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UNITED NATIONS ECONOMIC COMMISSION FOR AFRICA

REPORT ON A MISSION TO GHANA
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By

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This report is the sole responsibility of the writer. It has been submitted to the Department of Technical Co-operation, United Nations, which may alter or supplement the findings.

Introduction

The mission was undertaken at the request of the Government to advise on the final preparatory activities for the 1984 population census of Ghana.

A request was also made by the United Nations Statistical Office that an assessment and evaluation of the development and status of the Ghana sample civil registration and vital statistics system since the termination of the UNFPA assistance to the project should be made during the mission. Due to time constraint only a brief visit could be made to the births and deaths registry to hold discussion with the registrar.

Ghana's population census in the 1980 round of censuses was originally scheduled for March 1980 but it was postponed to March 1982. By February 1982 the cartographic preparations were nearing completion and training of regional and district census officers had been completed. Subsequent political developments, however, led to the suspension of census activities.

In early 1983 it was decided in principle that the census would be conducted in March 1984 but the feasibility of combining the census with a multi-purpose national identification numbering exercise should be examined. At the request of the Government, a mission was therefore undertaken by ECA to examine the proposal and make the necessary recommendations. The mission recommended that the two exercises should not be combined.

A pilot study conducted subsequently by the Central Bureau of Statistics confirmed the findings of the ECA mission. The result of the pilot study was submitted to the Government in November 1983 and approval was given by the Government in December 1983 that the census should be conducted as a separate exercise.

In the course of the mission discussions were held with the following persons to whom I wish to express my appreciation for their assistance and co-operation.

Dr. E. Oti-Boateng, Government Statistician, Central Bureau of Statistics (CBS);

Mr. S.W.K. Sosuh, Deputy Government Statistician, CBS;

Mr. J.K.Y. Owusu, Ag. Deputy Government Statistician, CBS;

Ms. Rebecca Appiah, Ag. Census Co-ordinator, Census Office;

Mr. J.P. Brown, Field Organizer, Census Office;

Mr. S.E. Quarshie, Statistician, Census Office;

Mr. M.K. Awoonor-Williams, Assistant Statistician, Census Office;

Mr. K.B.E. Quagraine, Director, Central Computing Services Unit, Management Services Division,

Mr. J.B. Assie, Registrar of Births and Deaths, Births and Deaths registry;

Mr. A. Taylor, Programme Officer, UNDP.

A. 1984 Population census

Census Office

During the early stages of the census preparatory activities the Demographic and Social Statistics Division and the relevant units of the Methods and Standards Division of the Central Bureau of Statistics were transformed into a Census Office. Officers from other government agencies with the relevant expertise particularly in government administration, publicity and field operations management were seconded to the Census Office.

As stated in the Census Project Document submitted to UNFPA for assistance, the Government Statistician had over-all responsibility for the Census Office but the day to day administration of the office was the responsibility of a Census Co-ordinator.

The Census Office had four main sections. These were:

Statistical planning - responsible for preparation of questionnaires, instruction manuals, tabulation and publication programmes, codes lists and coding instructions and census analysis;

Field organization - responsible for the recruitment and training of field staff, census enumeration and publicity

Methods and standards - responsible for cartographic preparations, quality control and census evaluation

Data processing - responsible for machine processing of census data.

When the census activities were suspended some of the officers seconded from other organizations were transferred to other duties and other officers resigned from their posts.

Census activities were resumed in 1983 when Government gave approval in principle for the census to be conducted in March 1984. In the course of the resumed census preparatory activities, however, the Census Co-ordinator was appointed Acting Deputy Government Statistician and transferred from the Census Office to the main office of the Central Bureau of Statistics and my impression during the mission was that his involvement with the census since then has been minimal. Thus, at the time of the mission the Acting Census Co-ordinator and the Field Organizer were the only senior staff at the Census Office with previous experience in census operations.

I was informed that the organizational structure of the census office indicated in the census Project Document had not been amended, however, it seemed the areas of responsibility particularly in respect of census administrative matters were not clearly defined. For instance, even though an Administrative Officer was originally seconded to the Census Office and should be working closely with the Acting Census Co-ordinator, his office was at the Central Bureau of Statistics and not the Census Office. It was, therefore, not clear whether the Acting Census Co-ordinator had immediate responsibility for all census matters including administrative and financial issues. It must be pointed out though, that the Government Statistician was playing a very active role in the census activities, particularly in the area of census publicity but since

he may not be able to devote his full time to census duties, steps should be taken to define more clearly the areas of responsibility of the various officers involved in the census and also the reporting order. Further the census organisers need to ensure that the activities of all those involved in census work are well co-ordinated. It is my view that if such steps are not taken there might be confusion at critical stages of the census operations which might adversely affect the progress of the census programme.

Census documents

The major pre-enumeration census documents include the following: household questionnaire, group quarters questionnaire, Enumerators Manual, Enumerator's Visitation Record, Enumeration Area map, Supervisor's Manual, Field Supervisor's Record Book, Supervision Area map and Training Guide for census district officers.

At the time of the mission most of the documents had been printed and were being assembled in census bags. The printing of census questionnaires, however, had not been completed and this was causing a serious bottleneck in the plans for the assembly and despatch of the census documents to the field for distribution to supervisors and enumerators.

A few days after my arrival it became quite clear that at the rate of production, all the questionnaires would not be received at the Census Head Office before the start of census enumeration. The attention of the Government Statistician was called to the seriousness of the situation and a top level meeting was held to examine ways of speeding up the printing of the questionnaires to ensure that the deadline for the distribution of the documents to the field would be met. Following that meeting, certain measures were taken to ensure the increase of the rate of production of the questionnaires at the Ghana Publishing Corporation. Two private printing establishments were also called in to assist with the printing of the questionnaires.

Other census documents expected to be prepared are: codes lists and coding instructions, editing specifications, tabulation and publication programmes. Preparation of codes lists had started and there had been initial discussions in respect of the other documents. I was informed that the tabulation and publication programmes would be similar to those of the 1970 census except that the tables would be divided into 'priority' tables and 'other useful' tables. The priority tables would be produced and published before those described as 'other useful' tables.

It was suggested that the division of the tabulations into 'priority' and 'other useful' ones should be done as soon as possible and discussed with the major census data users particularly those in government to ensure that the priority tabulations would include those urgently required for governmental policy-making as well as for planning and monitoring of development programmes.

It is however essential that consultations are held early with the systems analyst who will be responsible for the planning and production of the tabulations before a final decision is taken on the issue of 'priority' and 'other useful' tabulations. This is because the sequence of the production of the tabulations will depend on the system of data processing which will be used; and it may not always be economical to produce all the 'priority' tabulations before some of those which will be in the 'other useful' category.

Recruitment and training of field staff

At the time of the mission the recruitment and training of regional and district census officers as well as field supervisors had been completed and training of enumerators was in progress.

The training courses for all levels of the field staff were residential and the programme consisted of lectures, homework, mock interviews and class and field exercises. Most of the enumerators are school teachers so the Ministry of Education granted the teachers involved special permission to attend the census training courses since schools were still in session. The school calendar was also adjusted so that schools would be on vacation during the census enumeration.

Enumeration procedures

Two types of questionnaires will be used by enumerators during the census enumeration. These are: Form H-Household Questionnaire and Form G-Group Quarters Questionnaire. Form H will be used to enumerate the household population and Form G will be used for the institutional and floating population.

The questionnaire items to be investigated are the same on both questionnaires except that the question on relationship is not applicable to persons who will be enumerated on Form G. The questionnaire items are the following: name, sex, relationship, birthplace, nationality, full-time education, type of activity, occupation, industry and employment status.

Enumerators are required to list all buildings before they start the actual enumeration which will be on a de facto basis. The enumeration of the homeless persons will be done immediately after the census reference midnight; and during the mission the census office organized a mock enumeration of such persons.

Census enumeration date

The midnight of Sunday March 11, 1984 has been selected as the census reference point in time to which the census enumeration should relate. The enumeration will start on Monday March 12 and continue for a period of about two to four weeks.

Census evaluation

Discussions on the programme for the evaluation of the census results were held with the census organizers and it was expected that a post-enumeration survey would be conducted to measure the coverage error but indirect methods of evaluation would be used to measure the content error. Thus content error evaluation would form part of the programme of analysis of the census results.

The post-enumeration coverage check survey would be conducted in a sample of half of one percent of the census enumeration areas. The Census Office already has a sampling frame consisting of a provisional list of enumeration areas. The list was expected to be checked for completeness and then arranged by region and within each region by urban/rural through the use of the provisional enumeration areas codes before the sample selection. All households and structures (houses) occupied by households would be covered in the survey.

The coverage check survey would be conducted after the Census Head Office had received the completed census questionnaires from the field in order to ensure that the survey would provide an independent list of persons in the sample areas.

At the time of the mission, there had been some discussions by the Census Office in respect of the coverage check questionnaire. The design of the questionnaire would be similar to the 1970 coverage check questionnaire except that the household instead of the house would be used as unit of enumeration. The questionnaire items were expected to be the following: geographical identification particulars; house/compound and household identification particulars; name (full name and other names); relationship to head of household; sex; age and occupation.

Provision would be made on the questionnaire to make it possible to distinguish the following categories of population: persons present in house/compound on Census Night and also on coverage check reference time ('non-movers'); persons present in house/compound on Census Night but absent on coverage check reference time ('out-movers'); and persons absent from house/compound on Census Night but present on coverage check reference time ('in-movers').

After the survey the 'non-movers' and 'out-movers' will be matched with the census population in the corresponding areas on a one-to-one basis. The matching will involve houses/compounds, households and individual household members.

The proportion of matched and unmatched 'out-movers' in the coverage check survey will be applied to the coverage check count of 'in-movers' to obtain estimates of enumerated and missed 'movers'. The assumption in this procedure is that the completeness of census coverage of the 'out-movers' will be the same as that of 'in-movers' but the 'in-movers' will provide a more accurate count of 'movers' in the coverage check survey.

After the matching the estimate of completeness of the census coverage will be based on the dual system of estimation. Thus a table will be prepared showing the number of cases reported in both the census and the coverage check survey; number of cases reported in census but not in the survey and number of cases reported in survey but not in census.

The estimate of the completeness of the census coverage will be the percentage of the coverage check survey population ('non-movers' and 'in-movers') who were correctly reported in the census i.e. matched with the census. The above estimate would be the estimate of census undercoverage. The estimate of ever enumeration would involve a field reconciliation exercise in respect of the unmatched census cases.

The coverage check programme was not tested during the trial census as recommended during a previous mission to advise on census preparatory activities. It was, therefore, pointed out to the census organizers that in view of the past unsatisfactory experience concerning post-enumeration coverage check programmes immediate steps needed to be taken to ensure adequate and timely preparations for the proposed exercise.

Data processing

The procedures for the processing of the census results will comprise both manual and machine processing operations.

The major manual processing operations will be the coding of the completed questionnaires and the verification of coding. Standard quality control techniques will be used during the coding and verification operations.

Before the start of the coding, however, there will be the receipt of the census documents and the physical checking of the completed questionnaires to ensure that questionnaires have been received for every enumeration area. The questionnaires will then be properly arranged on shelves and after that a minimum of manual editing will be performed.

At the time of the mission the preparation of the place for the storage of the census documents was in progress. It was stressed that the work needed to be completed timely so that post-enumeration activities would not be delayed after the completion of enumeration.

The machine processing of the census questionnaires was expected to be done on the computer installation at the Central Bureau of Statistics. At the time of the mission the configuration of the installation was as follows:

- 1 VS-80 with CPU of 512 K storage
- 3 Disk Drives - 288 MB each
- 3 Tape Drives - Dual density 800 and 1600 BPI
- 4 Line Printers - 600 l.p.m. each
- 2 Daisy Wheel Printers - Quality Print
- 2 Archiving workstations
- 3 Serial workstations
- 6 Combined workstations.

I was informed that a proposal has been made to upgrade the installation for the processing of the 1984 census data.

It may be recalled that there was provision for computer facilities under the census project. It has been decided that the computer would be installed at the University of Ghana to serve the Regional Institute for Population Studies (RIPS) and the Central Bureau of Statistics (CBS) for the processing and analysis of the 1984 population census and other demographic enquiries. It was, however, expected that the workstations would be installed at the Central Bureau of Statistics for the keying of the census data.

I was informed that the computer was expected in the country shortly but I was unable to obtain information on arrangements made for the use of the computer by both RIPS and CBS nor the plans made for the installation of the workstations at CBS. It is suggested, however, that the census organizers take steps to ensure that the workstations being acquired under the census project are installed at CBS since the number of workstations at the CBS computer installation would not be adequate for the timely processing of the census data. It may be recalled that Mr. Benzine, ECA Regional Adviser in data processing recommended in 1981 that 22 workstations with the operators working two shifts, would be required to complete the keying of the census data in 9 months.

B. Sample Registration System

The project GHA/72/P04 - Expansion of the National Civil Registration System for Births and Deaths and Development of Vital Statistics - was approved for funding by UNFPA in February 1977. The immediate objectives of the project were to develop a sample registration system to provide reliable estimates of birth and death rates for Ghana and to use the methods and procedures developed under the sample registration system to develop a phased-programme of expansion of an efficient civil registration system. The development of the programme of expansion would ensure the achievement of the long-range objective of the project which is the establishment of a nation-wide births and deaths registration system capable of carrying birth and death registration facilities to the doorsteps of the entire population; and also providing vital statistical data of high quality for deriving reliable estimates of the country's population.

It was planned to develop the Sample Registration System in three phases. These are: experimental phase covering 20 rural and 5 urban 1970 census enumeration areas. This phase of the project was started in October 1977 and successfully completed in April 1978 and a report was published in September 1979. The second phase was the pilot sample registration system which covered 30 rural and 10 urban enumeration areas. It was started in April 1979 and completed in March 1980. The report was published in July 1981. The final phase of the project was the full-scale sample registration system covering a sample of 180 rural and 60 urban enumeration areas. This phase of the project was started in October 1980 but it has since then run into difficulties and the sample registration system has not been operational since 1983. Further no report on the full-scale sample registration system has been prepared to-date.

I was informed that budgetary provision was made for the Sample Registration System in 1983 but the scheme could not be carried out because most of the vehicles for the project have been grounded and printing paper was not available for the production of the necessary documents.

The major elements of the sample registration system were:

- (a) baseline survey of sample registration areas (sample of 1970 census enumeration areas) to obtain the de facto and de jure population;
- (b) continuous recording of vital events by part-time enumerators in the sample areas;
- (c) independent six monthly survey of births and deaths in the sample areas by full-time supervisors;
- (d) matching of events enumerated in the continuous recording exercise with those listed in the half-yearly surveys;
- (e) field reverification of unmatched and partially matched events.

As stated earlier, it was expected that the methods and procedures which would be developed under the sample registration system would be used to improve and expand the regular registration system in a manner which would bring the registration system to the doorsteps of the population and also provide vital statistical data of high quality. However, it looks as if the link between the sample registration system and the regular civil registration system has not been fully developed. In this connection, it may be worthwhile for the births and deaths registry to give consideration to the establishment of viable primary registration units where enumerators acting as notifiers would report the occurrence of events. Steps should then be taken to have the events legally registered. Thus the enumerators main function would be to feed the local registries and/or motivate legal informants to register events. The registration records of the registries in the sample areas would then be matched with the data from the half-yearly or annual surveys to obtain the required vital rates. The completeness of the registration system would at the same time be evaluated.

At the time of the mission no plans had been prepared for the systematic improvement and expansion of the regular civil registration system throughout the country using the methods and procedures developed under the sample registration system. Thus one gets the impression that the sample registration system is being developed solely for the provision of reliable and representative vital rates for the country. If that is the case then the other aspects of a registration system are being ignored. In this connection, it should be pointed out that the development of vital statistics is not a function of the Births and Deaths Registry but rather that of the Central Bureau of Statistics.

It is my view that the working relationship between the Births and Deaths Registry and the Central Bureau of Statistics needs to be well co-ordinated and strengthened so that the Central Bureau of Statistics would not only be responsible for the statistical processing of the registration report forms completed at the births and deaths registries but also the evaluation of the registration system through a continuing programme of household surveys.

Due to time constraint, it was not possible to undertake a thorough assessment and evaluation of the full impact of the sample registration system on the regular civil registration system. It is expected that such an evaluation would be undertaken during the next mission and the question of the establishment of viable primary registration units would be examined.