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UN ECONOMIC COMMISSION FOR AFRICA
AFRICAN CENSUS PROGRAMME

REPORT ON MISSIONS TO MALI

by

Willard P. Hess

Regional Data Processing Adviser

(13 to 23 October 1975)

and

K.T. de Graft-Johnson

Project Officer

(31 October to 10 November 1975)

Addis Ababa
December 1975

This report has not been cleared with the United Nations Office of Technical Co-operation and the views expressed therein are therefore not necessarily those of the United Nations.

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REGIONAL CENTRAL BUREAU

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1. Introduction

The missions were undertaken in two parts: Mr. Hess from 13-23 October 1975 and Mr. de Graft-Johnson from 31 October to 10 November 1975. For convenience, it was decided to present a joint report.

Meetings were held with the United Nations Resident Representative, Mr. Schellenberg and his deputy, Mr. Menil and with Mr. Hamady Sow, the Chief of the Central Census Bureau, and his senior staff. Discussions were also held with Mr. Purdom, a member of an OTC team on administrative reform in the Republic of Mali. Throughout the mission, Mr. S. Looky, Regional Demographic Adviser who has been acting as country census expert in Mali had frequent discussions with us and acted as interpreter to the Project Officer whenever necessary. Valuable discussions were also held with Mr. P. Matter, UN Cartographic Adviser.

The purpose of the mission was three-fold:

- a) To examine the progress so far made in the preparations for the population census, scheduled for December 1976 and in particular to review the preparations for work in relation to:
 - i) Cartography
 - ii) Publicity
 - iii) Questionnaire, manuals and other ancillary documents
 - iv) The setting-up of a field organisation
 - v) Data processing plans.
- b) To examine the plans made for the pilot census scheduled for December 1975 and to make recommendations for the conduct of this pilot census.
- c) To promote studies on the nomads of Mali as a necessary preliminary step for a trial enumeration in January 1976 (or at least before the end of April 1976).
- d) To make other general recommendations on administrative, technical and related matters which would help to make the census a success.

2. Cartography

Mr. P. Matter, the Cartographic Expert, arrived in Mali on 6 October and started cartographic work in connection with the census immediately. He inherited a team of 20 cartographic assistants who were given some form of training by Mr. Lubin, the former Census Expert. These assistants had been thoroughly re-trained by the time of our visit and were ready to start field work. A short delay in the start of field work, due to start on Monday, 10 November, was expected due to the rather cumbersome recruitment procedures being used to engage drivers. It is expected that these procedures would be streamlined and that at least four drivers would be able to start work soon. There was an undue delay in providing the Cartographic Section with the mobylettes which were said to have been bought and paid for sometime ago. At the time of our departure, arrangements were being made to effect the transfer of the mobylettes from the shop where they were bought to the Census Office. Such unnecessary delays have an adverse effect on the morale of officers and also on the adherence to the already tight time schedule prepared for the cartographic operations.

The accommodation at present available for housing the Cartographic Unit is inadequate but arrangements are well underway to give it more spacious accommodation in part of the building vacated by the Printing Department. Substantial

structural changes would have to be made to the building before it can be satisfactorily utilized by the Cartographic Unit.

In principle, the census maps will be based on the existing administrative structure of the country. The hierarchical structure is as follows:

Administrative Unit	No.
Cercles	42
Arrondissements	281
Villages	10,557

It is proposed that note be taken also of the 13 communes which exist generally in the large urban centres. It should be noted that the list of villages provided to the Cartographic Unit by the Ministry of the Interior is far from being complete. Apart from omissions, it also includes non-existent localities and thus the updating of this frame of villages will form an essential part of the cartographic field work. However, the main objective in the field operation will be to divide the country into Enumeration Areas. An urban EA will comprise approximately 1,000 persons (or 200 households) and a rural EA with dispersed settlements will contain approximately 500 persons. For rural areas, where the localities are not widely dispersed, the population of an EA will range between 500 and 1,000 approximately. It should be noted that "village" and "locality" are not synonymous in the context in which the two terms are used in Mali. A village is an administrative unit and could comprise several localities.

At the time of our visits, arrangements were being made for six regional staff and a Malian to be seconded from another department, the National Institute of Topography (NIT), to the Cartographic Unit to be its head. The Technical Committee of the Census decided at a meeting held on Friday, 8 November 1975, that Mr. Bokoum, the Deputy Director of NIT should with immediate effect be seconded full-time to the Census Office. Three main problems face the Cartographic Unit:

a) Lack of an oxalith machine: At present the Unit relies on the NIT for all reproductions and this has so far proved to be an unsatisfactory arrangement. As the volume of work increases considerably, the ability of the NIT to cope with the work of producing copies of maps must be seriously questioned. Two possibilities exist for overcoming this problem:

- i) The Technical Committee should instruct the NIT to give top priority to all census work and to work overtime, if necessary;
- ii) The Census Office should be provided with its own oxalith machine.

I am informed that the first alternative has only a very small chance of success.

b) Payment of Cartographic Assistants: In the original budget for the census, provision was made for the payment of the salaries of the Cartographic Assistants from the UN contribution. When the previous UN Expert left, the Census Office retained the services of these assistants in the hope that a new expert would soon be appointed to replace the old one. The process of recruiting the General Census Expert and the cartographic experts took a long time and by the time the latter had assumed duty, the previous vote for the payment

of the cartographic assistants had been exhausted. The Census Office has argued that the UN should make supplementary provision for the payment of the assistants on the grounds that the delay in recruiting a new expert was due to the UN's slow recruiting processes. Also in the period between the tours of duty of the experts it did not consider it advisable to dispense with the services of the cartographic assistants, since they had received some form of training. It was argued on behalf of the UN that the decision to retain the cartographic assistants after it was found out that there was no work for them was a unilateral one, which was taken on the clear understanding that the Mali Government would meet the resultant shortfall in the amount allocated for their salaries. It was therefore unrealistic to expect the UN to meet the additional expenditure. However, the matter would be referred to UN Headquarters for their decision.

- c) Aerial photography: Maps for the rural areas of the country exist, generally on a scale of 1:200,000. Maps of various scales exist for some of the urban centres. The Cartographic Expert considers that the best way of producing maps for the urban areas for which no maps exist at present is by aerial photography. The minimum cost of such work is estimated at 13,000,000 FM (or about \$3,000). No provision was made in the budget for this and the Expert is exploring the possibility of obtaining the funds for these maps by other methods, should the money for the aerial photos not be forthcoming. The towns for which aerial photography is considered necessary are Bamako (eastern suburb), Mopti, Kati, San, Koutiala, Kita, Bougounni, Bandiagara, Banamba, Kolokari and Doucutza.

3. Questionnaire, Manuals and other Ancillary Documents

At the time of the visit, a draft questionnaire was ready for printing. The questionnaire items were: name, sex, age, relationship to head of household, marital status, place of birth, type of residence, nationality or ethnic group, religion, instruction, profession, births and deaths during the past 12 months. Modifications to the questionnaire were proposed. The main modifications related to the questions on education and economic characteristics. The questions on education were amended to obtain information on school attendance as well as level of education. The proposed amendments for education were:

- a) i) Have you ever attended school? Never Past Now
- ii) If now or past, what is the highest grade completed in the highest school attended?
- b) i) During the past week did you work for pay or profit? Yes No
- ii) If no, how were you mainly occupied? Home maker Unemployed
 Student Disabled Other specify
- iii) If yes to (i), what was the major product or service of the establishment where you worked.
- iv) What was your employment status?

These changes were accepted and included in the questionnaire. However, in the French formulation of the questions the time reference of one week appears to

have been left out. It is essential that this time reference of one week be included in the questionnaire to avoid any misinterpretation.

There were other sections of the existing questionnaire which were suggested for deletion. These relate to the births and deaths during the last 12 months, religion, marital status and languages written. It seems to us that these questions should be included in the sample survey which is scheduled to take place about a year after the census. Questions on fertility and mortality need greater care and therefore do not lend themselves easily to investigation in a full scale census. More detailed questions are required, than can probably be included in a 100 per cent enquiry. In general it should be noted that in considering which questions to include in a census and which to reserve for the sample survey, the discriminating criteria include need for the data on a small area basis, precision of the information required, ease of obtaining the required information. In applying these criteria to the present formulation of the Malian questionnaire therefore the questions suggested for deletion appear not to satisfy the criteria. However, for the pilot census it was decided that all questions should be tried to test their suitability before any deletions are made.

4. Administration

The Government has established a Bureau Central de Recensement (BCR), with a Director of the Census who is also the Director of Statistics and the Secretary of the Plan. In addition there is the Chief of the BCR. In view of the many responsibilities of the Secretary of the Plan and Director of Statistics, it is essential that he delegates most of his responsibilities as Director of the Census to the Chief of the BCR to ensure a more efficient functioning of the BCR. This is specially necessary during the critical planning months which lie ahead.

The UN has appointed an Administrative Assistant to control the use of the UN vehicles and stores, and in general to provide administrative support to the UN staff attached to the census project. This Assistant who is a local recruit was appointed about the time of my arrival. During the ten days' stay of the Project Officer, this Officer did not appear to be performing any useful functions. This seems to be due to the fact that he had received no training for his job. This question was raised with the UN Resident Representative and he gave instructions that the Administrative Assistant be attached to his office for training purposes.

One of the duties of the Administrative Assistant is to exercise proper control over the UN vehicles assigned to the census project. There is need for a tighter control over the use of these vehicles; otherwise there would be a temptation to assign vehicles to persons or departments with little or no interest in census work. The UN Resident Representative is aware of this problem and is taking steps to ensure that there is no misuse of the census vehicles. However, should the Administrative Assistant appointed turn out to be incapable of carrying out his functions satisfactorily, the question of his replacement should be considered at an early date. His appointment, I am told, is initially for a period of three months and therefore a careful review of his performance at the end of that period should be undertaken.

5. Field Organisation

The Government has approved the establishment of regional bureaux of the census (BRR) in each of the six regions of Mali. The decree establishing the BRR stipulated that the heads of the regional planning offices should be the heads of the BRR. At the time of our visit, there was a plan to appoint the heads of the

regional offices of the Bureau of Statistics as heads of the BRR. It was suggested by the Project Officer that the original decision by the Government should stand but that the regional heads of the Bureau of statistics can act as de facto heads of the BRR while the regional heads of the planning offices act as de jure heads. It is hoped that this conflict between the decree establishing the BRR and what the BCR has actually done would be solved as soon as possible to enable the BRR to carry out its functions as efficiently as possible.

There is the need also to appoint in the BCR a census field organiser who will be responsible for the co-ordination of the field work. Such a field organiser should have organising ability and should be able to command respect among the regional heads of the BRR. This means that the field organiser should be of sufficient seniority and where such a person does not exist in the present BCR, it may be necessary to secure the secondment of a suitable person from another department or ministry for this purpose.

It is expected that teachers would be used mainly for the field operations (i.e. as enumerators and controllers). However in view of the number of teachers available in the country, it might be necessary to use students also as enumerators in certain areas of the country. The exact numbers of enumerators, controllers, supervisors recorded for the census can only be worked when the cartographic work is completed. In the mean time, provisional estimates have been worked out based on an estimated population of approximately 6,000,000 and enumerator to population ratio of 1:1000 in urban areas and 1:500 in rural areas. These estimates are included in the two technical documents prepared by Mr. Looky who was acting as country expert in absence of a substantive country expert. These two documents have already been distributed.

6. Enumeration of Nomads

At the time of the missions, the BCR did not have sufficient information on the social organisation and behavioural patterns of the nomads to enable us to make any meaningful proposals for their enumeration during the census. In fact it was not possible even to formulate plans for a pilot census relating to nomads. During the course of the visits, attempts were made to obtain information on nomads from the Ministry of Interior and other related departments but these were not successful. It appears very little is known about the nomads in Bamako. In the circumstance, the BCR was asked to carry out a study on nomads. This study would be in two parts:

- a) A review of the literature on nomads. There are publications such as Bokar N'Diaye's "Groupes ethniques au Mali" which contain information on nomads. We also gather that a number of studies on the Touregs, one of the nomadic tribes in Mali, exists. In a review of the situation with the Resident Representative, it was suggested that contacts be made in the field with knowledgeable persons in the areas, such as priests, who have been ministering to the nomadic tribes for some time.
- b) An officer from the BCR was to visit Gao and Kayes regions to obtain information on the nomads. There would be the need for further visits by Mr. Maitra, the Regional Adviser on Sampling, or the Project Officer in January or February to prepare for a pilot census of nomads in April.

7. Pilot Census

Discussions were held with Mr. Looky and senior members of the BCR with regard to the selection of areas for the pilot census. It was agreed that at least five enumeration areas per each province be selected and that different kinds of populations (e.g. urban, rural with compact settlements, rural with dispersed settlements, easily accessible areas, very difficult areas) should be selected possibly for this pilot census. With the assistance of the staff, certain areas were selected and the pilot census should begin in December. At the time of our visit, the questionnaires, the manuals, the controller's manual and record book and the training guide for district officers were not ready. The draft of the questionnaire to be used for the pilot census was ready before we left and the other census instruments were being prepared.

8. Budget

Of the 34 vehicles provided for in the project, 29 have been delivered. Unfortunately due to the late start of the cartographic operations most of these vehicles have been stored in the compound of either the UN Resident Representative's residence or the UNDP Office. But it is expected that when the census preparations get underway these vehicles would be required and satisfactory arrangements for their parking after office hours will be made. The request was made that the five remaining vehicles should be converted to 404 Bachée and that these five could be purchased locally. The mission undertook to bring this to the attention of OTC.

Two items under the budget called for further clarification from OTC since the Project Document which was shown to me by the Chief of the BCR was rather vague on the two items. Provision was made in the budget for a pilot census but it was not clear what items of expenditure were to be charged to that sub-head. For example, could the travel expenses of the senior staff of the BCR in connection with the pilot census be charged to that sub-head? The second problem related to "local staff expenses". Again, it was not clear whether the travel expenses, including per diem calculated at Mali Government rates, were to be charged to that sub-head.

The Project Officer discussed these points with the UN Resident Representative and also undertook to bring the queries to the notice of OTC, during his planned visit to UN Headquarters.

9. Census Publicity

Plans had been made for census publicity and a Committee on Publicity was to be created. The suggestion was made that the Committee should be enlarged to include representatives of women organizations, the youth, trade unions and representatives of the main religious groups in Mali. The Technical Advisory Committee was unable to accept the inclusion of representatives of the main religious groups in the census Publicity Committee, as it was argued that they could not make any significant contribution to the work of that Committee. It was also suggested that the Committee should commission the preparation of school lesson notes based on the census together with other publicity material which would be distributed throughout Mali. The need for the recruitment of a Malian with expertise in the communications field was emphasised. It was not considered appropriate to assign the co-ordination of publicity work to one of the statisticians in the BCR since the statisticians were required for other types of work and, in any case, had no expertise in this area of census activity. Such co-ordination can be done by a person seconded by another ministry.

Currently the Processing Centre has a Systems Analyst and three programmers using two Honeywell-Bull Gamma 10's in a small scale punched card processing system. The equipment is quite old, out-dated and inadequate for processing the census. However, the staff is very busy with other assignments and as clearly stated by the Director of Statistics, could not be made available for census work since it was not possible to spare them from their present duties. Some suggestions have been made to up-date the equipment to the Honeywell-Bull series 60*. There is need to train urgently three programmers specifically for census work. The plans for the training of the programmers must be formalized as soon as possible. It is also necessary that the equipment for data capture and processing be indented as soon as possible since it takes more than ten months to deliver. Honeywell 60 series computers are in use now at the Government owned utility company, the partially Government owned bank and at Somiex, a Government Trading Company. It should be possible to arrange for limited use of this equipment for training and small scale operational jobs. Additional training by Honeywell may be obtained in Abidjan, Ivory Coast.

10. Data Processing

Rough estimates of equipment needed for data capture are:

- 12 punching
- 8 verifying
- 60 operators on a 3-shift system.

There are operational difficulties which would have to be examined more closely if a 3-shift system is adapted. For example, male operators would have to work on the two late shifts. It is proposed that the UN Statistical Office sends out its Data Processing Expert to examine the position as soon as possible so that the order for the machines can be placed without further delay. Our recommendation that the conventional punching and verifying machines should be used rather than "key to tape" or "key to disc" is based on our knowledge of the situation in Mali.

Experience in at least one African country which has just completed its census would tend to suggest that the BCR and not the Data Processing Centre (which is under the Director of Statistics) should have responsibility for keying the data. Accommodation is available in the present premises of the BCR for 16 punching and 8 verifying machines but special arrangements would have to be made for the computer.

Problems of the frequent cuts in electricity supplies in Bamako as well as fluctuations in the power supply would have to be examined and adequate measures taken before processing of the census data is undertaken.

It does seem highly desirable for the UN to provide some guidance in the updating of computer and the training of staff for the use of computers. There appears to be a desirable alternative to extensive use of the services of the Regional Data Processing Adviser in Mali. We strongly urge OTC to expand the responsibility of Mr. Purdom, Data Processing Adviser of the Administrative Reform Project (MALI 71522) to include the functions described above. Mr. Purdom should be given all information relevant to the processing of the census. In this capacity he would then advise and report on the development of the data processing capability of Mali. It is our understanding that Mr. Purdom performs a similar function in his current assignment and that he has had an appreciable experience with medium scale data processing.

* Honeywell is the only company operating in Mali at the time of the missions.

11. Meeting of the Technical Committee

The Project Officer attended the meeting of the Technical Committee which was convened to consider the technical problems of the census. A copy of the agenda for the meeting in English is attached (Annex I). It should be pointed out that the Technical Committee for Mali differs from other technical committees which have been set up in other countries. While the other technical committees tend to concentrate in technical matters such as the content of the questionnaire concepts, definitions and classifications and the tabulation and publications programmes, this Committee concentrated mainly on administrative problems. If the decisions of the Committee are implemented, this will go a long way to making the work of the head of the BCR easy. However, after the meeting which we attended it appeared that a number of the decisions taken by the Committee were not likely to be implemented with immediate effect. If the Chairman of the Central Census Committee did not take any action to ensure the implementation of the decisions of the Committee, there might be some difficulties in implementing the decisions of the Committee. A typical example is the decision by the Committee that a senior officer from the National Institute of Topography should be seconded with immediate effect to the Census Office to serve as the country counterpart to Mr. Matter, the UN Cartographic Expert. This decision was not implemented by the Director of INT on the grounds that only his Minister could instruct him to transfer that senior officer. In spite of these difficulties, however, I think that this Committee is doing useful work and should meet more regularly to help the Census Office to carry out its functions efficiently.

12. Conclusion and Recommendations

Due to the initial plans formulated by Mr. Looky of ECA who has been acting as Country Expert for the past three months or so, and with the support of the senior staff of the BCR, considerable progress has been made in the preparations for the Malian census. Drafts of the main census instruments were either available or near completion. These drafts will be reviewed by the ACP regional staff in the absence of a country expert, and recommendations for the improvement of these basic documents.

Administrative problems have delayed the start of the field work for census mapping. But in view of the fact that Mr. Matter, the UN Expert, has a practical approach to census mapping does not at this time foresee any delays in meeting the deadline for the completion of the field part of the cartography. However, administrative problems seem to abound and unless these problems are solved early preparations for the census could get bogged down. Procedures for recruitment are somewhat cumbersome specially as many of the personnel are to be temporary employees, some of whom, are required for only a few months. There is need therefore to discuss with the Technical Committee ways and means of streamlining the recruitment procedures to cut down the waiting time between appointment and assumption of duty.

The following are our recommendations:

- a) The administrative procedures in the BCR should be streamlined, especially with respect to the recruitment of temporary staff.
- b) Copies of drafts of the Enumerator's Manual, the Controller's Manual and Record Book and the Training Guide for Supervisors (District Officers) should be sent to the Project Officer, ACP for his comments.

- c) The pilot census, scheduled to be conducted in December 1975 should be used to test as many aspects of the census plan as possible e.g. census mapping, field organisation, suitability of questionnaire design and content, coding, punching and, if possible, basic tabulations.
- d) The studies on nomads should be completed in time by the BCR to enable the ACP mission in late January or early February to make proposals for the trial enumeration of nomads in April 1976.
- e) A counterpart for Mr. Matter should be appointed immediately. This counterpart should work full-time in the Census Office.
- f) The Publicity Committee should start functioning as soon as possible and should draw up a more detailed plan of action than is shown in the Technical Reports prepared with the assistance of Mr. Looky.
- g) A Field Organisation (or Field Operations) Division should be set up within the BCR to deal with the recruitment of field staff and all logistic problems connected with their training and also the main census enumeration.
- h) An early assessment of the data processing equipment needs by UN Headquarters is essential so that indents for the required equipment can be placed in time.
- i) At least three trainee-programmers should be selected for training in either Abidjan or elsewhere so that these programmers can assist the processing of the census data. It is recognised that such trainee-programmers will not contribute too much to the work in the census but the earlier they are trained the greater the likelihood of their contributing to the data processing capability of the Census Office.
- j) There will be the need for a Data Processing Expert for the census.
- k) A complete review of the budget item on data processing will be necessary, after the UN Headquarters mission has decided on the type of data capture and computer to be used for the census.
- l) The Chief of the BCR should be given more authority to deal with the day to day activities of the Census Office, in view of the preoccupation of the Director of Statistics (and Director of Census) with other matters of state.

The first census should be conducted in January 1970. It should be used to test as many aspects of the census plan as possible e.g. census method, field organization, suitability of questionnaire design and content, coding, punching and tabulation.

The studies on census should be completed in time by the RPS to enable the UN mission in late January or early February to make proposals for the final enumeration of houses in April 1970.

A committee for the RPS should be appointed immediately. The committee should work full-time in the Census Office.

The Technical Committee should start functioning as soon as possible and should draw up a detailed plan of action. It should also be kept in the Technical Section's progress with the assistance of the RPS.

A Field Organization (or Field Operations) Division should be set up within the RPS to deal with the recruitment of field staff and all logistic problems connected with their training and the main census enumeration.

An early assessment of the cost of producing a report needs to be made. It is essential to find out what the various equipment can be placed in time.

It is felt that a training programme should be started for training in either statistics or computers as part of the programme. It is essential to start the preparation of the census report as early as possible. The training programme will not contribute too much to the work in the census but the earlier they are trained the greater the likelihood of their contributing to the data processing capability of the Census Office.

There will be a need for a data processing expert for the census.

A complete review of the budget for the census is necessary. It is necessary to see the UN budget situation for the census. The type of data capture and computer to be used for the census.

The Chief of the RPS should be given more authority to deal with the day to day activities of the Census Office, in view of the presentation of the Director of Statistics (the Director of Census) his other various duties.

Agenda

1. Confirmation of minutes of last meeting.
2. Matters arising out of the minutes of last meeting.
 - a) Accommodation for BCR
 - b) Secondment of staff
 - i) Cartographer from INT to act as homologue to Mr. Matter
 - ii) One middle-level cartographer for each region
 - c) Release of teachers and senior students for census enumeration
 - d) Enumeration of nomads
3. Progress Report
 - a) Cartography
 - b) Preparation of questionnaire and ancillary documents
 - c) Communications (Mass Media)
 - d) Field organisation
 - e) Data processing
 - f) Tabulation and publication programme
4. The Pilot Census
 - a) Areas selected
 - b) Arrangements so far made
 - c) Arrangements to be made
5. Budgetary Problems
 - a) Establishment of imprest account for BCR
 - b) Others
6. Administrative Problems
 - a) Census staff
 - i) Head office
 - ii) Regional offices
 - b) Supporting services - Head Office
 - i) Telephone
 - ii) Electricity
 - iii) Supply of petrol
 - iv) Census office sign
7. Any other business.