

The Relevance of the Electoral System: A Simulation of the 1992 Kenyan Election*

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Abstract

In the recent political transitions in Africa competitive elections have become the most critical events in the allocation of power. However, little attention has been given to the design of electoral systems, that is, the rules used to determine the allocation of parliamentary seats and of the presidential office. With few exceptions, plurality and majority systems are assumed to be the simplest, natural, and most democratic systems of converting votes into seats. This paper explores alternative electoral systems for apportioning seats in parliament and for securing the presidency. Specifically, it simulates outcomes in the 1992 Kenyan general elections using a proportional representation system in the parliamentary elections and a preferential ballot system in the presidential contest. The overriding normative goal is "fair representation," especially given ethnically-driven electoral behavior. The simulations reported here offer possible outcomes that could have emerged had different electoral rules been used in the 1992 elections. Given both the data used and the conditions prevailing in the 1992 elections, the specific outcome of each simulation is valid only as a demonstration and a discussion tool.

Introduction

In the recent transitions to democratic politics in Africa, analysts have focused on the process of change, transition elections and their outcomes, and the performance of emergent regimes. Scant attention has been given to the nature and consequences of existing electoral systems — the "institutional arrangements used to translate votes cast for political parties and/or candidates into seats" (Taagepera

and Shugart 1989 : xi). While elections are the most visible and most critical events in democratic governance, the electoral system is the single most important mechanism affecting their outcome (Sartori 1994 : 27-40; Bogdanor and Butler 1983 : 247-262). It is also the most manipulable part of democracy: small changes in the rules governing elections can have immense consequences on outcomes (Sartori 1968). With few exceptions, analysts and practitioners have assumed that the plurality and majoritarian electoral systems which are prevalent in Africa are the simplest, natural and most democratic systems of converting votes into representation.¹ In newly democratizing nations, the choice of an electoral system is critical to achieving fair representation, legitimacy, and political stability, and therefore deserves careful attention from both students of democracy and democratic reformers.

Most African countries have electorates who are divided according to ethnic, religious, or regional loyalties, and participate in politics on the basis of such loyalties. (Horowitz 1992 : 91-100; Glickman 1995). In many instances, political instability and the collapse of political order can be traced to 'inappropriate' electoral systems which continue to exclude, under-represent, or permanently marginalize segments of the population. This is because the electoral systems adopted from former colonial powers (chiefly plurality and majoritarian systems) fail to mitigate patterns of political interaction based on deep ethnic mistrust and social divisions.² Indeed, for countries that adopted plurality systems, the nature of democratic governance tended towards majority rule and minority exclusion rather than legitimate government. Such post-independence governments collapsed in part from the discontent of groups shut out of the political process, first by the electoral system and, thereafter, by the more openly exclusionary military or single-party regimes. The prospect of long-term or even permanent exclusion of certain groups from power or access to power also animated pre-independence constitutional debates on federalism (e.g. in Nigeria, Kenya, and Uganda), recent debates on proportional representation (e.g. in Kenya and South Africa) and, unfortunately, have also been the cause of civil wars (e.g. in Rwanda). A democratic movement that emerges from decades of exclusionary government to institute a democratic system that will continue to exclude or marginalize sections of the citizenry by virtue of electoral rules is unacceptable. In states where such tendencies occur there is need for careful structuring of electoral systems to foster outcomes that are accommodative, rather than exclusionary, in allocating assembly seats that seek the broadest possible support for winners of single-person offices such as the presidency.

This article has two goals. First, to underscore the importance of examining electoral systems as an integral part of democratic transitions in Africa. Second, to illustrate and evaluate, by using data from the 1992 Kenyan election, the possible consequences of different electoral systems. The author recognizes that the

outcome of this election was contested amid accusations of rigging against the former single-party regime. However, for present purposes using these data is justified since it would be difficult to find an election in Africa that is not tainted by accusations of compromise, and it would take decades, if ever, to get 'clean' election results. Moreover, the fact that the government elected in 1992 has governed for a full term indicates that the outcome came to be accepted as "reflect[ing], however imperfectly, the expression of the will of the people" (Commonwealth Secretariat 1993 : 40). Finally, for the presidential race, the present analysis presents data excluding the incumbent and projecting who among the three favored opposition candidates would most likely emerge a Condorcet winner and whether he would have prevailed against the incumbent under circumstances obtaining in 1992.

The empirical component of this paper consists of two sets of simulations illustrating the operation and the potential benefits of different electoral systems. One is a simulated outcome of the 1992 National Assembly elections in Kenya, as it would have been under proportional representation using the 'largest remainders' allocation formula.³ This simulation further specifies alternative conditions — specifically correcting for malapportionment, and adjusting assembly size and district magnitude with theoretically-derived values — which may affect seat allocation among competing parties. The simulation in this section is limited to comparing only the value of representation in the legislative assembly under plurality and under proportional representation. Representation is taken to mean the acquisition of public office (in this case, Assembly seats). The ideal is a perfect concordance between a party's share of votes and its share of assembly seats.⁴

The second empirical section is a more ambitious simulation of the outcome of the 1992 presidential election, as it would have been under three different electoral systems, all of which allow voters to rank candidates. This set of simulations focuses on selecting a Condorcet winner, that is, the candidate who can defeat each of the other candidates in two-person races. In substantive terms, the Condorcet candidate is one whom a majority of voters would find least objectionable as president or, in other words, one most voters would prefer if they cannot get their first or higher choice (Merrill 1988). This section also demonstrates how analysts exploring or testing theoretical propositions can work around constraints inherent in African electoral data.

The Relevance of Electoral Systems

Electoral systems are worth careful study by democratic reformers in Africa since they have an immense effect on the conduct and outcome of elections. This, in turn, has important consequences on the representativeness, legitimacy, and stability of democratically-elected governments, especially in deeply divided states. In the long-term, the electoral system, coupled with existing social conditions, affects the

political system in fundamental ways. For example, the plurality electoral system tends to lead to a two-party system, while proportional representation favours small, minority or regionally-based parties, and could lead to fragmentation and unstable coalition governments (Duverger 1963 : 239; Bogdanor 1984; Hain 1986). Studies of electoral systems in established democracies have uncovered more specific consequences of particular features of electoral systems, for example, the effects of ballot structures, assembly size, and district magnitudes (Rae 1967; Lijphart and Grofman 1984; Grofman and Lijphart 1986; Reeve and Ware 1992). Such studies can inform the engineering of electoral systems to respond to peculiar features of African politics with a view to ensuring the legitimacy and stability of democratic government.

An illustrative example of the significance of electoral systems and the questions it raises is the 1948 election in South Africa that ushered to power the National Party (NP), the architect of *apartheid*. In that election, the NP gained a 53% majority in parliamentary seats on the strength of 40% of the national vote. In the following election held in 1953, the NP won 92 assembly seats (68%) on the strength of 49.6% of the popular vote, while the opposition United and Labour parties together mustered a mere 43 seats (32%) with 50.4% of the popular vote (Lakeman 1970 : 74-76; Christopher 1994 : 55-60). Besides the obvious exclusion of the majority black population, the architects of *apartheid* were therefore brought to power and kept there by a curious complicity of the electoral system. Unfortunately, the South African elections of 1948 and 1953 are not unique. In the 1992 Kenyan elections, the plurality electoral system produced a similar outcome in favor of the former single-party, thereby effectively derailing the democratic transition. In the parliamentary elections, the Kenya African National Union (KANU) party gained a majority of 100 parliamentary seats (53.2%) on the strength of less than a third of the popular vote (31%) (Barkan 1993 : 96).⁵

Two systemic reasons explain such skewed outcomes. One is the tendency of plurality systems with single-member constituencies to over-represent large parties with concentrated support that coincides with electoral boundaries thereby penalising parties whose support may not be sufficiently concentrated to capture a constituency seat, even though such a population may represent a numerical majority/plurality scattered over a wider area. The second reason for the lack of correspondence between seat and the share of votes cast under the plurality system is the greater opportunity available to manipulate the size of single-member constituencies through malapportionment. The incumbent government can elect to create smaller constituencies in areas it commands concentrated support, therefore taking advantage of the fact that what matters in single-member plurality systems is the number of constituencies that can be won, not by how much. Thus, the incumbent party can guarantee for itself more seats representing a smaller population. As a corollary, the incumbent party can allow constituencies in which

opposition parties dominate to remain large in population size, thus effectively 'wasting' the opposition vote in areas where it would win seats with very large margins. This is precisely what happened in the South African and Kenyan parliamentary elections cited above.⁶

The race for the presidency is particularly intense since the stakes are much higher in that only one candidate is elected. For all but one of the presidential candidates and his/her constituency, the winner-take-all nature of the plurality system is costly. Short of a collective presidency on the former Yugoslavia model, the preference would be to devise a system that produces a winner acceptable to most voters and constituencies, and who reduces the totality of the loss suffered by those voting for candidates other than the eventual winner. In the 1992 presidential elections in Kenya, the first ever multi-candidate presidential election since independence, the incumbent President Daniel arap Moi of KANU won with 36.4% of the vote, defeating three major candidates from regionally-based opposition parties who shared 62.3% of the vote. Apart from well-documented allegations of fraud which undermined the election's credibility, the outcome frustrated many opposition sympathizers who considered it a loss by the majority (NEMU 1993; Barkan 1993 : 97). This failure to unseat Moi was blamed on the inability of the opposition parties to agree to field only one opponent (assumed to be a natural Condorcet winner). Indeed, the well-intentioned search for a single opposition candidate spearheaded by the environmentalist Wangari Maathai, the Middle Ground Group, and other progressive forces may have been ill-founded in that the electoral system (presumably plurality) may have produced a candidate who would not be a Condorcet winner when pitted against the incumbent, Moi.⁷ Is it possible that under different electoral rules (and less fraud), another candidate would have won the presidency? This paper simulates potential outcomes to demonstrate the possibilities that alternative electoral systems may hold.

The simulation exercise presented here reflects a concern that electoral reform in Africa ought to proceed in response to two realities: theoretical propositions based on empirical results from elsewhere and the known local dynamics of a given political system. Within political science, the literature on electoral systems has been characterized by two discourses, one polemical, the other empirical. The first is a continuing debate on the merits of a variety of electoral systems and institutions, the foremost of which is the debate between the plurality or majoritarian systems and proportional representation. The second is a more empirical discourse rooted in comparative studies of electoral institutions (Rae 1967; Carstairs 1980; Barlinski and Young 1982; Lijphart 1984 : 424-436; Lijphart and Grofman 1984; Lijphart 1985 : 3-14; Grofman and Lijphart 1986; Taagepera and Shugart 1989: 47-57). This latter strand of studies has produced a wealth of knowledge both empirical and theoretical, about electoral systems worldwide. Studies of electoral systems in Africa have, however, been limited to the advocacy of one system or

another, without empirical demonstration or testing using data from African elections. At best, analysts have used conclusions from studies of the experiences of established democracies to highlight the advantages of one electoral system over another (Lijphart 1985; Hyden 1994: 169-173; Lemarchand 1995 : 1-3, 7). The result has been a discourse on electoral systems that remains rarefied, especially for practical politicians and democratic reformers. The paper departs from this tradition by empirically testing or simulating outcomes under different electoral institutions with data from the Kenyan general election of 1992.

Proposals for electoral reform must also respond to particular local dynamics. In the Kenyan context, I focus on the ethnic or regional "consensus voting" (Horowitz 1992 : 91-100) that characterizes Kenyan elections as a problem that an alternative electoral system could mitigate (Glickman 1995). Other attempts to mitigate the effects of ethnic voting have included federalism (*majimboism*) which collapsed in the immediate post-independence years. More recently, political activists have engaged in the common polemic between advocates of proportional representation and plurality/majoritarian rules (Law Society of Kenya, *et al.*, 1995 : 26). However, the most concrete recent response to ethnic mobilization (and especially what the incumbent KANU regime saw as an ethnically-mobilized opposition to the single-party) was the introduction of a new electoral formula preventing a candidate from carrying the presidency on the strength of a narrow or ethnic plurality.⁸ Thus, in 1992, on the eve of its reign as the sole party, the KANU government modified the allocation rules for the presidential election to require the winner to secure at least 25% of the votes cast in five of the eight provinces, in addition to a plurality. Although this formula eventually worked to the disadvantage of the opposition candidates and to the advantage of the incumbent who had patronage links in all provinces, the then unified opposition to KANU was minimally opposed to it because of confidence in its own ability to produce a leader with a broad base of support.

Questionable Context

Before proceeding to the simulations, it is important that we underscore the context of Kenya's transition elections of 1992. This context affects the veracity of the simulated outcomes, though not necessarily the logic of the alternative electoral systems considered. This is especially so with regard to the outcome of the simulations on the presidential race, in which Moi emerges the outright winner in two and in the third, if a single candidate from the opposition is not simulated. Clarifying the overall context surrounding the elections (suspected fraud, inflated voter registers, etc.) permits us to view the simulated outcomes merely with caution, and not necessarily undermining the logic of the alternative electoral systems demonstrated. Significantly, it is important to note that no electoral system is immune to fraud.

The transition election of 1992 has most memorably been branded a "C-minus" election (Barkan 1993 : 92) in which the former single-party, KANU, tried all it could to subvert the opposition's path to electoral victory. The election was marred most significantly in three areas. First, in regard to the electoral commission appointed to oversee the election; second, in the campaign period during which the most egregious acts to undermine the opposition were perpetrated; and, third, on the actual election day and during vote-counting when there were unacceptable delays and lack of transparency in reporting final tallies.

The possibility of ensuring a free and fair election was undermined irreparably by the appointment of an electoral commission which was not independent of the ruling party. Most of the electoral commissioners were members of the previous commission which organised elections under the single-party regime. Especially, the chairman of the commission was a retired judge who had been disbarred due to questionable financial dealings and who was manipulable by KANU (Commonwealth Secretariat 1993 : 9-11, 64). In addition, none of the opposition parties or civil society organizations were consulted on the composition of the electoral commission. Very early in the campaign period the electoral commission took decidedly partisan stands in interpreting electoral laws and in not intervening when KANU flouted the law (Commonwealth Secretariat 1993 : 20-25). During the campaign period, KANU, which had long existed as a party-state, refused to de-link itself from the state and used the state infrastructure to further its campaign and to engage in other less savory activities. For example, the government routinely refused licenses to opposition rallies or canceled them at the last minute. In the ethnic clashes that flared up in parts of the Rift Valley, Western, and Coastal provinces, security forces and the provincial administration, as well as high ranking KANU politicians, were implicated. Furthermore, the state apparatus did not intervene when top KANU politicians declared areas of the country exclusive "KANU zones" and intimidated voters, opposition activists, and independent voices in civil society (NEMU 1993 : 42-75).

Surely, by election day KANU had reduced its interference in the process, and the electoral commission had begun to pursue a seemingly independent line. But the damage had already been done in that conditions had been set to favor a KANU victory. For example, due to intimidation and displacement through ethnic clashes and due to the electoral commission's lackluster and lopsided efforts, the proportion of eligible voters registered in opposition strongholds was low compared to that in KANU strongholds, which was remarkably high (NEMU 1993 : 95-96). This was especially so when 1989 census figures were used to make projections of eligible voters. The 1989 census was delayed for years and when it was eventually released was challenged for inflating the populations of ethnic groups supporting KANU. Equally problematic was that some of the mechanics of the election, including supervision of polling and counting stations, were to be

facilitated by the provincial administration machinery, which is not an entirely non-partisan establishment. Significant delays in the final tallies in some districts reduced the transparency of the election and were widely interpreted as an opportunity for rigging particular results, especially the presidential tallies.

While KANU was very much responsible for undermining the integrity of the transition election, the opposition shared some of the vices such as vote-buying and electoral violence (Commonwealth Secretariat 1993 : 23-24). However, the most significant event or series of events that sealed the fate of the transition was the splintering of the main opposition party, Forum for the Restoration of Democracy (FORD), and the resulting acrimony among former colleagues who had initially teamed up to dislodge Moi and KANU from power. The division in the opposition and the proliferation of smaller parties and, most significantly, presidential candidates, made it difficult to effectively challenge KANU. It is indeed very likely that the multiplicity of candidates cost the opposition some swing seats (Barkan 1993 : 97). It may also have made it easier for KANU to rig final tallies in areas where the splintered opposition narrowed the margins necessary to win seats.

It is important to keep in mind these prevailing conditions that shaped the actions of the competing parties, constrained voter choice and voter efficacy and, ultimately, affected the final outcome by an uncertain measure. The data utilized for the simulations are in effect tainted by these compromises. Each simulated outcome is offered with this context in mind, and should therefore be regarded with care, whilst focusing on the demonstration of the general advantages of the alternative electoral systems highlighted.

The Parliamentary Race

For most analysts, the ideal outcome of elections is when the proportion of seats a party gains in the legislative assembly corresponds to the proportion of votes received in the election. Perfect proportionality, where receiving x proportion of votes translates into x proportion of seats in the assembly, underscores the theoretical value of "one person, one vote, one value" (Guinier 1994 : 123-127). The debate between advocates of plurality and those of proportional representation is indeed one over how much deviation from perfect proportionality is acceptable. The proportionality of an election outcome can be calculated in two ways. One is by comparing the actual proportion of seats to votes received. A second way, which also gives a more accurate measure of deviation from perfect proportionality, is to calculate the "advantage ratio" for each party. Advantage ratio (AR) expresses the ratio of the percentage of seats obtained to the percentage of votes received [i.e. $AR = \%S \div \%V$] (Taagepera and Shugart 1989 : 67-68). Thus, if party A received 10% of all votes cast and received 15% of the assembly seats, its advantage ratio would be $15 \div 10 = 1.5$. Since under perfect proportionality $AR = 1$, this party is over-represented by 50%. If party B received 15% of the vote, but only 10% of the

assembly seats, its advantage ratio would be $10 \div 15 = 0.6$. Then this party is under-represented by 40%.

In the Kenyan case, the 1992 results are summarized below with each party's advantage ratio. Also reported is the overall degree of deviation from proportionality (*D*) measured by cumulating the differences between % seats and % votes. *D* substantively indicates the percentage of seats that shifted from one deserving party to another by virtue of the electoral system (Taagepera and Shugart 1989: 104-105).

Table 1: Vote and Seat Distribution in the 1992 Kenyan Parliamentary Elections

Party	Vote Total	% Vote	Seat Total	% Seat	Advantage Ratio (%S ÷ %V)	Seat Total Under Perfect PR*
KSC	16 057	0.35	1	0.55	1.57	0.63
KNC	77 675	1.68	1	0.55	0.33	3.04
KENDA	771	0.02	0	0.00	0	0.03
FORD-K	996 704	21.55	31	17.13	0.79	39.01
FORD-A	1 108 368	23.95	29	16.02	0.67	43.35
KANU	1 343 085	29.02	95	52.49	1.81	52.53
DP	1 006 909	21.76	23	12.71	0.58	39.39
PICK	78 628	1.70	1	0.55	0.32	3.07
SDP	77	0.0	0	0.0	0	0
TOTAL	4 628 274	100	181**	100	—	180.87

Source: Constructed by author.

Deviation (*D*) from perfect proportionality (% S - % V). is: 23.69

* Seat totals are not rounded off since the actual allocation is dependent on the allocation rule used (e.g. Largest Remainder, d'Hondt, Saint-Lague, or STV). See Lijphart (1986 : 170-179).

** Seven seats for which full details were unavailable in data set consulted have been excluded.

As the above table shows, the plurality system disproportionately favors the larger party (KANU) and disadvantages opposition parties, especially outside of regions where they have a preponderance of support (see Table 2). KANU has an advantage ratio of 1.87, which means it received over 80% more seats than it

theoretically deserved, given its proportion of votes. All other parties (except KSC with one seat) were severely under-represented. As D indicates, 23.69% of the seats (42 seats) were shifted from one party to another by virtue of the electoral system, with KANU being the beneficiary of all but one. This outcome reflects the typical pitfall of plurality systems with single-member constituencies, as empirically observed elsewhere in established democracies (Bogdanor and Butler 1983 : 2-4; Bogdanor 1984 : 14-29; Taagepera and Shugart 1989 : 109-110). But this tendency for plurality electoral systems to favor larger parties is aggravated by a second factor: the malapportionment of constituencies to favor the incumbent party.

This is evident from the disparate sizes of constituencies and of victory margins. In safe KANU districts such as in the Rift Valley and North Eastern provinces, the KANU government created or let stand small, largely mono-ethnic electoral districts, which assured it of easy wins. Where the opposition was stronger, the incumbent KANU government devised or retained larger constituencies thus ensuring that the opposition parties won these seats at great cost in 'wasted' votes (see Table 2). For example, overall, KANU won 95 seats with an average of 14,138 votes while the opposition parties won their seats with much higher vote tallies: Ford-K won 31 seats with an average tally of 32,152 votes, Ford-A won 29 seats with an average of 38,220 votes, while DP won 23 seats with an average of 43,779 votes, three times KANU's average. KANU also had the lowest plurality to obtain a seat with 2,720 votes in the Mander West constituency which has less than 4,000 registered voters. Ford-K had the highest winning plurality of 58,613 in Kisumu Town constituency with a registered electorate of 65,000. Such divergencies in constituency size and in vote tallies reflect the extent of malapportionment whose cumulative consequence is the gross deviation in vote/seat proportionality (D).

Simulation

The best way to correct for malapportionment for present purposes is to calculate a new assembly size from the theoretical "cube-root law of assembly sizes" and thereafter devise an average constituency size (Taagepera and Shugart 1989: 173-183). The cube-root law expresses an empirical preponderance and a theoretical rationale of the fact that assembly sizes tend to approximate the cube-root of a country's population. Working from this law to re-apportion the national population of 25.4 million (1992) would yield an assembly consisting of 294 seats, with each member representing a constituency of 86,436 persons. Recast in terms of an electoral quota (i.e. number of votes per seat) for the purposes of calculating seat allocations among competing parties in the 1992 election, the quota is 15,743 votes. Using Nairobi province as an example, this quota would yield a seat allocation of 22 for the province.⁹ This seat allocation may be rendered as 22 single-member constituencies or as a single constituency with 22 representatives. For the

Table 2: Number of Parliamentary Seats by Province and Party Distribution of Votes and Seats

	Nairobi	Coast	N. Eastern	Eastern	Central	Rift Valley	Western	Nyanza	Total
Pop (1993)	1,678,000	2,155,000	408,000	4,334,000	3,628,000	5,690,000	3,035,000	4,041,000	24,967,000
Reg. Voters	674,564	660,211	141,069	1,230,081	1,209,054	1,896,026	947,575	1,197,772	7,956,354
Seats	8	20	10	32	25	44	20	29	188
Pop/Seat	209,750	107,750	40,800	135,436	145,120	129,318	151,750	139,345	132,803
Seat Distribution									
KSC	0	0	0	0	0	0	0	1	0
KNC	0	0	0	1	0	0	0	0	1
KENDA	0	0	0	0	0	0	0	0	0
FORD-K	1	2	1	1	1	2	3	20	31
FORD-A	6	0	0	0	14	2	7	0	29
KANU	1	17	8	19	0	32	9	7	93
DP	0	1	0	9	10	2	0	1	23
PICK	0	0	1	0	0	0	0	0	1
TOTAL	8	19	10	30	25	38	20	29	180

Source: Compiled by author. Data drawn from *Weekly Review*, January 1, 1993, pp. 5-37 and Republic of Kenya. *Development Plan, 1994-96*. Nairobi: Government Printer, 1995.

Table 3: Example of Nairobi Constituency Results Under Proportional Representation

Party	Vote Total	% Vote	Plurality		A-Ratio	Perfect Prop.	Largest Remainders	
			Seat#	% Seat			Seat#	A-Ratio
FORD-K	81 790	24	1	12.5	0.52	5.28	5	0.95
FORD-A	140 641	40	6	75	1.87	8.80	9	1.0
KANU	54 546	16	1	12.5	0.75	3.52	4	1.14
DP	66 077	19	0	0	0.0	4.18	4	0.95
TOTAL	343 054	99	8	100	—	21.78	22	—

Source: Compiled by author.

present simulation, a single constituency of 22 representatives is assumed and the seats are distributed using the 'largest remainders' method under a list system proportional representation.¹⁰

The distribution of seats improves considerably for the opposition under these assumptions: Ford-A emerges with 9, Ford-K 5, DP and KANU with 4 seats. This result is very close to perfect proportionality with a deviation *D* of less than 0.1. That is, less than 1% of seats are shifted from a deserving party to another as a consequence of the allocation rules. This observation ought to hold for other regions and thus advantage all regional parties by maximizing the number of representatives they can send to parliament from 'their' region/regions. It would also provide access to representation for supporters of parties that find themselves in the minority in regions where other parties predominate. In Nairobi, where Ford-A dominates, this alternative system would give better representation to both KANU and DP. This should hold true in other regions, but especially in so-called 'KANU zones' where opposition parties exist under threat or at great risk in spite of substantial support.

Without location, or ward-level data, it is difficult to determine how the distribution would look if the province were to be reconfigured into 22 single-member districts, more or less equally apportioned. In reality, the possibilities are endless given that districts may be gerrymandered to preserve pockets of support and to ensure maximum seat allocation to the incumbent party. However, it can reasonably be expected that the representation of smaller or regional parties would improve considerably country-wide by simply correcting existing malapportionment and adopting a seat to population ratio that is more even across the board. It is also clear in the Nairobi province example that expanding district magnitude (an enlarged, multi-member district, under proportional representation) promises wider and fairer representation than is presently offered by the eight malapportioned single-member constituencies under plurality.

With regard to advancing the goal of wider representation, the suggested district magnitude (representatives per constituency) is as significant as the overall choice of an electoral system (PR or plurality) (Taagepera 1984 : 91-92; Taagepera and Shugart 1989 : 117-125). Single-member plurality systems (district magnitude 1) under-represent significant minorities (or scattered majorities), especially in cosmopolitan areas where residents still persist in voting for their 'own' candidates along ethnic, regional, or class lines. Such exclusion from power is even more noticeable and detrimental where electoral districts are malapportioned and/or gerrymandered. It is therefore crucial for democratic reformers to not only correct malapportionment (and therefore balance the representative to population ratio) but also experiment with different district magnitudes for areas that contain significant blocks of supporters of competing parties. This would give weight to the preferences of supporters of minority parties and gain them representation. This

is especially relevant in areas where there is a mix of parties or ethnic groups, one of which is dominant even though by a slight plurality. Examples in Kenya include a number of towns and rural areas in the Rift Valley province where there are intense differences between the so-called 'migrant' and 'indigenous' communities. The former, who settled in the region after post-independence land redistribution (e.g. Kikuyu, Luhya, Kisii), are largely in the opposition. The so-called 'indigenous' groups, especially the Kalenjin and Maasai, are predominantly in KANU, which has declared these areas exclusive "KANU zones." Similarly, in cities such as Mombasa and Nairobi where there are substantial populations of different ethnicities and no particular party dominates except by plurality, district magnitudes can be manipulated to allow for a wider, fairer representation.¹¹

The Presidential Race

In most African countries the presidency remains the most powerful and therefore most significant elected office. Because of the general preponderance of power, prestige, and control over development resources that lie in the executive arm, the presidency is a hotly contested seat. The legitimacy of the outcome of the presidential race is critical to political stability since the presidency, more than the parliament, personifies the unity of the nation. The plurality electoral system is especially inappropriate for multi-candidate presidential races since it aggravates the zero-sum nature of the election especially when voters are mobilized along parochial lines. The extent to which the plurality system is unfair can best be captured by transposing the characteristics of the assembly on the presidency. Consider the presidency and assembly as having a hypothetical value of 100 units of power each. In the assembly, these 100 units are disbursed in one-unit measures to 100 seats, while in the presidency they are all vested in one seat. In the presidential race, the whole country constitutes one electoral district. Thus, if eight candidates or parties are competing for the presidency under plurality, a candidate or party with a plurality of as little as 12.6% would take all 100 values. With regard to the assembly, if the party with a 12.6% plurality takes all 100 seats available many would consider this very inappropriate. The superordinate power of the presidency compared to that of the assembly (i.e. in units of power) underscores the unhealthy character of plurality which treats winning the presidential seat as similar to winning one constituency seat, even though the former usually carries much more weight than the entire parliament.

In the case of Kenya, it is precisely because the incumbent president won by a slim margin of plurality that large sections of the opposition continued to consider him an illegitimate ruler long after the 1992 election. The runner-up in the polls, Kenneth Matiba of Ford-A, continued to insist that "Moi must go" and threatened to lead his supporters in storming the State House in order to dislodge him. While the primary reason for Matiba's ire was a conviction that Moi won due to electoral

fraud — a belief shared by many who are sympathetic to the opposition — another reason is the notion that the outcome signified a loss by the majority of voters who, by voting for an opposition candidate, were actually voting against Moi. This widespread belief is based on an assumption that all who voted for an opposition candidate would have voted for a single opposition party candidate had one emerged. In particular, opposition sympathizers assume that in a two-person race the Condorcet winner would have been the opposition candidate. However, in a situation where the typical voter responds more to personalities rather than to party platforms, the assumption that voters who prefer one opposition candidate would prefer all other opposition candidates over the incumbent president is tenuous at best.

To minimize challenges to the legitimacy of a democratically-elected president and to ensure a more broadly acceptable ruler, a number of electoral devices intended to move closer to a Condorcet winner have been proposed. The least intrusive is the method of 'vote-pooling' proposed by Horowitz (1992) for South Africa, a version of which was already in use in a number of countries, notably Nigeria. Horowitz's proposal sets minimum thresholds of regional votes that a candidate must obtain to win the presidency with a plurality. This provides incentives to presidential candidates and parties to attract and accommodate voters outside their 'natural' constituency in order to reach the more rigorous threshold above a plurality. For example, the 1979 Nigerian electoral system required a successful presidential candidate to muster not only the largest number of votes but also at least 25% of the votes in at least 2/3 of the 19 regions (Oyediran 1981 : 139-152; Horowitz 1992 : 184). A similar formula was adopted in Kenya in 1992 which requires the successful presidential candidate to obtain the most votes and, at least, 25% of the vote in five of the eight provinces. If the leading candidate did not achieve these regional thresholds, then a run-off would be held between the two top contenders and whoever mustered a simple majority would be declared president.

While Horowitz's model is a good antidote to the tendency for presidential elections determined by plurality "to represent one particular segment to the exclusion of other segments," it renders voters reactive to the strategies and designs (or lack of it) of politicians (Horowitz 1992 : 175-176). In fact, voters are much more sophisticated than that and most likely have personal preference rankings of competing candidates. Changing the ballot structure to enable voters to post preferences by ranking candidates (first choice, second choice, and so on) and taking account of such preferences through a variety of decision rules, can lead to the selection of the most acceptable (i.e. Condorcet) candidate. Where there are more than two candidates and where ascriptive voting is widespread, as is likely to be the case in multi-party, multi-ethnic elections in African countries, a Condorcet winner is a preferred choice for the presidency. Condorcet-seeking

electoral mechanisms can identify such a candidate more assuredly than plurality, which, on the contrary, can produce a candidate least preferred by a majority of voters.

To illustrate this, let us consider a hypothetical election in which 100 voters are to elect a representative from among three candidates (A, B, and C).¹² The 100 voters record their preferences as follows:

30 voters	40 voters	30 voters
A	C	B
B	A	A
C	B	C

If the election is conducted under the plurality rule, C would win with 40 votes, even though it is obvious that an even larger majority of (60) voters preferred C the least. However, in a series of pair-wise competitions seeking to identify a Condorcet winner, the following would emerge. In a race pitting A against B, A is preferred by 70 votes to 30; A against C, A is preferred by 60 votes to 40; and B against C, B is preferred by 60 votes to 40. In this case, the Condorcet winner is clearly A since he or she is preferred by most voters over each of the other candidates. This is in spite of C having a plurality (40) and of B having an equal number of votes as A (30) under the plurality poll in which only the first choices are counted. This Condorcet-seeking electoral formula is called the Black system (Black 1971 : 59; Merrill 1988 : 12-14). The justification for picking A as president is that he or she would be most acceptable to most voters; in other words, he or she would be the one candidate to whom the smallest number would have strongest objection. This hypothetical situation illustrates the problem with plurality when there is more than two candidates: it "often fails to select a Condorcet winner, if there is one, and may sometimes select a Condorcet loser" (McLean 1987 : 156) — that is, a candidate who in fact is a loser in all pair-wise contests.¹³

While a run-off election forces a Condorcet winner between the two top contenders, it is at the expense of abandoning other candidates, one of whom may be the true Condorcet winner. Moreover, voters committed to less popular candidates (counting first choices only) excluded in the second round may abstain from voting in the run-off. In Africa, there are also practical issues of the high cost of run-offs in terms of voter and official time, and financing. The ideal is therefore one round of voting. A better way of seeking a Condorcet winner in the presidential race is to introduce changes in the ballot structure enabling the voter to make a preference order of the candidates. The winner may then be determined by employing the Black, Borda, Hare, or Coombs decision rules (see below).

The Black decision rule is considered the most "Condorcet efficient" and is the preferred mechanism since it would identify the Condorcet winner every time, if

there is one (Black 1971 : 57-59; Merrill 1988 : 15). Condorcet efficiency refers to the "percentage of a given class of elections for which the Condorcet candidate is chosen, provided there is one" (Merrill 1988 : 15). In case the Black mechanism is impossible or costly to effect in an election (or is impossible to simulate, as is the case here) other decision rules (Borda, Hare, and Coombs), which have considerably high Condorcet efficiencies, can be used.

Table 4: Condorcet Efficiencies of Different Electoral Systems
(Generated for a simulation of a random society of 25 voters)

Voting System	Number of Candidates					
	2	3	4	5	7	10
Plurality	100	79.1	69.4	62.1	52.0	42.6
Runoff	100	96.2	90.2	83.6	73.5	61.3
Hare	100	96.2	92.7	89.1	84.8	77.9
Borda	100	90.8	87.3	86.2	85.3	84.3
Coombs	100	96.3	93.4	90.2	86.1	81.1
Black	100	100	100	100	100	100

Source: S. Merrill, "A Comparison of Efficient of Multi-candidate Electoral Systems," *American Journal of Political Science*, Vol. 28 No. 1 (1984), p. 28, Table 1.

Given that the number of candidates offering themselves for the presidency in a multi-ethnic country is likely to be high (eight in Kenya in 1992) the preferable mechanisms are the Borda, Coombs, and Hare rules. These three Condorcet-seeking electoral formulas are simulated below.

Borda. The Borda rule requires the voter to select the candidates in accordance with rankings that equal the number of candidates less one.¹⁴ Thus, for n candidates the voter can cast $n-1$ rankings. Confronted with a choice of eight candidates for a single-seat, the voter would cast his or her ballot in the following manner. For the first choice he or she would assign 7, for the second choice 6, and for the third choice 5, and so on, with the least desirable candidate receiving 0 rank. Thus, the higher the preference for a candidate, the higher the rank given. The candidate with highest total rankings is declared the winner.

Hare and Coombs. In both Hare and Coombs systems the voter ranks all candidates with rankings equal to the number of candidates. Thus for n candidates the voter has n rankings to cast. The two methods differ in their decision rules. In the Hare system, if no candidate receives a majority of first-place rankings, the candidate with the fewest first-place rankings is eliminated and his votes are

distributed to the remaining candidates. Only the second-place rankings of the candidate's ballots are added to the first-place votes of the remaining candidates. This process of elimination and transfer goes on until a candidate with a majority of first-place rankings emerges and is declared the winner. (In a secondary simulation, we will specify this majority as a super majority of 67% instead of the usual 50+%.) In the Coombs decision rule, instead of eliminating the candidate with the fewest first-place votes, we eliminate the one with the most last-place votes and his second-to-last place votes are distributed to complement the last-place votes of the remaining candidates. They, in turn, are successfully eliminated until the last candidate with the fewest last-place votes emerges and is declared the winner. The rationale behind the Coombs method is to eliminate the candidate who is most unacceptable to most voters.

Since the 1992 'plurality' ballot recorded only the voter's first choice among the presidential candidates we have to devise a way of approximating the preference of voters. The simulation that follows uses the reported vote count and each candidate's ranking in the presidential poll in each of the 184 (out of 188) constituencies with complete data. This effectively yields a non-random sample of 184 rankings of candidates, to which the alternate decision rules are applied. It is critical to point out that no valid inference can be made about *actual* candidate rankings on individual ballots through this extrapolation from the aggregate, constituency-level standings.¹⁵ Other analysts simulating possible outcomes under alternative electoral systems other than the one actually used here have typically generated random samples of voters and voter preferences, or used polling data, or longitudinal election data, or combined all these to approximate the preferences of voters (Merrill 1979 : 115-134; Merrill 1985 : 389-403). Most such simulations have been undertaken with respect to western democracies where sufficient electoral and opinion poll data exist to allow for sophisticated mathematical modeling. In the Kenyan case, as is true in most African countries, the absence of survey data and longitudinal electoral data rule out simulations based on complex statistical or mathematical models to approximate alternative outcomes. The present method is therefore rudimentary, even crude, and is first and foremost a way to illustrate Condorcet-seeking electoral systems. It would not be valid to take the outcome of these simulations as a reflection of an alternative empirical reality about which candidate would have won the presidency in the 1992 elections.¹⁶

The use of an imperfect tool to approximate voter preferences is justified for three reasons. First, by using the constituency-level outcomes as a sample of preferences from which we project national rankings, we are effectively taking a non-random sample of 184 ranked ballots. Second, as with any conjectural analysis (including more mathematically sophisticated simulations), the electoral outcomes arrived at are in no way meant to be definitive but merely informative and relevant for present discussion purposes only. Third, simulations are by their

nature approximations and random in outcome since even under perfect conditions such electoral systems may not select the Condorcet winner.

Simulation

The first alternative electoral system that was simulated is the Borda count in which the candidates' rankings were cumulated, producing the scores indicated in the table below. The contextual conditions obtaining in 1992 are assumed to prevail. Under the Borda decision rule, which selects the candidate with the highest cumulative ranking, KANU's candidate, Moi, would emerge the winner with an overall ranking of 1,155. His average Borda ranking is 6, the weight given for the second-place candidate on the ballot. Ford-A's Matiba (992 votes) and DP's Kibaki (956 votes) would be close runners up, each with an average Borda ranking of 5 (third place) while Ford-K's Odinga, with 873 votes, would have an average Borda ranking of 4 (fourth place on the ballot).

Under the Hare decision rule, and the 1992 contextual conditions remaining constant, Moi emerges the winner with a 51% majority (95) of first-place rankings before any elimination is undertaken (Table 6). When the threshold is increased to two-thirds of first place-rankings (Table 7), Moi still emerges the winner by mustering 76% (140) of first-place votes country-wide.

If a Condorcet candidate among the opposition — the "best" single opposition candidate against Moi — could be identified, would he have triumphed over the incumbent? The Condorcet winner among the opposition can be estimated by eliminating Moi's first-place counts and assigning them to the next-placed candidate among the remaining contenders. This essentially treats the election as an open primary to produce a single opposition candidate against Moi. In the first few elimination and transfer rounds, Mwau, Anyona, Tsuma, and Nganga are elimi-

Table 5: Borda Count Rankings of Presidential Candidates

	Candidates							
Borda Count	Anyona	Tsuma	Nganga	Odinga	Matiba	Moi	Kibaki	Mwau
Sum	379	320	248	873	992	1155	956	201
Mean	2.05	1.74	1.34	4.74	5.39	6.28	5.20	1.09
Mean	2.	1.	1.	4.	5.	6.	5.	1.
Rank	5.	6.	7.	4.	2.	1.	3.	8.
Actual Rank in 1992	6.	5.	7.	4.	2.	1.	3.	8.

Source: Compiled by Author.

nated quite effortlessly. Next, Ford-K's Odinga who receives the fewest first-place votes of the remaining candidates is eliminated and his votes are used to augment those of Matiba and Kibaki. Where Moi was the second-placed candidate on Odinga's ballots, the vote is transferred to the third-placed candidate (either Kibaki or Matiba). In this case, Ford-A's Matiba emerges as the Condorcet candidate

Table 6: Hare Count and Elimination Stages for 1992 Kenyan Presidential Election

	No. of First Places at Each Elimination Stage 1
Anyona	0
Tsuma	0
Nganga	0
Odinga	29
Matiba	34
Moi	95
Kibaki	27
Mwau	0

Note: Total number of rankings may exceed number of constituencies because of ties among candidates.

Source: Compiled by Author.

Table 7: Hare Count and Elimination Stages for 1992 Kenyan Presidential Election, with threshold set at 67% of Hare count (126)

	No. of First Places at Each Elimination Stage			
	1	2	3	4
Anyona	0			
Tsuma	0			
Nganga	0			
Odinga	29	29	E	
Matiba	34	40	45	E
Moi	95	116	140	140
Kibaki	27	E		
Mwau	0			

Note: Total number of rankings may exceed number of constituencies because of ties among candidates.

E = Eliminated

Source: Compiled by Author.

among the opposition with 103 first-place votes to Kibaki's 84 — the least surprising result given the actual vote. Assuming voters do not change their preferences and assuming the contextual conditions of the 1992 elections, the opposition Condorcet candidate, Matiba, would defeat Moi in a two-person race by a Hare count of 103 to 95.

Under the Coombs rule, in which the candidate with the highest number of last-place rankings is eliminated and his votes transferred to augment the last-place rankings of the remaining candidates, the outcome favors the incumbent KANU candidate. The table below shows the various stages of elimination of successive last-placed candidates. After the sixth elimination, Moi has the lowest last-place count with 49, against the runner-up Matiba with 137. Under the Coombs rule, assuming the circumstances obtaining in the 1992 elections, Moi would be declared the winner.

Two of the three Condorcet-seeking methods in the presidential simulation clearly produced the same winner as the plurality poll (i.e. Moi). The third simulation (under Hare) initially produced the same result as the other two, even when an extraordinary majority threshold (67%) was imposed in the decision rule.

Table 8: Condorcet Winner among Opposition candidates in 1992 Kenyan Presidential Election.

	No. of First Places at Each Elimination Stage				
	1	2	3	4	5
Moi *	95	E			
Odinga	29	50	51	E	
Matiba	34	72	73	103	103
Kibaki	27	64	64	85	E
Mwau	0	1	E		
Tsuma	0	1	E		
Nganga	0	0			

* Moi is eliminated at first step.

Note: Total number of rankings may exceed number of constituencies because of ties among candidates.

E = Eliminated

Source: Compiled by Author.

However, when an open primary was simulated with Hare rules to produce a single opposition candidate (a Condorcet candidate), the opposition defeats Moi.

The outcome of the first set of presidential simulations may be unsettling for those sympathetic to the democratic movement in Kenya and who considered

Table 9: Coombs Count and Elimination Stages for 1992 Kenyan Presidential Election

	No. of Last Places at Each Elimination Stage							
	1	2	3	4	5	6	7	8
Anyona	23	39	98	185	E	—	—	—
Tsuma	53	84	143	E	—	—	—	—
Nganga	80	111	E	—	—	—	—	—
Odinga	0	6	14	16	93	E	—	—
Matiba	1	3	3	6	41	97	137	E
Moi	0	0	0	0	8	36	49	49
Kibaki	0	4	4	6	54	101	E	—
Mwau	86	E	—	—	—	—	—	—

Note: Total number of rankings may exceed number of constituencies because of ties among candidates.

E = Eliminated

Source: Compiled by Author.

Moi's and KANU's victory a setback to the democratic movement. But the latter simulation offers support to the notion that a single opposition candidate may have prevailed against Moi. However, not any candidate may do it; a Condorcet candidate is preferred. It is therefore reasonable to assert, as is commonly believed by activists seeking a single opposition candidate, that the opposition 'lost' the presidency because they fielded multiple candidates. However, the picture is much more complicated because the plurality system, which does not allow alternative preferences to be expressed, disadvantaged the opposition. Given that multiple candidates are likely to be the reality in Kenyan presidential elections, opposition analysts should look to alternative electoral systems to identify a Condorcet candidate instead of trying to convince self-interested politicians to give up their quest for the presidency. In addition, it is reasonable to suggest that the divisiveness among the opposition was detrimental to their chances of unseating KANU because it undercut the psychological advantage of a united, unstoppable, pro-democracy movement that they enjoyed prior to the break up of the original FORD. Mudslinging against other opposition contenders during the campaign may also have reduced their attractiveness outside core supporters vis a vis the incumbent.¹⁷ This may explain the results from the Borda and Coombs simulations where Moi prevails. Finally, the context of the 1992 elections, especially suspected fraud, may explain, although to an uncertain degree, why the presidential simulations largely produce the same winner as the plurality poll.

Significantly, these simulations do not attempt to correct for suspected election

fraud, the effect of which is likely to permeate the simulations as much as it affected the actual election. To illustrate how in fact fraud can undermine even the most Condorcet efficient formula (Black) let us re-consider the hypothetical election in which 100 voters are to elect a representative from among three candidates (A, B, and C). The 100 voters record their preferences as before but due to fraud (in which C is rendered as second place wherever he or she was not first place, regardless of his or her actual standing), the results are rendered as follows:

30 voters	40 voters	30 voters
A	C	B
C*	A	C
b*	B	a

* Fraudulent claim is in bold, and the victimized candidate is in small alphabet

If the election is conducted under the plurality rule, C would win with 40 votes, even though it is obvious that an even larger majority of (60) voters preferred C the least. However, in a series of pair-wise competitions that seek to identify a Condorcet winner the following would now emerge due to fraud. In a race pitting A against B, A is preferred to B by 70 votes to 30; A against C, C is preferred to A by 70 votes to 30; and B against C, C is preferred to B by 70 votes to 30. Under fraudulent conditions, C, the winner under plurality, also emerges as the Condorcet winner. One cannot emphasize enough that no electoral system is immune to fraud.¹⁸

While the above simulations of the presidential election are equivocal this should not necessarily lead to a rejection of alternative electoral arrangements that may help select a president who can draw legitimacy from the majority of the electorate. Indeed, the argument for alternative electoral formulae lies in their potential to achieve desired values (e.g. legitimacy) and not *specific* results. As Merrill asserts, "the legitimacy of an electoral outcome does not require the logical certainty of a given political desideratum, but only its likelihood" (1988 : 10). On this score, the three alternative decision rules which have been considered for the presidential election present viable alternatives to the plurality rule.

Conclusion

This paper has demonstrated the operation of alternative electoral systems for parliamentary and presidential elections relevant to emerging African democracies. Such alternative systems are desirable to mitigate ethnic and region-based political allegiances and voting patterns, assure the widest and fairest possible representation in legislative bodies, and seek the most acceptable candidate for single-person offices such as the presidency. In the case of parliamentary represen-

tation, the Kenyan case suggests that adopting proportional representation systems (instead of the plurality or majoritarian systems) and/or correcting for malapportionment would improve considerably the representation of minorities, small or regional parties, and populations of ethnic groups who live in areas dominated by others.¹⁹ In the case of the presidential race, preference voting and alternative decision rules can help identify the most widely acceptable candidate.

Apart from overhauling present constitutions, democratic reformers in Africa should focus on correcting aspects of existing electoral arrangements which, due to benign ignorance, manipulation, or willful neglect, undermine the fairness of electoral outcomes. As the Kenyan case shows, the manipulation of constituency size in single-member districts under plurality has produced enormously skewed representation in favor of the incumbent party. Similarly, the small size of the legislature compared to the theoretical average from established democracies limits democracy in a number of ways. It renders elected representatives more remote and less accountable by reducing contact with constituents. As a result, there are limited opportunities for citizens who are new to democracy to exercise their rights and responsibilities and to learn the civic ways of a democracy. Additionally, to the extent that there are pressures to expand the assembly this takes a decidedly partisan form which further marginalizes under-represented groups. Even more significant to the goal of achieving fairer and wider representation is the possibility of adjusting district magnitudes to allow for more representatives in a larger electoral district. This would enable minorities scattered across different districts to gain representation by 'coalescing' across a larger region. It would also provide better chances for representation to groups that constitute a substantial minority but fall short of a plurality to 'take-all' in a single-seat district.

The results of the simulations that seek a Condorcet winner in a presidential election are less emphatic since the incumbent wins under the alternative systems, except when a modification is made under Hare rules to produce a Condorcet opposition candidate. Even so, the practical desirability of seeking, and the theoretical possibility of achieving, a Condorcet winner are clear and undiminished. This simulation exercise suggests the need to pay careful attention to the nature and effect of electoral systems in Africa. It is necessary to reconfigure electoral mechanisms to more deliberately improve the inclusiveness and representativeness of electoral outcomes and to select accommodative and widely acceptable single-seat winners.

It is evident that the plurality system currently in use in Kenya (and in many other African countries) disadvantages small, regional or ethnic-based parties which are likely to be the primary vehicle for political mobilization in nations where ethnic and regional cleavages define political interaction. Given the importance of representation as a means for securing access to state-controlled development resources, one must place a premium on fair representation. As demonstrated

here, fairer representation can initially and easily be achieved by manipulating the electoral system rather than by a fundamental restructuring of the political order (such as instituting a federalist or consociationalist structures). While plurality is said to lead to more stable two-party systems in the long-run, in the short-term the detrimental effects it produces, exacerbated by ethnic mobilization, makes the long-term vision a mirage. It is more prudent for democratic reformers to seek electoral systems that maintain legitimacy and stability now rather than those that promise tranquillity in the distant future.

Notes

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1. Exceptions include Lijphart (1985) and Hyden (1994). Organizations concerned with election observation and support such as the International Foundation for Electoral Systems, National Democratic Institute, the International Republican Institute, the Carter Center, the African-American Institute, the Commonwealth Observer Missions, the United Nations, and the United States Agency for International Development have also described, analyzed, and critiqued existing electoral systems in Africa but have not attempted to operationalize alternatives.
 2. Except when two candidates are pitted against each other (a rare occurrence), the plurality or majoritarian schemes are the least appropriate for deeply divided polities. See Horowitz (1992 : 163-203) and Hayward (1987).
 3. The 'largest remainder' rule starts off by prescribing the number of votes a party must have to secure a seat in the assembly. This is called the 'quota'. For every full quota obtained, parties are allocated a seat and the unused portion (i.e. the 'remainder') of their vote count is ranked alongside others and the remaining seats are assigned to those with the highest remainders, thus the name 'largest remainders' (Lijphart 1986 : 170-179).

4. This paper is concerned with representation not power. I recognize that indeed there could be representation but no power. However, even when representation may not translate into power it may serve other functions relevant to political stability such as establishing access to resources. See Barkan (1979 : 265-288) and Hayward (1987 : 13-18).
5. In addition to Barkan's article, NEMU (1993 : 199) reports the final election results. The simulations reported in this article are based on data published earlier without final results for some constituencies. This earlier data set was used because its detail and organization allowed easier manipulation for the simulations.
6. In the South African case the incumbent party in 1948 (the United Party) was not astute enough to take advantage of its redistricting prerogatives. The National Party on its part consolidated its rural base by manipulating re-apportionment to its advantage as soon as it came to power. See Christopher (1994 : 55-61) and Lakeman (1970 : 74-5).
7. For the extent of this mobilization see, for example, Ndegwa (1996 : 99-104); *Daily Nation* January 3, 1993, and Green Belt Movement (1992).
8. Indeed, apart from Nigeria, Kenya is the only country in Africa where the effects of majoritarian ethnic dominance in the presidential election have been a target of mitigation through specifying allocation rules other than simple majority or plurality.
9. Nairobi province, an important seat of opposition power, has been selected as less likely to have suffered significant rigging in the parliamentary vote. It is also the region the author is able to best report on on electioneering and trends in party loyalty based on fieldwork in 1992-3.
10. In this instance, a party needs 15,743 votes to secure the first seat. Parties with this quota are allocated a seat for every full quota obtained. Unused votes are ranked with those of parties short of the quota. The remaining seats are allocated to those with the highest remainders. See also Bogdanor and Butler (1983 : ix).
11. The precedent for enlarging district magnitude and legislating different district magnitudes in plurality elections in order to accommodate known voting patterns and ethnic diversity exists in Cyprus, Lebanon, and New Zealand. See Lijphart (1986 : 115).
12. This illustration of the Condorcet rule draws from Merrill (1988 : 15); Reeve and Ware (1992 : 149); and Black (1971 : 55-75).
13. In fact, in the hypothetical example candidate C, the plurality winner, is a Condorcet loser — disfavored the most by a majority of voters.
14. Alternatively, voters may provide a full ranking equal to the number of candidates and the officials assign the Borda value to the ballots.
15. I am indebted to Nelson Kasfir for pointing out this limitation.

16. This measure can be improved upon by using election returns from the smallest administrative area (locations) or polling stations, which would give more variation and a large sample base and allow for spatial distinctions to be made. Such data, if and when publicly available, as well as opinion or exit polls, may be used for replication and to achieve more statistically significant predictions. I am indebted to York Bradshaw, Paul Mbatia and, especially, John Musalia for critiquing my method and suggesting alternatives and improvements.
17. Indeed, such in-fighting and periodic splintering within the opposition, even after the 1992 election, has alienated many voters who displayed their disgust by not turning out for by-elections.
18. However, the outcomes under the three methods are still statistically probable. For example, as the theoretical Condorcet efficiencies of the different electoral systems suggest, even plurality rules may produce a Condorcet winner at least half the time when eight candidates are running. If we consider the Kenyan election as having had four effective candidates, then the chance that plurality would produce a Condorcet winner is about 70%. Statistically then, it is not unreasonable to accept that the outcome of the 1992 election may have produced a Condorcet winner. It would of course be unreasonable not to mention that the credibility of the election places this statistical probability on shaky ground.
19. Experience from elsewhere also suggests that proportional representation systems tend to produce higher numbers of women parliamentary representatives. See Bogdanor (1983), especially Chapter 6.

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