



# THE SUDD INSTITUTE

RESEARCH FOR A PEACEFUL, JUST AND PROSPEROUS SOUTH SUDAN

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## Weekly Review

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### **The 2021 Population Estimation Survey: Scientific, Political, and Policy Implications**

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#### **1 Introduction**

On Thursday, April 6, 2023, South Sudan's National Bureau of Statistics (NBS), in collaboration with the United Nations Population Fund (UNFPA) and other agencies, released what it calls Population Estimation Survey results (PES)<sup>1</sup>, putting the population at 12.45 million. Looking back 13 years, one must come to term with the realization that South Sudan's population has supposedly grown by nearly 4% (3.9) annually, higher than it did in prior decades. The new estimates are in stark contrast with South Sudan's 2008 census counts which stood at 8.26 million, informing the 2010 regional and national elections. These estimates have so far generated heated debates in various quarters, with many outright contesting them for a host of good reasons.

This Review, therefore, analyzes the scientific, political, and policy implications of the PES's results.

#### **2 The estimation**

The NBS conducted the survey with the palpable objectives in mind—support decision-making or public policy and to inform national and subnational development. Both processes, if they are to be done right, require population-based evidence. Because it is literally a 'survey,' the NBS sampled about 1,500 sites. It used satellite imagery to determine how densely or sparsely a space is populated. The final tally (12.45 million) combines what the NBS calls “baseline population modelled from the PES household data and the estimates of internationally displaced persons from Displacement Tacking Matrix” (see Table 1).

Table 1. Census/estimation results, 2008 & 2021

State	2008	2021	PR (%)
Central Equatoria	1,103,592	1,324,521	1.5

<sup>1</sup> <https://reliefweb.int/report/south-sudan/south-sudan-s-demography-looking-2050>

Eastern Equatoria	906,126	981,902	0.6
Western Equatoria	619,029	665,233	0.6
Western Bahr el Ghazal	333,431	562,555	5.3
Northern Bahr el Ghazal	720,898	1,924,342	12.8
Lakes	695,730	1,265,473	6.3
Warrap	972,928	2,773,439	14.2
Unity	585,801	1,127,196	7.1
Jonglei	1,358,602	1,031,207	-1.9
Upper Nile	964,353	790,147	-1.4
Totals/average	<b>8,260,490</b>	<b>12,446,015</b>	<b>3.9</b>

Note: PR is annualized population growth rate in percent.

### 3 Scientific, policy, and policy implications

Let's start with the scientific aspect of the estimates. As revealed, the annual rate growth varies across states, with extreme highs in Warrap (14.2%) and Northern Bahr el Ghazal (12.8%) and lows in Jonglei (-1.9%) and Upper Nile (-1.4%). If these counts are to be considered credible, then the following assumptions suffice. For those unfamiliar with the science of population, formally demography, there are two sources of growth. The first is migration, with a difference between inflows and outflows forming net migration. The second comes from natural processes—birth and death; the difference between the two forms a rate of natural increase. Thus, for a population of a place like Warrap to nearly triple in 13 years (2.85 times), these two or one of the processes must occur at an unprecedented rate, which the recent exercise places at 14.2% annually. Now, this invokes the following assumptions. First, a massive internal migration is assumed to have occurred due to war, largely benefiting Warrap and Northern Bahr el Ghazal. Yet, considering the available evidence, this assumption cannot be plausibly sustained. Granted, there has been mass displacement in the Upper Nile Region, explaining growth deficits estimated in those areas as above. But as it is commonly known, the displaced millions from these other two regions due to the conflict and extreme floods since 2019 have mostly migrated to neighboring countries. About half a million people have been displaced by floods in South Sudan in each of the last 4 years, mostly in Jonglei, Unity, Upper Nile, and Warrap States, among others.<sup>2</sup> The displaced from some of these states have mostly migrated to Equatoria and neighboring countries<sup>3</sup>.

The second assumption is that Warrap's attendant high birth rates have been met with tremendous improvements in living standards over the last 13 years, drastically improving life expectancy in the state. Again, this assumption is not just flawed; it is bizarre to think so. Warrap remains one of the country's poorest states, and one of the most dangerous places for children and mothers. Several reports bear witness to this claim. For example,

<sup>2</sup> See for the details the states with more displaced persons in 2021 and 2022: [https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/south\\_sudan\\_flooding\\_snapshot\\_no.2\\_11-oct-2022.pdf](https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/south_sudan_flooding_snapshot_no.2_11-oct-2022.pdf)

<sup>3</sup> See Floods, Displacement, and Violence in South Sudan by the International Crisis Group: <https://southsudan.crisisgroup.org/>

57% of Warrap citizens faced worse acute food insecurity in 2022 (IPC 2022)<sup>4</sup>. Lawry et al.’s 2017 study indicates that the infant mortality rate for Warrap is ‘twice the infant mortality rate for South Sudan’, adding that the state’s maternal mortality rate is 60% above the national average. Lastly, well over 60% of Warrap’s population lived below the poverty line at independence, escalating<sup>5</sup> in subsequent years (World Bank 2011; World Bank 2021).

Second, the census results often inform politics, enabling the government to determine the number of elected members representing geographical constituencies in each state at the national level. In this respect, South Sudan’s elections law requires the Commission to obtain the national dividend by dividing the total population of South Sudan by 102 out of 170<sup>6</sup> parliamentarians; 102 constitutes 60% of the members of the National Assembly who must be elected through geographical constituencies<sup>7</sup>. In 2010, a member of national parliament represented 80,985 population; this would be 122,020 in 2024, according to the new estimates.

Table 2 reveals the political representation picture if the 2021 estimates were adopted to construct such constituencies for the 2024 elections. Six out of 10 states would lose between 1 and 9 representatives, with four states gaining between 1 and 11 representatives. This means the 2025 national parliament would constitute 36% geographical representation from both Warrap and Northern Bahr el Ghazal alone.

Table 2. Geographical constituency representations, 2008 vs. 2024

State	Geographical representation, 2010	Geographical representation, 2024	Loss/gain
Central Equatoria	14	11	-3
Eastern Equatoria	11	8	-3
Western Equatoria	8	5	-2
Western Bahr el Ghazal	4	5	-1
Northern Bahr el Ghazal	9	16	7
Lakes	9	10	1
Warrap	12	23	11
Unity	7	9	2
Jonglei	17	8	-9
Upper Nile	12	6	-6
Totals/averages	102	102	

Nonetheless, the current population estimates will not be used to inform the 2024 elections, according to the NBS Chair, Isaiah Chol Aruai. Instead, the Council of Ministers directed the government to use these estimates for planning purposes only. Development planning involves allocating and building schools, health facilities, and

<sup>4</sup> <https://www.ipcinfo.org/ipcinfo-website/alerts-archive/issue-71/en/>

<sup>5</sup> [https://databankfiles.worldbank.org/public/ddpext\\_download/poverty/987B9C90-CB9F-4D93-AE8C-750588BF00QA/AM2020/Global\\_POVEQ\\_SSD.pdf](https://databankfiles.worldbank.org/public/ddpext_download/poverty/987B9C90-CB9F-4D93-AE8C-750588BF00QA/AM2020/Global_POVEQ_SSD.pdf)

<sup>6</sup> <https://web.archive.org/web/20160304115944/http://nec.org.sd/en/wp-content/uploads/sites/2/2013/09/NEC-preliminary-report-2010-elections.pdf>

<sup>7</sup> <https://www.eisa.org/pdf/sud2008elections.pdf>

roads across the nation—in short, delivery of basic services. The ramification of this is that the Unity Government is not out of the woods just yet as far as implementing the Roadmap, which terminates following general elections. To reconstruct new geographical constituencies in anticipation of the 2024 elections, a credible national census lasting a year plus of planning and execution, is still required. If the elections are to be informed using such results, then serious work ought to begin now. This includes immediately allocating and releasing relevant resources, developing tools, training enumerators, and more.

Lastly, if the PES results cannot be used for electoral purposes, then it is odd to use them for development. Using the scientifically troubled PES results for development (i.e., distributing services) is more problematic than using them for politics. This is because development is for ‘greater good for a greater number of people;’ as should be obvious, South Sudan’s politics benefits a select few. Let me illustrate. Suppose the government of Northern Bahr el Ghazal constructs 50 new schools in Aweil East based on the current estimates, subsequently recruiting teachers and enrolling students. It then dawns on this government that only 10 such schools are needed based on actual enrollments. The result then boils down to resources wasted and injustice inflicted on populations that truly deserve the services but could not get them because of the imprecise estimates.

#### **4 Concluding remarks**

Taken as above, the PES results are useful for neither of the government exercises—politics and development. This is because some of the estimates are demographically impossible to ascertain. Since there are divergent views regarding both the 2008 census and the 2021 PES estimates, the most sensible action would be to expedite the conduct of a credible census before the next general elections.

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#### **About the Sudd Institute**

The Sudd Institute is an independent research organization that conducts and facilitates policy relevant research and training to inform public policy and practice, to create opportunities for discussion and debate, and to improve analytical capacity in South Sudan. The Sudd Institute’s intention is to significantly improve the quality, impact, and accountability of local, national, and international policy- and decision-making in South Sudan in order to promote a more peaceful, just and prosperous society.

#### **Author’s Biography**

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