Using ICT in Election Management
Case Study of Namibia

ID4Africa 2019: ID & Democracy
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From UN Mandate to Self-Managed Registration Case Study of Namibia Electoral Management

• Purpose:
  • Assessing end-to-end trust in the electoral process using Namibia’s experience since Independence through 2014

• Agenda
  • Challenges in the early days after independence.
  • Modernizing the electoral process and systems in 2014
  • Evaluation of Trust in Current Electoral Systems
Challenges in the early days after Namibia Independence
History of Elections in Namibia

• 1989
  • First Parliamentary Elections
  • United Nations managed process
  • Paper Ballot used
  • 701,483 Registered Voters

• 1994 to 2009
  • Namibian Managed – Electoral Commission of Namibia
  • Paper Ballot Used
  • 2009: 1,181,802 Voters
Note of Importance: Challenges

• Members to be elected by the registered voters by general, direct and secret ballot
• Members of the National Assembly shall be elected in accordance with procedures to be determined by Act of Parliament

• Electoral Act No. 24 of 1992 replaced by Electoral Act No. 5 of 2014
• *General Registration of Voters must take place every 10 years under supervision of the Electoral Commission of Namibia*
Problems Experienced

- Ballots count disputed
- Delays in counting
- Parties did not trust Voters Register

- 2004 – Ballots recounted under court order

- 2009
  - Voters Register was restated with 361,530 voters removed shortly before voting
  - 6 days for counting
  - Criticism of the ECN processes by High Court including a cost order against the ECN
The issues faced by ECN (1)

• Eligibility:
  • Some voters only had old SWA/Namibia Identity Documents
  • Birth Certificates could be used (with sworn statements)
  • Voters could use Sworn Statements made by two registered voters
  • Political Parties did not have the resources to interrogate the VR

• One Voter per One Identity
  • Voters appeared more than once on the VR
  • Voters who passed away since Registration remained on the VR
The issues faced by ECN (2)

• Credentials of Voters
  • Paper issued - Could be tampered with

• Authentication of Voters
  • Paper–based VR could only have the VR of that specific Constituency
  • Voters were allowed to vote in any Constituency – but counted for the constituency they registered (Tendered Ballots)
  • Proof of Identity was difficult
  • Multiple Voting (by one voter) could not be detected
The issues faced by ECN (3)

• Tallying and Transmission of Results
  • Accusations of Vote Tally Tampering
  • Results must be posted at Polling Station, then tallied at Constituency Collation Centres before transmission to HQ
  • Human Error, Fatigue, etc. led to tally discrepancies

• Lack of Trust by voters, political parties, etc. in:
  • Voters Register
  • Identifying voters at polling
  • Tallying of Results
  • Results Transmission
Modernizing the electoral process and systems in 2014
Systems procured by ECN for 2014 (1)

- Voters Registration System
  - Biometric Registration (Face, fingerprints, signature)
  - Duplicate Removals (AFIS) through fingerprint matching
  - Deaths register regularly updated via Home Affairs
    - Presently in paper-based format Deaths Register
    - In the process of MOU for electronic access
  - Colour printed VR including facial photograph

![Figure 1: Voters' Registration Kit Components](image)
Systems procured by ECN (2)

• Voter Verification System
  • Complete VR on handheld devices at polling stations – card and fingerprints matched with voter
  • Voters voting twice are identified after polling (through fingerprints)
  • Statistical Analysis possible of age, gender, etc per polling station
Centralised Database Management of Registration and Voting

- The Biometric Voters Database is held at HQ with an AFIS (Advanced Fingerprint Identification System)
- Registration kits are not connected during registration, data only uploaded weekly via USB sticks at HQ
- Voter cards are not checked real-time, only on that specific device
- Data networks not available at all polling stations
- Neither registration nor voter verification uses online communication systems
- Post-Mortem Management only
Systems procured by ECN (3)

• Electronic Voting Machines (EVMs)
  • Indian procured EVMs
  • Programmed for Namibia Electoral System
  • Voter confirms electoral choice (2-button verification)
  • Printouts of results immediately after polling closes
  • Printout displayed at Polling Station
  • Electronic Collation of Results from Multiple EVMs (Tabulation) at Constituency Collation Centres
  • Printouts of Collation Centre matched with paper-based Results Forms signed by political parties
Issues with EVMs

• Indian manufactured and can be coupled to Voter Verified Printed Audit (VVPAT)

• However, not yet needed by law – Minister must gazette implementation

• Namibian EVMs have two extra processes:
  • Two button voting allows for correction of vote before casting
  • Printout available in order of voting can be checked by order of the court
Systems procured by ECN (3)

• Results Transmission System
  • EVMs Tabulated Results forms sent electronically (Internet)
  • Paper-based Results Forms sent via Facsimile
  • Central Election Results Centre (CERC) for national collation
  • Parliamentary seats allocation done centrally (formula)
Evaluation of Systems

Is there now trust in ECN?
Results of Implementation

- Voter Registration System
  - Registered 1,241,194 Voters in General Registration of Voters
  - 97.30% of eligible voters
  - Duplicates and Deaths Removed 36,384 (Duplicates for errors made)
  - Trusted Voters Register with no court challenge
    - 2004 & 2009 challenged voters register and results
    - 2014 – No challenge by political parties

- Voter Verification Systems
  - Experienced Technical and Training Issues on polling day
  - Around 15% of VVDs were not actually used – printed voters register was able to manage verification
  - No Tendered Ballots were measured (Vote Anywhere principle)
  - Double voting was measured (Less than 30 – mostly seafaring personnel who have special voting day on another date)
Download full report on Website

• 2014 Post Election Report
  • http://www.ecn.na/documents/27857/180253/Post+Election+Report+2014/2d34cdf9-4a1c-4856-ac99-7baf790e9243

• 2015 Post Election Report
  • http://www.ecn.na/documents/27857/193258/ECN+Elections+Report.pdf/be9c1c04-7e37-4bf9-9cb8-c6d1a29ec988
Statistical Analysis of Voters

• Technical Data available to political parties, etc. to provide trust
• Research can be done (Academia, Media, etc.)

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<tr>
<th>Description</th>
<th>Female</th>
<th>Male</th>
<th>Grand Total</th>
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<tbody>
<tr>
<td>1 Before 1925</td>
<td>5,922</td>
<td>2,427</td>
<td>8,349</td>
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<tr>
<td>2 Silent Generation (1925-1944)</td>
<td>39,885</td>
<td>25,586</td>
<td>65,271</td>
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<td>3 Baby Boomers (1945-1964)</td>
<td>113,772</td>
<td>86,499</td>
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<td>4 Generation X (1965-1981)</td>
<td>207,027</td>
<td>195,570</td>
<td>402,597</td>
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<td>5 Generation Y (1982 - Present)</td>
<td>291,145</td>
<td>273,561</td>
<td>564,706</td>
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<td>Grand Total</td>
<td>657,751</td>
<td>583,443</td>
<td>1,241,194</td>
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<table>
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<tr>
<th>Gender</th>
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<td>Female</td>
<td>136,822</td>
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<tr>
<td>Male</td>
<td>128,160</td>
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<tr>
<td>TOTAL</td>
<td>264,982</td>
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</table>

Voters by Generation

1. Before 1925
2. Silent Generation (1925-1944)
5. Generation Y (1982 - Present)
Implementation of EVMs

- EVMs used successfully
- No mechanical breakdowns at all
- Printed results made available at each polling station within one hour of closing of that polling station
- Collation Centres Processing was speeded up
- Geographical obstacles still a big problem – distances, road conditions, etc.

- Trusted Voting Process among population, political parties, observers. etc.
Results Transmission System

• Law places some restrictions on transmission and what type (paper-based with party observers signatures)

• Problems faced were administrative not technical

• RTS was coupled with powerful information database providing drill-down capabilities for staff, media and voters
Conclusion

• High Upfront Implementation Cost
• Biometric implementation +/- N$300 per voter

• BUT
  • Biometric Voters Register inspires trust
  • Voters Register regularly updated
  • EVMs reduces time of vote tallying
  • EVMs eliminate humane error
  • Transmission times were cut
  • Results were accepted by ALL