drinking water (H-13) d. Type of toilet facilities available (H-14) e. Type of bathing facilities available (H-15) f. Television set (H-16) g. Kind of lighting (H-17) h. Kind of fuel used for cooking (H-18) i. Articles produced in unit for sale (H-19) j. Workbook exercise No. 5 17. Enumeration of CQ's <ul style="list-style-type: none"> a. Same questionnaire as for HU's b. Definition of CQ c. Types of CQ (institutions, military barracks, dormitories, nursing homes, etc.) d. Starting place for enumeration e. Continuation sheet f. Omission of housing items for CQ g. CQ containing 100 or more occupants not previously identified

Note: Only those portions of the outline marked with an asterisk (*) are illustrated in the case study.

Day and period	Subject	Day and period	Subject
	<p>18. Use of the Individual Census Report (ICR)</p> <ul style="list-style-type: none"> a. Leave for persons not available for interview b. Make appointment to pick up ICR c. Practice confidentiality procedures d. Pick up ICR; transcribe to questionnaire <p>19. Review of questionnaire</p> <ul style="list-style-type: none"> a. Check for completeness b. Check for consistency of items c. Workbook exercise No. 6 <p>20. Interviewing techniques</p> <ul style="list-style-type: none"> a. Introduce yourself and show Identification Card b. Briefly explain the purpose of the interview c. Interview a responsible adult member d. Assure respondent of confidentiality e. Be prepared to ask the first question and start the interview immediately f. Ask questions as worded and in sequence g. Be patient and courteous h. Thank respondent and conclude interview <p>*21. Mock interview</p> <p>22. Handling special enumeration situations</p> <ul style="list-style-type: none"> a. No one at home on first visit b. Number of callbacks required c. Vacant units d. Noninterview situations <ul style="list-style-type: none"> (1) Refusal (2) Occupants temporarily away during census period (3) No reliable respondent available e. Procedures when different number of units found at time of callback <ul style="list-style-type: none"> (1) Address not living quarters (2) More units found at address (3) Fewer units found at address f. Procedures for correcting errors <ul style="list-style-type: none"> (1) Correction of one or two items (2) Cancellation of questionnaire containing too many errors to correct 		<p>25. Interviewing</p> <ul style="list-style-type: none"> a. Review of techniques b. Practice interviews
		27 June afternoon	<p>26. Discussion of results of field exercises</p> <ul style="list-style-type: none"> a. Map interpretation b. Canvassing methods c. Enumeration problems d. Use of reference manual e. Observations of trainer <p>27. Administrative instructions</p> <ul style="list-style-type: none"> a. Appointments with crew leader b. Observation of work c. Crew leader's final review of completed EA d. Daily record of hours worked and kilometers traveled e. Day authorizations <ul style="list-style-type: none"> (1) Issuing procedures <ul style="list-style-type: none"> (a) Upon completion of training and enumeration of one-third of the assigned EA (b) Upon crew leader's review of EA Book (2) Payment procedures (3) Authorization for travel allowance (4) Authorization for other expenses f. Communication with crew leader between visits g. Reporting accidents and injuries <ul style="list-style-type: none"> (1) Standard government requirements (2) Safety requirements h. Assignments <ul style="list-style-type: none"> (1) Initial EA assignment (2) Additional EA assignment i. Check of materials to be inserted in enumerator kits (pencils, EA Book, ICR's and envelopes, Enumerator's Reference Manual) j. Additional supplies obtained from crew leader as needed k. Distribution of EA Books for first assignment <p>28. Closing remarks</p> <ul style="list-style-type: none"> a. Review the "reminders" on the inside cover of the EA Book b. Remind enumerators about the confidentiality requirements c. Stress the importance of keeping appointments with the crew leader d. Answer any questions
27 June morning	<p>23. Review</p> <ul style="list-style-type: none"> a. Phase I questionnaire items b. Enumeration procedures <p>24. Field exercise in map usage</p>		

Note: Only those portions of the outline marked with an asterisk (*) are illustrated in the case study.
 Note: A supplemental section of the training guide will be prepared for crew leaders who are responsible for training a selected group of enumerators on T-Night enumeration procedures.

Exhibit C-4-12. PORTION OF GUIDE FOR TRAINING ENUMERATORS

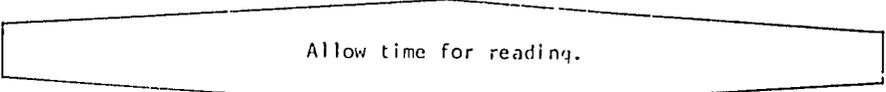
Outline	Narrative
13. Economic characteristics (P-19 to P-25)	<p>We will continue our study of the population questions now, beginning with item P-19. Take a few minutes to read over items P-19 to P-25. Be sure to read the headings above these items.</p>
	 <p>Allow time for reading.</p>
a. For persons 12 years or older	<p>These questions are concerned with the economic characteristics of all persons 12 years of age or older. They are intended to measure participation and non-participation in the labor force. We collect this information in order to identify and classify the employment status of our population.</p>
b. Reference period	<p>All of these questions refer to activities during the month of June, which is the month prior to the Phase I enumeration. Note that the questions are grouped together in relation to a particular topic; for example, P-19 to P-23 refer to economic activity and P-24 and P-25 refer to industry and employment status.</p>
c. Purpose of questions	<p>The purpose of the first series of questions is to sort the population according to their principal activity, identify the economically active population, and distinguish part-time from full-time workers. The economically <u>active</u> population includes two main groups of persons--those who are employed and those who are unemployed. The unemployed are persons who are looking for work. These items also identify persons who are neither employed nor unemployed and, therefore, are considered economically <u>inactive</u>. For the most part, persons who are economically inactive are persons engaged in household duties in their own homes, young persons in school, and retired and disabled persons. This group will also include persons who are engaged in activities not considered as work, such as volunteer work for charitable or religious organizations or unpaid work of less than 15 hours a week in a family enterprise. Persons who work without pay for <u>15 or more hours</u> a week in a family enterprise are counted as "working."</p> <p>We ask the next series of questions, P-24 and P-25, to classify economically active persons by the nature of their employment. Specifically, we ask question P-24 to determine the kind of business or industry in which the person is engaged and question P-25 to determine the person's employment status. By employment status we mean whether the person is an employer, employee for pay, self-employed or own-account worker, unpaid family worker, or a member of the Armed Forces. Both industry and status must relate to the person's principal job or business.</p> <p>Now we will continue with a discussion of the individual items.</p>

Exhibit C-4-12. PORTION OF GUIDE FOR TRAINING ENUMERATORS--Continued

Outline	Narrative
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d. Principal activity last month (P-19)

The first question asks about the person's major activity during June. Mr./Ms. _____, will you please read question P-19 for us now.

Follow questionnaire.

In asking this question, you should emphasize the word "most" and always include a phrase at the end that will help the respondent in answering. First, mention the activity which seems most appropriate for the person you are inquiring about and then finish with the additional words "or something else." For example, "working" would be the most appropriate activity when you ask about the head of the household. Therefore, you would ask, "During June what were you doing most of the time--working or something else?" For a woman who appears to be a housewife, it would be appropriate to ask, "During June, what were you doing most of the time--keeping house or something else?"

Question: What wording would be appropriate in asking P-19 for a 13-year old girl, Mr./Ms. _____?

Answer: During June, what was she doing most of the time--going to school or something else?

Your selection of an appropriate activity in wording the question is just to give the respondent some idea of what you mean by the question. It doesn't necessarily mean that your selection is the correct one. You can never assume that you know the correct entry.

Always make it clear to the respondent that you are referring to the month of June. The answer must always reflect the person's activity during June even though it may not be the person's usual activity.

Are there any questions about how to word question P-19?

Answer any questions.

You will show your entry for P-19 by circling one of the numeric codes listed on the line for the person you are enumerating. In order to be sure you understand the codes, we must discuss their meaning.

Mr./Ms. _____, will you read the codes in item P-19, please.

Follow questionnaire.

Since you have to circle the one code which best describes what the person was doing most of June, you must clearly understand what each code means. If the person indicates an involvement with several activities, determine the one at which the most time was spent and circle the code for that activity.

Exhibit C-4-12. PORTION OF GUIDE FOR TRAINING ENUMERATORS--Continued

Outline	Narrative
(1) Code 1—working	<p>Code 1, for working, means work for pay or profit, or unpaid work of 15 or more hours per week in a family farm or business. When we say working for "pay or profit," we mean wages, salaries, commissions, or income from own business or farm. Work for "pay in kind" is also considered as "working." For example, a waitress who gets her meals as part of her pay receives "pay in kind."</p> <p>In our country, we have many people who are engaged in agriculture. Women and children usually help to feed the cattle, take care of chickens, pick fruit, etc. For purpose of the census, unpaid farm work does not count as "<u>work</u>" unless it amounts to 15 hours or more a week.</p> <p>In most cases, the respondent can easily tell you whether or not he or she was working during June, but there are other cases which may not be so clear. For example, a housewife who cooks, cleans house, and cares for her children is not considered as "working." Unpaid family work like cutting the grass or painting one's own house is not considered "work" either. As I just mentioned, even unpaid work in a family farm or business is not counted as work if it is less than 15 hours per week.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>Question: When do we count unpaid work in a family farm or business as "work," Mr./Ms. _____?</p> <p>Answer: When it amounts to 15 or more hours per week.</p> </div> <p>Voluntary work for charitable or religious organizations is not counted as "work" either since it is not for pay or profit.</p> <p>Are there any questions about the meaning of work?</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0; text-align: center;"> <p>Answer any questions.</p> </div>
(2) Code 2—own housework	<p>Code 2, own housework, should be circled for persons whose principal activity was performing household duties in their homes. This code may apply to either sex if the person was mainly engaged in duties of caring for the home and children. You may apply the code to more than one person in a household; for example, both a mother and daughter in the same household might give "keeping house" as their principal activity.</p> <p>I want to caution you in connection with the use of code 2. Domestic servants who work in a household for wages and/or room and board should be reported as "working"--not as "keeping house."</p>
(3) Code 3—going to school	<p>You should use code 3, going to school, for persons who spent most of June attending school. This code can apply to persons of either sex who attend</p>

Exhibit C-4-12. PORTION OF GUIDE FOR TRAINING ENUMERATORS--Continued

Outline	Narrative
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any regular educational institution, public or private. This means an institution which provides systematic instruction at any educational level, including trade and vocational schools.

Are there any questions about when to use codes 2 and 3?

Answer any questions.

(4) Code 4—something else

The last code is code 4. It should be circled in item P-19 for persons whose principal activity during June does not fall in any of the other three codes. Code 4 applies to persons who are retired, who are receiving public aid or private support, etc. You should use code 4 also for persons who are reported as (a) taking it easy, (b) doing volunteer work, (c) working without pay for a neighbor, (d) ill (and no indication of another activity), and (e) students on summer vacation.

Are there any questions now about the meaning of any of the P-19 codes?

Answer any questions.

I'm going to ask you a few questions to review the P-19 codes. In addition to giving the code, give the reason for your answer in each case.

Question: How would you classify a full-time student in secondary school who worked 2 hours each evening and 4 hours on Saturday, Mr./Ms. _____?

Answer: Code 3 because school is the principal activity.

Question: What code would you use in P-19 for a woman who works as a housekeeper for room and board, Mr./Ms. _____?

Answer: Code 1 because she is working for "pay in kind."

Question: How would you classify a woman who did volunteer work for the Red Cross 5 days a week during June, Mr./Ms. _____?

Answer: Code 4 because she was doing volunteer work without pay.

e. "Skip" instruction

As you have learned, you should ask questions in order unless you have a "skip" instruction following a particular entry. For all but the first P-19 code which has a "skip" instruction, you will continue with P-20.

Question: Which of the P-19 codes has a "skip" instruction, Mr./Ms. _____?

Answer: Code 1.

Exhibit C-4-12. PORTION OF GUIDE FOR TRAINING ENUMERATORS--Continued

Outline	Narrative
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Question: What is the "skip" instruction for this code, Mr./Ms. _____?

Answer: Skip to P-23.

The reason for the "skip" instruction should be clear. If you know that a person worked most of June, code 1, the next information you need is the number of hours worked, so you skip to item P-23. You would not want to ask "Did you do any work at all?" For entries of any other code in P-19, however, you must ask question P-20 to find out whether or not the person worked at all during June, even if only for a few hours.

f. Any work at all last month (P-20)

Mr./Ms. _____, will you please read question P-20 for us?

Follow questionnaire.

"Own housework" means doing the cooking, cutting the lawn, painting the house, and similar tasks. These activities are not counted as work. I want to emphasize again, you must ask question P-20 for any person for whom you circled codes 2, 3, or 4 in P-19. Never assume that a housewife, student, or retired person did no work at all. Such persons may very well do some part-time work, even though "working" is not their major activity. For example, you may find that persons who reported their principal activity during June as "going to school" also did some part-time work. Question P-20 must be asked to find out whether or not the person did any work during June. Work is defined in the same way for this question as for P-19; it means "work for pay or profit" or unpaid work of 15 or more hours per week in a family farm or business. Keep in mind that you do not consider "own housework" as work for question P-20, even if a housewife feels that her housekeeping is work.

g. "Skip" instruction

For a NO entry in question P-20, you should ask the next question in sequence, P-21. Notice, however, that you have a "skip" instruction for YES entries in item P-20.

Question: What is the "skip" instruction in P-20, Mr./Ms. _____?

Answer: If YES, skip to P-23.

If the person has done any work at all as indicated by the YES entry in P-20, the next question that is applicable is the number of hours worked, item P-23. Questions P-21 and P-22 are not intended to ask working persons if they are also looking for work. Thus, if a person does any work at all, the questions on looking for work are skipped.

Exhibit C-4-12. PORTION OF GUIDE FOR TRAINING ENUMERATORS--Continued

Outline	Narrative
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Are there any questions about P-20 or which question to ask next?

Answer any questions.

h. Looking for work
(P-21)

Mr./Ms. _____, please read question P-21 for us.

Follow questionnaire.

Question P-21 is asked for persons who did not work at all during June (code 2 circled in P-20) in order to find out if they looked for work last month. These persons make up the "unemployed" population. The "unemployed" are persons who did no work at all during June but who were seeking work, including persons who never worked before.

If a person states he/she was "looking for work," accept the answer. If the person is in doubt as to whether or not he/she was looking for work, then you should explain that "looking for work" means making some effort to get a job or start a business. For example, point out that writing letters of application, registering at an employment office, being interviewed by prospective employers, placing or answering advertisements in newspapers, investigating possibilities for starting a professional practice or opening a business, and other similar activities would be counted as "looking for work." If a person was engaged in any of these activities during June, circle code 1 and end the interview for this person. Circle code 2 in question P-21 for a person who made no definite attempt to find work or to set up a business last month, even though he/she may have done so at some time in the past. However, if the person checked on the status of previously filed applications last month, you should consider that person as looking for work and circle code 1. The interview would then be ended for that person.

Question: What types of activities do we consider as looking for work? Give some examples.

- Answer:
- (1) Filing applications with prospective employers.
 - (2) Registering at an employment agency.
 - (3) Being interviewed by prospective employers.
 - (4) Placing or answering advertisements.
 - (5) Investigating possibilities for starting a professional practice or opening a business.

i. Reason for not
looking for work
(P-22)

Mr./Ms. _____, please read question P-22 for us.

Exhibit C-4-12. PORTION OF GUIDE FOR TRAINING ENUMERATORS--Continued

Outline	Narrative
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Follow questionnaire.

Question P-22 is asked of persons who made no attempt to find work during June in order to determine their reason for not looking for work. This item attempts to find out why the person is not looking for work. You should ask this question for all persons for whom you circled code 2 in item P-21. You will show your entry for P-22 by circling one of the numeric codes on that person's line. However, it is important that you understand clearly the meaning of each code.

Mr./Ms. _____, will you please read the codes in item P-22.

Follow questionnaire.

Sometimes the respondent may give you a reason why the person was not looking for work which does not fit any of the codes precisely. If this is the case, it will be necessary for you to ask additional questions in order to get enough information to code the person's reason properly. We will discuss the codes in question P-22 in detail to be sure you understand their meaning.

- | | |
|------------------------------|--|
| (1) Code 1—had job | Code 1 is used for a person who reports having a job but who was not at work during June. These persons, together with those reported as "working," make up the employed population. In order to circle code 1, there must be a definite arrangement for regular work for pay. Persons may have had a job but did not work during last month for such reasons as illness, vacation, bad weather, or labor dispute. |
| (2) Code 2—job not available | You should use code 2 for persons who were not actively looking simply because they believed there were no jobs open to them. Code 2 identifies the group of persons we call "discouraged" workers. They would be looking but they feel there are no jobs available. For example, a student on summer vacation who believed he/she would not find a job might not even bother to look, or an illiterate person could feel that a job would not be found because of limited educational background. |
| (3) Code 3—did not want job | Code 3 is used for persons who report that they did not look for work last month simply because they did not want a job. For example, a retired person who just wants to take it easy will report he/she did not want a job and had no reason to look for work. A housewife who is involved with her household duties might feel that she does not have time for a job. You should circle code 3 for these persons and end the interview. |

Exhibit C-4-12. PORTION OF GUIDE FOR TRAINING ENUMERATORS--Continued

Outline	Narrative
(4) Code 4—unable to work	<p>Code 4 may be used only for persons who are physically or mentally disabled for a long period. Even for an older person, code 4 cannot be used except for a person who has some specific disability such as blindness, a serious heart condition, paralysis, or a mental disorder. Code 4 does not apply to persons who have the normal infirmities which come with old age. A long-term disability is generally one that exists for 6 months or longer. If you have any doubts about whether to use code 4 for a person temporarily unable to work, always find out from the respondent whether or not the person expects to be able to return to work within 6 months. This should be the determining factor in doubtful cases. Conclude the interview for persons reporting they are unable to work.</p>

Are there any question now about the meaning of any of the P-22 codes?

Answer any questions.

The reason for not asking questions P-23 to P-25 for persons who reported codes 2, 3, or 4 in P-22 should be clear. If you know that a person did not have a job, then you know that none of the other questions regarding hours worked, kind of business or industry, etc., would be applicable.

Now I'm going to ask you a few questions to review the P-22 codes. In addition to giving the code, give the reason for your answer in each case.

Question: What code would you use for a person who says he/she is retired, is too old to work, and is not interested in a job, Mr./Ms. _____?

Answer: Code 3 because the person does not want to work.

Question: What code would you use for a man who was injured in an auto accident a month ago and is temporarily disabled but who expects to return to his job in about 3 weeks, Mr./Ms. _____?

Answer: Code 1 because he has a job but was not at work and his disability is for less than 6 months.

J. "Skip" instruction

Since you will ask question P-22 only for persons who were not working and were not looking for work, question P-23 on hours worked would not be applicable. Neither would question P-24 nor P-25 be applicable.

For persons who had a job but did not work, you would skip question P-23 on hours worked but would ask questions P-24 and P-25.

Question: Which of the P-22 codes has a "skip" instruction, Mr./Ms. _____?

Answer: Code 1.

Exhibit C-4-12. PORTION OF GUIDE FOR TRAINING ENUMERATORS--Continued

Outline	Narrative
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k. Hours worked at all job (P-23)

Question: What is the "skip" instruction for this code, Mr./Ms. _____?

Answer: Skip to P-24.

You are to ask question P-23, "How many hours per week did ... usually work at all jobs, not including own housework?" for all persons who did any work at all during June. And remember, work is still defined as work for pay or profit or unpaid family work of 15 or more hours.

When results of this question are tabulated, our government will know how many persons were full-time workers (35 hours or more) and how many worked only a few hours a week. This is very necessary and important information in evaluating the nation's economic situation and planning programs to provide employment.

Question: For which persons will you ask question P-23?

Answer: All persons with code 1 in question P-19 or P-20.

For question P-23, the number of hours worked per week, as stated in the question, means the average number of hours worked per week at all jobs during the month of June. If a respondent tells you he/she has worked a different number of hours on different days, ask the respondent to give you the number of hours worked each day; then add the figures to get the weekly total and verify it with the respondent. Or if the respondent had more than one job, add the total number of hours.

When you count the number of hours worked, include paid vacations and paid sick leave. Do not include lunch periods or vacation time without pay.

For wage and salary workers who work regular hours, you will probably have no difficulty in determining the number of hours worked per week. This should also include any hours worked without compensation in connection with their jobs. For persons with a business or profession, however, there may be some question about what to count as time worked. For example, the time a teacher spends at home grading papers and preparing for next day's classes should be counted as time worked, as well as the time actually spent in school. For a person with a business, you should count all the time spent on the job, even though no sales are made. Similarly, all time spent in unpaid family work on a farm or in a business should be counted.

Record hours as accurately as possible but use whole numbers, counting 30 minutes or over as a whole hour. For example, if someone reported working a total of $45\frac{1}{2}$ hours per week last month, enter 46 hours.

Are there any questions on item P-23?

Exhibit C-4-12. PORTION OF GUIDE FOR TRAINING ENUMERATORS--Continued

Outline	Narrative
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Answer any questions.

2. Business or industry
of principal job
(P-24)

Let's go on to the next item now. Mr./Ms. _____, will you read item P-24 for us.

Follow questionnaire.

This question will be asked of all persons who reported code 1 in Item P-19, P-20, or P-22. The purpose of this item is to determine the kind of business or industry in which the person worked or had a job. If a person worked at more than one job, report the one at which the most hours were worked. Record the person's principal job by circling one of the codes in item P-24.

Mr./Ms. _____, will you please read the codes in item P-24.

Follow questionnaire.

As you can see, these are very general categories of business and industry. It is up to you to determine the correct code for each person and to verify that code with the respondent. In some cases, the respondent will not give you a specific industry. For example, an answer of "I work in an office" is not satisfactory. The office may be in a manufacturing establishment, in a hotel, in a bank, or in a business school. You will need to ask the respondent to describe the industry, then you will circle the code that fits the description.

Look at the Industry Classification Guide on the back cover of the EA Book. You will see that an office in a manufacturing establishment is code 3; an office in a hotel is code 6; an office in a bank is code 8; and an office in a business school is code 0. You should refer to this Guide while you are enumerating. Note that it is printed on the back cover of the EA Book so that you can refer to it easily.

Question: What code would you circle for a response of "shoe factory"?

Answer: Code 3—manufacturing.

Question: Shoe store?

Answer: Code 6—retail trade.

Question: Fire department?

Answer: Code 9—public administration.

Exhibit C-4-12. PORTION OF GUIDE FOR TRAINING ENUMERATORS--Continued

Outline	Narrative
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m. Employment status
(P-25)

Question: What code would you circle for a response of "own business"?

Answer: Would need to ask additional questions to find out what sort of business—retail trade, manufacturing, farming, etc.

Please look at item P-25, which is the last question you will be asking for the person. Notice that there is no verbatim question to ask. In many cases, the respondent will answer question P-24 or even P-23 in a way that will give you the answer to P-25. In other cases, you will need to ask whether the person works for an employer, whether the person has his/her own business, whether he/she hires other persons, or whether the person works without pay in a family farm or business.

For this question, please turn to your Enumerator's Reference Manual. In the contents, locate the page where item P-25 is discussed. As I explained earlier, it is important for you to learn how to find instructions for an item in your manual.

Allow a few minutes for trainees to find the page. Enumerators should turn to chapter 4, section 16g.

Question: What is the definition of employer?

Answer: A person who hires one or more employees.

Question: Let's skip to the definition of self-employed or own-account worker. How does that differ from employer?

Answer: A self-employed or own-account worker operates his/her enterprise and does not hire any employees. An employer hires one or more employees.

Question: An employee is probably the easiest to identify. How would you define employee?

Answer: An employee works for an employer and receives wages, salary, commission, or other compensation.

Please note that you may interview many people who work in personal services. For example, the person may work at odd jobs house cleaning or picking vegetables or fruit. These persons work for someone who hires them. They are to be reported as "employees"--not self-employed. This leaves just two categories more.

A person in the Armed Forces is usually stationed in or around a military installation. You should have no difficulty identifying them. An unpaid family worker, as you can see from the instruction in your manual, is a

Exhibit C-4-12. PORTION OF GUIDE FOR TRAINING ENUMERATORS--Continued

Outline	Narrative
	<p>person who works without pay in a family farm or business. If the person works for pay, then you must inquire about the status--whether employee, employer, or self-employed.</p> <p>Are there any questions on the codes in P-25?</p> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>Answer any questions.</p> </div>
<p>n. Workbook exercise No. 4</p>	<p>Please open your workbooks to Training Exercise No. 4 and we'll have some practice in recording economic characteristics. You will have 25 minutes to complete the exercise. Then we will check your entries and discuss any questions you may have.</p> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>Use the key to Training Exercise No. 4 in the Enumerator's Workbook to check the entries. Answer questions as necessary.</p> </div>

| CONTINUE WITH SECTIONS 14 TO 20 OF GUIDE FOR TRAINING ENUMERATORS |

Exhibit C-4-12. PORTION OF GUIDE FOR TRAINING ENUMERATORS--Continued

Outline	Narrative
21. Mock interview	<p>Now that we have completed our study of the Phase I questionnaire, we will have a complete mock interview. This time we will go through the entire questionnaire and also make the appropriate entries on the Listing Sheet. As before, I will act as respondent and will call on several of you in turn to act as the enumerator, continuing from where the previous person left off. Each of you should make entries on a Listing Sheet and questionnaire, just as if you were the enumerator. If anyone needs a Listing Sheet or a blank training questionnaire for this interview, let me know. Be sure your forms are marked "Training" in the top margin.</p> <p>We shall stop the interview frequently to make some comments. At such times, if you have any questions, please ask them. If you wait until the end of the interview, you may forget to ask your question.</p>

Since you will be listing the first housing unit on the first Listing Sheet for this imaginary EA, two items should be filled at the top of the page.

Question: What are these items, Mr./Ms. _____?
Answer: EA number and page number.
Question: Where will you find the EA number, Mr./Ms. _____?
Answer: On the cover of the EA Book in Item J.

You should number each Listing Sheet in sequence as you use it, so naturally you would enter "1" on the first page. Remember that EA number and page number are required entries on each Listing Sheet you fill, but they do not appear on the questionnaires themselves.

Since this is an imaginary EA, I will give you the EA number and other information you would enter in the Listing Sheet columns from observation. This information is taken from the cover of the EA Book.

Please enter EA No. 012 and "1" for page number at the top of the Listing Sheet now. Other information you would have on the cover of the EA Book would tell you that this EA is in Luso District in Kerac Province.

Allow time for entries.

According to the map, you are to start listing and enumerating on Toba Road at the corner of Route 24. The interview is for the third house with an entrance on Toba Road. It is a two-story house and the number is "18." All of this information must be entered on the Listing Sheet before you knock at the door. I will put the information you need for the Listing Sheet on the blackboard and you make the appropriate entries.

Exhibit C-4-12. PORTION OF GUIDE FOR TRAINING ENUMERATORS--Continued

Outline	Narrative
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Write on blackboard:

EA No. - 012
 Name of street - Toba Road
 Serial number - 3
 House number - 18

As soon as I answer the knock at the door, the first enumerator for this interview should introduce himself or herself, show an Identification Card, and explain the purpose of the interview. Then ask the questions as worded, beginning with item P-1. Be sure to follow all special instructions.

A word of advice. When you are conducting an interview, be business-like. The census is authorized by law. Do not be rude but do not be apologetic. Introduce yourself, then start with the questions. A pause is awkward for both you and your respondent. You need not go into all the details of the reasons for the census unless the respondent asks you. The average respondent usually answers all your questions and then sometimes asks you why the census is taken.

When I call on you to be the enumerator, please come to the front of the room and read the enumerator's part of the prepared script which I will give you. I will read the respondent's part. I will show you where to begin. All of the rest of you should make entries for this household on your training questionnaire.

Do not call on trainees in a predictable pattern. Give the trainee who is acting as enumerator a copy of the script and indicate where to begin reading. Change of enumerators should be made at the end of a group of related questions--not in the middle.

Although you will be reading the respondent's part, try to simulate a real situation by sometimes hesitating as you think about the answer. Stop the interview where indicated to read the comments about important points which are shown in brackets throughout the script. Answer any questions about these points.

For this interview, use copies of the detailed script, comments and key which are reproduced in Appendix B of the Enumerator's Reference Manual. To keep the trainees alert, however, do not refer them to the script and key until after the interview is completed. Then have them check their own entries. Answer any questions.

Mr./Ms. _____, please come to the front and be the first enumerator.

CONTINUE WITH HANDLING SPECIAL ENUMERATION SITUATIONS

Exhibit C-4-13. OUTLINE OF CREW LEADER'S REFERENCE MANUAL

CHAPTER 1. INTRODUCTION

1. General introduction to the census
 - a. History
 - b. Authority
 - c. Value and uses of census information
2. Role of the crew leader
 - a. Your job
 - b. Your responsibility
 - c. Your appointment, pay, hours
 - d. Supervision of enumerators
 - e. Use of the Crew Leader's Reference Manual
3. Census organization
 - a. National Statistical Office (NSO)
 - b. Field organization chart
4. 1980 Censuses of Population and Housing
 - a. Development of plans and procedures
 - b. Enumeration plan--Phase I and Phase II
 - c. Method of enumeration for Phase I
5. Confidentiality of information
 - a. Census law
 - b. Census rules

CHAPTER 2. PRELIMINARY OPERATIONS

- *1. Training for preliminary operations
- *2. Checking EA's and EA boundaries
- *3. Prelisting in each EA
 - *a. Prelist 5 in each EA for own use
 - *b. Prelist 10 in each EA for DCO use
 - *c. Crew Leader's Prelisting
 - *d. Prelisting procedures
 - *e. Disposition of prelisting form
4. Using the Identification Sticker
5. Indicating enumerator's starting place in EA
6. Planning enumerator's route of travel in EA
7. Splitting large EA's
 - a. When to split EA's
 - b. Procedure for splitting
 - c. Crew Leader Report of Split EA's
8. Preparing for recruitment, selection, and training of enumerators
 - a. Arrange for testing and training space
 - b. Distribute recruitment posters and publicity handouts
 - c. Recruit and select enumerators
9. Checking supplies
10. Preparing enumerator assignments
 - a. Enter name and special instructions (if any) on EA Book cover
 - b. Check materials in enumerator kits
 - c. Determine largest EA's to be assigned first

11. Preparing for enumerator training
12. Preparing for T-Night enumeration
 - a. Prepare enumeration materials
 - b. Prepare for training
 - c. Select enumerators
13. Preparing for enumeration of Special EA's
14. Summary of purpose and use of related forms

CHAPTER 3. RECRUITMENT OF ENUMERATORS

1. Authority
 - a. Appoint enumerators
 - b. Administer the Oath of Office
2. Crew Leader Authorization for Enumerator Staff, Rates of Pay, and Travel
3. Recruitment sources
 - a. Advance recruitment by DCO
 - b. Contacts by crew leaders
 - c. Notice to Report for Test
4. Recruitment procedures
 - a. Advance preparations for testing
 - b. Enumerator Selection Aid
 - c. Answer Key to Enumerator Selection Aid
 - d. Application and Personnel Form for Temporary Service
 - e. Selection procedures
5. Recruitment records and reports
 - a. Crew Leader's Master List of EA's
 - b. Section III, Crew Leader's (CL) Record Book
 - c. Section IV(A), CL Record Book
6. Disposition of personnel forms
 - a. Applications
 - b. Tests
7. Summary of purpose and use of related forms

CHAPTER 4. ENUMERATOR TRAINING

1. Prepare for training
 - a. Distribute Notice to Report for Training
 - b. Assemble training materials for each enumerator
 - c. Study the Guide for Training Enumerators
 - d. Arrange training room to best advantage
2. Conduct enumerator training
 - a. Present training exactly as written in training guide
 - b. Distribute assignments and materials
 - c. Schedule first appointments with enumerators
3. Submit Group Training Report
4. Conduct training for T-Night enumerators if required

Note: Only those portions of the outline marked with an asterisk (*) are illustrated in the case study.

Exhibit C-4-13. OUTLINE OF CREW LEADER'S REFERENCE MANUAL--Continued

CHAPTER 5. SUPERVISION OF ENUMERATION

1. Importance of good supervision
2. Observation and field review procedure
 - a. Purpose
 - b. Frequency of review
3. Scheduling of review
 - a. When to schedule
 - b. Where to record appointments
4. First field observation and review
 - a. Use of Section VI of CL Record Book
 - b. Evaluation of results in Part D of Section VI
5. Second field observation and review
6. Final review of EA Book
 - a. Crew Leader's Final Review of EA
 - b. Collect all enumeration materials
 - c. Issue Enumerator Pay Authorization
7. Entries on cover of EA Book
 - a. Date EA received, item 5
 - b. Date EA reviewed and approved, item 6
 - c. Summary of page totals, item 7
 - d. Pay authorization number, item 8
8. Entries for completed EA's
 - a. On Master List of EA's, by enumerator
 - b. In Section III, CL Record Book
9. Entries in CL Record Book for issuance of Enumerator Pay Authorization
 - a. In Section III, by enumerator
 - b. In Part D of Section VII, by crossing out serial number
10. Special enumeration situations
 - a. Vacant units
 - b. Refusals
 - c. Close-outs and other incomplete cases
11. Supervision of T-Night enumeration, if applicable
12. Supervision of enumeration of Special EA's, if applicable

CHAPTER 6. CREW LEADER AND ENUMERATOR PAY AUTHORIZATIONS

1. NSO pay system
2. Crew leader responsibility for pay authorizations
3. Crew leader pay procedures
 - a. Maintain daily and weekly records
 - b. Prepare Crew Leader Pay Authorization each week
 - c. Make appropriate entries for pay authorization in CL Record Book
4. Enumerator pay procedure
 - a. Prepare authorization
 - b. Issue authorization
 - c. Make appropriate entries for Enumerator Pay Authorization
 - d. Submit authorization to DCO for payment

CHAPTER 7. OTHER ADMINISTRATIVE REQUIREMENTS

1. Progress reporting
 - a. PCO/DCO Summary of Recruitment Progress
 - b. Group Training Report
 - c. Field Progress and Cost Report
2. Maintenance of supplies
3. Transmittal of completed EA Books to DCO
 - a. Materials to be turned in for each completed EA
 - b. Pick-up and delivery schedule in each EA
 - c. Processing transmittal
4. Employee accidents and injuries
 - a. Standard government requirements
 - b. Safety requirements
 - c. Report of accidents or injuries to DCO
5. Transmittal to DCO
 - a. Enumerator kits
 - b. Outstanding pay authorizations
 - c. CL Record Book
 - d. Identification Card
 - e. Unused enumeration materials

Exhibit C-4-14. PORTION OF CREW LEADER'S REFERENCE MANUAL

CHAPTER 2. PRELIMINARY OPERATIONS (Part)

1. Training for preliminary operations
- On the day you enter on duty as crew leader, you will begin 2 days of preparatory training on the preliminary duties you must perform in order to get ready for the census. This training will be given on 22 and 23 May.
- Shortly before the census starts, you will be given training for 3 days, from 9 June to 11 June, on enumeration procedures and the training and supervision of enumerators.
- a. Place of training
- Your preparatory training sessions will be held at the DCO. The training sessions you will attend will start promptly at 9 a.m. and last until 4 p.m. If the distance from your home to the DCO is too great to travel each day, the DCO technical assistant may authorize you to remain overnight in the district capital.
- b. Your instructor
- The technical assistant, who is your immediate supervisor, will conduct the training. However, the district census officer or the administrative assistant may assist with some portions of the training. The administrative assistant may also assist in supervising you as you carry out your preliminary duties, many of which you will perform almost simultaneously.
- c. Content of training
- You will receive detailed instructions during your training on preliminary operations. The following summary covers the preliminary operations described in this chapter:
- (1) Checking EA's and EA boundaries
 - (2) Prelisting in each EA
 - (3) Using the Identification Sticker
 - (4) Indicating enumerator's starting place in EA
 - (5) Planning enumerator's route of travel in EA
 - (6) Splitting large EA's
 - (7) Preparing for recruitment, selection and training of enumerators
 - (8) Checking supplies
 - (9) Preparing enumerator assignments
 - (10) Preparing for enumerator training
 - (11) Preparing for T-Night enumeration
 - (12) Preparing for enumeration of Special EA's
2. Checking EA's and EA boundaries
- One of your most important duties between now and the time you train your enumerators will be to inspect each enumeration area (EA) that is assigned to you. The EA assignments are listed on your Crew Leader Authorization for Enumerator Staff, Rates of Pay, and Travel. This form will be given to you during training.
- a. Reasons for checking EA's
- Several important reasons for checking EA's are the following:
- (1) To verify that the map of the EA is reasonably up to date and that the EA boundaries and landmarks correspond with the actual physical features of the area. The map should be such that the enumerator can use it and find his/her way around the area easily. Keep in mind that your main objective in checking EA's is to discover ahead of time the problems the enumerator may encounter, and to instruct enumerators in advance how to handle possible problem areas.
 - (2) To notify the DCO of any map discrepancies which must be officially corrected before the start of enumeration.
 - (3) To locate and report any Large Special Dwelling Places (100 persons or more) such as institutions, hotels, military barracks, etc., which were not made Special EA's by the NSO.

Note: Only three sections of the chapter on Preliminary Operations are illustrated in the case study.

Exhibit C-4-14. PORTION OF CREW LEADER'S REFERENCE MANUAL--Continued

- (4) To estimate the approximate number of housing units (HU's) in each EA and to determine whether any are too large for one enumerator and should be split into two or more enumerator assignments.
- (5) To perform other required preliminary duties in each EA as described in this and other chapters of the manual.

b. Checking procedures As you travel in and around each EA, you are to make several checks.

(1) Boundary check

Locate each boundary of the EA as shown on the maps. If you find that any administrative area boundaries have changed, make a sketch illustrating the boundary changes or write a description of the differences. Turn in the sketch or description, properly identified by EA number and your name and CL area number, to the DCO technical assistant immediately.

Prompt action in informing the DCO of boundary changes is necessary as any official changes in map boundaries must be authorized by the NSO before the enumeration starts. You are never to make any boundary changes unless instructed to do so by the NSO.

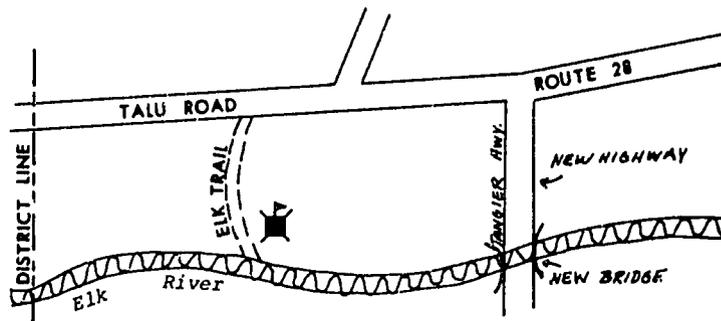
(a) Imaginary lines

Most EA boundaries will be clearly visible features such as streets, roads, rivers, and streams. You may find, however, that some boundaries are not visible on the ground because they are imaginary lines. For example, a boundary could be a proposed street shown on a map but not yet cut through, or the boundary of an administrative division such as a district or barrio.

Imaginary boundaries may cause problems for enumerators. Please make notations about nearby landmarks (telephone poles, schools or other buildings, and features) that will help the enumerator identify and locate the imaginary boundary. Later on you should enter these notes on the cover of the EA Book or make a sketch of the area which will help the enumerator during enumeration. Be sure to explain the situation to the enumerator when you make the assignment.

(b) Changes in street names or new streets

Check carefully for street name changes, new streets and roads, or other changes in physical characteristics as you travel through an EA. If you determine that such changes have occurred, correct your map and later make the same corrections on the EA map. At an early opportunity you should also report such changes to the technical assistant so that DCO maps can be brought up to date. Use "X" to show deletion of features.



The above example shows the addition of a new highway and bridge and the deletion of a school building that no longer exists. All such map corrections should be explained to the enumerator assigned to that EA.

(c) Unidentified hamlets or urban places

Although the NSO made every effort during the map preparation period to identify all settlements of 500 or more population (75 to 100 HU's) on the census maps, it is possible that a few may have been missed. This probably will not happen often, but you should be aware of the possibility.

In case you find any unidentified hamlets or urban places, draw the approximate boundaries of the settlement on your maps and print the name of the settlement as near the boundary as possible. Report any additional hamlets or urban places you find to the DCO as soon as possible. Then follow the instructions below in making such places separate EA's; be sure to identify these additional hamlets and urban places on the enumerator's map.

(d) Resort areas

If one of your EA's is a resort area, you may find that many of the HU's there are really vacation cabins that are only used part of the year. If there are 50 or more vacant seasonal-type HU's in your EA, the EA should be assigned at

Exhibit C-4-14. PORTION OF CREW LEADER'S REFERENCE MANUAL--Continued

an hourly pay rate rather than a piece rate. In such cases request permission from the DCO technical assistant to change the EA to hourly rate if it has been designated as piece rate. Note the change on your Crew Leader Authorization for Enumerator Staff, Rates of Pay, and Travel. Also note the change to hourly rate and the reason on the cover of the EA Book under "Special Enumeration Instructions."

(e) Map out of date

In checking an EA you may discover that a map is completely out of date because so many changes have occurred since the map was made. In such cases try to obtain several copies of an up-to-date map from some local government official--for the enumerator, yourself, and the DCO. Draw the EA boundaries on the new maps but give the enumerator the original map to use as well as the new one. Be sure to get both maps back from the enumerator. If you are unable to obtain up-to-date maps, draw a crude sketch showing the changes in the EA; provide one for the enumerator and another for the DCO. Do not change the EA boundaries.

3. Prelisting in each EA

One of the enumerator's most important duties is to find all occupied and vacant HU's in the EA. If the enumerator fails to do this, the census will not be complete. In order to have a check on whether the enumerator has found all the HU's, we are asking you to prelist the addresses or other identification of a specified number of HU's in each EA, each part of a split EA, and each Special EA. Your prelisting will be used later for comparison with the enumerator's listing to check coverage of the EA.

a. Prelist 5 in each EA for own use

While you are checking each EA, you are to prelist 5 consecutive HU's or collective quarters (CQ's) in the EA for your own check of the enumerator's listing. You may start your crew leader prelisting at any convenient point in the EA and prelist 5 consecutive units in your path of travel from that point. In selecting your starting point for the prelisting, you should also give consideration to selecting the starting place and direction of travel which you will indicate for the enumerator on the EA map. However, you should not start your prelisting at exactly the same point the enumerator will start. The coverage check will be more efficient if you prelist units farther along on the enumerator's path of travel. Do not let the enumerator know which units you are prelisting; otherwise, your prelist will not be a check of the enumerator's work.

b. Prelist 10 in each EA for DCO use

Choose another random starting place and prelist 10 units in consecutive order for your DCO prelisting. In general, follow the enumerator's listing rules--go completely around a block in an urban area, and prelist both sides of a road on one trip in a rural area.

c. Crew Leader's Prelisting

A special form "Crew Leader's Prelisting" is provided for your prelisting. Fill two forms for each EA in your CL area--one for your use and one for the DCO.

d. Prelisting procedures

Fill columns 2, 3, and 5 on the prelisting form for all EA's. Columns 1 and 4 will be filled only in specific circumstances described below.

(1) Information for all EA's (columns 2, 3, 5)

Heading identification items should be filled for each EA. Be sure to indicate whether the form is for your use or for the DCO.

(1) Column 2. Enter the number or name of the street or road on which the HU is located.

(2) Column 3. Enter the house number, apartment number, or location of the HU or a description of the HU itself. HU's in many urban areas will usually have house numbers, but in most rural EA's you will have to enter a description of the unit and/or its location. For example, you might enter "white frame, one-story house, second on right from intersection of Talu Road and Tangier Highway." (If houses are not numbered, please attach an Identification Sticker; see section 4.)

In collective quarters, list room numbers or numbers of individual beds in dormitory-like quarters, as well as names of the occupants at the time of prelisting.

(3) Column 5. Enter the name of the head of the household. You will usually have to make an inquiry at the HU to obtain this information. Introduce yourself to the respondent, show your Identification Card, and explain the purpose of your visit as follows:

"Good morning (or afternoon), I am _____ from the National Statistical Office. I am here to do some preliminary work for the 1980 Census and I would like to have the name of the head of the household."

Exhibit C-4-14. PORTION OF CREW LEADER'S REFERENCE MANUAL--Continued

Always explain to the respondent that an enumerator will come later to enumerate the household.

For collective quarters, enter the name and type of quarters in column 5. You should introduce yourself to the manager, as demonstrated above, and request the information for column 3 (room or bed numbers and names of occupants) from office records.

- (2) Block numbers for large urban EA's (column 1) Column 1. In large urban EA's blocks will be numbered. Enter the block number shown on the EA map in column 1 of the prelisting form if you are prelisting in a block area.
- (3) Information for vacant units (column 4) Column 4. Enter "X" in column 4 to show a vacant housing unit or vacant individual living quarters in a CQ that you have prelisted.
- In this case you will not have a name of head in column 5 for an HU or name of an occupant in column 3 for a CQ. Be sure you carefully identify any vacant living quarters in your prelisting, as the unit may be occupied at the time of enumeration.
- e. Disposition of prelisting form You should have all EA's prelisted by the time you report to the DCO for your enumeration training on 9 June. You should retain your crew leader prelisting in order to check the enumerator's work. You will make this check early in the enumeration so that problem areas will be detected early.
- Turn in all forms for the DCO prelisting to the technical assistant at the start of training. If your prelistings are completed earlier, you may turn them in on one of your visits to the DCO. During the office review operation, the DCO will make a coverage check comparing the DCO prelisting with the enumerator's listing for each EA.

CONTINUE WITH PROCEDURES FOR USING THE IDENTIFICATION STICKER

Exhibit C-4-15. OUTLINE OF ENUMERATOR'S REFERENCE MANUAL

CHAPTER 1. ENUMERATOR'S JOB

1. Your job
 - a. Specific duties
 - (1) Canvass your EA
 - (2) Conduct enumeration
 - b. Responsibilities
 - (1) Follow instructions
 - (2) Maintain confidentiality of information
 - (3) Complete your EA assignment
 - c. Restrictions
 - (1) Do not discuss politics or religion
 - (2) Do not sell products to respondents
2. Your pay
 - a. Rates of pay
 - b. Payment for training
 - c. Payment for enumeration
 - d. Travel allowances
3. Your hours of work
 - a. 8-hour day
 - b. Irregular schedule
4. Your training
 - a. Classroom
 - b. On-the-job
5. Your crew leader
6. Uses of census results
 - a. Determine needs for--
 - (1) Schools
 - (2) Housing
 - (3) Jobs
 - (4) Transportation systems
 - b. Make plans for--
 - (1) Health programs
 - (2) Educational programs
 - (3) Population planning
 - c. Cannot be used for--
 - (1) Taxation
 - (2) Prosecution
7. Terms you must know
 - a. Canvassing
 - b. Listing
 - c. Enumeration
 - d. Enumeration area (EA)
 - e. Housing unit (HU)
 - f. Household
 - g. Collective quarters (CQ)
8. Forms you will use
 - a. EA Book, containing Listing Sheet, Phase I questionnaires, and EA map
 - b. Individual Census Report
 - c. Identification Card
9. Confidentiality of information
 - a. Census law
 - b. Census rules

CHAPTER 2. INTRODUCTION TO EA BOOK AND INTERVIEWING TECHNIQUES

- 1 Design and contents of EA Book
 - a. Front cover
 - (1) EA identification
 - (2) Special enumeration instructions
 - (3) Enumerator section
 - (4) Crew leader section
 - (5) Office sections
 - b. Inside front cover
 - (1) Reminders
 - (2) Enumerator's Record of Hours Worked and Kilometers Traveled
 - (3) Summary of Page Totals
 - c. Listing Sheet
 - (1) Enumerator columns
 - (2) NSO and crew leader columns (shaded)
 - d. Phase I questionnaire
 - e. Industry Classification Guide
2. Individual Census Report
3. Design of Phase I questionnaire
 - a. Instructions on questionnaire
 - (1) Enumerator instructions
 - (2) "Skip" instructions
 - (3) Applicable population groups
 - b. Types of entries
 - (1) Enter a number
 - (2) Circle a code
 - (3) Insert "X"
 - c. How to ask questions
 - (1) Order of asking questions
 - (2) Verbatim questions
 - (3) Answers by observation
 - (4) Information from earlier answers
 - (5) Additional questions to get adequate information
4. Interview
 - a. Whom to interview
 - b. How to conduct the interview
 - (1) Introduce yourself
 - (2) Assure confidentiality of information
 - (3) Start interview promptly
 - (4) Conclude interview promptly
 - c. Review questionnaire before leaving premises
5. Review of work at end of day
 - a. Check Listing Sheets and questionnaires for completeness
 - b. Check "notes" section of Listing Sheet for callbacks to be made next day
 - c. Check Listing Sheets for completeness; post totals to the Summary of Page Totals
 - d. Make entries in Enumerator's Record of Hours Worked and Kilometers Traveled
6. Completed forms for reference
 - a. Appendix A. Listing Sheet for Mock Interview
 - b. Appendix B. Mock Interview
 - (1) Verbatim script
 - (2) Filled Phase I questionnaire

Exhibit C-4-15. OUTLINE OF ENUMERATOR'S REFERENCE MANUAL--Continued

CHAPTER 3. CANVASSING AND LISTING

1. Canvassing and listing procedures
2. Enumeration procedures
3. Definitions
 - a. Housing unit (HU)
 - b. Household
 - c. Collective quarters (CQ)
4. Using your map
 - a. Area you are to canvass and enumerate
 - b. Mapping terms
 - (1) Orientation
 - (2) Block
 - (3) Legend (or key)
 - (4) Scale
 - (5) North arrow
 - (6) Route of travel
 - c. Map corrections
 - (1) Additions
 - (2) Deletions
5. Know your EA boundaries
- *6. Canvassing your EA
 - *a. General canvassing and listing rules
 - * (1) Start at designated starting point
 - * (2) List housing units/collective quarters in order
 - * (3) Show path of travel by directional arrows
 - * (4) Canvass each floor separately in multi-unit structures
 - * (5) Look for out-of-the-way housing units
 - * (6) Be alert for all types of CQ's
 - *b. Rules for canvassing specific types of areas
 - * (1) Urban areas and hamlets with blocks
 - * (2) Urban places or hamlets without blocks
 - * (3) Rural areas
 - *c. Rules for canvassing specific types of structures
 - * (1) Apartment buildings
 - * (2) Non-residential structures
7. Instructions for filling Listing Sheet
 - a. EA number and page number
 - b. Column 1--Block number (urban only)
 - c. Column 2--Number or name of street or road
 - d. Column 3--Serial number
 - e. Column 4--House or apartment No., location or description
 - f. Column 5--Vacancy status
 - g. Column 6--Name of head of HU or name and type of CQ
 - h. Column 7--Total persons in unit
 - i. Columns 9 to 11--Interview record
 - j. Column 12--"X" entry for completion
 - k. Columns 8 and 13--For office use
 - l. Column 14--Notes
 - m. Page totals

8. Summary of Page Totals
 - a. Total listings - Column 5 plus column 6
 - b. Number of vacant units - Column 5
 - c. Number of occupied units - Column 6
 - d. Persons enumerated - Column 7
 - e. EA total for each column
 - f. Transcription to front cover

CHAPTER 4. DETAILED INSTRUCTIONS FOR COMPLETING THE QUESTIONNAIRE

1. Whom to enumerate
 - a. General
 - b. Specific rules
 - (1) Persons who usually live here
 - (2) Persons with no usual residence elsewhere
 - (3) Persons temporarily absent
 - c. Residence rules applicable to--
 - (1) Housing units
 - (2) Collective quarters
2. Completing the Phase I questionnaire
3. Name (P-1)
 - a. Whom to list
 - b. Order of entering names
 - c. How names are to be written
4. Household continued (P-1a, P-1d)
5. Absentees and visitors (P-1b, P-1c)
6. Relationship to head (P-2)
 - a. How to list nonrelatives
 - b. Fill item P-2 at same time as item P-1
7. Sex (P-3)
8. Age as of last birthday (P-4)
 - a. Children under 1 year
 - b. Estimate of age
9. Marital status (P-5)
10. Line number of husband for married females (P-6)
 - a. Living in HU
 - b. Living elsewhere
11. Is ...'s mother living? (P-7)
12. Residence of mother (P-8)
 - a. Living in HU
 - b. Living elsewhere
13. Place of residence (P-9 and P-10)
 - a. Country of birth (P-9)
 - b. Years of residence in this district (P-10)
 - (1) Under 1 year
 - (2) More than 1 year
 - (3) Always

Note: Only those portions of the outline marked with an asterisk (*) are illustrated in the case study.

Exhibit C-4-15. OUTLINE OF ENUMERATOR'S REFERENCE MANUAL--Continued

14. Education and literacy (P-11 to P-13)
 - a. School attendance (P-11)
 - b. Highest grade or year completed (P-12)
 - c. Can ... read and write? (P-13)
15. Fertility (P-14 to P-18)
 - a. Number of children born alive (P-14)
 - (1) None
 - (2) One or more children
 - (3) "Skip" instruction
 - b. Number of children living in HU (P-15)
 - (1) None
 - (2) One or more children
 - c. Number of children living elsewhere (P-16)
 - (1) None
 - (2) One or more children
 - d. Number of children dead (P-17)
 - (1) None
 - (2) One or more children
 - e. Number of children born alive in last 12 months (P-18)
 - (1) Age limit
 - (2) None
 - (3) One or more children
16. Economic characteristics (P-19 to P-25)
 - a. Principal activity last month (P-19)
 - (1) How to ask
 - (2) Activities counted as work
 - (3) Activities not counted as work
 - (4) "Skip" instruction
 - b. Any work at all last month (P-20)
 - c. Looking for work (P-21)
 - d. Reason for not looking for work (P-22)
 - (1) "Skip" instruction
 - (2) When to end interview
 - e. Number of hours worked per week (P-23)
 - f. Business or industry of principal job (P-24)
 - (1) Specific description
 - (2) Additional questions
 - (3) Industry Classification Guide on back cover of EA Book
 - g. Employment status (P-25)
 - (1) Definition of codes
 - (2) Special situations
17. Review each line for completeness
18. Housing items
 - a. Applicable to all housing units
 - b. Applicable to vacant units
 - c. Applicable to occupied units
19. Type of living quarters (H-1)
 - a. Answer by observation
 - b. "Skip" instruction
20. Number of housing units in structure (H-2)
 - a. How to count
 - b. Answer by observation
21. Construction material of exterior walls (H-3)
 - a. Types of materials
 - b. Answer by observation
22. Construction material of roof (H-4)
 - a. Types of materials
 - b. Answer by observation
23. Construction material of floors (H-5)
 - a. Types of materials
 - b. Answer by observation
24. Number of rooms in unit (H-6)
 - a. Definition of room
 - b. What to include
 - c. What to exclude
25. Tenure and occupancy status (H-7)
 - a. Occupancy arrangements
 - b. Vacant
 - c. "Skip" instructions
26. Monthly rent (H-8)
 - a. How to report non-cash rental arrangement
 - b. "Skip" instruction
27. Vacancy status (H-9)
 - a. Answer by observation
 - b. Ask neighbor
28. Condition and seasonality of vacant unit (H-10)
 - a. Explanation of condition
 - b. Definition of seasonal
29. Constructed in last 12 months (H-11)
 - a. Definition of constructed
 - b. Whom to ask
30. Piped running water (H-12)
 - a. Definition of piped running water
 - b. Availability of piped running water
31. Source of the drinking water (H-13)
 - a. Purpose of question
 - b. Definition of sources
32. Type of toilet facilities available (H-14)
33. Type of bathing facilities available (H-15)
34. Television (H-16)
35. Kind of lighting (H-17)
36. Kind of fuel used for cooking (H-18)
37. Articles produced in unit for sale (H-19)
38. Completion of questionnaire
 - a. Line number of principal respondent
 - b. Date of interview
 - c. Remarks
39. Filling Individual Census Report (ICR)

CHAPTER 5. SPECIAL ENUMERATION SITUATIONS

 1. T-Night enumeration
 - a. Definition of T-Night
 - b. Places to be included on T-Night
 - (1) Known areas where the homeless sleep (parks, doorways, etc.)

Exhibit C-4-15. OUTLINE OF ENUMERATOR'S REFERENCE MANUAL--Continued

- (2) Transient hotels
 - (3) Overnight shelters
 - (4) Local jails
 - c. Types of persons to be enumerated on T-Night
 - (1) Homeless persons
 - (2) Transient persons (temporary residents) who have no usual place of residence elsewhere
 - d. T-Night assignments for selected enumerators
 - (1) Notification by crew leader
 - (2) Special training session on 30 June
 - e. T-Night materials
 - (1) Control list of rooms in large T-Night places
 - (2) EA Book for each Special EA
 - (3) EA Book for each assigned area within a regular EA to be canvassed for homeless persons
 - f. T-Night enumeration procedure
 - (1) For transient hotels
 - (a) Make necessary arrangements with management of hotel
 - (b) Transcribe room numbers to column 4 of Listing Sheet
 - (c) Conduct enumeration, using EA Book
 - (d) Leave ICR's for any persons in listed rooms whom you did not interview
 - (e) Return on morning of 1 July to pick up ICR's and transcribe to Phase I questionnaire
 - (2) For overnight shelters and jails
 - (a) Make necessary arrangements with management of such places
 - (b) Enumerate any housing units (manager's quarters, warden's house, for example)
 - (c) List names of all persons on the Phase I questionnaire
 - (d) Personally interview each person if possible
 - (e) Leave ICR's for any persons whom you did not interview
 - (f) Return on morning of 1 July to pick up ICR's and transcribe to Phase I questionnaire
 - (3) For homeless persons
 - (a) Canvass assigned areas
 - (b) Look for individuals or groups settled down for the night (in parks, doorways, near buildings, etc.)
 - (c) Describe the location of each group of persons as specifically as possible on the Listing Sheet and assign a serial number
 - (d) Fill a Phase I questionnaire for each such group
 - (e) Canvass your area several times looking for newly arrived individuals or groups to enumerate
 - g. Turn in all T-Night enumeration materials to crew leader on 1 July
2. Collective quarters
 - a. Definition
 - b. Types of CQ's
 - (1) Institutions (orphanages, nursing homes, etc.)
 - (2) Military installations
 - (3) Prisons
 - (4) Rooming and boarding houses
 - (5) Quarters for transients
 - c. Enumeration of CQ's
 - (1) How to list
 - (2) Types of persons to be enumerated
 - (a) Staff
 - (b) Patients, inmates, or other residents
 - (3) Housing units versus CQ's
 - (4) Where to start enumeration of CQ's
 - d. Methods of enumeration
 - (1) Direct interview
 - (2) Information from ICR's
 - (3) Information from records
3. Callbacks
 - a. Definitions
 - (1) Not-at-home unit
 - (2) Callback
 - b. Procedures for not-at-home units
 - (1) Listing Sheet entries on first visit
 - (a) Address or location (columns 1, 2, and 4)
 - (b) Serial number (column 3)
 - (c) Vacancy status, if vacant (column 5)
 - (d) Name of head, if occupied (column 6)
 - (e) Date of first and subsequent visits (columns 9 to 11)
 - (f) Best time to call back and other helpful information ("Notes" space)
 - (2) Questionnaire entries on first visit
 - (a) Reserve next available questionnaire
 - (b) Enter serial number from Listing Sheet on reserved questionnaire
 - (3) Minimum of three callbacks required
 - c. Controlling callbacks
 - (1) Check outstanding callbacks each day
 - (2) Do not schedule too many callbacks for same period
 - (3) Do not let callbacks accumulate
 - d. Completing callbacks
 - (1) Complete reserved questionnaire
 - (2) Complete housing items for vacant unit by observation and inquiry
 - (3) Complete columns 7 and 10 to 12 of Listing Sheet
 - e. Procedure for incomplete callbacks
 - (1) Notify crew leader
 - (2) Make additional callbacks if instructed
 4. Procedures when different number of units found at time of callback
 - a. Additional units
 - (1) List the unit on next available line of Listing Sheet
 - (2) Enumerate on next available questionnaire
 - (3) Cross-reference serial numbers of callback unit and additional unit in the "Notes" section of the Listing Sheet(s) where both units are listed
 - b. Fewer units
 - (1) If callback unit is part of another HU, enumerate all persons as members of the correctly identified unit
 - (2) Cancel the incorrectly listed line by drawing a line through it
 - (3) Cancel reserved questionnaire by drawing a large "X" through it
 - c. Cancelled listing lines and questionnaires

Exhibit C-4-15. OUTLINE OF ENUMERATOR'S REFERENCE MANUAL--Continued

- (1) Never use cancelled listing lines or questionnaires
 - (2) Explain cancellations in "Notes" section of Listing Sheet
 - (3) Indicate any out-of-order listings replacing cancelled lines in "Notes" section of Listing Sheet
5. Vacant housing units
- a. Vacancy status
 - (1) For rent or sale
 - (2) Not for rent or sale
 - b. Types of vacancies
 - (1) Habitable for year-round use
 - (2) Habitable for seasonal use
 - (3) Not habitable
 - c. Vacant units under construction
 - d. Items to fill for vacant units
 - (1) Items H-1 to H-6--structural characteristics
 - (2) Items H-7, H-9, and H-10--vacancy characteristics
 - e. Sources of information for vacant units
 - (1) Owner or owner's agent
 - (2) Resident or building manager
 - (3) Real estate company
 - (4) Caretaker
 - (5) Neighbor
 - f. Coverage of vacant units
 - (1) Look for and inquire about possible vacant units as you canvass your EA
 - (2) Inquire specifically about vacant units
 - (a) In multi-unit structures
 - (b) In houses converted into apartments
 - (c) At addresses where there are several structures on the property
6. Refusals
- a. How to handle a refusal
 - (1) Remain calm and courteous
 - (2) Try to be persuasive
 - (3) Stress confidentiality of census data
 - b. Types of refusals
 - (1) Reluctant respondent
 - (2) Partial refusal
 - (3) Complete refusal
 - c. How to report refusals
 - (1) Note "partial" or "complete" refusal in "Notes" section of Listing Sheet
 - (2) Enter serial number on appropriate questionnaire for a complete refusal and leave blank
 - d. Procedures for refusals
 - (1) Report both partial and complete refusals to your crew leader
 - (2) Make additional attempt to obtain information if instructed
 - (3) Enter information for a refusal in your EA Book if obtained by crew leader
 - (4) Enter "X" in column 12 of the Listing Sheet to show completion only if all necessary information is obtained
7. Procedures to follow for other incomplete interviews
- a. Occupants of HU temporarily away for entire census period
 - b. Information not available for individual member(s) of a household

- c. Missed or incomplete items discovered--
 - (1) After leaving HU
 - (2) By crew leader during review of EA
- d. Reliable respondent not available
 - (1) Occupied units
 - (2) Vacant units

CHAPTER 6. ADMINISTRATIVE MATTERS

1. Your appointment
 - a. Official notification--Application and Personnel Form for Temporary Service
 - b. Type of appointment
 - c. Identification Card
 - d. Reminders for enumerators
 - (1) Organize work
 - (2) Plan route of travel
 - (3) Interview efficiently
 - (4) Complete callbacks promptly
2. Your supervision
 - a. During training
 - b. During enumeration
3. Basis of pay
 - a. Types of pay rates
 - (1) Piece rate
 - (2) Hourly rate
 - b. Notification of pay rate
 - c. Training fee
 - d. Other authorized payments
 - (1) Travel allowance
 - (2) Miscellaneous expenses--bus fares, bridge tolls, etc.
4. Method of payment
 - a. Enumerator records to maintain
 - (1) Daily record on inside of front cover of EA Book
 - (a) Hours worked
 - (b) Kilometers traveled
 - (2) Listing Sheet totals
 - (3) Summary of Page Totals
 - b. Enumerator Pay Authorization
 - (1) Payment for Training, Section I
 - (2) Payment for Enumeration, Section II
 - c. Submission of pay forms to DCO by enumerator
 - d. Cash payment by disbursing officer
5. Safety
 - a. Accidents and injuries
 - (1) Your rights and benefits
 - (2) Reporting procedure
 - (a) Emergency treatment
 - (b) Required reports
 - b. Recommended practices regarding--
 - (1) Animals
 - (2) Walking
 - (3) Driving
6. Supplies
 - a. Initial enumeration supplies
 - (1) EA Book
 - (2) Enumerator kits
 - b. Additional supplies

Exhibit C-4-16. PORTION OF ENUMERATOR'S REFERENCE MANUAL

Chapter 3. CANVASSING AND LISTING (Part)

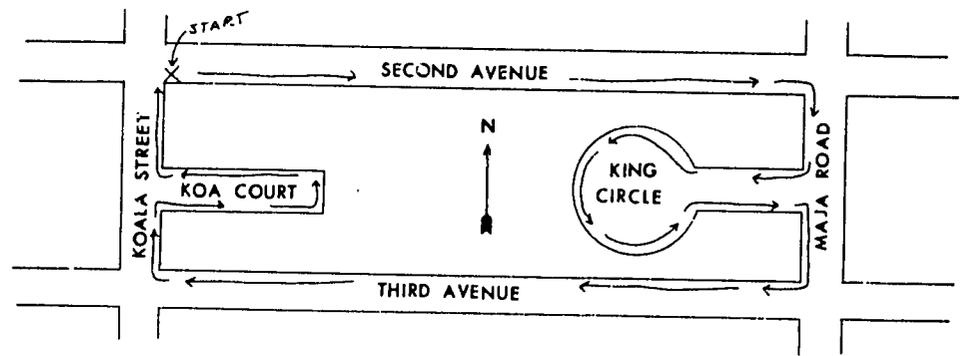
6. Canvassing your EA Canvassing your EA means covering it systematically--searching every block, street, road, or lane for all places where people live or could live. A complete and systematic canvass of your EA is essential to make certain that you locate every housing unit in your EA. As you canvass, you will, of course, list and enumerate each housing unit you find. In fact, canvassing and listing are combined operations.
- a. General canvassing and listing rules Certain canvassing and listing rules have general applications to all types of areas and must be carefully followed by all enumerators.
- (1) Start at designated starting point Always begin your canvass of the EA at the starting point designated by your crew leader, who will mark "X" or "Start" on your map at the point he/she selected and will also indicate the direction of travel from that point with directional arrows (→). The crew leader may not plan the entire route, however. From the starting point, you will plan a systematic canvassing route through the rest of the EA.
 - (2) List housing units/collective quarters in order As you canvass, you must list each housing unit or collective quarters in order as you come to it, whether or not anyone is at home, and whether the unit is occupied or vacant. Of course, you will have to make inquiries at nearby units to find out the best time to call back or any other available information about not-at-home and vacant units.
 - (3) Show path of travel by directional arrows As you canvass your EA, enter directional arrows (→) on the map to show your path of travel. Also when you have completely covered a block or a road, enter a checkmark (✓) on your map to show that this portion of the EA is complete. These devices are very useful to help you make certain you have canvassed all of your EA.
 - (4) Canvass each floor separately in multi-unit structures In multi-unit structures with housing units on more than one floor, canvass and list each floor separately, beginning with the basement. Numbered apartments should be listed in numerical order; unnumbered apartments should be listed by location, proceeding from front to back and/or right to left, according to the arrangement of the apartments; for example, basement, rear; first floor, right front; second floor, left rear; etc.
 - (5) Look for out-of-the-way housing units Look for housing units (apartments and housekeeping rooms) above or in the rear of stores, garages, other places of business, partially built or abandoned buildings, improvised living quarters, and houses hidden from the road.

To help you locate out-of-the-way or hidden housing units you should be on the 'look-out for various clues: for example, mailboxes, lead-in electrical wires, milk cans or produce crates stacked near the road, outside stairways, etc.
 - (6) Be alert for all types of CQ's Be alert as you canvass for all the various types of collective quarters (CQ's)--institutions, convents, hotels, boarding and lodging houses, etc., that were not designated as Special EA's.
- b. Rules for canvassing specific types of areas There are specific canvassing rules for you to follow depending on whether you are assigned to an urban or rural EA, and also specific instructions for canvassing certain types of structures. Follow the instructions below which are applicable to your particular EA.
- (1) Urban areas and hamlets with blocks If you are assigned an urban EA which is divided into blocks or squares (areas bounded on all sides by streets), canvass one block or square at a time. Do not go back and forth across streets. Begin each block at a convenient corner (usually the northwest corner) and proceed clockwise around the block until you reach your starting point. As you canvass in a clockwise direction, you should list and enumerate the housing units on your right. Check every alley, court, or passageway you come to in the block. You must canvass not only around but through the entire block to find all housing units, before going on to the next block.

As you canvass through your EA, remember to check (✓) off each completed block on your map. Also remember to enter directional arrows (→) on your map to show your path of travel through each block in the EA, as illustrated on the next page.

Note: Only one section of the chapter on Canvassing and Listing is illustrated in the case study.

Exhibit C-4-16. PORTION OF ENUMERATOR'S REFERENCE MANUAL--Continued



- (2) Urban places or hamlets without blocks

If your EA is an urban place or hamlet that is not laid out in blocks, you will have to canvass street by street and road by road, looking for all housing units where people live or could live. In such areas, you should interrupt the canvassing of a main street or road to turn off and canvass any side streets as you come to them. You might miss some of the side streets if you wait until later to come back.

- (3) Rural areas

If you have been assigned a rural EA, you will have to canvass road by road. Generally, you should cover both sides of a road as you go, except for EA boundary roads where you will canvass only the side that is in your EA.

Although you will begin canvassing at the starting point and in the direction indicated by your crew leader on your map, you should study your map carefully before starting out and make a preliminary plan for your path of travel. This will help you make sure you cover every part of the EA. Occasionally you may find it convenient to go completely around small built-up sections, just as you would in block-type urban EA's.

Your objective is to canvass every road in your EA. You should turn off from main roads to canvass every side road, path, lane, and trail as you come to them, as such roads may lead you to places where people live. The directional arrows you enter on your map to show your path of travel should clearly indicate where you turn off from a main road to canvass a side road before completing the canvass of the main road.

In rural areas there are many houses which cannot be seen from the road, and there may be no visible clues to indicate their location. Therefore in rural areas make it a practice to always ask at each housing unit about neighbors, and find out exactly where they live. Ask the respondent to point out on your map the approximate locations of his closest neighbors. Some rural maps will show the location of housing units, and other buildings such as schools and churches, which serve as landmarks. Obtaining information from the local residents will help you ensure complete coverage of your EA.

Some roads that you canvass may be unnamed and unnumbered. In order to identify such roads when you list housing units located there, assign a letter to each, starting with "A" for the first one. Be sure to enter the assigned letter both on the map and in the listing column for name or number of street or road.

When enumerating, enter the HU serial number for each housing unit on the map next to the housing unit symbol (■), if there is a symbol on the map. This is a very helpful device for identifying the correct housing unit when another visit is required. In urban areas with blocks outlined on the map, there may not be enough room for writing all the serial numbers; in such cases, you may group the serial numbers for the block (14-52 for example).

- c. Rules for canvassing specific types of structures

There are also specific rules to follow for canvassing multi-unit structures and non-residential structures in your efforts to find all housing units in your assigned area. These instructions are given in the following paragraphs.

- (1) Apartment buildings

Care must be taken to ensure complete coverage and not miss housing units when you are canvassing and listing in apartment buildings or other multiple housing unit structures. First you should consult with the manager or other knowledgeable employee and try to get a list of apartment numbers, letters, or other identifying designations. Obtain the count of the total number of housing units in the structure, if apartments are not numbered.

Exhibit C-4-16. PORTION OF ENUMERATOR'S REFERENCE MANUAL--Continued

As previously stated, you should canvass and list numbered apartments in numerical order. If apartments are unnumbered, start with the lowest floor (or basement) where there are living quarters.

- (2) **Non-residential structures** In order to find all housing units in your area, you must canvass non-residential structures as well as the usual residential structures. You may find people living in the backs of stores, in factories or industrial plants, in barns or sheds on an agricultural holding, and in churches. Therefore, you must make inquiries about every structure even though it may appear to be completely non-residential. You should not list non-residential structures unless someone is actually living there.

Make your questions fit the specific structure. For example, in a store you might ask, "Does anyone live in the back of the store or above it?" At a farm you might ask, "Are there any living quarters for farm workers in any of the farm buildings?"

CONTINUE WITH INSTRUCTIONS FOR FILLING LISTING SHEET

Exhibit C-4-17. CREW LEADER'S RECORD BOOK, FORM PH-265

MINISTRY OF ECONOMY
NATIONAL STATISTICAL OFFICE

CREW LEADER'S RECORD BOOK

1980 POPULATION AND HOUSING CENSUSES

Name of Crew Leader			
Address			
Telephone number		CL Area No.	
Province	Code	District	Code

Section I – CALENDAR OF REPORTING DATES

Section II – SCHEDULE OF VISITS TO ENUMERATORS

Section III – LIST OF APPLICANTS, ENUMERATOR TRAINING,
ASSIGNMENTS, AND PAY AUTHORIZATIONS

Section IV – REPORTS

Section V – RECORD OF ENUMERATOR APPOINTMENTS

Section VI – RECORD OF OBSERVATION AND REVIEW OF
ENUMERATOR'S WORK

Section VII – CREW LEADER'S WEEKLY RECORD OF HOURS WORKED,
NIGHTS IN TRAVEL STATUS, KILOMETERS TRAVELED,
OTHER EXPENSES AND PAY AUTHORIZATIONS

NOTICE TO FINDER	This book is the property of the POPSTAN Government. If found please return to nearest post office.
POSTMASTER	Return to the National Statistical Office, Ministry of Economy, St. Regis.

Exhibit C-4-17. CREW LEADER'S RECORD BOOK, FORM PH-265--Continued

Section IX - REPORTS (See calendar in Section I)						
A. RECRUITMENT						
Report dates (1)	Total number of enumerators			Tested (3)	Selected (4)	
	Authorized (2)					
B. TRAINING						
1. Enumerators trained		Number	3. Report delivered			Date
2. Enumerators who accepted assignments						
C. PROGRESS REPORTS						
Report dates (1)	Piece rate enumerators working (2)	Hourly rate enumerators working (3)	EA'S assigned		EA'S completed	
			This week (4)	Total to date (5)	This week (6)	Total to date (7)

Exhibit C-4-17. CREW LEADER'S RECORD BOOK, FORM PH-265--Continued

Section VI – RECORD OF OBSERVATION AND REVIEW OF ENUMERATOR'S WORK														
A. IDENTIFICATION														
1. EA number (If special, check here) <input checked="" type="checkbox"/> <input type="checkbox"/>				2. Pay basis <input type="checkbox"/> Hourly <input type="checkbox"/> Piece rate				3. EA assigned <input type="checkbox"/> First <input type="checkbox"/> Second or other						
4. Enumerator's name						5. Date →		First visit		Second visit				
B. OBSERVATION OF ENUMERATION														
Observe at least two complete interviews. Use comments space to note errors in work. Discuss errors with enumerator AFTER the interview is completed. Enter the questionnaire serial numbers; use tally marks in appropriate "Yes - No" columns; mark "X" if not applicable.														
Did the enumerator --	First visit						Second visit							
	Serial Nos.		Comments				Serial Nos.		Comments					
	Yes	No					Yes	No						
1. Give a proper introduction and explain the census properly?														
2. Read question P-1 as worded?														
3. Ask question P-1b and take appropriate action?														
4. Ask questions properly?														
5. Follow correct skip pattern for questions P-19 through P-22?														
6. Ask H-7 correctly and follow correct skip pattern?														
7. Close interview properly and complete PH-1 Listing Sheet?														
Total "No" tallies →														
C. REVIEW OF QUESTIONNAIRES														
Review the last three completed PH-2's, except do not review any which you observed. Complete review after observation of enumerator. Enter the questionnaire serial number; use tally marks in appropriate "Yes - No" columns; mark "X" if not applicable. Discuss errors with enumerator after review of all questionnaires.														
Did the enumerator have --	First review						Total "No" tallies	Second review						Total "No" tallies
	PH-2 serial numbers							PH-2 serial numbers						
	Yes	No	Yes	No	Yes	No		Yes	No	Yes	No	Yes	No	
1. An entry in P-2 for each person listed?														
2. An entry in P-9 for all persons?														
3. An entry in P-14 for all females 12 or older?														
4. Entries in P-20, P-21, and P-22 when required?														
5. An entry in P-24 when required?														
6. An entry in H-1?														
7. An entry in H-19 when required?														
Total "No" tallies →														
INSTRUCTIONS						Summary of observation and review (1)		Total "No" tallies for –				Total "No" tallies (4)		
Obtain total "No" tallies for each visit. Take appropriate action indicated by the total "No" tallies. Make a record of comments and action taken for each visit in comments section on next page of this form.								B (2)		C (3)				
						1. First visit								
						2. Second visit								

Exhibit C-4-17. CREW LEADER'S RECORD BOOK, FORM PH-265--Continued

Section VI – RECORD OF OBSERVATION AND REVIEW OF ENUMERATOR'S WORK – Continued	
D. RECORD OF COMMENTS AND ACTION TAKEN	
First visit	Second visit
<input type="checkbox"/> Work acceptable (No second visit required) <input type="checkbox"/> Second visit required <input type="checkbox"/> Work unacceptable (Enumerator released)	<input type="checkbox"/> Work acceptable <input type="checkbox"/> Work unacceptable (Enumerator released)
Comments	Comments

Exhibit C-4-17. CREW LEADER'S RECORD BOOK, FORM PH-265--Continued

NOTES

Exhibit C-4-18. MOCK INTERVIEW

This interview is for the Park household. The family lives in a house at 18 Toba Road in the village of Calicut. It is the third housing unit listed on the Listing Sheet. Please fill a Phase I questionnaire as though you were the enumerator.

ENUMERATOR: Good morning! I am _____ from the National Statistical Office. This is my Identification Card. As you know, we are taking the 1980 Population and Housing Census throughout all of Popstan. I have some questions to ask you.

RESPONDENT: Please come in. My husband is not at home but I think I will be able to help you.

ENUMERATOR: First, I want to be sure I have the correct address. Is this 18 Toba Road?

RESPONDENT: That is correct.

ENUMERATOR: What is the name of the head of this household?

RESPONDENT: My husband is the head and his name is Mario Park.

ENUMERATOR: You said he was not at home. Do you expect him to be gone long?

RESPONDENT: He should be home in a few days. He has taken his crop to market.

Note that by asking the above question the enumerator is able to determine that Mr. Park is a usual resident of the living quarters. The enumerator will enter his name for item P-1 on line 01--family name first, followed by a comma, then his given name.

ENUMERATOR: Mrs. Park, what are the names of all other persons, including yourself, who usually live here? Be sure to include babies and elderly persons. Also include any members of the household who are temporarily away on vacation, on business, or in a hospital.

RESPONDENT: Well, to begin with, my name is Lila, then there is Abdul, my father-in-law, and my three children.

ENUMERATOR: Please give me the names of your unmarried children in order of age.

RESPONDENT: First is my daughter Mona; she is 23 and she is not married. Then comes my daughter Carmen; she lives here with her husband and son. My younger son is Kim, and he is 11. Oh, I forgot. You asked me for the names of unmarried children. That would be Mona and Kim.

When there may be more than one household, the enumerator will list the persons on an extra piece of paper to sort out which persons live together. It is quite possible that some have their own quarters.

ENUMERATOR: You say Mona is not married. Was she ever married?

RESPONDENT: No.

ENUMERATOR: Do Carmen and her husband eat with you and share the same quarters, or do they have separate living quarters?

RESPONDENT: They want to find a house but right now we all live here together. My father-in-law too.

ENUMERATOR: Do you occupy this whole house?

RESPONDENT: All except the top floor. My brother and his wife live there.

ENUMERATOR: Do they have their own living quarters?

RESPONDENT: They have a nice apartment with a private entrance and everything.

ENUMERATOR: And they live and eat by themselves?

RESPONDENT: Oh, yes.

The enumerator has established that there are two housing units in the structure and that the eight persons reported by Mrs. Park live together. The enumerator will quickly make a note to call on the family upstairs.

Exhibit C-4-18. MOCK INTERVIEW--Continued

ENUMERATOR: What is Carmen's husband's name?

RESPONDENT: His name is Pedro Gomez.

ENUMERATOR: You said they have a son. What is his name?

RESPONDENT: Boka.

ENUMERATOR: Is this your father-in-law's usual place of residence; that is, does he usually live here?

RESPONDENT: Yes.

ENUMERATOR: Will you please give me his full name?

RESPONDENT: His name is Abdul Park.

ENUMERATOR: What is his marital status; that is, is he married, separated, widowed, or divorced?

RESPONDENT: He is a widower.

ENUMERATOR: Are there any persons living in your quarters who have no other place of residence?

RESPONDENT: There are two men who work on the farm, but they go home every night. I don't think they would be considered as part of our household.

ENUMERATOR: No, they would be counted at their residences. I have listed eight persons. Have I missed anyone?

RESPONDENT: No, there is no one else.

The enumerator has now asked all the questions in the heading of item P-1 and the check question P-1b. Based on the answers given by Mrs. Park, the enumerator will make entries for relationship, sex, and marital status of the household members.

ENUMERATOR: Mrs. Park, what was your husband's age as of his last birthday?

RESPONDENT: He was 44.

ENUMERATOR: And your age as of last birthday?

RESPONDENT: I was 42.

ENUMERATOR: You told me Mona was 23. Was she 23 on her last birthday?

RESPONDENT: Yes.

ENUMERATOR: And Kim? Was he 11 on his last birthday?

RESPONDENT: Well, he is so close to 11 that I told you 11. He will be 11 next week.

ENUMERATOR: And Carmen?

RESPONDENT: She and Mona are twins.

ENUMERATOR: What about Pedro?

RESPONDENT: He was 25 last month.

ENUMERATOR: And Boka? How old was he on his last birthday?

RESPONDENT: He was 2.

ENUMERATOR: Your father-in-law? What was his age on his last birthday?

RESPONDENT: 65

Although Mrs. Park gave some of the ages, the enumerator must verify that they are ages as of the person's last birthday. Since Carmen is a twin, it was not necessary to verify her age.

Exhibit C-4-18. MOCK INTERVIEW--Continued

ENUMERATOR: Is your husband's mother living?

RESPONDENT: No.

Mrs. Park said her father-in-law is a widower. However, it is still necessary to ask Item P-7. It is possible that his wife was not the mother of Mario.

ENUMERATOR: Is your mother living?

RESPONDENT: Yes.

ENUMERATOR: Does she live in this housing unit?

RESPONDENT: No. She lives a few miles from here.

ENUMERATOR: And you told me you are the mother of Mona, Kim, and Carmen. Is that correct?

RESPONDENT: That is correct.

ENUMERATOR: Now, what about Pedro's mother. Is she living?

RESPONDENT: She lives over in Victoria.

ENUMERATOR: And Carmen, she is Boka's mother?

RESPONDENT: Yes.

ENUMERATOR: Is your father-in-law's mother living?

RESPONDENT: She is almost 90 years old and lives with her granddaughter in St. Regis.

Note that the enumerator correctly followed instructions and asked questions P-7 and P-8 for each person--even the father-in-law.

ENUMERATOR: In what country was your husband born?

RESPONDENT: Popstan.

ENUMERATOR: In what country were you born?

RESPONDENT: I was born in Popstan too. In fact, everyone except Pedro was born right here in this district.

ENUMERATOR: And where was Pedro born?

RESPONDENT: In Victoria.

ENUMERATOR: Just to be sure, was Boka born in Popstan or in his father's homeland?

RESPONDENT: Pedro left Victoria before he was married. Boka was born here in Popstan.

ENUMERATOR: Was your father-in-law born in Popstan too?

RESPONDENT: Yes, all of us except Pedro.

ENUMERATOR: How many years has your husband lived continuously in this district?

RESPONDENT: He has always lived here. He never lived anywhere else. This is his father's farm.

ENUMERATOR: How long have you lived in this district?

RESPONDENT: I returned to this district when I got married, so that would be 24 years ago.

ENUMERATOR: What about Mona?

RESPONDENT: She was born here and has never left home.

ENUMERATOR: And Kim?

RESPONDENT: Always lived here.

Exhibit C-4-18. MOCK INTERVIEW--Continued

ENUMERATOR: And Carmen?

RESPONDENT: Lived here all her life.

ENUMERATOR: What about Pedro and his son?

RESPONDENT: Pedro moved to this district 3 years ago, and Boka has always lived here.

ENUMERATOR: And Abdul, how long has he lived here?

RESPONDENT: Always. He was born in this house and never moved away.

Note that the enumerator asked item P-9 for all the household members, then P-10 for all the members, rather than asking the two questions for each person. In other words, the enumerator went down the column. Note that item 11 is skipped for persons 35 years or older.

ENUMERATOR: What is the highest grade or year of school that your husband has completed?

RESPONDENT: He went to school for five years and was ready for sixth grade when he quit.

ENUMERATOR: What is the highest grade or year of school that you have completed?

RESPONDENT: I never attended school.

ENUMERATOR: Can you read and write?

RESPONDENT: Yes, I learned as my children were learning.

ENUMERATOR: Does Mona attend school?

RESPONDENT: No, she works.

ENUMERATOR: What is the highest grade she has completed?

RESPONDENT: She finished high school but we didn't have money to send her to the university.

ENUMERATOR: Does Kim attend school?

RESPONDENT: I should say so! He's in 6th grade and I think that is good for his age.

ENUMERATOR: It certainly is! Does Carmen attend school?

RESPONDENT: No, she is too busy with her housework. But Pedro attends night school at the university.

ENUMERATOR: What is the highest grade Carmen completed?

RESPONDENT: Same as Mona.

ENUMERATOR: And what is the highest grade Pedro completed?

RESPONDENT: He's in the fourth year at the university.

ENUMERATOR: Your father-in-law?

RESPONDENT: Like me, he never went to school.

ENUMERATOR: Can he read and write?

RESPONDENT: Well, he can write his name but he never learned to read.

Note the various skip patterns. It is important to ask each person 5 to 34 years old about school attendance and not assume they are no longer attending school. The enumerator must be careful with item P-12 for Kim and Pedro. Item P-13 is not asked of persons who have completed four years of school.

Questions P-14 to P-18 are to be asked of all females 12 years or older.

Exhibit C-4-18. MOCK INTERVIEW--Continued

ENUMERATOR: These next questions are concerned with family size. How many children have been born alive to you?

RESPONDENT: Six.

ENUMERATOR: How many of these children are living in this housing unit?

RESPONDENT: Only the three I have mentioned. We had a son who died as an infant, and we have 2 children living in St. Regis.

Mrs. Park's reply gives the answers to questions P-15, P-16, and P-17.

ENUMERATOR: Have you had any children born alive in the last 12 months?

RESPONDENT: No.

ENUMERATOR: Now for Mona. How many children have been born alive to her?

RESPONDENT: None.

ENUMERATOR: And Carmen?

RESPONDENT: Only one--Boka.

ENUMERATOR: Now, I'm going to ask more questions about your husband. During June, what was he doing most of the time, working or something else?

RESPONDENT: He worked all month.

ENUMERATOR: How many hours per week did he usually work at all jobs?

RESPONDENT: Let me think. He was very busy so that he could get his crop to market. Most of the time he worked about 10 hours a day, and a half-day on Saturdays. That would be about 55 hours.

ENUMERATOR: In what business or industry was your husband's principal job?

RESPONDENT: He farms.

ENUMERATOR: Did he work for himself or did he work for someone else last month?

RESPONDENT: He worked for himself.

ENUMERATOR: Did he employ any helpers?

RESPONDENT: The two men I told you about.

Note that in asking question P-25, the enumerator specifically mentioned the categories applicable to Mario's economic activity. This helps the respondent to select the appropriate category. The enumerator asked about employees in order to distinguish between employer and self-employed.

ENUMERATOR: Now I would like to ask you the same questions about you. What were you doing most of last month--housework or something else?

RESPONDENT: I kept house and helped care for my grandson.

ENUMERATOR: Did you do any work at all last month, not including work around the house?

RESPONDENT: No.

ENUMERATOR: Were you looking for work last month?

RESPONDENT: No.

ENUMERATOR: Why weren't you looking for work?

RESPONDENT: I have too much to do around the house, I don't have time for a job.

Exhibit C-4-18. MOCK INTERVIEW--Continued

ENUMERATOR: During June, what was Mona doing most of the time--working, or something else?

RESPONDENT: She was working.

ENUMERATOR: How many hours per week did she usually work at all jobs last month, not including housework?

RESPONDENT: She worked 35 hours per week.

ENUMERATOR: In what business or industry was her principal job?

RESPONDENT: She worked as a teller in the bank.

The enumerator will refer to the Industry Classification Guide on the back cover of the EA Book to determine the proper code for the business or industry of Mona's principal job.

ENUMERATOR: Is she a paid employee?

RESPONDENT: Yes.

ENUMERATOR: What was Carmen doing most of last month, housework or something else?

RESPONDENT: She was kept busy with her housework.

ENUMERATOR: Did she do any work at all, not including own housework?

RESPONDENT: She worked a half-day on Saturdays at the bakery.

ENUMERATOR: How many hours per week did she usually work at all jobs, not including own housework?

RESPONDENT: She only worked 4 hours a week.

ENUMERATOR: You said she worked at the bakery, is that correct?

RESPONDENT: Yes.

ENUMERATOR: Did she work as an employee for pay?

RESPONDENT: No, the owner gave her baked goods in return for her time.

Note that Carmen worked for "pay in kind," which is the same as working for pay or profit.

ENUMERATOR: And Pedro, what was he doing most of last month--working or something else?

RESPONDENT: He worked as a management trainee and went to school in the evenings.

ENUMERATOR: At which of these activities did he spend the most time?

RESPONDENT: His job.

ENUMERATOR: How many hours per week did he usually work at all jobs?

RESPONDENT: He worked full time. That's 35 hours per week.

ENUMERATOR: And in what business or industry was this job?

RESPONDENT: He was a management trainee with the district government.

ENUMERATOR: So he was an employee for pay?

RESPONDENT: Yes.

ENUMERATOR: During June what was your father-in-law doing most of the time, working or something else?

RESPONDENT: He used to help on the farm, but now he is retired.

ENUMERATOR: Did he do any work at all last month, not including any work around the house?

RESPONDENT: Well, he helped my husband with some of the farmwork.

Exhibit C-4-18. MOCK INTERVIEW--Continued

ENUMERATOR: How many hours did he work on the farm?

RESPONDENT: Not more than 8 to 10 hours a week.

ENUMERATOR: Did he receive pay?

RESPONDENT: No.

ENUMERATOR: Was he looking for work?

RESPONDENT: No.

ENUMERATOR: Why wasn't he looking for work?

RESPONDENT: He just wants to take it easy.

Note that unpaid work of less than 15 hours is not considered as "work."

ENUMERATOR: Now I have some questions to ask about your house.

RESPONDENT: All right, but will you be much longer? I should be fixing lunch.

ENUMERATOR: No, not much longer. The information you are giving me is very valuable to government and business so it is important that we complete the questions.

Please note that the enumerator has studied the Enumerator's Reference Manual and was prepared to impress upon the respondent the importance of the information that she is supplying.

The enumerator will make entries in the first five housing questions from observation. If unable to answer H-3 through H-5 he/she would ask these questions, but he/she must always make the determination for H-1.

This is a conventional type of house, with 2 housing units in the structure. The walls are brick, the roof is wood, and the floors are cement.

ENUMERATOR: How many rooms are in your unit, not counting--

RESPONDENT: Should I count my kitchen?

ENUMERATOR: Yes, but do not count bathrooms, closets, or hallways.

Note that the enumerator was prepared to answer the respondent's question about what to count.

RESPONDENT: We have 4 bedrooms, living room, and kitchen.

ENUMERATOR: Is this unit owned by someone living in it or is it rented?

RESPONDENT: It is owned by my father-in-law.

ENUMERATOR: Was this house built in the last 12 months? I forgot. You said Abdul was born here.

RESPONDENT: The house is at least 75 years old.

ENUMERATOR: Is there piped running water for this unit?

RESPONDENT: Yes.

ENUMERATOR: Where is it located?

RESPONDENT: It is outside about 50 meters from the house.

ENUMERATOR: What is the source of drinking water for this unit?

RESPONDENT: We have a well.

Exhibit C-4-18. MOCK INTERVIEW--Continued

ENUMERATOR: Is it an open well or closed well?

RESPONDENT: It is closed.

ENUMERATOR: What type of toilet facilities are available for this unit?

RESPONDENT: We have an out-house.

ENUMERATOR: What type of bathing facilities are available for this unit?

RESPONDENT: We have a large tub that we pour water into.

ENUMERATOR: Is there a television set in this unit?

RESPONDENT: No.

ENUMERATOR: What kind of lighting does this unit have?

RESPONDENT: What do you mean by "kind of lighting"?

ENUMERATOR: Are your lights electric, gas, kerosene, or something else?

RESPONDENT: Oh, I see. Our lights are electric.

ENUMERATOR: What kind of fuel is used most in this unit for cooking?

RESPONDENT: We use kerosene.

ENUMERATOR: Are any articles produced in this unit for sale or barter--not including agricultural products?

RESPONDENT: We don't sell anything except the crops.

The enumerator will enter the line number of principal respondent and date the questionnaire. Then he/she will review the questionnaire to make sure he/she has not omitted any entries and that the entries are consistent. When finished, he/she will conclude the interview.

ENUMERATOR: That is all the information I need now. Thank you very much for your cooperation. You have been most helpful. Good-bye.

RESPONDENT: Good-bye.

Now the enumerator will complete the appropriate columns on the Listing Sheet for the Park household before going on to the next unit.

See exhibit B-7-3 for the answer key to the interview.

Exhibit C-4-19. PORTION OF ENUMERATOR'S WORKBOOK

INTRODUCTION

At various times during the training, you will be asked to complete an exercise in this workbook. Each exercise is related to the material covered in your training just prior to assigning the exercise. Various types of exercises are included in the workbook. Sometimes you will be asked to fill in blanks to complete a statement correctly. Other times you will answer a question by checking one or more alternatives, or by writing an answer in your own words. A third type of problem requires you to describe or take the appropriate action in a hypothetical situation, such as filling excerpts of questionnaire items or filling a questionnaire for a mock interview. If you are uncertain about the answer, you may refer to appropriate sections of the Enumerator's Reference Manual or to the appropriate forms while you are doing the exercises.

A fourth type of workbook exercise is called a self-study exercise. Answers are provided so that you can check your answers immediately and know whether or not you are ready to progress to the next step. You progress one step at a time with self-study exercises. For each step, you will find a paragraph of instructions followed by a sentence with one or two blanks in it. You are to fill each blank, using the information you learned in the preceding paragraph(s). If there is one blank, a one-word answer is required; if there are two blanks, a two-word answer is required. Sometimes there are a few long lines so you can write a longer answer in your own words. The correct answer is given in parentheses below the blanks that you are to fill. As you study these exercises, cover the answers before you begin a page. When you have answered a question, slide the cover down so that you can see the correct answer. If yours is correct, go to the next one; if it is incorrect, reread the paragraph, then draw a line through your incorrect answer and write the correct one above it. The self-study exercises will always be used at the beginning of the discussion of a new topic.

Your trainer will go over each exercise in class and will discuss the correct responses. The purpose of the workbook exercises is to reinforce the instruction that has been presented. The exercises are intended to be used as a learning tool to benefit you; they will not be graded by the trainer. If they are to achieve this aim, you must do two things:

- (1) You must complete each exercise to the best of your ability.
- (2) You must take full advantage of this training technique by asking questions if you do not understand why the given answer (rather than yours) is correct. If you sit quietly because of a reluctance to admit that you do not understand a question, you have missed the point of the exercise and will not gain much from it.

Note: Exercise 4, which follows, illustrates only some of the types of exercises.

Exhibit C-4-19. PORTION OF ENUMERATOR'S WORKBOOK--Continued

TRAINING EXERCISE NUMBER 4--ECONOMIC CHARACTERISTICS

1. For which persons will you ask P-19 to P-25?
 - a. All household members
 - b. Employed household members only
 - c. Household members 12 years or older
 - d. Only males 12 years or older

2. What is the time period referred to in items P-19 to P-25? (for enumeration 1 July 1980)
 - a. Previous month
 - b. Previous week
 - c. Previous year
 - d. This month

3. Why are "skip" instructions used in items P-19, P-20, and P-22?
 - a. Information is collected only for persons who are working
 - b. Persons who do not work are assumed to be unemployed
 - c. All questions are not applicable to any one person
 - d. P-21 is applicable to all persons 12 years or older

4. For which persons do you skip from P-19 to P-23? Persons who are--
 - a. Going to school
 - b. Working
 - c. Not working but are looking for work
 - d. Doing own housework

5. Would you ask P-19 for the following?

	Yes	No
a. Head of household, age 46.....	<input type="checkbox"/>	<input type="checkbox"/>
b. Daughter of head, age 11.....	<input type="checkbox"/>	<input type="checkbox"/>
c. Widowed sister of head, age 30...	<input type="checkbox"/>	<input type="checkbox"/>
d. Spouse of head, age 42.....	<input type="checkbox"/>	<input type="checkbox"/>
e. Son of sister, age 6.....	<input type="checkbox"/>	<input type="checkbox"/>
f. Lodger, age 19.....	<input type="checkbox"/>	<input type="checkbox"/>

6. Below are three recommended phrases (designated A, B, and C) to add to P-19, as appropriate. The question would start with "During June, what was ... doing most of the time?" Enter the letter for the appropriate phrase.

A - Working, or something else?
 B - Keeping house, or something else?
 C - Going to school, or something else?

 - a. ___ Male head of household, age 50
 - b. ___ Wife of head, age 47
 - c. ___ Son of head, age 13
 - d. ___ Father of head, age 75 and active

7. In the spaces provided, what code would you enter for each of the following?

	P-19	P-20
a. A woman did her own housework most of June. Her only other activity was volunteer work for the Red Cross 1 hour a day Monday through Friday.	___	___
b. An 18-year old boy who has finished high school worked on his father's farm 10 hours a day Monday through Saturday.	___	___
c. A young man said he "took it easy" all month. He has a job but his company is involved in a temporary labor dispute, so he did not bother to do any work.	___	___
d. A woman took care of the house and children for her employer in return for room and board. She did no other work.	___	___
e. An older man said he was retired and was on vacation all month. In answer to P-20, he said he does volunteer work at the hospital but no other work.	___	___
f. A 20-year old girl attended classes at the university full time and worked 8 hours on Saturdays as a waitress and helped her mother with caring for her brothers and sisters.	___	___

Exhibit C-4-19. PORTION OF ENUMERATOR'S WORKBOOK--Continued

8. Hours worked is an item that will identify full- or part-time workers. Would you ask P-23 for the following?

	Yes	No
a. Worked around the house and did no other work.....	<input type="checkbox"/>	<input type="checkbox"/>
b. Worked only for "pay in kind".....	<input type="checkbox"/>	<input type="checkbox"/>
c. Went to school full time and worked for pay 2 hours a day.....	<input type="checkbox"/>	<input type="checkbox"/>
d. Worked all month without pay in a family business.....	<input type="checkbox"/>	<input type="checkbox"/>
e. Worked as a volunteer and did no other work.....	<input type="checkbox"/>	<input type="checkbox"/>
f. Had a job but did no work at all during the month.....	<input type="checkbox"/>	<input type="checkbox"/>
g. Worked in own business all month...	<input type="checkbox"/>	<input type="checkbox"/>

9. What entry would you make in P-23 for each of the following?

- ___ Worked at three different jobs each week last month--one job for pay 6 hours a day for 5 days a week, second job for 3 hours a day on Saturday and Sunday, third job as a volunteer ambulance driver for 4 hours on Saturday.
- ___ Was on vacation for 1 week but worked in an office (for pay) 35 hours each week during the rest of the month.
- ___ Worked overtime several nights but took off during the day; usually works 28 hours a week.
- ___ Worked regular 8-hour days for 6 days a week.

10. Before you answer this question, place a piece of paper over the left column. Enter the proper code for P-24 for each person, remove the paper, and check your answers.

- a. 6 a. ___ Worked for an importer
- b. 3 b. ___ Worked for employer who made wooden tables and chairs
- c. 1 c. ___ Grew vegetables on own farm
- d. 0 d. ___ Worked in a garage that repaired automobiles
- e. 7 e. ___ Worked for a grain storage company
- f. 3 f. ___ Worked for company that printed magazines
- g. 1 g. ___ Worked on a rubber plantation
- h. 2 h. ___ Worked at a stone quarry
- i. 5 i. ___ Worked for man who repairs roads
- j. 4 j. ___ Worked for water purification company
- k. 9 k. ___ Worked for district planning agency
- l. 8 l. ___ Managed a savings bank

11. For the following cases, enter the proper code for P-25.

- a. ___ Served in the Army
- b. ___ Worked on his own farm; did not have any help
- c. ___ Sold foodstuff from own garden; had no help
- d. ___ Taught high school classes in a public school
- e. ___ Helped in father's grocery store for about 20 hours each week without pay
- f. ___ Worked as a doctor in own office; had a nurse and office clerk on payroll
- g. ___ Worked as a cleaning woman for several different families
- h. ___ Painted houses and did electrical wiring; worked by himself

12. For each of the following, which item would you ask next?

- a. ___ Code 1 in P-19
- b. ___ Code 2 in P-20
- c. ___ Code 1 in P-21
- d. ___ Code 4 in P-22
- e. ___ Code 3 in P-24
- f. ___ Code 4 in P-19
- g. ___ Code 2 in P-21
- h. ___ Entry of 14 in P-23

13. For P-24, would you need additional information?

	Yes	No
a. Man who worked as a supervisor in a large company.....	<input type="checkbox"/>	<input type="checkbox"/>
b. Farmer.....	<input type="checkbox"/>	<input type="checkbox"/>
c. Taxi driver.....	<input type="checkbox"/>	<input type="checkbox"/>
d. Worked as head cook in a restaurant.....	<input type="checkbox"/>	<input type="checkbox"/>
e. Worked in own business.....	<input type="checkbox"/>	<input type="checkbox"/>

14. Which of the following combinations of entries are consistent? Circle the letter for each inconsistent set.

	P-19	P-20	P-21	P-22	P-23	P-24	P-25
a.	1	2	1	-	-	-	-
b.	2	1	2	3	-	-	-
c.	1	-	-	-	35	8	3
d.	3	2	2	-	10	-	-
e.	3	1	1	2	10	3	1
f.	4	2	2	4	-	-	-
g.	2	2	2	3	-	-	-
h.	1	-	-	2	48	1	1
i.	3	1	-	-	16	0	2

PERSONS 12 YEARS AND OLDER								
During June what was ... doing most of the time --	During June --						LINE NUMBER (E)	
	Did ... do any work at all not including own housework?	Was ... looking for work?	Why was ... not looking for work?	How many hours per week did ... usually work at this job, not including own housework?	In what business or industry was ...'s principal job?	Was ... --		
1 - Working <i>Skip to P-23.</i>	1 - Yes <i>Skip to P-23.</i>	1 - Yes <i>End interview for this person.</i>	1 - Had job <i>Skip to P-24.</i>		1 - Farming, forestry, fishing, hunting	1 - Employer (ER)		
2 - Own housework	2 - No	2 - No	2 - Job not available		2 - Mining, quarrying	2 - Employee for pay (EE)		
3 - Going to school			3 - Did not want job		3 - Manufacturing	3 - Self-employed or own account worker		
4 - Something else			4 - Unable to work		4 - Electricity, gas, water	4 - Unpaid family worker		
			<i>If 2, 3, or 4, end interview for this person.</i>		5 - Construction	5 - Armed Forces (AF)		
P-19	P-20	P-21	P-22	P-23	P-24	P-25		
1 - Work 2 - Own hswk 3 - School 4 - Something else	1 - Yes 2 - No	1 - Yes 2 - No	1 - Job 2 - No job available 3 - Not want 4 - Unable		1 - Farming 2 - Mining 3 - Manufg 4 - Elec 5 - Constr	6 - Wholesale or retail 7 - Transp 8 - Finance 9 - Public adm 0 - Social ser	1 - ER 2 - EE 3 - Self 4 - Unpaid 5 - AF	09
1 - Work 2 - Own hswk 3 - School 4 - Something else	1 - Yes 2 - No	1 - Yes 2 - No	1 - Job 2 - No job available 3 - Not want 4 - Unable		1 - Farming 2 - Mining 3 - Manufg 4 - Elec 5 - Constr	6 - Wholesale or retail 7 - Transp 8 - Finance 9 - Public adm 0 - Social ser	1 - ER 2 - EE 3 - Self 4 - Unpaid 5 - AF	10
1 - Work 2 - Own hswk 3 - School 4 - Something else	1 - Yes 2 - No	1 - Yes 2 - No	1 - Job 2 - No job available 3 - Not want 4 - Unable		1 - Farming 2 - Mining 3 - Manufg 4 - Elec 5 - Constr	6 - Wholesale or retail 7 - Transp 8 - Finance 9 - Public adm 0 - Social ser	1 - ER 2 - EE 3 - Self 4 - Unpaid 5 - AF	11
1 - Work 2 - Own hswk 3 - School 4 - Something else	1 - Yes 2 - No	1 - Yes 2 - No	1 - Job 2 - No job available 3 - Not want 4 - Unable		1 - Farming 2 - Mining 3 - Manufg 4 - Elec 5 - Constr	6 - Wholesale or retail 7 - Transp 8 - Finance 9 - Public adm 0 - Social ser	1 - ER 2 - EE 3 - Self 4 - Unpaid 5 - AF	12

15. Make the appropriate entries in P-19 to P-25 for each of the following.

- a. A man reported that he recently quit his job and spent most of the time repairing his fence and taking care of the house while his wife was away. He did no other work because he was busy filling applications for a job.
- b. A man whose legs are paralyzed said he worked most of the time in his home weaving rugs that he will sell later. He averaged 6 hours a day for 6 days a week. He did no other work and was not looking for more work.
- c. The respondent said he "took it easy" most of the month. He did no work except to help manage his friend's grocery store (for pay) for 2 hours each Monday. He was unable to work at his regular job because of a labor dispute but was not looking for work because the dispute is only temporary.
- d. A 19-year old girl said she attended university classes most of the time. She did no work and could find no job, although she was trying to find almost any type of job.

PERSONS 12 YEARS AND OLDER								
During June what was . . . doing most of the time --	During June --						LINE NUMBER (E)	
	Did . . . do any work at all not including own housework?	Was . . . looking for work?	Why was . . . not looking for work?	How many hours per week did . . . usually work at all jobs, not including own housework?	In what business or industry was . . . 's principal job?	Was . . . --		
1 - Working <i>Skip to P-23.</i>	1 - Yes <i>Skip to P-23.</i>	1 - Yes <i>End interview for this person.</i>	1 - Had job <i>Skip to P-24.</i>		1 - Farming, forestry, fishing, hunting	1 - Employer (ER)		
2 - Own housework	1 - Yes <i>Skip to P-23.</i>		2 - Job not available		2 - Mining, quarrying	2 - Employee for pay (EE)		
3 - Going to school	2 - No	2 - No	3 - Did not want job		3 - Manufacturing	3 - Self-employed or own account worker		
4 - Something else			4 - Unable to work		4 - Electricity, gas, water	4 - Unpaid family worker		
P-19	P-20	P-21	P-22	P-23	P-24	P-25		
			<i>If 2, 3, or 4, end interview for this person.</i>					
1 - Work 2 - Own hswk 3 - School 4 - Something else	1 - Yes 2 - No	1 - Yes 2 - No	1 - Job 2 - No job available 3 - Not want 4 - Unable		1 - Farming 2 - Mining 3 - Manufg 4 - Elec 5 - Constr	6 - Wholesale or retail 7 - Transp 8 - Finance 9 - Public adm 0 - Social ser	1 - ER 2 - EE 3 - Self 4 - Unpaid 5 - AF	09
1 - Work 2 - Own hswk 3 - School 4 - Something else	1 - Yes 2 - No	1 - Yes 2 - No	1 - Job 2 - No job available 3 - Not want 4 - Unable		1 - Farming 2 - Mining 3 - Manufg 4 - Elec 5 - Constr	6 - Wholesale or retail 7 - Transp 8 - Finance 9 - Public adm 0 - Social ser	1 - ER 2 - EE 3 - Self 4 - Unpaid 5 - AF	10
1 - Work 2 - Own hswk 3 - School 4 - Something else	1 - Yes 2 - No	1 - Yes 2 - No	1 - Job 2 - No job available 3 - Not want 4 - Unable		1 - Farming 2 - Mining 3 - Manufg 4 - Elec 5 - Constr	6 - Wholesale or retail 7 - Transp 8 - Finance 9 - Public adm 0 - Social ser	1 - ER 2 - EE 3 - Self 4 - Unpaid 5 - AF	11

15. (Continued)

e. A woman said she did her own housework most of last month. However, she did work two evenings a week (3 hours each evening) as a practical nurse in the city hospital.

f. A farmer said he worked most of the time--10 hours every day except Sunday. He had two men helping him with the harvest. He wasn't looking for work because he already had enough to do.

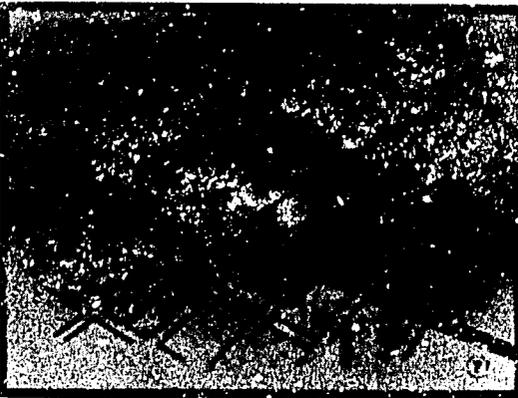
g. A 14-year old boy worked most of the time in his father's clothing store, although he received no pay. He helped his father 8 hours every day except Sundays and Mondays.

Exhibit C-4-20. PORTION OF FILMSTRIP AND NARRATIVE ON CANVASSING PROCEDURES

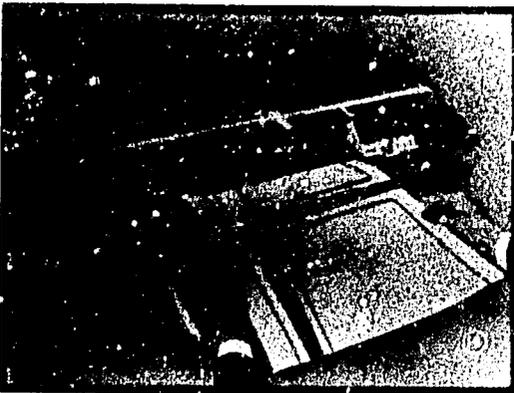
(Eight frames are shown here to illustrate format and content)



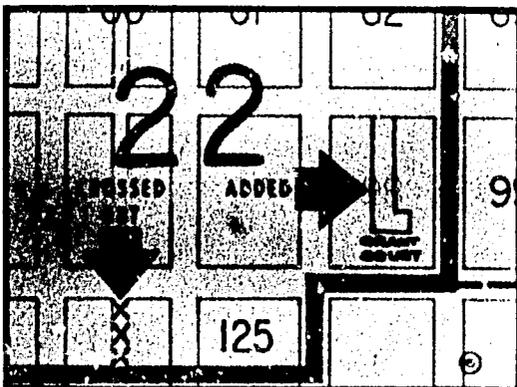
6. Every EA has an identification code. The one shown here is the EA number without administrative area codes. The EA you see is EA 022. Note that the blocks are numbered also. The EA boundaries are outlined with a heavy solid line, usually in orange or some other bright color. Your crew leader has indicated the starting point in the northwestern part of the EA. You should return to the starting point of one block before going to the next.



7. The EA boundary line is like a fence around your own private territory. Work inside it. If you enumerate outside the fence, you will be entering another enumerator's territory.

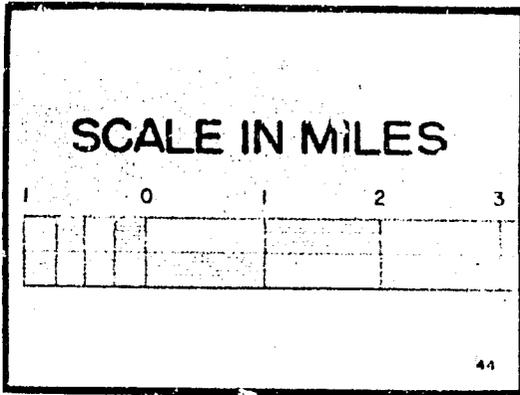


14. As you work, turn your map so that the street or road on the map is lined up with the ground and pointing in the same direction as you are heading. Line up your map this way as you travel around each part of the EA. As you walk clockwise around the blocks or sections, the houses you are to enumerate will always be on your right.

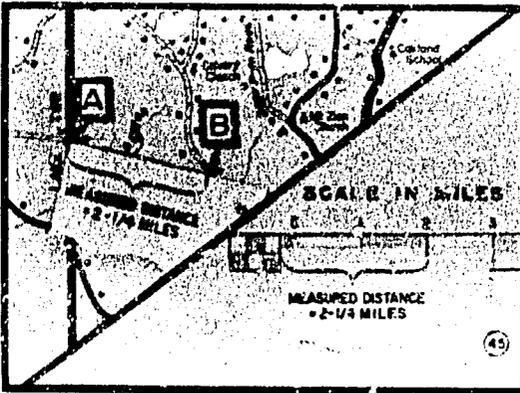


15. Maps become outdated rather quickly. You should make any corrections necessary to bring your map up to date. If you find new streets, roads, trails, or paths, draw them in. In this example, a new street named "Grant Court" has been added. Delete any that no longer exist by crossing them out. In this example, a street in the southwestern part of the EA was crossed out.

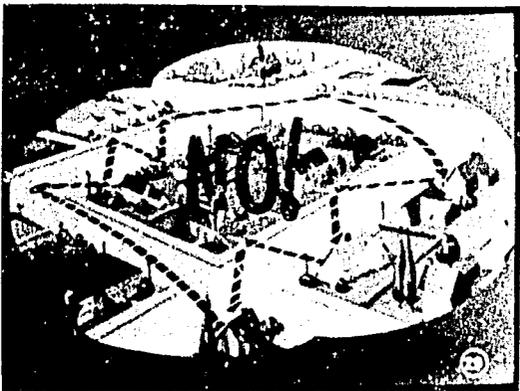
Exhibit C-4-20. PORTION OF FILMSTRIP AND NARRATIVE ON CANVASSING PROCEDURES--Continued



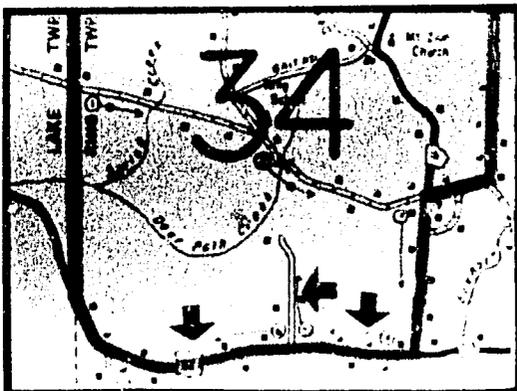
19. Another useful feature of maps is a scale. Scales can represent miles or kilometers. The part of the scale to the left of the zero mark is usually divided into parts of a mile or parts of a kilometer, such as fourths or tenths. The scale can help you find the distance between two visible points or locate an invisible boundary in relationship to a visible landmark.



20. Suppose you want to find the invisible boundary at Point A. First mark the distance from the nearest crossroad B to Point A on a piece of paper. Then measure the distance you marked against your map scale to get the ground distance. In this instance, the distance is $2\frac{1}{4}$ miles. Point A can be located quite closely by driving down the road from Point B, using your car or bicycle odometer to measure the $2\frac{1}{4}$ miles. However, you still should verify the location of the boundary by asking the residents.



23. In urban areas you should enumerate completely around one block before starting the next. Do not go back and forth across a street.



29. In rural areas, canvass your EA in an orderly manner. One way is to divide it into parts--something like blocks in a city. Another is to divide it into sub-areas. However, it is not always possible to find trails or paths to do that. In that case, you can canvass by road sections. Starting in the northwest corner of the EA, note the sections numbered 1, 2, 3, and so on and the arrows pointing to 4, 5, and 6. When you list the HU's, be sure to include the section number in the address. One more point--be sure to ask about houses back from the road even if you do not see paths or trails leading to them.

Exhibit C-4-25. FIELD PROGRESS AND COST REPORT, FORM PH-266

Form PH-266 (January 1980) MINISTRY OF ECONOMY NATIONAL STATISTICAL OFFICE FIELD PROGRESS AND COST REPORT	a. Province		Code				
	b. Routing:		District	Code			
	<input type="checkbox"/> Crew leader to DCO <input type="checkbox"/> DCO to PCO <input type="checkbox"/> PCO to NSO		CL Area No. (If appropriate)				
	c. Posted by	d. Date	e. Report period _____ to _____				
1. Number of DCO's (PCO only)				Number			
2. Number of crew leaders working (PCO or DCO only)				Number			
3. Total number of regular EA's				Number			
Item		This week	From last report	Total to date			
Number of --							
a. Piece rate enumerators working							
b. Hourly rate enumerators working							
c. EA's assigned							
d. EA's completed							
4. Total number of Special EA's				Number			
Item		This week	From last report	Total to date			
Number of --							
a. Hourly rate enumerators working							
b. Special EA's assigned							
c. Special EA's completed							
5. Payments authorized (PCO or DCO only):							
Item		This week		From last report		Total to date	
		Number	Amount	Number	Amount	Number	Amount
a. Enumerators:							
Training fee (and travel) paid			¥		¥		¥
Persons enumerated							
Total listings							
Special EA's completed							
Other hourly rate enumeration							
Travel allowance							
b. Crew leaders:							
Salaries							
Travel allowance							
c. PCO/DCO's:							
Office salaries							
Travel allowance							
d. Other authorized payment --							
Specify source (enumerator, crew leader, office) and nature of expense on back of form.							
TOTAL →							

Salmon - Receiver White - Originator

Exhibit C-4-26. CREW LEADER PAY AUTHORIZATION, FORM PH-242
 (Forms to be prepared in pads of 75 each, alternating blue and yellow copies)

FORM PH-242 (July 1979)	MINISTRY OF ECONOMY NATIONAL STATISTICAL OFFICE	For use of local office of Ministry of Economy →	a. Payment No.			
CREW LEADER PAY AUTHORIZATION		b. Province	Code	c. District	Code	
		d. Name of crew leader			e. CL Area No.	
		f. Address of crew leader				
		g. Authorization No.		h. Date posted to DCO (NSO) register		
		Crew leader: Present for payment to the Ministry of Economy disbursing officer at the District Census Office no earlier than 5 days and no later than 30 days after date approved by the DCO. Payments will be made Monday through Wednesday between 9:00 a.m. and 12:00 noon.				
PAYMENT TO CREW LEADER (Weekly)						
I certify that I have worked the number of hours shown in item a, spent the number of nights in travel status and/or traveled the number of kilometers shown in item b, and incurred other authorized expenses as shown in item c, in the conduct of official business, during the week indicated. Signatures: _____ <i>Crew leader</i> _____ <i>Date</i> _____ <i>DCO approving officer</i> _____ <i>Date</i>		Item (1)	Total (2)	Amount (For use of DCO) (3)		
		a. Week of:		Hours worked		
		b. Travel allowance		Number		
		Nights in travel status...		Number		
		Kilometers.....		Number		
c. Other authorized expenses <i>(Specify)</i>						
		TOTAL →	⬅			
Notes:						
RECORD OF PAYMENT (For use of local office of Ministry of Economy)						
PAID			RECEIVED			
Amount ₤	By (Disbursing Officer)	Date	Amount ₤			
District		Province	By (Census employee)			

Exhibit C-4-26. CREW LEADER PAY AUTHORIZATION, FORM PH-242--Continued

(Back of form)

INSTRUCTIONS TO CREW LEADER

GENERAL

1. Prepare each authorization in duplicate, one blue copy and one yellow copy.
2. Complete items b through h and number each authorization issued, in order, using the next unused number in Part D of Section VII of your CL Record Book. Continue the same sequence when numbering enumerator pay authorizations.
3. Fill authorizations in ballpoint pen. Make no erasures. A correction may be made only by drawing a line through the incorrect entry and writing the correct entry above it; for example, ~~3~~. All corrections must be initialed and an explanation given in the "Notes" space.
4. Record each of your pay authorizations in Part C of Section VII of your CL Record Book.
5. Take both copies of your pay authorization to the DCO each Monday for approval. After approval the form will be sent to the disbursing officer of the Ministry of Economy. Payment will be made no sooner than 5 days and no later than 30 days after the approval date. The disbursing officer will be in the DCO Monday through Wednesday between 9 a.m. and 12 noon to make payment on approved authorizations.

HEADING ITEMS

- Item a. *Payment No.*--To be filled by the .
- Item b. *Province*--Transcribe from your Crew Leader Authorization for Enumerator Staff, Rates of Pay, and Travel, Form PH-202.
- Item c. *District*--Transcribe from Form PH-202.
- Item d. *Name of crew leader*--Print your name.
- Item e. *CL Area No.*--Transcribe from Form PH-202.
- Item f. *Address of crew leader*--Print your address.
- Item g. *Authorization No.*--The authorization number is the next open number in Part D, Section VII of your CL Record Book.
- Item h. *Date posted to DCO (NSO) register*--Leave blank.

PAYMENT TO CREW LEADER

Complete columns (1) and (2) of this section. Make no entries in column (3).

- a. *Week of*--In column (1), enter the week for which you are reporting. Work weeks, like calendar weeks, begin on Sunday and run through Saturday. Your entry will be the Sunday and Saturday dates. In column (2), enter the number of hours you have worked as recorded in Section VII of your CL Record Book.
- b. *Travel allowance*--Item b is divided into two parts--nights in travel status and kilometers. Make no entries in column (1). In column (2), enter the number of nights in travel status in the upper portion and the number of kilometers traveled during the week in the lower portion. This information also comes from Section VII of your CL Record Book.
- c. *Other authorized expenses*--Make entries in column (2) as well as column (1). In item c claim payment for bus fares, telephone calls not made from home, bridge tolls, and similar expenses. In column (1) enter the type of expense and the number of times you paid that fee. Enter each type of expense separately if you had more than one. Then in column (2) enter the cost of each expense next to the item listed in column (1). For example: In column (1) you might enter "2 telephone" and, under it, "1 bridge toll"; in column (2) you would enter "\$.20" next to the telephone entry and "\$.15" next to the bridge toll.

Total--Leave blank. This is completed by the DCO when your authorization is checked.

Signatures--Sign your name as "crew leader" and enter the date on which you prepare the authorization.

DCO approving officer and date--Make no entries on these lines.

Notes--Explain any entries you believe the DCO may question. For example: If you usually use your car but claim bus fares in item c, you would enter a note that your car was broken down that day.

RECORD OF PAYMENT

Make no entries in this section.

Exhibit C-4-28. ENUMERATOR PAY AUTHORIZATION, FORM PH-241
 (Forms would be prepared in pads of 150 each, alternating white and green copies)

FORM PH-241 (July 1979) ENUMERATOR PAY AUTHORIZATION	MINISTRY OF ECONOMY NATIONAL STATISTICAL OFFICE		For use of local office _____ of Ministry of Economy		a. Payment No. _____
	b. Province	Code	c. District	Code	
	d. CL Area No.	e. Name of employee (payee)			
	f. Rate of pay <input type="checkbox"/> Piece rate <input type="checkbox"/> Hourly rate		g. Travel authorized <input type="checkbox"/> Yes <input type="checkbox"/> No		
	h. EA No. (if appropriate)	i. Authorization No.	j. Date posted to DCO/NSO register		

Enumerator: Present for payment to the Ministry of Economy disbursing officer at the District Census Office no earlier than 10 days and no later than 30 days after it was prepared by your crew leader. Payment will be made Monday through Wednesday between 9:00 a.m. and 12:00 noon.

I. PAYMENT FOR TRAINING

I certify that _____ <i>Enumerator</i> has satisfactorily completed training and enumerated one-third of the assigned EA and is authorized to be paid for training as indicated in item a. I also certify that payment should be made for travel expenses, if authorized, which were incurred in connection with training as indicated in items b and c. Signature: _____ <i>Crew leader</i> <i>Date</i>	Job or fee (1)	Cost (2)	Amount (3)
	a. Training		
	b. Travel allowance (training)		
	c. Other authorized payments (Specify)		
	TOTAL _____		

II. PAYMENT FOR ENUMERATION

I certify that I have completed the work in EA No. _____ as indicated in items a and b and, if authorized, have worked the number of hours claimed in item c. I also certify that the travel allowance and other expenses claimed in items d and e were authorized and incurred in the conduct of official business during the period of my employment. Signature: _____ <i>Enumerator</i> <i>Date</i> Approved by: _____ <i>Crew Leader</i> <i>Date</i> _____ <i>Receiving clerk</i> <i>Date</i>	Item (1)	Crew leader count (2)	Office verification (3)	Amount (to be filled by DCO) (4)
	a. Persons enumerated			
	b. Listings			
	c. Hours worked <i>If "hourly rate" in item f above--</i>	Hours		
	d. Travel allowance <i>If "Yes" in item g above--</i>	₪	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	e. Other authorized payment (Specify)	Cost		
TOTAL _____				₪

Notes:

RECORD OF PAYMENT (For use of local office of Ministry of Economy)

PAID			RECEIVED	
Amount ₪	By (Disbursing officer)	Date	Amount ₪	
District	Province		D/	

Exhibit C-4-28. ENUMERATOR PAY AUTHORIZATION, FORM PH-241--Continued

INSTRUCTIONS TO CREW LEADER

GENERAL

1. Prepare each authorization in duplicate, one white copy and one green copy.
2. Complete items b through i; number each authorization issued in order (1, 2, 3, etc.) starting with your own first pay authorization on form PH-242. Continue the same sequence when you number enumerator pay authorizations.
3. Fill authorizations in ballpoint pen. Make no erasures. A correction may be made only by drawing a line through the incorrect entry and writing the correct entry above it; for example, ~~631~~⁶³². If you make more than one error, make the form VOID in large letters, tear it in half, and keep it in your files. Any correction that is made must be initialed and an explanation written in the "Notes" space.
4. Record each enumerator pay authorization issued in Section III of your CL Record Book on the line for the enumerator to whom it was issued. Give both copies to the enumerator to take to the DCO for payment.
5. Tell the enumerator payment will be made by a disbursing officer of the Ministry of Economy at the DCO on Monday through Wednesday from 9 a.m. till 12 noon. Payment will be made no sooner than 10 days and no later than 30 days from the date you issue the authorization.

I. PAYMENT FOR TRAINING

The left side of this part of the authorization contains a certification which you must complete by entering the enumerator's name, your signature, and the date on which you issue the authorization.

- a. *Training*--This item is for entry of the \$15 training fee which will be paid to both piece rate and hourly rate enumerators who successfully complete training and enumerate one-third of the assigned EA. Enter the training fee in column (3).
- b. *Travel allowance (training)*--This is authorized for enumerators who must travel a considerable distance and stay away from home during training. It is \$10 and covers cost of lodging, meals, and transportation. If travel allowance is authorized for an enumerator, enter the amount in column (3).
- c. *Other authorized payment*--This item is used for enumerators who are not eligible for a travel

allowance but who do have expenses such as bus fares, tolls, etc., to reach the training site. If you authorize such expenses, specify what each of them is in column (1). Enter the cost of each expense in column (2), and the total amount in column (3).

Total--Add all figures in column (3) and enter the total in the space provided.

II. PAYMENT FOR ENUMERATION

This section contains a certification to be signed by the enumerator after you have filled in the EA number. Be sure the enumerator reads the certification before signing and dating it.

Make entries only in column (2) of this section. Entries for items a, b, and c will be figures for totals. Those for items d and e will be goldar amounts.

- a. *Persons enumerated*--This entry is taken from item 7b on the cover of the EA Book after you have approved and made that entry.
- b. *Listings*--This entry is taken from item 7a on the cover of the EA Book after you have approved and made that entry.
- c. *Hours worked*--The number of hours worked is taken from the enumerator's record of hours worked on the inside front cover of the EA Book after you have checked the addition and entries.
- d. *Travel allowance*--The fee for travel allowance is entered only if shown approved in item g of the authorization.
- e. *Other authorized payment*--Make an entry only if you authorize other payments such as bus fares, tolls, nights in travel status, etc.

Total--Leave blank.

Approved by--After you have completed the authorization and are satisfied that it is correct, sign your name as "Crew leader" and enter the date.

Notes--Explain any entries you believe the DCO may question.

RECORD OF PAYMENT

Make no entries in this section.

FORM PH-243

ENUMERATOR PAYROLL REGISTER

PROVINCE: TERRA 42
DISTRICT: ANTIGUA 42 05

TOTAL EA'S: 103

AREA NAME	GEOGRAPHIC CODE	TRAINING ALLOWANCE				ENUMERATION PAYMENT				
		PAYMENT NUMBER	AMOUNT	TRAVEL (AMOUNT)	DATE POSTED	SECOND ASSIGNMENT	PAYMENT NUMBER	AMOUNT	TRAVEL (AMOUNT)	DATE POSTED
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)

ARIEL BARRIO..... 003

RURAL BALANCE.. 003 999 999 99 9 9 001

003 999 999 99 9 9 002

003 999 999 99 9 9 003

003 999 999 99 9 9 004

003 999 999 99 9 9 005

003 999 999 99 9 9 006

003 999 999 99 9 9 007

003 999 999 99 9 9 008

CUTA BARRIO..... 006

BERI HAMLET.... 006 059 999 99 4 9 005

006 059 999 99 4 9 006

TORI HAMLET.... 006 522 999 99 3 9 002

006 522 999 99 3 9 003

006 522 999 99 3 9 004

RURAL BALANCE.. 006 999 999 99 9 9 001

006 999 999 99 9 9 007

DORETA BARRIO.... 009

CASSETA CITY... 009 079 999 99 2 9 001

(Continued)

Exhibit C-4-29. ENUMERATOR PAYROLL REGISTER, FORM PH-243

Exhibit C-4-31. PCO/DCO TRANSMITTAL, FORM PH-268

FORM PH-268 (January 1980)		MINISTRY OF ECONOMY NATIONAL STATISTICAL OFFICE			a. Shipment No.	b. Date sent	c. No. of packages
<h2 style="margin: 0;">PCO/DCO TRANSMITTAL</h2>					d. Materials transmitted <input type="checkbox"/> EA Books <input type="checkbox"/> DCO maps <input type="checkbox"/> Enumerator kits <input type="checkbox"/> Bulk supplies <input type="checkbox"/> Crew leader kits <input type="checkbox"/> Other (Specify) ↗		
e. TO: (Give name and code) <input type="checkbox"/> PCO _____ <input type="checkbox"/> DCO _____				f. FROM: (Give name and code) <input type="checkbox"/> PCO _____ <input type="checkbox"/> DCO _____			
I - ASSIGNMENT MATERIALS					II - BULK SUPPLIES		
Crew leader areas (1)	EA Books (2)	Enumerator kits (3)	Crew leader kits (4)	DCO maps (5)	Form No. (1)	Item (2)	Quantity (3)
01							
02							
03							
04							
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
Total number							
III - PCO/DCO RECEIPT							
1. Received by:					2. Date:		
3. Quantity specified <input type="checkbox"/> Complete <input type="checkbox"/> Incomplete (Explain in 5)				4. Condition of shipment <input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory (Explain in 5)			
5. Explanation of incomplete or unsatisfactory items in shipment							

Exhibit C-4-32. CREW LEADER'S FINAL REVIEW OF EA, FORM PH-269

FORM PH-269 (January 1980)	MINISTRY OF ECONOMY NATIONAL STATISTICAL OFFICE		a. Province	Code
			b. District	Code
	CREW LEADER'S FINAL REVIEW OF EA		c. Crew Leader name	d. CL area No.
			e. Enumerator name	f. EA No.
Item				Action
I. REVIEW OF EA MAP. Review the EA map to see that all roads, paths, and lanes have been covered as indicated by road names and numbers on the Listing Sheets. If there are areas which have not been covered, return the EA to the enumerator for completion.				<input type="checkbox"/> Accept <input type="checkbox"/> Reject
II. CHECK FOR MISSING QUESTIONNAIRES. Check that there is a questionnaire for each serial number assigned in column 3 of the Listing Sheet. If any questionnaires are missing (other than those for deleted serial numbers) return the EA to the enumerator for completion.				<input type="checkbox"/> Accept <input type="checkbox"/> Reject
III. REVIEW OF LISTING SHEETS. On the Listing Sheets, all lines must have been completed or closed-out (entry in column 12 or 13). For all occupied housing units and all collective quarters listed, there must be an entry in column 7. Changes must be carried through to Summary of Page Totals and EA Book cover.				Transcribe from P-1b; correct EA Book cover
IV. REVIEW FOR INCOMPLETE QUESTIONNAIRES. Go through the EA Book looking for incomplete questionnaires; that is, questionnaires with incomplete population or housing information. An incomplete population line has some entries but no name and no entries in items P-2 to P-5. Housing must have at least an entry in item H-1. List below the serial numbers of questionnaires with incomplete information. If the EA Book is rejected (number of incomplete questionnaires exceeds acceptance number), return it to the enumerator.				<input type="checkbox"/> Accept <input type="checkbox"/> Reject
Serial numbers of incomplete questionnaires			Total HU's and CQ's	Acceptance number
			Under 25	2
			25 to 49	3
			50 to 74	4
			75 to 99	5
			100 to 124	6
			125 to 149	7
			150 or more	8
g. Total HU's and CQ's		h. Date returned to enumerator		i. Date completed
V. MATERIALS RETURNED. Check that the enumerator returns all appropriate enumeration materials, including the enumerator's Identification Card.				

Exhibit C-4-33. DCO FINAL REVIEW OF EA, FORM PH-270

FORM PH-270 (December 1979)	MINISTRY OF ECONOMY NATIONAL STATISTICAL OFFICE	a. Province	Code									
DCO FINAL REVIEW OF EA		b. District	Code									
		c. Crew leader name	d. CL area No.									
		e. Enumerator name	f. EA No.									
		Item		Initial when complete								
CHECK ON COVERAGE: Check the enumerator's Listing Sheet to be sure that he or she has listed every housing unit that appears on the Crew Leader's Prelisting, Form PH-264. If the enumerator has missed one or more housing units (or CQ's), return the EA to the crew leader for recanvassing.												
CHECK ON CONTENT OF PH-2'S: Using the appropriate "start with" number, completely edit the next 5 consecutive PH-2's in the EA. Mark each omission or inadequate entry in blue on the questionnaire. Count the number of errors for each questionnaire and enter that count in B of this section.												
Serial No.											Total PH-2's →	A.
Number of errors											Total errors →	B.
											Average errors per PH-2 (B ÷ A) →	C.
If the average number of errors per PH-2 (item C) exceeds 2, reject the EA and return it to the crew leader for further enumeration.												
REMARKS:												

Exhibit C-6-1. FLOW CHART FOR PHASE I MAJOR DATA PROCESSING OPERATIONS

LEGEND

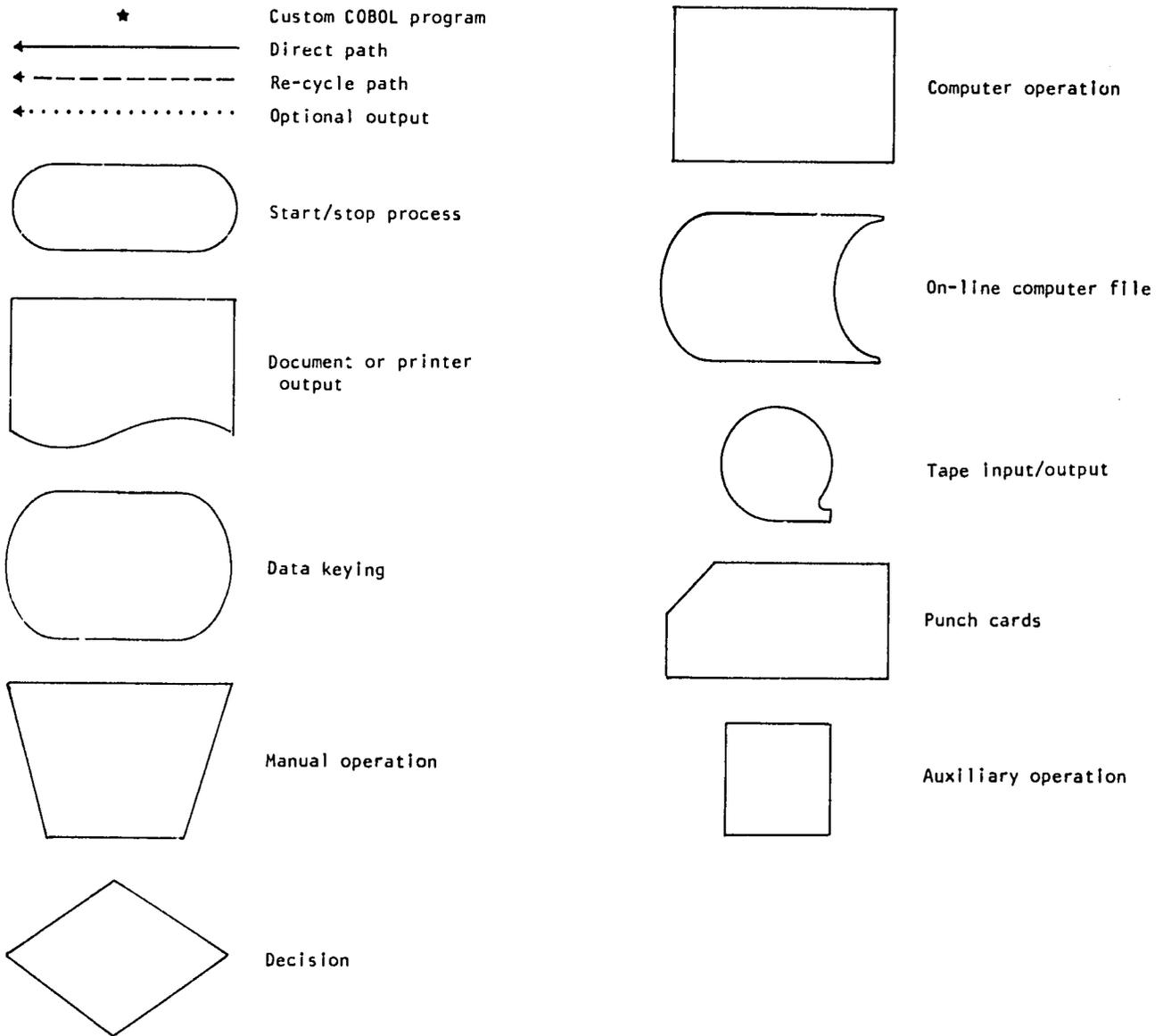


Exhibit C-6-1. FLOW CHART FOR PHASE I MAJOR DATA PROCESSING OPERATIONS--Continued

CREATION OF MASTER FILE AND GENERATION OF CONTROL FORMS

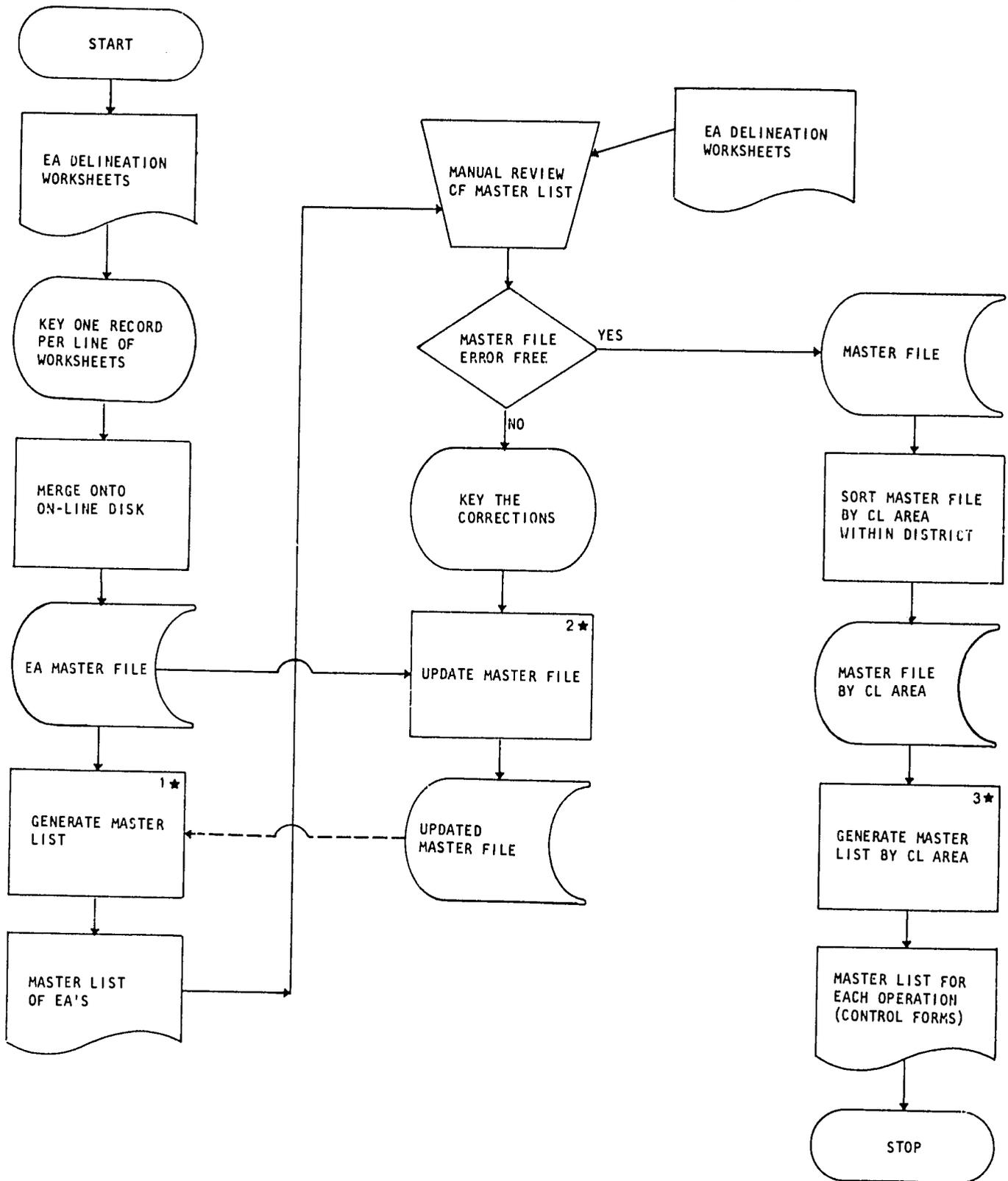


Exhibit C-6-1. FLOW CHART FOR PHASE I MAJOR DATA PROCESSING OPERATIONS--Continued

RECEIPT AND CHECK-IN OF EA BOOKS, UPDATE OF MASTER FILE, MANUAL EDITING, DATA KEYING, AND CONSOLIDATION OF DISKS

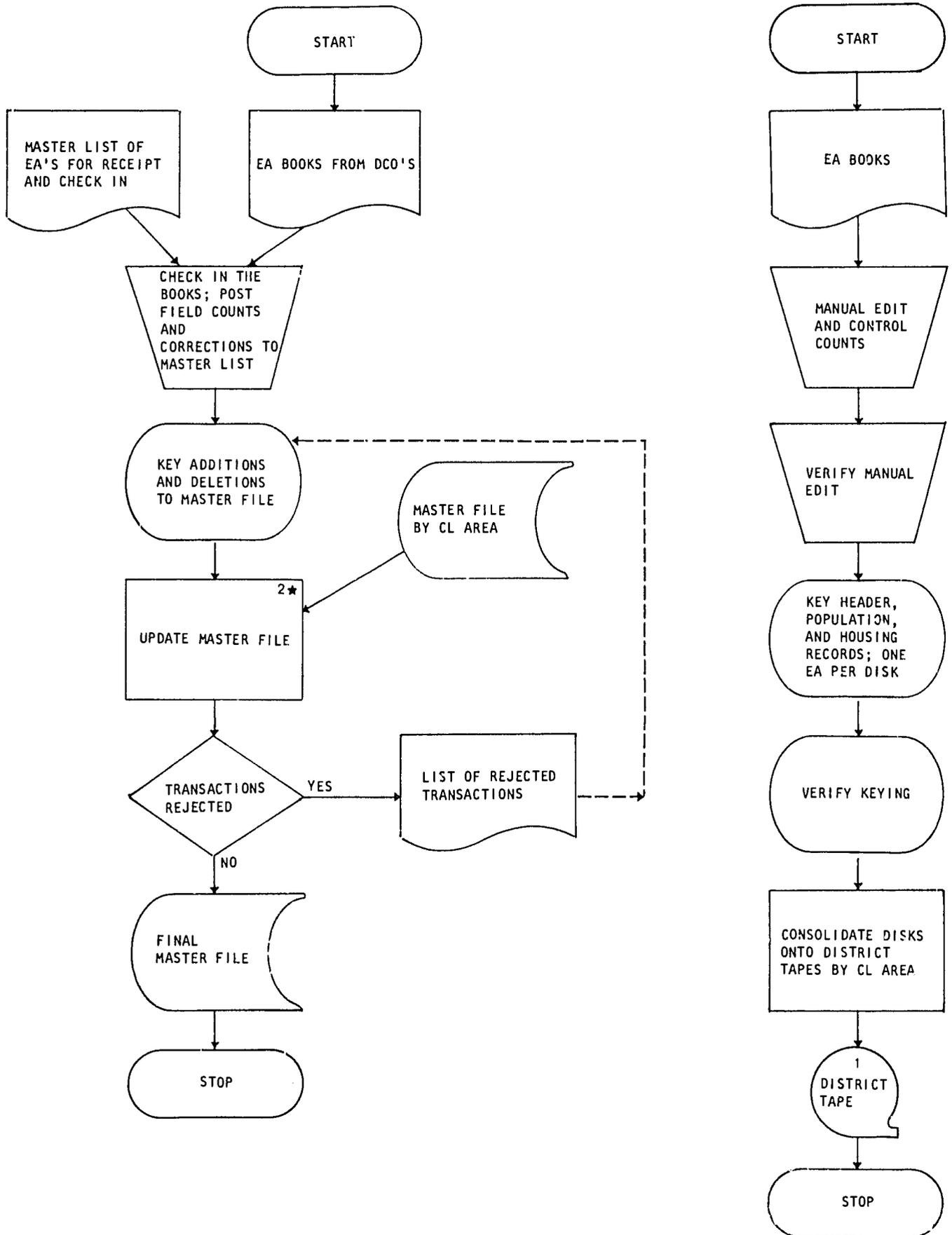
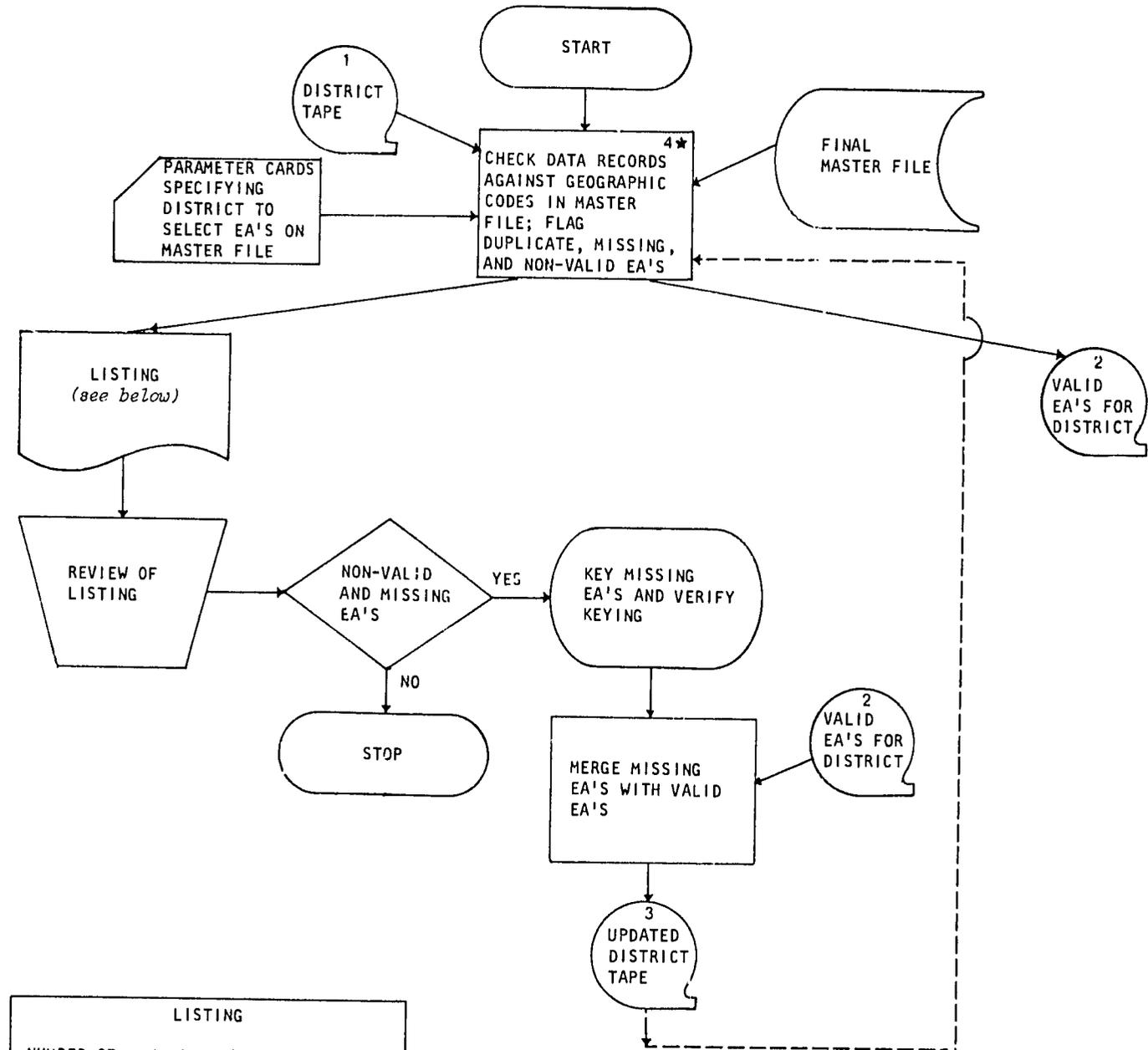


Exhibit C-6-1. FLOW CHART FOR PHASE I MAJOR DATA PROCESSING OPERATIONS--Continued

COMPUTER CHECK-IN OF DATA RECORDS



LISTING

NUMBER OF: VALID EA'S
 DUPLICATE EA'S
 NON-VALID EA'S
 MISSING EA'S

VALID RECORDS
 TOTAL
 POPULATION
 HOUSING

NON-VALID RECORDS
 TOTAL
 POPULATION
 HOUSING

GEOGRAPHIC CODES OF: DUPLICATE EA'S
 NON-VALID EA'S
 MISSING EA'S

HEADER RECORDS OF VALID EA'S SHOWING
 CONTROL COUNTS

Exhibit C-6-1. FLOW CHART FOR PHASE I MAJOR DATA PROCESSING OPERATIONS--Continued

EDITING AND DIARY REVIEW

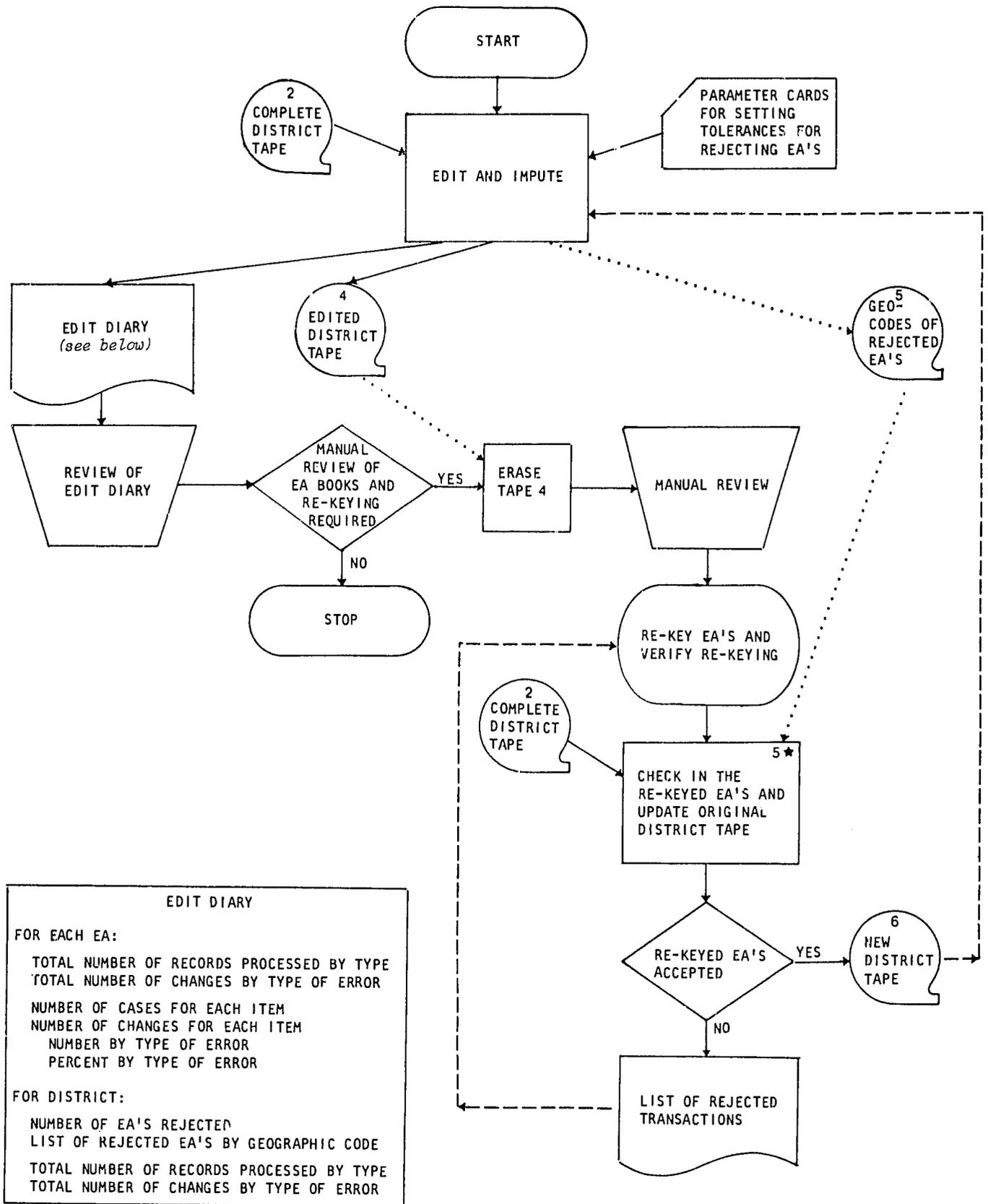


Exhibit C-5-1. FLOW CHART FOR PHASE I MAJOR DATA PROCESSING OPERATIONS--Continued

CONSOLIDATION OF PROVINCE TAPES, CREATION OF AREA NAME FILE, TABULATION, AND PRE-PUBLICATION REVIEW

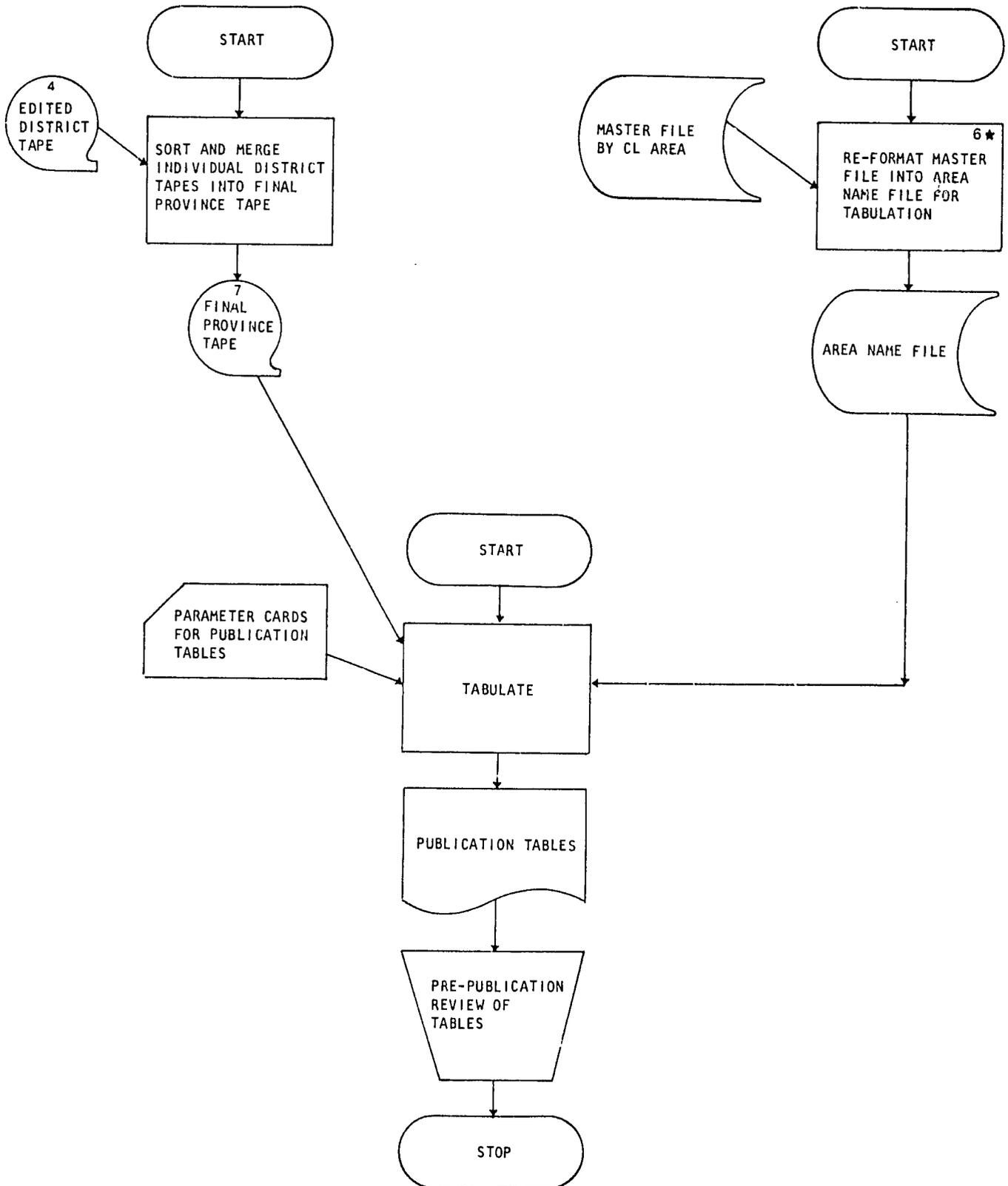
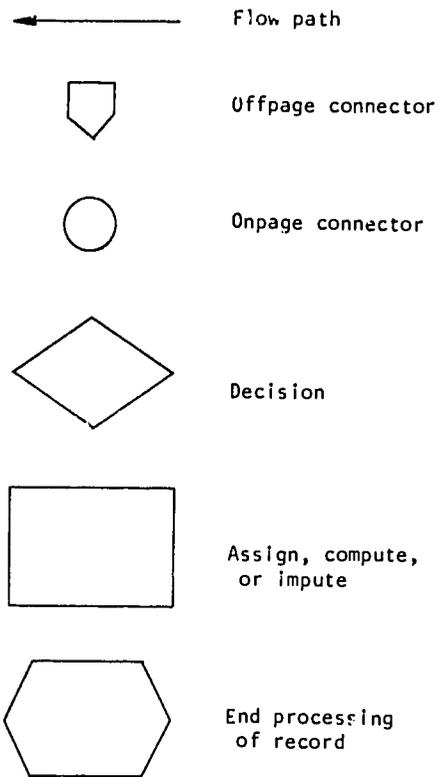


Exhibit C-6-2. FLOW CHARTS FOR POPULATION EDITS

LEGEND



GUIDE TO TERMS

Assign: Insert into the record being edited an imputed or computed value

First person in housing unit: First population record for a serial number

HG: Highest grade completed

Line: Line number of the record being edited

Line of head: Line number of head of household

Line of husband: Line number of husband as reported in item P-6

Line of mother: Line number of mother as reported in item P-8

Line of spouse: Line number of any previous person in the housing unit whose relationship is reported as spouse

Married female: Any previous female in the housing unit who reported married for marital status

Married male: Any previous male in the housing unit who reported married for marital status

Married male's line: Line number of any previous male in the housing unit who reported married for marital status

MS: Marital status

Previous mother: Any previous female in the housing unit who reported children ever born

Previous mother's line: Line number of any previous mother

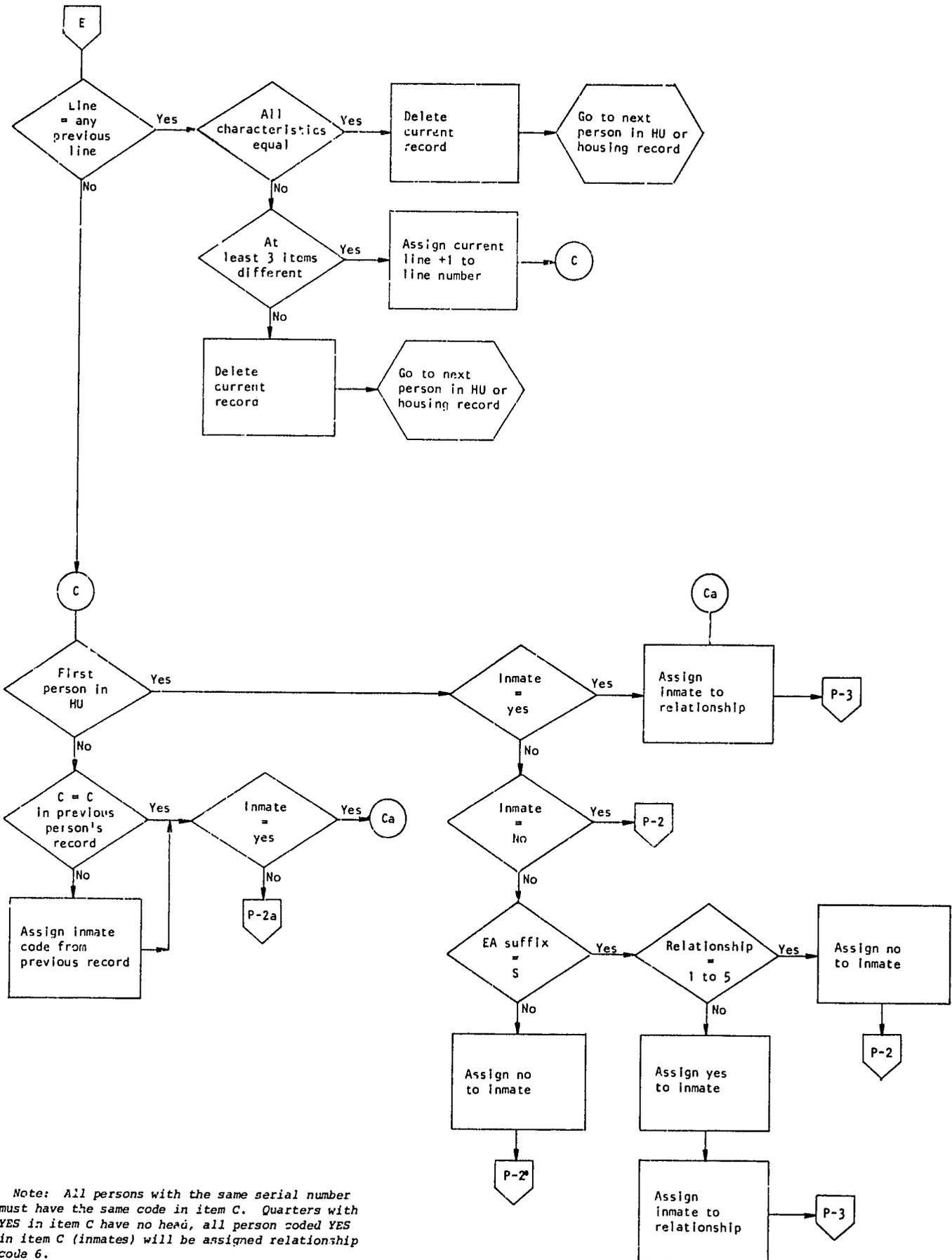
Previous person: Any previous person in the housing unit (with same serial number)--not simply the preceding person

Rel: Relationship

Valid entry: A value within the range of codes for an item as defined on the questionnaire. For example, the valid codes for marital status are 1 to 5:

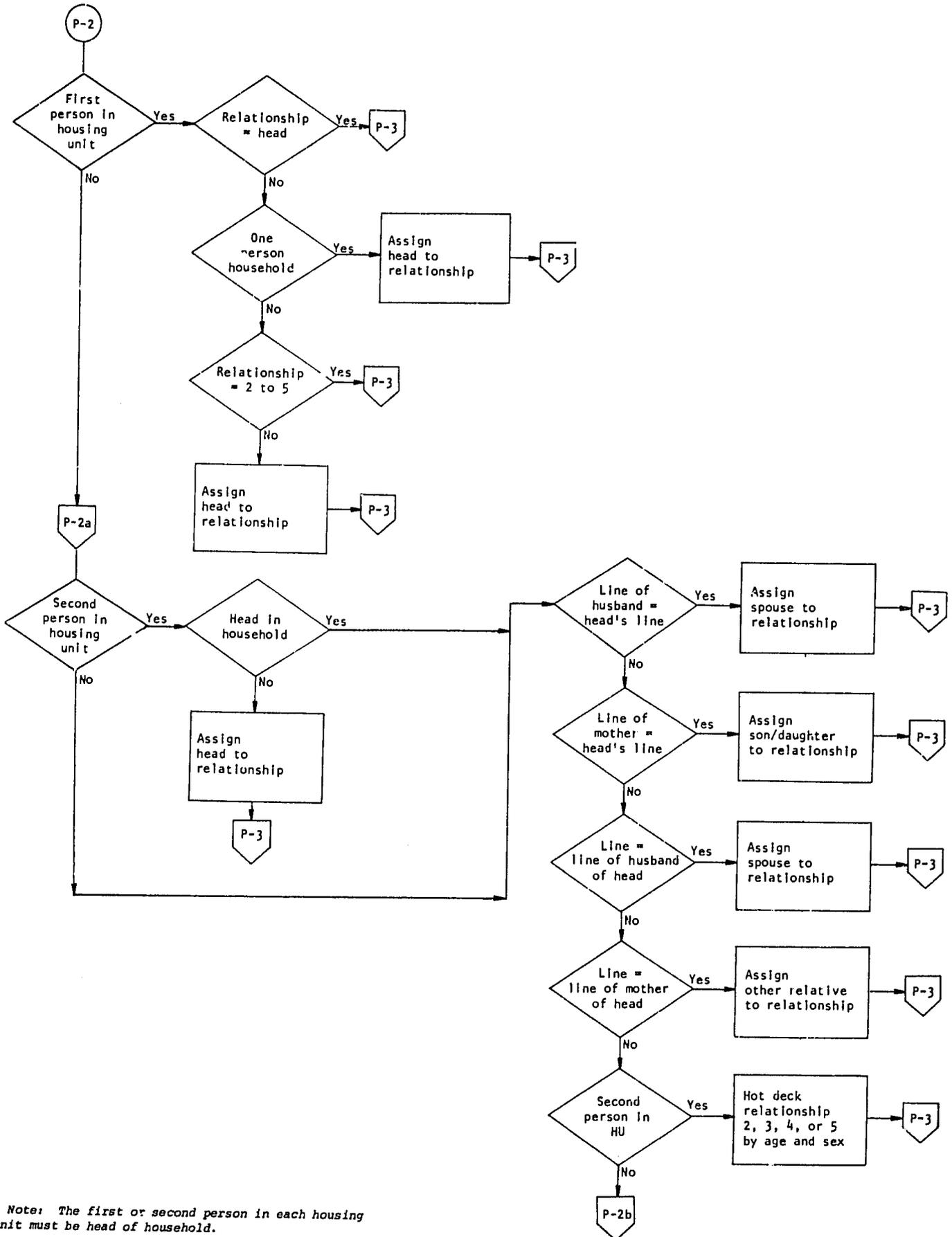
- 1 = Married
- 2 = Divorced
- 3 = Separated
- 4 = Widowed
- 5 = Never married

Exhibit C-6-2. FLOW CHARTS FOR POPULATION EDITS--Continued



Note: All persons with the same serial number must have the same code in item C. Quarters with YES in item C have no head, all person coded YES in item C (inmates) will be assigned relationship code 6.

Exhibit C-6-2. FLOW CHARTS FOR POPULATION EDITS--Continued



Note: The first or second person in each housing unit must be head of household.

Exhibit C-6-2. FLOW CHARTS FOR POPULATION EDITS--Continued

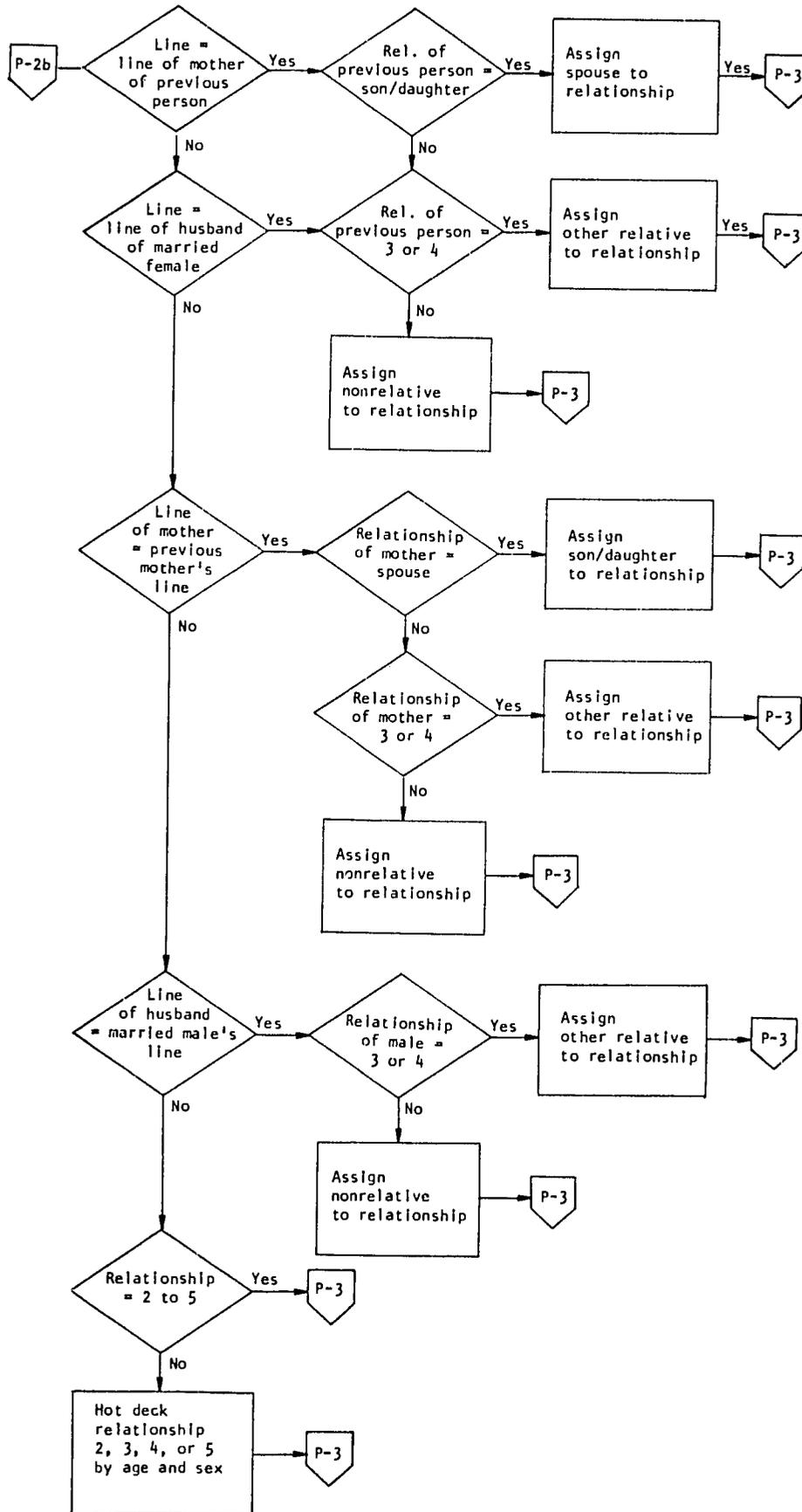


Exhibit C-6-2. FLOW CHARTS FOR POPULATION EDITS--Continued

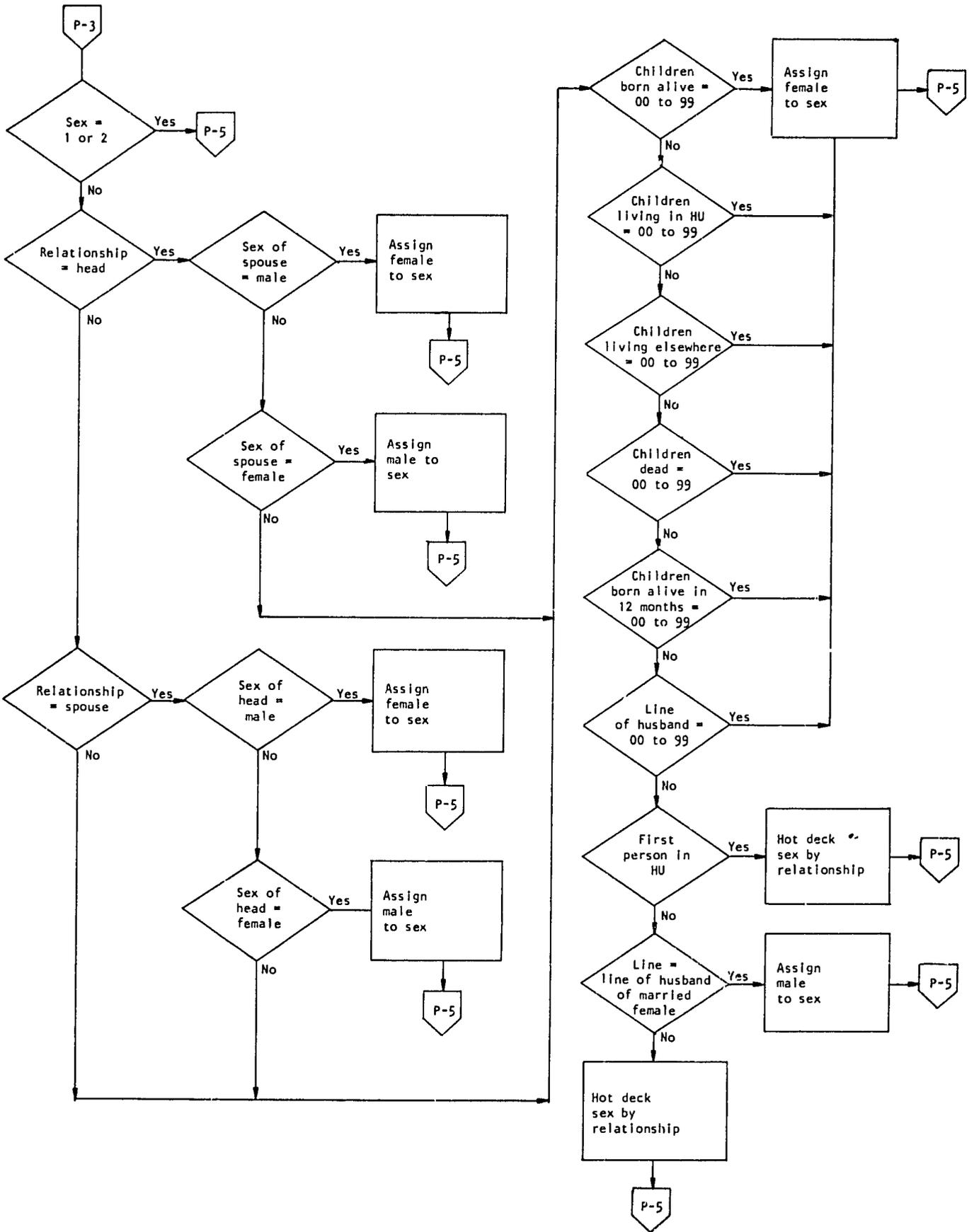


Exhibit C-6-2. FLOW CHARTS FOR POPULATION EDITS--Continued

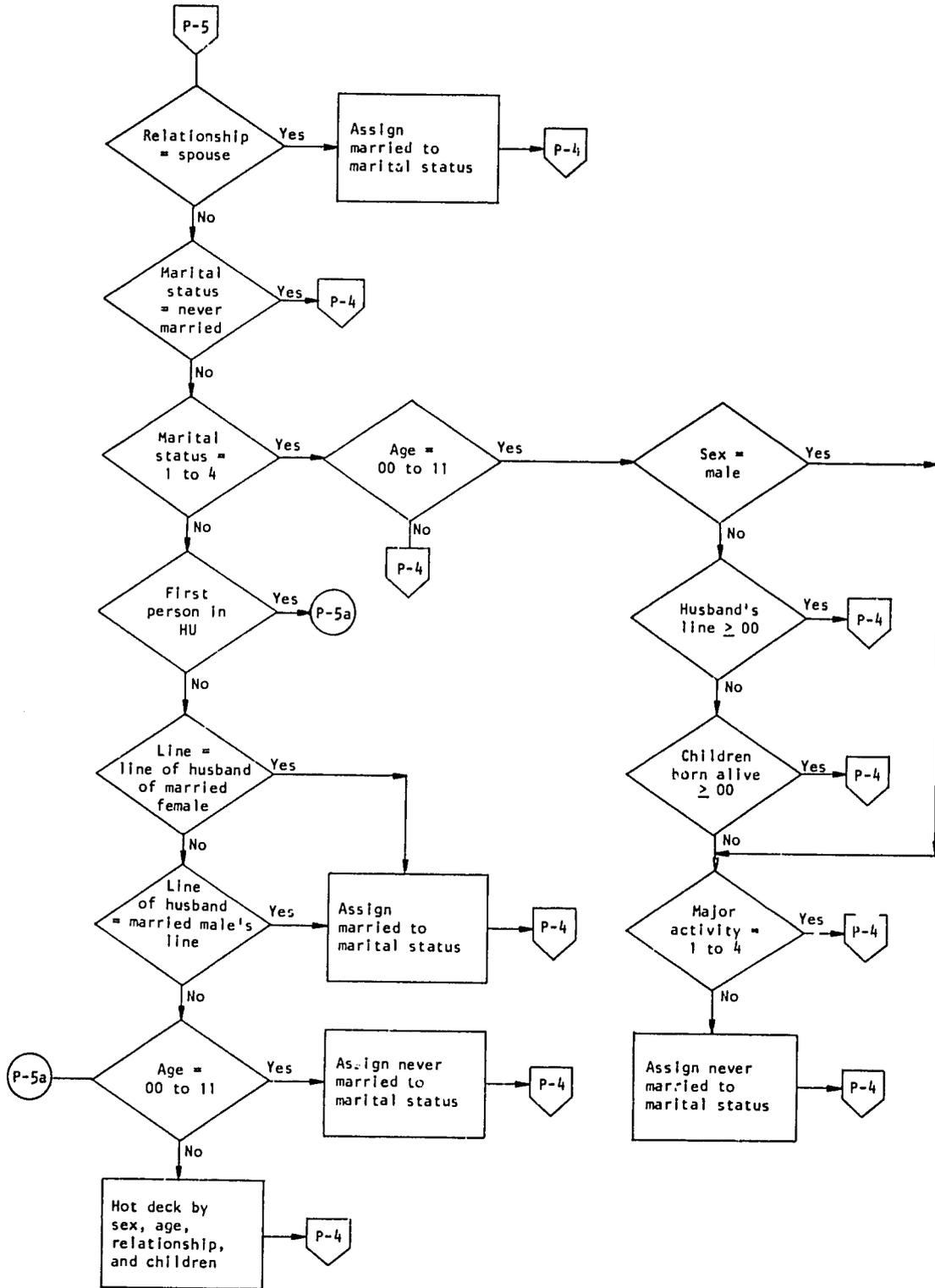
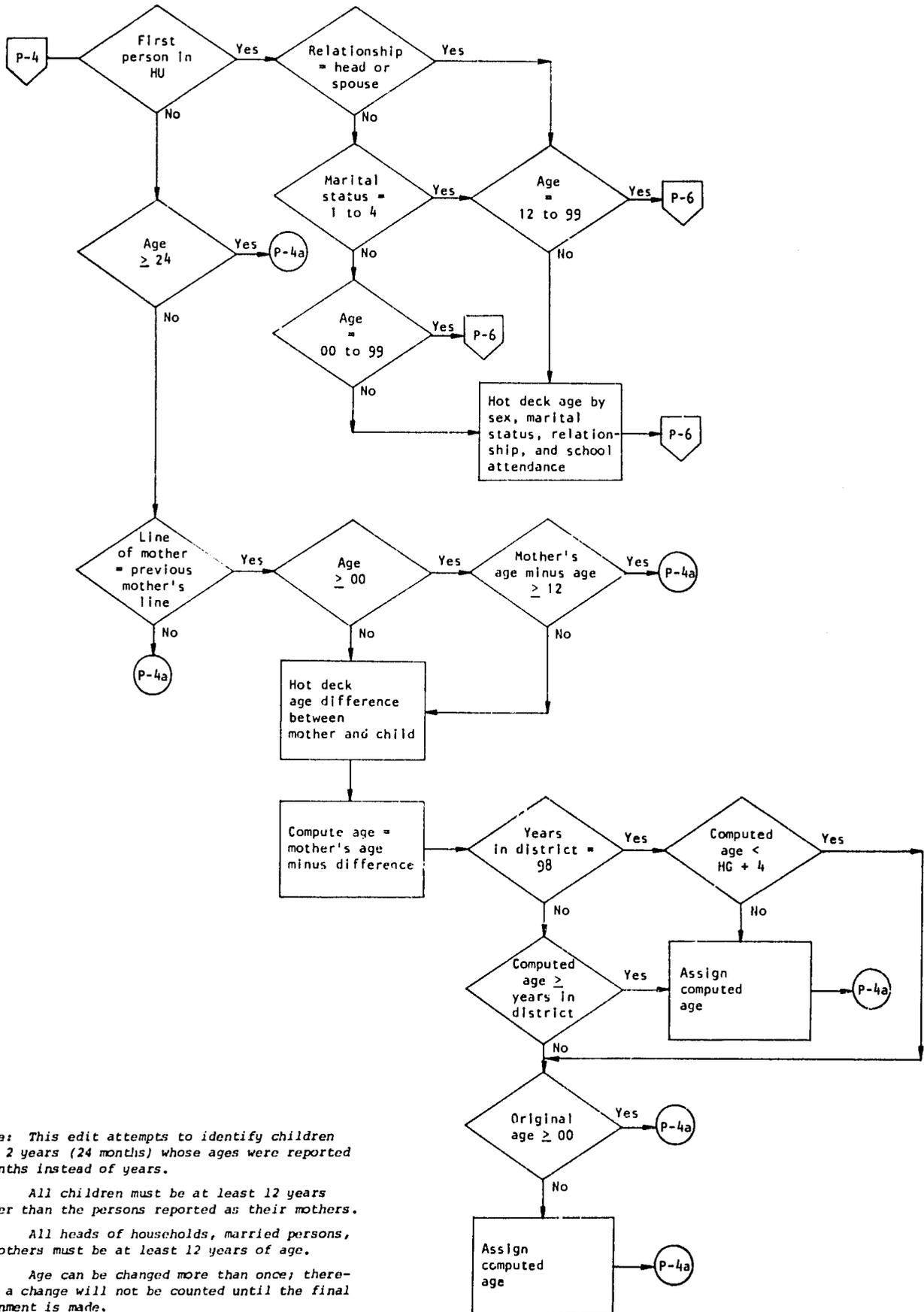


Exhibit C-6-2. FLOW CHARTS FOR POPULATION EDITS--Continued



Note: This edit attempts to identify children under 2 years (24 months) whose ages were reported in months instead of years.

All children must be at least 12 years younger than the persons reported as their mothers.

All heads of households, married persons, and mothers must be at least 12 years of age.

Age can be changed more than once; therefore, a change will not be counted until the final assignment is made.

Exhibit C-6-2. FLOW CHARTS FOR POPULATION EDITS--Continued

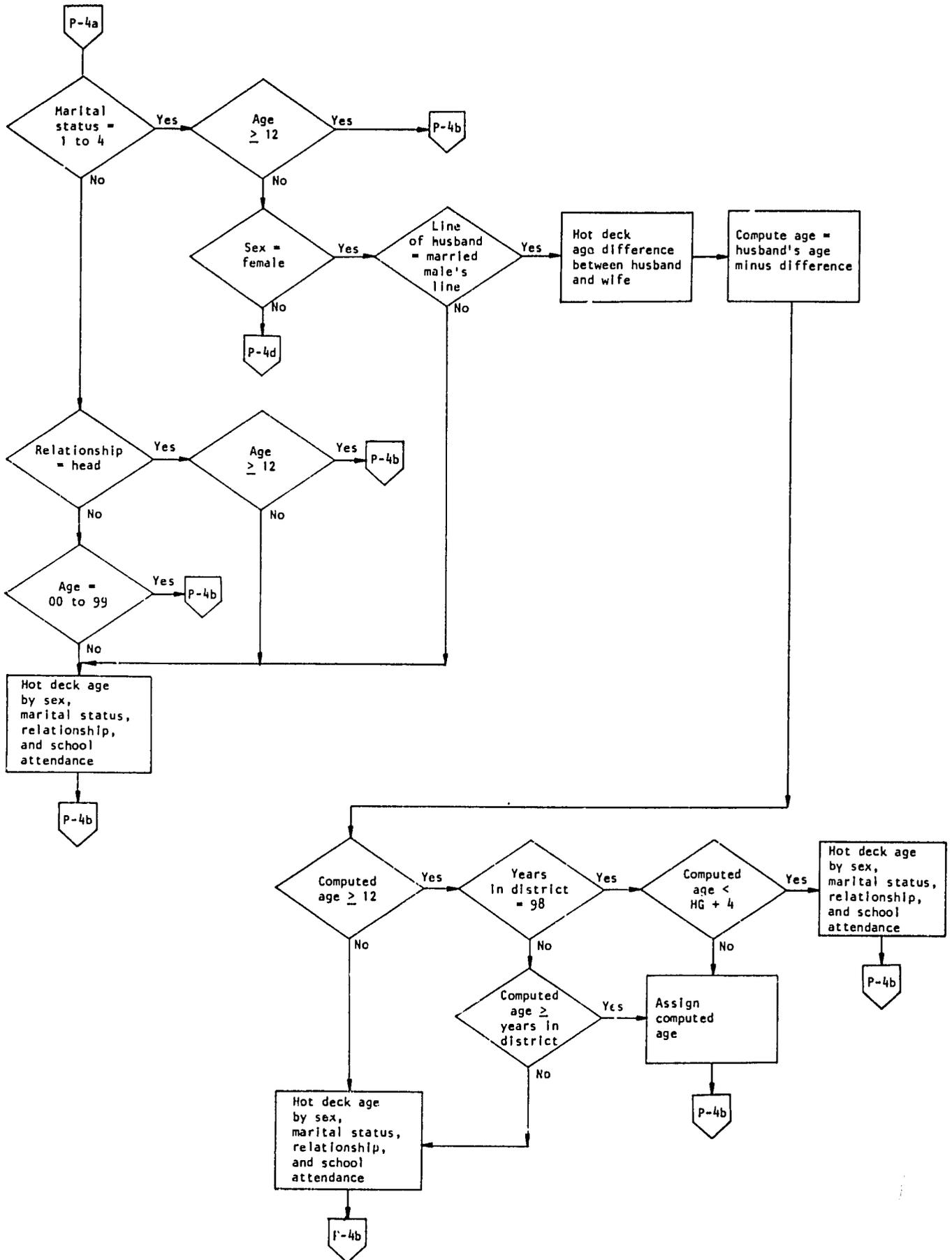


Exhibit C-6-2. FLOW CHARTS FOR POPULATION EDITS--Continued

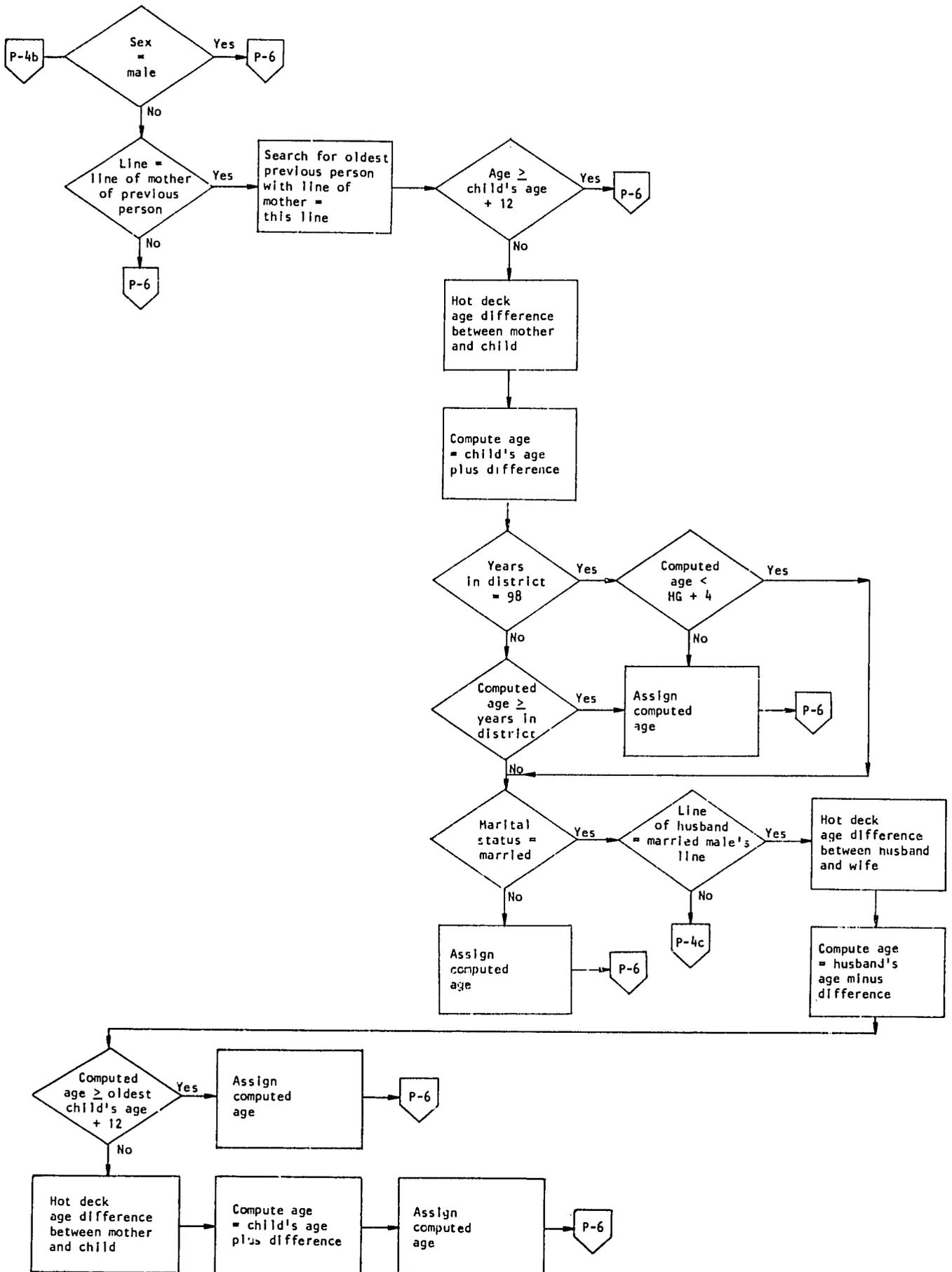


Exhibit C-6-2. FLOW CHARTS FOR POPULATION EDITS--Continued

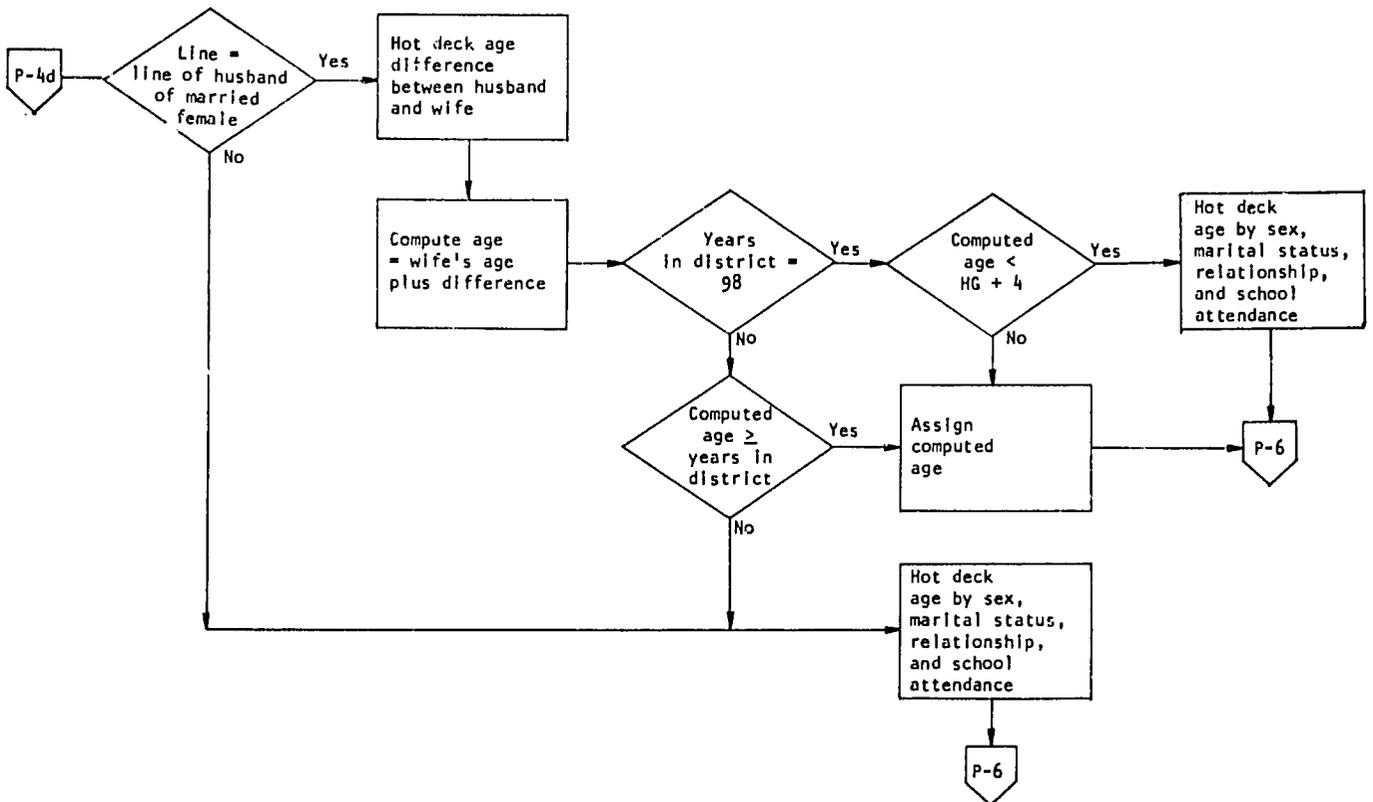
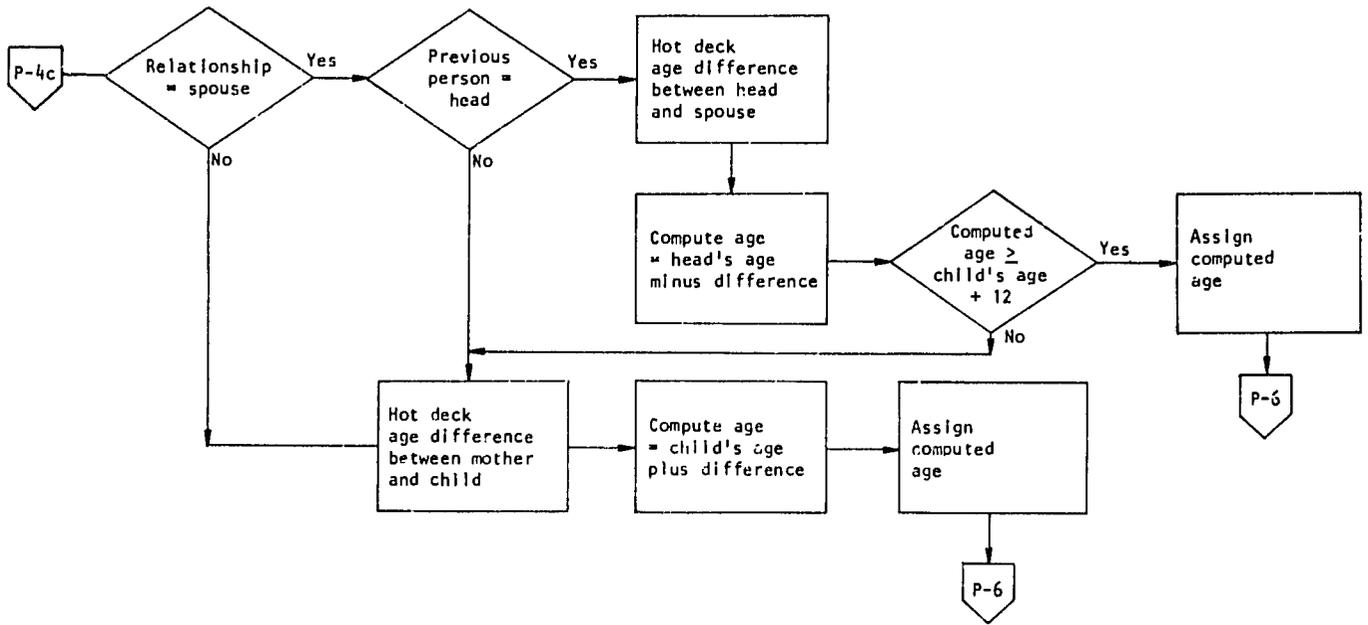


Exhibit C-6-2. FLOW CHARTS FOR POPULATION EDITS--Continued

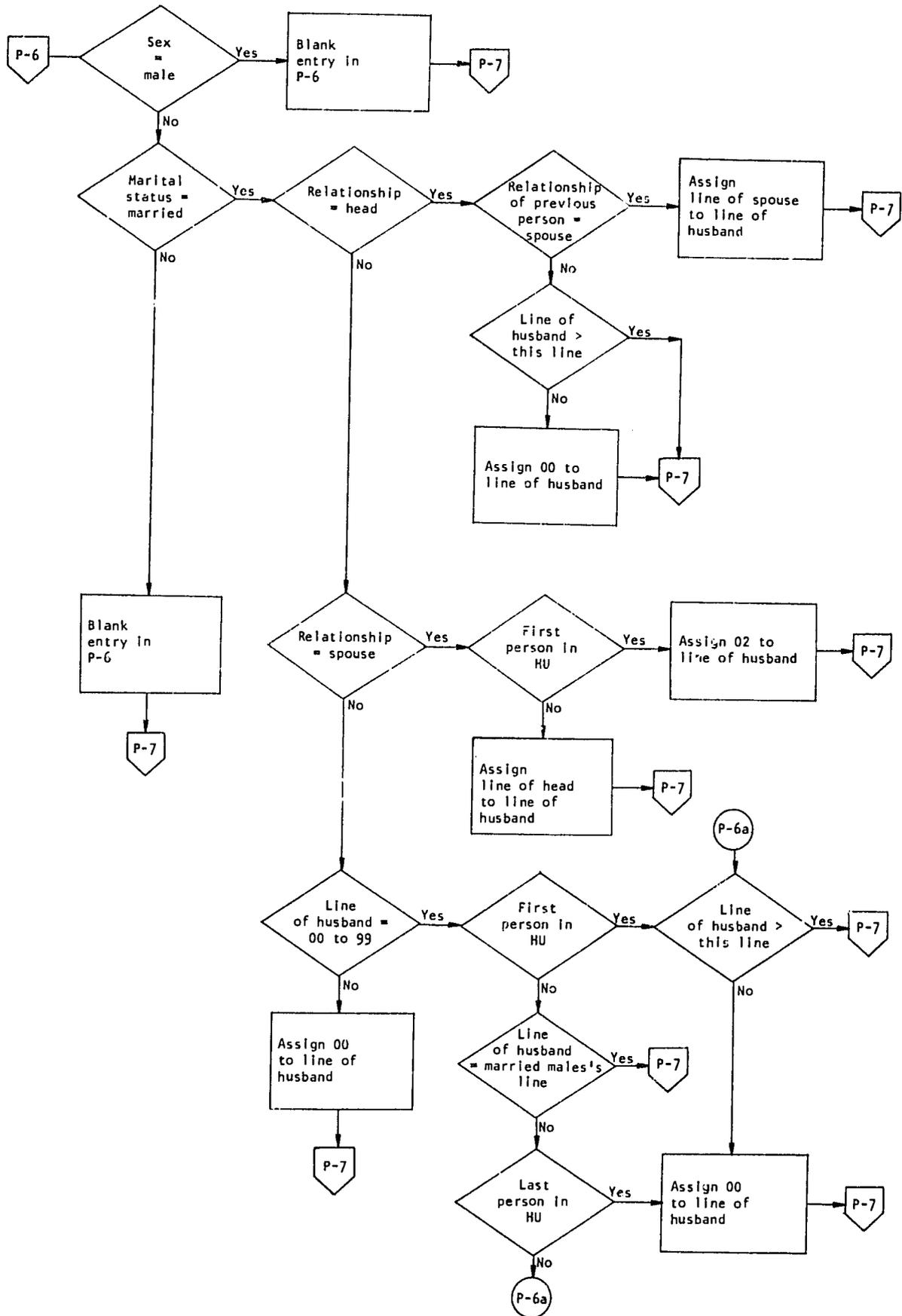
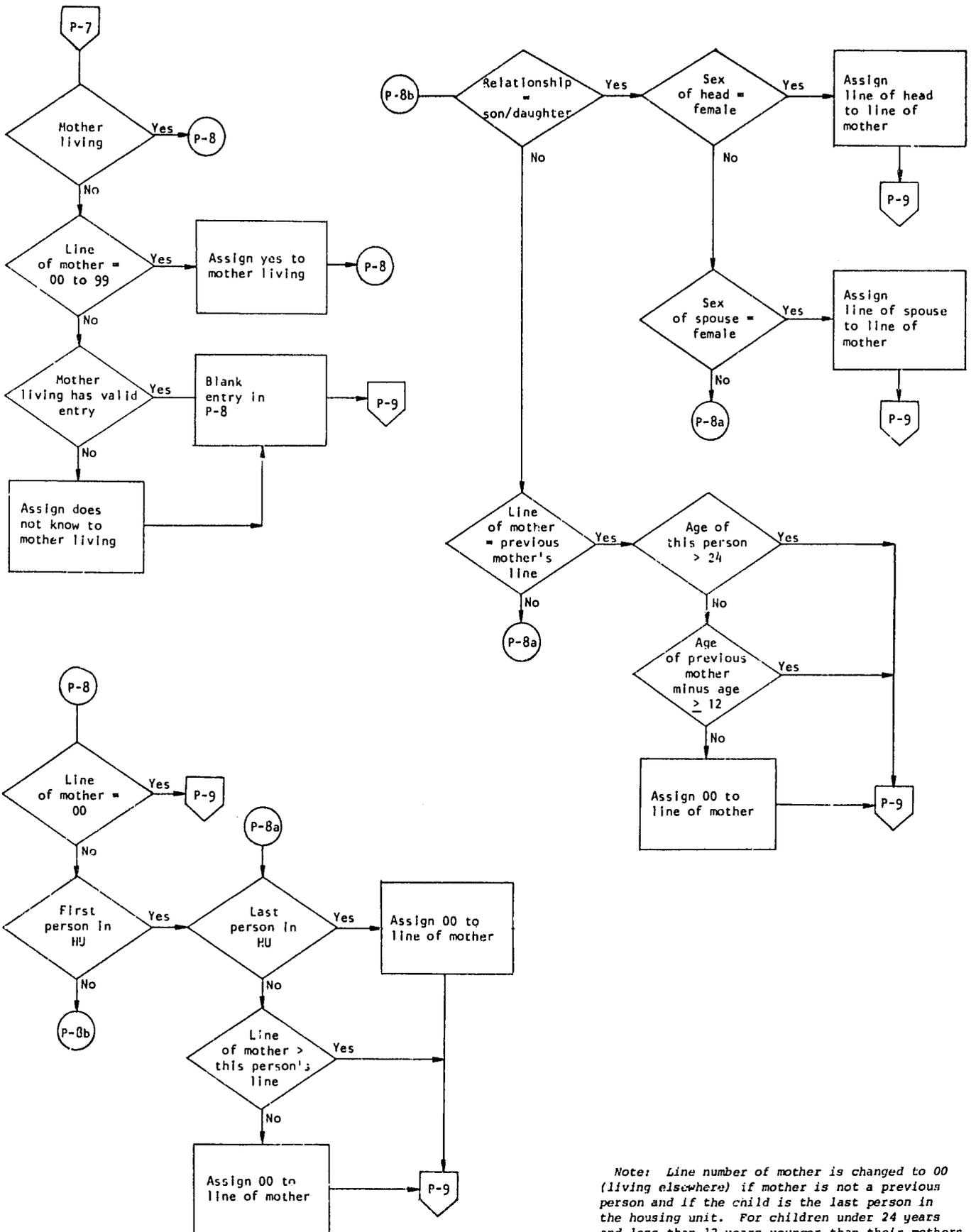


Exhibit C-6-2. FLOW CHARTS FOR POPULATION EDITS--Continued



Note: Line number of mother is changed to 00 (living elsewhere) if mother is not a previous person and if the child is the last person in the housing unit. For children under 24 years and less than 12 years younger than their mothers, line number of mother will be changed to 00. For children 24 years or older, an age check will not be made.

Exhibit C-6-2. FLOW CHARTS FOR POPULATION EDITS--Continued

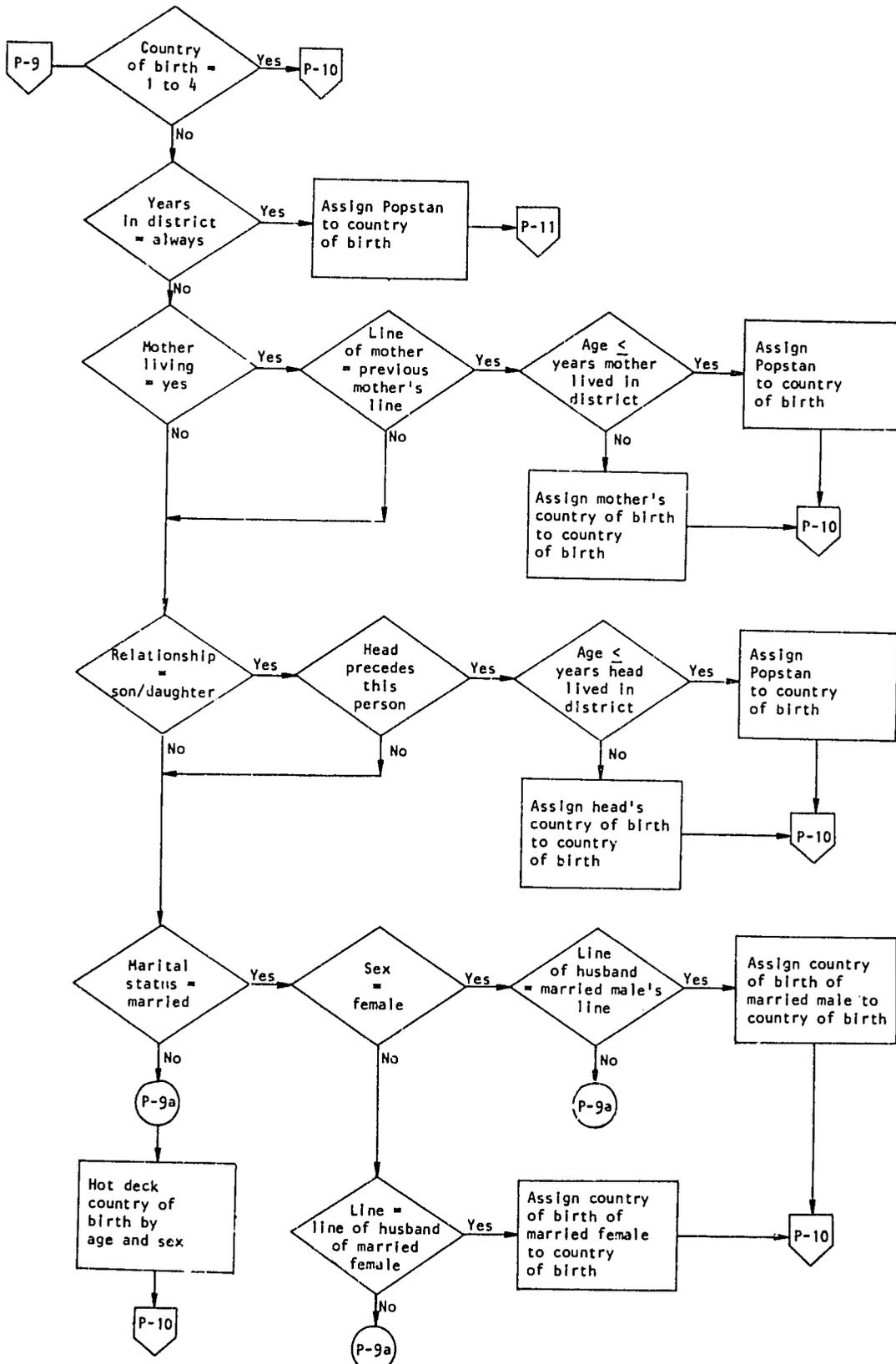
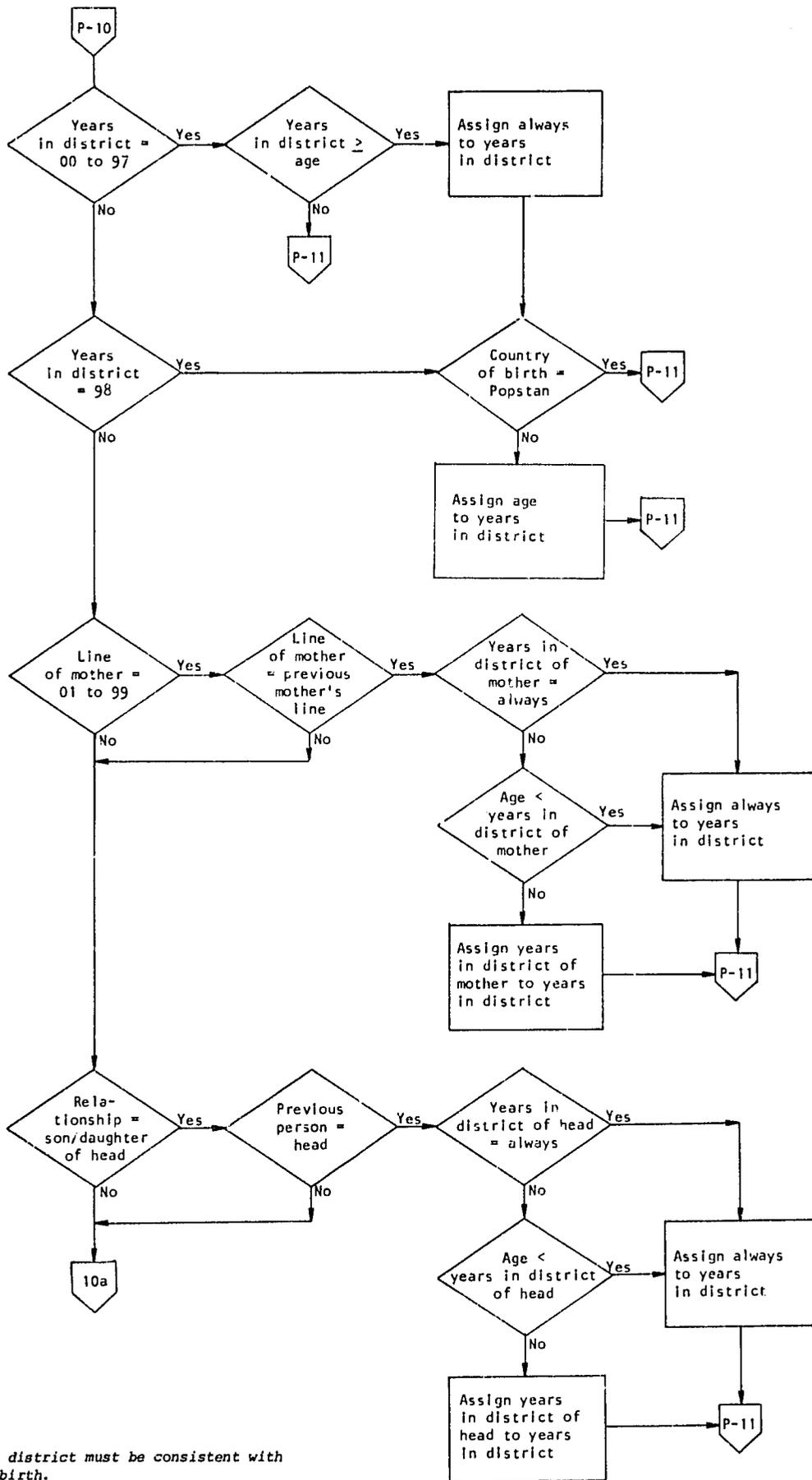


Exhibit C-6-2. FLOW CHARTS FOR POPULATION EDITS--Continued



Note: Years in district must be consistent with age and place of birth.

Exhibit C-6-2. FLOW CHARTS FOR POPULATION EDITS--Continued

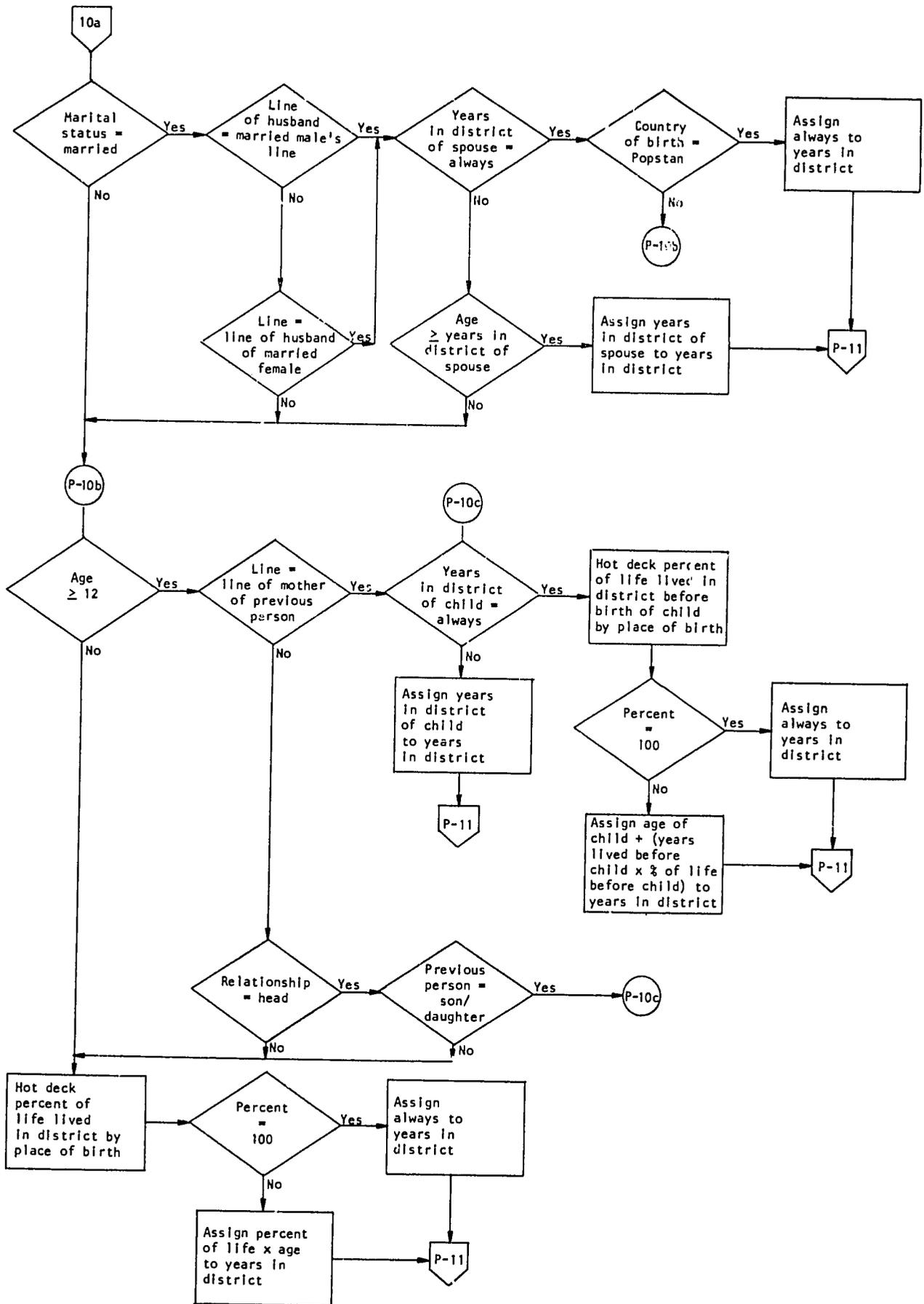


Exhibit C-6-2. FLOW CHARTS FOR POPULATION EDITS--Continued

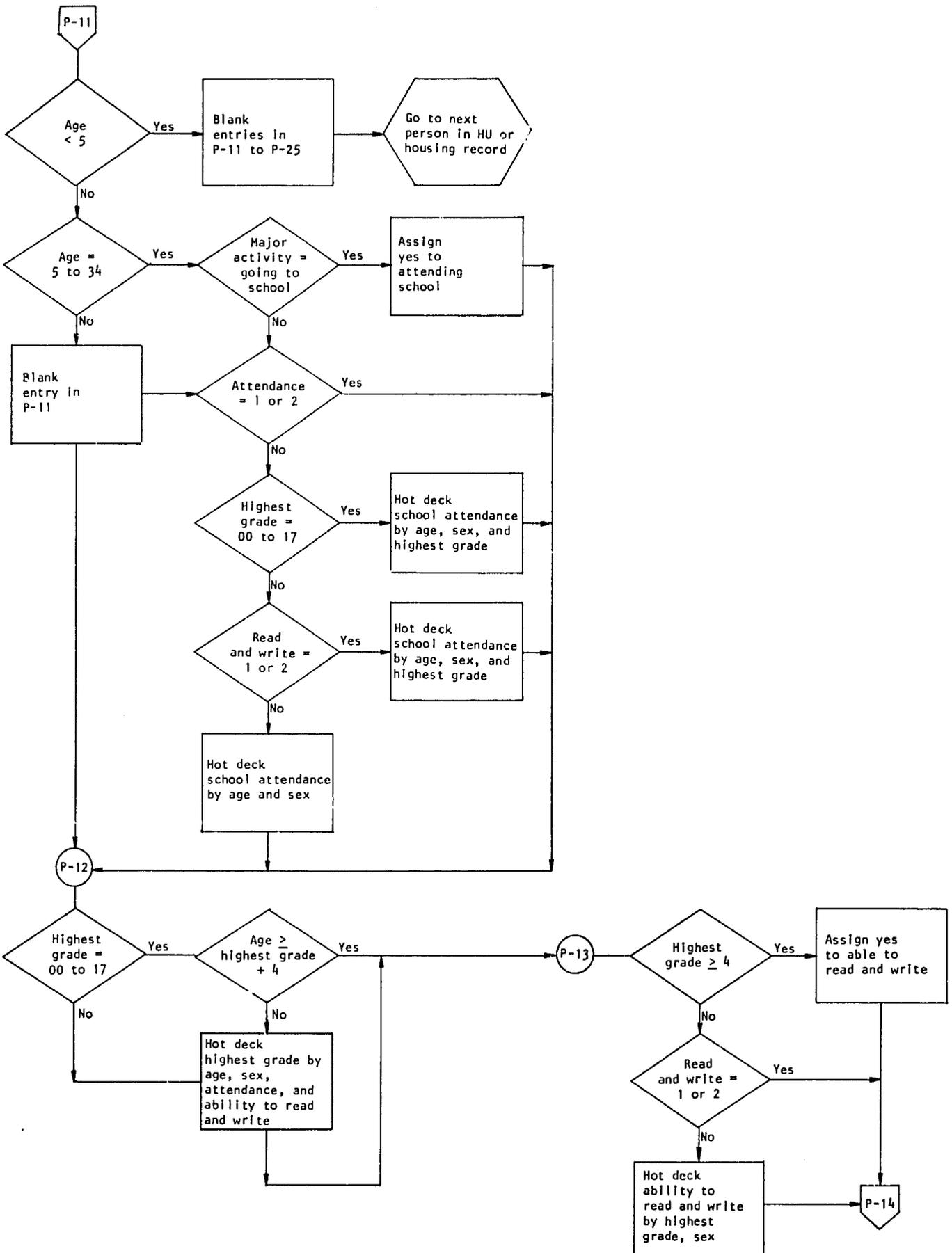


Exhibit C-6-2. FLOW CHARTS FOR POPULATION EDITS--Continued

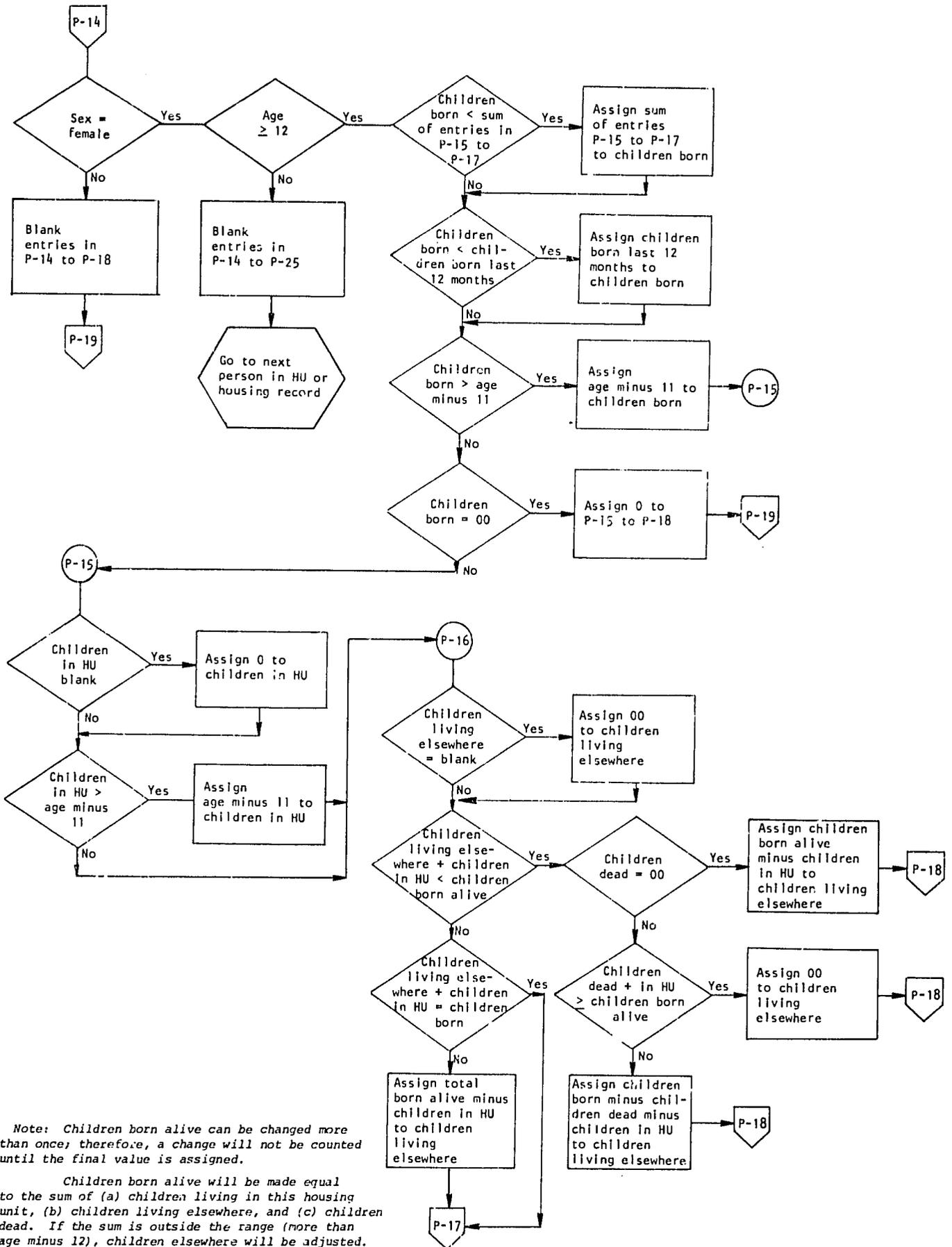


Exhibit C-6-2. FLOW CHARTS FOR POPULATION EDITS--Continued

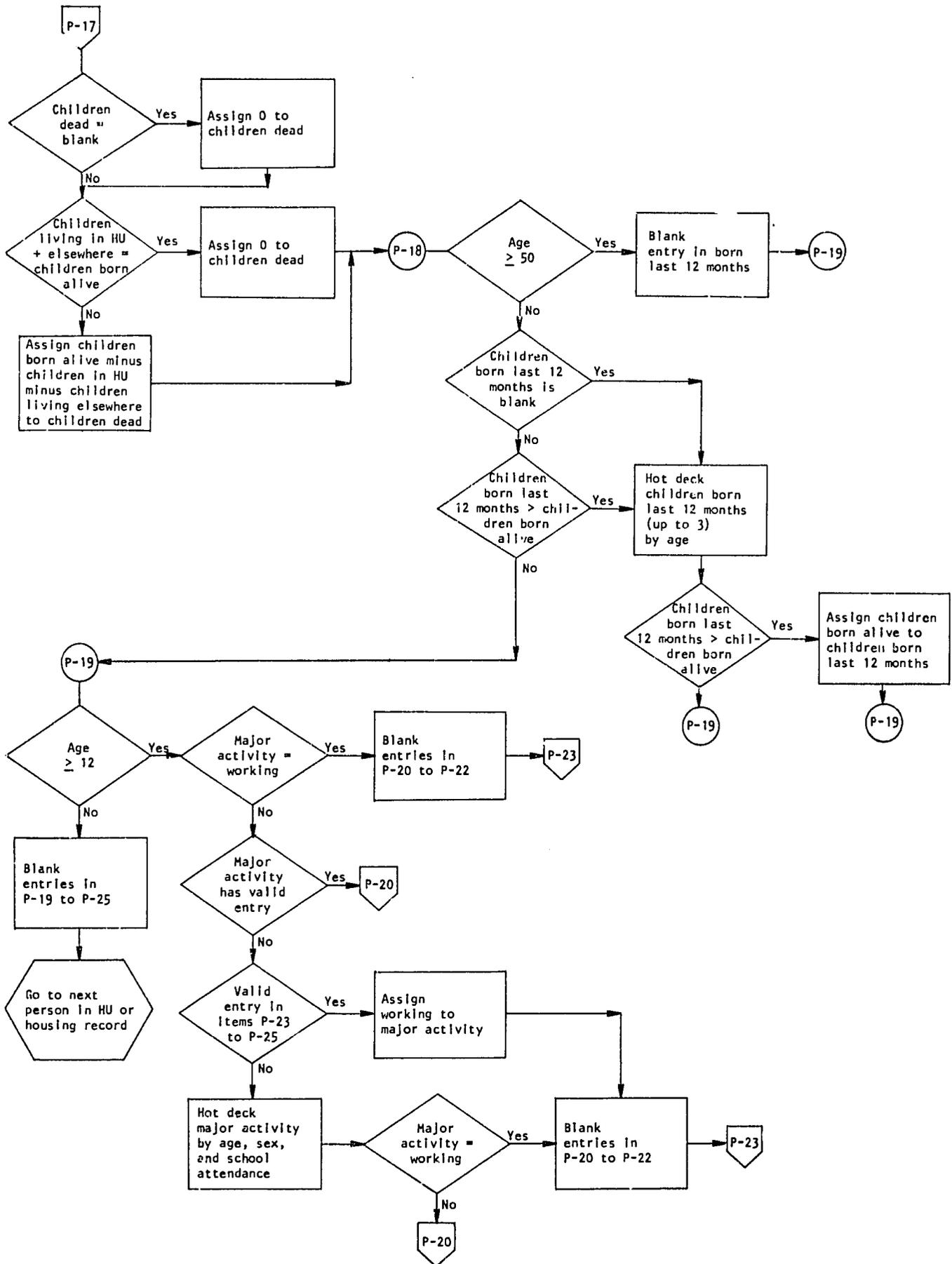


Exhibit C-6-2. FLOW CHARTS FOR POPULATION EDITS--Continued

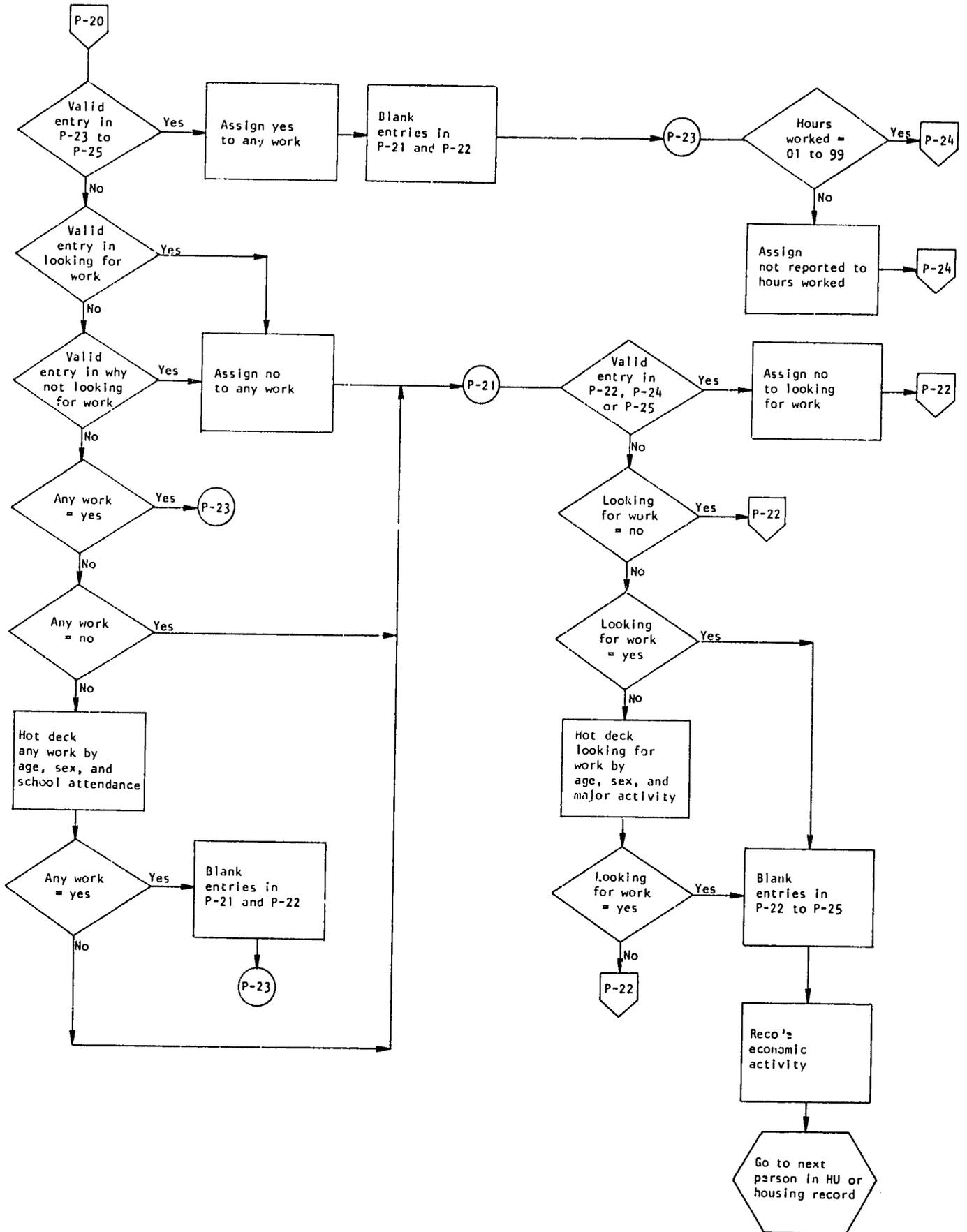


Exhibit C-6-2. FLOW CHARTS FOR POPULATION EDITS--Continued

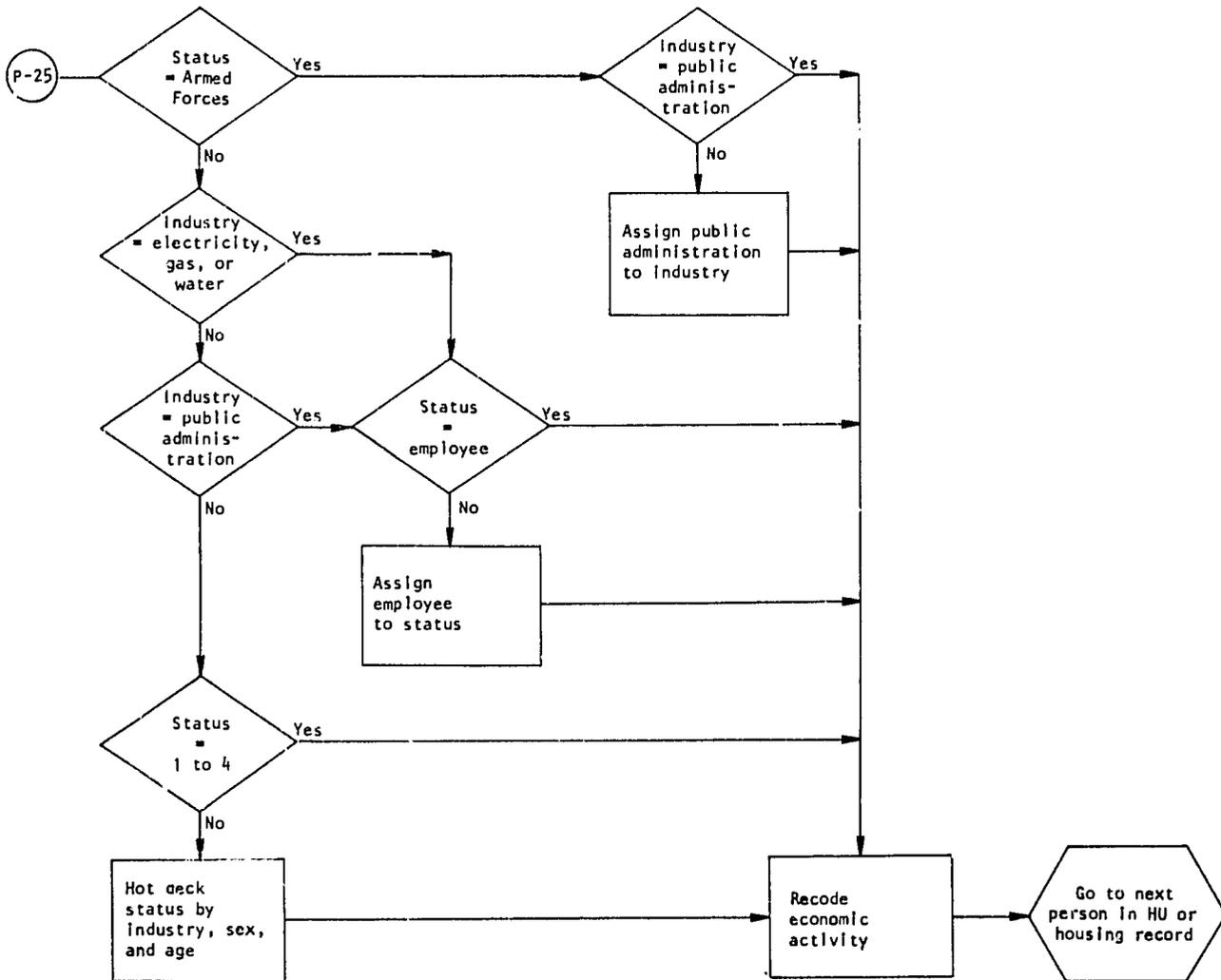
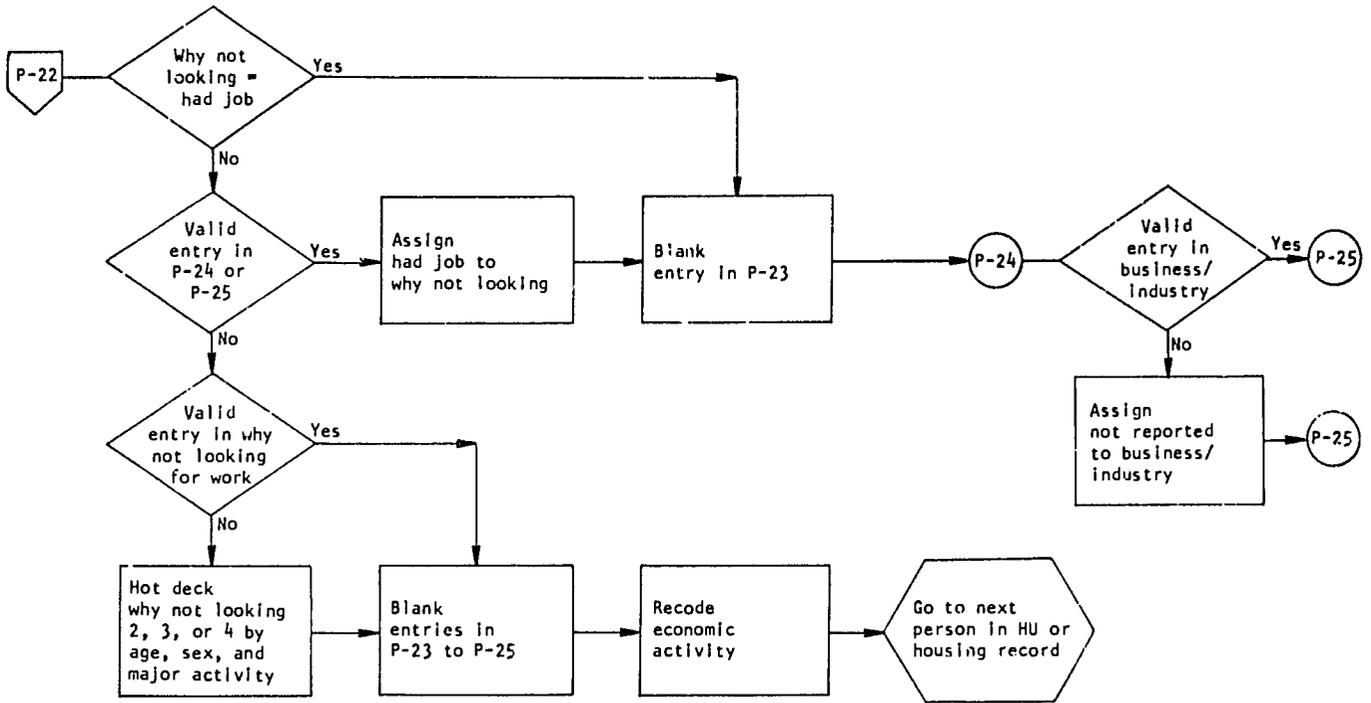


Exhibit C-6-3. FLOW CHARTS FOR HOUSING EDITS

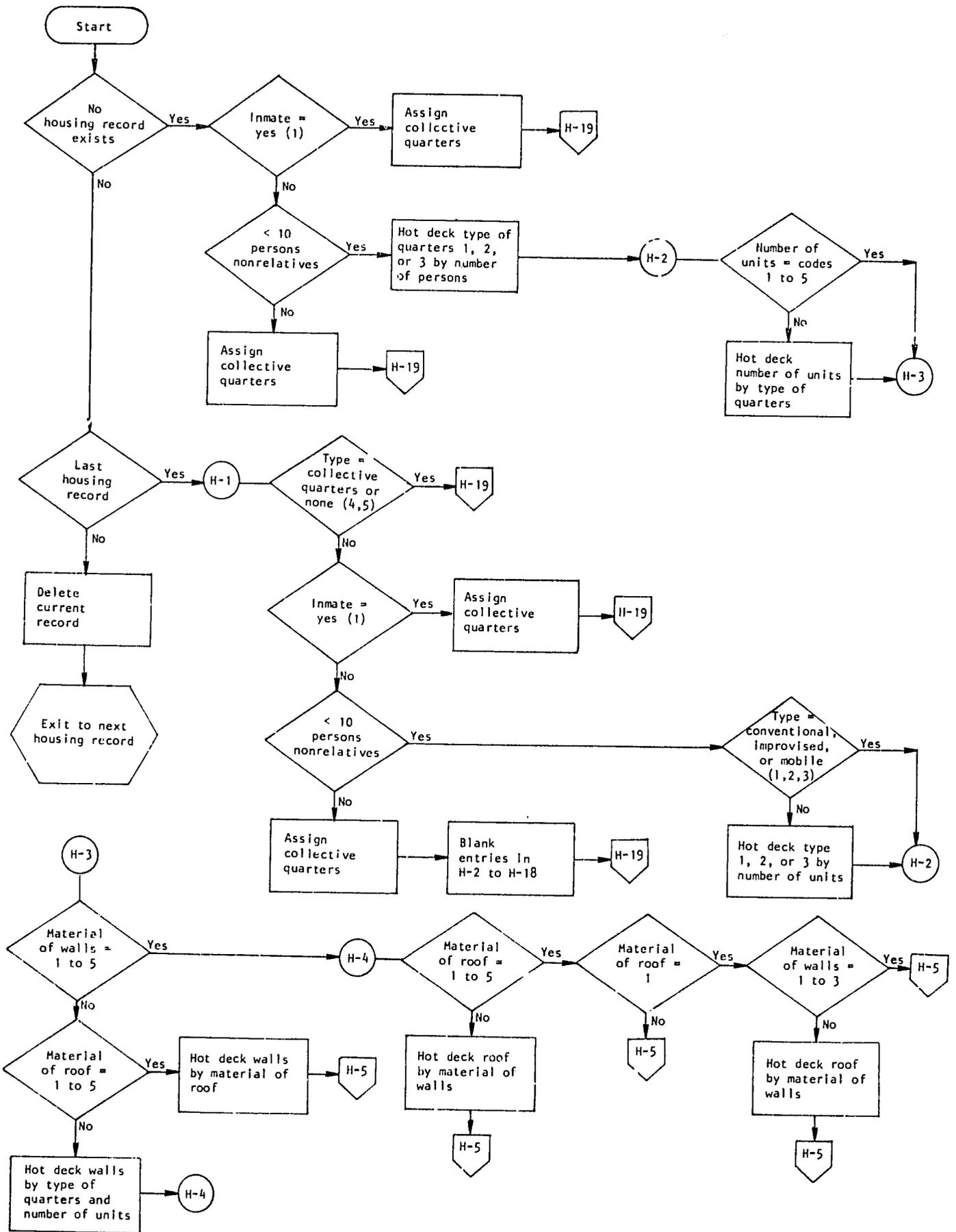


Exhibit C-6-3. FLOW CHARTS FOR HOUSING EDITS--Continued

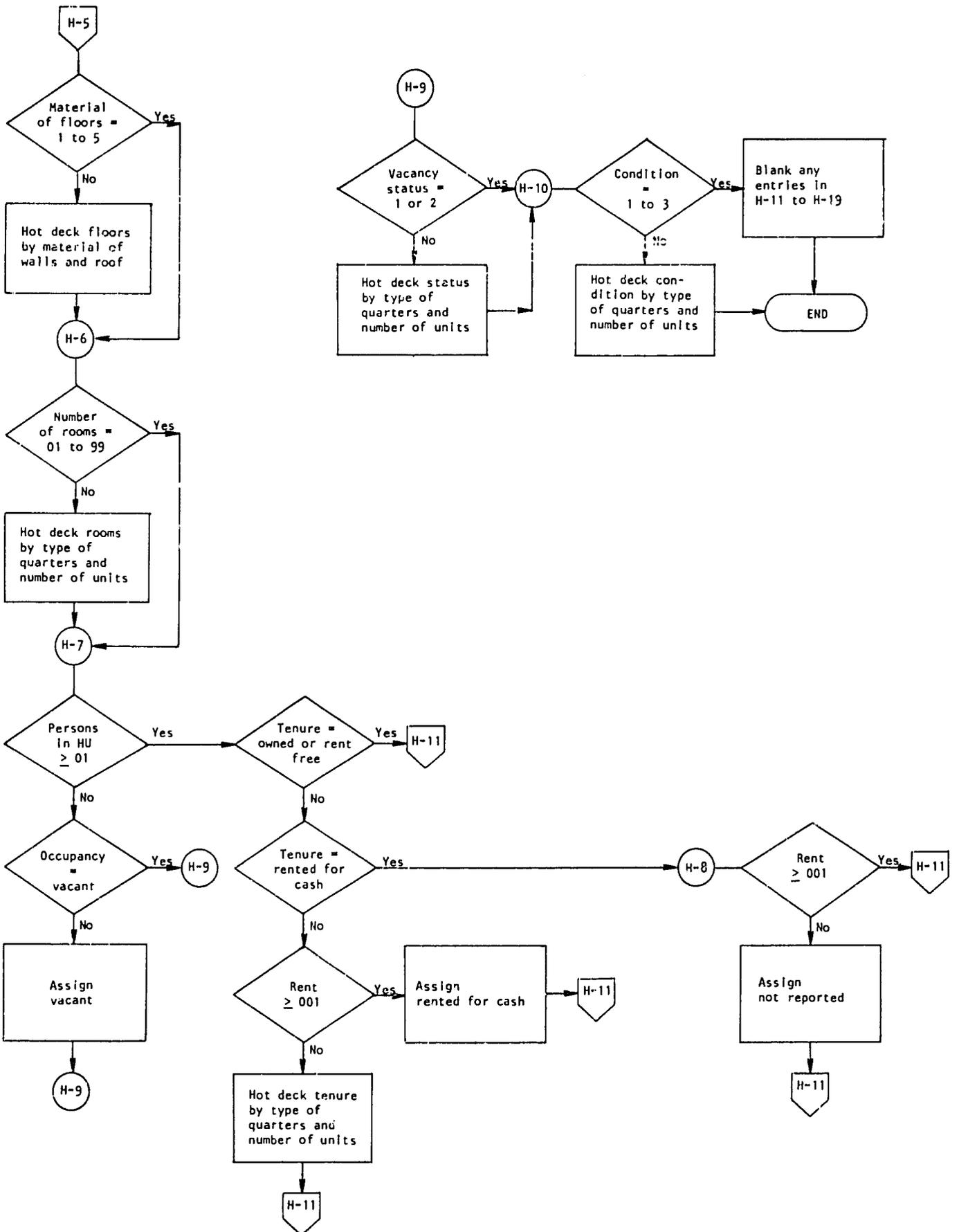


Exhibit C-6-3. FLOW CHARTS FOR HOUSING EDITS--Continued

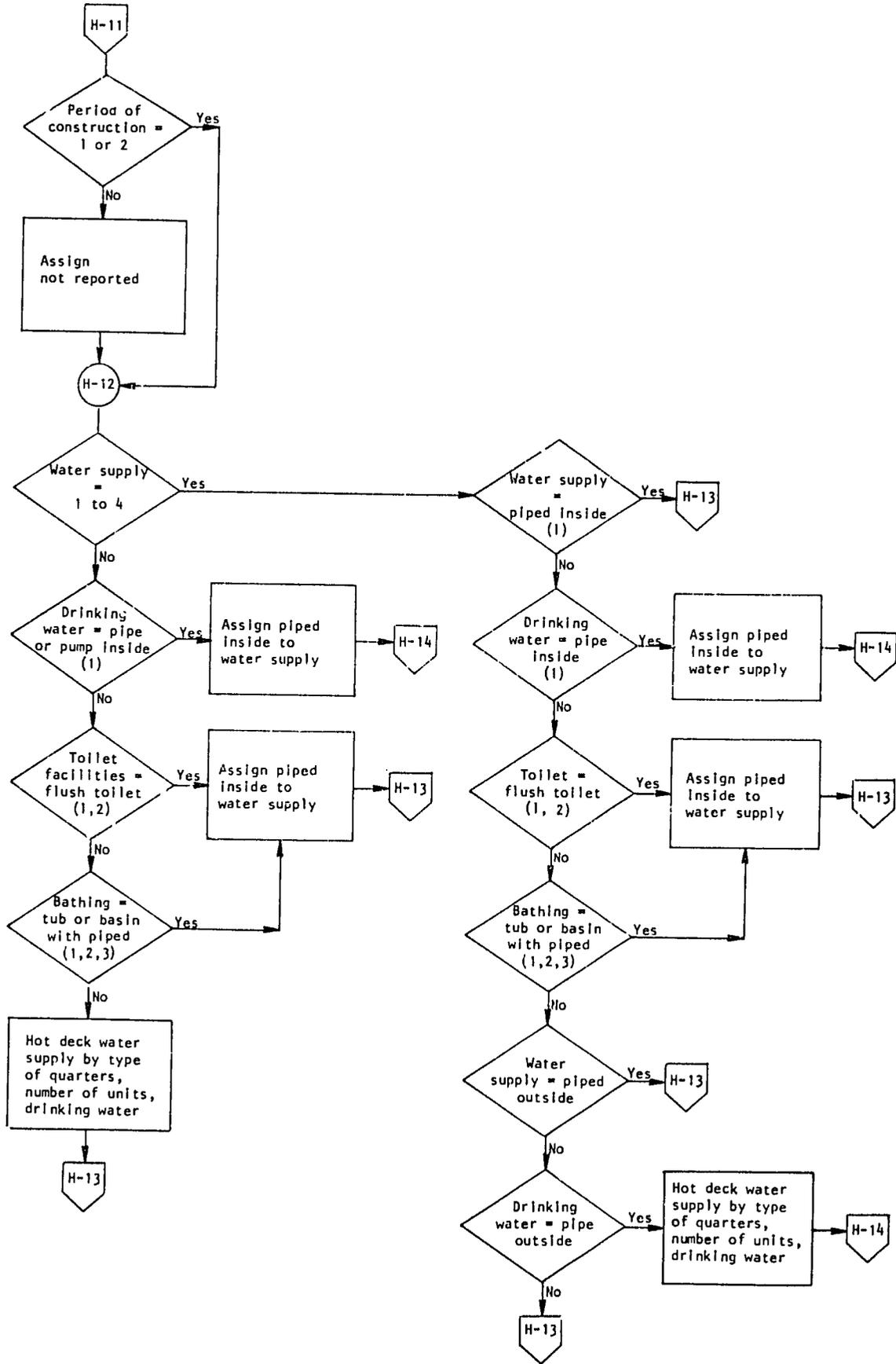
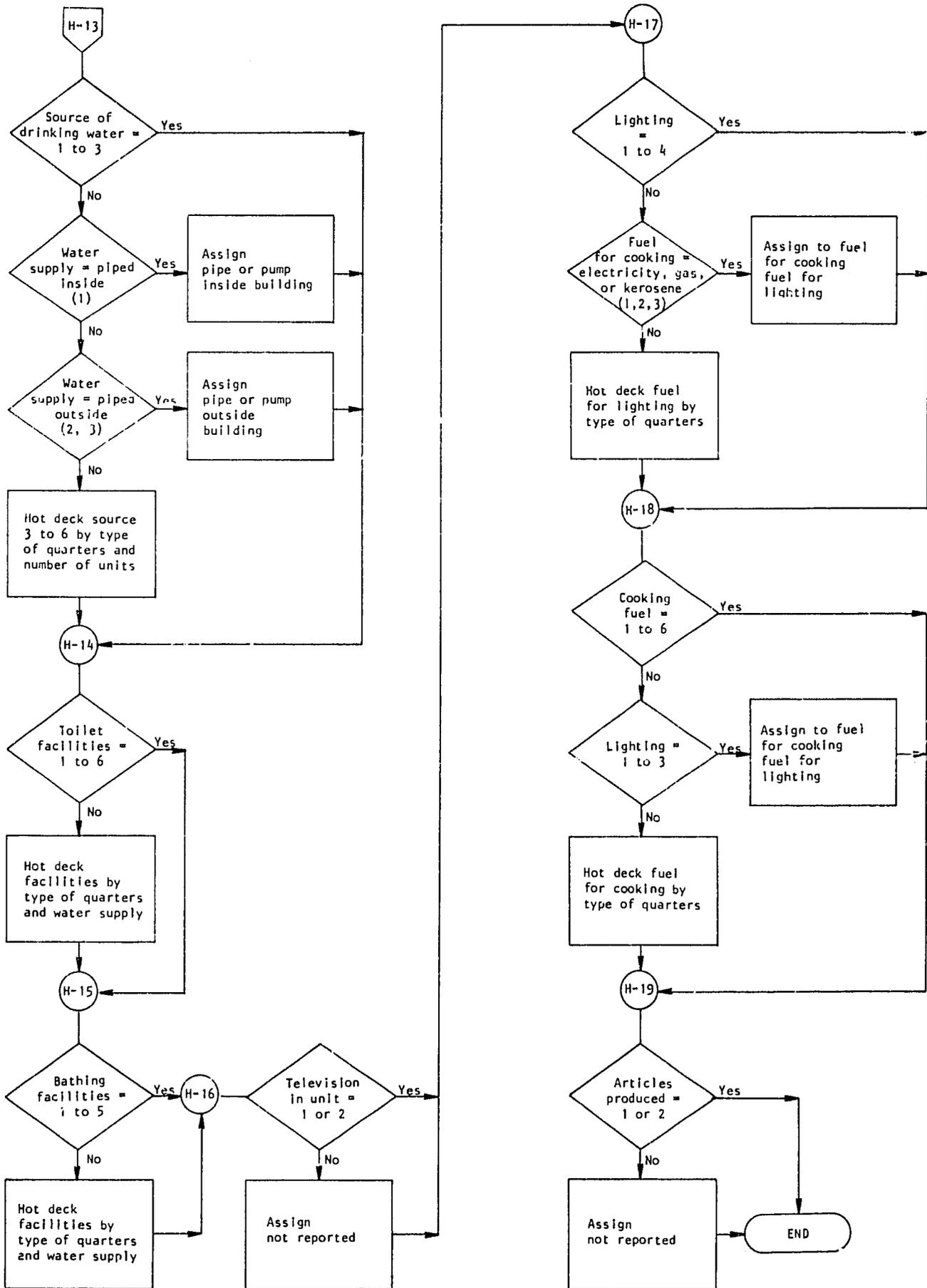


Exhibit C-6-3. FLOW CHARTS FOR HOUSING EDITS--Continued



OTHER EXHIBITS FOR REFERENCE

EA DELINEATION WORKSHEET
1980 POPULATION AND HOUSING CENSUS

a. Province	TERRA	Code	42
b. District	ANTIGUA	Code	05
c. Posted by--	B. Kalls	Date	17/1/80
d. Verified by--	D. Ricardo	Date	24/1/80
e. Total population	51,135	f. Total number of EA's	103
		g. Total number of CL areas	13

Area name (1)	Code						EA No. (8)	CL No. (9)	Estimated population (10)	Date EA map cut out and prepared for field (11)	Comments (12)
	Barrio/village (2)	Urban place/hamlet (3)	Ward/tract (4)	Block (5)	Type of place (6)	Metro-politan area (7)					
ARIEL barrio	003										
RURAL balance	003	999	999	99	9	9	001	01	610		
							002	02	495		
							003	02	505		
							004	02	380		
							005	01	495		
							006	01	560		
							007	02	515		
							008	02	515		
CASSETA CITY	009	079	999	99	2	9	001	01	610		
							002	01	635		
							003	01	665		
							004	01	590		
Feri hamlet	009	112	999	99	4	9	009	02	475		
HUTTA hamlet	009	220	999	99	4	9	012	03	515		
							013	03	470		

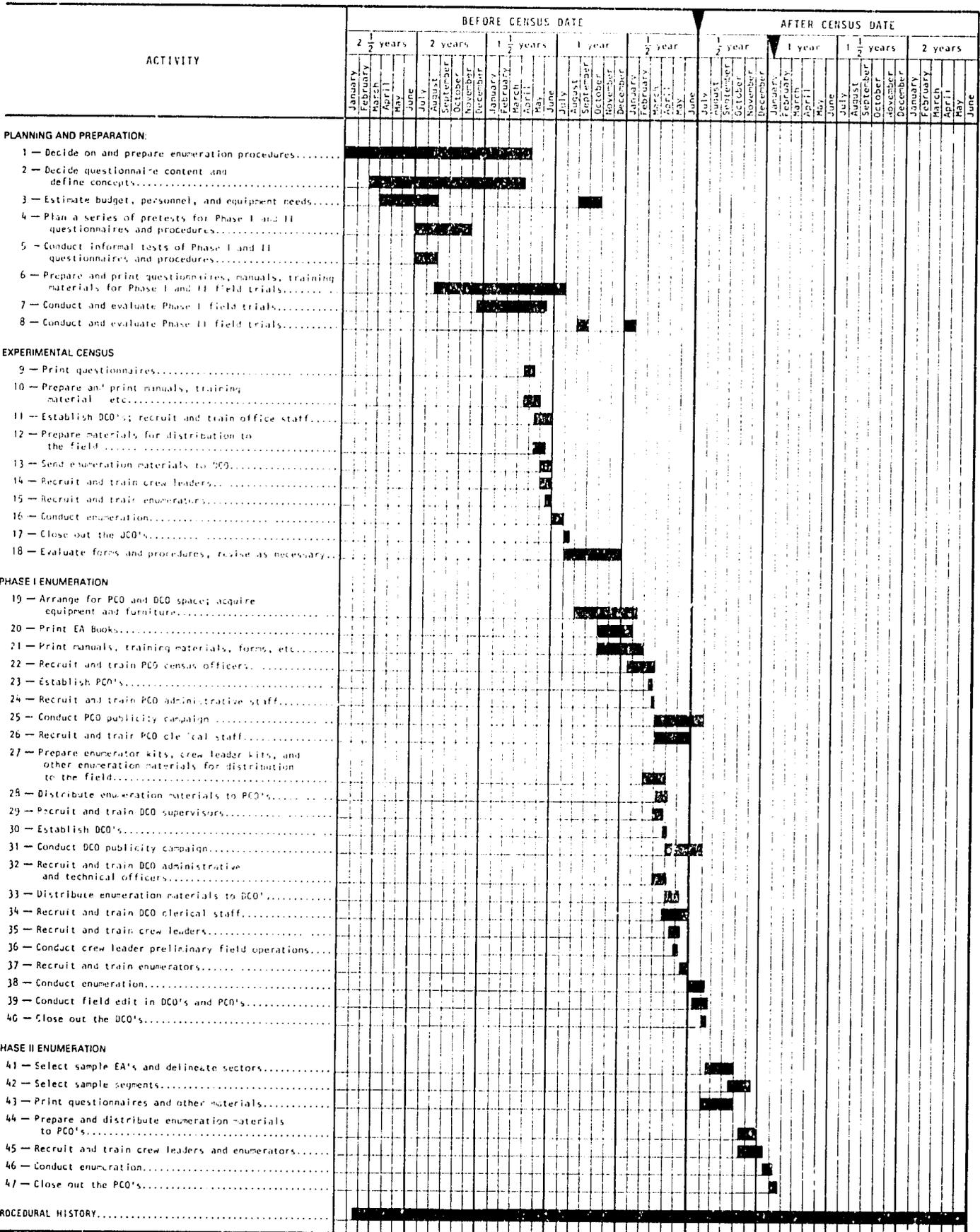
Figure B-4n. EA DELINEATION WORKSHEET, FORM GEO-122

Figure B-5a. 1970 AND 1980 CENSUS TOPICS FOR POPSTAN

Topic	1970		1980		Topic	1970		1980	
	100 per-cent	Sam-ple	100 per-cent	Sam-ple		100 per-cent	Sam-ple	100 per-cent	Sam-ple
1. Relationship to head.....	x	x	x	x	26. Principal (or last) job:				
2. Sex.....	x	x	x	x	Occupation.....	-	x	-	x
3. Age.....	x	x	x	x	Industry.....	-	x	x	x
4. Marital status.....	x	x	x	x	Status in employment..	-	x	x	x
5. Place of birth:					Sector of employment..	-	-	-	x
Country.....	-	-	x	x	27. Secondary job.....	-	x	-	x
Province.....	-	x	-	x	Occupation.....	-	-	-	x
6. Duration of residence:					Industry.....	-	-	-	x
In this district.....	-	x	x	x	Status in employment..	-	-	-	x
7. Previous residence:					Sector of employment..	-	-	-	x
Country.....	-	-	-	x	28. Hours worked:				
Province.....	-	x	-	x	Last week.....	-	x	-	-
8. Married more than once*..	-	-	-	x	Weekly average last				
Death of spouse.....	-	-	-	x	month.....	-	-	x	x
9. Date of first marriage*..	-	-	-	x	Weekly average last				
10. Children ever born.....	-	x	x	x	year.....	-	-	-	x
By sex.....	-	-	-	x	29. Reason for--				
Living.....	-	x	x	x	Absence from work.....	-	-	-	x
Living in this HU.....	-	-	x	x	Not looking for job...	-	-	x	x
By sex.....	-	-	-	x	Not taking a job.....	-	-	-	x
Living elsewhere.....	-	-	x	x	30. When last worked.....	-	-	-	x
By sex.....	-	-	-	x	31. Weeks worked last year..	-	-	-	x
Dead.....	-	x	x	x	32. Total income last year..	-	x	-	x
By sex.....	-	-	-	x	33. Type of housing unit....	x	x	x	x
11. Births in last 12					34. Number of housing units				
months.....	-	-	x	-	in structure.....	x	x	x	x
12. Last live birth:					35. Construction material:				
Date of birth.....	-	-	-	x	Outer walls.....	x	x	x	x
Sex of child.....	-	-	-	x	Roof.....	-	-	x	-
Still living.....	-	-	-	x	Floors.....	-	-	x	-
13. Date of death (if dead)..	-	-	-	x	36. Period of construction:				
14. Own children of mother...	-	-	x	x	Last 12 months.....	-	-	x	-
15. Own children of father...	-	-	-	x	37. Number of rooms.....	x	x	x	x
16. Family nuclei:					38. Number of bedrooms.....	-	x	-	-
Married couples.....	-	-	x	x	39. Tenure of occupied				
Mother-child group.....	-	-	x	x	units.....	x	x	x	x
Father-child group.....	-	-	-	x	40. Vacancy status.....	x	x	x	x
17. Maternal survivorship....	-	-	x	x	41. Type of vacancy.....	x	x	x	x
18. Paternal survivorship....	-	-	-	x	42. Water supply.....	-	x	x	-
19. Language:					43. Source of water.....	-	x	-	-
Usual language.....	-	x	-	x	44. Source of drinking				
Popstani language.....	-	-	-	x	water.....	-	-	x	-
20. School attendance:					45. Toilet facilities.....	-	x	x	-
Now attending.....	-	x	x	x	46. Bathing facilities.....	-	x	x	-
Ever attended.....	-	-	-	x	47. Type of lighting.....	-	x	x	-
21. Educational attainment...	-	x	x	x	48. Radio.....	-	x	-	-
22. Type of education.....	-	x	-	-	49. Television.....	-	-	x	-
23. Literacy.....	-	x	x	-	50. Cooking equipment.....	-	x	-	-
24. Principal activity:					51. Cooking fuel.....	-	x	x	-
Last week.....	-	x	-	-	52. Monthly rent for units				
Last month.....	-	-	x	x	rented for cash.....	-	x	x	-
25. Economic activity:					53. Presence of home				
Last week.....	-	x	-	-	industry.....	-	-	x	-
Last month.....	-	-	x	x					

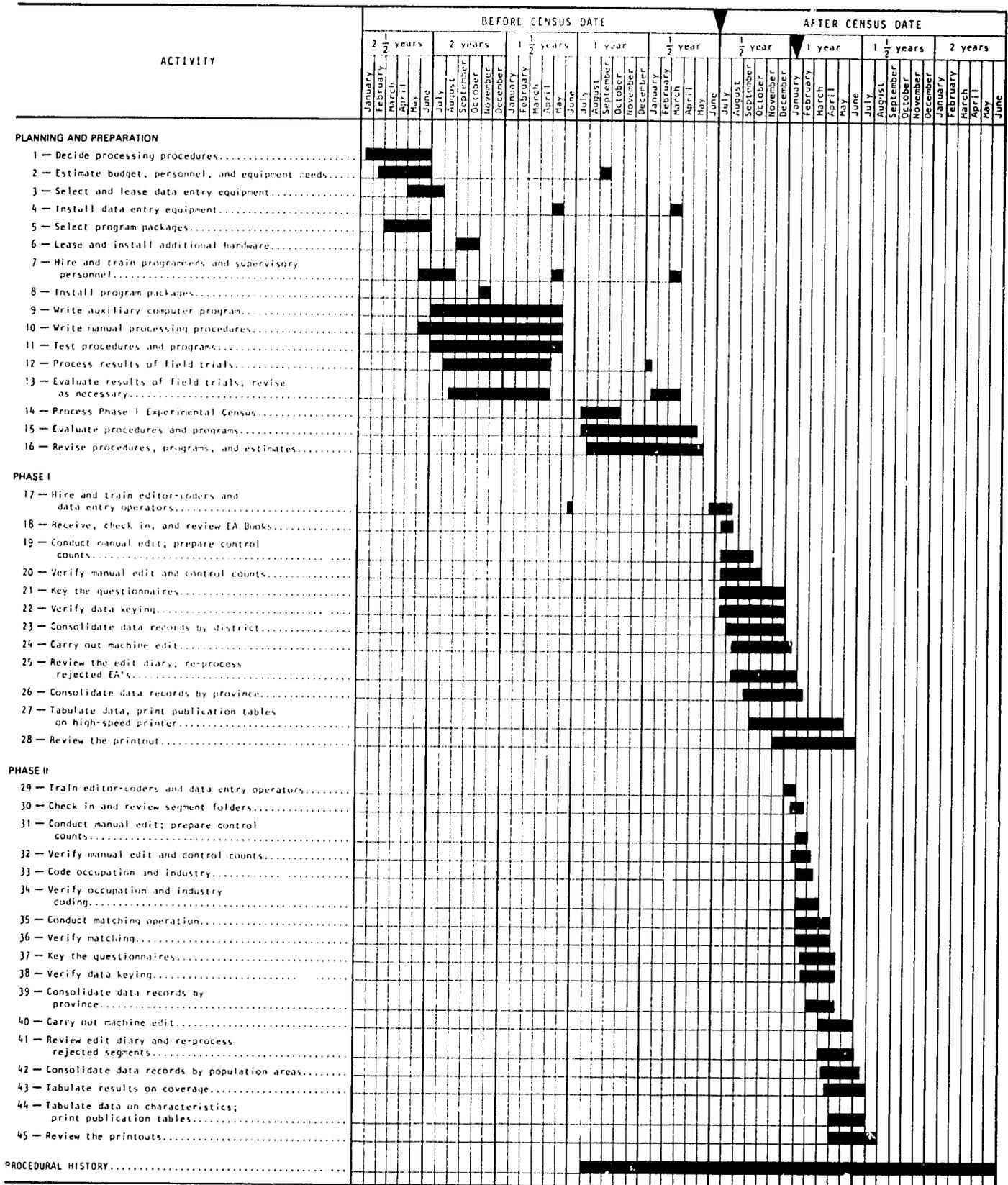
*Females.

Figure B-8a. CALENDAR OF DATA COLLECTION ACTIVITIES



Note: Timing allotted to each activity is a function of the volume of work, the production rate, and the number of persons.

Figure B-9a. CALENDAR OF DATA PROCESSING ACTIVITIES



Note: Timing allotted to each activity is a function of the volume of work, the production rate, and the number of persons.

Chart 1. Activity network for data collection operations

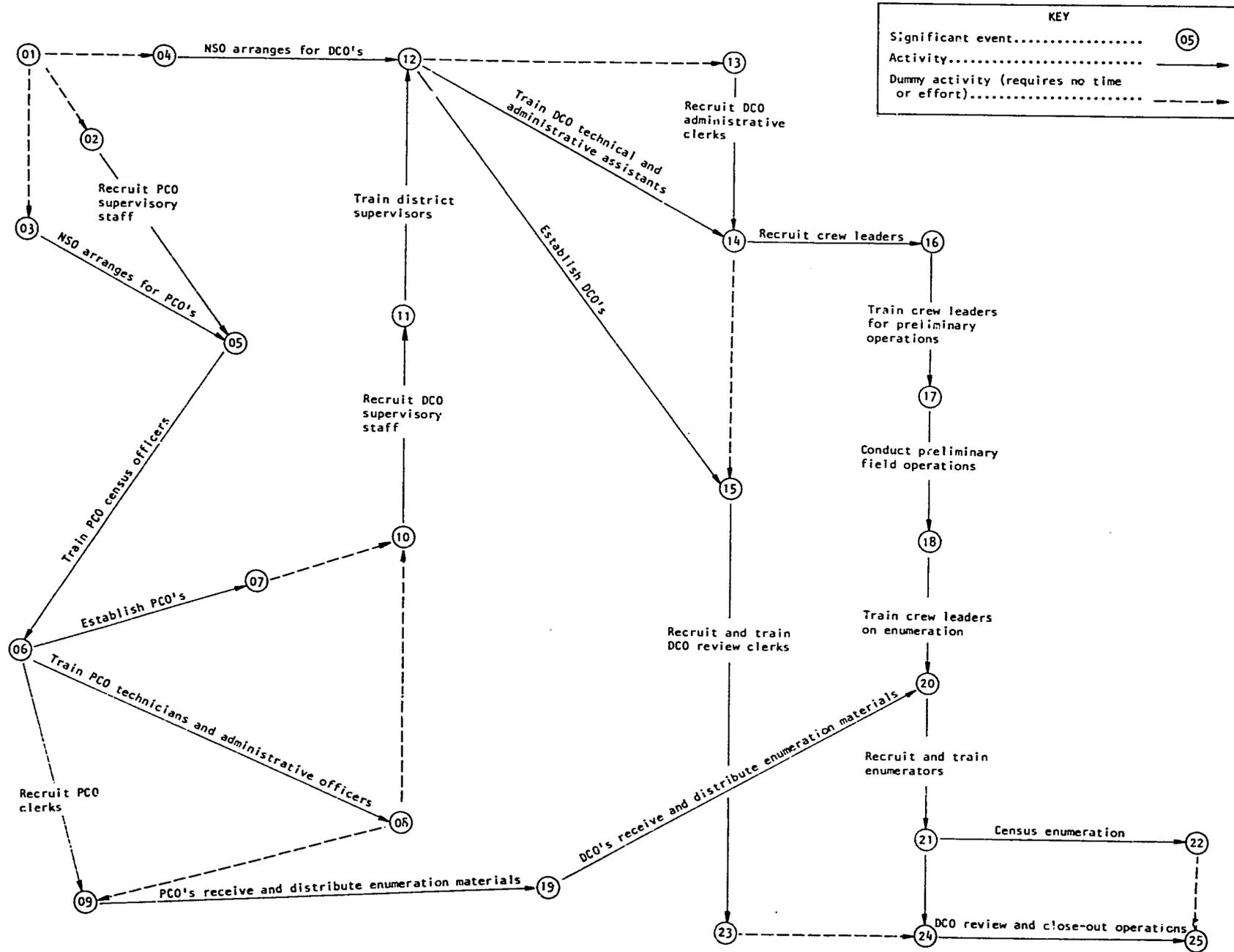


Exhibit A-16-1. NETWORK ANALYSIS

Exhibit A-16-1. NETWORK ANALYSIS--Continued

Chart 2. Estimated elapsed time and staffing for data collection operations

Activity number	Activity	Estimated elapsed time (weeks)	Estimated number of employees
02-05	NSO recruits PCO supervisory staffs.....	5.0	2
03-05	NSO makes final arrangements for PCO office space.....	4.0	2
04-12	NSO makes final arrangements for DCO office space.....	4.0	20
05-06	NSO trains PCO census officers.....	1.0	2
06-07	Establish PCO's.....	1.0	15
06-08	NSO trains PCO technicians and administrative officers.....	1.0	3
06-09	PCO's recruit clerks.....	1.0	15
09-19	PCO's receive and distribute materials.....	4.0	144
10-11	PCO's recruit DCO supervisory staffs.....	5.0	72
11-12	PCO's train district census officers.....	1.0	72
12-14	PCO's train DCO technical and administrative assistants.....	1.0	57
12-15	Establish DCO's.....	1.0	150
13-14	DCO's recruit administrative clerks.....	1.0	150
15-23	DCO's recruit staff for review and close-out operations.....	4.0	150
14-16	DCO's recruit crew leaders.....	2.0	150
16-17	Technical assistants train crew leaders for preliminary operations.....	0.5	150
17-18	Crew leaders perform preliminary field operations.....	2.0	3,000
18-20	Technical assistants train crew leaders on enumeration.....	0.5	150
19-20	DCO's receive and distribute enumeration materials.....	5.0	300
20-21	Crew leaders recruit and train enumerators.....	2.5	3,000
21-22	Conduct census enumeration.....	6.0	31,000
21-24	(Awaiting delivery of first EA's).....	1.0	-
24-25	DCO's review completed EA's, transmit to PCO's, and close out DCO's.....	5.5	1,350

Note: The number of weeks shown in the table indicates the elapsed time to complete the activity, and the number of employees is the number of persons engaged in the activity. However, the persons may or may not work for the full number of weeks. Therefore, the two figures (weeks and employees) cannot be used to compute workload and staffing in terms of person weeks.

Chart 3. Elapsed time and staffing plans

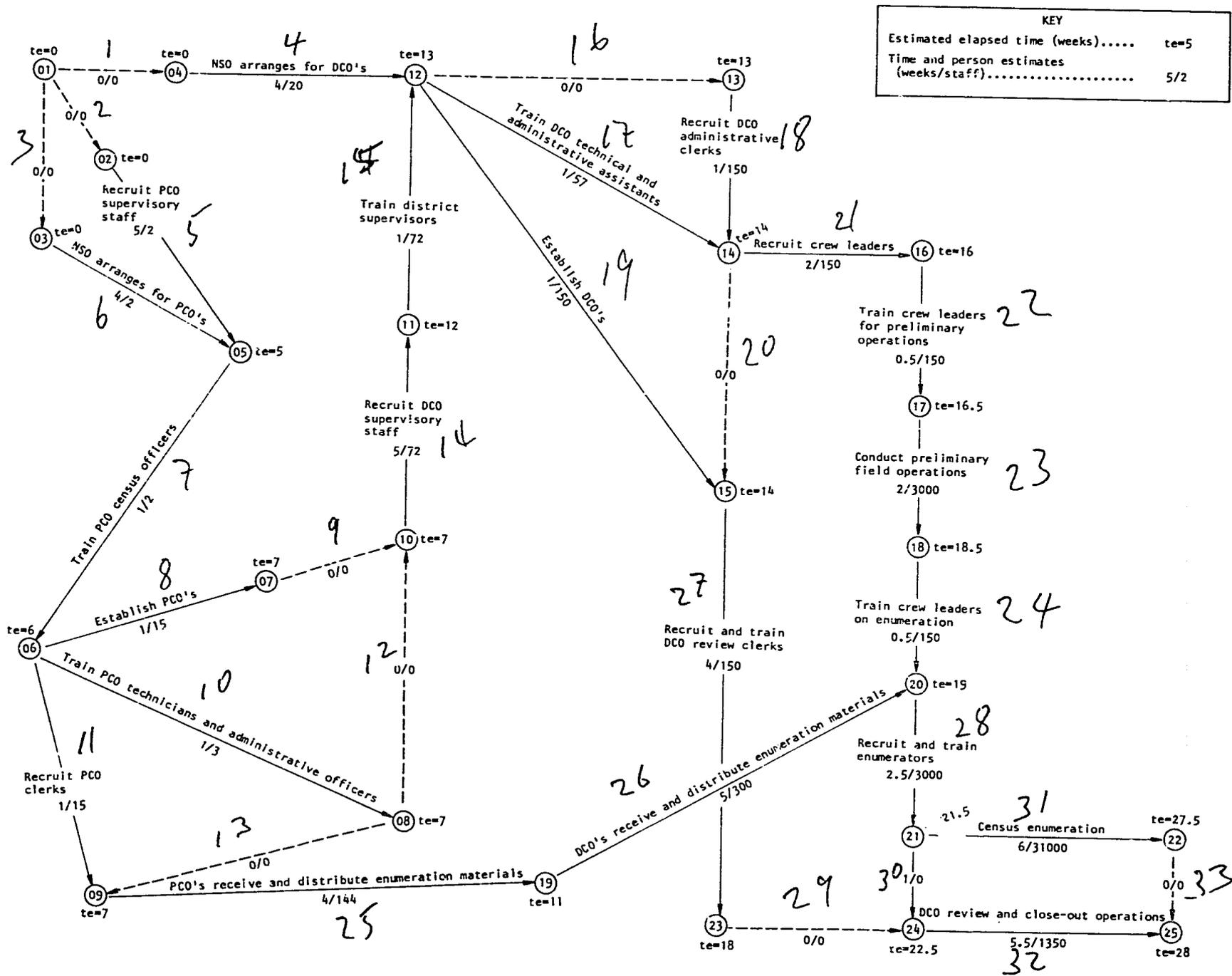


Chart 4. Time schedule

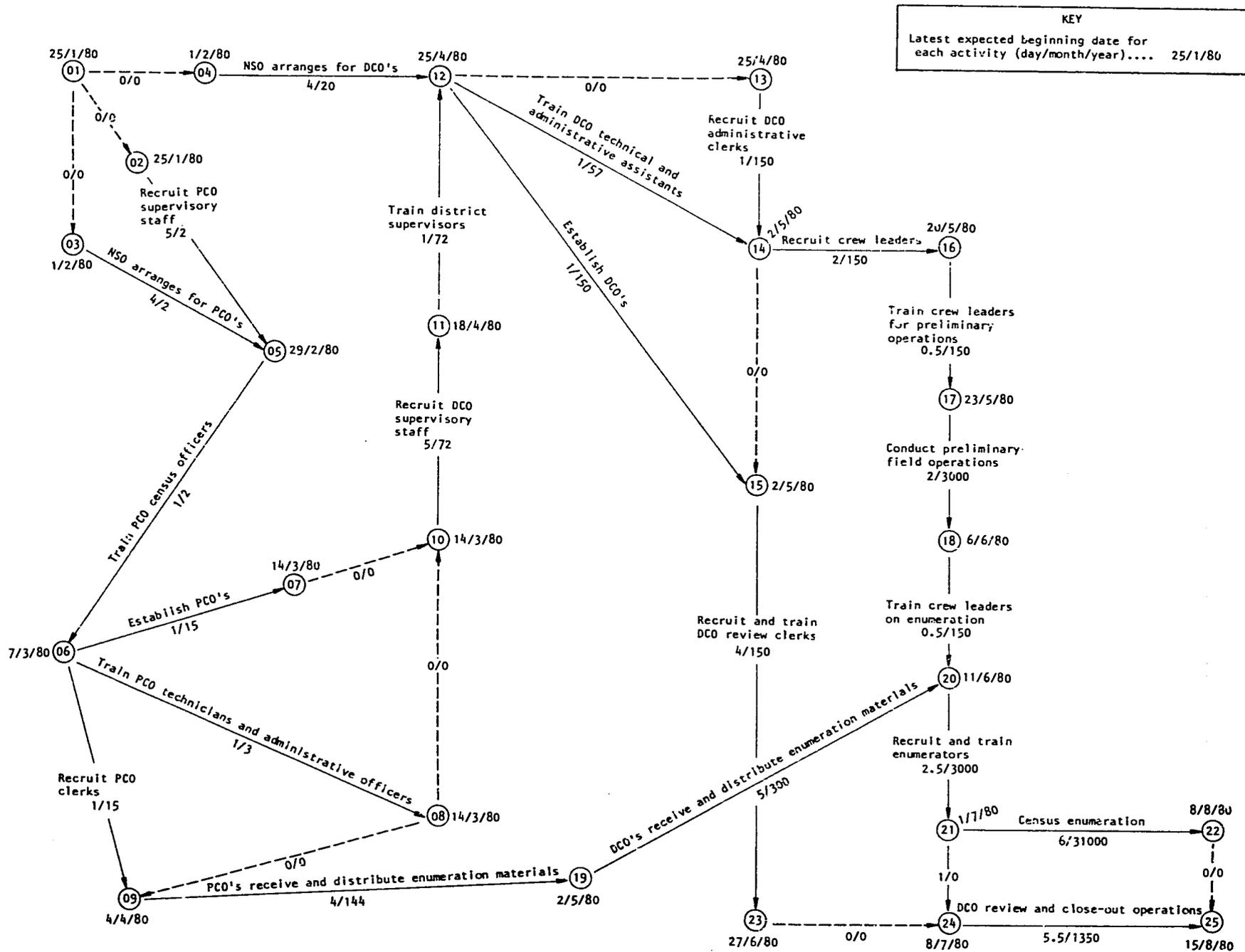


Chart 5. Critical path

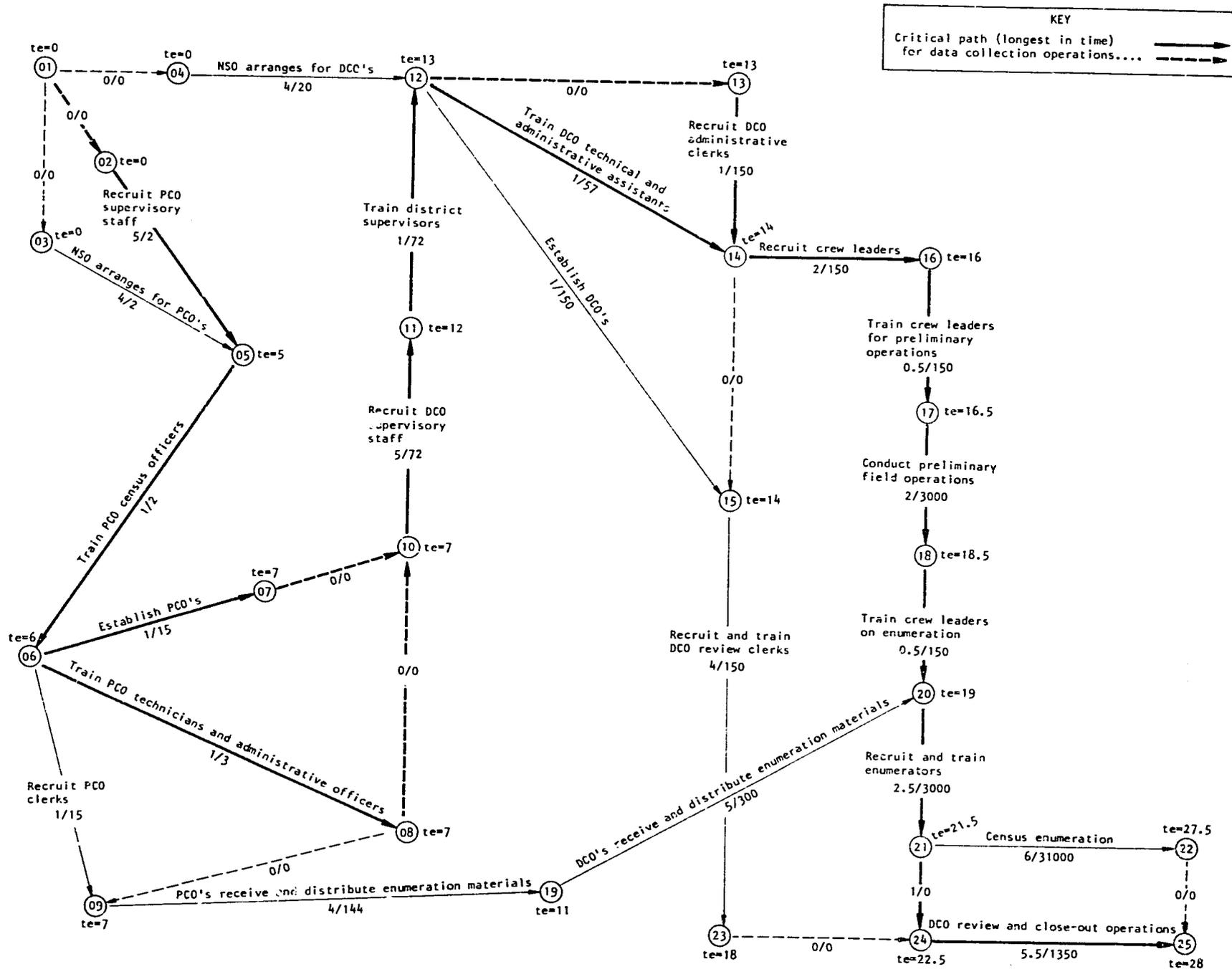
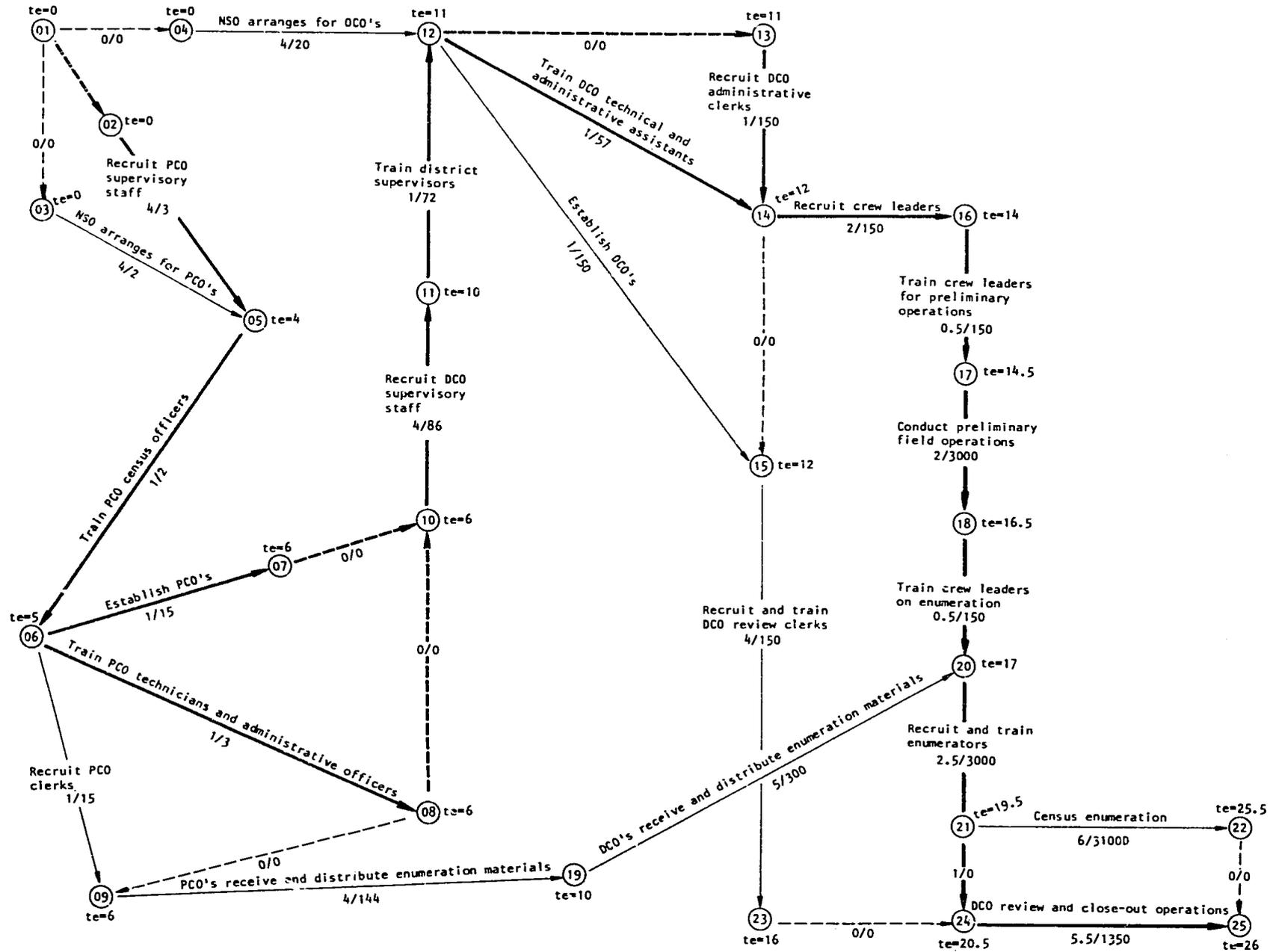


Chart 6. Shortened total elapsed time



EA BOOK

POPSTAN 1980 CENSUSES OF POPULATION AND HOUSING

NOTICE TO FINDER →

This book is the property of the POPSTAN GOVERNMENT. If found, please return to the nearest post office.

POSTMASTER: Return to the National Statistical Office, Ministry of Economy, St. Regis.

FOR ENUMERATOR USE

1. ENUMERATOR

a. Name _____

b. Address _____

c. Telephone _____

2. ENUMERATION DATES

a. Date started _____ b. Date completed _____

3. APPOINTMENTS WITH CREW LEADER

Place (a)	Date (b)	Time (c)

FOR DCO USE

	Date (a)	Initials (b)
9. Receive and check in		
10. Check coverage		
11. Review, verify field counts <i>If to be recycled, mark this box.</i> → <input type="checkbox"/>		
12. Approve payment		
13. Recycled EA		
a. Return to crew leader		
b. Receive and check in		
c. Review, verify field counts		
d. Approve payment		
14. Transmit to PCO		

FOR CREW LEADER USE

4. CREW LEADER

a. Name _____

b. Address _____

c. Telephone _____

5. Receive _____

6. Review and approve _____

7. SUMMARY OF PAGE TOTALS

	Number (a)	OFFICE USE (b)
a. Total listings (Column e)		
(1) Vacant (Column f)		
(2) Occupied (Column g)		
b. Persons enumerated (Column h)		

8. PAY AUTHORIZATION NUMBER _____

FOR PCO USE

	Date (a)	Initials (b)
15. Receive and check in		
16. Review		
17. Post field counts		
18. Transmit to NSO		

19. NOTES

A. PROVINCE KERAC	CODE 21	B. DISTRICT LUSO	CODE 30
C. BARRIO VILLAGE CALICUT VILLAGE	CODE 003	D. PLACE BINGO HAMLET	CODE 1?9
E. WARD TRACT CODE 999	F. BLOCK NO. 99	G. CL AREA NO. 02	
H. TYPE-OF-PLACE CODE 4	I. METRO AREA CODE 9	J. EA NO. 012	

K. SPECIAL ENUMERATION INSTRUCTIONS

DO NOT ENUMERATE CALICUT CONVALESCENT HOME - CORNER OF ROUTE 201 AND TOLEDO ROAD. IT WILL BE ENUMERATED SEPARATELY.

FOR NSO USE

	Original		Recycled	
	Date (a)	Initials (b)	Date (a)	Initials (b)
20. Receipt and check in				
21. Review of geographic coding, posting to Master List of EA's				
22. Manual edit				
a. Editing, preparation of control counts				
b. Verification				
c. Professional review				
23. Data conversion				
a. Preparation of header record				
b. Verification of header record				
c. Keying				
d. Verification of keying				
e. Reconciliation of control counts				
f. Professional review				
24. Release for consolidation				
25. Control counts	Cancelled lines (a)		Records	
	Total (b)	Population (c)	Housing (d)	

Exhibit B-7-3. POPSTAN PHASE I EA BOOK

Appendix

ENUMERATOR'S RECORD OF HOURS WORKED AND KILOMETERS TRAVELED							REMINERS	
Date (a)	Hours (b)	Kilometers (c)						
30 June								
1 July								
2								
3								
4								
5								
7								
8								
9								
10								
11								
12								
14								
15								
16								
17								
18								
19								
21								
22								
23			SUMMARY OF PAGE TOTALS				Notes:	
24			Page No	Total listings (Column 5 + column 6 of Listing Sheets)	Vacant (Column 5 of Listing Sheet)	Occupied (Column 6 of Listing Sheet)		Persons enumerated (Column 7 of Listing Sheet)
25			(d)	(e)	(f)	(g)		(h)
26								
28			1					
29			2					
30			3					
31			4					
1 August			5					
2			6					
4			7					
5			8					
6								
7			EA TOTAL →					
8								
TOTAL →								

↑ ↑ ↑ ↑
TRANSCRIBE TO FRONT COVER

CANVASSING

Cover your EA systematically. Start at the point indicated on your map by an "X" and follow the arrows. Locate each HU and CQ within your EA boundaries and list in order on the Listing Sheet. In urban EA's canvass one block at a time. In rural EA's canvass each road, path, or lane to be sure you locate all HU's. Indicate each new street or road you enter by drawing a line across column 2 on the listing.

LISTING

List each HU and CQ by entering its address or Identification Sticker number on a separate line of the Listing Sheet. For each occupied HU and CQ, complete columns 2 through 7 and appropriate columns 9 through 12. For each vacant HU, complete columns 2 through 5 and appropriate columns 9 through 12. In urban areas with numbered blocks, enter the block number in column 1.

IDENTIFICATION STICKER

Identify each HU or CQ which does not have a specific house address by attaching an Identification Sticker (PH-209) near the front door in a sheltered spot.

INTRODUCTION

Introduce yourself politely and completely by giving your name, showing your Identification Card (PH-119), and explaining that you are authorized to ask a few questions for the 1980 Census of Popstan. Interview an adult member of the household.

INDIVIDUAL CENSUS REPORT, PH-3

When you cannot obtain information for items P-1 through P-5 on the questionnaire for a person, leave an ICR and envelope for that person to complete. Make an appointment to return to collect the form. Use ICR's to enumerate transients. If the person is a "usual" resident, transcribe the information from the ICR to the proper questionnaire, then draw a heavy line across the face of the ICR. If the person's usual residence is elsewhere, give the form to your crew leader.

REMINERS

REVIEW OF QUESTIONNAIRE

When you complete the enumeration of an HU or CQ, review the questionnaire for any missing or incomplete entries BEFORE you leave the unit.

CALLBACKS

Make return visits when you cannot find a reliable respondent at home. Find out from neighbors the best time to call back. Record this and other pertinent information in the "Notes" space on the Listing Sheet. Enter the date of each visit in columns 9 through 11 on the Listing Sheet. If you cannot complete a questionnaire in three visits notify your crew leader.

HOUSING UNIT

A housing unit is a single room, group of rooms, or other space occupied or intended for occupancy as separate and independent living quarters by a single person living alone or by a group of persons living together.

COLLECTIVE QUARTERS

Collective quarters are dwelling places with collective living arrangements. Included are quarters for patients, inmates, or guests of institutions, dormitories or rooming houses occupied by 10 or more unrelated individuals, convents, monasteries, etc. If you locate a CQ with 100 or more residents which has not been noted in "Special Enumeration Instructions" on the front of your EA Book, notify your crew leader.

SUMMARY

After completing each Listing Sheet, obtain totals for columns 5, 6, and 7. Then fill the Summary of Page Totals.

RECORD OF HOURS AND KILOMETERS

In the Enumerator's Record at the left, enter the number of hours worked each day and a record of kilometers traveled.

FORM PH-1 NOVEMBER 1978														MINISTRY OF ECONOMY NATIONAL STATISTICAL OFFICE				EA number 012	Page <u>1</u> of <u> </u>		
LISTING SHEET														Total persons in -		Interview record					Notes (14)
Block number (Urban only) (1)	Number or name of street or road (2)	Serial number (3)	House number, apartment number, location or description (4)	Vacancy if vacant, "N" for "N/A" and skip to D (5)	IF HU - Name of head IF CQ - Name and type of quarters (6)	HU or CQ (From PH-2) (7)	For NSO use (8)	Date of visit			Enter "X" if -										
								1st (9)	2nd (10)	3rd (11)	Completed (12)	Close-out (CL used) (13)									
	TOBA ROAD	1	15		Rebu, Sergio			2/7	3/7	4/7				family away until 20 July							
		2	White house with tin roof		Marjaria, Samuel	4		2/7				X									
		3	18 - downstairs		Park, Mario	8		2/7				X									
		4	18 - upstairs		Reddy, Soma	5		2/7				X									
		5	19		Kim, Sang			2/7	3/7	4/7					No one at home on 3 visits.						
		6	20 green roof		Sait, Juran	7		2/7				X									
		7	22-A		Lorente, Rodolfo	4		2/7	3/7			X									
		8	22-B																		
		9	21		X																
		10	24 - front			Ager, Manuel	6		2/7			X									
		11	24 - rear			Ali, Rafael	3		2/7	3/7	4/7	X									
		12	23			Sabal, Carlos	8		2/7			X									
		13	Behind store			Singhi, Fatima	5		2/7			X									
		14	26			Lee, Jason	6		2/7			X									
		15	27			Jalvar, Tahir	3		2/7			X									
	Route 201	16	321		Chan's Rooming House	15		2/7	3/7		X			Left 2 ICR's -- pick up 3/7							
		17	323 - upstairs					2/7	3/7		X										
		18	323 - downstairs			Chhabra, Samir	7		3/7			X									
		19	Red tile roof, behind stone wall			Babar, Rida	8		3/7			X									
		20	327			Aser, Mukund	6		3/7			X									
	TOTAL →			2		18		3/7	4/7		X										

Note: Total for column 7 cannot be entered until crew leader has reviewed and accepted the incomplete households or taken further action to have them completed.

A. Block number		B. Serial number		C. Issues		D. Confirmation sheet		PHASE 1 QUESTIONNAIRE										MINISTRY OF ECONOMY NATIONAL STATISTICAL OFFICE										CONFIDENTIAL - This inquiry is required by law. The information is accorded confidential treatment and cannot be used for taxation, investigation, or regulation.													
		3		1 Yes 2 No				POPSTAN 1980 CENSUSES OF POPULATION AND HOUSING																																	
LINE NUMBER	ALL PERSONS										PERSONS 5 YEARS AND OLDER										FEMALES 12 YEARS AND OLDER										PERSONS 12 YEARS AND OLDER										
	What is the name of the head of this household?	What is the relationship to the head of this household?	Sex	Age as of last birthday	Marital status	Married females	Is ...'s mother living?	In what country was ... born?	How many years has ... lived continuously in this district?	Does ... attend school?	What is the highest grade or year that ... has completed?	Can ... read and write?	How many children have been born alive to ...?	How many of these children are now ...?	Living in this HUT?	Living elsewhere?	Dead?	During June what was ... doing most of the time ...?	Did ... do any work at all not including own household?	Was ... looking for work?	Why was ... not looking for work?	How many hours per week did ... usually work at all jobs, not including own household?	In what business or industry was ...'s principal job?	Was ... an ...?																	
(E) LINE NUMBER	P-1	P-2	P-3	P-4	P-5	P-6	P-7	P-8	P-9	P-10	P-11	P-12	P-13	P-14	P-15	P-16	P-17	P-18	P-19	P-20	P-21	P-22	P-23	P-24	P-25																
01	PARK, MARIO	1 - Head 2 - Spouse 3 - Son/Daughter 4 - Other relative 5 - Nephew	1 - M	44	1 - Married 2 - Divorced 3 - Separated 4 - Widowed 5 - Never married		1 - Yes 2 - No 3 - Does not know	1 - Popstan 2 - Vic 3 - Victoria 4 - Other	1 - Yes 2 - No	None (N) Primary (P) Middle (M) High school (H) University (U) 17 or more, skip to P-14	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Working 2 - Own household 3 - Going to school 4 - Something else	1 - Yes 2 - No	1 - Yes 2 - No	1 - Had job 2 - Job not available 3 - Did not want job 4 - Unable to work	55	1 - Farming 2 - Mining 3 - Manufacturing 4 - Wholesale or retail trade, restaurant, hotel 5 - Public administration 6 - Social or personal services	1 - Employer (ER) 2 - Employee for pay (EE) 3 - Self-employed or own account worker 4 - Unpaid family worker 5 - AF																		
02	_____, LILA	1 - Head 2 - Spouse 3 - Son/Daughter 4 - Other relative 5 - Nephew	1 - M	42	1 - Married 2 - Divorced 3 - Separated 4 - Widowed 5 - Never married	01	1 - Yes 2 - No 3 - Does not know	1 - Pop 2 - Vic 3 - Vic 4 - Other	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Work 2 - Own house 3 - School 4 - Something else	1 - Yes 2 - No	1 - Yes 2 - No	1 - Job 2 - No job available 3 - Not want 4 - Unable		1 - Farming 2 - Mining 3 - Manufacturing 4 - Wholesale or retail trade, restaurant, hotel 5 - Public admin 6 - Social ser	1 - ER 2 - EE 3 - Self 4 - Unpaid 5 - AF																		
03	_____, MONA	1 - Head 2 - Spouse 3 - Son/Daughter 4 - Other relative 5 - Nephew	1 - M	23	1 - Married 2 - Divorced 3 - Separated 4 - Widowed 5 - Never married		1 - Yes 2 - No 3 - Does not know	1 - Pop 2 - Vic 3 - Vic 4 - Other	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Work 2 - Own house 3 - School 4 - Something else	1 - Yes 2 - No	1 - Yes 2 - No	1 - Job 2 - No job available 3 - Not want 4 - Unable	35	1 - Farming 2 - Mining 3 - Manufacturing 4 - Wholesale or retail trade, restaurant, hotel 5 - Public admin 6 - Social ser	1 - ER 2 - EE 3 - Self 4 - Unpaid 5 - AF																		
04	_____, KIM	1 - Head 2 - Spouse 3 - Son/Daughter 4 - Other relative 5 - Nephew	1 - M	10	1 - Married 2 - Divorced 3 - Separated 4 - Widowed 5 - Never married		1 - Yes 2 - No 3 - Does not know	1 - Pop 2 - Vic 3 - Vic 4 - Other	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Work 2 - Own house 3 - School 4 - Something else	1 - Yes 2 - No	1 - Yes 2 - No	1 - Job 2 - No job available 3 - Not want 4 - Unable		1 - Farming 2 - Mining 3 - Manufacturing 4 - Wholesale or retail trade, restaurant, hotel 5 - Public admin 6 - Social ser	1 - ER 2 - EE 3 - Self 4 - Unpaid 5 - AF																		
05	GOMEZ, CARMEN	1 - Head 2 - Spouse 3 - Son/Daughter 4 - Other relative 5 - Nephew	1 - M	23	1 - Married 2 - Divorced 3 - Separated 4 - Widowed 5 - Never married	06	1 - Yes 2 - No 3 - Does not know	1 - Pop 2 - Vic 3 - Vic 4 - Other	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Work 2 - Own house 3 - School 4 - Something else	1 - Yes 2 - No	1 - Yes 2 - No	1 - Job 2 - No job available 3 - Not want 4 - Unable	4	1 - Farming 2 - Mining 3 - Manufacturing 4 - Wholesale or retail trade, restaurant, hotel 5 - Public admin 6 - Social ser	1 - ER 2 - EE 3 - Self 4 - Unpaid 5 - AF																		
06	_____, PEDRO	1 - Head 2 - Spouse 3 - Son/Daughter 4 - Other relative 5 - Nephew	1 - M	25	1 - Married 2 - Divorced 3 - Separated 4 - Widowed 5 - Never married		1 - Yes 2 - No 3 - Does not know	1 - Pop 2 - Vic 3 - Vic 4 - Other	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Work 2 - Own house 3 - School 4 - Something else	1 - Yes 2 - No	1 - Yes 2 - No	1 - Job 2 - No job available 3 - Not want 4 - Unable	35	1 - Farming 2 - Mining 3 - Manufacturing 4 - Wholesale or retail trade, restaurant, hotel 5 - Public admin 6 - Social ser	1 - ER 2 - EE 3 - Self 4 - Unpaid 5 - AF																		
07	_____, BOKA	1 - Head 2 - Spouse 3 - Son/Daughter 4 - Other relative 5 - Nephew	1 - M	2	1 - Married 2 - Divorced 3 - Separated 4 - Widowed 5 - Never married		1 - Yes 2 - No 3 - Does not know	1 - Pop 2 - Vic 3 - Vic 4 - Other	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Work 2 - Own house 3 - School 4 - Something else	1 - Yes 2 - No	1 - Yes 2 - No	1 - Job 2 - No job available 3 - Not want 4 - Unable		1 - Farming 2 - Mining 3 - Manufacturing 4 - Wholesale or retail trade, restaurant, hotel 5 - Public admin 6 - Social ser	1 - ER 2 - EE 3 - Self 4 - Unpaid 5 - AF																		
08	PARK, Abdul	1 - Head 2 - Spouse 3 - Son/Daughter 4 - Other relative 5 - Nephew	1 - M	65	1 - Married 2 - Divorced 3 - Separated 4 - Widowed 5 - Never married		1 - Yes 2 - No 3 - Does not know	1 - Pop 2 - Vic 3 - Vic 4 - Other	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Work 2 - Own house 3 - School 4 - Something else	1 - Yes 2 - No	1 - Yes 2 - No	1 - Job 2 - No job available 3 - Not want 4 - Unable		1 - Farming 2 - Mining 3 - Manufacturing 4 - Wholesale or retail trade, restaurant, hotel 5 - Public admin 6 - Social ser	1 - ER 2 - EE 3 - Self 4 - Unpaid 5 - AF																		
P-1a. If listing continued on back, mark X in this circle.		P-1b. TOTAL PERSONS - I have listed _____ persons. Have I missed anyone? If YES and person is usual resident or has no usual residence elsewhere, add to P-1c.										P-1c. If only non-residents are living here, mark X in this circle. Complete items P-1 to P-10 on back.										P-26. Number of lines cancelled										P-27. Population count after edit									

INSIDE BACK COVER

(SPACE FOR ATTACHING EA MAP)

INDUSTRY CLASSIFICATION GUIDE

NOTE: The following are guides to the classification of industries into the categories for item P-24. They are not complete lists of all possible industries for each group but are intended to provide examples for proper classification.

1 - FARMING, FORESTRY, FISHING, HUNTING	3 - MANUFACTURING	4 - ELECTRICITY, GAS, WATER	7 - TRANSPORT, STORAGE, COMMUNICATION	8 - SOCIAL OR PERSONAL SERVICES	
<p>Farming</p> <p>Beef Duck raising Cattle grazing ranch Coffee plantation Cora Cottons Cotton ginning Crop dusting Farm labor contracts Flax decorticating Fruit orchard Fruit packing and shipping service Goat milk production Grain threshing service Pest control Poultry Rice Silkworm raising Sugar plantation Tung nut farm Vegetable packing service Wheat Wool production</p> <p>Forestry</p> <p>Bark gathering Ginseng gathering Gum gathering Logging Rubber plantation Tung nut gathering</p> <p>Fishing</p> <p>Commercial fishing Crab catching Dredging oysters Kelp gathering, harvesting Seaweed gathering Turbot catching</p> <p>Hunting</p> <p>Trapping</p>	<p>Chemicals, petroleum, rubber, plastic</p> <p>Cosmetics Drugs and medicine Dye Paint Parfums Petroleum refinery Shampoo Soap</p> <p>Food, beverages</p> <p>Animal feed Butter Candy Canning, preserving fruits and vegetables Canning, preserving, and processing fish or other seafood Carbonated water Coffee roasting Grain mill Ice cream Malt liquor—beer, ale, etc. Natural water bottling Slaughtering, preparing, and preserving meat Soft drink Sugar factory or refinery Wine</p> <p>Furniture and fixtures</p> <p>Bed Chair and table Couch Mattress and bedspring Paper Paperboard Pulp</p> <p>Machinery and equipment</p> <p>Cutlery Electrical appliance Radio Tool</p> <p>Mineral products</p> <p>Brick Cement Glass and glass products Plaster Pottery, china, and earthenware Tile</p> <p>Printing, publishing, and allied industries</p> <p>Book publisher Lithography Magazine Newspaper</p> <p>Textiles, wearing apparel, leather goods</p> <p>Batting Carpet and rug Cordage, rope, and twine Garment factory Knitting mill Shoe factory Spinning and weaving cloth Tailor shop Tannery</p> <p>Wood and cork products</p> <p>Basket Crate Reed and willow containers Ship, boat, and ship repair</p> <p>Other</p> <p>Jewelry Musical instrument Silverware Sporting goods</p>	<p>5 - CONSTRUCTION</p> <p>Airport Apartment building Aqueduct Asphalt paving Breakwater Bricklaying Bridge Cable laying Carpenter shop Cement paving Conduit Dam Dock Drudge boat Grain elevator Grave digging Highway construction Highway maintenance Home building House wiring Irrigation grading and construction Mosaic work Pier construction Pipeline construction Power line Radio tower Sanitation system Sewer</p> <p>6 - WHOLESALE OR RETAIL TRADE, RESTAURANT, AND HOTEL</p> <p>Hotel</p> <p>Boarding house Caresite Guest house Hostel Hotel Motel</p> <p>Restaurant</p> <p>Bar Cafe Lunch counter Refreshment stand</p> <p>Wholesale and retail trade</p> <p>Automobile accessory store Automobile dealer Bakery Catering service Clothing store Farm marketing association Gasoline bulk distributor Gasoline filling station Grocery store Importer/exporter Junk dealer and yard Pharmacy Retailing of goods to the general public (except for recreational goods) Street vendor</p>	<p>8 - FINANCING, BUSINESS SERVICES</p> <p>Accounting, auditing, and bookkeeping services Architectural firm Bank Credit institution Employment agency Engineering firm Foreign exchange dealer Insurance company Investment companies and trust Leasing equipment only (without workers) Real estate office Security and commodity broker Solicitor and barrister office</p>	<p>9 - PUBLIC ADMINISTRATION</p> <p>Administrative departments and offices Armed Forces Business regulation and registration agencies Court District commissioner and staff Government regulatory agency Judicial department Legislative department Police Provincial governor and staff Vital registration</p>	<p>0 - SOCIAL OR PERSONAL SERVICES</p> <p>Ambulance service Author, composer, artist Automobile repair shop Band, musical group Barber shop Beauty shop Business association Charitable organization Circus Clinic Community service organization Dance company Day nursery Doctor's office Domestic service—maid, gardener, etc. Educational establishment Business school Dancing school Driving school High school Middle school Primary school Private tutorial service University Electrical repair shop Exterminating, fumigating and disinfecting Football club or team Garbage and sewage disposal Home for the aged Hospital International organization Labor or trade union Laundry service Library Medical and dental laboratories Motion picture production Movie theater Museum Organization of African States Photographic studio Political organization Professional association Radio and television broadcasting Red Cross Religious organization Ranting of boats, bicycles, horses Research establishment Shoe repair shop Shoeshine establishment United Nations Veterinary service</p>



Popstan

A CASE STUDY FOR THE
1980 CENSUSES OF
POPULATION AND HOUSING

**PART C: Phase I: Complete Count
for Popstan Census**

(No. 1) January 1981

U.S. Department of Commerce — BUREAU OF THE CENSUS

Errata

Page 33, col. 2, sec. 3.72, (1), line 1

Reads: Table P-101 and H-101 are
the same as P-1

Should read: Tables P-101 and H-101 are
the same as P-1

Page 73, col. 2, line 3

Reads: The Ministry of Economy
for payment

Should read: The Ministry of Economy
for payment.

Page 114, col. 1, sec. 6.72, lines
7 and 8

Reads: therefore, the highest grade
completed ordinarily will
not exceed the person's age
plus 4.

Should read: therefore, the highest grade
completed ordinarily will
not exceed the person's age
less 4.

Page 114, col. 2, sec. 6.8, line 10

Reads: greater than the person's
age plus 11 or the

Should read: greater than the person's
age less 11 or the

Page 188, entire page

Replacement page 188 attached

Page 299, entire page

Replacement page 299 attached

Page 304, entire page

Replacement page 304 attached

(over)

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Page 305, entire page

Replacement page 305 attached

Page 313, entire page

Replacement page 313 attached

Page 317, entire page

Replacement page 317 attached

Page 318, entire page

Replacement page 318 attached

Page 325, entire page

Replacement page 325 attached

Exhibit C-3-5. VOLUME I(B) HOUSING TABLE TITLES AND FORMATS FOR EACH PROVINCE AND ITS SUBDIVISIONS--Continued

H-139. PERIOD OF CONSTRUCTION, WATER SUPPLY, AND SOURCE OF DRINKING WATER, FOR OCCUPIED CONVENTIONAL HOUSING UNITS, FOR DISTRICTS AND FOR URBAN PLACES OF 10,000 TO 49,999 INHABITANTS: 1980

DISTRICT AND URBAN PLACE	OCCUPIED CONVENTIONAL HOUSING UNITS	PERIOD OF CONSTRUCTION			WATER SUPPLY				SOURCE OF DRINKING WATER				
		LAST 12 MONTHS EARLIER	NOT RE-PORTED	INSIDE STRUCTURE	PIPED WATER			NO PIPED WATER	PIPED OR PUMP	BOTTLED OR CANNED	CLOSED WELL OR SPRING	OTHER	
					OUTSIDE WITHIN 100 METERS	OUTSIDE BEYOND 100 METERS	OTHER						
DONGO DISTRICT													
IDFU DISTRICT													
JUMMU DISTRICT													
<i>(Continue with districts)</i>													
ALORA CITY													
BULNES CITY													
OSAKA CITY													
SAN RAMON CITY													
TERRA CITY													

H-140. TOILET AND BATHING FACILITIES FOR OCCUPIED CONVENTIONAL HOUSING UNITS, FOR DISTRICTS AND FOR URBAN PLACES OF 10,000 TO 49,999 INHABITANTS: 1980

DISTRICT AND URBAN PLACE	OCCUPIED CONVENTIONAL HOUSING UNITS	TOILET FACILITIES					BATHING FACILITIES				
		FLUSH TOILET		OUT-HOUSE	COVERED PIT	OTHER	INSTALLED BATHTUB OR SHOWER		HAND BASIN, PIPED WATER	PORTABLE TUB OR BASIN	OTHER
		EXCLUSIVE	SHARED				EXCLUSIVE	SHARED			
DONGO DISTRICT											
IDFU DISTRICT											
JUMMU DISTRICT											
<i>(Continue with districts)</i>											
ALORA CITY											
BULNES CITY											
OSAKA CITY											
SAN RAMON CITY											
TERRA CITY											

H-141. LIGHTING, TELEVISION, COOKING FUEL, AND HOME INDUSTRY, FOR OCCUPIED CONVENTIONAL HOUSING UNITS, FOR DISTRICTS AND FOR URBAN PLACES OF 10,000 TO 49,999 INHABITANTS: 1980

DISTRICT AND URBAN PLACE	OCCUPIED CONVENTIONAL HOUSING UNITS	LIGHTING				TELEVISION			COOKING FUEL USED MOST				ARTICLES PRODUCED FOR SALE OR BARTER	
		ELECTRIC		GAS	KERO-SENE	OTHER OR NONE	WITH TELEVISION	OR NOT RE-PORTED	ELEC-TRICITY	GAS	KERO-SENE	COAL, WOOD, OR OTHER	NONE OR NOT RE-PORTED	NONE OR NOT RE-PORTED
		NUMBER	PER-CENT											
DONGO DISTRICT														
IDFU DISTRICT														
JUMMU DISTRICT														
<i>(Continue with districts)</i>														
ALORA CITY														
BULNES CITY														
OSAKA CITY														
SAN RAMON CITY														
TERRA CITY														

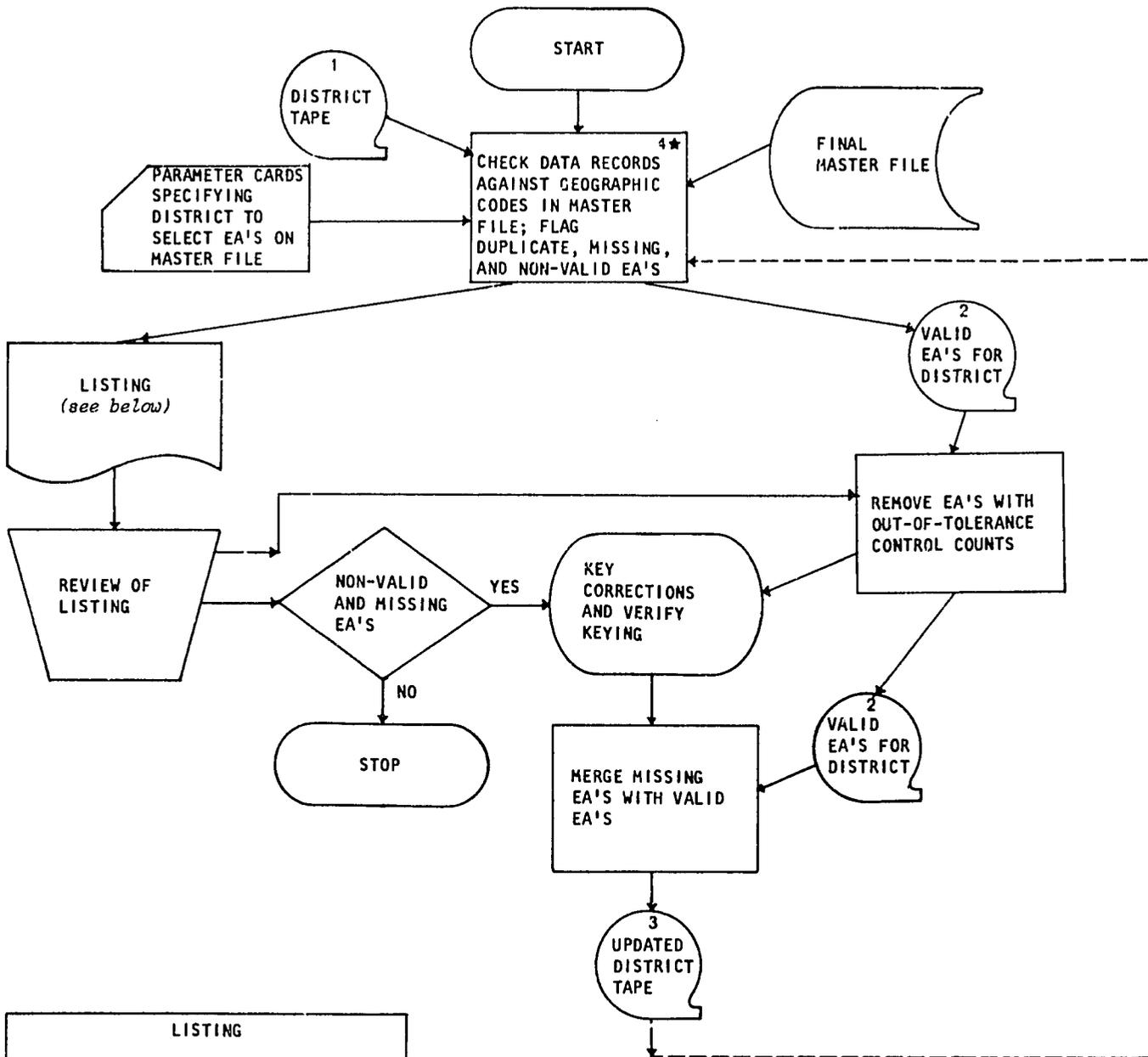
H-142. MONTHLY RENT FOR OCCUPIED CONVENTIONAL HOUSING UNITS RENTED FOR CASH, FOR DISTRICTS AND FOR URBAN PLACES OF 10,000 TO 49,999 INHABITANTS: 1980

DISTRICT AND URBAN PLACE	CONVENTIONAL UNITS RENTED FOR CASH	LESS THAN 10	10 TO 19	20 TO 29	30 TO 39	40 TO 49	50 TO 69	70 TO 99	100 GOLDARS OR MORE	NOT RE-PORTED	MEDIAN RENT
		GOLDARS	GOLDARS	GOLDARS	GOLDARS	GOLDARS	GOLDARS	GOLDARS	GOLDARS		
DONGO DISTRICT											
IDFU DISTRICT											
JUMMU DISTRICT											
<i>(Continue with districts)</i>											
ALORA CITY											
BULNES CITY											
OSAKA CITY											
SAN RAMON CITY											
TERRA CITY											

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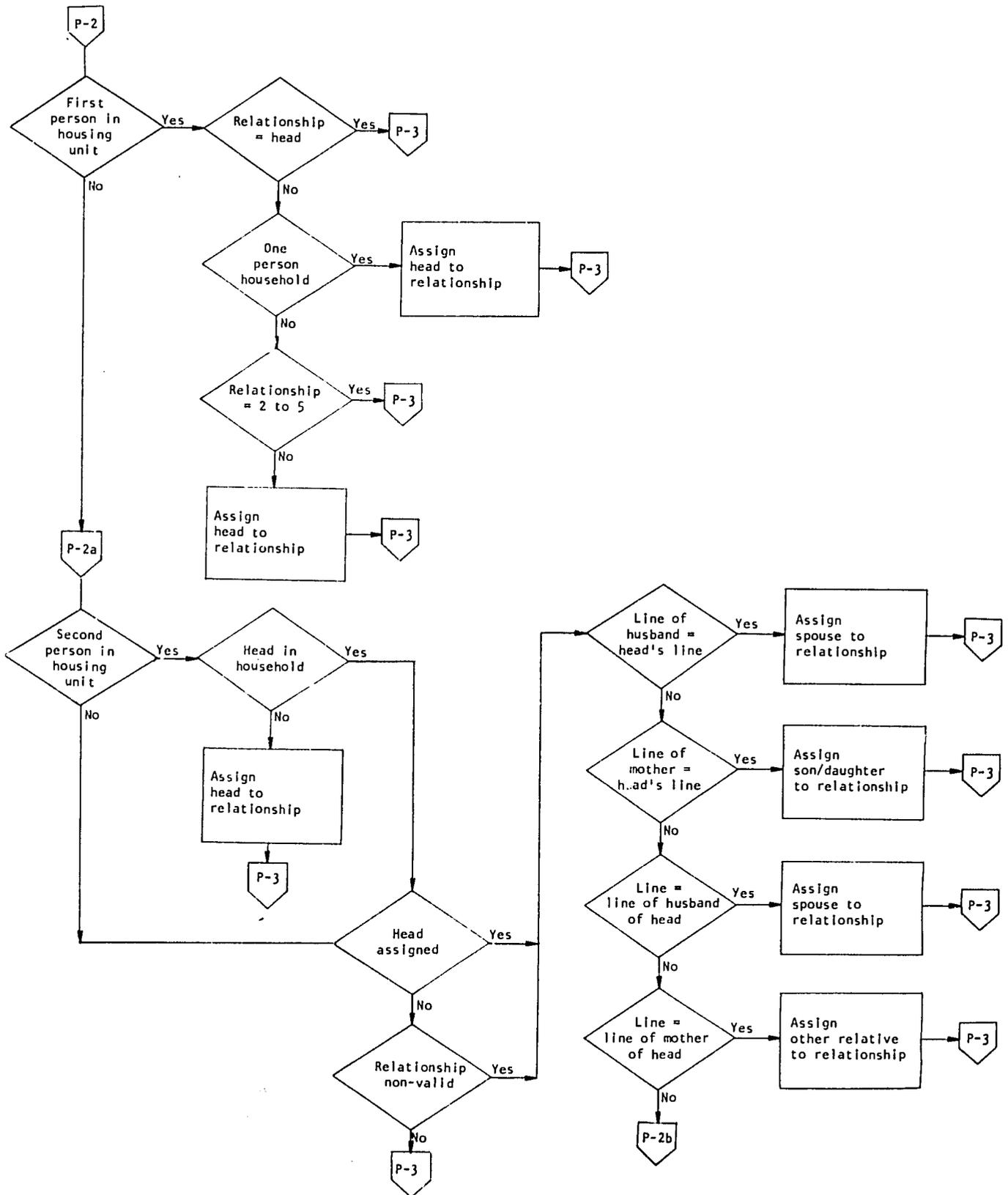
Exhibit C-6-1. FLOW CHART FOR PHASE I MAJOR DATA PROCESSING OPERATIONS--Continued

COMPUTER CHECK-IN OF DATA RECORDS



LISTING	
NUMBER OF:	VALID EA'S
	DUPLICATE EA'S
	NON-VALID EA'S
	MISSING EA'S
VALID RECORDS	} By EA
TOTAL POPULATION	
HOUSING	
NON-VALID RECORDS	
TOTAL POPULATION	
HOUSING	
GEOGRAPHIC CODES OF:	DUPLICATE EA'S
	NON-VALID EA'S
	MISSING EA'S
HEADER RECORDS OF VALID EA'S SHOWING CONTROL COUNTS	

Exhibit C-6-2. FLOW CHARTS FOR POPULATION EDITS--Continued

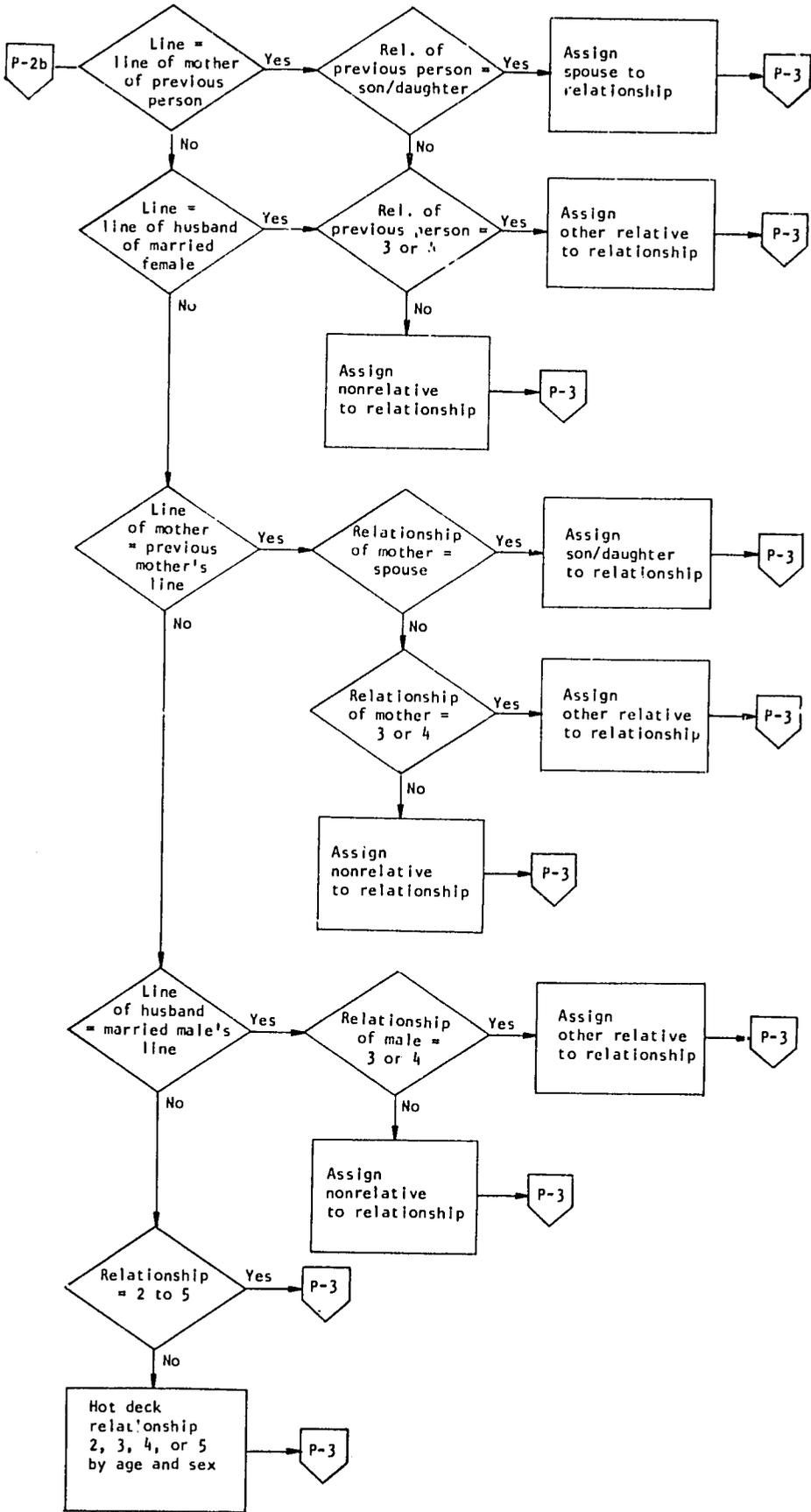


Note: The first or second person in each housing unit must be head of household.

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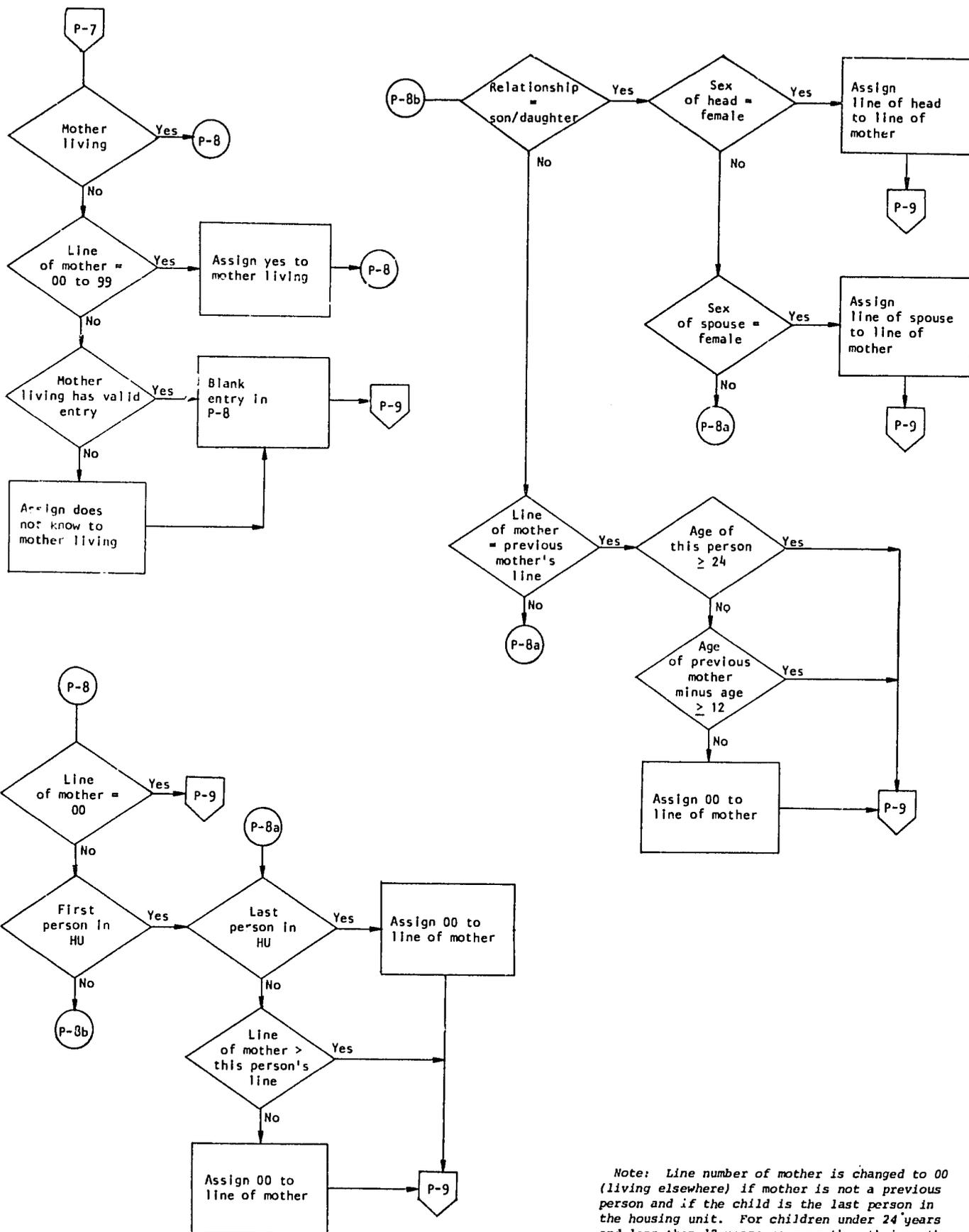
Appendix

Exhibit C-6-2. FLOW CHARTS FOR POPULATION EDITS--Continued



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Exhibit C-6-2. FLOW CHARTS FOR POPULATION EDITS--Continued

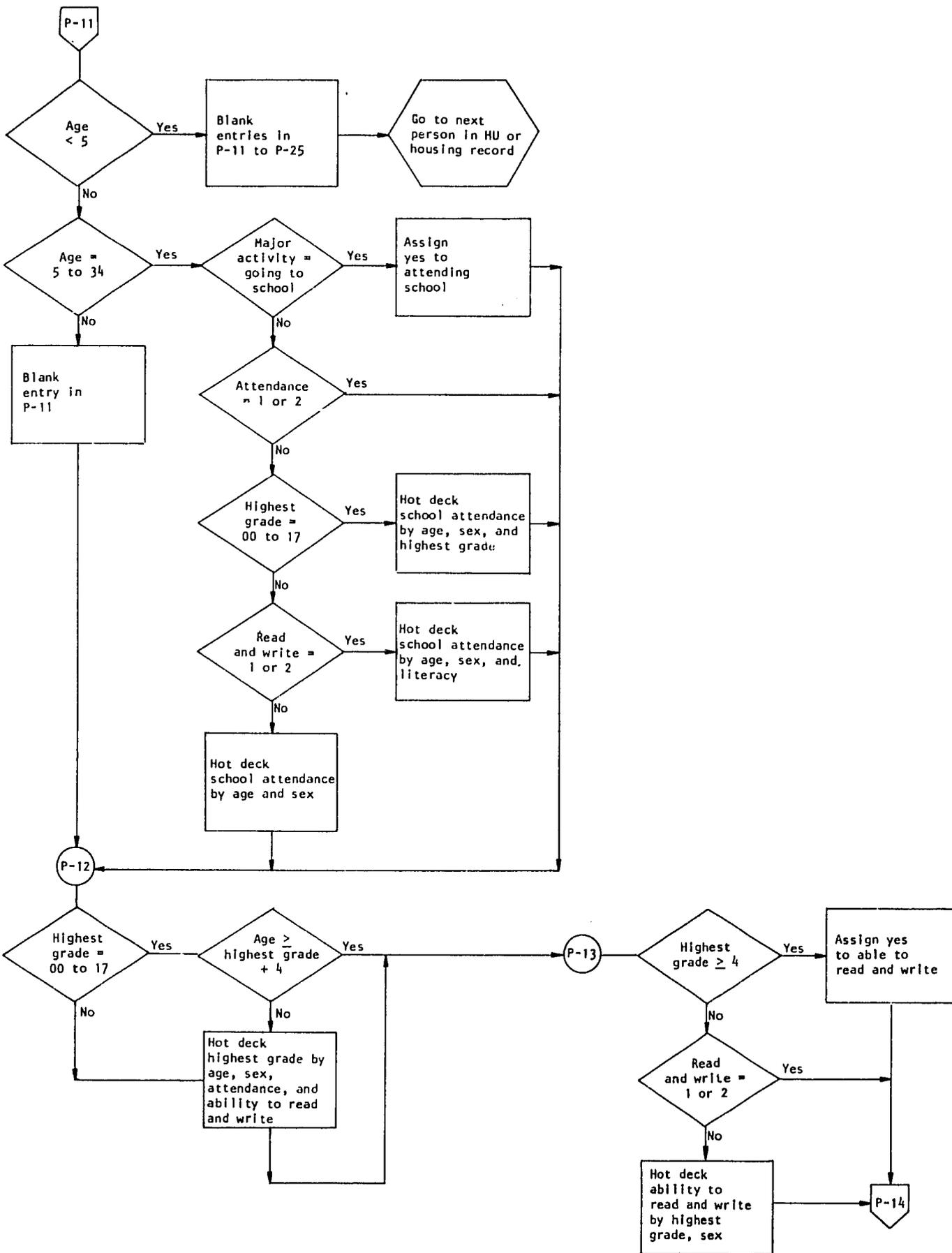


Note: Line number of mother is changed to 00 (living elsewhere) if mother is not a previous person and if the child is the last person in the housing unit. For children under 24 years and less than 12 years younger than their mothers, line number of mother will be changed to 00. For children 24 years or older, an age check will not be made.

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Appendix

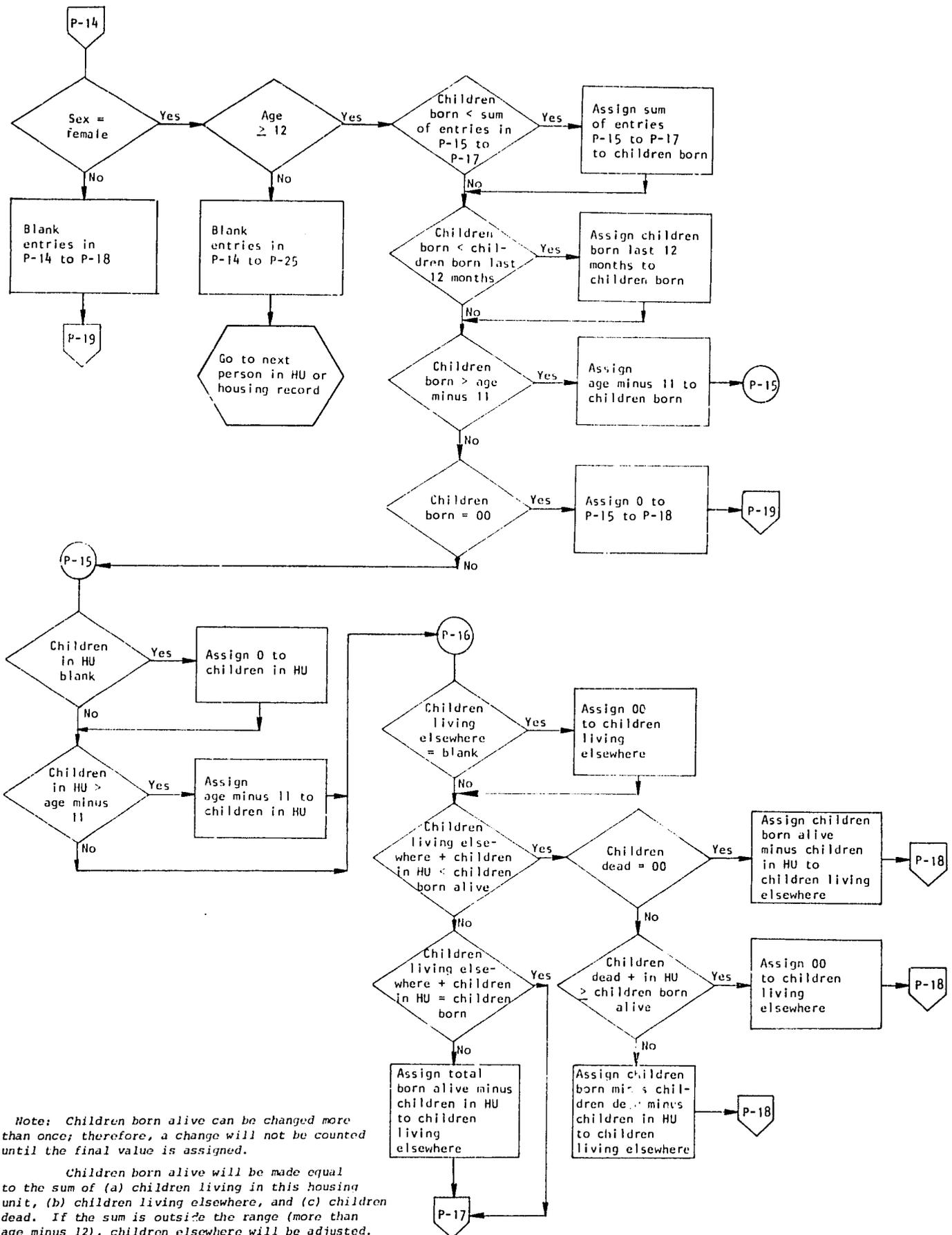
Exhibit C-6-2. FLOW CHARTS FOR POPULATION EDITS--Continued



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Appendix

Exhibit C-6-2. FLOW CHARTS FOR POPULATION EDITS--Continued



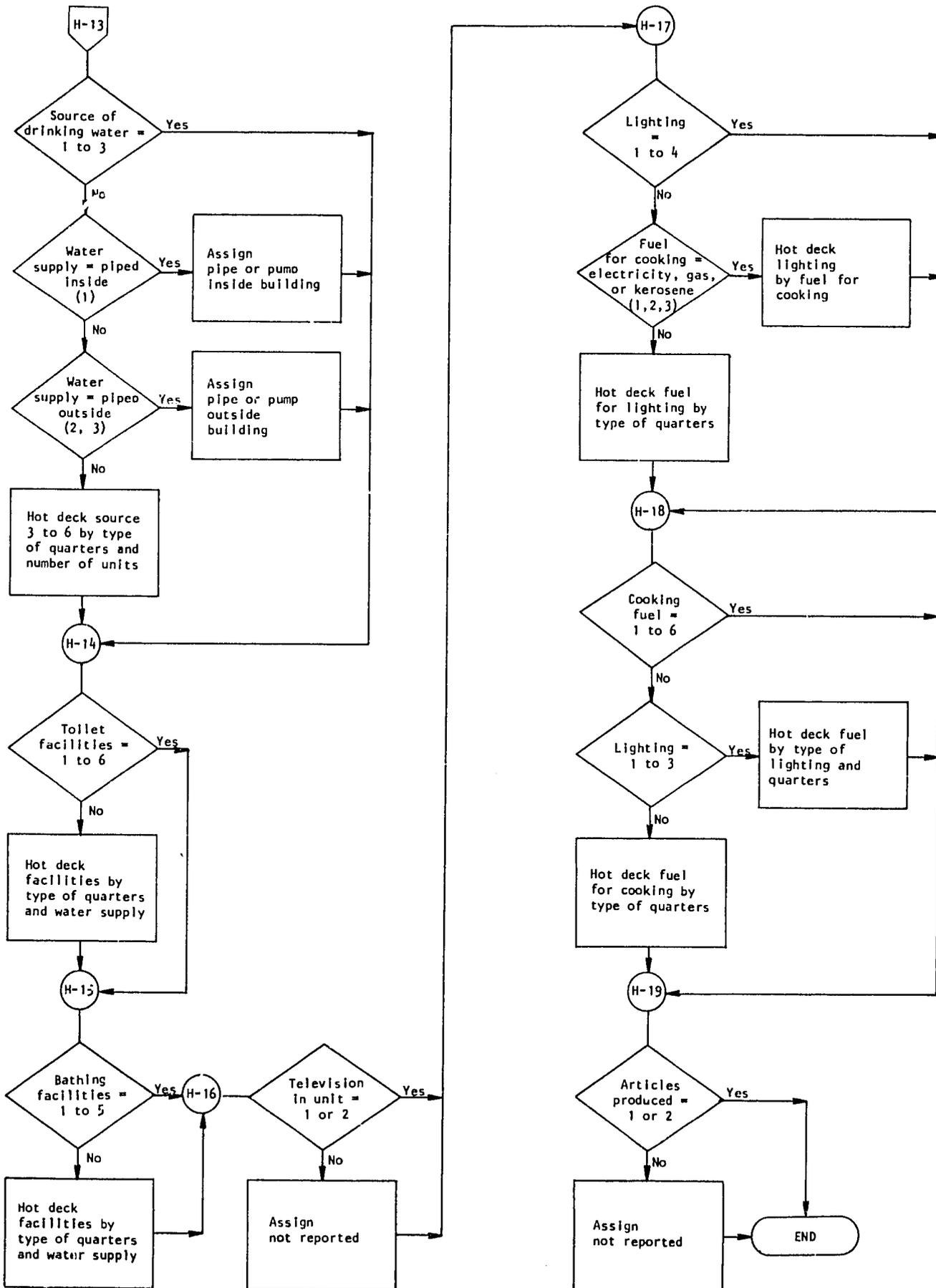
Note: Children born alive can be changed more than once; therefore, a change will not be counted until the final value is assigned.

Children born alive will be made equal to the sum of (a) children living in this housing unit, (b) children living elsewhere, and (c) children dead. If the sum is outside the range (more than age minus 12), children elsewhere will be adjusted.

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Appendix

Exhibit C-6-3. FLOW CHARTS FOR HOUSING EDITS--Continued



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