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# SYNOPSIS OF AFRICAN CENSUSES

METHODOLOGICAL MONOGRAPHS

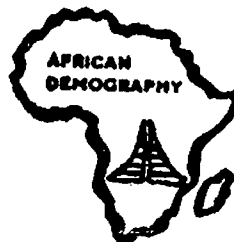
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## MAURITANIA

(Provisional Version)

— TRANSLATION —

Accra



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# THE POPULATION CENSUS OF MAURITANIA: 1976 - 79

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## INTRODUCTION

The 1976-77 Census is the first one ever conducted in Mauritania. The operation took place as follows:

From December 22, 1976 to January 5, 1977 only the sedentary population was enumerated, and the enumeration of nomadic population took place from late January 1977 to April 1977.

In 1964-65 a demographic sample survey was organised on a national level, covering only the rural areas, not the urban centers. In 1972, it was decided to organise the 1976-77 Census and at that time the data from the 1964-65 survey had already been considered useless because the observed change, due to urbanization and settlement of the nomad population as well as the drought seemed to be very important. All these phenomena had not been correctly measured during the demographic survey.

On the other hand, data from the administrative censuses were available but those were only records kept in the traditional areas for administrative and rural purposes and they contained many errors. These records could not provide the necessary information to study the Mauritanian population, further, because of the drought in the whole Sahel, the censuses had been cancelled for the past six years.

It was obvious to anybody studying the population of Mauritania, that the demographic situation must have changed notably during that period.

The introduction of modern transportation, working of the mines in the north of the country, development of school attendance, health facilities, diffusion of new conscription habits, and a new ideology have modified the traditional social structures and the old ways of living. The French colonisation introduced a light administrative structure (the country was administrated from St. Louis in Senegal) with very little influence on the local society.

The Mauritanian population is divided into 2 ethnic groups: the Moor and the Black. The Moor are traditional Arab-speaking nomads while the Black, in the south, are sedentary farmers using regional African languages (Wlof, Soninke, Poular, Bambara). The total population in 1965 as estimated by the 1964-65 survey was 1,030,000 divided into 771,000 nomads\*, 199,000 rural sedentary persons and 100,000 people living in "urban" centers (administrative chieftowns).

The provisional census results show the changes occurred during the last 12 years: On the 1st of January 1977, the estimation of the total population was 1,420,000 of which only 514,000 were nomads but 906,000 sedentary persons out of which 311,000 are settled in "urban" centers (these urban centers are defined as centers with more than 5,000 inhabitants and include also the regional chief-towns). Half of the nomadic population settled down and urbanisation increased rapidly; especially Nouakchott with a population of 12,000 in May 1964 increased to a total population of 135,000 in December 1976, which means a growth rate of 27% per year. It has to be mentioned that the drought of the years 1970 and 1975 has probably accelerated the sedentarisation and urbanisation processes.

The decree No.73101 of April 24th 1973 decided the organisation of the census and created the bodies responsible for the census: a central bureau, that is a technical committee in charge of the technical aspects, administratively and financially independent, supervised by a national commission at an inter-ministry level. But the project really started in 1974 with the technical and financial assistance from the United Nations (UNFPA).

## ORGANISATION AND EXECUTION OF THE CENSUS

### 1. Calendar and Budget

It was first decided that the enumeration would start early 1976, but it started at the end of the year because of the crisis in the region. The operations were scheduled as follows:

- . May 1974: first meeting of the National Census Commission to define the project;
- . July-December 1974: start of work, study trips, test of the mapping methods
- . January 1975: rough enumeration of the urban centers;

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\* This figure estimates the real nomad population, because all the Moor living outside the "urban" areas were considered as nomads. In this total, more or less 650,000 people are actually living in camps.

- . February–November 1975: mapping (marking of villages);
- . April–August 1975: trial census for the nomadic population;
- . August–September 1975: trial census for sedentary population
- . November 1975–October 1976: processing of the trial census, setting up of questions and manuals, improvement of maps;
- . November–December 1976: arrangement of the logistic supports, training of the regional officers;
- . December 22–January 5 1977: Enumeration of sedentary population;
- . December 1976–January 1977: Sampling of nomadic population (community tests);
- . February 1977–June 1978: Rough manual processing correction and codification of questionnaires;
- . From July 1978: Mechanical processing (first tables expected at the end of 1978).

The average number of people working during the pre-enumeration period, excluding the temporary field staff (guides, enumeration for the trial census) can be distributed as follows:

- . about ten execution officers (secondary level)
- . 2 to 5 administrative officers
- . 5 to 15 drivers (gradually).

The supervision of the staff was done by 4 to 6 experts of the United Nations and the French Technical Assistance and 2 senior administrative officers (one Mauritanian and one from the UN) under the direction of the Director of Statistics, also Director of the Central Census Bureau.

For the enumeration of the sedentary population for the 1022 census districts, 1100 enumerators (including the "reserve"), 197 verifiers and 49 supervisors (minimum one, for each department) were appointed; to which have to be added more or less 50 drivers and a number of occasional helpers (for instance, guides) provided by the local administration. These people were selected among students and teachers: secondary school students as enumerators, primary school teachers as verifiers and secondary school teachers as supervisors. The appointment of these people had some influence on the choice of the census date. As the census operations lasted longer than was expected, these people were not recruited for the enumeration of the nomadic population. For this second operation, the permanent staff was organised into enumeration teams: one enumerator and one verifier in each team. Thirty-four teams were set up throughout the country and they used the same vehicles and drivers as during the first operation (sedentary population). 14 regional supervisors for the sedentary areas and 6 "zone" supervisors for the nomadic areas were in charge of all the above mentioned staff. As a matter of fact, any Mauritanian with statistical training was mobilized for the census.

The vehicles used for the pre-enumeration operations and the main census were exclusively jeeps; about 20 vehicles from the Central Census Bureau supplied by the U.N. (but delivered gradually starting from June 1975, only the first field operations were done with 3 old vehicles from the Direction de la Statistique), later, 30 old vehicles from other central administrations were requisitioned and about 10 were lent by the regional administrations when necessary. This means an average of 21 agents per vehicle whereas the surface area of the rural districts was about 500km<sup>2</sup> (excluding the desert areas), which was of course insufficient according to the working conditions of Mauritania, and was even less than was required by the Census Bureau. The transportation problems were overcome because the enumerators and other officers used, in many cases, their own transportation (donkey or camel or on foot) when they had to travel very long distances.

As for the other material problems, such as questionnaires, files, pens etc. which were provided in a satchel, and petrol, stocks had been constituted and brought to the region before the operations started. A special effort was made for the equipment and the general supply for the enumeration, these things were of low cost as compared with the salary and the transportation expenses.

The global cost, including processing and the technical assistance which represent an important part of the budget because of the high level of the salaries, should not exceed 2 million dollars (on the basis of an average rate of 45 UN = 225 cfa). If only the enumerated persons are taken into account, the average cost per person is estimated at a little less than 2 dollars per person (this means a total of 1,051,000 persons of which 998,000 persons in the sedentary areas, including the absentees and the nomads who were excluded later, and 53,000 out of the sample of nomads). The cost per capita is reduced to 1.44 dollars if the Mauritanian population is considered.

## 2. Pilot Census (trial census)

As mentioned above, trial censuses were organised during 1975, in the nomadic areas as well as in the sedentary areas. On the other hand, the enumeration of the population in urban centers, organised in January 1975, was initially meant to get useful data for the sub-division into census districts (2), and allowed also within certain limits to test the organisation of the census and the reception of the population (which was very good). This operation consisted in listing houses and households, in the chief towns and the other localities of more than 5000 inhabitants.

The trial census in the nomadic areas concerned nomads connected with 2 different departments. Chinguetti in the North and Tamchakett in the Center. A distinction has to be made in between the population estimated according to the administrative location (traditional communities are "registered" in a demparment) and according to their place of residence or the place where they stay effectively. In fact, the members of a nomad community may be connected with a department because their historical basis is fixed in that department or because their chief resides in the department but they may stay very far from that point. These two ideas are different and the difference increases with urbanisation and rural exodus, especially for nomads. The two selected departments (Mauritania was divided into 53 departments including the 5 wards of Neouachott, each being considered as a department) gather about 7% of the total nomad population, with different situations (important dispersion, important role of settlement for the population of Chinquette, but predominantly nomadic and concentrated for the population of Tomchakett). These trial censuses were useful because they showed that it was impossible to enumerate the nomads exhaustively on the basis of the lists communicated by the heads of the communities like it was done during the previous administrative censuses, because of the great number of omissions and the important number of errors in the lists. On the other hand, the trial census used only a sample of the nomadic camps, sample based on those lists, and it was found that this method was satisfactory so that, even for the main census, only a sample of the population would be enumerated. The trial census also gave the organisers the opportunity to improve the questionnaire before the final version was adopted.

The trial censuses of the sedentary population were unfortunately limited, the rainy season made the organisation during the second half of 1975 very difficult. The tests concerned the whole department of Amourj in the South-east of the country and a few districts of Nouakchott and Rosso. However, these experiences improved the questionnaire by changing some questions on residence, age, place of birth traditional education, etc and by removing questions on natality and mortality giving unsatisfactory results (these questions were maintained for the nomadic population because the sample method necessitated better trained enumerators; even if the questions were put in a wrong way, they would not affect the quality of the other data).

### 3. Scope of the Census

The de facto population was the target population which means that even the foreigners who spent the reference time in Mauritania were included while the Mauritians living abroad were excluded. However data were collected on persons usually living in Mauritania but who were absent for a short time (6 months) during the census. When the small number of foreign residents is neglected the obtained data concern the resident population of Mauritania. Finally, the community lists of the Mauritanian nomads moving seasonally to the neighbouring countries (frequently in the south-east of the border with Mali) would give some indirect information. With this last category included, the obtained "total" population may be compared with the previous estimations.

The main peculiarity of the Mauritanian census is the juxtaposition of two questions carried out on 2 different populations; the sedentary population and the nomadic population. The two types of population were defined according to their usual place of residence:

- . sedentary population, households living more than 6 months per year in a village, i.e. in inhabited area with at least one irremovable dwelling.
- . nomadic population: households living most of the time in camps or in camp areas, i.e. in inhabited areas with only removable dwellings (huts or mobile tents).

According to these definitions, selected because they fit very well the social reality in the country, the nomadic and the sedentary population are tangled throughout the country. The choice of the census date had its importance, as it was necessary to select a period with less seasonal migrations so that the population was seized in approximately "usual" situation. This condition is satisfied around December-January. On the other hand, February-April, as it was the case for the nomadic population, seemed to be a little too late, but practically it was impossible to organise both operations at the same time. The final nomadic sample involved 53,000 people, about 12% of the concerned population (447,000 nomads in Mauritania) but their distribution on the country was not uniform because the sample rate was higher in department with a less important number of nomads in order to preserve a minimum of precision for the estimates on a detailed geographical level.

### 4. Mapping Enumeration Units

As for the sedentary population, the current enumeration units have been used, i.e. the districts divided on a geographical basis. Important problems arose with this division because more than 50% of the villages

were not on the existing maps (as most of the villages have been set up recently and nearly no town maps were available. In all the cases, the techniques used were very simple, they were adopted to the conditions and even sometimes they were original: location of villages from 3 directions by means of a compass, use of enlargement of photographs from a small plane flying at low altitude (some proofs of these photographs were given to the enumerators as cartographic documents). These techniques were quite satisfactory for census held in sparsely inhabited areas.

For the nomadic population, the camps were used as reference, as they were clusters to be surveyed entirely. The camp was defined as a group of households moving or settling down together the whole year. The camps of the sample were selected by means of an original process: a sample of people was drawn from the lists of members of each community and for each selected person, all the members of the camp were interviewed (cluster). This method was used instead of the one where a list of all camps had to be established, which was impossible to realise for financial reasons, and also because some omissions would be included in the lists (the camps of which no member was listed were excluded from the sample). On the other hand, the matching of the persons on the list and those interviewed in the camps would be difficult. The probability of each camp to be selected in the sample will have to be calculated afterwards.

##### 5. Accomplishment of Operations

The census enumerators appointed for the enumeration of the sedentary population were selected among the students and the teachers. They were available only from December 10, i.e. 12 days before commencement of the operations, so that their training in the various regional chief-towns could not take more than a week, which seem to be insufficient. The supervision assigned the enumerators to their enumeration district. Only the supervisors had cars, while the enumerators and the verifiers (one for 5 enumerators) had to use local transport which did not allow many contacts between enumerators and verifiers. The task of verifiers was to re-enumerate 5% of the households, selected arbitrarily, and to compare their results with those of the enumerators, but this was not possible everywhere, on the other hand, the verifiers had to sign all the documents produced by the enumerators (this was rather a moral control than a real control on the enumerators work).

The payment of the enumerators was divided into two parts: a fixed day's pay starting from a minimum required amount of labor and task payment. This system was used in order to conciliate the needs for effective-



ness and the necessity to discourage unsatisfactory work. However, the re-enumeration levels were sufficiently high to be inciting: for instance an average 45,000 for the enumerators. In order to minimize the possibility of double count, a nominal and numbered "census bulletin" was given to each household, which, of course, made control (unknown to the enumerator) much easier.

Because of the lack of detailed village maps and the deficiency to identify and to locate the dwellings (huts or tents) only the households were numbered not the houses. As mentioned above, the enumerators had to enumerate all the villages for the sedentary population census which, according to the definition, could mean only a few houses in the middle of several tents. The villages in each district should have been listed but the enumerators had to verify if no village was omitted (either because it was a mistake, or because it was a camp recently converted into a village). An important number of new villages (322 for an initial total of 2,444) were added to the initial card index. However, 176 villages listed in the card-index were not enumerated either because they were empty, or because the enumerator could not trace them (but among those 176 villages, 110 were said to be occupied the whole year through, and with less than 20,000 inhabitants). It is probable that among these new villages there are small listed hamlets or villages the enumerator identified under another name.

The enumerator had to enumerate all the households present in each village, including the transients and the nomads temporary present. These two last groups had a special code in order to be identified easily and to be excluded from the totals when necessary. Within the households, the usual members and the visitors present the night before had to be enumerated (mobile reference date) with a distinction between the present members and the absent members. The aim of these instructions was to reduce as much as possible the omissions or the errors if one of these groups were excluded of the counts. With these definitions, the de facto population of each geographical unit would be obtained but at the same time, a more elaborate card-index of the population would be obtained but at the same time, a more elaborate card-index of the population would be used as sampling frame for further studies.

However for the nomadic population these deficiencies did not appear because at the time of the survey, only a few village dwellers were present in the camps, excluding the individual visitors who were very few (whereas, during the rainy season and until December, it is common to find all households of city or village dwellers in camps.

Some members of the nomadic household may have been absent the night before, because they took some animals to the market or because they were looking for some lost animals, etc. Now, we saw that the treatment of the survey data required to recalculate the probability selection of the unit after having analysed the composition of the camp and the presence of its members on the community lists. A precise definition of the camp units, with well defined and stable limits, was required during the survey, that is why the definition of a camp was so restrictive: the camp being a number of nomadic households living together with the "pilot person" the whole year. All the usual members of the household were considered, including those members absent for a short time but excluding members of the family usually residing separately, so it means that at the household level, the "de jure population" was considered. However, at the level of the geographical localisation, "the de facto population" was used, the nomadic camps were enumerated in the department where they were localised without trying to put them back in their department of "residence".

The reception of the nomadic as well as the sedentary population was excellent. The project had been introduced to the people by radio broadcast one month before the beginning of the operations; special programmes were broadcast daily in all the national languages. Other means of publicity were used such as posters and match boxes but the radio touched the largest audience as there is at least one transistor radio in each village. This warm reception has paradoxically increased some of the difficulties of the census: i.e., the separation avoiding double count of nomads and sedentary population, the enumeration of the sedentary population was the first perceptible operation, the one the radio mentioned daily (the operations concerning the nomads, at the same time, were limited to the establishment of the community lists and this operation was much more discreet) consequently, nomads settled in villages in order to be enumerated. However, the local authorities tried to include in the population of the village some camps outside the village in order to increase the population of their locality. Fortunately, a test question was included in the questionnaire addressed (asking each household if they were interviewed or not during the "village" enumeration) to the nomads, and so the necessary corrections were made.

## 6. Data Processing

As usual, the data processing was done by means of a computer. The processing is still in progress and is expected to be completed in 1979. Provisional results were published in November 1977. These results were obtained on one hand from some recapitalary totals compiled during the field operations and on the other hand from a 5% sample of the questionnaires

addressed to the sedentary population and all the questionnaires from the nomadic. The provisional results were processed manually, they concern some important demographic indices\*.

Before starting the coding, the questionnaires were controlled and automatically corrected, especially for the nomadic population because the enumeration was in fact a sample survey.

For the nomads a "pointage" operation was undertaken: each enumerated member of a camp had to be pointed in community list, then it was possible to calculate the probability of the camp to be enumerated and finally the weight to attribute to each camp during the processing were determined.

The questionnaires were drawn in such a manner that the coding could be done directly, reducing the risk of errors and making control more easy. The codes were numerical. The agents controlled about 1,000 persons a day and they coded about 400 persons a day with less than 1% errors.

A computer, IBM 3742 taped the data on mini records. In average, twelve operations were needed, they were divided into 2 groups working 7 hours a day, 5 days a week during 6 months. The total of the figures was 49 million which means 9000 figures an hour. This efficiency was satisfactory for inexperienced operators of middle school education and two months' training.

An advanced computerized control of the coherence of the data showed an error rate of about 2%, all causes together (initial content, codification, processing). This rather low rate of errors was due to the preliminary operation "verification-correction" preceding the codification. Considering this result, it was decided to check the file entirely manually case by case. An IBM System 3-10 computer was used for the checkings and tabulations.

### C. QUESTIONNAIRE DEFINITIONS

#### 1. Form and Shape of Questionnaire

Two types of questionnaire were used, one for the sedentary population and one for the nomadic population. In the two cases, they were collective questionnaires based on the classical principle of the household form.

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\* Seconds resultats provisoires du recensement general de la pop. - Bureau centrale du Rec. - B.P. 240, Nouakchott.

The forms were prepared for a direct codification but no questions were precoded at the collection stage. Except for the occupation, no question was opened and any type of answer was enumerated exhaustively or with a code in the enumerator's manual.

It has to be noted that the household form for the nomadic population was altogether simplified and more complete. Some questions such as duration of stay at the place of enumeration, previous place of residence, act activity, occupation and industry were not included, because either these questions are not adapted to the nomads or they show no particular interest in the nomadic environment. On the contrary, questions on (total or current) fertility, mortality and life style were included in the questionnaire for the nomadic population despite the doubts one could have on the quality of these data. On one hand it was hoped that the strong selection, the better training and the important supervision of the enumerators would provide with more reliable answers. On the other hand, these questions would decrease the marginal efficiency of the survey which is much more a function of the preliminary operations: finding of "pilot persons", explanation and information in the nomadic population than the interviews of the households as such. However, considering the high cost of a survey, one did not expect to conduct a demographic survey of the nomadic population while the sample basis provided by the census would allow to undertake a demographic survey at relatively low cost in the sedentary population.

## 2. Principal Definitions

### a) Geographical

"Village" and "Camp" were already defined above but more precision is required for the definition of a village as one of the objectives of the census was to determine the population by locality (which is the smallest geographical unit). In Mauritania, the smallest defined geographical unit with territorial boundaries is the department, as there are not communes. Of course, in the traditional sedentary zones, the villages were listed by the administration because a village community with its chief is then a unit similar to the tribal community of the nomads. But, even in these regions, the administrative lists do not correspond with the reality as a number of new settlement areas were created. As for the departments populated by nomads, where the population is registered according to tribes, the new villages recently build do not exist on an administrative and legal point of view. In these conditions, empirical criterions had to be used so that any change in nomenclature was possible afterwards: the agents in charge of the cartography and the enumerators were asked to establish lists, as complete as possible. On the lists a distinction was made between any separate groups of houses or group of houses with a different name. So afterwards, when necessary, groups of houses could be associated.

b) Urban Centers and Rural Zones

In order to be closer to the international definitions, but considering the Mauritanian peculiarities, urban centers were defined as localities with more than 5,000 inhabitants. The two chief towns with less than 5000 people were included in this category. Agglomerations were not considered as distinct of the village as such, but generally Mauritanian towns have no suburbs.

c) Residence

The current international definition was used once more: a place of residence is a place where a person stays most of the year or more than 6 months.

Only the sedentary population could give some detailed information on its place of residence. Concerning this particular point, it was decided to separate into 2 questions the information to be obtained: on the one hand, the place of residence, on the other hand, the place where the enumerator met the person, so that the place of residence is the village and not the household (while, usually, a distinction is made at the household level between present residents, absent residents, visitors).

The sedentary population was classified according to their situation within the household (de facto enumeration preventing double counts) and their situation within the village (resident more than 6 months a year), temporary residents (staying less than 6 months a year) visitors or travelers.

Among the absent members of the household and concerning their actual place of stay, a distinction was made between those who normally would not be enumerated (staying outside the country or outside the camps) who were added to the present residents; and those who theoretically should have been enumerated outside the household and who were not enumerated (absent people who left for other households in the same village or another village).

d) Activity - Employment - Unemployment

Although these concepts are not really adopted to the African realities, especially in rural areas, the traditional concepts of activity and occupation were used in order to obtain the usual indices for the international comparisons. However, all these data were compiled (for the sedentary population) and grouped under one heading "situation of activity" with 10 categories:

- . 5 categories of employed actives: employer, independent worker, wage earner, non-paid worker, helper;
- . 1 category of unemployed: unemployed but looking for a job;
- . 4 categories of inactives: housewives, isolated and old people, school children and students, other inactives (including children not attending school).

The question on activity was asked any person aged 6 and above but the classification according to activity was done only for those aged 12 and above.

The main difficulty of this point came from the fact that the category "family helper" was used too often and in many different acceptations: for servants instead of "housewives", young rural children who do not attend school instead of "other inactive" or "inoccupied inactive". These errors were corrected as far as possible.

#### e) Industry and Occupation

As usual, the question on occupation was an open question. The codification of this question was done according to a specific classification better adapted to the African realities (and especially the Mauritanian situation) than the international classification.

Similarly, the international list of industries was simplified although the main groups were similar to those of the C.I.T.I.: 9 branches are listed: agricultural production, extraction industries, (water and electricity) manufacturing industries, handicraft, construction and public works, trade, transport, and communication, administration and public services, financial institutions, household and company services.

#### d) Tabulation - Population and Evaluation

The tabulation programme has to be finalized at the end of 1978 but the first tables were expected before this date. The provisional tabulation programme established in February 1978 contains 31 tables concerning the total population, 30 tables concerning the sedentary population, 24 tables for the nomadic population.

Some tables will be printed by off-set, directly from the computer listings. The final publications, with the agreement of the Government, will be available late in 1979 but the first final results will be published late 1978.

Only then will the quality of the information be evaluated by means of their internal consistency and the comparison with the previous data. The use of the census files for other surveys and studies will also be a

test of its quality. The provisional result, gives a very good impression comparing with the other African experiences and the problems encountered in the particular Mauritanian environment.