



The Fifth population census in Sudan: A census with a full coverage and a high accuracy

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Abstract:

The 5 th population census is one of the most important censuses in the history of Sudan. It is based on the comprehensive peace agreement. It provides hope for Sudanese people to build a new Sudan, with a fair share in power, resources, services and development. To achieve these goals a population census with a high accuracy and a full coverage is a necessity. The aim of this paper is to record the efforts which have been under taken by the Central Bureau of Statistics and the Southern Sudan Commission for Statistics and Evaluation as well as the support that has been given by the Sudan Government of National Unity and the International community to make this required population census a reality.

Keywords: population, population census.

1 - Background

The first Population Census was done by the British, in 1955/1956 and completed in a time span of one and a half years. It made extensive use of the traditional administration (chiefs of the tribes). Sampling was used in some difficult areas in the south and highly scattered populations in the Sahara, where chiefs were used to check their information. The total population enumerated was 10.1 million. This figure was adjusted to 10.3 million and was accepted by all the people of Sudan [1].

The second population census was done in 1973 and was delayed for five years because of the war in the south (The Addis Ababa peace Agreement was in 1972). The Total population in 1973 was 14.8 million. The preliminary result was only 12.3 million which was very much less than expected. It was unfortunate that the enumeration failed at the beginning to cover the labour camps in some Gezira areas, difficult areas in the South and the scattered Nomads in the North. The results were adjusted after the post-enumeration survey [2].

The third population census was conducted in 1983. The total population which was 20.6 million was also adjusted to 19.1 million. There were concerns about accuracy in the South due to weak logistics. It was noted that some enumerators who found it difficult to walk for long distances had used the chiefs of the tribes to fill the forms on behalf of the households [3].

The fourth population census was done in 1993 and came up with a total population of 24.9 million which was adjusted later to 25.9 million. This count did not include the rural areas in the South because of war. Moreover no comprehensive coverage of the nomads had taken place due to lack of logistics. In the 4th Population Census the proportion of the nomads had come out to be only

3% while it was 11% in the previous census. In addition an over count was noticed in some areas where inhabitants wanted to increase their sugar ration [4].

2- Analysis And Comparison

The 1956 Population Census was the most accurate census in Sudan compared with the others. This population census has become the standard basis for all subsequent censuses [5]. All the subsequent censuses were adjusted according to that census as noted in the previous section and can be easily seen by the systematic change of the population described in Fig (1). However Fig (2) and Fig (3) show some variations in the population growth within the regions of Sudan. This growth variation is mainly in Darfour. Its relative rate of population growth is higher compared with others. That was mainly due to the open immigration from West African countries.

On the other hand if we look to South Sudan and nomadic populations described in fig(4) and in fig(5,6) respectively ,there is illogical and inconsistent population growth. It is oscillating in the case of South Sudan and there is a big drop in the case of the nomads specifically in the 1993 census. The problems of enumerations South Sudan and the nomads were considered in detail by Michael Maker [6] and by A.Modawi [7] respectively. The main reasons presented in these papers were difficulties in reaching the households and incomplete coverage. Also there was lack of accuracy in the information given by the households. It is commonly known in Sudan that the Dinka tribe and the Arab nomads in north Sudan usually report lesser number of their children believing that the evil eyes of the enumerators will kill their children when they report many.

3 - The 5 th population census in the constitution and the comprehensive peace agreement

According to article 215(1) of the Constitution: A population census throughout the Sudan should be conducted and completed by the end of the second year of the interim period .

Therefore this census is a constitutional one.

According to article 214(1) there should be, established by the president of the Republic, after consultation within the Presidency, a Population Census Council (PCC).

The Population Census Council Shall:-

- (a) Plan for the population census.
- (b) Set standards and criteria for the Central Bureau of Statistics (CBS).
- (c) Follow-up on the preparations leading to the population census and oversee the actual census operation.
- (d) Report to the Presidency regarding the Population Census.

According to article 215 (2) and based on the comprehensive peace agreement (CPA)the Census shall be conducted by the Central Bureau of Statistic (CBS) and the Southern Sudan Commission for Statistics and Evaluation (SSCSE) .

Based on the (CPA), technical coordination is supervised by the UNFPA. Countries which support the CPA are also involved in the census through their relevant institutions such as US Bureau of Census, French GIS research centre, DANIDA, EU, Statistics Norway etc. The World Bank is also involved through its supervision of the multi donor trust fund (MDTF).

4- The population census council and its committees

The Population Census Council was established by a Presidential Decree No (2) in 7th January 2006 .It consists of representatives of the Government of National unity (GNU), Government of South Sudan (GOSS), the Parliament, Senate and Academics.

It should noted here that this council is established strictly for the census and reports to the Presidency. The council holds regular meetings and follows closely all census activities through its Chairman and its members. Unfortunately a similar council, South Sudan Population Census Council (SSPCC) was established in the south despite the TWG advice to have only one council.

1- A monitoring and observation committee (MOC) was established by the PCC in March 2006. It consists of: representatives of the senate (states council) and the parliament, International Experts, National Experts, Civil society organizations, Political parties etc. It is chaired and supervised by the states council.

It's role is to make sure that the census is conducted according to the United Nation standards, guaranteeing full coverage and high accuracy.

The committee has regular meetings and most members of the committee (Local and International) participate in these meetings. The MOC has organized many workshops for awareness raising in North and South Sudan.

2- A National Advocacy committee (NAC) was established by the PCC in March 2006. It's responsibility is to plan and execute the census publicity programs at the national and state levels. The Committee has held more than 20 meetings and similar Advocacy committees were established in all states. More than 26 songs were prepared for the census and about 12 awareness workshops were conducted for different levels of society and in different states. It is chaired by the Under Secretary of the Ministry of Information.

3- A Finance committee (FC) was established by the PCC in March 2006 to make available the financial support for the census from both local and international sources. The finance committee has worked closely with the World Bank to allocate the funds required for the different stages of the census and to assure it's use according to the regulations and to the budget.

4- Finally a technical working group (TWG) has also been formed by the council. It consists of the two implementing agencies (CBS and SSCCSE, the CPA supporting bodies (EU, DANIDA, US Bureau of Census, Statistics Norway, French Cooperation), World Bank (WB), Line ministries, and national and international experts. The UNFPA funds, coordinates and organizes meetings of the TWG. The TWG is the core committee of the census and all other committees are supporting bodies. The following sections give some examples of its output.

5- The census methodology

The TWG has finalized most of the work on the census documents and tools (A detailed work plan, a detailed budget with activities and time frame for implementation of each activity etc.). This comprehensive project document was prepared through project appraisal meetings attended by Ministry of Finance, CBS, SSCCSE, World Bank, UNFPA, and other supporting bodies. The appraisal document has become the most important reference and has been signed by all concerned bodies (UNFPA, WB, the two Ministries of Finance at the national and in regional levels, (CBS) and (SSCSE).

The TWG has made important recommendations for the census methodology which were endorsed by the council. The most important decisions are the following:

- 1-The defacto method to be applied for the enumeration of the population.
- 2- The quick count methodology to be applied both (in North and in South) for mapping.

3- The details of the questionnaires to follow closely the UN principles and recommendations for censuses.

4- The use of teachers as enumerators and to be from the same enumeration area as well as the use of other qualified persons from the same tribe in areas that don't accept teachers from other tribes. Finally, according to these methodologies and decisions the enumerators and supervisors manuals were prepared by experts and endorsed by the TWG.

6- The census mapping and use of technology

For census data entry the TWG decided with endorsement of the PCC that the data entry was to be decentralized. Nine centers were suggested. These are the capitals of old British provinces. The TWG also decided that the short and long forms to be scanned using optical mark recognition (OMR) technology. That decision was based on the field visits to some African countries which used the same technology in their censuses. For quality assurance a high level team from both CBS and SSCCSE were sent to DRS Company in UK to ensure that the forms were correctly printed in both Arabic and English so as to avoid occurrence of any errors or faults during enumeration and the scanning process. It was decided that the census data was to be processed, the results produced and the tabulation prepared centrally. The national and regional tabulation to be analyzed and published using different data dissemination methods such as:-printed reports, electronic media (websites, Emails), data archiving, seminars and workshops. The use of internet as another tool for data dissemination was also suggested.

For mapping the TWG decided to use the British 1930 maps as the basic reference maps for state boundaries and to implement the improved scale CDE version. It decided that the un-inhabited areas between the EAs were to be demarcated and assigned numbers to avoid missing the new inhabitants during the enumeration. It also decided that the EAs maps were to be based on GPS points and to be computerized using GIS software. Information about services in the villages were collected using GPS report and later stored in a database.

For the geocoding the TWG decided to be from North to south at all level as follows:

State: Locality: Administrative Unit/Town/City: Popular administrative: EA : City quarter/ block/ village/ farigue .

7- The census questionnaires:

As mentioned above the census data is to be collected in two forms. A short form to be used for 90% of EAs with a minimum number of questions (11 questions) and to satisfy the basic population data needed for the election and other basic demographic needs. A long form to be administered in 10% of the enumeration areas (EAS) and will provide all other standard social and economic information. The details of these questionnaires are following closely the UN principles and recommendations for censuses [8] as decided by the TWG. That had put sometimes the TWG in conflicts with the governing councils and politicians at the national and regional levels. For e.g. the MOC had requested the deletion of the questions on ethnicity after its endorsement by the PCC in its second meeting. The PCC decided to raise it to the Presidency as the TWG had reconfirmed its technical importance. Based on the understanding that ethnicity and religion are causes of conflicts in Sudan, the Presidency decided to delete these questions. It was suggested as a compromise to use the question on previous residence to give information about Southern people living in the North. The South Sudan Population Census Council (SSPCC) requested an amplification of the question to reflect household origin from the nine 1956 Provinces (Northern, Khartoum, Central, Eastern, Kordofan, Darfur, Upper Nile, Bahr Elghazal and Equatoria) in stead of (north/south). But that was not accepted by many members of the PCC and some politicians in

the north who believe that it is another way of bringing back the ethnicity question. The SSPCC then insisted on the re-inclusion of the ethnicity and religion questions. That led to a lot of delays in printing the questionnaires. In order to get out of this dilemma the TWG with support of UNFPA had decided to stick firmly to the UN standards [9]. That is to stick to the previous residence question (origin) which is core one and to neglect the ethnicity question which is an optional one.

8 - Budget and support

The total budget required for the census with its activities is presented in table (1). The total budget was around 103m\$. 69m\$ to be paid by the GON and 34m\$ by the MDTF. The remaining budget was committed by other donors. The budget performance for 2006 and 2007 is presented in table (2) and table (3) respectively. The budget provision for 2008 is 22 m\$ from GONU and 7m\$ from the Donors. It's main use is for enumeration, data processing and dissemination. We note here that more than 60% of the enumeration budget was assigned to the South due to the bad infrastructure and due to the high salaries required by workers in the South compared with the North. Census funds were used for establishing statistical offices in the states and the data entry centers. Census funds were also used to provide many other needed items in the states. Below are some examples of these items for each state:-

17 new vehicles, 15 Desk tops, 15 GPS, 1 fax machine

1 photocopier, 5 laptops, 2 printers, 5 Thurayas (Satellite Mobiles).

For the data entry centers good servers, 70 Pcs and 70 printers were provided to support census data processing and disseminating. The budget lines for EU and DANIDA funds were revised from time to time to reflect the priority need of good mapping and field work in difficult areas. For instance rent of helicopters to access these areas, and hiring labors to carry the mappers' luggage in areas where field mappers walk for long distances. It should also be noted here that the TWG appreciated the indirect support of GONU and GOSS to the census through utilization of the national and states TVs, radios for advocacy purposes, and provision of accommodation, meeting venues to census staff whenever is needed as an important part of the budget.

9- Analysis of the difficulties

This section reflects some of the difficulties that faced the census and led sometimes to changes in the census dates.

First the early rainy season and flooding in year 2007 stopped many census activities in many parts in the country. This occurred for longer periods in some parts of the South. The field workers were forced to walk for miles on foot.

Second, it was noticed that there was a capacity problem in the South to assure a good standard field work and to produce good digital maps, which are necessary in both North and South. It is vital in building a good infrastructure of information needed for decision making in the states to ensure equitable share of services. The problem the South was mainly due to lack of experience and lack of information from previous censuses. Many repeated visits to the field were needed to some areas in the South to obtain full coverage. Moreover the field workers used in many areas in the South were basic school leavers. That was due to limitations in selecting those workers as community usually don't accept workers from other areas. In the end, because of that a lot of delays occurred and lower quality maps were prepared in the South.

Third the arrival of all logistics and procurements of the UNFPA in a good time before the census date was a real problem. There were two main reasons for that. The first, as mentioned earlier, there was a big delay due to differences in the questionnaires contents between the North and the South. The second reason was due to the difference of opinions in estimating the number of forms to be distributed to different parts of the country. A delay of nearly two weeks occurred before agreeing to stick to the UN standards [8]. That is to make the field work results the basis for estimating and distributing the number of forms between North and South. This resulted in giving the South around 20% of the forms. Such ratio will turn out to be similar to that of the 1955 population census (around 26%), if we put into account Southerners living in the North as well as the average family size in the North and South [9]. Some recent studies had given the South a much lower percentage assuming a loss of around one million due to the war during the 90s [10]. However till now field results have not confirmed that. If we consider this issue in detail we see in Table (4) that big Bahrgazal was the most affected by the war in the average size of the family. Most of the warriors of the SPLA were from Bahrgazal states. Despite that, big Bahrgazal, still, is expected to be the largest in population in the South (see table (5)). From the other side Table (6) shows that the northern region still is the most affected by immigration (to outside the country and outside the region). That may be understood and confirmed by the results of the question about the origin.

10- Challenges

Finally a summary of some of the major challenges still facing the census is provided below:

- Lack of Proper infrastructure and experienced manpower in South Sudan due to the war
- Mines and insecurity in some parts of Sudan especially in the eastern states.
- Continuous population movement from and to the South (returnees) from inside and outside the country and outside the South again.
- Insecurity in some areas in Darfur States (borders with Tchad) and Equatoria (lords Resistance Army).
- Problems concerning nomadic population and their continuous movements in huge areas and across the borders.

11- Conclusion

Despite all the difficulties which usually face any census in Sudan, this census is expected to be the best. It is expected to have the maximum coverage and the highest accuracy. That is because of the technical and financial support given to this census from the international community. And also due to the financial and political commitments of the government of national unity and the government of South Sudan to get a good census as part of comprehensive peace agreement. Moreover this census have the largest involvement of the political parties, civil society organizations and ordinary people concern.

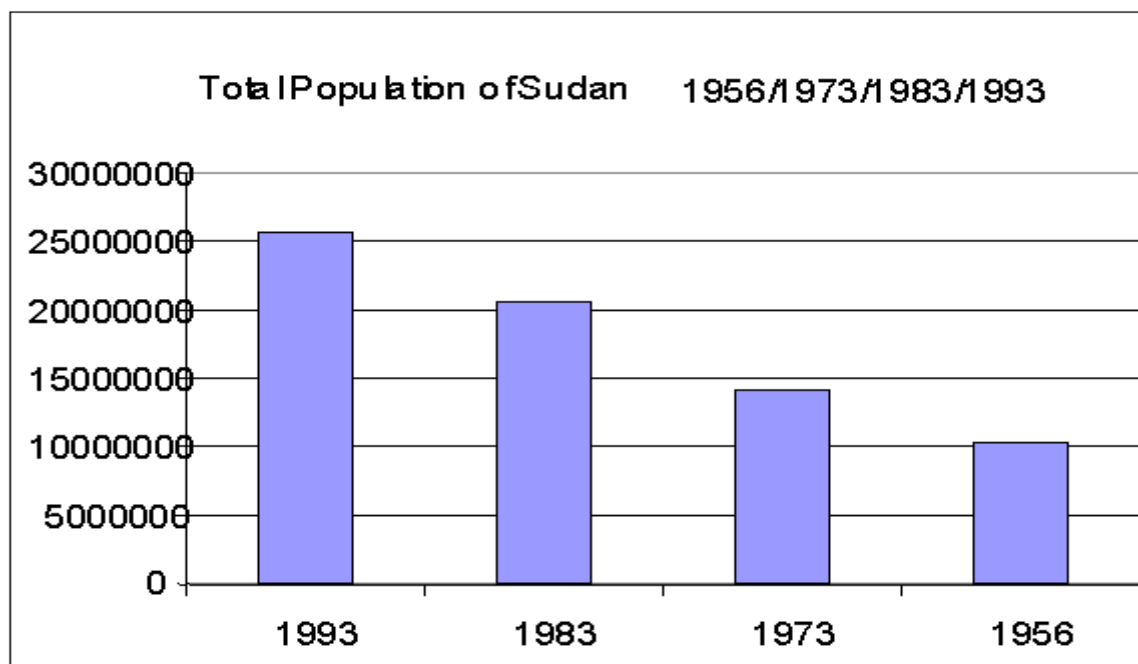


Figure (1)

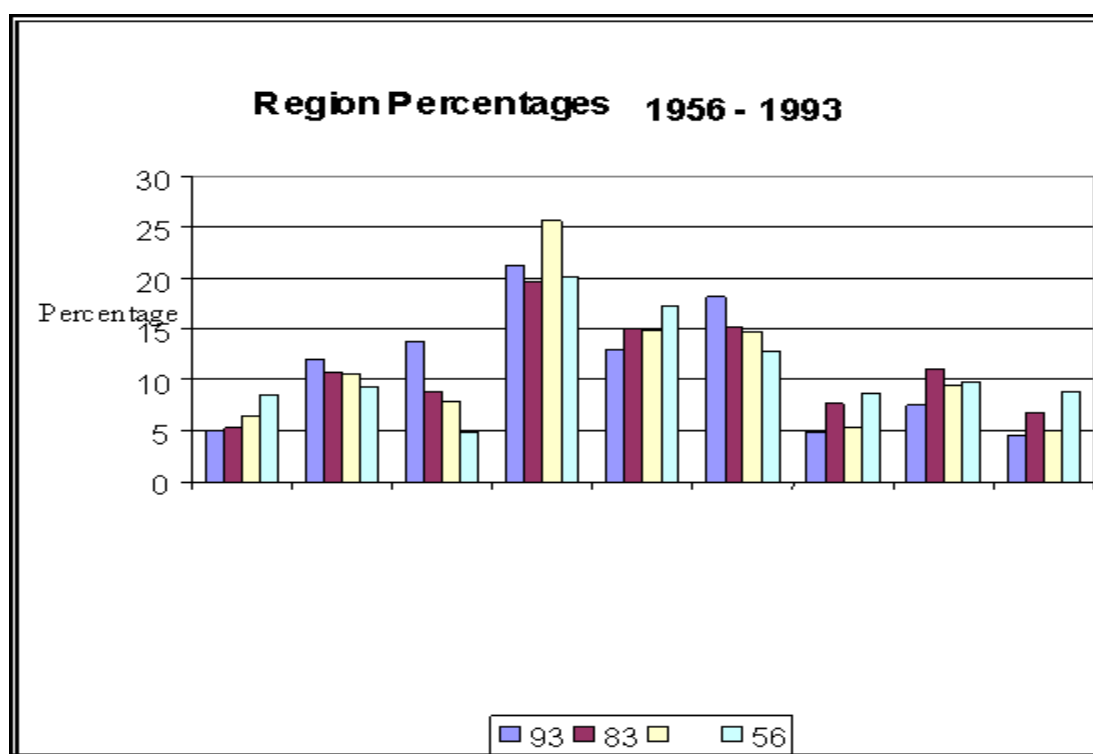


Figure (2)

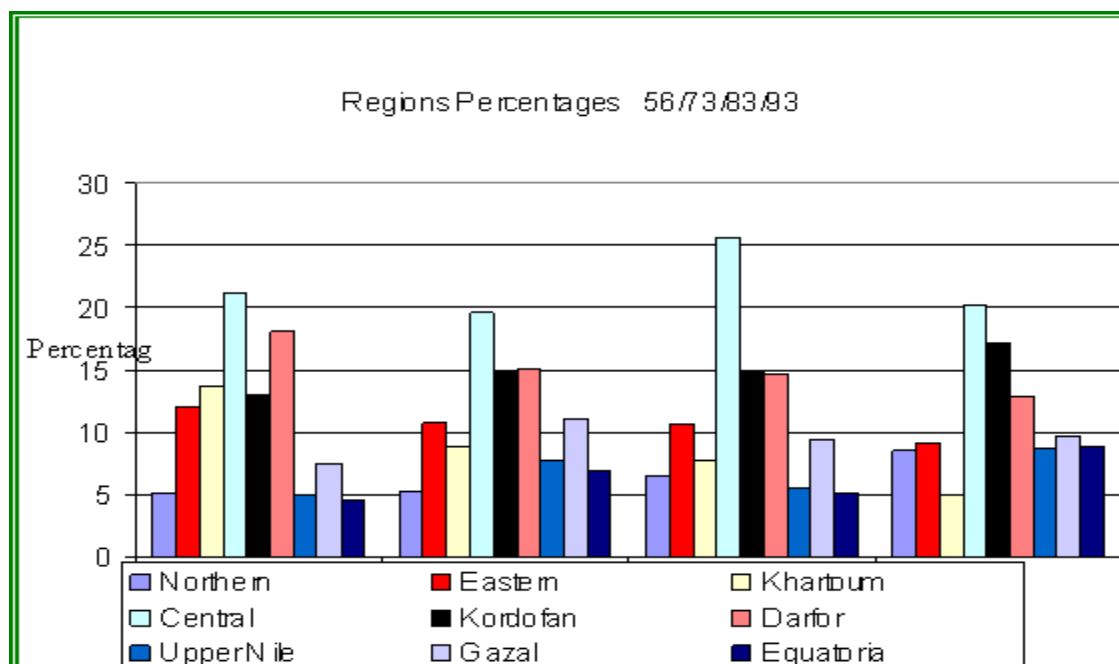


Figure (3)

Percentage of the Population of South Sudan

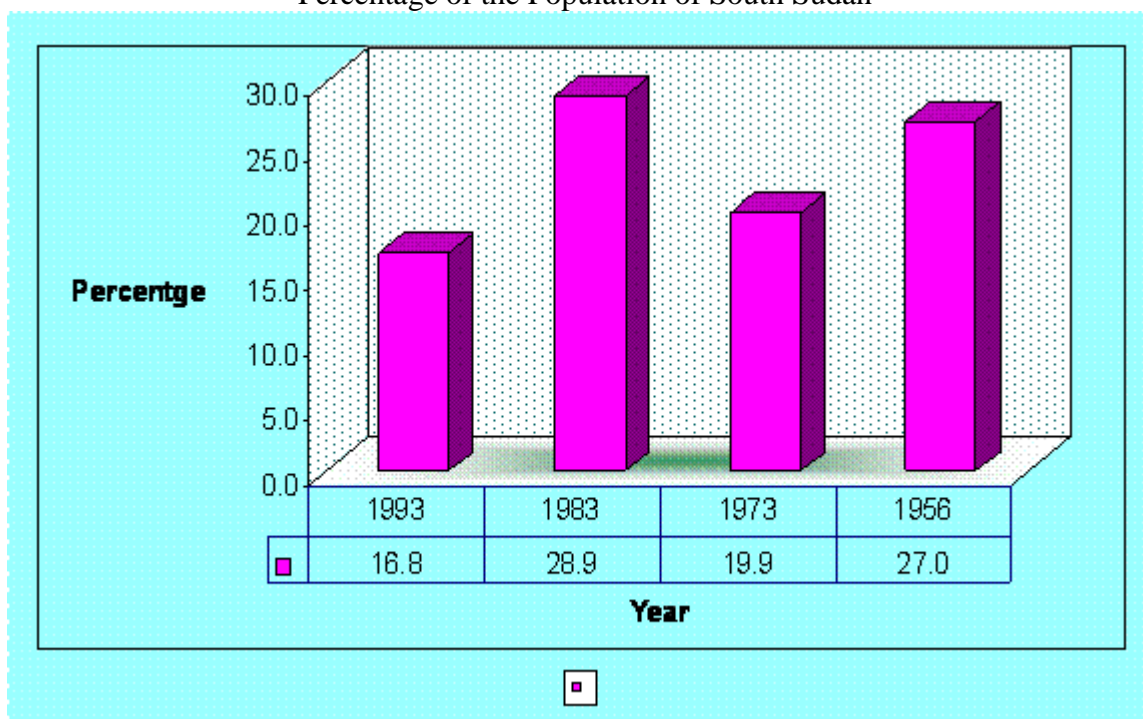


Figure (4)

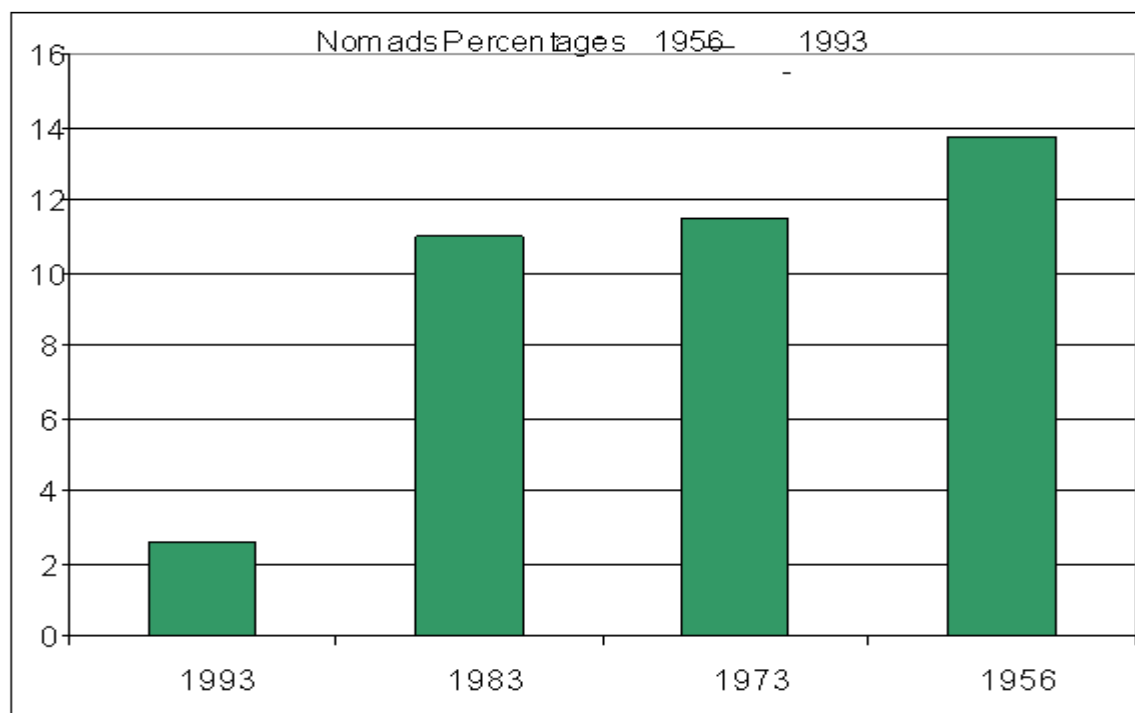


Figure (5)

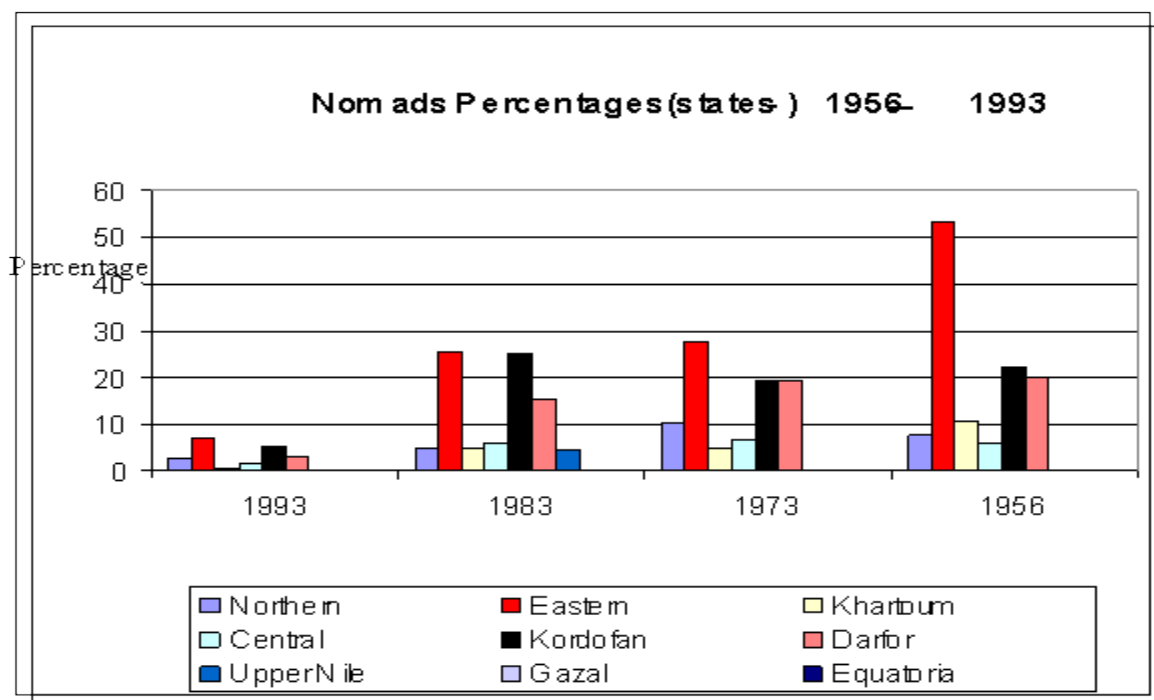


Figure (6)

Table (1)

| SUDAN: Census Budget (US\$), 2006-08 | | | | |
|---|-------------------|-------------------|-------------------|--------------------|
| | 2006 | 2007 | 2008 | TOTAL |
| | | | | |
| | | | | |
| GONU | 14,285,080 | 22,000,000 | 32,222,913 | 68,507,993 |
| | | | | |
| MDTF | 12,400,000 | 22,000,000 | 0 | 34,400,000 |
| | | | | |
| | 26,685,080 | 44,000,000 | 32,222,913 | 102,907,993 |
| | | | | |
| | | | | |
| CBS | 15,891,048 | 23,000,000 | 19,333,748 | 58,224,796 |
| | | | | |
| SSCCE | 10,794,032 | 21,000,000 | 12,889,165 | 44,683,197 |
| | | | | |
| | 26,685,080 | 44,000,000 | 32,222,913 | 102,907,993 |
| | | | | |
| | | | | |
| CBS GONU | 8,571,048 | 11,000,000 | 19,333,748 | 38,904,796 |
| | | | | |
| SSCCE GONU | 5,714,032 | 11,000,000 | 12,889,165 | 29,603,197 |
| | | | | |
| GONU | 14,285,080 | 22,000,000 | 32,222,913 | 68,507,993 |
| | | | | |
| | | | | |
| CBS MDTF | 7,100,000 | 12,000,000 | 0 | 19,100,000 |
| | | | | |
| SSCCE MDTF | 5,300,000 | 10,000,000 | 0 | 15,300,000 |
| | | | | |
| MDTF | 12,400,000 | 22,000,000 | 0 | 34,400,000 |
| | | | | |
| | | | | |
| TOTAL | 26,685,080 | 44,000,000 | 32,222,913 | 102,907,993 |
| | | | | |

Source: MDTF phase II 23 June 2007

:

Year 2006

Us \$ Millions

Table (2)

| | % | Balance | Disbursed | Committed |
|------|-----|---------|-----------|-----------|
| GONU | 100 | - | 14.3 | 14.3 |
| MDTF | 100 | - | 12.3 | 12.3 |

Source: CBS

Year 2006

Us \$ Millions

Table (3)

| | % | Balance | Disbursed | Committed |
|------|-----|---------|-----------|-----------|
| GONU | 100 | - | 30 | 30 |
| MDTF | 100 | - | 22 | 22 |

Source: CBS

Table (4)

Average Family size for the different states in Susan, 1993 census

| Name of the state | Average family size |
|-------------------|---------------------|
| Northern state | 6.0 |
| Nahr-Elnile | 6.5 |
| Red Sea | 5.1 |
| Kassala | 5.9 |
| El-Gedarif | 7.2 |
| Khartoum | 6.2 |
| White-Nile | 7.0 |
| Blue-Nile | 6.5 |
| Sinnar | 7.1 |
| Al-Gezira | 7.2 |
| North Kordufan | 6.8 |
| South Kordufan | 7.2 |
| West Kordufan | 6.9 |
| North Darfur | 6.0 |
| South Darfur | 6.2 |
| West Darfur | 5.5 |
| Upper Nile | 5.8 |
| Bahr Egazal | 4.4 |
| Equatoria | 4.3 |
| Northern Sudan | 6.5 |
| South Sudan | 4.9 |

Source: Fourth Population Census of Sudan 1993, Analytical Report, Khartoum, December 1996, CBS, Sudan.

Table (5)
Number of EAs and HHs for different states (South)

| State / capital | EAs | HHs |
|-----------------|--------------|------------------|
| Upper Nile | 906 | 116,633 |
| Jonglei | 1,381 | 175,260 |
| Unity | 719 | 88,295 |
| Warrap | 1,534 | 176,491 |
| Northern BG | 1,237 | 112,395 |
| Western BG | 417 | 65,481 |
| Lakes | 931 | 111,542 |
| Western EQ | 834 | 100,916 |
| Central EQ | 1,149 | 157,671 |
| Eastern EQ | 986 | 130,844 |
| Total | 10094 | 1,235,528 |

Table (6)
Number of EAs and HHs for different states, (North)

| State / capital | EAs | HHs |
|-----------------|--------------|----------------|
| Northern | 810 | 132900 |
| River Nile | 1295 | 217585 |
| Red Sea | 1395 | 271000 |
| Kassala | 1690 | 282000 |
| Gadarif | 1870 | 324000 |
| Khartoum | 5550 | 1029000 |
| Gezira | 4800 | 725000 |
| White Nile | 2460 | 372000 |
| Sinnar | 1915 | 341000 |
| Blue Nile | 1055 | 175500 |
| North kordofan | 4910 | 966000 |
| South kordofan | 2970 | 557000 |
| North Darfur | 2570 | 563000 |
| West Darfur | 1760 | 423000 |
| South Darfur | 4720 | 840000 |
| Total | 39770 | 7218985 |

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