# Democratic Republic of the Congo
# Elections Feasibility Study

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The UN Department of Political Affairs / Electoral Assistance Division (DPA/EAD) has commissioned this feasibility study to assist transitional authorities in the Democratic Republic of the Congo (DRC) with identifying a comprehensive set of options for organising and conducting elections.[1] These elections are an important component of the peace process and the transition to democracy in this war-torn and divided country.

The Global and Inclusive Agreement (transitional agreement), signed 17 December 2002 by all combatant parties, specifies that fair and free elections in the DRC shall be conducted at "all levels" including a referendum on the proposed constitution, local elections, legislative elections and a presidential election. Although the precise timetable and sequence of elections has yet to be determined, the transitional constitution indicates that the presidential election (which is to mark the end of the transition) must be held within two years of the inauguration of the transitional government. The transitional government took office on 30 June 2003 hence elections must be held no later than July 2005 (or July 2006, if the two six month extensions are invoked). This timetable is quite ambitious, particularly given the magnitude of the task in the DRC.

This report examines the three specific election operation areas identified by stakeholders as being of highest priority at this time: (1) electoral systems and the delimitation of electoral constituencies, (2) voter registration, and (3) polling operations. This report does not discuss electoral administration, civic education or other, equally important, subjects relating to the conduct of elections. However, it should be noted that this feasibility study is a dynamic process, and will continue beyond this report.

A variety of alternative approaches to each of these three facets of the election process – electoral systems, voter registration, and polling operations – have been identified and a discussion of the advantages and disadvantages, as well as costs,[2] associated with these alternatives is offered.

## I. Background

Organizing and conducting an election in the DRC that will be viewed by all major stakeholders as free and fair presents a major technical and logistical challenge. In the

[1] This study is conducted in accordance with Security Resolution 1493, encouraging "MONUC, in coordination with other United Nations agencies, donors and non-governmental organizations, to provide assistance, during the transition period, for the … preparation and holding of elections, throughout the territory of the Democratic Republic of the Congo."

[2] All cost estimates reported in this study are broad approximations and subject to revision.

aftermath of a devastating civil war, with a badly damaged infrastructure and few resources, the DRC will require an enormous amount of international assistance to carry out an election within the next couple of years.

***Post-Conflict Situation*** Since 1997, the DRC has been divided by ethnic strife and war. The hostilities, precipitated by a massive flow of refugee from the fighting in Rwanda and Burundi, led to the toppling of former dictator Mobutu Sese Seko by rebel leader Laurent Kabila in May 1997. Laurent Kabila's regime was subsequently challenged by a Rwanda and Uganda-backed rebellion in August 1998. Troops from Zimbabwe, Angola, Namibia, Chad and Sudan intervened to support the Kabila regime. A cease-fire agreement was signed in July 1999 by the DRC, Zimbabwe, Angola, Uganda, Namibia, Rwanda, and Congolese insurgent groups, but sporadic fighting continued. Joseph Kabila, who succeeded his father when Laurent Kabila was assassinated in January 2001, persuaded occupying Rwanda forces to withdraw from eastern Congo in October 2002. Two months later, an agreement (Global and Inclusive Agreement, 17 December 2002) was signed by all remaining warring parties to end the fighting and set up a transitional government. Ugandan troops officially withdrew from the DRC in May 2003. Localised violence (particularly in the Great Lakes region) continues, however, despite UN peacekeeping efforts.

***Divided Society*** Battling ethnic groups (Tutsi, Hutu, Lendu, Hema and other ethnic groups) in the eastern portion of the country, supported by military forces from neighbouring countries, initiated much of the current conflict. Although the divisions within the DRC are not based solely on ethnicity, the large number of ethnic groups[3] – and the competition among them for limited resources – has certainly served to fuel clashes within society.

***Lack of Resources*** Despite the vast potential of natural resources and mineral wealth, the DRC is one of the poorest countries in the world, with a per capita income of about US$90 in 2002. This is the result of years of mismanagement, corruption and war. In addition, the country has a high illiteracy rate (according to 2003 estimates, 41.7% of the population has had no schooling at all and an additional 42.2% has had only primary schooling) and limited technical expertise to draw on.

***Little Intact Infrastructure*** The DRC is an enormous country (2,345,410 square kilometres; 905,063 square miles) with an almost complete lack of infrastructure. The existing roads (relatively few in number) have been badly damaged (and many have yet to be tested for landmines). Although MONUC has all existing airstrips operational, planes can reach only a limited number of areas in the DRC. The communication system is inadequate: the telephone system is poor, but some radio and television broadcast stations are operating in the DRC.

***Lack of Legal Framework*** There is currently no electoral law in place. Nor has the transition parliament adopted laws on such issues as decentralisation and nationality –

[3] More than 200 ethnic groups have been identified in the DRC. The four largest tribes (Mongo, Luba, Kongo and the Mangbetu-Azande) make up about 45% of the population.

issues that are clearly controversial but must be decided before an election can be held. The transitional parliament, appointed by the signatories to the 17 December 2002 agreement, must reach agreement on these issues and promulgate laws and a new constitution before elections can proceed beyond the formative planning stage.

***Time Constraints*** The transitional constitution, adopted on 2 April 2003, is of limited duration. It expires 24 months (with 2 six month extensions possible) after the inauguration of the transitional government, which occurred 30 June 2003. Elections must therefore be held by July 2005 (or July 2006 at the latest, if the two six month extension options are exercised). This is a very brief time period in which to organise a host of elections (including a referendum, general elections and local elections), especially given the enormity of the task in the DRC.

All of the factors identified above will have a significant impact on the conduct of elections in the DRC. This feasibility study has considered these factors, as well as the socio-political context of the country in general, in developing the electoral system/constituency delimitation, voter registration, and polling operations options discussed.

## II. Analysis of Options: Electoral Systems and the Delimitation of Constituencies

In newly emerging and transitional democracies, especially those where society is divided along ethnic, regional, or other factional lines, political institutions – particularly the electoral system – are especially significant. Political institutions in such societies are the most prominent channel of communication between antagonistic groups; if these institutions exclude significant groups from the "table" then differences between these groups cannot be resolved through negotiation and mutual accommodation. This could lead to the resumption of civil war and to the breakdown of the fledgling system.

The DRC, because it is in the process of emerging from a conflict situation, must avoid excluding significant groups from newly emerging political institutions. The adoption of a "winner-take-all" electoral system that locks out significant portions of the population must therefore be avoided; and an electoral system that emphasises inclusiveness be encouraged.

### A. Electoral System Options[4]

An electoral system is designed to do at least two things: (1) translate the votes cast in an election into seats won in a legislative chamber and (2) act as a conduit through which the people can hold their elected representatives accountable. In translating the votes in a general election into seats in the legislature, the choice of electoral system can effectively determine who is elected and which party gains power. Even with exactly the same number of votes for each of the competing parties, one system might lead to a coalition government and another to a single party assuming majority control.

A number of other consequences of electoral systems go beyond this primary effect. For example, the type of party system that develops (i.e., the number and the relative sizes of political parties in parliament) is influenced by the electoral system. So is the internal cohesion and discipline of parties: some systems may encourage strong central control of parties, while other systems may promote party factionalism. Electoral systems can also influence the way parties campaign and the way political elites behave; they can provide incentives for parties and groups to be broad-based and accommodating, or for parties to base themselves on narrow appeals to ethnicity or kinship ties.

However, it is important to note that the effects of a certain electoral system type also depend to a large extent upon the socio-political context in which it is used. Electoral system consequences depend upon factors such as how a society is structured in terms of

[4] This discussion focuses on election system options for the national legislature. However, any of the electoral systems outlined in this section can also be used at the local level.

racial, ethnic, religious, regional or ideological divisions; whether the country is an established democracy, a transitional democracy, or a new democracy; whether there is an established party system or the parties are embryonic and unformed, and how many "serious" parties there are; and whether a particular party's supporters are geographically concentrated together, or dispersed over a wide area.

***Types of Electoral Systems*** The most common way to categorize electoral systems is to group them according to how closely they translate national votes won into parliamentary seats won, that is, how proportional they are. Most electoral systems choices involve a trade-off: maximising proportionality and inclusiveness of all opinions, or maximising government efficiency via single-party governments. On one end of the inclusiveness/exclusiveness continuum are plurality-majority systems and, at the other, proportional representation systems.

***Plurality-Majority and Semi-Proportional Systems***

There are four electoral systems commonly identified as plurality-majority systems: First-Past-the-Post (FPTP), Block Vote (BV), Alternative Vote (AV) and Two-Round System (TRS). These systems all fall at the majoritarian, rather than the proportionality, end of the inclusive/exclusive continuum.

- *First-Past-the-Post (FPTP)*: elections are held in single-member constituencies, and the winner is the candidate with the most votes, but not necessarily an absolute majority of the votes. Countries that use this system include the United States, Great Britain, Canada, India and many countries that were once part of the British Empire.

- *Block Vote (BV)*: an application of FPTP in multimember rather than single-member constituencies. Voters have as many votes as there are seats to be filled, and the candidates with the highest number of votes fill the positions regardless of the percentage of the vote they actually receive. This system is used in some parts of Asia and the Middle East.[5]

- *Alternative Vote (AV)*: in this system, electors rank the candidates in order of choice. If no candidate has over 50 percent of first-preferences, lower order preference votes are transferred until a majority winner emerges. This system is used in Australia and some other South Pacific countries.

- *Two Round System (TRS)*: has two rounds of voting, often a week or two weeks apart. The first round is the same as a FPTP election and, if a candidate receives an absolute majority in this round, then this candidate is elected outright. If,

[5]A variation of this is the "Party Block Vote", as used in Singapore and Mauritius: voters choose between parties rather than candidates, and the highest polling party wins all seats in the district.

however, no candidate has received an absolute majority, then a second round of voting (with a more limited number of candidates) is conducted, and the winner of this round is declared elected. This system is widely used in France, many former French colonies, and some parts of the former Soviet Union.

Three electoral systems are commonly classified as semi-proportional: the Single Non-Transferable Vote (SNTV), Limited Vote (LV) Systems, and Parallel (non-compensatory mixed) Systems. These systems fall somewhere in between the proportionality of PR systems and the majoritarianism of plurality-majority systems.

- *Single Non-Transferable Vote (SNTV)*: each elector has one vote but there are several seats in the constituency to be filled, and the candidates with the highest number of votes fill these positions. This means that in a four-member constituency, for example, one would on average need only just over 20 percent of the vote to be elected. This system is used in Jordan and Vanuatu (and was used in Japan until 1993).

- *Limited Vote (LV)*: this system is similar to SNTV, except that voters are permitted to cast more than one vote – but fewer votes than there are seats to be filled. This system is used in the Spanish upper house and in Gibraltar.

- *Parallel Systems*: use both PR lists and single-member constituencies running side-by-side (hence the term parallel). Part of the parliament is elected by List PR; the other part is elected by some type of plurality or majority election. Because the seats elected via List PR are not designed to compensate for any disproportionality in the constituency component of the election, parallel systems can produce results as disproportional as plurality-majority ones. Parallel systems are used in Russia, Japan, South Korea, Thailand and the Philippines, as well as other countries.

The major advantages associated with plurality-majority and semi-proportional systems are that (1) they are usually quite simple to understand (particularly important in a country with a high illiteracy rate and little experience with elections); (2) they offer voters a clearly identifiable representative (beholden to a specific geographic area) that can be held accountable and can be called on to provide community services; and (3) they foster one-party government that can, in certain instances, enhance the opportunity for a stable and decisive government.

The primary disadvantage of all of these systems is that they can produce disproportional election results; a party with a small majority of the votes may win a disproportionately large number of legislative seats. Furthermore, smaller political parties and minority groups do not fare particularly well under these systems.

Because the DRC is emerging from a post-conflict situation, and has little experience with democracy, disproportional election results – especially election results that lead to the complete exclusion of significant groups from the parliament – are to be avoided at

all costs. For this reason, it is important to avoid plurality-majority and even semi-proportional systems for the transition elections in the DRC.

**Proportional Representation Systems**

Proportional representation systems are designed to reduce the disparity between a party's share of national votes and its share of parliamentary seats. For many new democracies, particularly those that face deep divisions like the DRC, the inclusion of all significant groups in the parliament is an important condition for democratic consolidation.

There are three types of PR systems: List PR systems, Mixed Member Proportional (MMP) systems, and the Single Transferable Vote (STV) system.

- *List Proportional Representation (List PR):* this is the most common type of PR. Most forms of List PR are held in large, multimember constituencies that maximise proportionality. List PR requires each party to present a list of candidates to the electorate. Electors vote for a party (or, in the case of an open list, for candidates within a certain party); parties receive seats in proportion to their overall share of the national vote. This system is widely used in continental Europe and Latin America.

- *Mixed Member Proportional (MMP)*: this system attempts to combine the positive attributes of both majoritarian and PR electoral systems. A proportion of the parliament (often half) is elected by plurality-majority methods, usually from single-member constituencies, while the other seats are filled via the PR Lists. The PR seats are used to compensate for any disproportionality produced by the constituency seat results. This system is used in Germany, New Zealand, Bolivia, Mexico, Venezuela, Italy and Hungary, as well as other countries.

- *Single Transferable Vote (STV)*: this system employs small multimember constituencies, and voters are required to rank candidates in order of preference in the same manner as the Alternative Vote. After the first-place preferences are tallied, a "quota" of votes is established, which a candidate must achieve to be elected. Any candidate who has more first preferences than the quota is immediately elected. If no one has achieved the quota, the candidate with the lowest number of first-preferences is eliminated, and their second preferences are redistributed among remaining candidates. The surplus votes of elected candidates (i.e., those votes above the quota) are redistributed according to the second preferences on the ballot papers until all seats for the constituency are filled. This system is well-established in Ireland and Malta.

The strongest argument in favour of PR systems is that these systems avoid the anomalous election results of plurality-majority and semi-proportional systems and facilitate a more representative legislature. For many newly emerging and transitional democracies, particularly those such as the DRC that face deep societal divisions, the

inclusion of all significant groups in the parliament is an essential condition for democratic consolidation.

*Advantages*

1. Proportional representation systems faithfully translate votes cast into seats won, and thus avoid some of the more destabilising and "unfair" results produced by plurality-majority electoral systems.
2. These systems make it more likely that representatives from minority groups (and women) will be elected.
3. Few wasted votes are cast in proportional systems. Almost all votes cast within a PR system go towards electing a candidate of choice, increasing voters' perceptions that it is worth making a trip to the polls.
4. Power sharing between parties and interest groups are more visible under these systems.

*Disadvantages*

1. PR systems usually lead to coalition governments, which can lead to legislative gridlock and the inability to carry out coherent policies at a time of most pressing need.
2. Some PR systems do not provide a strong linkage between a representative and his or her electorate. (This is not true of an MMP system, however.)
3. PR systems offer a platform for small extremist parties (unless a high threshold is set for obtaining a seat in parliament).
4. Some PR systems are criticised for leaving too much power entrenched within party headquarters, in the hands of senior party officials (i.e., a candidate's position on the party list, and therefore his or her likelihood of success, is dependent on party bosses). This is particularly true of a national closed-list PR system.

***Choosing a System for Post-Conflict Transitional Legislative Elections in the DRC***

There is no perfect electoral system; major design criteria often conflict with each other or are even mutually exclusive. For example, increasing the number of seats assigned to each constituency will enhance proportionality ("representativeness") but will reduce the geographic link between a representative and his or her constituency ("accountability"). Careful consideration must be given to prioritising the criteria that are most important within a given political context.

Comparative experience suggests that the most important electoral requirement for democratic transition, particularly in a divided post-conflict state like the DRC, is a system that maximises inclusiveness and is clearly fair to all parties. This goal is best achieved by a PR electoral system, usually in conjunction with some form of overall power-sharing agreement within the government. Two common elements of a power-sharing arrangement brokered between deeply divided segments of society are (1) *proportionality* (proportional representation in the legislature and proportional allocation

of civil service positions and public funds) and (2) *executive power sharing* (power sharing within the executive branch among the representatives of all significant groups – a "grand coalition" within the cabinet).[6] In contrast to the adversarial nature of a Westminster winner-take-all democracy, power-sharing settlements encourage governments to become inclusive multiethnic coalitions.

Given that some form of proportional representation is clearly in the best interest of the DRC, three election system options (as outlined above) exist. There are advantages and disadvantages associated with each of these systems which need to be considered when deciding which system to adopt in the DRC.

***List PR*** There is historical precedence for using List PR in the DRC: legislative elections held immediately following independence utilised this type of system (this was the system bequeathed to the DRC by the Belgium colonialists). Furthermore, List PR is the most common choice for newly emerging and transitional democracies so there is a wealth of experience to draw on for planning and conducting the elections.[7]

Another advantage offered by List PR is that there would be no need to draw new electoral boundaries, although a decision would be required as to which set of existing administrative boundaries to use – province, district or territory – for regional List PR (assuming a national List PR system is not adopted).

A major drawback to using List PR is the current multiplicity of political parties – if this remains a feature of the DRC landscape, ballots could be far too long (especially if an open, rather than closed, party list were adopted). Political parties (most of which in the DRC have an ethno-regional basis and no ideological foundation) will have to unite, form coalitions or disappear for a List PR ballot to be manageable. (If local elections precede legislative elections this could trigger a natural reduction in the number of political parties competing for seats at the national level).

Another important disadvantage associated with List PR is that the geographical areas from which representatives are elected are usually quite large; hence the link between voters and their representatives is not as strong as it would be under a system offering single-member or small multimember constituencies. Many Congolese officials interviewed simply assumed that representatives would be selected from the level of the *territory*[8] (this has been the practice for the past 25 years at least) and felt that having

[6] The executive within the DRC transitional government is currently organized on a power-sharing basis, with the vice-presidents and ministers representing different combatant parties.

[7] The list of countries that recently employed some form of List PR for their founding elections includes: Chile (1989), Namibia (1989), Nicaragua (1990), Cambodia (1993), South Africa (1994), Mozambique (1994) and Bosnia (1996).

[8] The territory is a geographically-based administrative unit in the DRC: there were 206 territories across the DRC in 1984 and, according to the 1984 census (the last scientific census conducted in the DRC), these units had an average population of 143925 – they varied dramatically in population (from 6093 to 619827), however.

representatives associated with specific territories was beneficial as it facilitated communication between voters and the government.

***Mixed Member Proportional (MMP)*** The major advantage offered by an MMP system is the clear geographic link that is established between a representative and his or her voters. This specific concern was raised numerous times by Congolese interviewed. Not only would a distinct connection between a representative and his or her constituency facilitate the exchange of information, it would also empower Congolese voters: With time, Congolese voters would come to recognise their ability to hold their representative accountable (returning their MPs to office if they performed well on their behalf and voting them out of the legislature if their MPs failed them).[9]

One important disadvantage with this system is the need to delimit a large number of constituencies. This could be done by either adopting administrative units smaller than provinces or *districts*,[10] or by drawing unique electoral constituency boundaries. If such existing administrative units as territories were to be used, the population data associated with these units are even more problematic than the data at the provincial and district level. (The issue of data reliability is discussed at greater length below in the portion of the Boundary Delimitation section entitled "Construction of a Database".)

Another disadvantage sometimes associated with an MMP system is the complexity of the ballot (MMP systems often require that two votes be cast, one for a constituency representative and one for a political party). In fact, however, the ballot can be designed so that voters cast only one vote; this single vote is used both to elect a constituent representative and to designate a party preference.[11] (Exercising the one-vote option would also limit the number of political parties to a manageable level, at least in the long run.)

***Single Transferable Vote (STV)*** A unique advantage associated with STV is that its preferential ballot provides some incentives for candidates to attempt to attract second preference votes from groups other than their own (assuming that the voters' first preference will be a candidate from their own group or party). This, at least in theory, encourages candidates and parties to make appeals beyond their defined ethno-regional boundaries. This can, in turn, promote cooperative behaviour across ethnic/party lines. Moreover, this accommodation relies on popular, and not simply elite, activity.

Another advantage of STV is that the multimember constituencies used are usually relatively small and therefore a geographical link between the voter and representative is retained.

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[9] MP is an abbreviation for Member of Parliament.

[10] The district is a geographically-based administrative unit in the DRC: there were 42 districts in the DRC in 1984. According to the 1984 census, these units varied in population from 18366 to 2434275, with an average population of 705925.

[11] A one vote system was used in Germany when the MMP system was first adopted.

A significant disadvantage with STV is that the preferential voting employed in this system is both unfamiliar and more complex than other voting systems. Not only does casting a ballot take a certain degree of sophistication (one that would require an ambitious voter education program in the DRC), the vote counting process is quite complicated.[12] Training personnel to carry out the count could be challenging; convincing the public that the result of the vote count is trustworthy could be even more problematic.

In addition, the use of STV for national parliamentary elections has been limited to only a very few cases,[13] so lessons learned are limited.

One final note: if the divisions within society and in voting behaviour are not motivated solely by such ascriptive characteristics as ethnicity, than STV may be a viable option because it provides incentives for accommodation and cooperation. However, if the conflict is primarily based on ethnicity or other ascriptive distinctions, then a List PR or MMP system may be the best option. In fact, the conflict in the DRC can be characterized as both ethnic and regional (at a minimum), and is probably not primarily primordial in character, but because this assertion is somewhat questionable at least in certain areas of the country, and because STV has other serious disadvantages associated with it, a safer course might be the adoption of a List PR or MMP system.

***Choosing Senators***

The transitional constitution of the DRC calls for a bicameral legislature. Although there are wide variations in the types of second chambers, one generalization that is true more often than not is that an upper chamber is designed to encompass different types of representation than the lower chamber.

The most common use of the second chamber, particularly in a federal system, is to represent the constituent units of the federation (for example, states in the USA and Australia). Another common type of representation is the deliberate use of the upper chamber to represent particular interest groups (such as ethnic/tribal, religious or linguistic groups).

Depending on the country, many (or all) of the senators may be indirectly elected or not elected at all. Of those countries that have chosen to elect their senators, most have opted to reflect the different roles of the two chambers by using different electoral systems for their upper and lower chambers.

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[12] Vote counting in the recent (November 2003) STV election in Northern Ireland took several days to accomplish – and the DRC has a considerably larger population than Northern Ireland.

[13] STV is used in Ireland (since 1921), Malta (since 1947), the Australian Senate (since 1949) and one-off elections in Estonia (1990) and Northern Ireland (1973 and 1982). STV was recently reintroduced in Northern Ireland as part of the Irish peace settlement; in fact, elections were just held (26 November 2003) using STV.

## B. Boundary Delimitation Options

Regardless of the electoral system adopted, some decisions will have to be reached concerning the delimitation of electoral boundaries. Although the size of the geographic area encompassed by the electoral constituency will vary depending on the type of electoral system (for example, List PR could adopt provincial lines as the electoral constituencies, while an MMP or an STV system would require smaller constituencies), some delimitation will almost certainly be necessary.[14] This delimitation could be as simple as adopting existing administrative boundaries (provincial, district or territorial boundaries, for example) as electoral constituencies and then allocating parliamentary seats to these constituencies on the basis of population; or it could be as complex as drawing new electoral constituency lines specifically for election purposes.

***Boundary Delimitation Process***

Delimiting electoral constituency boundaries, or redistricting, can have major consequences not only for the candidates who choose to compete for election in these constituencies, and the legislators who represent the constituencies, but also for communities and individuals residing within the constituencies. Ultimately, election outcomes and the partisan composition of the legislature may be affected by the selection of constituency boundaries. This makes the selection of a redistricting plan – and the choice of redistricting practices – quite important, although this fact is seldom recognised.

Despite the potential political implications of redistricting, relatively few countries have given the process much consideration. In some countries, redistricting practices are merely a matter of historical tradition; in other countries, redistricting practices were simply borrowed from a colonial power or an influential neighbouring country. But redistricting practices that worked well in the past, or that work well in some countries, do not necessarily work well indefinitely and in all countries. A few countries have reconsidered and reformed their redistricting practices in recognition of this fact.[15]

***Principles for Delimiting Electoral Constituencies*** There are at least two redistricting principles that can be identified as universal:

- *Equality of Voting Strength* Electoral constituency boundaries should be drawn so that constituencies are relatively equal in population. Constituencies that vary greatly

[14] Although the DRC could, in theory, adopt a national PR List system, whereby the entire country would form a single electoral district, this is not recommended given the size of the country.

[15] For example, in a number of countries legislatures permitted to draw their own electoral boundaries abused the privilege and produced districts that disproportionately favoured one political party over others. This practice prompted countries such as Australia, Canada and the United Kingdom to reassign the task of redistricting to independent, non-partisan commissions.

in population violate a central tenet of democracy that all voters should cast a vote of equal weight.

- *Representativeness* Electoral constituency boundaries should be drawn such that constituents have an opportunity to elect candidates they feel truly represent them. This usually means that constituency boundaries should coincide with communities of interest as much as possible. If constituencies are not composed of voters with common interests or values, it may be difficult for a single legislator to represent the entire constituency.

Any redistricting plan adopted should adhere to these two principles, recognising that these two principles are not mutually exclusive and some trade-offs between these principles – and other principles that may be identified as important – may be necessary.

***Structure and Rules for Delimiting Electoral Constituencies*** Countries that delimit constituencies must establish a formal structure and a set of rules for carrying out the redistricting process. Legislation outlining the formal structure and rules for redistricting should include provisions relating to the following:

- *Redistricting Authority* Who will draw the constituency boundaries? Should those responsible for redistricting be politically neutral, multi-partisan or government-controlled? Should the process be centralised or de-centralised? Should the legislature have any formal role in the process? If not, who will have the authority for selecting the final redistricting plan? Should the final redistricting plan be subject to challenge (say, for example, in a court of law)?

- *Public Access to the Redistricting Process* Should some mechanism exist for public input into to the redistricting process? How should this mechanism be structured? Should the redistricting authority be required to incorporate public input into the final redistricting plan?

- *The Establishment of Redistricting Criteria* Should redistricting criteria be adopted for the line drawers to follow? If so, what should these criteria be? Should constituencies be as equal in population as possible? Should administrative boundaries and communities of interest be taken into account? Should fair representation for minority groups and political parties be a consideration when creating constituencies? What other criteria should the redistricting authority be required to consider?

The importance of the delimitation process (and the rules that bind it), varies depending on the type of electoral system. Because plurality and majority systems can produce disproportional election results, the structure and rules established for the process are quite important. Although somewhat less important in the context of proportional representation systems, it is still essential that the electoral law specify the process by which electoral constituency delimitation should occur.

***Delimitation Process in the DRC*** Three alternatives exist for delimiting electoral boundaries in the DRC:

- Use existing administrative boundaries (for example, provincial, district or territory boundaries) for electoral purposes.

- New administrative boundaries could conceivably be drawn (and may in fact be proposed as part of a de-centralisation package being debated by the transitional government in the DRC) and these could be utilised for electoral purposes.

- Electoral constituencies could be drawn that are unique (separate from the administrative structure).

***Current Administrative Units Used as Electoral Constituencies in the DRC***

The DRC is subdivided into several layers of administrative units, many of these in existence since before independence in 1960. The largest of these units are provinces, next in size are districts, then territories; the smallest administrative unit (for which data is collected) are collectivities. According to the Administrative Divisions Directorate of the Ministry of Interior, the number of administrative units for each layer is at present as follows:[16]

| | |
|---|---|
| Provinces (including Kinshasa) | 11 |
| Districts | 27 |
| Cities (namely ±98 communes, ±1,249 districts and Kinshasa) | 29 |
| Territories | 145 |
| Communities (spread out over 476 sectors and 261 chiefdoms) | 737 |
| Groups (spread out over ± 60,000 villages) | 5409 |

In addition, six urban groups having more than 100,000 inhabitants which do not have a "city status" have been identified. They are spread out in the provinces of Katanga (Kalemi, Kamina and Kipush), Nord-Kivu (Kayna and Kanya-Bayounga in a single group), Orientale (Bunia) and Sud-Kivu (Uvira).

These administrative units are interlinked and used not only for government administration purposes but also to conduct scientific and administrative censuses and to determine demographic projections. They also are employed to carry out various operations at the national, provincial, regional and local levels such as medical immunization campaigns.

[16] The information we obtained on the number of districts and territories varied over time and from source to source. For example, apparently some districts have become independent Provinces (like the eastern Provinces of North Kivu, South Kivu and Maniema), and Kinshasa, formerly four districts, is now a Province with 24 Communities.

Maps identifying the boundaries of these administrative units are readily available, but are out-of-date because centres of population have moved. (The administrative boundaries themselves have not changed, at least not recently, but because of massive population movements as a result of the war, administrative boundaries may cut through the middle of new population centres).

Population projections for these administrative units exist, although these projections are not particularly reliable. (This issue is discussed at greater length in this portion of the study, in a section entitled "Construction of a Database.")

Co-opting a layer of administrative units (for example, provinces, districts, or territories) for use as electoral constituencies has several advantages:

- Using already existing boundaries would negate the need to draw an entirely new set of electoral boundaries (which would be an extremely expensive and time consuming task).

- There is population projection data (albeit less than reliable) associated with these existing administrative units, making the exercise of allocating seats to constituencies easier, and perhaps more accurate, than would otherwise be the case.

- These administrative units have traditionally been used in the DRC for representational purposes (and many Congolese officials interviewed assumed that these units would be used again for the upcoming elections).

On the other hand, there are several disadvantages associated with the use of existing administrative boundaries:

- Administrative units were not designed to encompass communities of interest, and in fact often cut across tribal lines and divide homogeneous groups that should be united in a single electoral constituency.

- Some changes made to administrative boundaries (particularly at the territorial level) over time have been prompted by the desire to divide certain ethnic groups.[17]

- The population projections that do exist for these administrative units are clearly not reliable, especially given the war and other unanticipated events (i.e., the AIDS epidemic).

[17] For example, according to Jose-Francois Loleka-Bonkanga, Le Chef de Bureau du Bureau de Representation du Government Charge de la MONUC Mbandaka, territorial lines between Kiri and Ingende were changed so that the majority ethnic group in that territory would be reduced to minority status.

If the decision is reached to use current administrative units for electoral purposes, then the question remains as to which set of units to employ for electoral purposes: provinces, districts, territories, or some smaller unit. Of course, a large part of this decision is dependent on the type of electoral system adopted. For example, if a List PR system is selected, then the choice of administrative units is limited to provinces, districts or possibly territories since the electoral constituencies must be large enough to permit the allocation of several seats to each constituency. On the other hand, if an MMP or STV system is adopted, then electoral constituencies would need to be much smaller in size – territorial units would probably be the largest possible unit that could be employed.

We performed a series of simulations for illustrative purposes only (using the 1984 census data and employing no projections or adjustments to this data) to determine what the seat allocation would be to each electoral constituency under three scenarios: using provinces as constituencies, using districts as constituencies, and using territories as constituencies. Appendix A contains the detailed results of these simulations.

If provinces were to be used for electoral constituencies (this would only be possible under List PR or for the PR portion of an MMP system), for example, the range in the number of seats allocated to the provinces would be from 11 (Maniema) to 58 (Oriental) using the 1984 census data and hypothesising a 400 seat parliament.

If electoral constituency boundaries were to coincide with administrative district boundaries, and no districts were combined, the range in seats allocated would be as few as 0 or 1 (district of Bandudu in the province of Bandudu) to as many as 26 or 27 (district of Kwilu in the province of Bandudu).

If territories were used as electoral constituencies, a great many territories would have to be combined in order to be accorded representation. This is true whether approximately half of the representatives were to be assigned to electoral constituencies (as would be the case with an MMP system) or all of the representatives were constituency-based (as would be the case with an STV or any plurality-majority system). On the other hand, some territories would form rather large multimember constituencies, with as many as 8 MPs assigned to a single constituency.

The simulations in Appendix A illustrate a number of important points:

- The choice of which administrative unit to utilize as electoral constituencies will have significant ramifications for the electoral system (how proportional the election results are likely to be), for the representation of communities (which communities would be assigned more and which less representatives, and which communities will have to be combined with others for representational purposes; and how many communities would be divided by electoral constituency lines), and for the electorate (how complex the ballot will be given the number of candidates competing and the number of seats to be filled).

- Some boundary "delimitation" would likely have to be engaged in, at least to the extent of deciding which administrative units to combine for electoral constituency purposes – at least if territories (and possibly districts) are chosen as electoral constituencies. If a level below the territory is selected, then most certainly "delimitation" will have to occur.

- The choice of a formula for allocating seats to electoral constituencies matters – an electoral constituency can receive more or less seats depending on what formula is used (i.e., compare our simple example of assigning seats when more that .51% of 74122 voters are assigned a seat, or when a seat is assigned for each 74122 voters).[18]

- The population data upon with the seat allocation will be based is important. Obviously the more reliable and less controversial the data, the better: the process will be more accurate, and will be perceived as more legitimate, if the population data on which the allocation is based is not in question.

***New Administrative Units Used as Electoral Constituencies***

In the event of a decentralization of the government into administrative entities other than the existing ones, new administrative units would have to be created. If these new administrative units are also to be utilized as electoral constituencies, then the criteria for the effective representation of electors should prevail during the administrative delimitation process.

Of course, even if these electoral criteria are not considered when the new administrative units are drawn, it is still possible to use the new administrative units as electoral constituencies. However, the same disadvantages would hold for the new administrative units as for the current administrative units (see list above), with the additional problems of having even less reliable population data for these new administrative units, and less time to prepare for the elections.

If, on the other hand, the new administrative units are designed with such criteria as population equality and communities of interest in mind, then the adoption of these units as electoral constituencies would make a great deal of sense. This approach would require the collection of new demographic and sociological data, however – an expensive and time consuming operation. (This issue is discussed at greater length in the section below entitled "Conduct a New Census.")

***Delimitation of New and Unique Electoral Constituencies in the DRC***

The delimitation of constituencies in the DRC specifically for the purposes of the election of representatives to parliament would be an enormous undertaking (both in terms of the

[18] The electoral quotient, 74122, was arrived at by dividing the total population by the number of electoral districts to be allocated seats.

time needed and the resources required). The process would involve a number of steps, including (1) the construction of a database minimally composed of maps and population data; (2) the formation of constituencies by allocating parliamentary seats to sub-regions of the country and creating unique electoral constituencies within these sub-regions; (3) the evaluation of the proposed redistricting plan and the adoption of a final redistricting plan.

***Construction of a Database*** Delimitation requires the collection of several different types of information. The two essential pieces of information are population data and maps. The population data, which may be in the form of census enumeration data or voter registration data,[19] provide the only means of creating constituencies that are relatively equal in population. Maps are needed to ensure that only contiguous geographic population units are assigned to constituencies and that constituency boundaries do not divide communities of interest unnecessarily.

As part of this feasibility study, we identified and briefly reviewed possible sources of delimitation data in the DRC. These include:

- Using the currently existing census projections (based on 1984 census) and cartographic information
- Updating and consolidating the census projections and cartographic information using local expertise and technical assistance
- Conducting a new census (or, alternatively, a "light" census)
- Using information obtained from voter registration process to update currently existing data

*Using Currently Existing Population and Cartographic Data* We found that much of the data needed for delimitation purposes in the DRC is out-of-date and, because of the drastic changes the DRC has undergone in the past ten years, unreliable.

The last scientific census of the population in the DRC was held in 1984, whereas the most recent administrative census dates back to 1996. Since then, the National Statistics Institute (INS) has produced demographic projections that estimate the number of electors aged 16 and over at ±25,600,000. These data on electors are broken down, by province, as follows:

[19] The choice of whether to use census data or voter registration data may be guided by either practical or theoretical concerns. For instance, census data may not be the best option if a general enumeration of the population is unavailable, outdated or inaccurate. On the other hand, registration data may not adequate for redistricting purposes if it fails to include demographic or sociological information that is essential given the specific country context. From a theoretical perspective, delimitation based on registration data is likely to produce districts that are more equal with respect to the number of voters contained within them, but an argument could be made that representatives serve all persons, not simply voters.

| | |
|---|---|
| Bandundu | 2,915,000 |
| Bas-Congo | 1,555,000 |
| Équateur | 2,807,000 |
| Katanga | 3,429,000 |
| Kasai Occidental | 1,876,000 |
| Kasai Oriental | 2,160,000 |
| Maniema | 762,000 |
| Nord-Kivu | 1,982,000 |
| Orientale | 3,447,000 |
| Sud-Kivu | 1,784,000 |
| City of Kinshasa | 2,902,000 |
| TOTAL | 25,619,000 |

Although these population projections are estimated to be marginally reliable at the national and provincial level, they are deemed to far less reliable for the lower administrative levels (districts, territories, collectivities, etc.). Population projections in the DRC are problematic in large part because of the prolonged civil conflict and the displacement of the population and higher than presumed mortality rates that the war entailed.[20]

The cartographic data currently available for the DRC suffers from the same defect: much of it is out-of-date because of large population shifts, particularly in the last five years. Although the geographical coverage index of the territory of the DRC, available to the specialists of the Geographical Information Centre of MONUC, is diversified, some of this information has not been updated for twenty years. In any case, this index includes, among other things:

- Road networks;
- Hydrographic networks;
- Rail networks;
- Administrative limits including local communities;
- All cities;
- The location of humanitarian organizations on the territory;
- OPAKI radio-broadcasting system;
- Public services and airports; etc.

*Updating and Consolidating Census Projections and Cartographic Data* MONUC is equipped with a spatial reference geographical information system which, based on the information compiled and entered, can locate demographical and geographical elements, establish their exact number and distribute them in space. This system specifies the administrative boundaries to the smallest territorial entity; it also makes

[20] Population projections produced by the INS differ quite significantly from official UN projections: INS projections put the population in 2005 at 60.1 million; the UN estimates it at 56.4 million.

it possible to pinpoint hydrographic, rail, road networks, etc. This structured set of data makes it possible, at least in theory, to use a geographic information system to delimit electoral boundaries. However, the demographic and sociological data necessary to use this system for redistricting purposes is missing.

The main difficulty confronting MONUC specialists when maximizing the operation of the spatial reference geographical information system lies in the demographic and sociological data that are missing or incomplete or whose reliability must be validated. The collaboration of experts from the DRC would allow database specialists to obtain, verify and enter the required information.

A collaborative effort on the part of such personnel as specialists from the National Statistics Institute, representatives of the Administrative Divisions Directorate of the Ministry of the Interior, Abbot Léon of Saint-Moulin, university demographers, and geometrics specialists of the unit responsible for the management of geographical information at MONUC would allow the updating of this geographic information for delimitation purposes.

This operation could be carried out at the relatively low cost of ± $100,000.00, as it would call on the contribution of persons already within the DRC and, in many instances, persons already holding a portion of the needed information and data.

*Conducting a New Census* The third option available for obtaining data for delimitation is to conduct a new scientific population census. However, this census operation could cost as much as ±$75,000,000 and would require a minimum time period of two to three years to complete. Of course, the information obtained would be useful for endeavours far beyond the delimitation of electoral boundaries.

An enormous organizational and operational structure would have to be put in place to accomplish this task – the National Statistical Institute is ill-equipped to undertake a substantial statistical exercise at this point in time. For example, during the census held in 1984, use was made of 28,185 census-taking areas and 2,924 control areas spread out over the entire territory. In the event of a new census, these census-taking and control areas will first have to be checked and adjusted with respect to both the geographic territory encompassed and the number of anticipated respondents within them. The massive population movements in recent years, whether towards cities or elsewhere, require such a prior intervention.

Even a "light enumeration" (involving a head count with a very limited number of questions)[21] would require a major financial investment, although somewhat less than ±$75,000,000.00.

[21] Recently, the National Statistical Institute proposed conducting a "light" census, that is, a population and housing census that would collect nine variables for each person in the DRC, while generating voter lists.

*Using Voter Registration Data* The fourth option available is to use the information obtained during the voter registration process (assuming a voter registration procedure is conducted) to delimit electoral constituencies. A voter registration exercise designed to reach every household in the country could be used not only for a head count but could provide a geographical location for every potential voter in the country – invaluable information in a delimitation exercise. (A detailed discussion of the options for collecting voter registration data can be found in the portion of this study entitled "III. Analysis of Options: Voter Registration".)

The major drawback to using voter registration data is that much of the demographic and sociological data collected in a census would be missing from a voter registration database. Another problem is that the collection of this data would be completed rather late in terms of the election calendar, making delimitation on the basis of this data a challenge. Even if delimitation were to occur prior to the completion of the registration process, however, the voter registration counts could still be used to modify seat allocations if the need were to arise.

***Formation of Electoral Constituencies*** Once a database has been prepared, the next step in the delimitation process is the formation of electoral constituencies. This is usually composed of one or two phases: the allocation, or apportionment, of parliamentary seats to regional entities such as provinces (this process is also referred to as "redistribution" in many countries); and the delimitation of electoral constituency boundaries within these regions.

The apportionment phase of the delimitation process is usually relatively mechanical,[22] with the number of seats assigned to each sub-region usually dependent on the relative population of that sub-region. In countries that do not delimit single-member or smaller multimember constituencies, apportionment may be the only step taken to equalize population across electoral constituencies.

In countries that do delimit smaller constituencies, the second phase of the process is the creation of new electoral constituencies within the sub-regions themselves. (In countries that do not allocate seats regionally, this is the only phase in the delimitation process.) This is the step where the line drawers create a redistricting plan by assigning geographic units such as cities, towns and villages (or city blocks) to constituencies. A redistricting plan is complete when all geographic units within the given territory are assigned to a constituency and all constituencies in the plan meet the predetermined redistricting criteria.

***Evaluation of Redistricting Plan*** Once the boundary authority has successfully completed a redistricting plan by assigning all geographic units in the territory to an electoral constituency, summary information for the plan should be produced. This information is used to evaluate the plan. A summary description of a redistricting plan should include information such as a description of the plan listing the geographic

[22] Although the apportionment process itself is mechanical, the decision as to what formula to use for the allocation of seats can be a controversial one.

components of each constituency, map(s) of the plan showing the constituency boundaries, and a report summarising the most relevant statistical information for each constituency in the plan.

The summary information should allow the boundary authority, political parties, legislators and governmental officials, citizens, and other interested stakeholders to evaluate a redistricting plan according to the established criteria. Public hearing may be held to solicit the comments of these stakeholders. If, for example, the redistricting criteria adopted specify that constituencies be as equal in population as possible, information should be available regarding the population of each constituency the degree to which the population deviates from the electoral quota. The production of maps would allow interested parties to determine if communities of interest have been taken into account in promulgating the constituency boundaries.

After evaluating a proposed redistricting plan, including the solicitation of comments on this plan, the authority in charge of delimitation should endeavour to take these comments into account, and modify the redistricting plan accordingly. The final stage of the process is the adoption of the new redistricting plan; provisions for how this is accomplished should be described quite explicitly in the electoral law. In fact, the entire process (who should draw the constituencies, what criteria should be followed, etc.) should be mapped out as clearly as possible beforehand in the Election Act in order to guide authorities in charge of the process.

***Timeframe and Cost*** The establishment of a distinct electoral map is a process that could take as long as a year to accomplish once the database has been created. Delimitation requires the use of diversified data and the processing of a large amount of information. A team composed of as many as thirty individuals may be needed for the analyses of the data and the preparation of one or more redistricting proposals. The "evaluation and public hearing" component of the process requires the establishment of a team of specialists for the production of summary reports and communication plans, the design and printing of documents, etc. Finally, the organizational and operational logistics for this kind of operation are both very important and demanding, especially if the timeframe for carrying out the process is short.

Given these factors, the total cost of delimiting new electoral constituencies that are distinct from the administrative limits is estimated at approximately ±$30,000,000.00.

## C. General Cost Considerations

The choice of electoral system, and in particular the extent of the boundary delimitation process, has consequences for the cost of elections.[23]

[23] Of course, simply choosing the least expensive electoral system may be a false economy in the long run, as a dysfunctional electoral system can have a negative impact on a country's political system and its democratic stability.

***Delimitation of electoral boundaries*:** The single most expensive cost associated with the adoption of an electoral system is whether the system entails the drawing of electoral constituencies or not, and how extensive a delimitation process is required if constituencies must be created. Plurality-majority systems that rely solely on single-member constituencies (i.e., FPTP and TRS systems) are the most expensive because they require the delimitation of the greatest number of constituencies. Parallel, MMP and STV systems also require electoral constituencies to be demarcated, but are somewhat easier to manage because they can employ multimember constituencies, which tend to be fewer in number and therefore less costly to delimit. At the other end of the scale, List PR systems are often the cheapest because they either use one single national constituency, or they use very large multimember constituencies which coincide with pre-existing state or provincial boundaries. Moreover, it should be noted that delimitation is rarely a one-off task, as boundaries have to be regularly adjusted to take population changes into account. This means that delimitation is a recurring cost, especially in the case of single-member constituency systems (in which seats cannot simply be reallocated to account for shifts in populations).

***Registration of voters*:** Any electoral system that utilizes single-member constituencies usually requires that all voters must be registered within the boundaries of the constituency. This means that Parallel and MMP systems join FPTP and other plurality-majority systems as the most expensive and administratively time-consuming systems in terms of voter registration. A List PR system, with fewer, multi-member constituencies (or even a single, at-large constituency) is the least expensive all other factors being equal. It should be emphasized, however, that variations in electoral systems have only a minor impact on the often extremely high cost of voter registration.

***Voter education*:** Clearly the nature of, and need for, voter education will vary dramatically from society to society depending on the education level of the society and any previous experience potential voters will have had with casting ballots. There are also some identifiable differences between electoral systems when it comes to educating voters on how to fill out their ballots. In particular, the principles behind voting under preferential systems such as AV or STV are quite complex, especially if being used for the first time, and voter education will need to address this.

***Number of elections*:** Two-Round Systems are the most costly to administer because they often require the whole electoral process to be re-run a week or two after the first election.

***Vote count*:** FPTP and simple closed-list PR systems are easiest to count, as only one vote total figure for each party or candidate is required to work out the results. Parallel and MMP systems may require the counting of two ballot papers. An STV system entails the most complex vote count, because it requires continual re-calculations of surplus transfer values and the like.

## D. Summary Chart

On the following page is a summary chart, listing the three significant electoral system options discussed in this study, the unique advantages and disadvantages associated with each of these options, and the resources required to initiate these options (particularly with regard to boundary delimitation).

**Summary Chart: Advantages/Disadvantages and Required Resources for Electoral System Alternatives**

| Electoral System | Advantages | Disadvantages | Resources Required |
|---|---|---|---|
| **List PR** | • Simplest system to administer (boundary delimitation limited)<br>• Historical precedence for using this system<br>• Most common system used in post-conflict situation (lessons learned plentiful) | • Geographic link between voter and representative the weakest<br>• Proliferation of parties in DRC could make this system difficult to manage<br>• Closed List PR could lead to party power consolidated in a few hands | • Resources necessary are limited (particularly with regard to boundary delimitation – this system would require the least ambitious boundary delimitation) |
| **MMP** | • geographic link between the voter and representative (facilitating accountability, communication)<br>• traditional association in the DRC with a specific constituency (and a single representative | • requires the creation of single-member constituencies and/or smaller multimember constituencies (more extensive delimitation process required)<br>• voting could be more complex if two votes, rather than one, is used for MMP system | • more resources required than for List PR (i.e., more extensive delimitation), but less than STV (i.e., less delimitation, less voter education) |
| **STV** | • preference voting may encourage accommodative behaviour on the part of parties and candidates<br>• preference voting allows voters to select from candidates rather than simply parties | • preference voting is quite complex, requires an ambitious voter education program<br>• vote counting is quite complicated and time consuming<br>• system is little used (few lessons learned to draw on) | • this system would require the most resources: creation of small (and therefore numerous) constituencies; ambitious voter education program needed |

## III. Analysis of Options: Voter Registration

The ability to exercise the democratic right to vote is usually (although not always) premised on the existence of a comprehensive and inclusive electoral register, or voters' list. This list is rigorously administered to guarantee that, to the extent possible, each and every eligible voter is listed, and listed only once on the register. Election authorities responsible for the administration of the voters' list must maintain a fine balance between the need to be rigorous enough to ensure the integrity of the rolls, and the need for sufficient flexibility to guarantee that citizens' right to enrol and vote are protected.

While voter registration is a central component of the administration of elections, it is also one of the more costly elements. The process of registering voters and producing voters' lists often comprises more than 50 percent of the overall cost of administering elections. However, within this general trend there is also considerable variation, depending upon the type of system used for registering voters, and the social, demographic and political characteristics of the country in which the voter registration list is being compiled.

***Principles for Registering Voters*** Voter registration systems should be guided by certain principles: namely, they should be as complete, inclusive, accurate, and as responsive to local conditions as possible.

- *Complete*: A voters' list is complete to the extent that it includes all eligible voters. The goal is to ensure that all voters who are legally eligible to vote are not prevented from voting because they have not been properly registered. Of course, this principle must be weighed against the need to exclude people who are not eligible to vote (i.e., non-citizens, citizens under the qualifying age, citizens excluded from voting because they have been convicted of a crime, etc.) from the registration list.

- *Inclusive*: This term refers to the registration of all groups and categories of citizens: a registration process is inclusive if it is not systematically biased against the registration of identifiable groups. It should be noted that some groups are more difficult to register because of their social or economic characteristics (i.e., certain groups may live in inaccessible rural areas, or be economically marginalised – even homeless). In such instances, extra effort must be made to ensure that the registration system is inclusive.

- *Accurate*: The voters' list is accurate to the extent that the data on individuals has been recorded correctly. When voters appear at the polling station to obtain a ballot, these voters must be identified, their names must be found on the voters' list, and election officials need to indicate that these voters have received ballots. Ensuring that the information on each voter is accurate will foster administrative efficiency when the voter requests a ballot; accuracy will also assist in preventing voter fraud.

- *Responsive to local conditions*: Voter registration is not a one-size-fits-all process. The precise mix of registration system characteristics to apply in a particular setting will need to be responsive to the specific social and political context of the country. Some of the local factors that must be kept in mind include the literacy rate, the administrative structure and capacity, and the political environment.

***Voter Registration Process*** The voter registration process is multi-phased; it begins with the compilation of a voters' list. Once the voter information has been collected (it is either borrowed from an existing database or is the product of a dedicated voter registration exercise), this database must be processed, and a voters' list produced and printed. The list must then be subject to a validation procedure – usually an exhibition and challenge process designed with the specific country context in mind.

This report focuses on the first step of the registration process: the compilation of a preliminary voters' list. In the DRC there is no existing database (such as a reliable and up-to-date civil registry) that can be used as the foundation for a voters' list. A dedicated voter registration exercise will therefore be required.

***Options for Producing a Voters' List*** Five options have been identified for compiling (or not compiling, as the case may be) a voters' list in the DRC. These alternatives, beginning with the most complex (and costly) and ending with the simplest, are as follows:

- Registration by household enumeration: complete enumeration of all eligible and potential voters using door-to-door visits to all households in the country
- Registration using a combination of registration centres and household enumeration
- Registration using registration centres only
- Voter registration conducted simultaneously with first election (in the DRC this will be the constitutional referendum)
- No voter registration

Each of these options, and the advantages and disadvantages associated with them, as well as the costs associated with each alternative, will be discussed below.

## A. Door-to Door Enumeration of Voters (ONFIPE)

ONFIPE (an abbreviation for *l'Operation nationale de filtrage de la population pour les elections* or National Exercise of Filtering the Population for Elections) has been presented as one option for registering voters in the DRC. While serious reservations regarding the feasibility of this particular option have since been put forward, ONFIPE is

included in this report because it was the first option subject to extensive collective conversation.

***Core of ONFIPE*** ONFIPE consists of the complete enumeration of all eligible and potential voters in DRC by using door-to-door visits to all households in the country, registering all the eligible and potential voters, providing civic education in direct contact with each voter, issuing voter/identity cards *in situ*, generating voters lists immediately after the registration of the sufficient number of voters for a given polling station, providing a statistical frame for subsequent censuses and surveys and assigning each household with a household number. The core of this operation is the registration of voters; however, given the size of the country and the number of population, and taking into consideration the impact of recent civil unrest, ONFIPE plans to provide additional benefits for future use. Therefore, the components of the operation include:

a. Registration of all the voters (aged 18 years and over) and all potential voters (age 15-18) by visiting each household in the country, as well as all collective living quarters (like camps, hospitals, prisons and so forth)
b. Issuing voter/identity card at the moment of registration of eligible and potential voters
c. Generating voter lists
d. Assigning the number to each household and to each housing unit without it, thus producing addresses

As these would be the first democratic elections in the DRC, it is of utmost importance that all eligible voters be identified and given the opportunity to cast their vote. By accessing each eligible voter, the government and the international community that supports it send a strong message of commitment to democracy and at the same time takes advantage of this exercise to educate the population on civil affairs and the functioning of a state. Being such a huge undertaking – bringing together and educating tens of thousands registration workers in order to reach each household and inform the population about the elections – has significant merits of its own.

***Description and Scenarios*** ONFIPE consists of dispatching teams to every household in the country that will undertake procedures for the registration of voters and other assigned tasks.

*Registration team***:** Each team would consist of three members: (1) an electoral officer, whose responsibility would be to sensitise the population, informing them of the goal of the exercise and making sure that they understood where to go on the Election Day to cast their vote; (2) a registration officer, responsible for ensuring the proper identification of each household (to prevent a duplication of the visit), while recording the location of the household (address, or some other indication and would assign the number for the household and record the number of members); (3) a technician, operating the equipment, consisting of a lap-top computer with a camera and a printer.

A description of each officer's duties is as follows:

(1) Electoral officer – This person is recruited by the Independent Electoral Commission of DRC and preferably he/she would be a teacher in the local school (as can be seen later, the registration itself is planned partially during the school vacations). This officer will be provided with a manual regarding his/her duties. Most importantly, his/her task is to brief the household about the forthcoming referendum and subsequent elections, informing them in details regarding the significance of the process. He/she will also hand out the black-and-white photograph of the polling station where the voters should cast their vote on the Election Day (more details about the photograph below). This officer must be well prepared to answer any question regarding the process of registration itself and the purpose of the referendum, including general principles of the draft Constitution as well as basic principles regarding political organization and rights of citizens. In recruiting this officer special attention should be paid to local and ethnic conditions, in order to avoid the rejection of the team based on their language or ethnicity. For this, specific guidance is needed from the Independent Electoral Commission, the Ministry of the Interior and the Ministry for Primary and Secondary Education.

(2) Registration officer – The registration officer's main task is the accurate registration of all the data requested by ONFIPE. He/she should be trained to enter the data in the computer and to check for errors. Also, this officer's task would be to assign or to register the number of the household (depending whether the registration is rural or urban areas, and this will be elaborated later, in the part on procedures) and to ascertain, using different methods, that only members of the household 15 years of age and older are issued voter/identity cards. This officer should be recruited from the existing corps of civil servants at the local level, in close consultation and coordination with the National Statistical Office and the Ministry of the Interior.

(3) Technician – Once all the data for the eligible members of the household are entered into the computer file, the technician's task is to operate the equipment and to obtain as high-quality photograph as possible (taking into account the background, angle of lighting and so forth) of each of the members of household identified as being over 15 years of age. He/she must also ensure that each voter/identity card is of high quality and that all the fields are entered. The responsibilities also include ensuring that there is always sufficient supply of spare batteries and other necessary materiel, such as ink cartridges, special paper, lamination and so forth. Also, he/she should be fully briefed regarding procedures to recharge batteries and acquire other needed provisions.

*Alternative to three-member team*: The team could consist of only two members, provided that the sufficient training is provided to allow the manipulation of the equipment by the registration officer. This would also depend on the complexity of the equipment. In making the decision of how many members to include per

team, a number of factors must be taken into account such as the importance of dispatching more numerous teams in rural areas of the country (i.e., providing added significance to the process), the need to ensure gender balance and the participation of women, and the issue of cost (two-member team require only 2/3 of the cost of a three-member team).

*Procedure*: The team would enter the household (in rural areas, accompanied by the chieftain or the most prominent member of the village). While the electoral officer explains the purpose of the exercise, the registration officer, using the portable computer, enters the identification of the household, consisting of the address and/or description of the physical location. Once the members of the household that are 15 years of age and older are identified, their names would be entered into the computer, starting with the head of the household. The following data would be entered for each potential voter:

- Name
- Family name
- Father's or mother's name
- Date of birth
- Place of birth
- Sex
- Place of issue of the voter/identification card
- The following codes will be automatically generated by the computer program loaded in the computer: two-digit provincial code, four-digit city/district code, three-digit groupement code, three-digit village/street code, five-digit individual household code

The registration officer would, therefore, have to fill the following table on the screen of his/her computer:

| | | | | | | |
|---|---|---|---|---|---|---|
| *Place:* | *Kalunga* | | | | | |
| *ID #* | *01* | *0044* | *100* | *123* | *00154* | |
| *Codes for* | *Province* | *District* | *Groupement* | *Localite* | *Household* | |
| *Total number of members of household* | | | | | | *6* |

| Name | Family Name | Father's or mother's name | Relationship to head of household | Sex | Date of birth | Place of birth |
|---|---|---|---|---|---|---|
| Gerard | Ngulu | Pierre | Self | M | 1/9/1963 | Kalunga |
| Lilian | Ngulu | Jean | Spouse | F | 3/8/1965 | Kalunga |
| Jacques | Ngulu | Gerard | Child | M | 10/10/1984 | Kalunga |

Once data are entered, the technician would make the photographs and print the voter/identity cards. The cards would then be handed to each person. At the end of the visit, the registration officer would affix a number that is identical to the household number (see line 2 of the form above) on the wall next to the door of the housing unit.

The purpose of this is multi-fold: (1) avoiding duplication of visits, and (2) in rural areas, assigning a number would amount to the establishment of the addresses which could be used later for many different purposes; similarly, in un-arranged areas of big cities (i.e., squatter settlements), this would provide a more precise location; (3) this information would enable subsequent conducting of many statistical exercises, as it would provide a statistical frame for surveys and censuses.

*Alternatives to Data Collection Procedure:*

> *Alternative B*: An additional variable can be taken into consideration: relationship to the head of household. This would not be printed on the identity/voter card, but would remain on record. The usefulness of this variable is purely for control purposes; during the registration it is always useful to ascertain if there is some level of relationship between the members of the household. A hesitation to answer the question could indicate suspicious situation meriting further investigation.
>
> *Alternative C*: The ONFIPE model described above consists of registering all the eligible and potential voters aged 15 years and over. It would also be possible to enumerate all the other members of the household as well, that is, members below 15 years of age, by asking their names, age and sex. In this scenario, given the fact that the population of DRC is predominantly below 15 years if age (around 52% of the total population is under this age), it has to be emphasized that the time needed for enumeration must be doubled. ONFIPE would need to be launched twice as early if this alternative was adopted, which may not be possible giving the time needed for meticulous training and deploying teams throughout the territory.
>
> *Alternative D*: Well ahead of the visit of the team, it is worth exploring the possibility of distributing forms as presented above in paper format to all households, with a request that they be filled by the head of household. This would make the process of registration faster, once the team visits the household. The distribution should rely on the existing network of village chieftains and civil service at the level of the collectivité. Another added advantage would be that households would already be aware of the activity and would be waiting for the team. The approximate number of forms requested by the local civil servants would also be extremely valuable for the assessment of the distribution of the population, providing information regarding the number of teams needed and their locations in advance. The only consideration is in regard to the time needed for distribution of these paper forms, including their printing (approximately 10 million forms would be needed).

*Equipment***:** Each team needs robust equipment consisting of a computer (with data entry and database management software), a camera and a colour printer (that can print small-format cards). This equipment should offer the possibility of using different alphabets (for future use in other regions in similar operations) and should be thoroughly tested for rough field conditions and capacities of batteries. It can be custom-made, since it does not

require overly sophisticated operating systems or software. As part of the equipment, provisions should be made for the availability of generators in regions without electrical power grid. At this moment, there are several products on the market, but there is a need for more thorough research.

*Supervisors***:** For every twenty teams there will be one supervisor. His/her duties will be to supervise the teams under his/her direction, ensuring the proper and smooth conducting of registration procedures; to report on the progress to the district supervisor; and to notify the district supervisor of any developments n the field regarding the functioning of the teams and equipment. The supervisor will be dispatched to his/her area much in advance of the teams and the main task of the supervisor will be to identify the polling stations and to make photographs of each of the polling stations in sufficient numbers so that each household can be provided with one; also, the supervisor will identify the appropriate locations for placing the generators that would be used to refill the batteries. While carrying out these assignments, the supervisor will interact with local authorities and ensure that they are fully briefed regarding the exercise. The recruitment of supervisors (approximately 1,000) should start as soon as possible, so that there will be sufficient time to train them.

***Project Phases*** ONFIPE would proceed in two phases, the recruitment and training phase and the operational phase.

*Phase I*: The first phase on ONFIPE is the recruitment and training of 20,000 three-member teams and 1,000 supervisors, the acquisition and dissemination of equipment, and the recruitment and training of electoral offices in all provinces, ensuring logistical support and providing basic information on the distribution of the population. The distribution of the population should be based on several sources:

- list of all villages and their geo-codes which is available from the Population and Housing Census 1984, together with the figures on population and households, as a basis for further investigation;
- information available at the Ministry of the Interior regarding the location and functioning of civil service at local levels
- MONUC collection of geographic maps and aerial photography

In order to use both the MONUC and National Statistical Office collection of maps and lists of villages, a small project to harmonize the coding schemes between the two is now underway in the National Statistical Office. This will allow for more complete information regarding the spatial distribution of the population.

*Phase II* The second phase refers to the operation itself. What follows is based on the following assumptions, developed on the basis of the projections made by the Institut National de la Statistique (INS).

| | |
|---|---|
| Date of referendum: | 1 December 2004 |
| Total Population of DRC (2005 projection from INS): | 60 million |

| | |
|---|---|
| Total number of households: | 10.5[24] |
| Total number of voters per household: | 3[25] |
| Total number of voters to be enumerated: | 32 million |

ONFIPE must therefore make provisions to enumerate 32 million voters by visiting households in which they reside. To achieve this, the following model is proposed:

a. Each team registers 1,600 voters, that is, the total number of voters for two polling stations (from experience, one station can handle not more than 800 voters on the Election Day). Prior to the registration exercise, each team will be provided with enough black and white photos of the polling stations with full address and instructions for reaching it in sufficient number of copies).

b. To register this number of voters (1,600), under the assumption of 3 voters per household (see above), the team needs to visit 533 households.

c. For that task, under the assumption that the team can visit and register voters in 10 households per day, the total number of days needed for the registration would be 54 working days, or 2.5 months, including holidays.

d. The second phase of ONFIPE – registering all the voters and potential voters (potential voters are those from 15-18 years of age, who would be issued identity cards of different colour) – will begin the third quarter of 2004 and will take 2.5 months to accomplish.

Adjustments to this model would need to be made on the basis of changed circumstances or findings on the ground.

***Advantages and Disadvantages of ONFIPE*** Several advantages have been suggested for ONFIPE:

1. ONFIPE would provide as complete coverage as possible of all eligible voters in the country, thus avoiding assumptions of political, ethnical or any other bias in the compilation of the voters' list.

2. ONFIPE would provide each citizen of the DRC older than 15 with a voter-identity card that could be used for many purposes. (There is, however, a disadvantage associated with providing citizens under the legal voting age with voter-identity cards: the issue of such a card creates the expectation that the holder will be permitted to vote in upcoming elections, which may or may not be the case depending on the citizen's age and the date of the election.)

[24] This figure was calculated assuming of an average of 5.7 members per household.
[25] This figure was calculated assuming that the share of population under 15 years of age is around 48% of the total population.

3. ONFIPE would provide population estimates for each and every DRC administrative unit. (This advantage is not specific to ONFIPE – it is likely that any registration exercise will produce this information, at least for larger administrative units such as provinces, districts and territories.)

4. ONFIPE would provide a framework for the necessary full-fledged Population and Housing Census, to be held after the elections. (In fact, however, much of the information collected in a dedicated voter registration exercise should be treated as "private" and therefore ONFIPE would be of only very limited use to a subsequent population and housing census.)

There are four primary disadvantages, some probably insurmountable, associated with ONFIPE:

1. An enormous amount of resources (particularly financial) would be required to carry out the operation.

2. A considerable amount of time (perhaps more time than is actually available) would be needed to complete such an operation successfully.

3. The technology envisioned to conduct this operation is likely to be too sophisticated given the current conditions in the DRC. (Lessons learned in East Timor, for example, suggest that high tech options are not feasible in countries with little infrastructure, insufficiently trained personnel and hot, humid climates. The entire voter registration exercise could be compromised if the technology selected is inappropriate.)

4. This approach implies that the voter allocation to polling sites has already occurred prior to the commencement of the voter registration exercise. This is very unlikely (and is undesirable as well): if allocation is done prior to the collection of voter registration data, then it will probably have to be completely redone once the voter list is complete and an accurate count of the number of eligible voters is available.

**Estimated Cost of ONFIPE** A door-to-door household enumeration of voters is clearly a very expensive endeavour, even in comparison to the other registration options discussed in this study. This option could cost close to $200,000,000, with an approximate breakdown in expenditure as follows:

| | |
|---|---|
| Registration staff and supervisors | 75,000,000 |
| Registration staff training | 1,000,000 |
| Registration equipment | 120,000,000 |
| Material transportation costs | 500,000 |
| *Total estimated cost* | *196,500,000* |

## B. Registration Using Household Enumeration and Registration Centres

This option posits employing a combination of household enumeration and registration centres to register eligible voters. The balance between the process of individual enumeration and utilization of registration centres within each Province must be defined by the Independent Election Commission (IEC) operating through its 78 Liaison Offices. The IEC will also have the responsibility of locating the registration centres and defining an appropriate calendar related to their operation.

***Objectives*** The objectives of the registration exercise, whether registration is conducted using a combination of household enumeration and registration centres, or registration centres alone (discussed in the section below), are:

- the registration of all eligible voters
- the compilation of individual voter lists of up to 800 voters each
- the identification of polling site locations
- the assignment of individual voters to polling sites
- the printing of individual polling station voter lists
- the compilation of a national database of all voters

***Assumptions*** Certain key assumptions related to registration exercise have been made and will prevail throughout the development of operational options whether registration is conducted using a combination of household enumeration and registration centres, or registration centres alone. In providing an operational framework, the options may be readily adjusted to reflect changing variables.

All population statistics are extrapolations of the Institut National des Statistiques.

1. The total DRC 2005 population will be 61 million
2. There will 25.6 million voters in 2005 (18yrs of age and over)
3. There will be 32,000 polling stations of 800 voters each

**Voters & Polling Stations by Province**

| No | Province | Voters | Polling Stations | IEC[26] Liaison Offices |
|---|---|---|---|---|
| 1 | Bandundu | 2,915,000 | 3,644 | 9 |
| 2 | Bas Congo | 1,555,000 | 1,944 | 5 |
| 3 | Equateur | 2,807,000 | 3,509 | 8 |

[26] IEC = Independent Election Commission

| | | | | |
|---|---|---|---|---|
| 4 | Katanga | 3,429,000 | 4,286 | 10 |
| 5 | Kasi Occidental | 1,876,000 | 2,349 | 6 |
| 6 | Kasi Oriental | 2,160,000 | 2,700 | 7 |
| 7 | Kinshasa | 2,902,000 | 3,628 | 8 |
| 8 | Prov Oriental | 3,447,000 | 4,309 | 10 |
| 9 | Maniema | 762,000 | 953 | 5 |
| 10 | Nord Kivu | 1,982,000 | 2,478 | 5 |
| 11 | Sud Kivu | 1,784,000 | 2,230 | 5 |
| | **Total** | **25,619,000** | **32,030** | **78** |

***Database*** The compilation of the electoral database and extraction/production of individual voter lists of 800 voters each can be accomplished in a number of different ways. Registration records can either be compiled electronically at the point of registration via a laptop computer, or via a hard-copy registration form with both methods requiring eventual further processing at a central data centre. Hard-copy registration forms can be either manually data entered or electronically scanned using high-speed scanners. Both cases can either include the production of a photo identification card or provide a simple registration receipt to the applicant/voter.

**Statistical Summary**

| | | | |
|---|---|---|---|
| 1 | Total 2005 population | 61,000,000 | |
| 2 | Average household population | 7.1 | |
| 3 | Total households | 8,533.300 | |
| 4 | Age 16+ members / household | 3 | 42% of total |
| 5 | Total to be registered | 25,600,000 | 42% of total |

Each Registration team, whether enumerating door to door or staffing a registration centre, will register and assign 1,600 voters (two polling stations of 800 voters each). Given the voting population estimate of 25.6m, 16,000 Registration Teams will be required.

**Registration Teams & Registration Rate**

| | | | |
|---|---|---|---|
| 1 | Registration Teams | 16,000 | 3 members each |
| 2 | Individual registrations required per team | 1,600 | 2 polling stations |
| 3 | Households to cover @ 3 over 16yrs | 533 | 533 x 3 = 1,600 |
| 4 | Registration rate / households per day | 10 | 30 voters/day |
| 5 | Registration days required per team | 54 | |

At a per-team daily registration rate of 30 voters, approximately 54 days are required to process the two polling stations. In providing for non-working days and additional time that may be required to register individuals who must travel to registration centres, a total registration period of 75 to 90 days may be assumed (2.5 to 3 months).

**Registration Process & Material**

Two alternative methods of processing registration are considered: on-site electronic processing (Alternative A) and manual registration with a scannable form and registration receipt (Alternative B).

***Alternative A: On-Site Electronic Processing***

In this instance, applicants/voters are processed via an electronic record (with hard copy back-up). Each of 1,600 registration teams would be equipped with a basic laptop computer, digital camera, registration cards, and printer, to register two polling stations of a maximum of 800 voters each. Preliminary voter lists would be produced by each Registration Team with data transfer to the central data compilation / processing centre carried out via portable memory key.

*A.1 Registration Kit* The Registration Kit will include a notebook loaded with the registration database structure only, with relevant screens and prompts. The kit consists of:

- Laptop computer (with spare battery)
- Portable memory keys (2)
- Digital camera & tripod
- Printer
- Card laminator
- 1,700 pre-printed numbered id cards w/ pouches
- Quantity: 17,000 (16,000 + 1,000 spares)
- Estimated Kit Cost: $3,350
- *Total Estimated Cost: $56,950,000*

It is estimated that 50% of Registration Teams will require a portable power source (generator or solar panels and rechargeable batteries).

- Quantity: 8,000
- Estimated Cost: $1,200
- *Total Estimated Cost: $9,600,000*

*A.2 Registration Material Transportation* Registration Kits will be assembled by the supply contractor and transferred by sea-freight to the DRC. (Power sources will be packed separately.) One 40-foot container can accommodate approximately 600 registration kits; 17,000 kits require 25 containers.

- Quantity: 29 containers
- Estimated cost per container (Europe – DRC): $5,700
- *Total Estimated Cost: $165,300*

***Alternative B: Manual Registration with Scannable Form & Registration Receipt***

In this instance, applicants/voters are processed via a hard-copy uniquely numbered registration form with a tear-off registration receipt. Registration forms are gathered on a specified schedule and transferred to a central (Provincial) data centre for high-speed scanning and list production. There is no photo id produced.

*B.1 Registration Kit* The Registration Kit will include sufficient security printed forms with tear-off registration receipt to register 1,600 voters.

- Security printed registration forms
- Stationary items
- Quantity: 17,000 (16,000 + 1,000 spares)
- Estimated Kit Cost: $250
- *Total Estimated Cost: $4,250,000*

*B.2 High-Speed Reading Stations* High-speed document reading centres will be established in each Province, with the number of stations in each based on voter population. Station cost includes hardware, software, installation, training, and technical assistance. It is estimated that a total of 20 stations will be used.

- Quantity: 20 Reading Stations
- Estimated cost per Station: $106,000
- *Total Estimated Cost: $2,120,000*

*B.3 Registration Material Transportation* Registration Kits will be assembled by the supply contractor. Reading Stations and Registration Kits will be transferred by sea-freight to the DRC. One 40-foot container can accommodate approximately 5,000 registration kits. 17,000 kits require 3.4 containers. Reading Stations require .6 containers.

- Quantity: 4 containers
- Estimated cost per container (Europe – DRC): $5,700
- *Total Estimated Cost: $22,800*

*B.4 Scanning Operation* The six-member Scanning Team consists of:

1. Supervisors (2)
2. Operators (3)
3. Technician

Based on 20 Teams, there will be 120 scanning staff required.

- Quantity: 120
- 40 Supervisors @ $25/day x 90 days = $90,000
- 80 staff @ $20/day x 90 days = 144,000
- *Total estimated Scanning Staff Cost: $234,000*

**Registration Staff**

As stated, this option requires 16,000 Registration Teams to process all eligible voters. One Registration Coordinator will be assigned to coordinate and supervise a grouping of 20 Registration Teams. As such there will be 800 Coordinators covering 16,000 Teams.

The three-member Registration Team consists of an Electoral Officer, an Identification Officer, and a Technician.

Based on 16,000 teams, there will be 48,800 registration staff required.

- Quantity: 48,800
- 800 Coordinators @ $15/day x 90 days = $1,080,000
- 48,800 staff @ $10/day x 90 days = 43,920,000
- *Total estimated Registration Staff Cost: $45,000,000*

**Registration Procedures Manual**

The Registration Procedures Manual details registration procedures developed by the IEC and applied by Registration Staff. The Procedures Manual is distributed to all officials (including each Registration Team member) and other relevant parties. It is also used for training purposes.

- Quantity: 60,000
- Estimated unit cost: $0.90
- *Total Estimated Cost: $54,000*

**Registration Staff Training**

The 78 IEC Liaison Offices will coordinate the training of 48,800 Registration Staff, with each Office responsible for an average of 626 Staff. Assuming training sessions of 40 participants each, 16 sessions will be conducted by each Office. At 2 sessions per day, 8 training days will be required.

- Quantity: 1,248 training sessions
- Estimated cost per session: $390.
- *Total Estimated Cost: $486,720*[27]

[27] The estimated cost includes venue rental, participant & training staff travel, and training materials. Participant cost is included in Registration Staff cost.

**Advantages and Disadvantages of Using Household Enumeration and Registration Centres in Combination**

The primary disadvantages associated with this approach are the resources required for such an enormous operation and the time needed to complete the operation. (Of course, using registration centres rather than doing a door-to-door enumeration in some areas of the DRC makes this a less expensive endeavour than ONFIPE.)

Another disadvantage to this option as described is that the technology envisioned may well be to be too sophisticated given conditions in the DRC. The same general approach (a combination of household enumeration and registration centres), utilizing more a "low tech" methodology (i.e., data entry by hand on site, followed by electronic entry at a centralised data processing centre), may work quite well in the DRC, however.

These disadvantages must be weighed against the following advantages:

1. There would be close to complete coverage of eligible voters in at least the rural areas of the country, which would be very helpful in avoiding controversy and assumptions of political, ethnical or any other bias in the registration and voting process.

2. All potential voters would be provided with a voter-identity card that will be used for many purposes in addition to casting a vote in upcoming elections.

3. The registration process would provide population estimates for administrative units in the DRC.

4. The allocation of voters to polling sites will occur naturally, at least in those areas in which registration centres are utilized: voters will self-select registration centres based on convenience and safety concerns.

**Estimated Cost Summary for Combination Household and Centres: Alternative A (On-site Electronic Registration)**

| | | | |
|---|---|---|---|
| 1 | Registration Kits & Power Sources | $66,550,000 | |
| 2 | Material Transportation to DRC | 165,300 | sea freight |
| 3 | Material Transportation within DRC | to be determined | to be determined[28] |
| 4 | Registration Staff Cost | 45,000,000 | |
| 5 | Registration Procedures Manual | 54,000 | |
| 6 | Registration Staff Training | 486,720 | |
| | **Total** | $112,256,020 | |

[28] Material Transport within DRC must include an estimated transfer cost to the Liaison Office and from the Liaison Office to the Registration Team.

**Estimated Cost Summary for Combined Household and Centres:**
**Alternative B (Manual Registration with Scannable Form & Registration Receipt)**

| | | | |
|---|---|---|---|
| 1 | High Speed Reading Stations (20 units) | 2,120,000 | |
| 2 | Registration Kits | 4,250,000 | |
| 3 | Material Transportation to DRC | 22,800 | sea freight |
| 4 | Material Transportation within DRC | to be determined | to be determined[29] |
| 5 | Scanning Operations | 234,000 | |
| 6 | Registration Staff Cost | 45,000,000 | |
| 7 | Registration Procedures Manual | 54.000 | |
| 8 | Registration Staff Training | 486,720 | |
| | **Total** | $52,167,520 | |

## C. Registration Using Registration Centres Alone

Under this option, all eligible voters are registered at Registration Centres. The number of Centres will vary by Province and is tied to the estimated voter population and related polling station requirements.

With the intention of eventually converting Registration Centres to Polling Centres accommodating multiple Polling Stations, it is recommended that no Centre exceed five polling stations representing a maximum of 4,000 voters. As such, an estimated total voting population of 25.6m will require approximately 6,400 Registration/Polling Centres of 4,000 applicant/voters each.

**Statistical Summary**

| | | | |
|---|---|---|---|
| 1 | Total 2005 population | 61,000,000 | |
| 2 | Total voters to be registered | 25,600,000 | 42% of total |
| 3 | Total Polling Centres | 6,400 | 4,000 voters each |
| 4 | Total Registration Centres | 6,400 | |
| 5 | Total Registration Teams | 6,400 | |

Each Registration team, in staffing a registration centre, will register and assign 4,000 voters (five polling stations of 800 voters each). Given the voting population estimate of 25.6m, 6,400 Registration Teams will be required.

[29] Material Transport within DRC must include an estimated transfer cost to the Liaison Office and from the Liaison Office to the Registration Team.

**Registration Teams & Registration Rate**

| | | | |
|---|---|---|---|
| 1 | Registration Teams/Centres | 6,400 | 5 members each |
| 2 | Individual registrations required per team | 4,000 | 5 polling stations |
| 3 | Registration rate per day | 60 | 60 voters/day |
| 4 | Registration days required per team/centre | 67 | |

As indicated, at a per-team daily registration rate of 60 voters, approximately 67 days are required to process the five polling stations. In providing for non-working days and additional time that may be required to register individuals who must travel to registration centres, a total period of 75 to 90 days may be assumed (2.5 to 3 months).

**Registration Process and Materials**

Two alternative methods of processing registration are considered: on-site electronic processing (Alternative A) and manual registration with a scannable form and registration receipt (Alternative B).

***Alternative A: On-Site Electronic Processing***

As in Alternative A in the Combination Household and Registration Centre option, applicants/voters are processed via an electronic record (with hard copy back-up). Each of 6,400 Registration Teams would be equipped with a basic laptop computer, digital camera, registration cards, and printer, to register five polling stations of a maximum of 800 voters each (4,000 voters). Preliminary voter lists would be produced by each Registration Team with data transfer to the central data compilation / processing centre carried out via portable memory key.

*A.1 Registration Kit* The Registration Kit will include a notebook loaded with the registration database structure only, with relevant screens and prompts. The kit consists of:

- Laptop computer (with spare battery)
- Portable memory keys
- Digital camera & tripod
- Printer
- Card laminator
- 4,500 pre-printed numbered id cards w/ pouches
- Quantity: 7,000 (6,400 + 600 spares)
- Estimated Kit Cost: $3,700
- *Total Estimated Cost: $25,900,000*

It is estimated that all of Registration Teams/Centres will require portable power sources (generator or solar panels and rechargeable batteries).

- Quantity: 7,000 (6,400 + 600 spares)
- Estimated Cost: $1,200
- *Total Estimated Cost: $8,400,000*

*A.2 Registration Material Transportation* Registration Kits will be assembled by the supply contractor and transferred by sea-freight to the DRC. (Power sources will be packed separately.) One 40-foot container can accommodate approximately 600 registration kits. 7,000 kits require 12 containers.

- Quantity: 12 containers
- Estimated cost per container (Europe – DRC): $5,700
- *Total Estimated Cost: $67,400*

***Alternative B: Manual Registration with Scannable Form & Registration Receipt***

As in Alternative B in the Combination Household and Registration Centre option, applicants/voters are processed via a hard-copy uniquely numbered registration form with a tear-off receipt. Registration forms are gathered on a specified schedule and transferred to a central (Provincial) data centre for high-speed scanning and list production. There is no photo id produced.

*B.1 Registration Kit* The Registration Kit will include sufficient security printed forms with tear-off registration receipt to register 4,000 voters.

- Security printed registration forms
- Stationary items
- Quantity: 7,000 (6,400 + 600 spares)
- Estimated Kit Cost: $600
- *Total Estimated Cost: $4,200,000*

*B.2 High-Speed Reading Stations* High-speed document reading centres will be established in each Province, with the number of stations in each based on population. Station cost includes hardware, software, installation, training, and technical assistance. It is estimated that a total of 20 stations will be used.

- Quantity: 20 Reading Stations
- Estimated cost per Station: $106,000
- *Total Estimated Cost: $2,120,000*

*B.3 Registration Material Transportation* Registration Kits will be assembled by the supply contractor. Registration Kits and Reading Stations will be transferred by sea-freight to the DRC. One 40-foot container can accommodate approximately 4,000 registration kits. 7,000 kits require 1.75 containers. Reading Stations require .6 containers.

- Quantity: 3 containers
- Estimated cost per container (Europe – DRC): $5,700
- *Total Estimated Cost: $17,100*

*B.4 Scanning Operations* The six-member Scanning Team consists of:

1. Supervisors (2)
2. Operators (3)
3. Technician

Based on 20 Teams, there will be 120 scanning staff required.

- Quantity: 120
- 40 Supervisors @ $25/day x 90 days = $90,000
- 80 staff @ $20/day x 90 days = 144,000
- *Total estimated Scanning Staff Cost: $234,000*

**Registration Staff**

This option requires 6,400 Registration Teams to process all eligible voters. One Registration Coordinator will be assigned to coordinate and supervise a grouping of 10 Registration Teams/Centres, therefore there will be 640 Coordinators covering 6,400 Teams.

The five-member Registration Team consists of:

1. Electoral Officer
2. Identification Officer
3. Technician
4. Queue Controller
5. Security Officer

Based on 6,400 teams, there will be 32,000 registration staff required.

- Quantity: 32,640
- 640 Coordinators @ $15/day x 90 days = $864,000
- 32,000 staff @ $10/day x 90 days = 28,800,000
- *Total estimated Registration Staff Cost: $29,664,000*

**Registration Procedures Manual**

The Registration Procedures Manual details registration procedures developed by the IEC and applied by Registration Staff. The Procedures Manual is distributed to all officials (including each Registration Team member) and other relevant parties. It is also used for training purposes.

- Quantity: 40,000
- Estimated unit cost: $0.90
- *Total Estimated Cost: $36,000*

**Registration Staff Training**

The 78 IEC Liaison Offices will coordinate the training 32,640 Registration Staff, with each Office responsible for an average of 420 Staff. Assuming training sessions of 40 participants each, 11 sessions will be conducted by each Office. At 2 sessions per day, 6 training days will be required.

- Quantity: 858 training sessions
- Estimated cost per session: $390
- *Total Estimated Cost: $334,620*[30]

**Advantages and Disadvantages of Using Registration Centres Alone**

The primary advantage of relying solely on registration centres for voter registration is the cost saving that would be realized. In addition, like the other approaches discussed thus far, the registration process would provide voters with voter-identity cards that could be used for a variety of purposes. The registration count could also serve as a population estimate for administrative units in the DRC.

The primary disadvantages associated with using registration centres alone is (1) complete coverage of all eligible voters in the DRC would be very difficult, especially in areas where security is an issue and (2) voters might have reason to fear going to specific registration centres. In fact, the President of the Independent Election Commission in the DRC indicated that, given the many isolated and sparsely populated areas and the ethnic/ territorial disputes still simmering in some areas of the DRC, a significant number of eligible voters may be reluctant to make the trip to the registration centre.

It should also be noted that, like the other registration options outlined above, the technology recommended (even in the "manual" alternative) may be to be too sophisticated for the DRC and would need to be scaled down (i.e., data entry by hand on site, followed by electronic entry at a centralised data processing centre).

**Estimated Cost Summary** Resorting to the use of Registration Centres alone is the least expensive option considered thus far, at least if manual registration is undertaken.

[30] The estimated cost includes venue rental, participant & training staff travel, and training materials. Participant cost is included in Registration Staff cost.

**Estimated Cost Summary for Registration at Registration Centres: Alternative A (Electronic Registration with Photo ID)**

| | | | |
|---|---|---|---|
| 1 | Registration Kits & Power Sources | $34,300,000 | |
| 2 | Material Transportation to DRC | 67,400 | Sea freight |
| 3 | Material Transportation within DRC | to be determined | to be determined[31] |
| 4 | Registration Staff Cost | 29,664,000 | |
| 5 | Registration Procedures Manual | 36,000 | |
| 6 | Registration Staff Training | 334,620 | |
| | **Total** | $64,402,020 | |

**Estimated Cost Summary for Registration at Registration Centres: Alternative B (Manual Registration with Scannable Form & Registration Receipt)**

| | | | |
|---|---|---|---|
| 1 | High Speed Reading Stations (20 units) | 2,120,000 | |
| 2 | Registration Kits | 4,250,000 | |
| 3 | Material Transportation to DRC | 22,800 | Sea freight |
| 4 | Material Transportation within DRC | to be determined | to be determined[32] |
| 5 | Scanning Operations | 234,000 | |
| 6 | Registration Staff Cost | 29,664,000 | |
| 7 | Registration Procedures Manual | 36,000 | |
| 8 | Registration Staff Training | 334,620 | |
| | **Total** | $36,661,420 | |

## D. Voter Registration Conducted Simultaneously with First Election

Another available option is to register voters simultaneously with the first election to be held in the DRC: the referendum on the proposed constitution. Under this scenario, Polling Centres would also serve as Registration Centres, with eligible voters registering to vote just prior to casting a ballot in the referendum. The major advantage of this approach would be the very large savings in cost that would be accrued by combining registration efforts with the first election. (There would still be a substantial cost added to the first election, however – additional staff would be required, registration kits would still be needed, etc. Depending on whether electronic or manual registration was done, the cost could be as much as $25 to $40 million.)

[31] Material Transport within DRC must include an estimated transfer cost to the Liaison Office and from the Liaison Office to the Registration Centre.

[32] Material Transport within DRC must include an estimated transfer cost to the Liaison Office and from the Liaison Office to the Registration Centre.

The disadvantages of this approach are quite significant, and include:

1. No accurate population count would exist prior to the first election. This has important ramifications for election planning (particularly with regard to polling operations) and possibly for the apportionment of legislative seats and/or the delimitation of electoral constituencies.

2. Voter education efforts would have to be organised separately, and might not be as systematic and inclusive as a result.

3. If voter turnout is low for the first election (the constitutional referendum), then many potential voters for the subsequent elections would not be registered to vote (and would lack voter registration cards).

4. Resolving questionable registrations would be quite difficult – probably impossible – in the limited time provided. As a consequence, the number of contested ballots would be higher than would be the case if these issues had been dealt with at an earlier point in time.

## E. No Voter Registration

The final option available is to conduct no voter registration at all. This was the approach decided upon in the transitional elections in South Africa in 1994, for example.

The obvious advantage of this option is the enormous cost savings; voter registration is a very expensive undertaking, even if registration is held in conjunction with the first election. If voters are not registered, then the resources that would have gone into the registration process can be applied to other election operations.

The disadvantages of not registering voters include all of the disadvantages associated with conducting voter registration at the same time as the first election, as well as additional problems:

1. No accurate population count would exist prior to the first election. (This has important ramifications for both election planning and electoral constituency delimitation).

2. Voter education efforts would have to be organised separately, and might not be as systematic and inclusive as a result.

3. Resolving the issue of whether a person was eligible to vote in the election or not could prove quite difficult and could increase tensions at the polling stations. The number of contested ballots could be quite high.

4. Security would have to be quite high, especially at the borders of the DRC, to ensure that votes by non-qualified persons (i.e., non-residents of the DRC) were not cast.

In a post-conflict situation, when it is particularly important that the transitional elections be seen as free and fair by the major combatant parties and other stakeholders, a failure to register voters prior to the election could have grave consequences. Only if it is agreed in advance by all significant groups that voter registration is not necessary is it likely that this decision will not negatively impact the credibility of the elections.

# IV. Analysis of Options: Polling Operations

Organizing and operating facilities for voting is a major challenge; it requires the co-ordination of tasks that must be accomplished within a tight timeframe and over a geographically dispersed area, while maintaining high standards of integrity, security and professionalism. In transitional elections following a conflict, it is especially important that elections be conducted in a manner that does not give rise to questions of credibility and legitimacy.

***Principles for the Operation of Elections*** Without a solid organizational and ethical basis, the conduct of voting operations can be ineffective or, even worse, be subject to manipulation. An integral objective of international technical support to the Independent Election Commission (IEC) will be the attainment of acceptable international electoral standards through a process that is both open and fair. The process must impart confidence among political parties as well as the electorate, and the results must not be contestable.

Attainment of these objectives can be partially assured through the use of standardized election material and equipment. The use of standardized electoral material in all polling stations is important because it:

- ensures the integration and proper application of election procedures
- facilitates the training of election officials
- enhances the security of sensitive materials
- minimises the opportunity for error and/or fraud.

This section of the report presents a logistical scheme for employing standardized election material and equipment in DRC elections that will meet international electoral standards. The use of standardised materials, however, is only a portion of what is required to conduct an internationally acceptable election. A broader operational plan that includes well-defined electoral procedures will have to be prepared at a later date.

## A. Conducting an Election That Meets International Standards

Only one alternative will be presented in this portion of the report: a logistical blueprint for the use of standardized election material and equipment that meet international standards.

Devising an effective logistical framework for voting services requires environmental-specific solutions appropriate to the country's socio-political and physical characteristics, as well as its administrative and infrastructure capacities. Just a few of the issues that need to be given consideration include:

- the number and location of voting facilities to promote accessibility and efficiency
- the sufficient number of staff to assign to each polling station
- the number of polling kits required to meet demand
- the most effective supply arrangements to ensure voting sites are properly provisioned to cater to the expected numbers of voters

Any operational plan that is devised must make assumptions concerning these as well as other factors. However, if the assumptions upon which the model is built change, or if other conditions merit it, then estimates of staff required and material needed can be modified, and the cost estimates adjusted accordingly.

***Assumptions*** The requirements and cost estimates included in this section of the report are based on the assumptions of 25.6 million voters and 32,000 polling stations. However, the blueprint can easily be adjusted should these assumptions need to be modified.

**Polling Stations & Centres by Province (estimated)**

| No. | Province | Voters | Polling Stations | Polling Staff | Polling Centres | IEC Liaison Offices |
|---|---|---|---|---|---|---|
| 1 | BANDUNDU | 2,915,000 | 3,644 | 18,220 | 729 | 9 |
| 2 | BAS CONGO | 1,555,000 | 1,944 | 9,720 | 389 | 5 |
| 3 | EQUATEUR | 2,807,000 | 3,509 | 17,545 | 702 | 8 |
| 4 | KATANGA | 3,429,000 | 4,286 | 21,430 | 857 | 10 |
| 5 | KASI OCCIDENTAL | 1,876,000 | 2,349 | 11,745 | 470 | 6 |
| 6 | KASI ORIENTAL | 2,160,000 | 2,700 | 13,500 | 540 | 7 |
| 7 | KINSHASA | 2,902,000 | 3,628 | 18,140 | 726 | 8 |
| 8 | PROV ORIENTAL | 3,447,000 | 4,309 | 21,545 | 862 | 10 |
| 9 | MANIEMA | 762,000 | 953 | 4765 | 191 | 5 |
| 10 | NORD KIVU | 1,982,000 | 2,478 | 12,390 | 496 | 5 |
| 11 | SUD KIVU | 1,784,000 | 2,230 | 11,150 | 446 | 5 |
| | **Total** | **25,619,000** | **32,030** | **160,150** | **6,408** | **78** |

Notes: 1. IEC = Independent Election Commission
2. Each Polling Centre will process 4,000 voters
3. There are 800 voters per Polling Station
4. There are five polling Stations per Polling Centre
5. Each Liaison Office is responsible for approximately 80 Polling Centres

**Polling Material Requirements**

A number of polling materials are required: voting screens, ballot boxes, voter marking ink, ultra-violet lamps, batteries, stationary kits, transfer kits and polling kit assemblies. An estimate of the number needed of each of these items, as well as the estimated costs for these materials, follows:

***1. Voting Screens***

- Voting Screens, self-standing corrugated (cardboard, approx.1.5 x .5m)
- Quantity: 96,000 (3 per polling station)
- Estimated unit cost: $ 6.50 (less expensive if manufactured locally)
- *Total Estimated Cost: $624,000*

**2.** ***Ballot Boxes***

- Ballot Box, translucent plastic, attachable lid, sealable voting slot, approximately 40 x 40 x 40cm.
- Quantity: 32,000
- Estimated unit cost: $21.00
- *Total Estimated Cost: $672,000*

***3. Voter Marking Ink***

- Ultra-violet Electoral Stain to mark voter's finger. Sufficient quantity in each spray bottle to cover a minimum of 500 voters.
- Quantity: 96,000 plastic spray bottles (3 per polling station)
- Estimated cost per unit: $ 2.00
- *Total Estimated Cost: $192,000*

***4. Ultra-violet (UV) Lamps***

- Ultra-violet Lamp, hand-held, 'AA' battery powered, used to detect electoral UV stain.
- Quantity: 64,000 (2 per polling station)
- Estimated cost per unit: $ 8.00
- *Total Estimated Cost: $512,000*

***5. Batteries***

- Batteries 'AA', alkaline, to power UV lamps.
- Quantity: 64,000 packs of 4 batteries in each
- Estimated cost per 4-pack: $2.00
- *Total Estimated Cost: 128,000*

6. ***Stationary Kit*** This kit typically contains supplies such as pens, markers, rulers, and calculators, as well as a poll book, finger print pad and other items. See Appendix B for a complete list of items found in a stationary kit.

   - Quantity: 32,000
   - Estimated cost per Kit: $19.00
   - *Total Estimated Cost: $608,000*

7. ***Material Transfer Kit*** This kit contains security seals, tamper evident envelopes and other items for the transfer of ballots. See Appendix B for a complete list of items found in a material transfer kit.

   - Quantity: 32,000
   - Estimated cost per Kit: $14.00
   - *Total Estimated Cost: $448,000*

8. **Polling Kit Assembly** Items 3 through 7 above are to be packed in a ballot-box (item 2) and sealed with unbreakable one-way pull-tight seals. (A complete individual Polling Kit is eventually delivered to each polling station). A complete list of all items found in a standard polling kit can be found in Appendix B.

   - Quantity: 32,000
   - Estimated cost per Kit: $7.00
   - *Total Estimated Assembly Cost: $224,000*

**Total Estimated Cost of Polling Material**

| No. | ITEM | Estimated $ Cost |
|---|---|---|
| 1 | Voting Screens | 624,000 |
| 2 | Ballot Boxes | 672,000 |
| 3 | Voter Marking Ink | 192,000 |
| 4 | Ultra Violet Lamps | 512,000 |
| 5 | Batteries | 128,000 |
| 6 | Stationary Kit | 608,000 |
| 7 | Material Transfer Kit | 448,000 |
| 8 | Polling Kit Assembly | 224,000 |
| | **Total Estimated Material Cost** | **$3,408,000** |

***Polling Material Transportation*** Polling Kits will be assembled by the supply contractor and transferred by sea-freight to the DRC. One 40-foot container accommodates 720 Polling Kits. 32,000 polling kits require 45 containers.

- Quantity: 45 containers
- Estimated cost per container (Europe – DRC): $5,700
- *Total Estimated Cost: $256,500*

**Ballots**

In order to minimize irregularities through ballot manipulation, it is recommended that:

- Ballots be produced on a minimum of 95 gsm paper;
- Ballots incorporate at least two security features such as a watermark or ultra-violet mark, and micro-lettering;
- Ballots be bound in booklets with a perforation between the ballot and counterfoil;
- Ballots bear a serial number on the counterfoil (stub) only and not on the ballot itself;
- Ballots be shrink-wrapped in booklets to prevent easy access for fraudulent purposes.

***Ballot Packs*** The use of a standardized ballot pack for all polling stations facilitates production, packaging, distribution, security control, and reconciliation. It is recommended that:

- ballots be bound in booklets of 100 and packed in a standard ballot pack of 9 booklets (or 900 ballots)
- ballot packs be sealed, shrink wrapped, and labelled by province, district, etc.(as appropriate to the level of election)
- each polling station be supplied with 1 standard ballot pack

***Ballot Production Requirement***

- Quantity: 28,800,000 (32,000 polling stations @ 900 ballots each)
- Estimated cost per thousand: $48.00 (varies depending on ballot size)
- *Total Estimated Ballot Cost: $1,382,000*

**Total Estimated Cost of Ballots**

| No. | ITEM | Estimated $ Cost |
|---|---|---|
| 1 | Ballots | 1,382,000 |

***Ballot Transportation***

Air Freight from contractor to DRC
(example is ex UK via 3 dedicated DC10 flights)

- Quantity: 32,000 ballot packs (28,800,000 ballots)
- Estimated transport cost per thousand: $24.00
- *Total Estimated Ballot Transportation Cost: $691,200*

**Total Estimated Transportation Cost for Polling Materials and Ballots**

| No. | ITEM | Estimated $ Cost |
|---|---|---|
| 1 | Polling Material Transportation | 256,000 |
| 2 | Ballot Transportation | 691,200 |
| | **Total Estimated Transport Cost** | **$947,200** |

**Polling Staff and Training**

Staff must be hired to man the polling stations. These staff must be trained, and manuals provided for their use on Election Day.

***Polling Staff*** There are generally five (5) Polling Staff per polling station, as follows:

1. Presiding Officer
2. Queue Controller
3. Identification Officer
4. Ballot Issuer
5. Ballot Box Controller.

Based on an estimated requirement of 32,000 polling stations, there will be 160,000 polling staff required.

- Quantity: 160,000
- 32,000 Presiding Officers @ $15.00/day
- 128,000 Staff @ $10.00/day
- Estimated number of days: 3 (training & polling)
- *Total Estimated Polling Staff Cost: $5,280,000*

***Polling Procedures Manual*** The Polling Procedures Manual details electoral procedures developed by the IEC and applied by Polling Staff on Election Day. The Procedures Manual is distributed to all electoral officials (including each Polling Staff member) and other relevant parties. It is also used for training purposes.

- Quantity: 200,000
- Estimated unit cost: $0.90
- *Total Estimated Cost: $180,000*

***Training*** As in the case of voter registration, the 78 IEC Liaison Offices will coordinate the training of the 160,000 election staff, with each office responsible for an average of 2,050 staff. Assuming training sessions of 40 participants each, 52 sessions will be conducted by each office. At 5 sessions per day, approximately 10 training days will be required.

- Quantity: 4,056 training sessions
- Estimated cost per session: $390
- *Total Estimated Cost: $1,581,840*

**Total Estimated Cost for Polling Staff and Training**

| No. | ITEM | Estimated $ Cost |
|---|---|---|
| 1 | Polling Staff | 5,280,000 |
| 2 | Polling Manuals | 180,000 |
| 3 | Polling Staff Training | 1,581,840 |
| | **Total Estimated Transport Cost** | **$7,041,840** |

**Total Estimated Cost for Election Operations**[33]

| No. | ITEM | Estimated $ Cost |
|---|---|---|
| 1 | Polling Material | 3,408,000 |
| 2 | Ballots | 1,382,000 |
| 3 | Material Transport to DRC | 947,200 |
| 4 | Material Distribution within DRC | to be determined[34] |
| 5 | Polling Staff | 5,280,000 |
| 6 | Polling Manuals | 180,000 |
| 7 | Election Staff Training | 1,581,840 |
| 8 | Civic Education Program | to be determined |
| | **Total Estimated Cost** | **$12,779,040** |

***Conclusion*** The operations blueprint offered above pre-supposes a single ballot for a single election. In fact, more than one ballot might be required (depending on the type of electoral system chosen) and certainly more than one election will be held.

[33] This is based on the assumption of 25.6m voters and 32,000 polling stations.
[34] Material Transport within DRC must include an estimated transfer cost to the Liaison Office and from the Liaison Office to the Polling Centre.

## B. The Number and Sequential Ordering of Elections

The transitional agreement (Global and Inclusive Agreement, signed 17 December 2002) specifies that fair and free elections shall be held at "all levels" including, presumably:

- a referendum on the adoption of the proposed constitution
- legislative elections[35]
- presidential election[36]
- local elections

Although it is evident that the referendum on the proposed constitution must come first in the election cycle, and it is clear that the presidential elections conclude the transitional process,[37] the precise sequence of the elections, and whether any of these elections are to be conducted simultaneously, has yet to be decided.

For example, legislative and presidential elections (general elections) could be held simultaneously. Or, if the presidential election is to be a two-round election, then the first round could be held at the same time as the legislative elections, and the second round a week or two later. In fact, it is quite possible, given the very large cost of conducting an election in the DRC, that legislative and presidential (or at least one round of the presidential election) will be combined.[38]

The most significant question with regard to the ordering of the elections is when to hold local elections. Local elections could be held prior to the general elections, or they could be conducted after the general elections. If local elections follow the general elections (or, more specifically, if they are held after the presidential election), then they would fall outside of the transitional period.

There are advantages and disadvantages associated with holding local elections before the general elections, and with holding them following the general elections. Some of these advantages (the disadvantages of one alternative are simply the converse of the advantages listed for the other) are listed below.

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[35] There has been no determination as this point as to whether senators will be directly elected, indirectly elected, or appointed. For this report, legislative elections can be taken to refer to the election of representatives to the lower chamber only, or to both chambers of the legislature.

[36] No decision has been reached yet as to how the president is to be elected: it could be in a single, winner-take-all election or, more likely, a two round election. In fact, there is not prohibition against the president being elected indirectly.

[37] The Transitional Constitution (Article 196) indicates that the election of the President marks the end of the transitional period in the DRC.

[38] Although is it possible to hold all three sets of elections – presidential, legislative and local – at the same time, the administration of the election would be quite complex and the ballots would be unwieldy.

***Advantages of Conducting Local Elections Prior to the General Elections***

- Voting in local election would serve as civic education for DRC citizens (most of who have never had an opportunity to vote in free and fair elections) before voting in the higher stakes general elections.

- Local elections are more proximate to citizens; citizens often recognize the candidates and are more directly impacted by the results of the election.

- Assuming local elections are an administrative success and citizens view the results as legitimate, these elections will build citizens' trust in the election process.

- If local elections are held first, problems with voter registration would be resolved prior to conducting the general elections.

- Holding local elections first would provide on-the-job training for election staff, and would offer administrators an opportunity to adapt their methodology and improve voter services before the general elections.

- Conducting local elections first would provide election administrators with a more accurate assessment of the likely turnout in the general elections (ensuring sufficient staff and polling materials for voters in the general elections).

- If general elections have not yet been held, then there will be no political party already in control of the national government and therefore less opportunity for any one political party to exercise undue influence over local elections.

- Holding local elections first may serve to limit the number of political parties (there is currently a proliferation of parties in the DRC) competing in the general elections.

***Advantages of Conducting Local Elections After the General Elections***

- General elections are almost always easier, administratively, to plan for and carry out. (At the very least, ballot production is much easier for general elections than local elections.)

- The transition to democracy in the DRC would occur earlier in time if general elections were conducted first.

- Limited resources (particularly financial resources) could lead to difficulties in conducting subsequent sets of elections, which would be especially disastrous if these were the higher stakes general elections.

- Should general elections lead to the resumption of hostilities (i.e., Angola), at least resources will not have been wasted on local elections.

Decisions as to the sequence of elections will have to be made relatively early in the election planning process. Detailed election preparation cannot progress much beyond the formative stages until it is clear exactly what type of election is to be held and when it is to be held.

# Appendices

| | |
|---|---|
| Appendix A | Simulation Exercise Using Different Administrative Boundaries as Electoral Constituencies |
| Appendix B | Standard Polling Kit Materials List |

## Appendix A: Simulation Exercise Using Different Administrative Boundaries as Electoral Constituencies

## List PR: 400 Seats Allocated to 11 Provinces

**Simulation of Distribution of Electoral Seats: Provincial Level**

| | | |
|---|---|---|
| ***Expected amount of voters**** | ***29.648.833*** | |
| ***Hypothetical number of seats in parliament*** | ***400*** | |
| ***Voters per seat*** | ***74.122*** | |

| | | Voters | Seats* | Seats** |
|---|---|---|---|---|
| **1** | **KINSHASA** | 2.664.309 | **36** | **35** |
| **2** | **BAS CONGO** | 1.994.573 | **27** | **26** |
| **3** | **BANDUNDU** | 3.769.741 | **51** | **50** |
| **4** | **EQUATEUR** | 3.574.385 | **48** | **48** |
| **5** | **PROV ORIENTAL** | 4.314.672 | **58** | **58** |
| **6** | **MANIEMA** | *849.675* | **11** | **11** |
| **7** | **NORD KIVU** | *2.434.275* | **33** | **32** |
| **8** | **SUD KIVU** | *2.107.988* | **28** | **28** |
| **9** | **KATANGA** | 3.979.354 | **54** | **53** |
| **10** | **KASAI ORIENTAL** | 1.564.615 | **21** | **21** |
| **11** | **KASAI OCCIDENTAL** | 2.395.246 | **32** | **32** |

**simulations are based on the 1984 census data*

*Seats* : A seat assigned when more than 0.51% of 74.122 voters (Total seats assigned: 400)*

*Seats** : A seat assigned for each 74.122 voters (Total seats assigned: 394)*

## List PR: 400 Seats Allocated to Constituencies

**Simulation of Distribution of Electoral Seats: District Level**

| | |
|---|---|
| ***Expected amount of voters**** | ***29.648.833*** |
| ***Hypothetical number of seats in parliament*** | ***400*** |
| ***Voters per seat*** | ***74.122*** |

| | *Voters* | *Seats** | *Seats*** |
|---|---|---|---|
| **KINSHASA** | **2.664.309** | **36** | **34** |
| LUKUNGA | *564.656* | **8** | **7** |
| FUNA | *764.620* | **10** | **10** |
| MONT-AMBA | *585.095* | **8** | **7** |
| TSANGU | *749.938* | **10** | **10** |
| | | | |
| **BAS CONGO** | **1.994.573** | **27** | **24** |
| MATADI | *138.798* | **2** | **1** |
| BOMA | *197.617* | **3** | **2** |
| BAS-FLEUVE | *551.391* | **7** | **7** |
| CATARACTES | *724.621* | **10** | **9** |
| LUKAYA | *382.146* | **5** | **5** |
| | | | |
| **BANDUNDU** | **3.769.741** | **51** | **48** |
| BANDUDU | *63.642* | **1** | **0** |

| | | | |
|---|---|---|---|
| MAI-NDOMBE | *735.393* | **10** | **9** |
| KWILU | *1.967.085* | **27** | **26** |
| KIKWIT | *149.296* | **2** | **2** |
| KWANGO | *854.325* | **12** | **11** |
| | | | |
| **EQUATEUR** | **3.574.385** | **48** | **44** |
| MBANDAKA | *137.291* | **2** | **1** |
| EQUATEUR | *498.007* | **7** | **6** |
| SUD-UBANGI | *1.003.877* | **14** | **13** |
| ZONGO | *18.366* | **0** | **0** |
| NORD-UBANGI | *527.874* | **7** | **7** |
| MONGALA | *723.499* | **10** | **9** |
| TSHUAPA | *665.471* | **9** | **8** |
| | | | |
| **PROV ORIENTAL** | **4.314.672** | **58** | **56** |
| KISANGANI | *317.581* | **4** | **4** |
| TSHOPO | *809.266* | **11** | **10** |
| BAS-UELE | *545.458* | **7** | **7** |
| HAUT-UELE | *893.111* | **12** | **12** |
| ITURI | *1.749.256* | **24** | **23** |
| | | | |
| **MANIEMA** | **849.675** | **11** | **11** |
| MANIEMA | *849.675* | **11** | **11** |
| | | | |
| **NORD KIVU** | **2.434.275** | **33** | **32** |
| NORD-KIVU | *2.434.275* | **33** | **32** |

| | | | |
|---|---|---|---|
| **SUD KIVU** | **2.107.988** | **28** | **28** |
| BUKAVU | *167.950* | **2** | **2** |
| SUD-KIVU | *1.940.038* | **26** | **26** |
| | | | |
| **KATANGA** | **3.979.354** | **54** | **50** |
| LUBUMBASHI | *564.830* | **8** | **7** |
| LIKASI | *213.862* | **3** | **2** |
| KOLWEZI | *416.122* | **6** | **5** |
| LUALABA | *358.099* | **5** | **4** |
| HAUT-LOMAMI | *891.021* | **12** | **12** |
| TANGANIKA | *922.495* | **12** | **12** |
| HAUT-SHABA | *612.925* | **8** | **8** |
| | | | |
| **KASAI ORIENTAL** | **1.564.615** | **21** | **20** |
| SANKURU | *725.191* | **10** | **9** |
| KABINDA | *839.424* | **11** | **11** |
| | | | |
| **KASAI OCCIDENTAL** | **2.395.246** | **32** | **31** |
| KANANGA | *298.693* | **4** | **4** |
| LULUA | *999.770* | **13** | **13** |
| KASAI | *1.096.783* | **15** | **14** |

**simulations are based on the 1984 census data*

*Seats* : A seat assigned when more than 0.51% of 74.122 voters (Total seats assigned: 400)*

*Seats** : A seat assigned for each 74.122 voters (Total seats assigned: 378)*

## List PR: 400 Seats Allocated to Territories

**Simulation of Distribution of Electoral Seats: Territorial Level**

| | | |
|---|---|---|
| ***Expected amount of voters**** | ***29.648.833*** | |
| ***Hypothetical number of seats in parliament*** | ***400*** | |
| ***Voters per seat*** | ***74.122*** | |

| | | Voters | Seats* | Seats** |
|---|---|---|---|---|
| **1 KINSHASA** | | **2.664.309** | **36** | **26** |
| | 1 | 252.151 | **3** | **3** |
| | *2* | 49.297 | **1** | **0** |
| | 3 | 17.360 | **0** | **0** |
| | *4* | 69.147 | **1** | **0** |
| | 5 | 74.708 | **1** | **1** |
| | *6* | 49.173 | **1** | **0** |
| | 7 | 52.820 | **1** | **0** |
| | *8* | 126.589 | **2** | **1** |
| | 9 | 97.214 | **1** | **1** |
| | *10* | 74.888 | **1** | **1** |
| | 11 | 160.719 | **2** | **2** |
| | *12* | 82.303 | **1** | **1** |
| | 13 | 113.968 | **2** | **1** |
| | *14* | 108.939 | **1** | **1** |

| | | | | |
|---|---|---|---|---|
| | 15 | 159.775 | **2** | **2** |
| | *16* | 74.447 | **1** | **1** |
| | 17 | 128.197 | **2** | **1** |
| | *18* | 104.902 | **1** | **1** |
| | 19 | 117.774 | **2** | **1** |
| | *20* | 157.010 | **2** | **2** |
| | 21 | 158.080 | **2** | **2** |
| | *22* | 353.209 | **5** | **4** |
| | 23 | 28.963 | **0** | **0** |
| | *24* | 52.676 | **1** | **0** |
| **2 BAS CONGO** | | **1.994.573** | **27** | **19** |
| | 1 | 20.785 | **0** | **0** |
| | *2* | 62.368 | **1** | **0** |
| | 3 | 55.645 | **1** | **0** |
| | *4* | 32.815 | **0** | **0** |
| | 5 | 50.345 | **1** | **0** |
| | *6* | 11.824 | **0** | **0** |
| | 7 | 102.633 | **1** | **1** |
| | *8* | 244.900 | **3** | **3** |
| | 9 | 122.782 | **2** | **1** |
| | *10* | 183.709 | **2** | **2** |
| | 11 | 386.121 | **5** | **5** |
| | *12* | 197.675 | **3** | **2** |
| | 13 | 140.825 | **2** | **1** |
| | *14* | 234.291 | **3** | **3** |
| | 15 | 92.956 | **1** | **1** |

| | | | | |
|---|---|---|---|---|
| | *16* | 54.899 | **1** | **0** |
| **3BANDUNDU** | | **3.769.741** | **51** | **41** |
| | 1 | 34.405 | **0** | **0** |
| | *2* | 12.988 | **0** | **0** |
| | 3 | 16.249 | **0** | **0** |
| | *4* | 150.788 | **2** | **2** |
| | 5 | 85.640 | **1** | **1** |
| | *6* | 85.590 | **1** | **1** |
| | 7 | 232.528 | **3** | **3** |
| | *8* | 92.693 | **1** | **1** |
| | 9 | 88.154 | **1** | **1** |
| | *10* | 555.124 | **7** | **7** |
| | 11 | 428.962 | **6** | **5** |
| | *12* | 214.231 | **3** | **2** |
| | 13 | 477.458 | **6** | **6** |
| | *14* | 291.310 | **4** | **3** |
| | 15 | 22.648 | **0** | **0** |
| | *16* | 50.198 | **1** | **0** |
| | 17 | 35.093 | **0** | **0** |
| | *18* | 41.357 | **1** | **0** |
| | 19 | 268.960 | **4** | **3** |
| | *20* | 114.839 | **2** | **1** |
| | 21 | 92.597 | **1** | **1** |
| | *22* | 278.346 | **4** | **3** |
| | 23 | 99.583 | **1** | **1** |

| | | | | |
|---|---|---|---|---|
| **4EQUATEUR** | | **3.574.385** | **48** | **33** |
| | 1 | 75.632 | **1** | **1** |
| | *2* | 61.659 | **1** | **0** |
| | 3 | 84.484 | **1** | **1** |
| | *4* | 98.246 | **1** | **1** |
| | 5 | 90.255 | **1** | **1** |
| | *6* | 119.993 | **2** | **1** |
| | 7 | 45.824 | **1** | **0** |
| | *8* | 23.445 | **0** | **0** |
| | 9 | 35.760 | **0** | **0** |
| | *10* | 439.079 | **6** | **5** |
| | 11 | 221.932 | **3** | **2** |
| | *12* | 220.854 | **3** | **2** |
| | 13 | 122.012 | **2** | **1** |
| | *14* | 12.273 | **0** | **0** |
| | 15 | 6.093 | **0** | **0** |
| | *16* | 92.568 | **1** | **1** |
| | 17 | 112.436 | **2** | **1** |
| | *18* | 203.243 | **3** | **2** |
| | 19 | 119.627 | **2** | **1** |
| | *20* | 214.404 | **3** | **2** |
| | 21 | 359.490 | **5** | **4** |
| | *22* | 149.605 | **2** | **2** |
| | 23 | 157.760 | **2** | **2** |
| | *24* | 69.718 | **1** | **0** |
| | 25 | 111.806 | **2** | **1** |
| | *26* | 137.746 | **2** | **1** |

| | | | | |
|---|---|---|---|---|
| | 27 | 140.875 | **2** | **1** |
| | *28* | 47.566 | **1** | **0** |
| | | | | |
| **5PROV ORIENTAL** | | **4.314.672** | **58** | **42** |
| | 1 | 64.664 | **1** | **0** |
| | *2* | 31.662 | **0** | **0** |
| | 3 | 67.378 | **1** | **0** |
| | *4* | 62.298 | **1** | **0** |
| | 5 | 62.622 | **1** | **0** |
| | *6* | 28.957 | **0** | **0** |
| | 7 | 91.226 | **1** | **1** |
| | *8* | 59.646 | **1** | **0** |
| | 9 | 119.637 | **2** | **1** |
| | *10* | 110.411 | **1** | **1** |
| | 11 | 245.548 | **3** | **3** |
| | *12* | 65.927 | **1** | **0** |
| | 13 | 116.871 | **2** | **1** |
| | *14* | 74.972 | **1** | **1** |
| | 15 | 93.434 | **1** | **1** |
| | *16* | 116.538 | **2** | **1** |
| | 17 | 48.862 | **1** | **0** |
| | *18* | 99.419 | **1** | **1** |
| | 19 | 112.233 | **2** | **1** |
| | *20* | 215.679 | **3** | **2** |
| | 21 | 60.138 | **1** | **0** |
| | *22* | 122.499 | **2** | **1** |
| | 23 | 158.258 | **2** | **2** |

| | | | | |
|---|---|---|---|---|
| | *24* | 109.269 | **1** | **1** |
| | 25 | 227.268 | **3** | **3** |
| | *26* | 295.107 | **4** | **3** |
| | 27 | 84.031 | **1** | **1** |
| | *28* | 551.137 | **7** | **7** |
| | 29 | 422.919 | **6** | **5** |
| | *30* | 396.062 | **5** | **5** |
| **6MANIEMA** | | **849.675** | **11** | **8** |
| | 1 | 149.164 | **2** | **2** |
| | 2 | 56.017 | **1** | **0** |
| | 3 | 60.448 | **1** | **0** |
| | 4 | 52.907 | **1** | **0** |
| | 5 | 171.600 | **2** | **2** |
| | 6 | 246.959 | **3** | **3** |
| | 7 | 112.580 | **2** | **1** |
| **7NORD KIVU** | | **2.434.275** | **33** | **30** |
| | 1 | 115.659 | **2** | **1** |
| | 2 | 137.065 | **2** | **1** |
| | 3 | 619.827 | **8** | **8** |
| | 4 | 604.210 | **8** | **8** |
| | 5 | 479.064 | **6** | **6** |
| | 6 | 478.450 | **6** | **6** |
| **8SUD KIVU** | | **2.107.988** | **28** | **22** |
| | 1 | 54.958 | **1** | **0** |

| | | | | |
|---|---|---|---|---|
| | *2* | 64.274 | **1** | **0** |
| | 3 | 48.718 | **1** | **0** |
| | *4* | 365.675 | **5** | **4** |
| | 5 | 320.022 | **4** | **4** |
| | *6* | 204.843 | **3** | **2** |
| | 7 | 215.895 | **3** | **2** |
| | *8* | 173.948 | **2** | **2** |
| | 9 | 226.811 | **3** | **3** |
| | *10* | 92.247 | **1** | **1** |
| | 11 | 340.597 | **5** | **4** |
| **9KATANGA** | | **3.979.354** | **54** | **40** |
| | 1 | 148.363 | **2** | **2** |
| | *2* | 64.230 | **1** | **0** |
| | 3 | 126.074 | **2** | **1** |
| | *4* | 75.070 | **1** | **1** |
| | 5 | 88.732 | **1** | **1** |
| | *6* | 26.581 | **0** | **0** |
| | 7 | 35.780 | **0** | **0** |
| | *8* | 27.205 | **0** | **0** |
| | 9 | 121.836 | **2** | **1** |
| | *10* | 44.743 | **1** | **0** |
| | 11 | 20.078 | **0** | **0** |
| | *12* | 97.281 | **1** | **1** |
| | 13 | 123.425 | **2** | **1** |
| | *14* | 95.809 | **1** | **1** |
| | 15 | 99.607 | **1** | **1** |

| | | | | |
|---|---|---|---|---|
| | *16* | 161.174 | **2** | **2** |
| | 17 | 114.081 | **2** | **1** |
| | *18* | 82.844 | **1** | **1** |
| | 19 | 171.008 | **2** | **2** |
| | *20* | 80.850 | **1** | **1** |
| | 21 | 179.480 | **2** | **2** |
| | *22* | 242.629 | **3** | **3** |
| | 23 | 217.054 | **3** | **2** |
| | *24* | 180.164 | **2** | **2** |
| | 25 | 213.230 | **3** | **2** |
| | *26* | 171.453 | **2** | **2** |
| | 27 | 98.788 | **1** | **1** |
| | *28* | 184.633 | **2** | **2** |
| | 29 | 74.227 | **1** | **1** |
| | *30* | 88.492 | **1** | **1** |
| | 31 | 84.363 | **1** | **1** |
| | *32* | 105.887 | **1** | **1** |
| | 33 | 79.052 | **1** | **1** |
| | *34* | 131.765 | **2** | **1** |
| | 35 | 123.366 | **2** | **1** |
| **10** | **KASAI ORIENTAL** | **1.564.615** | **21** | **17** |
| | 1 | 58.366 | **1** | **0** |
| | *2* | 84.808 | **1** | **1** |
| | 3 | 76.056 | **1** | **1** |
| | *4* | 169.955 | **2** | **2** |
| | 5 | 77.438 | **1** | **1** |

| | | | | |
|---|---|---|---|---|
| | *6* | 258.568 | **3** | **3** |
| | 7 | 265.237 | **4** | **3** |
| | *8* | 21.811 | **0** | **0** |
| | 9 | 227.801 | **3** | **3** |
| | *10* | 188.112 | **3** | **2** |
| | 11 | 136.463 | **2** | **1** |
| **11KASAI OCCIDENTAL** | | **2.395.246** | **32** | **25** |
| | 1 | 50.756 | **1** | **0** |
| | *2* | 65.635 | **1** | **0** |
| | 3 | 42.612 | **1** | **0** |
| | *4* | 41.593 | **1** | **0** |
| | 5 | 98.097 | **1** | **1** |
| | *6* | 178.573 | **2** | **2** |
| | 7 | 226.993 | **3** | **3** |
| | *8* | 266.863 | **4** | **3** |
| | 9 | 187.593 | **3** | **2** |
| | *10* | 139.748 | **2** | **1** |
| | 11 | 111.133 | **1** | **1** |
| | *12* | 530.257 | **7** | **7** |
| | 13 | 167.258 | **2** | **2** |
| | *14* | 231.440 | **3** | **3** |
| | 15 | 56.695 | **1** | **0** |

**simulations are based on the 1984 census data*

*Seats* : A seat assigned when more than 0.51% of 74.122 voters (Total seats assigned: 400)*

*Seats** : A seat assigned for each 74.122 voters (Total seats assigned: 303)*

## Mixed Member Proportional System: 200 Representatives from Territorial Level Constituencies

### Simulation of Distribution of Electoral Seats: Territorial Level

| | |
|---|---|
| ***Expected amount of voters**** | ***29.648.833*** |
| ***Hypothetical number of seats in parliament*** | ***400*** |
| ***Directly elected Representatives*** | ***200*** |
| ***Indirectly elected Representatives*** | ***200*** |
| ***Voters per seat*** | ***148.244*** |

| Territories | Seats* | Seats** | |
|---|---|---|---|
| 1 | 20.785 | **0** | **0** |
| 2 | 21.811 | **0** | **0** |
| 3 | 22.648 | **0** | **0** |
| 4 | 23.445 | **0** | **0** |
| 5 | 26.581 | **0** | **0** |
| 6 | 27.205 | **0** | **0** |
| 7 | 28.957 | **0** | **0** |
| 8 | 28.963 | **0** | **0** |
| 9 | 31.662 | **0** | **0** |
| 10 | 32.815 | **0** | **0** |
| 11 | 34.405 | **0** | **0** |
| 12 | 35.093 | **0** | **0** |
| 13 | 35.760 | **0** | **0** |

| | | | |
|---|---|---|---|
| 14 | 35.780 | **0** | **0** |
| 15 | 41.357 | **0** | **0** |
| 16 | 41.593 | **0** | **0** |
| 17 | 42.612 | **0** | **0** |
| 18 | 44.743 | **0** | **0** |
| 19 | 45.824 | **0** | **0** |
| 20 | 47.566 | **0** | **0** |
| 21 | 48.718 | **0** | **0** |
| 22 | 48.862 | **0** | **0** |
| 23 | 49.173 | **0** | **0** |
| 24 | 49.297 | **0** | **0** |
| 25 | 50.198 | **0** | **0** |
| 26 | 50.345 | **0** | **0** |
| 27 | 50.756 | **0** | **0** |
| 28 | 52.676 | **0** | **0** |
| 29 | 52.820 | **0** | **0** |
| 30 | 52.907 | **0** | **0** |
| 31 | 54.899 | **0** | **0** |
| 32 | 54.958 | **0** | **0** |
| 33 | 55.645 | **0** | **0** |
| 34 | 56.017 | **0** | **0** |
| 35 | 56.695 | **0** | **0** |
| 36 | 58.366 | **0** | **0** |
| 37 | 59.646 | **0** | **0** |
| 38 | 60.138 | **0** | **0** |
| 39 | 60.448 | **0** | **0** |
| 40 | 61.659 | **0** | **0** |
| 41 | 62.298 | **0** | **0** |

| | | | |
|---|---|---|---|
| 42 | 62.368 | **0** | **0** |
| 43 | 62.622 | **0** | **0** |
| 44 | 64.230 | **0** | **0** |
| 45 | 64.274 | **0** | **0** |
| 46 | 64.664 | **0** | **0** |
| 47 | 65.635 | **0** | **0** |
| 48 | 65.927 | **0** | **0** |
| 49 | 67.378 | **0** | **0** |
| 50 | 69.147 | **0** | **0** |
| 51 | 69.718 | **0** | **0** |
| 52 | 74.227 | **1** | **0** |
| 53 | 74.447 | **1** | **0** |
| 54 | 74.708 | **1** | **0** |
| 55 | 74.888 | **1** | **0** |
| 56 | 74.972 | **1** | **0** |
| 57 | 75.070 | **1** | **0** |
| 58 | 75.632 | **1** | **0** |
| 59 | 76.056 | **1** | **0** |
| 60 | 77.438 | **1** | **0** |
| 61 | 79.052 | **1** | **0** |
| 62 | 80.850 | **1** | **0** |
| 63 | 82.303 | **1** | **0** |
| 64 | 82.844 | **1** | **0** |
| 65 | 84.031 | **1** | **0** |
| 66 | 84.363 | **1** | **0** |
| 67 | 84.484 | **1** | **0** |
| 68 | 84.808 | **1** | **0** |
| 69 | 85.590 | **1** | **0** |

| | | | |
|---|---|---|---|
| 70 | 85.640 | **1** | **0** |
| 71 | 88.154 | **1** | **0** |
| 72 | 88.492 | **1** | **0** |
| 73 | 88.732 | **1** | **0** |
| 74 | 90.255 | **1** | **0** |
| 75 | 91.226 | **1** | **0** |
| 76 | 92.247 | **1** | **0** |
| 77 | 92.568 | **1** | **0** |
| 78 | 92.597 | **1** | **0** |
| 79 | 92.693 | **1** | **0** |
| 80 | 92.956 | **1** | **0** |
| 81 | 93.434 | **1** | **0** |
| 82 | 95.809 | **1** | **0** |
| 83 | 96.865 | **1** | **0** |
| 84 | 97.214 | **1** | **0** |
| 85 | 97.281 | **1** | **0** |
| 86 | 98.097 | **1** | **0** |
| 87 | 98.246 | **1** | **0** |
| 88 | 98.788 | **1** | **0** |
| 89 | 99.419 | **1** | **0** |
| 90 | 99.583 | **1** | **0** |
| 91 | 99.607 | **1** | **0** |
| 92 | 102.633 | **1** | **0** |
| 93 | 104.902 | **1** | **0** |
| 94 | 105.887 | **1** | **0** |
| 95 | 108.939 | **1** | **0** |
| 96 | 109.269 | **1** | **0** |
| 97 | 110.411 | **1** | **0** |

| | | | |
|---|---|---|---|
| 98 | 111.133 | **1** | **0** |
| 99 | 111.806 | **1** | **0** |
| 100 | 112.233 | **1** | **0** |
| 101 | 112.436 | **1** | **0** |
| 102 | 112.580 | **1** | **0** |
| 103 | 113.968 | **1** | **0** |
| 104 | 114.081 | **1** | **0** |
| 105 | 114.839 | **1** | **0** |
| 106 | 115.659 | **1** | **0** |
| 107 | 116.538 | **1** | **0** |
| 108 | 116.871 | **1** | **0** |
| 109 | 117.774 | **1** | **0** |
| 110 | 119.627 | **1** | **0** |
| 111 | 119.637 | **1** | **0** |
| 112 | 119.993 | **1** | **0** |
| 113 | 121.836 | **1** | **0** |
| 114 | 122.012 | **1** | **0** |
| 115 | 122.499 | **1** | **0** |
| 116 | 122.782 | **1** | **0** |
| 117 | 123.366 | **1** | **0** |
| 118 | 123.425 | **1** | **0** |
| 119 | 126.074 | **1** | **0** |
| 120 | 126.589 | **1** | **0** |
| 121 | 128.197 | **1** | **0** |
| 122 | 131.765 | **1** | **0** |
| 123 | 136.463 | **1** | **0** |
| 124 | 137.065 | **1** | **0** |
| 125 | 137.746 | **1** | **0** |

| | | | |
|---|---|---|---|
| 126 | 139.748 | **1** | **0** |
| 127 | 140.825 | **1** | **0** |
| 128 | 140.875 | **1** | **0** |
| 129 | 148.363 | **1** | **1** |
| 130 | 149.164 | **1** | **1** |
| 131 | 149.605 | **1** | **1** |
| 132 | 150.788 | **1** | **1** |
| 133 | 157.010 | **1** | **1** |
| 134 | 157.760 | **1** | **1** |
| 135 | 158.080 | **1** | **1** |
| 136 | 158.258 | **1** | **1** |
| 137 | 159.775 | **1** | **1** |
| 138 | 160.719 | **1** | **1** |
| 139 | 161.174 | **1** | **1** |
| 140 | 167.258 | **1** | **1** |
| 141 | 169.955 | **1** | **1** |
| 142 | 171.008 | **1** | **1** |
| 143 | 171.453 | **1** | **1** |
| 144 | 171.600 | **1** | **1** |
| 145 | 173.948 | **1** | **1** |
| 146 | 178.573 | **1** | **1** |
| 147 | 179.480 | **1** | **1** |
| 148 | 180.164 | **1** | **1** |
| 149 | 183.709 | **1** | **1** |
| 150 | 184.633 | **1** | **1** |
| 151 | 187.593 | **1** | **1** |
| 152 | 188.112 | **1** | **1** |
| 153 | 197.675 | **1** | **1** |

| | | | |
|---|---|---|---|
| 154 | 203.243 | **1** | **1** |
| 155 | 204.843 | **1** | **1** |
| 156 | 213.230 | **1** | **1** |
| 157 | 214.231 | **1** | **1** |
| 158 | 214.404 | **1** | **1** |
| 159 | 215.679 | **1** | **1** |
| 160 | 215.895 | **1** | **1** |
| 161 | 217.054 | **1** | **1** |
| 162 | 220.854 | **1** | **1** |
| 163 | 221.932 | **1** | **1** |
| 164 | 226.811 | **2** | **1** |
| 165 | 226.993 | **2** | **1** |
| 166 | 227.268 | **2** | **1** |
| 167 | 227.801 | **2** | **1** |
| 168 | 231.440 | **2** | **1** |
| 169 | 232.528 | **2** | **1** |
| 170 | 234.291 | **2** | **1** |
| 171 | 242.629 | **2** | **1** |
| 172 | 244.900 | **2** | **1** |
| 173 | 245.548 | **2** | **1** |
| 174 | 246.959 | **2** | **1** |
| 175 | 252.151 | **2** | **1** |
| 176 | 258.568 | **2** | **1** |
| 177 | 265.237 | **2** | **1** |
| 178 | 266.863 | **2** | **1** |
| 179 | 268.960 | **2** | **1** |
| 180 | 278.346 | **2** | **1** |
| 181 | 291.310 | **2** | **1** |

| | | | |
|---|---|---|---|
| 182 | 295.107 | **2** | **1** |
| 183 | 320.022 | **2** | **2** |
| 184 | 340.597 | **2** | **2** |
| 185 | 353.209 | **2** | **2** |
| 186 | 359.490 | **2** | **2** |
| 187 | 365.675 | **2** | **2** |
| 188 | 386.121 | **3** | **2** |
| 189 | 396.062 | **3** | **2** |
| 190 | 422.919 | **3** | **2** |
| 191 | 428.962 | **3** | **2** |
| 192 | 439.079 | **3** | **2** |
| 193 | 477.458 | **3** | **3** |
| 194 | 478.450 | **3** | **3** |
| 195 | 479.064 | **3** | **3** |
| 196 | 530.257 | **4** | **3** |
| 197 | 551.137 | **4** | **3** |
| 198 | 555.124 | **4** | **3** |
| 199 | 604.210 | **4** | **4** |
| 200 | 619.827 | **4** | **4** |

**simulations are based on the 1984 census data*

*Seats* : A seat assigned when more than 0.51% of 148.244 voters (Total seats assigned: 200)*

*Seats** : A seat assigned for each 148.244 voters (Total seats assigned: 101)*

# Appendix B: Standard Polling Kit Material List

## Standard Stationary Kit

| No. | STATIONARY KIT - ITEM DESCRIPTION | / KIT | COMMENT |
|---|---|---|---|
| 1 | Pens (black ball point) | 24 | |
| 2 | Felt Marker (black) | 2 | |
| 3 | Paper clips (box) | 1 | |
| 4 | Drawing pins (box) | 1 | |
| 5 | Ruler (30cm.) | 1 | |
| 6 | Stapler, small, with staples | 1 | |
| 7 | Scissors | 1 | |
| 8 | Poll Book, min. 50 pages, printed cover, numbered pages | 1 | Notebook style, numbered pages |
| 9 | *Note Book, minimum 50 pages* | 1 | |
| 10 | Tissues (roll or box) | 1 | To remove excess UV ink |
| 11 | Calculator, hand held | 1 | |
| 12 | Finger Print Pad | 1 | To finger-print the voters list |
| 13 | Roll of String | 1 | To attach pen to voting screen |
| 14 | Packing Tape (4cm wide) | 2 | Rolls |
| 15 | Arm Band | 5 | 1/staff |
| 16 | Cap (baseball style) | 5 | 1/staff |
| 17 | Signs - 'No weapons' & 'No Smoking' (30x30cm) | 2 ea. | Sticky label, A4 size |
| 18 | Table signs: Ballot Issuer, ID Check | 1 ea. | A4 size |
| 19 | ID Badge w/ pin-holder 'President' & 'Polling Staff' | 4 + 1 | Printed Card, 1/staff |
| 20 | Ballot Box id sticky labels | 2 | A5, 'Polling Station No. ' |

## Standard Transfer Kit

| No. | TRANSFER KIT - ITEM DESCRIPTION | / KIT | COMMENT |
|---|---|---|---|
| 1 | Numbered Plastic Security Seals (one-way pull-tight) | 3 | To secure ballot box lid & slot |
| 2 | Numbered Plastic Security Seals (one-way pull-tight) | 6 | To seal material transfer bags + spares |
| 3 | Tamper evident envelope for Used & Invalid Ballots | 1 | Printed 'Used Ballots' & 'PS No. ' |
| 4 | Tamper evident envelope for Unused Ballots & Ballot Stubs | 1 | Printed 'Unused Ballots' & 'PS No. ' |
| 5 | Tamper evident envelope for Voters List & Poll Book | 1 | Printed 'Ballot Stubs' & 'PS No. ' |
| 6 | Tamper evident envelope (spare) | 1 | If used, indicate PS No. |
| 7 | Sensitive Material Transfer Bag with A4 sticky label | 1 | Clear Plastic, 'PS No. ' on label |
| 8 | Non-Sensitive Material Transfer Bag | 1 | Plastic, approx. 40 x 80 cm. |
| 9 | Tags, id, with tie | 4 | To identify material transfer bags |

## Standard Polling Kit Material List

| No. | DESCRIPTION | / KIT | COMMENT | |
|---|---|---|---|---|
| 1 | Pens (black ball point) | 24 | | * |
| 2 | Felt Marker (black) | 2 | | * |
| 3 | Paper clips (box) | 1 | | * |
| 4 | Drawing pins (box) | 1 | | * |
| 5 | Ruler (30cm.) | 1 | | * |
| 6 | Stapler, small with staples | 1 | | * |
| 7 | Scissors | 1 | | * |
| 8 | Poll Book, 50 pages, printed cover, numbered pages | 1 | Notebook style, numbered pages | S |
| 9 | *Note Book* | 1 | | |
| 10 | Tissues (roll) | 1 | To remove excess UV ink | * |
| 11 | Calculator, hand held | 1 | | * |
| 12 | Finger-print pad | 1 | To finger-print the voters list | * |
| 13 | Roll of String | 1 | To attach pen to voting screen | * |
| 14 | Packing Tape | 2 | Rolls | * |
| 15 | Signs - 'No weapons' & 'No Smoking' | 2 ea. | Visual, sticky label, A4 | |
| 16 | Table signs: Ballot Issuer, ID Check | 1 ea. | | * |
| 17 | ID Badge w/ pin-holder 'President' & 'Polling Staff' | 1 + 4 | Printed Card, 1/staff | |
| 18 | Ballot Box id labels (attach to ballot box) | 2 | A5, District & Polling Station Number | |
| 19 | *Ultra Violet (UV) Ink (spray bottles)* | 2 | To mark voter's finger | * |
| 20 | Ultra Violet Lamp (handheld) | 2 | To detect UV ink | * |
| 21 | Batteries 'AA' (4-pack) | 2 | For UV lamps | * |
| 22 | Numbered Plastic Security Seals (one-way pull-tight) | 3 | To secure ballot box lid & slot | |
| 23 | Numbered Plastic Security Seals (one-way pull-tight) | 7 | To seal material transfer bags (+ spares) | |
| 24 | Ballot Box (plastic, sealable lid & voting slot) | 1 | | |
| 25 | Tamper evident envelope for Used & Invalid Ballots | 1 | Labelled, District & Polling Station No. | S |
| 26 | Tamper evident envelope for Unused Ballots & Ballot Stubs | 1 | Labelled, District & Polling Station No. | S |
| 27 | Tamper evident envelope for Voters List & Poll Book | 1 | Labelled, District & Polling Station No. | S |
| 28 | Tamper evident envelope (spare) | 1 | If used, indicate District & PS No. | |
| 29 | Sensitive Material Transfer Bag with label | 1 | Label & apply security seal & tag | S |
| 30 | Non-Sensitive Material Transfer Bag | 1 | Apply security seal & tag | |
| 31 | ID Tags with tie | 4 | For material transfer bags | |
| 32 | Transfer Envelope for Results Sheet & other Forms | 1 | Printed, District & Polling Station No. | |
| 33 | Polling Station Signs | 2 | | |
| 34 | Polling Procedures Manual | 1 | | |

**Additional Separate Items:**

| | | | | |
|---|---|---|---|---|
| 35 | Voting Screens | 3 | Free standing, cardboard | |
| 36 | Polling Station Poster Set (How-to-Vote etc) | 1 | | |

**Notes** : 1. Each Polling Kit is designed to cover one polling station of 800 voters.
2. Following voting:
- Sensitive items marked with an 'S' are re-packed in the clear sensitive material transfer bag.
- Non-sensitive items marked with a * are re-packed in the non-sensitive material transfer bag.
- The transfer bags are packed inside the ballot box for retrieval.