

UNITED NATIONS
ECONOMIC
AND
SOCIAL COUNCIL



53169

Distr.
LIMITED

E/CN.14/CPH/11

15 May 1968

Original: ENGLISH



ECONOMIC COMMISSION FOR AFRICA
Seminar on Organization and Conduct
of Censuses of Population and Housing
Addis Ababa, 17 - 29 June 1968

ENUMERATION PROBLEMS AND PROCEDURES

M68-754

ENUMERATION PROBLEMS AND PROCEDURES

1. The accuracy of a population census in respect of (a) the number of persons enumerated and (b) the characteristics of these persons, depends almost entirely on the degree to which obstacles are foreseen and methods devised to minimize their effects. Similar considerations apply in a housing census but the emphasis in this paper is on population censuses: in practice, of course, complete coverage of population implies complete coverage of all the places in which people may be living even if the living quarters are not themselves recorded.

2. The essential preliminaries in Africa, as elsewhere, are a census law which gives adequate powers to the census organization (and preferably guarantees the confidentiality of the census results in relation to individuals), and a budgetary allocation which makes possible the operations of the census organization. Needless to say, the law cannot automatically secure complete support from the public and, in fact, census planning must build up this public cooperation and try to counterbalance genuine inability to produce answers to essential questions, at the same time as it attempts to provide for the difficulties arising from diversity of physical and social and cultural conditions. The census preparations must therefore consist in a judicious mixture of psychological, substantive and geographical planning which may have, according to local circumstances, to overcome any or all of the problems referred to below.

(I) The physical environment, dispersion of settlement and mobility of population

3. Urban areas. It may be thought that a satisfactory enumeration is relatively easy to ensure because of the greater concentration of settlement together with the possibility of dividing towns into regular blocks and utilizing (or organizing a system of) street names and house numbers. It is true that in parts of many towns in Africa, such conditions prevail and enumerators can be instructed to proceed systematically in a specified direction around the blocks allocated to them, attaching labels or other signs to indicate that each structure (or, if preferred, each set of living quarters) has been visited. Higher levels of education, closer contact with administrative services, expectation of further improvements in

facilities, accessibility to publicity media, availability of higher-level enumerators together with limited travel and close supervision, certainly favour a relatively complete and accurate enumeration. Yet the difficulties are numerous: many adults are absent during working hours and enumerators may have to work mainly at night, especially to find single-person households; homeless persons, beggars, residential schools, hotels and so on pose special problems, as do complicated households such as those composed of several adults sharing the expenses of house-keeping; mobility of population within the town and also as between the town and the rural areas may confuse both respondent and enumerator unless the enumeration can be conducted in a very short period of time; occupation, ethnic group, religion, educational levels vary far more than is the case in rural areas; there may be concentrated settlements of particular religious, ethnic or language groups whose attitude to the census is unfavourable. Often greater care and more time are required in the enumeration of an urban household than are required in a rural enumeration.

4. When households in shanty-town areas are being enumerated, the difficulties are even greater: in addition to the standard problems of variability in characteristics of urban households, there is the difficulty in systematic canvassing of Enumeration Areas where living quarters consist of very informal structures or parts thereof and where there is no pattern of regular blocks.

5. The solutions lie in pre-listing of households and living quarters^{1/} and, where possible, in pre-numbering (of structures or of living quarters); in close supervision; in insistence on call-backs to find acceptable respondents; and even in the imposition of a curfew which would permit the enumeration to be carried out at night.

6. Rural areas. The difficulties increase according to whether the population of specific areas is (a) sedentary and in concentrated settlements (villages, hamlets, localities), (b) sedentary but not organized into villages or comparable units, (c) semi-nomadic or (d) nomadic.

^{1/} See Preparation and Use of Census Control Lists (E/CN.14/CPH/5; ST/STAT/22).

7. The active support of the leaders of the traditional society can do much to overcome the obstacles. The preparation of locality lists and the delimitation of Enumeration Areas depends largely on their help, if it is to be really effective; and at the stage of the enumeration proper the local leaders can show enumerators the boundaries of their areas on the ground. (See Locality Listing and Delimitation of Enumeration Areas, E/CN.14/CPH/9, para. 14-18). Their functions can be extended even further with great advantage where the possibility of mass publicity is limited by lack of facilities: in such cases, the cooperation of the local leaders is essential in passing down to each household head, and so to each individual, within his sphere of authority, his support of the census and his reasons for asking his people to answer specific questions and to facilitate in whatever way possible the work of the enumerators. This has been done in many African inquiries, and useful examples, of equal applicability in complete enumerations, are to be found in the accounts of the sample surveys in French-speaking West and Equatorial Africa, where the line of authority from village chief to chef de concession to chef de menage was an intrinsic part of the organization of the inquiry as well as of the method of recording the data on the questionnaires. It is undoubtedly one of the most practical measures which can be taken to allay fears and resentments which may seriously hinder the operation.

8. Enumerating a rural sedentary population in concentrated settlements is perhaps simpler than an urban enumeration, provided that the terrain is fairly open, as it is in much of coastal North and West Africa, and that adequate geographic preparations and publicity have been undertaken. If, however, as in forest areas in Central Africa and in the mountains of Ethiopia, physical difficulties result in a discontinuous pattern of settlement associated with poor land communications, the risk of omissions is great because, where it is impossible to canvass an Enumeration Area systematically, whole villages, hamlets or other agglomerations may be entirely missed. Similarly, where the pattern of settlement consists of isolated (or at least separated) homesteads or plots without a unifying village organization, as in parts of Eastern Africa, and in Southern Sudan,

it is very easy to omit individual units. Various attempts have been made in Africa to pre-list and even to map isolated households (Tunisia and Swaziland, 1966) and this can no doubt be effective where the village leader can be counted upon to ensure completeness or near-completeness in the list. Otherwise, it may be necessary to leave the initiative to the enumerator to inquire where he can about households which are out of sight and to which there is no visible way of access.

9. The problems of finding people at home are sometimes serious in the rural areas, and this is particularly so where the terrain is such as to discourage, or actually to prohibit in the time available, return visits. If it is possible for local or other leaders to arrange that certain households stay at home from their fields on a specified day, all to the good; otherwise enumerators must work in the very early morning and in the evenings to complete the enumeration in the agreed period of time. If this is combined with extensive travel between households, compounds (concessions), or hamlets, the effect of fatigue on the enumerator may be harmful to the quality of the work he can do. This will be even more marked if it is found necessary to go out to the fields to interview households who remain away from their homes for several nights at a time. For reasons related to what has just been said, adequate supervision is hard to arrange in rural areas, except in closely-settled areas, and the supervisor may not be able to do more than a final check on the work of each enumerator. He can, of course, even within these limitations, insist on re-enumeration of households where the quality of the work is clearly unsatisfactory.

10. By implication, semi-nomads are sedentary part of the year, moving as necessity requires in search of food and water for their stock. They should be enumerated in whatever place seems most convenient on the basis of advance knowledge of their habits. Even then, a problem may arise from the absence of individual members of a household, or employees of the household, who may be absent watering or pasturing stock; these absentees should be enumerated either at the cattle-posts or other watering or pasture-grounds, if this is both possible and convenient, otherwise on the

basis of information given by their households.

11. The enumeration of nomads is the most difficult problem in African censuses. Administrative pre-listing or special attempts to obtain lists through the leadership system of the tribes or equivalent groupings (compare E/CN.14/CPH/9, paras. 19-22) offers a first approach, similar to that used in the Sudan in 1955-56. Listing of watering places is another method, but it should be noted that in the experiment in Niger this did not prove as successful as expected because the list of watering places was incomplete and also because movements of the tribes even over small distances created great difficulties. Enumerating at places where the tribes congregate has obvious advantages, but does not seem sufficient in itself. The experience of the 1946 enumeration of the Beersheba Bedouins is a good example of a psychological approach to the traditional leaders and then to the people, the enumeration being conducted on the basis of tribal groups and sub-groups rather than on the basis of geographically-determined EAs.^{1/}

12. Other types of spatial movement which complicate African censuses are international and internal migration, and the movements of migrant and seasonal labourers. The two former are dealt with in the African Recommendations for the 1970 Population Censuses (E/CN.14/CAS.6/1) paras. 44-52. Brief mention is made here of census investigations of migrant labourers because this is a real issue in such countries as Botswana, Lesotho and Malawi, all of which have inquired about household members absent on work contracts in neighbouring countries. The information so obtained may be distorted by reports relating to the same person from more than one household (for example, a mother and a wife may both report the same man), and because the information given may be less accurate than that provided by those present at the interview. Valuable though the data are for particular purposes, the tabulations should be made separately for such absentees, Seasonal labourers constitute a similar problem in a number of countries, and techniques have been applied in French-speaking West Africa which would be equally applicable to the investigation of migrant labourers: that is, the enumeration of separate categories of Residents present,

^{1/} Sami W. Dajani: "The Enumeration of the Beersheba Bedouins in May 1946" in Population Studies, December, 1947.

Residents absent and Visitors in each household, with additional questions on duration of absence (or visit), place of present sojourn (or of usual residence), reason for absence (or visit). Such questions are, however, more suitable to sample surveys (in which they were in practice used) than to the general censuses which are the subject of the present paper. Nevertheless, the questions could in principle be employed in a sample of population only, additional to the questions asked in the general census.

(II) The respondents

13. The qualities and attitudes of the population to be enumerated in Africa vary enormously, as does the physical environment. There are hindrances to accurate replies on the part of respondents and sometimes motives for deliberate evasion of enumeration or for falsification of replies during enumeration, arising from a great variety of sources. Examples are too many to list exhaustively, but the following gives an impression of the problems: superstitious fears (reluctance to mention all children born or to refer to deaths); fear of taxation or of military or civil service, mainly a relict of administrative counts; failure to comprehend the question, especially where language is a difficulty and where interpretation may not be sufficiently precise to clarify the meaning, or where equivalents may not exist in the vernacular (questions on marital status may be unanswerable in any precise sense where marriage is a process rather than a suddenly-acquired state and where widows are inherited on the death of the husband by a male relative); forgetfulness (omission of very young children); resentment of the status of the interviewer (sex, caste, ethnic group, religion, language); fear of revealing adherence to an unpopular minority (religious, ethnic, national, religious); personal vanity (up-grading of educational or occupational status). The question of names of individuals is an additional well-recognized hazard in enumerations, because a person may have different names which are used in different contexts and the names may be changed over time, or may differ in spelling. Tribal names also constitute a hazard, because the respondent may give a sub-tribe or clan name which does not fit into the enumerator's list

14. Some of these factors are already of minor significance such as the superstition attaching to reports of dead persons, but others need to be combatted by census "education", which, by emphasizing the potential value of the census in the extension of health services, schooling, and so on, and by calling on national pride and prestige, may inculcate a sense that everyone should cooperate to the full. Others again, such as the fear of violation of religious traditions which require the seclusion of Muslim women, must be overcome by provisions which meet census needs without offending the beliefs of adherents; for example, by the use of female enumerators, as in the post-enumeration check on the numbers of young children in the Sudan in 1956.

15. There are naturally some questions, such as the reporting of age, where the amount that can be done is limited until levels of education are raised; this does not preclude the use of historical calendars of events and attempts to persuade the population, before the census, to do their best to get some evidence of their age, from written records if these are anywhere available or from comparison with other people in their local community whose age is known, and whose relative status would at least determine whether A is older or younger than B, or approximately the same age. (See Age Data in African Censuses and Surveys, E/CN.14/CPH/13).

16. For the rest, the solutions must lie mainly in (a) pre-testing questions to ensure that there is nothing offensive or misleading in the content or form of the question and (b) in training enumerators in techniques of eliciting replies which, if not precisely correct, seem at least to be reasonable approximations.

17. Typically, the schools in Africa have played a large part in census education and the continuation of this channelling of information and ideas from children to parents offers prospects of further development of understanding of what a census aims at achieving and how the population can cooperate.

(.) The enumerators

18. Complementary to the information which is to be given by respondents is the function of the enumerators in eliciting and recording it. The

standard of work attained by the enumerator constitutes the essential success or failure of the census: an accurate enumeration or one which is unreliable and perhaps positively misleading in the conclusions which can be drawn from the results. While it is impossible here to go into details of recruitment and training of enumerators, some reference must be made to the sources of error which may derive from the enumerators themselves. Lack of sufficient educational background is a common trouble, but not necessarily the essential one. Lack of training and lack of adequate supervision are more serious in some instances, while in others training and the preparation of instructions to field workers may have been too ambitious and may have confused rather than clarified the issues at stake.

19. Whatever the reasons, enumerators frequently fail to carry out instructions on such matters as filling in every column even if the entry is "nil" or "not applicable" or "not stated"; using ditto marks and failing to alter them if a correction has had to be made somewhere down the column; assuming that all members of a household have the same nationality or ethnic origin; failing to check consistency between entries (for example, a very young woman with an unbelievably large number of children), entering occupation or industry in a way which cannot be subsequently classified ("labourer" or "fish" or something such). More serious again is the failure in some cases to take proper measures to see that they have canvassed the whole of their EA and failure to make sufficient effort to ensure complete coverage of membership of the households they enumerate.

20. It is a fairly elementary consideration that enumerators, like respondents, must have a cooperative attitude to the census, and one way of achieving this is to convince them of the value and prestige of the job they are doing; the other is to arrive at a system of payments which they regard as acceptable. The payment need not be high but it should offer some compensation for the hard work involved and it should not be capable of manipulation in a way which would encourage over-enumeration (payment by numbers enumerated) or under-enumeration (payment by number of days worked irrespective of the numbers enumerated). A lump sum, with perhaps a bonus

for difficult or dangerous conditions, seems the most reasonable method.

21. Regional, and sometimes local, ambitions have been known to produce motives for inflation of numbers, which, however it is achieved in practice, is likely to be based on inflation of numbers in individual EAs. This tendency, related to political rivalries and the search for greater representation of particular parties or areas in parliament, is something fairly new in Africa and should be avoided at all costs. There has been an unfortunate move to hold censuses close before parliamentary elections, and the connection between the two is prejudicial to the objectivity of the census. Unless the provisions of the law are inescapable, there should be a reasonable time-interval between the two operations. Where for particular reasons, this separation in time is impossible, rigid controls need to be exercised of the work of each enumerator in the field followed by field reconciliation of discrepancies after the census has been concluded. If inflation of numbers is thought to have occurred at other levels than the EA, then the totals in each enumerator's census returns (or totals of groups of enumerators' returns) should be compared with the totals for the corresponding area as eventually established for publication or for electoral use.

(IV) Implications for the general census plan

22. It is considerations such as those outlined above that have influenced the African Recommendations for the 1970 Population Censuses to give preference to an enumeration of the de facto rather than the de jure population. The main advantage is that the present-in-area population is so much more easily defined and that enumerators do not have to hold in mind complicated instructions about temporary visitors, temporary absentees, and persons who are not to be included at all because they are not "residents" of the national area.

23. Where resources are really scarce, it is not always possible to complete the enumeration in as short a time as is desirable. The ideal plan would be to do it in one day, in this way minimizing the effects of population movements in the census period. In practice, some African

countries have been forced to permit the enumeration to continue for two or more weeks or even longer, because of the shortage of enumerators; and this may give rise to double counts or to omissions of persons who have changed residence in the period. Such an extension of time must be tolerated on occasion, but every other possible means should be taken to simplify the enumeration: simple and clear-cut definitions of household, and other census concepts, and simple and clear cut instructions for recording household members and their characteristics; a questionnaire design which facilitates to the maximum the task of making the entries in an unambiguous fashion; elimination through pre-testing of questions which may not be fully understood or which may arouse antagonism.

24. Despite all of this, the advantages of a simple de facto enumeration may have to be jettisoned where the effects of mobility cannot be eliminated; for example, where the general enumeration extends beyond, say, one month, or where it is a question of enumerating nomads.

25. Finally, the importance of the choice of the census date cannot be over-emphasized, since this too can be used as a means of reducing the effects of mobility, provided a date can be fixed at which movement is minimal throughout the various sectors of the population. The obvious examples relate to choosing a date when nomads and semi-nomads are in known and accessible places. Unfortunately, here again, African conditions may defeat such optimism, and the date which is convenient for one sector of the population may not be so for others.