IT Solutions for registration exercises

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While the principles of elections largely remain the same

Information
Communication
Technology

has the past 25 years dramatically changed the operational methodology for elections, driven by rising demands on EMBS.
Continuous and increasingly fast developments in ICTs applications available for electoral purposes

EC/UNDP are receiving many request for support to census, civil and voter registration.

Factor to be reckoned with by all EMBs, donors, practioners and electoral assistance providers

ICTs has already dramatically changed the way elections are conducted

Unrealistic not to accept that this process will go on and affect more and more emerging democracies, like Mozambique and even countries just exiting long-drawn conflicts, like DRC
Effective Electoral Assistance Focus

- Quality and appropriateness of the methodological, operational and technological choices to be adopted for implementation on an electoral cycle.

- Perceived not any longer as isolated event but as a process.

- Past imperfections and limited results should be seen as an additional motive to support electoral processes investing more in the institutions that administer the elections in a good governance perspective.

- Importance of international/domestic observation missions, evaluations, post election seminar and peer review mechanisms.

- Importance of the synergies between election observation and electoral assistance.
Any effort to make electoral assistance more effective must tackle the issue of the increasing use of technology in the electoral process.
What kind of technology is suitable for a particular electoral process?

- **Challenge:** how to ensure a sustainable, appropriate, cost effective and transparent use of technology in post-conflict elections and in fragile or emerging democracies?

- No fixed solution that can be applicable everywhere, but different ones for every context. General rule:

- The level of technological upgrades suitable for a given country should always be directly related to the trust and independence enjoyed by the EMB, as this is the element that will in the end determine their acceptance by the public opinion.
Technology should be:

• implemented in time before an electoral event
• legally supported
• operationally appropriate
• cost effective
• transparent and add to integrity
• sustainable
"Not"

Technology should NOT be:

• driven by vendor or donor interests
• considered a proof of “development”
• suppress more important needs
Areas of Implementation

Geographic Information Systems (GIS)

- Boundary delimitation
- Operational planning
- Public information
- Results analysis by public & contestants
- Integration with other institutions
Areas of Implementation
Regulation of Parties and Candidates

- Registration of political parties
- Campaign finance controls and information
- Candidate nomination and verification
  - Better and more precise ballots
- Voter education about contestants
Areas of Implementation
Public Outreach

- Web sites
- Mass emailing
- Mass SMS
- Call Centers of EMBs
- Better TV spots through animation
Areas of Implementation
Public Outreach
Areas of Implementation
Results Aggregation

- Results are data entered manually, or through OMR, locally and then electronically transferred and tabulated centrally
- Faster, more precise & more auditable results
- Cost effective modernisation
Areas of Implementation

Internal Administration

- Organisational modernisation
- Budget/finance, human resource systems
- Procurement, inventory, transport
- Internal communication
  - Distributed email
  - Secure intranets
- Customisation & training, training, training
Areas of Implementation
Electronic Voting
Areas of Implementation
Electronic Voting

Opportunities:

- Longer term cost reduction
- Results faster and more reliable
- Better access for disabled
- Mobility of voters
- Facilitate out-of-country voting
- Higher turn-out through ease of voting
Areas of Implementation
Electronic Voting

- Risks:
- Sustainability
  - Training
- “Vendor dictatorship”
- Lack of trust, ease of central manipulation
  - Transparency is key
Areas of Implementation
Voter Registration
Areas of Implementation
Voter Registration

- An accurate and accepted voter registry is pivotal to a credible electoral process
- Capture more data, faster and more precise
- Capture biometric data: picture & fingerprint
  - Avoid double registration
- Centralisation: detect fraud
- Planning: more effective allocation to polling locations
- Synergy with civil registry
- Risks: sustainability, manipulation, trust
Typical voter registration operation:

- Constitution -> election law -> regulation / procedure
- Operational plan -> procurement and training
- Field operation collecting data on eligible voters
- Data processing
- Production of preliminary voter lists and their display
- Claims and objections period with the consequent process of entering deletions and additions
- Production of final voters lists and the at times related production of voter cards
- Distribution of voter cards and the distribution of voters lists to polling stations
- E-day: final voters list controls who can vote where
Three conceptual systems:

1. Stand-alone “ad hoc” / periodic voter registration (active)
2. Stand-alone continuous / permanent voter registration (active)
3. Voter register based on the civil register (passive)
Seven steps:

1. No voter registry and an extensive use of indelible ink or some form of marking on voters to guarantee the “one person one vote principle”
2. Manual (often periodic) voter registry with/out the issuance of voter cards
3. Computerized (often periodic) voter registry with/out the issuance of voter cards
4. Computerized (often periodic) voter registry checked against an existing civil registry
5. Computerized (often permanent) voter registry
6. Integrated civil and voter registration
7. Voter rolls automatically generated as an extraction of the civil registry or of the permanent stand alone voter register
Three levels of technological methodologies:

- **Low-Tech**
  - Data on paper - locally based – Timor, Bénin

- **Medium-Tech**
  - Paper into database - centrally based – Tanzania, Zambia, Malawi

- **High-Tech**
  - Direct to computer – DRC, Togo

-> Endless variations of VR methodology
Low - Tech Approaches

It generally entails the manual transcription of voters' data on lists at voter registration centres and are kept at the local/provincial level. Registration forms are taken to the central level and data entered in a central database. Most preferred in post-conflict scenarios.
**Mid Tech Approach**

Optical Mark Recognition (OMR) was first used in large scale Electoral Assistance Mission in Bosnia and Herzegovina in 1997.
OMR Scanners
Production of OMR Forms
Component one
First registration

- Voters details
- Recorded on this form
- issued with a receipt of their registration

Component two
Second registration

Photo taken and applied to form
Receipt (voters card) then issued
Clip for ICR Batch No

Clip for ICR Polling Station No

Electoral Commission of Ghana
Batch Control & Accounting Sheet - Form 2B

Clip for ICR Batch No

200 dpi bitonal TIFF (permanent) for offline ICR (permanent) Serial Numbers (40k size approx)

200 dpi GreyScale jpg (permanent) of whole image (50k size approx)
Mid Tech Approach

- Polaroid Instant camera
- Fingerprint pad
- Polaroid film
- Registration Forms
- Laminating Pouches
- Envelopes
- Pencil
- Photo die cutter
- Photo-fix
- Voter’s card
- Transport to data centre
- Completed OMR Forms
- Batch Header Form (one per day)

OMR

Official

Photograph

Fingerprint

Completed OMR Forms

Batch Header Form (one per day)
The Major System for PNVR Preparation that comprised by Different modules
Mid Tech Approach – Zambia
Mid Tech Approach post Polaroid

- Using solar panels
- Photoprinter
- Battery (reusability issues)
- Complex setup which has led to technical difficulties similar to full fledged digital registration kits
Usage of electronic forms and data-entry performed at the local level on laptop computers.

Information transmitted in real time to a centralized processing facility or stored electronically for periodic delivery through external memories.

Might involve biometric features (digital pictures, fingerprint or iris capturing) and on-site production of voter cards.

**Hi-Tech Approach**
**Color Touch-screen**
A touch-sensitive, full-color LCD screen displays easy-to-use controls for PenCom officials to use to incorporate or edit data.

**Digital Camera**
The digital camera is embedded onto the unit’s Official Panel and may be used to capture a voter’s digital photograph during registration.

**Signature Pad**
The signature capture device may be used to capture a user’s signature in electronic format during registration or authentication.

**Local Capture of Information**
The application contained can capture data manually inserted in the Vanguard. This data can be, voters information, as well as Voting results.

**Transmission of Data**
The kit is capable of transmitting all data and results from distributed locations to a central site.

**Printer**
The attached printer can be used to print a voter registration card.

**Fingerprint Reader**
The main fingerprint capture device may be used to capture a fingerprint in digital form during registration or authentication.

**The Future?**
Infrastructure has to be compliant with international standards:

- Data centre compliant with ANSI/TIA-942
- Voter Database compliant with ACM statewide database of registered voters (draft standards)
- Kits and other IT solutions need to be compliant with applicable clauses contained in the Voluntary Voting System Guidelines (VVSG) which are guidelines adopted by the United States Election Assistance Commission (EAC) for the certification of voting systems.
- AFIS component needs also to comply with BS ISO/IEC 19794 standards which are applicable to all identity management systems.
Sustainability Issues

- Technology might reduce costs and improve sustainability
- It opens up risks for donors and assistance providers to become hostages of the vendors
- Cost-effectiveness depends on the re-usability of the hardware for other elections administrative purposes
- Technological changes are not accompanied by adequate training and voter education efforts
Focus on civil/voter registration and transmission of electoral data

Comparative assessment

Methodological guide

Auditing procedure

Training modules

Conduct an analysis of most appropriate manner of procuring these technologies and the related specialized services
Concluding remarks

- Complexity of solutions
- Standards compliance
- Capacity building of EMB
- Sustainability

- Innovative approaches promoting south to south cooperation, sharing of know-how, equipment, secondment of staff, etc.