

Electoral Designs

Proportionality, representation,
and constituency boundaries
in Sudan's 2010 elections



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Map No. 3707 Rev. 10 UNITED NATIONS
April 2007

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Date 2010

Publisher Rift Valley Institute

Editor Emily Walmsley

Designer Scend www.scend.co.uk

Cover image Jin-ho Chung

ISBN 978-1-907431-01-2



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About the Rift Valley Institute

The Rift Valley Institute is a non-profit research, education and advocacy organization operating in Sudan, the Horn of Africa, East Africa, and the Great Lakes. The Institute works with communities, institutions, and individuals to bring local knowledge to bear on political and economic development. Projects are designed to inform aid interventions, support local research capacity, record indigenous culture, and promote human rights.

Rift Valley Institute
1 St Luke's Mews
London W11 1DF
United Kingdom

+ 44 20 7229 2562
institute@riftvalley.net
www.riftvalley.net

About the author

Marc Gustafson is a Marshall Scholar and doctoral candidate at Oxford University. His research focuses on the politics of Sudan and the Middle East. He is co-founder of Reach the World (www.reachtheworld.org) and has written for publications including the *Christian Science Monitor* and the *Harvard International Law Journal*.

Acknowledgements

Assistance and cooperation from the United Nations Mission in Sudan, the US Special Envoy to Sudan's team in Washington, DC, the Carter Center, and members of the State High Elections Committees are gratefully acknowledged. The author would also like to thank Aly Verjee, Douglas Johnson, Justin Willis, Jago Salmon, James Ray Kennedy, Lisa Handley, Karim Al-Awar Smither, Sanne Van De Bergh, Bill Krause and Osama Muftah for patiently sharing their knowledge and experiences. The author is also grateful to the RVI staff for their editorial assistance, and to Patwa Design for graphics support.

Acronyms

CPA	Comprehensive Peace Agreement
DRC	Democratic Republic of the Congo
IFES	International Foundation for Electoral Systems
NCP	National Congress Party
NEC	National Elections Commission
PR	Proportional representation
SPLM	Sudan People's Liberation Movement
UNMIS	United Nations Mission in Sudan

Summary

For its upcoming elections, Sudan has developed one of the world's most complex electoral systems. Among the most crucial tasks for the National Elections Commission has been the demarcation of constituency boundaries (that is, electoral districts). The 2008 census, on which the distribution and size of constituencies are based, is the subject of ongoing dispute between the two parties to the Comprehensive Peace Agreement. As a result, the creation of constituencies and distribution of seats in the legislature have been contentious. Deviations from the rules laid down by the *National Elections Act of 2008* and ambiguities in the new constituency boundaries pose a threat to the success of the elections and to the future of the new electoral system. *Electoral Designs* is a guide to the principal features of the electoral system, highlighting the strengths and shortcomings of the new design. It places particular emphasis on the constituency demarcation process and its potential effects on the distribution of power, drawing attention to the possibilities for electoral manipulation. The report makes recommendations for election officials and observers regarding the 2010 elections, and for the National Elections Commission and international donors with respect to future elections.

I. Introduction

Elections in Sudan are imminent and fraught with difficulty. The Sudanese people will soon confront one of the world's most complex electoral systems, one designed with extensive support from international donors. This new framework—for nationwide legislative and executive elections—has been difficult to implement and hard to understand for voters, observers, and even election officials.

The elections, which are due to take place in April 2010, have been postponed three times and may be postponed yet again. Ambitious goals, political pressure, and Sudan's post-conflict environment have made preparations exceptionally challenging. Disagreements have led to protests, legal disputes, and other obstacles. Despite these issues, the international community and Sudan's dominant parties remain committed to the current electoral schedule.

The new electoral design is a reflection of the post-conflict political environment in Sudan. Multi-party elections are a central element of the Comprehensive Peace Agreement (CPA), which was intended to settle a decades-long civil war¹ between northern and Southern Sudan and was signed in 2005 by the current ruling party, the National Congress Party (NCP), and the Sudan People's Liberation Movement (SPLM), the dominant political group in Southern Sudan. The CPA prescribes an interim power-sharing period of six years, which comes to an end in 2011. Its key stipulation is a referendum, to be held in January 2011, in which Southern Sudanese will have the opportunity to vote for secession or unity. As part of the CPA, the parties agreed to hold executive and legislative elections before the referendum.

Sudan's new electoral system has been designed to be as inclusive as possible, distributing power in such a way as to assuage residual discontent from civil war in the south. Like the CPA itself, it is a product of complex, multi-year negotiations between the SPLM and the NCP, modified to satisfy the

.....
¹ Sudan has experienced two civil wars: the first lasted from 1955 to 1972 and the second from 1983 to 2005.

concerns of both sides. It draws from a variety of other electoral models, in Africa and elsewhere, to shape a uniquely ambitious and complicated system. The challenge faced by the National Elections Commission (NEC) and by international donors supporting the election is to make it comprehensible to those it is designed to benefit—and thus to minimize the possibility of abuse of the system.

This report examines the technical aspects of Sudan’s emerging electoral design and the effect of the new electoral laws. It analyses the geographical distribution of power resulting from the controversial process of delineating constituency boundaries, from the allocation of seats in the National Assembly, and from the distribution of ballot papers. It provides a guide to arrangements in place on the eve of the elections and draws attention to the special dangers posed by some aspects of the system. Finally, the report offers recommendations: to assist election officials and national and international observers, particularly in limiting electoral manipulation; and to support the NEC and international donors in the future development of the electoral system.

II. Electoral design in other post-conflict African countries

The type of electoral design a nation adopts is fundamental to the long-term success of its government. As key tools of constitutional engineering, electoral systems can serve to mitigate conflict and change the particular nature of a democracy.² The electoral system provides guidelines through which people can hold representatives accountable. It also establishes procedures for distributing power throughout the state and ultimately translates votes into seats won in the nation's legislative chambers. The type of system adopted in each country is highly dependent on factors such as the state's demography, geography, level of economic development, and level of conflict. The design of elections that follow conflict, or that take place for the first time in a given country, is especially important for preventing violence and for structuring power-sharing arrangements by improving legislative representation.

African states in particular have had a wide variety of experiences with democratization and with competitive, multi-party elections. Elections have had both salutary and destructive effects on the states that have held them. In some states in Africa, such as Benin, Liberia, Malawi, Mali, and Sierra Leone, post-conflict and inaugural elections have been remarkably successful, laying the foundation for an emerging democratic society and averting conflict. In other states, such as Angola, Mozambique, and Nigeria, elections have failed, curtailing progress towards democratization. Post-conflict or inaugural elections can go either way: they can distribute power to marginalized areas, mitigate conflict, channel participation, and develop long-lasting electoral institutions; or they can establish flashpoints for violence, heighten political disputes, aggravate ethnic tensions, and provide incumbent and illegitimate governments with the opportunity to secure their place in power by rigging

² Elections scholars who have made this argument include Andrew Reynolds, Donald Horowitz, Giovanni Satori, and Arend Lijphart. See, for example, Laakso and Cowen (2002).

the outcome of the election. Due to these vastly divergent possibilities, the selection of a state's electoral design is crucial to a country's future.

In contemporary Africa, the choice of electoral system often reflects a country's colonial and post-colonial institutional legacy. The way in which social and ethnic cleavages manifest themselves frequently determines the choice of electoral design. As a result, Anglophone countries tend to select one type of design, while Francophone countries tend to prefer a different system (Mozaffar, Scarritt, and Galaich, 2003). As a product of their historical development, then, not to mention the influence of international donors, African countries utilize three types of electoral systems: plurality, majoritarian, and proportional representation (PR) systems (see Table 1).

Table 1 Electoral systems of African states³

Electoral system	Description
Plurality system	The candidate with the most votes wins, regardless of whether he or she wins the majority of votes.
Majoritarian system (French two-ballot)	The candidate must win the majority of the votes (50% plus one). If no candidate wins a majority in the first round, then a run-off election is held to decide between the two candidates with the most votes from the first election.
Proportional representation	The percentage of votes received reflects the number of seats won by candidates from a particular party. Seat allocation is therefore determined by a formula and candidate lists.

In a plurality system, the winner is simply the candidate who wins the most votes. To date, plurality systems have been used for legislative and executive elections mostly in African countries that were once colonies or protectorates of the United Kingdom. Botswana, the Gambia, Ghana, Kenya, Lesotho, Malawi, Zambia, and Zimbabwe are all examples. Plurality systems typically involve the

³ All tables and figures are created by the author unless otherwise specified.

creation of single-member districts, where candidates are subsequently elected to represent the local citizenry.

In a majoritarian system, the winning candidate must receive an absolute majority (50 per cent plus one). If no candidate receives a majority of votes, there are several methods for determining the winner, but the only method currently being used in African countries is the French two-ballot system. This system is especially common in Francophone countries and calls for a second round or run-off election between the two candidates with the highest number of votes from the first round. This system is rarely used for legislative elections.

The third type of electoral design is the proportional representation system. This has become increasingly common in African countries because, in theory, it distributes power to more parties, with the goal of mitigating conflicts driven by marginalization. The rationale for PR systems is that the number of votes a party receives reflects the amount of representation it is given in the legislative assembly. Typically, political parties are asked to present a list of candidates for the legislative elections. Voters then choose from the list and an electoral formula determines how many candidates are selected for each party. The formula requires that a fixed percentage of candidates be chosen based on their sex or party affiliation. This way, a certain number of women and minority parties are guaranteed to be allocated seats. PR lists have been used in Benin, Burkina Faso, Burundi, Madagascar, Mozambique, and Niger, to name a few.

As mentioned earlier, the efficacy of a system depends to a significant extent on the context in which it is used. Moreover, given all the variables from one country to the next, there is little empirical evidence on which system works best in particular political and cultural environments. In light of this debate, Sudan has drawn from all three systems, designing its own unique mixed electoral system.

III. Sudan's mixed electoral system

Sudan is not the only country to have adopted a mixed electoral system. Mali and Senegal have both successfully implemented such systems.⁴ However, Sudan's mixed formula, unlike others, draws on all three types of electoral systems, utilizing these to different degrees for different elements of the election: for the two presidential races; the election of state governors; and the three legislative assembly races (state, national, and Southern). For the legislative elections the Sudanese system has its own composite formula.

Executive elections

Sudan has a limited track record of executive elections. Out of 13 elections, only five included presidential races.⁵ In the first three, in 1971, 1977, and 1983, there was only one candidate, Gaafar Nimeiri, and the events were more symbolic than procedural. Two subsequent presidential elections took place in 1996 and 2000, during the Second Sudanese Civil War. As with the elections for Nimeiri, these were not taken seriously by the international community, nor by the majority of the Sudanese citizenry. In 1996, presidential candidates were only given 12 days to campaign and the government paid for a single piece of campaign literature and one 15-minute spot on state-owned television and radio for every candidate. The nomination process was open to almost anyone, allowing 42 candidates to compete (McKinley, 1996). Given the short campaign period and the number of candidates, most Sudanese did not know who was running when election day came around. In 2000, the electoral environment was not much better. Ghazi Suleiman, a prominent Sudanese

⁴ Other countries, such as Cameroon, Guinea, Lesotho, and Niger, also have mixed electoral systems, but these states do not hold multi-party elections.

⁵ This is partly due to the fact that Sudan did not have a presidential system at the time of many of its elections.

human rights activist, referred to the NCP's efforts to hold the elections as 'just lipstick they're trying to put on their ugly military face' (Hawley, 2000).

Sudan's 2010 executive elections mark a shift away from this pattern of personal referendums and performance-only elections. The design of the executive elections is straightforward and draws from both the majoritarian and the plurality systems.

In the presidential elections, Sudanese citizens will be voting for a president of the Republic of Sudan and a president of the Government of Southern Sudan.⁶ The French two-ballot system will be used, meaning that there will be a run-off election if no candidate wins the majority. Given the number of candidates running nationally (13 at the time of writing), the diversity of Sudan's population, and the historical patterns of party affiliations, there will quite possibly be a run-off election for President of the Republic.

For the gubernatorial elections, the plurality system will be used in each of Sudan's 25 states. Voters will cast one vote for one candidate for the governorship in the state where they are voting, and the candidate with the highest number of votes will be declared the winner.

Legislative elections

Problems start to emerge with the elections for the legislative assemblies, which are more complicated than the executive elections. This is an area where Sudan's experience has been mixed. Since its first election in 1952, the country has held 12 legislative elections; some included multi-party participation, while others did not. Under the new electoral system legislative elections have a composite formula for allocating seats in the National Legislative Assembly, the State Legislative Assemblies, and the Southern Sudan Legislative Assembly (see Table 2).

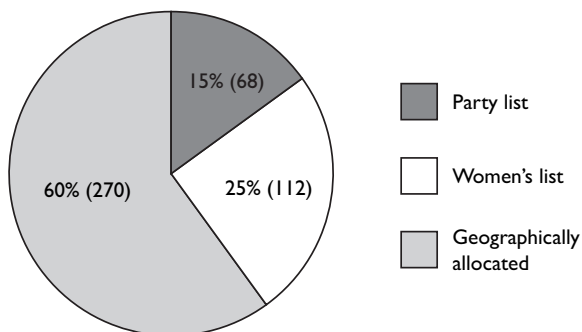
⁶ Only Southern Sudanese citizens are entitled to vote for the President of the Government of Southern Sudan.

Table 2 Sudan’s elections and corresponding electoral systems

Election	Electoral system
President of the Republic of Sudan (1)	Majority (French two-ballot system)
President of the Government of Southern Sudan (1)	Majority (French two-ballot system)
Governor (25, or 1 per state)	Plurality
National Legislative Assembly (270 seats or 60% total)	Plurality (geographically allocated)
National Legislative Assembly (180 seats or 40% total)	Proportional representation (candidates drawn from lists: 25% women’s lists, 15% party lists)
State Legislative Assemblies (749)	Plurality and proportional representation
Southern Sudan Legislative Assembly (170)	Plurality and proportional representation

For the National Assembly, candidates will be elected to 450 seats. Sixty per cent of these seats (270) will be allocated geographically according to the plurality system, meaning that the candidate with the most votes in his or her constituency will be elected to the National Assembly. The other 40 per cent (180) will come from lists, in accordance with the PR system: 25 per cent (112 seats) must be selected from a women’s list and 15 per cent (68 seats) from party lists (Republic of Sudan, *National Elections Act, 2008*, art. 29; see Figure 1).

Figure 1 Allocation of National Legislative Assembly seats



IV. Creating electoral constituencies

Background

As mentioned above, 60 per cent of state and national legislative seats will be geographically allocated to constituencies in each state. The process of creating the boundaries for these constituencies is referred to as ‘delimitation’. It requires a considerable amount of time and expertise. Delimitation is an under-appreciated aspect of the electoral development process and is often the most contentious process leading up to elections. As a previous Rift Valley Institute report, *Elections in Sudan: Learning from Experience*, points out, ‘in every one of Sudan’s multi-party elections, the demarcation of constituencies has been controversial’ (Willis, el-Battahani, and Woodward, 2009, p. 31). *Elections in Sudan* highlights gerrymandering in all of Sudan’s previous legislative elections, with examples of manipulation of boundaries to benefit the incumbent parties at both the local and national levels.

In the case of the 2010 elections, numerous problems have already emerged with regard to the constituency delimitation process, though not all have been made public. Constituency boundaries are often unclear, are unmapped, and have been determined inconsistently from state to state. Many villages have not been specifically assigned to constituencies; in some cases, notably North Darfur, entire sections of states have been left out of the delimitation process. These discrepancies pose serious challenges to the electoral process. In particular, they provide election officials and parties with many opportunities for abusing the system.

In most countries, constituencies are created using population statistics to ensure that boundaries are drawn around populations of similar size. But the regulation is not always followed. Constituency boundaries may be drawn without regard to population, or in such a way as to break up certain ethnic and political groups to favour a particular party. In addition, constituency

boundaries may be purposely vague to give the local election committees the opportunity to manipulate the voting results.

For these reasons, creating constituency boundaries is often the most controversial part of the electoral process. As documented below, many of Sudan's new constituencies are larger or smaller than is required by the *National Elections Act of 2008*. Moreover, the boundary descriptions in many states are vague and significant tracts of land have been omitted entirely from the delimitation process.

In many countries, such delimitation disputes have led to post-election violence. In Nigeria, for example, a boundary constituency dispute in Warri sparked a violent conflict in which a number of demonstrators were killed and over a thousand people were displaced (HRW, 2003, p. 14). Similarly, in India's 2009 election, protesters attacked police officers, ransacked polling stations, and set fire to voting machines in Andhra Pradesh in protest against changes to the size and composition of Mahbubnagar constituency (*Thaindian News*, 2009). In Southern Sudan, one case of violence over constituency boundaries has already been reported. Samson Kwaje, Southern Sudan's minister of agriculture, was shot in the arm by disgruntled villagers in Wonduruba, a district of Central Equatoria, because he had successfully advocated for the village to be moved into a new constituency (HRW, 2010; NEC, 2009, p. 7).

The process of delimitation varies, but there are some discernible global trends. During the 19th and most of the 20th century, the delimitation process was usually implemented by a country's legislature. In Sudan's second election, in 1958, the constituency boundaries were drawn by the cabinet and egregiously manipulated to favour the incumbent Umma Party. Since then, in Sudan, constituency boundaries have more often been drawn by members of the independent elections committee in a particular state, or by an independent boundary commission tasked specifically with constituency boundary demarcation. In many cases, election committees are independent in name only. In Sudan, officials of the National Elections Committee, who are responsible for boundary delimitation, are appointed by the country's president. Under the CPA, the presidency of Sudan during the interim period is held by the leader of the ruling party in the north, one of the two parties to the CPA.

This chain of patronage has caused many observers to question the NEC's impartiality (Handley, 2007).⁷

Despite potential conflicts of interest, there are some checks and balances in Sudan's delimitation process. For example, there is an appeals procedure, which allows certain participants to raise objections after the boundary constituencies are drawn. These objections are considered by the National Elections Commission. Objections may also be submitted to Sudan's Supreme Court, which will make the ultimate decision on whether to implement changes (Republic of Sudan, *National Elections Act*, 2008, art. 40).⁸

The delimitation process is highly dependent on adequate population statistics, as this data is used to determine how many constituencies a state has and how large each should be. Yet the census of 2008 has been disputed by many stakeholders, by political parties in Darfur and eastern Sudan, and by Southern Sudan's Legislative Assembly. Controversy over the conduct of the census and scepticism about the census figures continues. In some areas of the country, notably Darfur, active resistance from displaced populations combined with technical incapacity on the part of the enumerators makes the census figures particularly unreliable. War-induced population displacement on a large scale from the south and from Darfur has also produced demographic distortions. Nevertheless, the delimitation process proceeded on the basis of the published census figures and constituency demarcation was completed in October 2009.

The formulas for delineation of the constituencies are specified in Article 37 of Sudan's *National Elections Act of 2008* (see Table 3). The constituency formula allocates the 270 National Assembly seats to all of Sudan's states in numbers proportional to their reported population. Therefore, states with larger reported populations are accorded a greater number of seats than those with smaller populations. To arrive at the exact allocation, the average constituency size is

⁷ The NEC is appointed by the president; however, the appointments are only made with the consent of the first vice president, who is a member of the SPLM. The State High Election Committees are appointed by the NEC, which means they are indirectly appointed by the president.

⁸ The objections process is discussed below.

calculated by dividing the total population of Sudan as recorded in the census (39,154,490) by the number of constituencies (270) (CBS, 2008). This average constituency size, a figure known as the national dividend, is then divided by each state's population to generate the number of constituencies in that state.

Table 3 Formulas for calculating the number of National Assembly constituencies for each state

Number to be calculated	Factors and formula	Calculation
Seats to be elected in the National Assembly	There are 450 seats; 60% will be geographically allocated	60% of 450 seats = 270 seats
National dividend (target population size for each constituency)	Divide the total population of Sudan by the number of seats to be filled	$39,154,490 / 270 = 145,017$
Constituencies in each state	Divide the total population of the state by the national dividend	State's population / 145,017 = number of constituencies

Table 4 shows how the National Assembly seats are distributed, with Khartoum having the highest number of constituencies (36) and Western Bahr-al-Ghazal the lowest (2). This distribution chart highlights the relationship between the population figures reported in the 2008 census and the distribution of power in Sudan.

Table 4 Distribution of constituencies and National Assembly seats

State	Population	Seats
Northern	699,065	4.82
River Nile	1,120,441	7.73
Red Sea	1,396,110	9.63
Kassala	1,789,806	12.34
Al-Gadarif	1,348,378	9.30
Khartoum	5,274,321	36.37
Al-Gezira	3,575,280	24.65
White Nile	1,730,588	11.93
Sinnar	1,285,058	8.86
Blue Nile	832,112	5.74
North Kordofan	2,920,992	20.14
South Kordofan	1,406,404	9.70
North Darfur	2,113,626	14.58
West Darfur	1,308,225	9.02
South Darfur	4,093,594	28.23
Upper Nile	964,353	6.65
Jonglei	1,358,602	9.37
Unity	585,801	4.04
Warrap	972,928	6.71
Northern Bahr-al-Ghazal	720,898	4.97
Western Bahr-al-Ghazal	333,431	2.30
Lakes	695,730	4.80
Western Equatoria	619,029	4.27
Central Equatoria	1,103,592	7.61
Eastern Equatoria	906,126	6.25
Total	39,154,490	270

Notes: The seat numbers are not rounded to the nearest whole number. Instead, all states are allocated a number of seats based on the integer and a ranking system for the remainder. The remainders are then ranked from highest to lowest and the state with the highest remainder is given the first remaining seat. The next highest is given the next seat and so on, until all the remaining seats are distributed. This distribution is called the 'largest remainder method'.

Proportional allocation of seats in the National Assembly

The complexity of Sudan's mixed system is increased further by a high number of proportionally allocated seats in the National Assembly. These are allocated by proportional representation to the parties competing in the elections. In the National Assembly in Khartoum, 180 seats are to be chosen from general party lists and women's lists. Thus, in addition to ballots for candidates for the presidency, governorships, and constituency-based seats in the legislative assemblies, voters will be given two additional ballots: one for any candidates nominated by the party, the other for women candidates only. Each of these ballots will only list political parties, which provide a list of nominated candidates to the NEC; the candidates themselves will not be listed on the ballot (Republic of Sudan, *National Elections Act*, 2008, art. 29(2)(b)).

While each party nominates candidates for the party lists and the women's list, the voters do not see these lists as they are 'closed'. After voting is completed, the seats for the women's list (25% of the total number of seats in the Assembly) and the party list (15% of the total) will be allocated to the parties according to the percentage of votes they receive.

To complicate matters, each state will have different lists, corresponding to the particular parties competing in that state. The number of seats also varies from state to state. Table 5 shows how many seats will be allocated from the lists in each state. Although the party lists and women's lists are decided at the state level rather than at the constituency level, their distribution is also determined by the controversial 2008 census. The formula for the number of party and women's seats is the same as the formula for allocating the geographic constituencies, but it is applied at the state level rather than at the constituency level. A national dividend must first be calculated for both the party and the women's list seats. The national population is thus divided by the number of seats. Then the state's population is divided by the national dividend to yield that state's allocation of seats.

Table 5 Party and women's list seats

	Party list seats	Women's list seats
Northern	1	2
River Nile	2	3
Red Sea	2	4
Kassala	3	5
Al-Gadarif	2	4
Khartoum	9	15
Al-Gezira	6	10
White Nile	3	5
Sinnar	2	4
Blue Nile	2	2
North Kordofan	5	8
South Kordofan	3	4
North Darfur	4	6
West Darfur	2	4
South Darfur	7	12
Upper Nile	2	3
Jonglei	2	4
Unity	1	2
Warrap	2	3
Northern Bahr-al-Ghazal	1	2
Western Bahr-al-Ghazal	1	1
Lakes	1	2
Western Equatoria	1	2
Central Equatoria	2	3
Eastern Equatoria	2	2
Total	68	112

In states where there is only one seat, the party or women's list that captures the highest number of votes wins the seat and the first person on the list will be elected. In states with multiple seats, the number of seats will be proportional to the number of votes received. As shown in Table 5, for example, North Darfur has been allocated four seats from the party lists. If one of the parties receives 50 per cent of the vote, then that party will capture two seats, and the first two candidates on that party list will be elected into the National Assembly. The remaining two seats will be allocated proportionally to the other parties in the same way. The same formula is applied to the women's list. There is also a four per cent threshold, which means that a party must achieve more than four per cent of the vote to be eligible for seats.

This system can promote a more equitable national distribution of power in the sense that it provides more seats to more states, leading to better regional representation. But the allocation of seats favours the larger parties. Since most states have a small number of seats, the victors in each state—the largest and most organized parties—are likely to win all the party and women's seats.

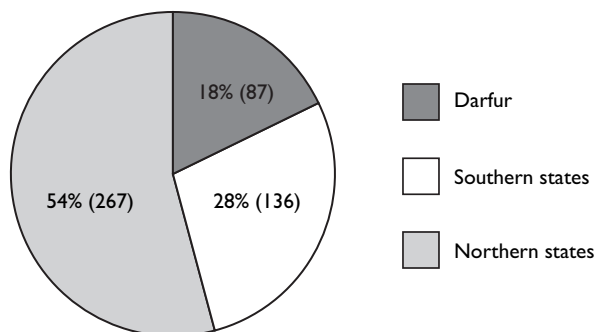
A new balance of power among regions?

The allocation of National Assembly seats is the most contentious issue in the Sudanese elections. This is because the Assembly will determine which parties have legislative power to amend the constitution, appoint court judges, and pass legislative bills into law. Essentially, the allocation of Assembly seats will determine how power is shared throughout Sudan. The distribution of seats between northern and Southern Sudan and the representation of Darfur are areas of particular concern.

Disputed as it is, the 2008 census is the basis for this distribution. It puts the population of Southern Sudan at 8,260,490, which gives the south 96 seats or 21 per cent of the total seats in the National Assembly (CBS, 2008). Under an arrangement concluded in February 2010 between the NCP and the SPLM, the details of which remain obscure, the number of seats will be increased to 136 (or 28 per cent) after the election, when 40 additional seats will be given

to Southern states by appointment.⁹ On the other hand, the north (excluding Darfur) is allocated 267 seats, or 54 per cent of the total. In addition to those 267 seats, Darfur is allocated 87, representing 18 per cent of the total (see Figure 2).

Figure 2 Regional distribution of seats



These numbers are especially critical because Sudan's interim constitution states that a two-thirds majority (66 per cent) is required in the National Assembly to pass most major national legislative bills, including appointments to the Supreme Court (Republic of Sudan, *Interim National Constitution*, 2005, arts. 5, 91, 108). In addition, amendments to the national constitution require three-quarters, or 75 per cent, of the vote in the National Legislature (Republic of Sudan, *Interim National Constitution*, 2005, art. 224(1)).

The additional 40 votes allocated to Southern states may prove pivotal. Assuming the seats go to the SPLM or allied parties, the new arrangement will

⁹ The agreement to allocate an additional 40 seats to Southern states was made between the NCP and the SPLM on 26 February 2010; however, the details of the agreement have not been finalized. It is also unclear which states and parties will receive the additional seats. Author correspondence with James Ray Kennedy, chief electoral affairs officer, United Nations Mission in Sudan (UNMIS), 24 February 2010.

give Southern states enough seats to block constitutional amendments and will put them very close to the number they need to block national legislation. It has also silenced, perhaps only temporarily, Southern parties' objections to the population census. More importantly, it changes the regional power structure within Sudan as a whole, relegating Darfur to a third-tier legislative status behind the major players of north and south. Before the distribution of 40 seats to the south, Darfur's allocation would have been 20 per cent of the seats, while that of the Southern states would have been 21 per cent, giving them essentially the same level of representation. With the new agreement on seats and the potential it offers to block legislation and amendments, however, Southern Sudan has moved ahead of Darfur into a new category of representation. Paradoxically, this may also put Darfur into a stronger position. If the representatives of Darfur in the National Assembly are able to organize a block vote, both northern and Southern political interests are likely to need their support to swing legislation in their favour.¹⁰

Representation in the National Assembly

How will the composition of the National Assembly following the election compare to its current composition, that is, to the Assembly appointed in 2005 under Article 117 of Sudan's interim constitution? With respect to the south, the current distribution of National Assembly seats is more favourable than it is likely to be after the election. Under the interim constitution, the formula for Southern Sudan gives the SPLM 126 seats and the other Southern parties 27 seats. Under the new system the south has 136 seats in total, including the 40 additional seats allocated in the February agreement. This means that in the coming election Southern parties would need to win every seat in the south and 17 additional seats in the north to receive the same representation in the

¹⁰ There are many variables to these proposed scenarios. For example, the SPLM could win seats in northern states and the NCP could win seats in Darfur, both of which would complicate potential alliances.

National Assembly they had before the election. Therefore, the Southern parties, regardless of their 40 additional seats, are not likely to achieve a significantly higher number of seats than they have today.

Darfur, on the other hand, will achieve significantly greater representation in the National Assembly than it currently has. Under the interim constitution, only 14 per cent of the legislative seats are allocated to government opposition groups in the north, and a very small portion of these represent Darfur. Since Darfur will automatically be allocated a total of 87 seats from the geographical constituencies and the proportionally assigned seats, it is likely to have significantly better representation in the National Assembly than it does today, regardless of its third-tier status.

No reliable predictions can be made regarding the distribution of seats between parties. Sudan's last multi-party elections took place in 1986. It is not known to what extent regional support for the main traditional parties in the north, the Umma Party and the Democratic Unionist Party, has been affected since then. The NCP has the benefits of incumbency, wealth, and party organization, and it may be the only party that can afford to nominate candidates in all regions. Consequently, it may win seats in Darfur and even in the south.¹¹ Thus the possibility of manipulation of the size and shape of constituencies to benefit a specific party in the process of constituency demarcation is likely to be a source of contention.

Creating boundaries in each state

A recent elections report prepared by the International Foundation for Electoral Systems (IFES)¹² finds that the process of creating constituency boundaries 'provides the single most important opportunity to manipulate the result [of an election], short of straightforward cheating. Within limits, it is possible to

¹¹ Candidates for the National Assembly must make a deposit of SDG 100 (about USD 42), according to Article 55 of the *National Elections Act of 2008*.

¹² IFES is an independent organization that assists state governments with technical electoral support.

do practically anything' (Handley et al., 2006, p. 378). Given the geographic size of Sudan, its tense political environment, and the many complexities of its electoral design, the potential for constituency manipulation is particularly high. So far, the delimitation process has received very little scrutiny, despite its importance in the electoral process and the fact that there is already serious cause for concern.

According to Sudan's *National Elections Act of 2008*, the NEC, appointed by the president, is the body chiefly responsible for delimiting the National Assembly boundaries in each state. The Act requires that no constituency crosses state boundaries, and that administrative boundaries, population movements, geographic features, and the population distribution of each state be taken into account. More importantly, the NEC must ensure that no constituency exceed the average constituency size by population (the average figure known as the national dividend) by more than 15 per cent.

Fifteen per cent may seem small, but if a constituency is created that is 15 per cent smaller than the average and another is 15 per cent greater than the average, then the difference between populations, given Sudan's average constituency size, is in the order of 43,500 people. This variability gives the NEC the flexibility to accommodate geographic, tribal, and administrative boundaries, but it also makes it easier to manipulate the boundaries in favour of a particular party. Some observers have suggested that this level of flexibility gives the NEC too much power. As a guiding principle, the Organization for Security and Co-operation in Europe's *Election Observation Handbook* suggests that 'a variance of more than some 10 per cent could be a cause for concern' (OSCE, 2005, p. 19). However, Lisa Handley, a boundary delimitation expert and IFES consultant, reports that the 15 per cent variance is 'fairly common, although a little on the high side'.¹³

The 15 per cent variance figure is also similar to criteria used in previous elections in Sudan. For example, in the 1965 election constituency boundaries had to include between 50,000 and 70,000 people (NRO, 1965). This is a

¹³ Author interview with Lisa Handley, IFES elections consultant, 15 February 2010.

variance of 16.6 per cent.¹⁴ In 1986, constituencies were required to include between 70,000 and 90,000 people (NRO, 1986). In both elections the constituency requirements were substantially violated (Willis, el-Battahani, and Woodward, 2009). The key issue may not be the requirements themselves but the will and capacity to enforce them.

To delimit the boundaries for the present election, the NEC appointed teams for each state. Due to the size of many states, the limited time given to each team, and the limited accessibility of many regions, the State High Election Committees and, by extension, the NEC, were unable to produce any detailed maps of the constituencies. Instead, each state committee produced a report describing constituencies by listing the villages or 'residential units' included in the constituencies. The reports varied considerably from state to state. For example, the report for al-Gezira State includes 184 pages with as many as three or four pages of descriptions for each constituency. By contrast, in Northern Bahr-al-Ghazal, the State High Election Committee produced an eight-page report with only a three- to five-word description for each constituency. Some reports include hand-drawn maps, such as that for North Darfur (see Figure 4); others feature extensive village lists (in Arabic for northern states and in English for Southern states). For example, the report for North Kordofan reads, in Arabic: 'Constituency number four consists of the following villages [...]' (SHEC North Kordofan, 2009, p. 8).¹⁵ Some states list four or five villages in a particular constituency, while others, such as Khartoum State, list as many as 80 (SHEC Khartoum, 2009).

Once the reports were created, they were sent to the NEC for approval. It is unclear whether the NEC altered any of them; however, several of the reports, such as those of Kassala, Blue Nile, and Lakes States, include hand-marked corrections, where numbers are crossed out and replaced with new numbers (see Figure 3).

¹⁴ The estimated variance is calculated by dividing the variation (10,000) by the mean (60,000) for the highest and lowest population sizes.

¹⁵ Translation by the author.

Figure 3 Hand-marked corrections of population figures on the boundary reports for Kassala, Blue Nile, and Lakes States

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ
المفوضية القومية للانتخابات
اللجنة العليا للانتخابات - ولاية كسلا
التقرير الأولي لحدود الدوائر الجغرافية
ولاية كسلا

اسم الدائرة ورقمها	عدد السكان	وصف حدود الدائرة
١١- دائرة حلفا الجديدة	١٦٥,٦٨١	بجدها شمالا وغربا وشرقا بحر عطبرة - و جنوبا بحلقة سببت
وصف الوحدات السكانية للدائرة :-		
وتشمل : قرية ١ إسكان - قرية ٢ إسكان - القرية ٢٣ - القرية ٤ - القرية ٧ - القرية ٣ - المرعة - القرية ٦ - تجمع ١١ - تجمع الشاوير تجمع ٤١٧ - تجمع ٤ الحازيب - القرية ٥ إسكان - القرية ٨ إسكان - القرية ١١ إسكان - قرية العمارة الجديدة - قرية لغدافية - قرية الجديدة - القرية ٩ إسكان - القرية ١٢ إسكان - تجمع كبرى ٥ - دار السلام جنوب - دار السلام شمال - القرية ١٦ القرية ٢٠ إسكان - القرية ٢٤ إسكان - القرية ٢١ إسكان - قرية لغدي شمال - القرية ١٠ إسكان - القرية ١٢ إسكان - القرية ١٥ إسكان ١٤ إسكان - تجمع ١٨ - القرية ١٨ إسكان - الفتيش الخامس - تجمع حار - القرية ٢٢ إسكان - القرية ١٩ إسكان - القرية ٢٣ إسكان - ٢٦ إسكان - تجمع ١٤ الجبل والامعات - حي عثمان والتحار - حي العباسية - حي الجمهورية غرب - حي الجمهورية شرق - حي غرب - حي الشمال شرق - الري والموسسة - مربع ٤١٧ الانشاق - دروسة غرب - دروسة شرق - حي التوفيقية - حي العرب مربع مربع ١٠ - مربع ٦ - حي علي كزار - الصارولة غرب - الصارولة شرق - فركوت - الكندوز - مربعات ١٧١٨١٧ - مربعات ١١٦ - والسكة حديد - مربع ٢١ شرق الحاج - مربع ٢٤ - حي السلام - مربع ٢٣ - حي الثورة مربع ١ - حي الثورة مربع ٢ - حي الثورة		

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ
المفوضية القومية للانتخابات
اللجنة العليا للانتخابات - ولاية كسلا
التقرير الأولي لحدود الدوائر الجغرافية
ولاية كسلا

٤٤

اسم الدائرة ورقمها	عدد السكان	وصف حدود الدائرة
٣- دائرة كسلا الغربية	١٢٥,٢٨٧	دائرة كسلا الغربية بجدها شمالا وغربا وجنوبا دائرة غرب كسلا وشرقا نهر القاش .
وصف الوحدات السكانية للدائرة :-		
وتشمل : حي غرب القاش جنوب - حي غرب القاش م ١ - حي غرب القاش شمال م ٢ - غرب القاش م ٣ / أ ب - اسواقى الشمالية غرب - السوقي الشمالية شرق - اجباب الكرمته - بانقت شمال م ٣ / ١ / ١ - مصنع - بانقت شمال م ٤٩ / امتداد م ٢٩ - بانقت شمال م ٤ / ١ / ٧ - بانقت شمال م ٢٩ / ١ / ١٧ - الشهداء (ب) - بانقت شمال م ٣٦ - بانقت شمال مربع ٣٠ / ٢٠ / ١٩ - الشهداء (أ) احياء طرافوه ٣٧ / ٣٨ / ٣٩ - بانقت شمال م ٥٠ - بانقت جنوب م ١١ / ١٢ / ٢٣ - بانقت جنوب م ٤٢ - بانقت م ٣٤ / ٣٣ / ٣٢ / ٢٤ - بانقت جنوب م ٣١ - بانقت جنوب م ١٣ - بانقت جنوب م ١٢ - بانقت جنوب م ٢٢ - بانقت جنوب م ١٣ ريبا - بانقت جنوب م ٤٢ - بانقت م ٢٥ / ٢٤ / ٢٣ / ٢٢ / ٢١ - بانقت م ١٤ حي الجهاد - بانقت جنوب م ٢٥ / ٢٦ / ٢٧ / ٢٨ - مربع ٤ ريبا السوقي الشمسي - الشهيد محمد عثمان م ٣ / ١ / ١ - حي المسكة حديد / حي العمال م ١ / ٢ - حي العمال م ٨ شرق وغرب - حي البادوية - حي الكماين - تكروف قرز بيز - بانقت م ٤٣ / ٤٥ / ٤٦ .		

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Figure 3 (Cont.)

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7. Mayem No. 7	25,272		d) Dzangkhon a) Mayem b) Kachibol c) Magpie(d) Ammaloo	
8. Funchik Town No. 8	36,000	26,000	a) Matsikendi b) Mohabays c) Akhse d) Makabke	
9. Wuzi No. 9	36,999	27,770	a) Wuzi b) Hargzi	
10. Donselon No. 10	36,999	27,770	a) Donselon b) Makundi	This is a constituency although less than the lower limit because of distinct ethnicity and boundaries.
11. Ataba No. 11	16,485	2,9495	a) Ataba b) Kerie c) Melaric	The size is above, ethnicity and boundaries demarcation.
12. Cimeok No. 12	23,932		a) Cimeok b) Bilang Dafar c) Maber Koe	This is within the limits of the State Population division.
13. Phong No. 13	36,399	27,797	a) Phong b) parawee c) Maling-egok d) Alaw-pei e) Marhlong f) Kachane	These are within the limits of dividends of the State Population.
14. Pitook (Akor) No. 14	24,442	27,904	a) Akor b) Pitook c) Thangk d) Malon	
15. Adul No. 15	27,076	25,000	a) Adul b) Bampokny c) Floong	
16. Abang No. 16	25,000	25,000	a) Abang b) Broylon c) Wathobah d) Parake e) Wastin f) Paken	
17. Akak Loak No. 17	20,017		a) Akak b) Cier	

بسم الله الرحمن الرحيم
المفوضية القومية للانتخابات
اللجنة العليا للانتخابات
ولاية النيل الأزرق
الدوائر الجغرافية القومية

رقم الدائرة	اسم الدائرة	وصف الدائرة	عدد السكان	الدوائر الولائية التي تشملها
الأولى	الروصيرص	شمالاً حدود ولاية سنار جنوباً خور ابو زغول شرقاً الحظيرة غرب النيل الأزرق	١٤٨٢٤٩	١/ بلسون ٢/ بلسون الجنوبية ٣/ الروصيرص الشمالية ٤/ الروصيرص وسط ٥/ الروصيرص الجنوبية
الثانية	الروصيرص/ قيسمان	شمالاً خور ابو زغول وحدود دائرة الممازين شرقاً وجنوباً الحدود الإثيوبية وغرباً حدود دائرتي الكرمك وباب	١٣٥٦٣٠	٦/ بوم المماص الشمالية ٧/ بوم المماص الجنوبية ٨/ بوم المماص وسط ٩/ الله شمال ١٠/ الله جنوب
الثالثة	التضامن/ الممازين	شمالاً حدود ولاية سنار وجنوباً حدود دائرتي الممازين وباب شرقاً النيل الأزرق وغرباً حدود ولاية اعلى النيل	١٣٨٣٢٠	١١/ السريو الشمالية ١٢/ السريو الجنوبية ١٣/ بورد ١٤/ بلي / بيا ١٥/ بوب
الرابعة	الممازين	شمالاً وغرباً حدود دائرة التضامن الممازين وجنوباً حدود دائرة الروصيرص قيسمان وشرقاً النيل الأزرق	١٥٢٠٦٠	١٦/ الممازين شمال ١٧/ الممازين وسط ١٨/ الممازين غرب ١٩/ الممازين وسط ٢٠/ الممازين جنوب
الخامسة	باب	شمالاً حدود دائرة التضامن قيسمان وجنوباً حدود دائرة الكرمك قيسمان وشرقاً حدود دائرة الروصيرص قيسمان وغرباً حدود ولاية اعلى النيل	١٢٧٢٥١	٢١/ باب الشمالية ٢٢/ مصفا ديراق ٢٣/ باب الجنوبية ٢٤/ ود ابوك
السادسة	الكرمك / قيسمان	شمالاً حدود دائرتي الروصيرص قيسمان وباب وجنوباً وغرباً حدود ولاية اعلى النيل وشرقاً الحدود الإثيوبية	١٤٠٦٠٢	٢٥/ قيسمان ٢٦/ الكرمك ٢٧/ الكرمك ٢٨/ بوقفة ٢٩/ اورا



Source: SHEC Kassala (2009, pp. 7, 21); SHEC Lakes (2009, p. 6); SHEC Blue Nile (2009, p. 4).

Appendix 1 of this report lists the constituencies and their populations based on individual boundary reports. The constituency populations have been subtracted from the average to determine if any of the constituencies are in violation of the 15 per cent variance rule delineated in Sudan's electoral law; violations are highlighted in bold. This process reveals that 11 states have violated the law, including Jonglei, Lakes, Northern Bahr-al-Ghazal, South Darfur, Upper Nile, West Darfur, and White Nile. The violations in Eastern Equatoria, West Darfur, and White Nile are very small (less than two per cent), while the violations in the other states, such as in the Bor South constituency in Jonglei State, are as high as 50 per cent. Some of the reports included explanations for these violations. Regarding Warrap State, for example, the State High Election Committee states that the sizes of the constituencies were more than 15 per cent greater than the national dividend because:

Warrap State in the past was made up of two districts, Gogrial and Tonj, but these two districts had different historical background. They are distinct communities with different political ideologies and political affiliation that cut through these communities. These communities have distinct borders and annexation would be undersized and might cause trouble. Before they became one State, they never shared constituencies. Transferring them or annexing them to any constituency we would be cutting across communities that never shared something in common, therefore they would find themselves alienated, strange and marginalized. If we go as planned by implementing these numbers in these four constituencies indicated above we will definitely lose one constituency to the National Legislative Assembly. We are therefore requesting NEC to have a special consideration for these constituencies to remain as they appeared in the above schedule. As a High Committee for Warrap State, we remained focused because after all, the whole idea is to elect one member to the National Legislative Assembly in each of these four constituencies (SHEC Warrap, 2009, p. 8).

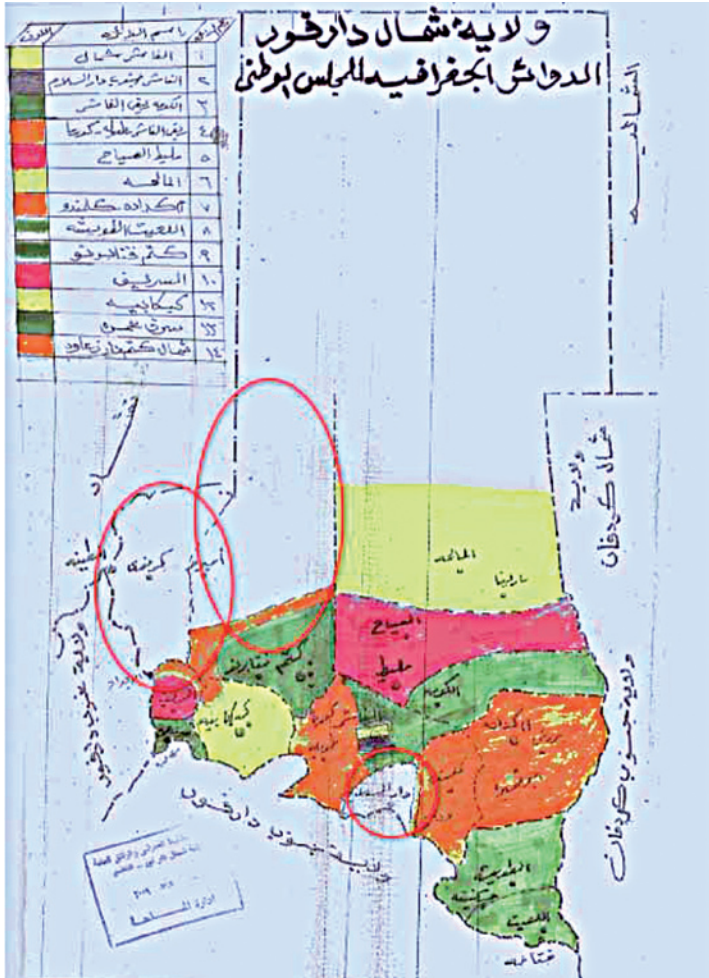
In other states, such as Jonglei, the 15 per cent rule was violated, but no explanation was given. For example, the disparity in Jonglei between constituency number 7 (Bor South, with a population of 221,106) and constituency number 1 (Pigi, with a population of 99,068) is substantial. In this case, constituency number 7 is almost 150 per cent larger than constituency

number 1 (SHEC Jonglei, 2009, p. 3). In the National Assembly election, this would mean that a vote in Bor South would be equivalent to approximately 2.5 votes in Pigi. Similar problems occur elsewhere in Sudan. In Western Bahr-al-Ghazal, for example, there are only two constituencies, one for the western sector and one for the eastern sector of the state. Both constituencies are reported to have the exact same population of 166,716 (SHEC Western Bar-al-Ghazal, 2009). This raises questions about local population statistics used to delimit the boundaries. It is unlikely that the population is evenly distributed across the state in this manner.

Since most states did not create constituency maps, it is possible that some regions of the country were not included in any constituency. In a recent IFES report, for example, Lisa Handley points out that a number of regions in North Darfur were not assigned to any constituency at all (Handley, 2009, p. 3). Indeed, in a sketch of North Darfur provided by the State High Election Committee, three regions have been left out of the delimitation process (see Figure 4). There is no explanation for their exclusion. Given the absence of constituency maps for other states, these omissions raise concerns regarding the possibility of similar exclusions elsewhere in the country. The State High Election Committee in North Darfur is one of the few that provided a map to the NEC; even so, the map is of poor quality and does not provide enough detail to clarify the significance of the boundaries drawn. It is possible that the constituency boundaries in North Darfur have been redrawn since the IFES report was issued in September 2009, but this example demonstrates how easy it is for state committees to leave areas unassigned to a constituency. Without the map, it would have been very difficult to determine that three large areas of North Darfur had not been demarcated.

Other boundary reports only include the list of villages in the constituency. Sometimes the villages form a line that acts as a border, but it is usually unclear where the boundaries lie. For example, in South Kordofan, constituency number 32, which is named ‘south Dabib and north Abyei’ includes a vague description, which reads: ‘The villages in south Dabib and the villages in north Abyei’ (SHEC South Kordofan, 2009, p. 12, author’s translation).

Figure 4 Geographical constituencies of North Darfur



Notes: This is a sketch of North Darfur's constituency boundaries provided by the State High Election Committee of North Darfur. The circles indicate areas of the state not included in any constituencies. The table in the upper left corner lists the constituencies by name and number.

Source: Handley (2009, p. 3).

The second excerpt in Figure 5 lists the villages in south Dabib and north Abyei. Twelve villages are listed for south Dabib and six for north Abyei. Only half of these villages could be found on a 1:100,000-scale United Nations planning map of Abyei or the 1:100,000-scale state planning map for South Kordofan. Furthermore, there are dozens of additional villages in this region and it is unclear whether they fall within constituency 32 or into one of the bordering constituencies. This imprecision gives the State High Election Committee considerable leverage during the registration period. If a committee wanted to favour one constituency, for example, it could simply incorporate more of the unlisted villages into that constituency.

The Abyei constituencies are especially important given the ongoing dispute over the borders of Abyei. This region along the north–south border is the subject of a special CPA protocol, which allows for a vote at the end of the interim period in 2011 to decide whether Abyei is to remain in South Kordofan or to be transferred to the south. Currently, the constituencies of South Kordofan, which is a northern state, extend into the town of Abyei, over the newly agreed border. This would allow the High State Election Committee in South Kordofan to register people living in unassigned villages around Abyei.

The ambiguity of constituency boundaries throughout the country raises additional questions about the population statistics that have been used to determine the size of the constituencies. Since the population of each constituency has already been calculated so that its geographical boundaries may be defined, the committee should know which villages are included in each constituency. Yet in many cases, as we have seen, not all the villages are listed in the constituency boundary reports. There are two possible explanations for this: either the state committees were purposely vague in their descriptions, or the population of each constituency was a product of speculation because the NEC did not allow enough time to review the population data and complete the delimitation procedures. In either case, it will be very difficult for election officials to distribute the appropriate ballots to all of these unlisted villages and to regulate the number of voters in each constituency.

Figure 5 Description of constituency 32 (south Dabib and north Abyei)

جدول رقم (٢٩) مرفق	الوحدة الإدارية لريف المجلد + حى المطار والإمتداد جنوب + قرى أبو عظام وجوقينه نيارين والرحل	٣٩٢٥٣	٢٩. ريفي المجلد
جدول رقم (٣٠) مرفق	الوحدة الإدارية للميرم ما عدا أبو عظام وجوقينه نيارين	٤٥٧١٢	٣٠. الميرم
جدول رقم (٣١) مرفق	قرى الوحدة الإدارية للدبيب ما عدا القرى الجنوبية	٣٧٦٦٢	٣١. الدبيب
جدول رقم (٣٢) مرفق	قرى جنوب الدبيب وقرى شمال أبيي	٣٧٥٨٣	٣٢. جنوب الدبيب وشمال أبيي

دوائر مجلس الولاية
الدائرة رقم (٣٢)
دائرة جنوب الدبيب و شمال أبيي

عدد السكان	الإدارة الشعبية
٢٧٢٣	(١) بك
٣٢٧٠	(٢) الدحيلات
٢٢١٩	(٣) تمساح
٢٣٧٥	(٤) ناما
٩٣٩	(٥) حسن موسى
٩٣١	(٦) فاما
٣١٣٨	(٧) العازة
١٧٨٩	(٨) الهدى
١٩٧٩	(٩) عجاج
١٧٨٧	(١٠) هجليج
٢٠١٦	(١١) الدمبلوباية
١٦٦٨	(١٢) أبوكنمة
٢٤٨٤٠	قرى شمال أبيي
١٧٨٦	(١٣) الموصل
٣٠٠٣	(١٤) حقل نفره
١٨٢٤	(١٥) العقدة
١٨١٠	(١٦) أم حبر
١٨١٠	(١٧) أحمد غروز
٥٣٣	(١٨) العمدة معسكر الأمير
٣٧٥٨٣	حجم الدائرة

Notes: These are excerpts from the boundary constituency report for South Kordofan. The last line of the top excerpt is a brief description of constituency number 32. The bottom excerpt includes the village lists for this same constituency. The village names are listed in the right-hand column, while the constituency population is listed to the left.

Source: SHEC South Kordofan (2009, pp. 12, 68).

In West Darfur, for example, the constituency descriptions are especially vague, with constituency number 2 described as ‘consisting of the city of al-Geneina and the residential units of Ardamata’ (SHEC West Darfur, 2009, p. 5, author’s translation). It is not clear which villages are included in this constituency or how far the town of Ardamata extends, or whether it includes the IDP camp of the same name.

Yet one observer of the delimitation process in Sudan finds that ‘some of this has already sorted itself out’. He reports that during the registration period, a significant number of people who lived in villages that had not been assigned to a constituency ‘had the option to go to the constituency of their choice’.¹⁶ For example, the people in north Abyei who lived in unassigned villages and wanted to vote in the Southern state of Warrap rather than in South Kordofan, a northern state, could easily go to registration centres in the constituency in south Abyei and register there.

Taken together, the ambiguities of the constituency boundaries and the high number of villages not included in the list of villages in each constituency pose many challenges to voters and those observing the elections. Election observers will have a difficult time determining which voters belong in which constituencies and voter turnout will be inconsistent with the population statistics of each constituency. The State High Election Committees have been given a significant amount of power in determining the outcome of the election, in particular because they have been able to draw boundaries that are too vague for others to scrutinize closely. As a result, these election committees have a number of opportunities to influence the outcome of many local races. If such manipulations become widespread, they will have ramifications at the national level.

Another important issue is the physical mobility of voters. Major parties in Sudan have historically been the primary vehicles for voter education and mobilization. They have had the resources to transport voters—for instance from villages not assigned to a constituency—to register and vote in whatever

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¹⁶ Author interview with Aly Verjee, political analyst and elections consultant, 20 February 2010.

nearby constituency that party chooses. This is not illegal, but it gives the parties with greater resources a significant advantage, and it could mean that newly elected representatives may be elected by voters from outside their immediate geographic area. This could be problematic around major cities; voters in peripheral towns not assigned to a constituency could travel into the city to register and vote.

Contesting the constituency boundary reports

Due to many of the issues mentioned above, there have been complaints by parties and individuals who are affected by the shortcomings of Sudan's delimitation process. The system for handling complaints, however, has shortcomings of its own and has not been able to address all of the problems mentioned. Although the NEC accepted a large proportion of complaints, there is no evidence that these have been acted on.

The *National Elections Act of 2008* provides the framework for filing complaints once the constituency boundaries have been proposed. Those entitled to file complaints include the President of the Republic, the President of the Government of Southern Sudan, governors, members of the legislative assemblies, and the political parties (Republic of Sudan, 2008, art. 39(1)).

Complaints must be filed with the NEC within five days of the completion of the boundaries. The commissioners are to consider the complaints and make any changes they deem warranted. Once the changes are made, the NEC must publish the report and make it publicly available. After publication, political parties are given two weeks to submit an appeal to Sudan's Supreme Court if there are additional complaints. According to the United Nations Mission in Sudan (UNMIS), 'approximately 850 complaints were filed before publication and roughly half were accepted'.¹⁷ After publication, eight appeals to Sudan's

¹⁷ Author correspondence with James Ray Kennedy, chief electoral affairs officer, UNMIS, 24 February 2010. There is no evidence that changes were implemented after the complaints were 'accepted' or endorsed by the commission.

Supreme Court were made and four were upheld. The complaints varied, but generally four types of valid objections required review:

- The State High Election Committee failed to assign villages to constituencies.
- The objecting party requested a change to the constituency name.
- The party objected to the population disparity within states that violated the 15 per cent rule.
- The party requested that a territory be included in a different constituency.

The NEC had no formula for responding to the complaints and decided to leave the decisions to the discretion of the State High Election Committees in the states where the complaints were filed, although the final decisions were still reviewed by a committee established by the NEC.

Based on a review of the boundary reports and a sampling of the 40 complaints in September 2009, IFES concludes:

In all too many cases, the proposed constituency boundaries were simply inadequate—territory was left unassigned, constituency populations were incorrect or outside the legal limits, or the descriptions provided were too nebulous for determining the precise boundaries (Handley, 2009, p. 7).

It is clear from the IFES report and from reading the boundary reports that the delimitation process was seriously inadequate. It has violated Article 38(b) of Sudan's *National Elections Act of 2008* by making constituencies with populations that are more than 15 per cent larger and smaller than the national dividend. There is debate as to whether this was the result of limitations on time and resources or whether there were attempts actively to manipulate boundaries. A view expressed by some stakeholders in the delimitation process is that the NEC and the State High Election Committees were given so little time and training that they would not have had a chance to manipulate the constituency boundaries even if they had wanted to. Once the population census results

were released in May 2009, the NEC was only given 30 days (from 10 June until 9 July) to create all of the boundary constituencies. Other participants are suspicious of this explanation, pointing out that the NEC rejected the international community's offer of technical resources needed to make the delimitation process more effective.

Ballot distribution

The distribution of ballot papers in Sudan is another challenging aspect of the elections. The United Nations Development Programme, which is responsible for printing and delivering the ballots, has a record of successful delivery in comparable circumstance, but Sudan's electoral design requires an exceptionally large number of ballots: eight for each voter in the north and 12 for each voter in the south, distributed in an area greater than that of any other African country.¹⁸ There are already indications that the process may cause further delays in the electoral calendar.

The complex electoral design has been criticized for the logistical strains it puts on the preparations for the elections, as well as the difficulty voters are likely to experience understanding the system. Complicating both issues further is the fact that the content of the non-presidential ballots will be different from state to state and constituency to constituency. There are 749 seats for the State Assembly, 450 seats for the National Assembly, 171 seats for the Southern Sudan Legislative Assembly, and two presidential seats. In total this means that there will be 1,268 different ballots, presenting a significant challenge for election enumerators and administrators.¹⁹ Within one ballot, furthermore, there can be as many as ten to 20 candidates running for a single seat. Multiple ballots with this many candidates will result in ballot papers that are very long and complicated.

¹⁸ Author correspondence with Kouider Zerrouk, deputy spokesman for the UNMIS, 25 January 2010.

¹⁹ The number 1,268 is less than the sum of all seats because some of the PR ballots are shared within states.

The huge number of ballots needed is likely to be a problem at polling stations throughout the country. It presents an extraordinary challenge to public information as well as logistical organization.²⁰ In the case of Southern Sudan, where the ballots are most numerous, less than one-quarter of the population is literate and 92 per cent of women cannot read, compared to 62 per cent in Darfur and 54 per cent nationwide (UN, 2008). Problems will arise more frequently and be more complex than elsewhere. Mismanagement of these shortcomings in Sudan's electoral framework is another factor that could put the validity of the elections in jeopardy.

There are 15.7 million registered voters in Sudan (Carter Center, 2009). Each one will need between eight and 12 ballots. At the time of writing, the period remaining for printing and delivering the ballots in time for the elections was less than 30 days; these ballots still needed to be printed, transported to Khartoum and Juba, sorted into 25 separate packages, transported to each state, re-sorted, and finally distributed to individual polling stations. Delivering such a large number of ballots to a post-conflict country is not impossible. The United Nations Development Programme printed and distributed 30 million ballots to the Democratic Republic of the Congo (DRC) in 2006 without any significant problems. In Afghanistan and Iraq, more than 100 million ballots have been distributed since 2004.

Despite these experiences, however, the distribution of ballot papers in a state as large, conflict-ridden, and underdeveloped as Sudan poses an unprecedented logistical challenge. Sudan is geographically larger than Afghanistan, the DRC, and Iraq, and more sparsely populated, with poor roads, making the secondary distribution of ballots particularly problematic. The number of ballots, which could exceed 100 million, would be significantly larger than in any of the elections in Afghanistan, the DRC, or Iraq. UN and international air support is far more limited.

There is also a security problem in many areas of the country. The two UN peacekeeping operations present in the country, UNMIS and UNAMID (the

²⁰ UNICEF reports that the nationwide literacy rate is 61 per cent, which means that Southerners will be particularly challenged by the complex ballots. For more on literacy rates, see UNICEF (n.d.).

African Union/United Nations Hybrid Operation in Darfur), have less robust rules of engagement than NATO's International Security Assistance Force in Afghanistan, or the UN Organization Mission in the DRC, or the US military in Iraq. Preparations for the elections on the part of national police and security organizations are not publicly documented, though the national police force is reported to have received training from the Turkish government.

V. Conclusion

Sudan's electoral design has assets as well as shortcomings. By combining elements of majoritarian, plurality, and proportional representation systems, the hybrid system enables power-sharing compromises between the national government and the Government of Southern Sudan. It also extends new levels of representation to Darfur, Southern Sudan, and other marginalized regions. It mitigates the possibility of post-election violence by making it difficult for one party to capture, legitimately or not, a majority of the National Assembly seats. Finally, the new system allows for a significant increase in the number of women to be elected into the National Assembly and the State Legislative Assemblies.

On the downside, the scope of the elections is clearly too ambitious. The elections have necessitated a nationwide census, the delimitation of constituencies, the nomination of candidates, the distribution of ballots, and the construction of a nationwide network of institutions designed to capture, count, and process millions of votes. Delays in the implementation of the CPA mean there has not been enough time for the proper conduct of most of these elements of the process. An IFES report released in September 2009, after the boundary constituencies were created, finds that the necessary corrections to problematic constituency boundaries were 'not possible within the current election calendar' (Handley, 2009, p. 7). The resultant ambiguities of Sudan's boundary constituencies and the logistical difficulties threaten the success of the country's 2010 elections and, perhaps more significantly, the future of its electoral system.

The electoral system could have been simpler. It could, for instance, have been a single-constituency election, based only on proportional representation, as is common in many post-conflict countries. In this case, however, based on the census results, Sudan's peripheral regions would not have had the representation they have under the current system. If a system of exclusively proportional representation had been adopted, the marginalization of Darfur, Southern Sudan, and Sudan's eastern region would have continued unchanged, with likely violent consequences.

In other conflict-affected African countries, such as Liberia and Sierra Leone, initial single-constituency elections were followed by multiple-constituency elections once the state had developed a more stable electoral infrastructure. It has been argued that ‘a simplification of the electoral system may be the solution’ (*Sudan Tribune*, 2009).²¹ In the case of Sudan, however, the date agreed for the 2011 referendum on north–south unity has meant there was not enough time to adopt a more gradual approach such as that used in Liberia and Sierra Leone. The electoral arrangements in Sudan are the result of extended bilateral negotiations between the NCP and the SPLM; the complexity of the arrangements is to some extent a result of the need to address the concerns of both parties.

The complexities of Sudan’s electoral design and the potential for failure are apparent, but so too is the possibility of success. The twin challenges now are, firstly, to make Sudan’s electoral system comprehensible to those it is designed to benefit and, secondly, to prevent abuses of the system. If these challenges are not met, progress towards democratic reform in Sudan will be checked, and the risk of electoral violence will be high. The resulting political environment will endanger the conduct of the referendum in 2011 and could lead to the division of the country by war.

Recommendations to election officials and election observers

1) Since it is too late to make changes to the constituency boundaries before the election, a key task of election officials and observers is to discourage State High Election Committees and political parties from taking advantage of ill-defined constituencies to influence the results of the election.

2) The fluid nature of the constituency boundaries means voter turnout in certain constituencies will be considerably lower or higher than would be

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²¹ The argument for simplification was made by Democracy Reporting International, a group of European election experts. For details, see DRI and CPDS (2009).

expected from the population of the constituency. This is due to the fact that many villages are not assigned to constituencies. Officials and observers should be alert to the possibility that many voters in these villages may therefore be counted in one constituency, even though they reside in another.

3) Election officials and observers should be informed of the details of villages and residential units that are not listed in the constituency boundary reports.

Recommendations to international donors

1) Voter education and party training programmes already underway should receive increased funding and support. The importance of these programmes cannot be overestimated. The complexities of the ballot, the infrequency of elections in Sudan, and the low literacy rate mean that intensified voter education programmes are necessary throughout the country, up to and including the period of polling.

2) Donors and implementing organizations should be looking beyond the election to future elections and to the 2011 referendum. They should assess the success of their programmes and correct the omissions. Following the elections, the constituency delimitation process should be revisited. More detailed maps and descriptions should be a high priority.

Recommendations to the National Elections Committee

1) Election officials need to be provided with registration lists for the entire state and instructed to redirect voters to their proper constituencies if they are attempting to vote in constituencies where they are not registered.

2) The process of constituency delimitation appeals and review should be clearer and more consistent.

- 3) Implemented remedies for complaints and appeals that are upheld should be broadly disseminated.
- 4) For future elections, the NEC should provide clear instructions and guidance to State High Election Committees, including standardized expectations of what a delimitation report should look like, including village lists and maps.
- 5) Constituency delimitation should be reviewed periodically, for instance every ten years, in order to reduce the chance of political interference in the drawing of boundaries.

Appendix

Constituencies and their populations

Table A1 Terms used in the Appendix

Term	Definition
Sum	The sum is the total population of all constituencies within each state. In some states, the total population does not match the population stated in the census.
Actual	The actual population is the population listed in Sudan's fifth population census (CBS, 2008).
Maximum	According to Sudan's <i>National Elections Act of 2008</i> , no constituency can be more than 15 per cent greater or less than the average. Therefore, the maximum is the highest number of people that the constituency can have over or under the average constituency population. This figure is determined by multiplying the average national constituency (145,017) by 0.15.
National dividend	The national dividend is the average population of a constituency nationwide.
Variance	According to Sudan's <i>National Elections Act of 2008</i> , no constituency can be more than 15 per cent greater or less than the average. Therefore, the variance is the percentage over or under the average constituency's population. This figure is determined by dividing the number of people over or under the population by the average national constituency (145,017).
Violation	Violations of the variance rule are marked in bold.

All the tables in the Appendix are created by the author, based on data from the 2009 SHEC boundary constituency reports for each state.

Northern states

Al-Gadarif				
	Cnst	Population	(+) or (-)	Variance
Eastern Gadarif	1	155,116	10,099	6.96%
Western Gadarif	2	134,447	-10,570	-7.29%
Northern Gadarif	3	164,596	19,579	13.50%
Al-Fashqa	4	131,477	-13,540	-9.34%
Al-Faw	5	165,560	20,543	14.17%
Western al-Rahid	6	154,561	9,944	6.86%
Eastern al-Rahid	7	123,851	-21,166	-14.60%
Southern al-Galabat	8	160,896	15,879	10.95%
Northern al-Galabat	9	157,874	12,859	8.87%
Total		1,348,378		
Actual		1,348,378		
Dividend		145,017		
Variance		21,753		

Note: Cnst = constituency.

Al-Gezira				
	Cnst	Population	(+) or (-)	Variance
Northern Kamalin	1	134,329	-10,688	-7.37%
Western Kamalin	2	127,644	-17,373	-11.98%
Southern Kamalin	3	139,957	-5,060	-3.49%
Eastern Hasaheisa	4	155,808	10,791	7.44%

Central Hasaheisa	5	148,231	3,214	2.22%
Western Hasaheisa	6	153,748	8,731	6.02%
Northwest Hasaheisa	7	157,602	12,585	8.68%
Rufa'ah City and Southern Rufa'ah	8	126,531	-18,486	-12.75%
Al-Hasaheisa and Darawa	9	163,065	18,048	12.45%
Warbafi Tambul	10	153,750	8,733	6.02%
Northwest and Central Kabara	11	143,434	-1,583	-1.09%
Mudna East	12	155,518	10,501	7.24%
Eastern Mudna	13	124,911	-20,106	-13.86%
Northern Um al-Qari	14	129,600	-15,417	-10.63%
Southern Um al-Qari	15	125,876	-19,141	-13.20%
Al-Hush	16	132,044	-12,973	-8.95%
Southern District	17	146,182	1,165	0.80%
Barkat and Dalnaiem	18	124,100	-20,917	-14.42%
Arab City and Western Wadaria	19	142,679	-2,338	-1.61%
Menakal City	20	140,298	-4,719	-3.25%
Gamoussa and Southern Menakal	21	140,413	-4,604	-3.17%
Karimat	23	155,336	10,319	7.12%
Hada Serhan	24	157,049	12,032	8.30%
Mahtura	25	145,715	698	0.48%
Total		3,575,820		
Actual		3,575,820		
Dividend		145,017		
Variance		21,753		

Blue Nile				
	Cnst	Population	(+) or (-)	Variance
Al-Roseires	1	138,249	-6,768	-4.67%
Al-Roseires and Geissan	2	135,630	-9,387	-6.47%
Tadamin and Ed Damazin	3	138,320	-6,697	-4.62%
Ed Damazin	4	152,060	7,043	4.86%
Baw	5	127,251	-17,766	-12.25%
Kurmuk and Geissan	6	140,602	-4,415	-3.04%
Total		832,112		
Actual		832,112		
Dividend		145,017		
Variance		21,753		

Kassala				
	Cnst	Population	(+) or (-)	Variance
Eastern Kassala	1	158,965	13,948	9.62%
Western Kassala	2	125,287	-19,730	-13.61%
Rural West Kassala	3	141,325	-3,692	-2.55%
Rural Kassala	4	165,282	20,265	13.97%
Rural Aroma	5	165,444	20,427	14.09%
Telkok	6	139,357	-5,660	-3.90%
Tuaiet	7	143,996	-1,021	-0.70%
Western Hamashkoreib	8	127,471	-17,546	-12.10%
Eastern Hamashkoreib	9	127,817	-17,200	-11.86%
Seteet	10	165,889	20,872	14.39%
New Haifa	11	165,681	20,664	14.25%
Nahr Atbara	12	163,292	18,275	12.60%

Total		1,789,806		
Actual		1,789,806		
Dividend		145,017		
Variance		21,753		

Khartoum				
	Cnst	Population	(+) or (-)	Variance
North Omdurman	1	129,581	-15,436	-10.64%
Central Omdurman	2	126,073	-18,944	-13.06%
South Omdurman	3	129,303	-15,714	-10.84%
Not legible	4	128,093	-16,924	-11.67%
Not legible	5	143,624	-1,393	-0.96%
Not legible	6	125,494	-19,523	-13.46%
Not legible	7	141,680	-3,337	-2.30%
Not legible	8	148,773	3,755	2.59%
Dar al-Salam 1	9	146,498	1,481	1.02%
Dar al-Salam 2	10	145,235	218	0.15%
West al-Reif	11	126,741	-18,276	-12.60%
East Thura	12	149,335	4,218	2.91%
West Thura	13	141,497	-3,520	-2.43%
East Karary	14	139,189	-5,828	-4.02%
West Karary	15	134,127	-10,890	-7.51%
Not legible	16	140,496	-4,521	-3.12%
Not legible	17	164,427	19,410	13.38%
Halafaya	18	163,343	18,225	12.57%
Not legible	19	145,944	927	0.64%
Not legible	20	134,768	-10,249	-7.07%
Not legible	21	157,518	12,501	8.62%
Not legible	22	149,233	4,215	2.91%
Not legible	23	154,891	9,874	6.81%
Not legible	24	158,850	13,833	9.54%

Not legible	25	124,831	-20,186	-13.92%
Not legible	26	133,849	-11,168	-7.70%
North Khartoum	27	162,243	17,225	11.88%
East Khartoum	28	159,274	14,257	9.83%
Not legible	29	164,053	19,036	13.13%
Not legible	30	152,929	7,912	5.46%
Not legible	31	159,276	14,259	9.83%
Not legible	32	166,471	21,454	14.79%
Not legible	33	161,414	16,296	11.24%
Not legible	34	165,718	20,701	14.27%
Not legible	35	166,160	21,143	14.58%
Not legible	36	133,390	-12,727	-8.78%
Total		5,274,321		
Actual		5,274,321		
Dividend		145,017		
Variance		21,753		

North Kordofan				
	Cnst	Population	(+) or (-)	Variance
Um Rawaba and Rural	1	154,374	9,357	6.5%
Al-Rahad (rural and city)	2	165,953	20,936	14.4%
Northern Um Rawaba	3	148,565	3,548	2.4%
Ashana	4	165,826	20,809	14.3%
Al-Obeid East	5	139,126	-5,891	-4.1%
Al-Obeid West	6	125,122	-19,895	-13.7%
Abu Haraz	7	137,575	-7,442	-5.1%
Rural al-Obeid and Karkil	8	166,075	21,058	14.5%
East Bara	9	166,720	21,703	15.0%
West Bara	10	166,286	21,269	14.7%
Jebrat al-Sheik	11	123,250	-21,767	-15.0%

Hamra al-Waz	12	123,250	-21,767	-15.0%
Nahud City and Rural	13	132,367	-12,650	-8.7%
Bakheit	14	124,115	-20,902	-14.4%
Ghabeish	15	146,986	1,969	1.4%
Al-Majrur	16	143,633	-1,384	-1.0%
Deinda	17	156,286	11,269	7.8%
Abu Zeibid	18	166,720	21,703	15.0%
Sowdari	19	129073	-15944	-11.0%
Hamra al-Sheikh	20	127100	-17917	-12.4%
Total		2908402		
Actual		2920992		
Dividend		145017		
Variance		21752.55		

Northern state				
	Cnst	Population	(+) or (-)	Variance
Al-Barqiq	1	163,083	18,066	12.46%
Dongola	2	125,908	-19,109	-13.18%
Qulud	3	126,125	-18,892	-13.03%
Addabah	4	126,220	-18,797	-12.96%
Merowe	5	157,729	12,712	8.77%
Total		699,065		
Actual		699,065		
Dividend		145,017		
Variance		21,753		

Red Sea				
	Cnst	Population	(+) or (-)	Variance
Halayeb	1	136,599	-8,418	-5.80%
Tokar 1	2	123,247	-21,770	-15.01%
Tokar 2	3	126,018	-18,999	-13.10%
Suakin Jabeet	4	138,902	-6,115	-4.22%
Sinkat	5	124,442	-20,575	-14.19%
Hayya	6	127,414	-17,603	-12.14%
Dardib	7	136,017	-9,000	-6.21%
Port Sudan North	8	159,869	14,852	10.24%
Port Sudan Middle	9	161,946	16,929	11.67%
Port Sudan South	10	161,656	16,639	11.47%
Total		1,396,110		
Actual		1,396,110		
Dividend		145,017		
Variance		21,753		

River Nile				
	Cnst	Population	(+) or (-)	Variance
Abu Hamad	1	127,995	-17,022	-11.74%
Barbar	2	152,377	7,360	5.08%
Atbara	3	134,586	-10,431	-7.19%
Eastern Damer	4	150,208	5,191	3.58%
Western Damer	5	133,940	-11,077	-7.64%
Northern Shendi	6	145,816	799	0.55%
Southern Shendi	7	123,630	-21,387	-14.75%
Al-Matammah	8	151,889	6,872	4.74%

Total		1,120,441	
Actual		1,120,441	
Dividend		145,017	
Variance		21,753	

Sennar				
	Cnst	Population	(+) or (-)	Variance
Northern Sennar	1	161,709	-16,692	-11.51%
Central Sennar	2	152,244	-7,227	-4.98%
South-west Sennar	3	127,407	-17,610	-12.14%
North-east Sennar	4	128,530	-16,487	-11.37%
Singa	5	157,129	12,112	8.35%
Abu Hajar	6	165,923	20,906	14.42%
Northern El-Suki	7	128,704	-16,313	-11.25%
Southern El-Suki	8	127,034	-17,983	-12.40%
Ed-Dinder	9	136,378	-8,639	-5.96%
Total		1,285,058		
Actual		1,285,058		
Dividend		145,017		
Variance		21753		

South Kordofan				
	Cnst	Population	(+) or (-)	Variance
Abbasiya	1	128,740	-16,277	-11.22%
Rashad	2	133,135	-11,882	-8.19%
Abu Jubayha	3	143,670	-1,347	-0.93%

Talodi	4	123,854	-21,163	-14.59%
Kadugli	5	147,918	2,901	2.00%
Dilling South	6	125,316	-19,701	-13.59%
Dilling North	7	123,459	-21,558	-14.87%
Lagawa	8	155,370	10,353	7.14%
Al-Salam	9	158,859	13,842	9.55%
Muglad to North Abyei	10	166,284	21,267	14.67%
Total		1,406,605		
Actual		1,406,404		
Dividend		145,017		
Variance		21,753		

Upper Nile				
	Cnst	Population	(+) or (-)	Variance
Nasir/Luakpin	1	210,002	64,985	44.81%
Renk	2	137,751	-7,266	-5.01%
Malakal	3	126,483	-18,534	-12.78%
Maiwut and Longchuk	4	142,624	-2,393	-1.65%
Uland and Baliet	5	133,044	-11,973	-8.26%
Panyikang and Fashoda and Manyo	6	119,955	-25,062	-17.28%
Melut and Maban	7	94,480	-50,537	-34.85%
Total		964,339		
Actual		964,353		
Dividend		145,017		
Variance		21,753		

White Nile				
	Cnst	Population	(+) or (-)	Variance
Al-Gutayna	1	123,979	-21,038	-14.51%
Not legible	2	123,816	-21,201	-14.62%
Al-Gazera	3	126,096	-18,921	-13.05%
Rabak City	4	128,709	-16,308	-11.25%
Kenana	5	162,274	17,257	11.90%
Um Remta	6	131,928	-13,089	-9.03%
Ed Douiem	7	156,060	11,043	7.61%
Tadamin Wahida	8	126,626	-18,391	-12.68%
Qali	9	161,072	16,055	11.07%
Kosti City	10	168,363	23,346	16.10%
Al-Salam	11	167,096	22,079	15.23%
Tandalti	12	157,181	12,164	8.39%
Total		1,733,200		
Actual		1,730,588		
Dividend		145,017		
Variance		21,753		

Southern States

Central Equatoria				
	Cnst	Population	(+) or (-)	Variance
Northern Juba	1	123,858	-21,159	-14.59%
Southern Juba	2	124,140	-20,877	-14.40%
Western Juba	3	124,415	-20,602	-14.21%
Yei	4	166,769	21,752	15.00%
Kajokeji	5	166,769	21,752	15.00%
Terekeka	6	140,396	-4,621	-3.19%
Morobo	7	123,264	-21,753	-15.00%
Lainya	8	133,981	-11,036	-7.61%
Total		1,103,592		
Actual		1,103,592		
Dividend		145,017		
Variance		21,753		

Eastern Equatoria				
	Cnst	Population	(+) or (-)	Variance
Torit/Ikotos	1	161,379	16,362	11.28%
Lafon	2	129,171	-15,846	-10.93%
Kapoeta North	3	132,045	-12,972	-8.95%
Kapoeta East	4	163,997	18,980	13.09%
Budi	5	132,189	-12,828	-8.85%
Magwi	6	169,826	24,809	17.11%
Total		888,607		

Actual		906,126		
Dividend		145,017		
Variance		21,753		

Jonglei				
	Cnst	Population	(+) or (-)	Variance
Pigi	1	99,068	-45,949	-31.69%
Old Fangak	2	110,130	-34,887	-24.06%
Ayod	3	139,282	-5,735	-3.95%
Nyirrol	4	108,674	-36,343	-25.06%
Wuror	5	178,519	33,502	23.10%
Duk and Twic East	6	150,937	5,920	4.08%
Bor South	7	221,106	76,089	52.47%
Akobo	8	136,210	-8,807	-6.07%
Pibor	9	148,475	3,458	2.38%
Pochalla		66,201		
Total		1,358,602		
Actual		1,358,602		
Dividend		145,017		
Variance		21,753		

Lakes				
	Cnst	Population	(+) or (-)	Variance
Yirol West	1	103,190	-41,827	-28.84%
Central Rumbek and North Rumbek	2	196,960	51,943	35.82%
Yirol East	3	114,443	-30,574	-21.08%
East Rumbek and Wulu	4	163,382	18,365	12.66%

Cueibet	5	117,755	-27,262	-18.80%
Total		695,730		
Actual		695,730		
Dividend		145,017		
Variance		21,753		

Northern Bahr-al-Ghazal				
	Cnst	Population	(+) or (-)	Variance
Aweil North	1	177,000	31,983	22.05%
Aweil East	2	170,000	24,983	17.23%
Aweil South	3	165,729	20,712	14.28%
Aweil West	4	123,000	-22,017	-15.18%
Aweil Centre	5	84,821	-60,196	-41.51%
Total		720,550		
Actual		720,898		
Dividend		145,017		
Variance		21,753		

Unity state				
	Cnst	Population	(+) or (-)	Variance
Abiemnhom	1	137,727	-7,290	-5.03%
Pariang	2	145,546	529	0.36%
Guit	3	145,000	-17	-0.01%
Mayendit	4	157,528	12,511	8.63%
Total		585,801		
Actual		585,801		

Dividend		145,017		
Variance		21,753		

Warrap				
	Cnst	Population	(+) or (-)	Variance
Abyei and Twic	1	134,272	-10,745	-7.41%
Twic	2	123,544	-21,473	-14.81%
Gogrial West	3	168,769	23,752	16.38%
Gogrial West and Gogrial East	4	177,435	32,418	22.35%
Tonj North	5	165,222	20,205	13.93%
Tonj East	6	116,122	-28,895	-19.93%
Tonj South	7	86,592	-58,425	-40.29%
Total		885,364		
Actual		972,928		
Dividend		145,017		
Variance		21,753		

Western Bahr-al-Ghazal				
	Cnst	Population	(+) or (-)	Variance
Western Sector	1	166,716	21,699	14.96%
Eastern Sector	2	166,716	21,699	14.96%
Total		333,432		
Actual		333,432		
Dividend		145,017		
Variance		21,753		

Western Equatoria				
	Cnst	Population	(+) or (-)	Variance
Mundri Town	1	148,449	3,432	2.37%
Maridi Town	2	158,684	13,667	9.42%
Yambio Town	3	165,593	20,576	14.19%
Tambura Town	4	146,303	1,286	0.89%
Total		619,029		
Actual		619,029		
Dividend		145,017		
Variance		21,753		

Darfur

North Darfur				
	Cnst	Population	(+) or (-)	Variance
North al-Fasher	1	154,361	9,244	6.37%
South al-Fasher	2	126,224	-18,793	-12.96%
Al-Fasher and Kuma	3	139,619	-15,398	-10.62%
Al-Fasher and Tawila	4	164,748	19,731	13.61%
Mellit	5	135,831	-9,166	-6.32%
Malha	6	165,548	20,531	14.16%
Umm Kaddada	7	166,027	21,010	14.49%
Al-Lait and Taweisha	8	138,881	-6,136	-4.23%
Kutum and Fata Borno	9	127,572	-17,445	-12.03%
Al-Sireaf	10	155,209	10,192	7.03%
Al-Waha	11	164,992	19,975	13.77%
Kabkabiya	12	166,719	21,702	14.97%

Saraf Umra	13	166,750	21,733	14.99%
North Kutum	14	141,145	-3,872	-2.67%
	15	Not Given		
Total		2,113,626		
Actual		2,113,626		
Dividend		145,017		
Variance		21,753		

South Darfur				
	Cnst	Population	(+) or (-)	Variance
North Nyala and East Jabal Marra	1	154,636	9,619	6.6%
Nyala	2	162,140	17,123	11.8%
Central Nyala	3	167,600	22,583	15.6%
South Nyala	4	162,537	17,520	12.1%
Um Labasa	5	138,021	-6,996	-4.8%
Katayla	6	130,891	-14,126	-9.7%
Fursan	7	124,812	-20,205	-13.9%
Fursan and Markondi	8	128,925	-16,092	-11.1%
Buram City & Rural Areas	9	151,378	6,361	4.4%
Al-Santa	10	133,196	-11,821	-8.2%
Qawz al-Radum	11	135,801	-9,216	-6.4%
Goghana	12	152,577	7,560	5.2%
Tullus	13	167,887	22,870	15.8%
Shirguila	14	159,415	14,398	9.9%
Dimsu	15	175,205	30,188	20.8%
Shearia	16	127,039	-17,978	-12.4%
Jazzan	17	139,787	-5,230	-3.6%
Kass	18	128,857	-16,160	-11.1%
Shataya	19	123,706	-21,311	-14.7%

Rahid al-Barda	20	137,843	-7174	-4.9%
Um Dafuq	21	128,180	-16837	-11.6%
Ed Daien	22	137,144	-7873	-5.4%
Al-Fardus	23	158,023	13006	9.0%
Abu Matariq	24	157,636	12619	8.7%
Abu Jabra	25	150,075	5058	3.5%
Adilla and Sharif	26	168,461	23444	16.2%
Abu Karaynka	27	175,619	30602	21.1%
Al-Salam	28	181,192	36175	24.9%
Total		4,158,583		
Actual		4,093,594		
Dividend		145,017		
Variance		21,753		

West Darfur				
	Cnst	Population	(+) or (-)	Variance
Kulbus/Sirba	1	167,000	21,983	15.16%
Al-Geneina City	2	134,264	-10,753	-7.41%
Al-Geneina and Beida	3	148,694	3,677	2.54%
Kereinek	4	131,842	-13,175	-9.09%
Habila and Foro Baranga	5	132,045	-12,972	-8.95%
Zalingei and Niertete	6	124,111	-20,906	-14.42%
Mukjar and Um Dukhum	7	167,070	22,053	15.21%
Um Kher and Azoum	8	133,322	-11,695	-8.06%
Wadi Salih and Bendisi	9	124,972	-20,045	-13.82%
Total		1,263,320		
Actual		1,308,225		
Dividend		145,017		
Variance		21,753		

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The 2010 election in Sudan is a decisive event in the country's history. The process is embroiled in controversy. Sudan has one of the world's most complex electoral systems, developed for this election, which requires each voter to complete up to twelve ballot papers. The 2008 census, the basis for constituency demarcation, remains a source of dispute between the two major parties.

Electoral Designs is a guide to Sudan's new electoral system, outlining its strengths and shortcomings, and analysing its effects on the distribution of power. Problems with the new constituency boundaries, the report argues, allow scope for manipulation that could derail the peace process. *Electoral Designs* is required reading for election officials and observers. It identifies further measures that need to be taken before the 2011 referendum, the turning point that will decide whether north and south Sudan remain a single country.



Rift Valley Institute
Taasisi ya Bonde Kuu
معهد الاخردود العظيم
Machadka Dooxada Rift
የስምጥ ሸሰቶ የጥናት ተቋም
Instituto do Vale do Rift
东非大裂谷研究院
Institut de la Vallée du Rift