DEMOCRACY REPORT

By Nangula Shejavali   Namibia Votes 2019 No. 2   **NOVEMBER 2019**

TECHNOLOGY IN THE 2019 NAMIBIAN ELECTIONS

During its November 2014 election, Namibia made history by becoming the first African country to make use of electronic voting for a national election. In order to accomplish this feat, various inclusions were made in the 2014 electoral law to facilitate the legal use of voting machines in their current (limited) form, and the Electoral Commission of Namibia (ECN) looked to India for the required technology to make this happen. Alongside the groundbreaking use of electronic voting machines (EVMs), the 2014 election also made use of two additional technologies which had already been adopted by other African elections. These included the Biometric Voter Registration Kit (BVRK) to enable the registration of voters, and the Voter Verification Device (VVD) to aid in the identification of registered voters at the polls.

The use of election technologies is not new. In fact, the first African country to make use of technologies for electoral purposes was the DRC, back in 2006[1], when it used biometric technologies for the registration and identification of voters. Today, in Africa, "roughly half of all national-level elections now involve digital equipment of some form, most notably biometric voter registration/identification and electronic results transmission"[2], with the intention being mainly to enhance the credibility of this important process. Results have, however, been mixed.

In the case of Namibia, the use of voting technologies, the EVM in particular, did not come without controversy. Just days before the 2014 election was set to take place, two political parties approached the newly established Electoral Court and attempted to postpone the election on the grounds that the EVMs being used for the election did not have the capability to ensure a voter verifiable paper audit trail (VVPAT). They lost that challenge, and the elections proceeded without the VVPAT. This year, a court challenge was again raised against the use of the EVM without a paper trail – this time by presidential candidate, Dr. Panduleni Itula (an

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[1] Wolf, P., & Bakken, M. 2016. Biometric technology won't yield fair elections. In Mail & Guardian, 12.02.2016. https://mg. co.za/article/2016-02-11-technology-wont-yield-fair-elections

[2] Cheeseman, N., Lynch, G. & Willis, J. 2018. Digital dilemmas: the unintended consequences of election technology. In Democratization (Journal), Volume 25, 2018 – Issue 8, Pages 1397-1418. Retrieved at: https://www.tandfonline.com/doi/full/10.1080/13510347.2018.1470165?scroll=top&needAccess=true

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Independent Candidate). Again, the Electoral Court dismissed this challenge, with its verdict being given on 25 November 2019, two days before the election. As such, the 2019 elections are set to go ahead with the use of the EVM, without the VVPAT.

> The Voter Verifiable Paper Audit Trail (VVPAT) 'is a method of providing feedback to voters using ballotless voting systems such as electronic voting machines. A VVPAT is intended as an independent verification system for voting machines designed to allow voters to verify that their vote was cast correctly, to detect possible election fraud or malfunction, and to provide a means to audit the stored electronic results. It contains the name of the candidate (for whom vote has been cast) and symbol of the party/individual candidate.'[3]

With the 2019 Presidential and National Assembly elections around the corner, we take a fresh look at the use of voting technologies being used in Namibian elections, and explore what should be expected in 2019, against the backdrop of the lessons learned in the 2014 election and broader developments in the use of voting technologies across the continent. Importantly, we explore what the use of technologies means for the credibility of an election, and highlight international best practices in this regard.

Does Technology enhance Electoral Integrity?

The reasons for the adoption of new voting technologies have primarily centered on the premise that the use of these technologies will make elections more credible. Cheeseman et al note that "The hope is that new technology will enhance the electoral environment in three main ways: by making the functioning of the electoral commission more robust and efficient, by reducing the scope for electoral manipulation, and by generating greater clarity and transparency regarding election outcomes."[4] The Wilson Centre goes on to note that amongst others, "the application of technology enhances election administration and provides benefits, such as an improvement in voter services, a guarantee of the principle of 'one man, one vote', enhanced election dispute adjudication (for instance through voting reports and audits), a reduction in fraudulent behaviour (such as multiple voting and voting by unqualified persons), and overall increased transparency in elections."[5]

Indeed, these technologies have helped to ease electoral processes, particularly in cutting the amount of time needed for voter registration and verification, as well as for the transmission of results. In some instances, they have even increased trust of the electorate in the bodies managing the elections. However, they have not always proved to be the panacea that electoral management bodies may have hoped they would be. For one, the costs of adopting these technologies can be exorbitant, as seen in the case of Ghana's 2012 election when it first employed biometric voter verification, and Kenya's 2017 election, which cost their governments USD267 million (USD19 per voter) and USD499 million (USD25.20 per voter) respectively[6]. In cases where the use of these technologies fail or is not repeated, this is a major burden on the taxpayer. In the Ghanaian case, fortunately, these technologies have now been used in at least three national election exercises[7]. Additionally, in instances where the technology is not correctly deployed, the outcome can be catastrophic. In Kenya's costly 2017 election, the failure of these electoral technologies was one of the key reasons for a court dispute that resulted in the nullification of the election result, and a re-run of that election[8].

In the Namibian case, by 2014, an investment of U$5,566,430 had been made in acquiring the components of the EVMs[9]. Since 2014, the ECN says, "We have not purchased any new EVM's but we did acquire 50 new BVRK's plus other peripherals and accessories which were required during the just concluded voters registration process."[10] Importantly, the EVM units have been used in a number of elections, meaning that relatively speaking, a decent return on investment has been achieved. Importantly, in the 2014 election, it was not so much the EVM that raised frustrations on election day, but rather the Voter Verification Devices, which crashed in multiple locations, thereby extending the voting time in elections that should have provided for voters to enter a polling station, be verified, vote, and exit within a span of three minutes. While a major promise of the election was, further, to decrease the amount of time required to count and release the final election results, the election outcome was announced three days later than had been promised. While this was frustrating for

3 Wikipedia, 2019. https://en.wikipedia.org/wiki/Voter-verified_paper_audit_trail
4 Cheeseman et al. 2018.
5 Osei-Afful, R. 2017. Solutions or Problems? The Increasing Role of Technology in African Elections. Southern Voices, Africa Up Close, 11 December 2017. Wilson Center. https://africaupclose.wilsoncenter.org/solutions-or-problems-the-increasing-role-of-technology-in-african-elections/
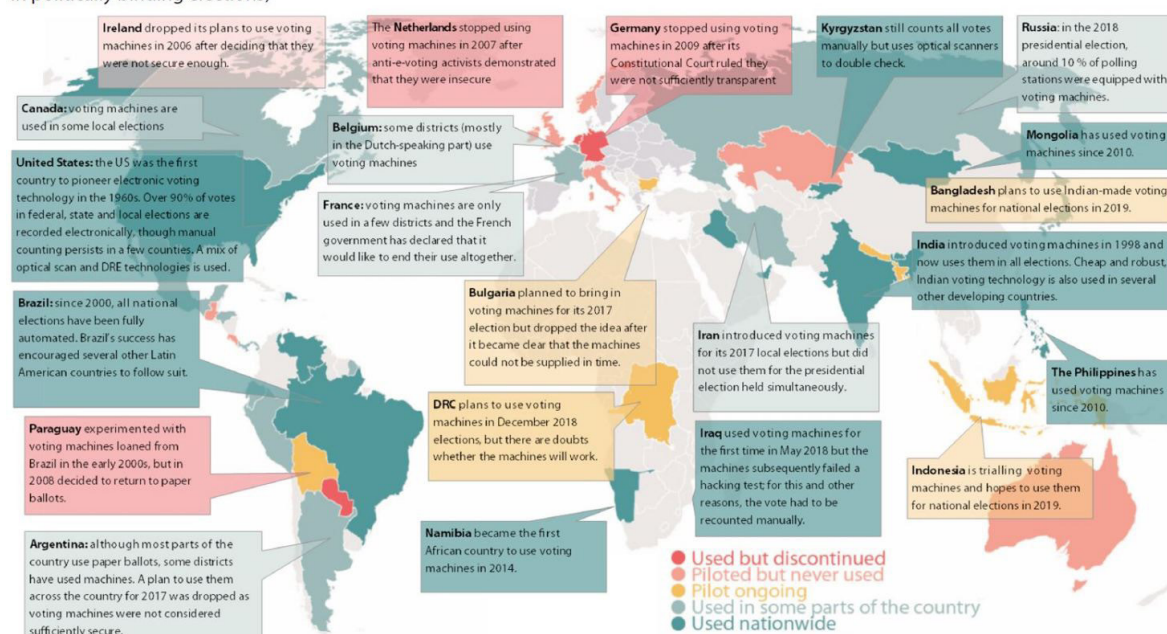6 Ibid.
7 GenKey. 2016. Ghana uses biometric voter verification for third election running. https://www.genkey.com/news/ghana-uses-biometric-voter-verification-for-third-election-running/
8 Osei-Afful, R. 2017.
9 Shejavali, N. 2014. Electronic Voting Machines. Election Watch Briefing Paper No. 1, October 2014. Institute for Public Policy Research (IPPR Namibia).
10 Electoral Commission of Namibia. 2019. (ECN Director, Theo Mujoro - in response to questions provided by IPPR. 18.08.2019)

Figure 2 – Countries that use electronic voting (Use of optical scanning or direct recorded electronic technology to record and/or count votes in politically binding elections)

Ireland dropped its plans to use voting machines in 2006 after deciding that they were not secure enough.

The **Netherlands** stopped using voting machines in 2007 after anti-e-voting activists demonstrated that they were insecure

Germany stopped using voting machines in 2009 after its Constitutional Court ruled they were not sufficiently transparent

Kyrgyzstan still counts all votes manually but uses optical scanners to double check.

Russia: in the 2018 presidential election, around 10 % of polling stations were equipped with voting machines.

Canada: voting machines are used in some local elections

Belgium: some districts (mostly in the Dutch-speaking part) use voting machines

Mongolia has used voting machines since 2010.

United States: the US was the first country to pioneer electronic voting technology in the 1960s. Over 90% of votes in federal, state and local elections are recorded electronically, though manual counting persists in a few counties. A mix of optical scan and DRE technologies is used.

France: voting machines are only used in a few districts and the French government has declared that it would like to end their use altogether.

Bangladesh plans to use Indian-made voting machines for national elections in 2019.

India introduced voting machines in 1998 and now uses them in all elections. Cheap and robust, Indian voting technology is also used in several other developing countries.

Brazil: since 2000, all national elections have been fully automated. Brazil's success has encouraged several other Latin American countries to follow suit.

Bulgaria planned to bring in voting machines for its 2017 election but dropped the idea after it became clear that the machines could not be supplied in time.

Iran introduced voting machines for its 2017 local elections but did not use them for the presidential election held simultaneously.

The Philippines has used voting machines since 2010.

Paraguay experimented with voting machines loaned from Brazil in the early 2000s, but in 2008 decided to return to paper ballots.

DRC plans to use voting machines in December 2018 elections, but there are doubts whether the machines will work.

Iraq used voting machines for the first time in May 2018 but the machines subsequently failed a hacking test; for this and other reasons, the vote had to be recounted manually.

Indonesia is trialling voting machines and hopes to use them for national elections in 2019.

Argentina: although most parts of the country use paper ballots, some districts have used machines. A plan to use them across the country for 2017 was dropped as voting machines were not considered sufficiently secure.

Namibia became the first African country to use voting machines in 2014.

● Used but discontinued
● Piloted but never used
● Pilot ongoing
● Used in some parts of the country
● Used nationwide

Electronic voting has fallen out of favour in most European countries, but is gaining ground in Latin America, as well as the Middle and Far East.

Source: International Institute for Democracy and Electoral Assistance, International Foundation for Electoral Systems.

election stakeholders, it was a far cry from the 6-day delay experienced in the 2009 election.

Cheeseman et al are skeptical about the rush to technology as an answer to making elections more credible, given the many ends they are meant to achieve. In their paper, 'Digital Dilemmas: The Unintended Consequences of Election Technology', they conclude that "it is therefore important to either improve the chances that digital technologies will work, or avoid using them."[11] Given the hefty sums invested in adopting new technologies for elections, and given the advantages already achieved – particularly in the registration of voters – it is unlikely that many of the African countries using new voting technologies will easily give them up. As such, improving the chances that they will work in a way that enhances the integrity and credibility of elections is key. To this end, Cheeseman et al state that it is important that African countries maintain a healthy dose of skepticism with regards to whether the technologies they are adopting will deliver the expected improvements and value to their electoral processes. Praising the DRC's decision to not use EVMs in its 2018 election, they note that, "Adopting this more sceptical approach systematically will require all actors involved routinely asking a number of tough questions and answering them honestly. Does the electoral commission have the logistical capacity and political independence to carry out such an operation? Can checks be put in place to minimize the risk of government manipulation? Does the local expertise exist to allow this process to be effectively monitored? Unless the answers to these kinds of questions are favourable, digitizing elections is likely to be at best a waste of resources and at worst a costly mistake: that is the digital dilemma facing democracy promoters."[12]

These are important questions. The varied examples presented earlier illustrate that while technology can certainly deliver impressive benefits in increasing the credibility of elections, it is not the technology itself, but rather the broader management of the electoral process – including the presence of technicians, the training of electoral officials in the accurate deployment of electoral technologies, strong voter education efforts, and a holistic view that considers the entire electoral cycle – that is key in upholding and enhancing the integrity of an election.

> The experiences and lessons learned show that while technology offers great possibilities for strengthening the transparency, credibility and integrity of elections, its introduction and use must be based on well-defined policies and appropriate implementation. Such policies would have to be designed with appropriate safeguards and governed by appropriate legislations to promote the opportunities and address the challenges. Otherwise, the use and deployment of technological applications in elections can lead to exponential increase of the cost of elections and even erosion of public confidence in electoral processes, contrary to what the use of technology is supposed to bring to the electoral process. *-INEC, ECONEC, ECF-SADC, 2018*[13]

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[11] Cheeseman et al. 2018.
[12] Ibid.
[13] Independent National Electoral Commission, ECOWAS Network of Electoral Management Bodies of West Africa (ECONEC), Electoral Commission Forum of the Southern African Development Community (EC SADC). Outline for Conference: Opportunities and Challenges in the Use of Technology in Elections: Experiences from West and Southern

A Timeline of Electoral Technology in Namibia

DATE	EVENTS
2006	Namibia begins consultations on the prospect of acquiring and using EVMs in the Namibian electoral process.[14]
2007	ECN first introduces the possible use of EVMs for elections in 2007, when the first prototypes of the EVM are delivered. These serve as demonstration tools to gain approval from all stakeholders. Intensive consultations and involvement with stakeholders are held, to the point where stakeholders were taken to India to gain an understanding of the EVMs and witness the manufacturing process for themselves, a process that saw the stakeholders giving their approval to use the EVM.[15]
14 August 2009	The Electoral Amendment Act, 2009, is gazetted. Amongst other amendments, this Act provides for voting by way of voting machines, as well as the use of new voting technologies, with the insertion of Clause 79B, which reads empowers the ECN to adopt voting machines in future elections.[16] Other amendments are made in Sections 80, 81, 84, 85, 102, 106 (and elsewhere) of the Act to accommodate the process of voting using EVMs.
2009	ECN makes its first purchase of Electronic Voting Machines, ordering 3400 ballot units and 1700 Control Units. The machines are purchased from Indian company, Bharat Electronics, which manufactures the EVM for elections in India.[17]
November 2009	Elections take place. Paper ballots are used, but the major delays experienced in the tabulation and announcement of results reinvigorate talks on the use of electronic voting.
2013	India's Supreme Court rules that electronic voting machines must be used with a voter verifiable paper audit trail in India's elections. This is a significant ruling for Namibia, given the merits of that case, and the fact that Namibia's EVMs are the same those used in the Indian election (coming from the same manufacturer, which is in fact an Indian state-owned company). Importantly, India's Supreme Court found that "the 'paper trail' is an indispensable requirement of free and fair elections", noting that "the confidence of the voters can be achieved only with the introduction of the 'paper trail'". While the judgment did not necessarily question the reliability of the EVM, it does take cognisance of the importance of voter's trust that the electoral process is deemed credible, free, fair and transparent.[18]
December 2013	ECN launches the use of its Biometric Voter Registration Kit. The purpose of a Biometric system to ensure easier registration of voters, using technologies that allow for the scanning of a voter's fingerprint for identification. A picture of the voter is also taken. In this regard, 904 machines – "which were manufactured in South Africa, have components such as a laptop notebook, a fingerprint scanner, a camera, a signature pad and a barcode scanner to ensure that correct details of voters are recorded to prevent duplication" – were purchased to register eligible voters for the upcoming elections.[19]
January to March 2014	ECN conducts the General Voters Registration exercise using the biometric voter registration kits. Over a million people turn out to register for the elections, and a further +50,000 register during the supplementary registration in September that year.[20]
2014	ECN purchases another 3400 ballot units and 1700 Control Units from Bharat Electronics (for a total of 6800 ballot units and 3400 control units)[21]
1 August 2014	Notification of use of voting machines during elections, in line with the Electoral Act of 1992, is gazetted. The notification, signed off by the ECN Chairperson, reads as follows: "Under section 79B of the Electoral Act, 1992 (Act No. 24 of 1992), it is made known that the Commission has adopted voting by way of voting machines in respect of any Presidential, National Assembly, regional council or local authority area election."[22]

[14] Shejavali, N. 2014. Electronic Voting Machines. IPPR Election Watch Briefing Paper No. 1. Institute for Public Policy Research. October 2014.
[15] Ibid.
[16] Government of the Republic of Namibia, 2009. Electoral Amendment Act, 2009.
[17] EISA, 2014.
[18] Shejavali, 2014..
[19] EISA, 2014.
[20] New Era Newspaper, 2014. Supplementary voter registration slow-ECN
[21] IPPR Interview with Paul John Isaak, 2014.
[22] GRN, 2014. Government Gazette No. 5524

1 August 2014	Gazetting of the 'Regulations relating to use of voting machines at elections: Electoral Act, 1992'. These are the regulations applied four days later in the Ohangwena by-election, when EVMs are officially used for the first time. [23]
5-29 August 2014	ECN introduces the use of EVMs in a by-election and two local authority elections (Ohangwena – 5 August 2014, Bukalo – 22 August 2014, and Otjinene – 29 August 2014).[24]
17 October 2014	The Electoral Act of 2014 is gazetted (Government Gazette No. 5593) after having been signed into law by the President in September 2014[25]. The new Act replaces the Electoral Act of 1992, with Section 97 of the Act specifically providing for the use of EVMs in Namibian elections. Importantly, the Act also includes the requirement that EVMs be used with a voter verifiable paper audit trail (VVPAT) – likely due to the Indian experience, where that country's Supreme Court ruled that VVPATs were essential to ensure verifiability and to enhance voter confidence in the process. The ECN uses transition provisions in the electoral act (Section 208) to go ahead with the use of EVMs without the VVPAT in the 2014 election. The gazetting of the Act takes place on the same day as the (controversial) Third Amendment to the Constitution, which, amongst others, provides for an expansion of the National Assembly from 72 to 96 members of parliament with voting powers.
21-26 November 2014	The Rally for Democracy and Progress (RDP), along with the Workers Revolutionary Party and the African Labour and Human Rights Centre's director August Maletzky file an urgent court application (on 21 November) to seek the postponement of the November 2014 Presidential and National Assembly elections. The case is heard in the Electoral Court on November 25th, 2014. The court makes a ruling the following day, dismissing the challenge on the grounds that the arguments are not sufficiently substantive. "In the court papers they sought the setting aside of the third constitutional amendment; declaration of the saving of provisions of the Electoral Act 2014 as unconstitutional; directing the ECN to postpone Presidential and National Assembly elections till February 2015; directing the ECN to stop using the EVMs without the simultaneous use of a verifiable paper trail and; nullification of all the by- elections of 2014 where EVMs were used. In his judgment, the Acting Judge of the High Court Justice P.J Miller could not find substantive arguments for the court application and therefore dismissed it with costs."[26]
28 November 2014	Election Day! ECN deploys 2,080 sets of EVMs: 1,255 at fixed, full-time polling stations and 825 with the mobile teams that cover 2,711 temporary polling stations. A technical support system for the EVMs, with 121 Namibian IT technicians (one technician per constituency), and 31 engineers from the Bharat Electronics – the EVM manufacturer – is also deployed.[27] Namibians vote using EVMs in national elections – a first for Africa. Election observation missions conclude that the election to be credible, free and fair. With respect to the EVMs, most recommend that the use of the VVPAT is crucial to enhance voter confidence in the electoral process. They also highlight the need for improved polling official knowledge on the use of the various technologies used in the election – particularly the Voter Verification Devices, which caused election day delays due to glitches experienced, and in many cases, polling officials being unable to deal with these glitches. Further, they call for improvements with respect to voter education on the use of EVMs.
November 2015	Election Day – Local Authority and Regional Council Elections. Namibians vote using EVMs in local authority and regional council elections.
December 2015	In an interview with Nampa, then ECN head Paul Isaak states that the commission will use EVMs with a paper trail in all elections from 2017.[28]

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[22] GRN, 2014. Government Gazette No. 5524
[23] Ibid.
[24] ECN, 2014.
[25] GRN, 2014. Electoral Act of 2014. Government Gazette No. 5593.
[26] Commonwelth EOM, 2014.
[27] EISA, 2014.
[28] NAMPA, 2015.

2018	Indian media report that the ECN has been engaging Bharat Electronics on the development of VVPAT capabilities for the Namibian EVMs. In a letter to India's Chief Election Commissioner, then ECN Director, Paul John Isaak writes, "In order to ensure compatibility we have received demands from political parties to make use of the VVPAT together with EVMs." He points out that that the country's Electoral Act 2014 requires the use of VVPAT during elections.[29]
January 2019	Opposition political parties make renewed calls for the use of a VVPAT system with the EVMs for the upcoming 2019 election[30]. Newspaper reports reveal that the ECN will not be making use of the VVPAT for the 2019 national assembly and presidential election because Bharat Electronics will be busy with the Indian elections and unable to manufacture the required number on time. Reports also note that the acquisition of the VVPAT systems would cost N$160 million[31].
9 April 2019	India's Supreme Court orders the Electoral Commission of India to use the VVPAT in every assembly constituency and verify these in 5 polling stations across each assembly segment before certifying the final results . The ECI acts on this order, and deploys VVPAT verification for 20,625 EVMs in the general election, held from 11 April to 23 May 2019. Though some glitches are reported and delays noted as a result of the introduction of the VVPAT, on the whole, they are reported to be largely successful and accurate. It is unclear when the VVPAT will be implemented in Namibian elections, but what is clear from the ECN is that they will not be used in the 2019 election.
8 - 27 July 2019	Supplementary Voter Registration takes place across the country and at Namibian diplomatic missions around the world. The ECN announced on 1 August 2019 that 256 564 Namibians had registered in the supplementary elections[33].
12 - 25 November 2019	On November 12th, Dr. Panduleni Itula – an independent presidential candidate, took the ECN (and other respondents including all the political parties contesting the election) to demanding the withdrawal of EVMs from the 2019 National Assembly and Presidential elections,[34]'or alternatively that a paper trail be implemented. Itula also demanded that the ECN, at its own cost, bring in independent technical experts to inspect the EVMs on the polling date' . On November 19th, the matter was heard in the Electoral Court. On November 25th, the case was dismissed, with costs, on technical grounds, with the judge ruling that the case was not urgent.
13 November 2019	Special voting for sea-going personnel, members of the Namibian police force, the Namibian Defense Force, correctional services and Namibian citizens living abroad takes place. For Namibians voting at our foreign missions, paper ballots are used instead of the EVMs, for logistical reasons.
27 November 2019	2019 Presidential and National Assembly elections slated for this day. 11 Presidential candidates and 15 political parties will contest the election. 1,358,468 voters - almost 30% of whom are Born Frees - have registered for the election, and may cast their votes at any of the 4,241 polling stations across the country. According to the ECN, 7346 EVMs will be deployed in different processes in preparation for elections and on election day – including for activities such as training voter education and polling.[35] Planning around the venues for voting have been finalized and the list of polling stations for the 2019 election have been publicised. Other logistical preparations such as the recruitment of polling officials, the establishment of Constituency Collation Centres, transport logistics, the preparation of materials, are close to completion.[36] The ECN tells us that sufficient in-house capacity has been built over the last five years in order to independently use the EVMs, and the Commission does not intend to have technicians from India around in the 2019 election for technical support, as local technicians have been and are being trained for this task[37].

[29] LiveMint
[30] New Era Newspaper, 2019.
[31] Namibian Sun Newspaper, 2019.
[32] Economic Times of India. 2019.
[33] Electoral Commission of Namibia. 2019. Media Release: Provisional Statistics from the 2019 Supplementary Registration of Voters. 1 August 2019.
[34] Beukes, J. 2019. Tribunal to decide on EVMs. Namibian Sun, 20 November 2019. https://www.namibiansun.com/news/tribunal-to-decide-on-evms2019-11-20
[35] Electoral Commission of Namibia. 2019. (ECN Director, Theo Mujoro - in response to questions provided by IPPR. 18.08.2019)
[36] Electoral Commission of Namibia. 2019. Media Release: The 2019 Presidential and National Assembly Elections Schedule. 20 September 2019.
[37] Electoral Commission of Namibia. 2019. (ECN Director, Theo Mujoro - in response to questions provided by IPPR. 18.08.2019)

Expect These Voting Technologies in 2019

During the Namibian electoral process, voters can expect to interact with three key technologies – the Biometric Voter Registration Kits (during registration), the Voter Verification Device (upon arrival at the polling station on election day to verify identity), and the Electronic Voting Machines (to cast a vote on election day). These were the same technologies used in the General Registration of Voters and on election day in 2014. Importantly, the technologies used during the election are viewed as valuable measures to enhance the speed and accuracy of the electoral processes with which they are associated. That said, as noted above, it is not these technologies within themselves that enhance the credibility and integrity of the election, but rather the broader management of the electoral process. Moreover, given that these technologies have to be managed and operated by people, the training and capacitation of voter educators and polling officials is critical and the presence of technicians, as necessary, is key. Below is a basic overview of each of these technologies as provided by the ECN, along with some additional insights on their use and benefits.

Biometric Voter Registration Kits

Image Source: thecitizen.co.tz, 2019

"Voter registration is one of the most important activities that an electoral management body (EMB) needs to conduct, but it is also one of the most costly in terms of both time and resources. A credible voter register confers legitimacy on the electoral process, helps prevent electoral fraud and ensures that every eligible voter can vote in an election and that they can do so only once. An inaccurate voter register can cause problems in the electoral process by raising doubts about the election's inclusiveness and outcome and by opening up avenues for fraud and manipulation. Many countries that face challenges in creating an accurate voter register are considering reforming their voter registration systems through the introduction of biometric technologies. Such reforms are aimed at increasing trust in the electoral process by enfranchising all eligible citizens and, at the same time, reducing various forms of electoral fraud, such as voter impersonation and multiple voting."

International IDEA, 2017

The biometric voter registration system is made up of the Mobile Voter Registration Kit (MVRK) and the Automated Fingerprint Identification System (AFIS). The kit consists of a laptop with the voter registration application, a fingerprint scanner, a barcode scanner, camera and light, signature pad and a Polyvinyl Chloride Card (PVC) printer. The MVRK is used to collect potential voter's details including fingerprints, picture and signature while issuing a PVC type of Voter Registration Card on the spot. This

Africa. 9-11 April 2018, Abuja, Nigeria. http://www.eces.eu/template/Opportunities%20and%20challenges%20in%20 the%20use%20of%20technology%20in%20Elections.pdf

information is later uploaded to a central server at ECN head office. After the data upload, the AFIS system is used to identify duplicates or multiple registration and adjudication before producing the voters register. When eligible voters register for the election, they are immediately issued with their Voters Card, which they have to present at the polling station on election day, along with their fingerprint, to be verified as a voter and to cast their ballot.

> ### Provision in the Namibia's Electoral Legal Framework for the use of Biometric Voter Registration
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> Section 25(4) of the Electoral Act of 2014 makes provision for the use of technology in the registration of voters. It states:
>
> (4) Despite anything to the contrary contained in this Act, the Commission may undertake any general registration of voters contemplated in this section by way of an electronic, digital or any similar voter registration system or any other voter registration system in the manner determined by the Commission, including -
> 1. (a) the manner of capturing information onto the system and the storing of information in the system;
> 2. (b) the printing of voter registration cards; and
> 3. (c) the safe custody of information stored in the system.

According to ECN this technology has been pivotal in ensuring a more accurate voter register – something that had previously been an issue of contention in past electoral challenges.

In a presentation on Namibia's experience with enhancing electoral integrity through innovation, ECN Chairperson Adv. Notemba Tjipuea noted that with the BVRK, in 2014, "the ECN managed to register half the population within 54 days by capturing all 10 fingerprints of every voter including their digital images, signatures and full biographical data. The ECN also issued a new, more durable PVC type Voter Card with enhanced security features to each and every voter. This was a huge improvement on the previous paper based laminated Voter Card which could be easily reproduced by unscrupulous persons."[37] She added that in addition to being able to provide disaggregated data and far more in-depth analysis, this system also better provided for the possibility of integration "with databases of other government institutions for example, the Ministry of Home Affairs and Immigration for purposes of removing names of deceased persons."

At the time of going to print, the ECN was "busy with the execution of the AFIS to remove duplicate entries as well as conduct manual adjudications and the removal of deceased persons from the register."[38] It is expected that the final voter register for the 2019 elections will be published in the Government Gazette of 6 November 2019.

While biometric technology has proven to be an excellent solution for easing voter registration in many countries, it is not without fault. This innovation may be subject to operational failure, requires exceptional care in the capturing, processing and storage of data, comes at a high cost, 'requires the conception of appropriate legal framework and registration procedures', and calls for electoral bodies to discuss tradeoffs between inclusiveness on one hand and the integrity of the system on the other.[39] Some of the challenges faced and lessons learned in the Namibian context are highlighted on pages 16 - 18 in our interview with ECN CEO, Theo Mujoro.

[37] Tjipuea, N. 2016. "Enhancing Electoral Integrity through Innovation: The Namibian Experience". http://cesko.ge/res/old/other/32/32999.pdf
[38] Electoral Commission of Namibia. 2019.
[39] Iverson, D. & Garland, A. 2019. Five things to know about Biometric Voter Registration. International IDEA, 02.08.2019. https://www.idea.int/news-media/news/five-things-know-about-biometric-voter-registration

## *Voter Verification Devices (VVDs)*

Image Source: ECN, 2016.

The ECN describes the VVD as a standalone handheld device where a copy in read only format of the voter's register is loaded to verify voters before they are allowed to vote during the polling process. It notes that the device has the capability to scan the encrypted barcode on the voter's card as well as to scan fingerprints, allowing for the verification for authenticity and eligibility of the voter. When a voter's card barcode is scanned, the VVD will display the details of the voter including the picture.

ECN Chairperson, Adv. Tjipuea, noted the benefits of using VVDs, pointing to: "(1) The resulting ability to deploy multiple digital voters registers with increased efficiency; (2) Faster voter verification and authentication; (3) More economical and saves cost, given the drastic reduction in the number of paper based voters registers to be printed; and (4) Better management of "Unrecovered Voter Registration Cards List" – to eliminate the possibility of voters using two different voters cards."[40]

In the 2014 election, several election observation missions pointed to the challenges faced with VVDs. Due to various glitches and/or the inability of polling officials to either operate the devices or problem-solve when issues arose, in many cases, officials had to revert to the manual register. The ECN itself acknowledged the lack of training for its officials in the use of this device, with Tjipuea highlighting that "Short lead times for manufacturing and delivery of VVD's had a negative domino effect on the deployment plan." This time-consuming process resulted in several delays at polling stations[41], resulting in long queues in an exercise that was foreseen to only have to take 3 minutes per voter from polling station entry to exit. The challenges faced with the VVD on election day illustrate how even the best innovations can only deliver the desired results if the people handling them are well trained to do so. There is no doubt that all eyes will be on the ECN to see if it has learned its lesson in this regard.

Electronic Voting Machine (EVM)
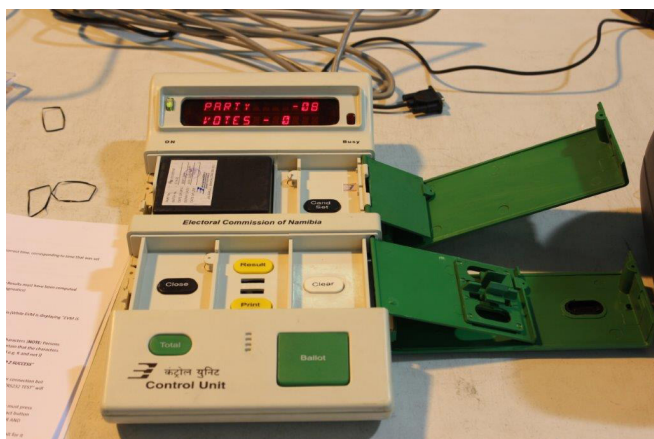
Image Source: ECN

As noted earlier, Namibia was the first African country to vote in a national election using Electronic Voting Machines (EVMs) in its 2014 Presidential and National Assembly elections. The EVMs used were modeled after those used in India's general election, and were in fact manufactured by Indian government-owned company, Bharat Electronics Ltd. The EVMs were, essentially, the star of the 2014 elections because not only was their use greatly anticipated as a first for Africa, but also because their use was so controversial. As noted in the timeline, two political parties challenged the use of the EVM in court just days before the election, and although they lost this challenge, their concernsy did nott go unnoticed by election observers and the public alike.

As described by the ECN, 'The EVM is a standalone voting machine used by voters to cast a vote and consist of two components, a Control Unit which is the control section of the EVM which is operated only by the polling official and a Ballot Unit which is the voter interface of the EVM where voters cast their vote. The EVM is designed to maintain the same characteristics of conventional voting by way of ballot paper and ballot box. Just like the conventional way, each voter is issued with a ballot and a voter makes a mark and cast the vote.[42]

[40] Tjipuea, N. 2016. "Enhancing Electoral Integrity through Innovation: The Namibian Experience". http://cesko.ge/res/old/other/32/32999.pdf
[41] Tjipuea, N. 2014. Official Announcement of Final Election Results of the 2014 Presidential and National Assembly Elections. 1 December 2014.
[42] Electoral Commission of Namibia. 2019. (In response to questions provided by IPPR. 16.08.2019)

'The Control Unit records and stores all votes cast for all candidates or parties and tabulates and displays the results, including printing out the results. It contains a ballot button that is pressed for every voter, to enable the voter to cast their vote using the ballot unit.

'The ballot unit is where the ballot paper appears, listing all candidates or parties as per the nomination process. It contains green candidate/party buttons which correspond to the candidates or parties on the ballot paper, which is used to mark the selected candidate or party and a red register button used to cast the vote.'

Amongst the benefits cited by the ECN of the EVM are: "Increased efficiency in terms of vote casting; Increased speed and accuracy in the counting and tabulation of results; Total elimination of human error; Zero spoilt ballots; Quicker and seamless process of announcing election results and the Generation of results printouts for record keeping."[43] With regards to speed, India's electoral commission notes that "the counting process is very quick and the result can be declared within 3 to 5 hours as compared to 30-40 hours, on an average, under the conventional Ballot paper system." It also highlights major cost savings as an advantage: "With the use of EVMs, printing of millions of ballot papers for every election can be dispensed with, as only one ballot paper is required for fixing on the Balloting Unit at each polling station instead of one ballot paper for each individual elector. This results in huge savings by way of cost of paper, printing, transportation, storage and distribution."[44]

However, there are also various cons to the use of EVMs. Amongst others, these include a heavy reliance on the manufacturer of the technology for any problems that arise, and where knowledge transfer has been insufficient; limited openness and understanding of the system for non-experts; limited recount possibilities, particularly given the absence of a VVPAT; and potential violation of the secrecy of the vote, especially in systems that perform both voter authentication and vote casting. The risk of manipulation or hacking of e-voting mechanisms have also often been raised as major concerns.

In this regard, the ECN in July organized a hackathon as a means of demonstrating the integrity of the EVMs used in the Namibian election, and to allow political parties that had questioned the EVMs to validate their concerns. In a press release, the ECN noted that given the questions raised about the credibility of the voting machines, it was inviting nominees of political parties to the challenge. "The EVM hacking challenge is a platform made available to the nominees of political parties to examine randomly selected EVMs. The hacking challenge provides the political parties an opportunity to demonstrate claims by political parties that the EVMs could be tampered with within the existing administrative and security protocols put in place by the commission."[45] The event was postponed, however, as the political parties stated they would require additional time to prepare for the challenge. By the time of going to print, the challenge had still not taken place.

While 'the total elimination of human error' has often been touted by the ECN as a key benefit of the EVM, during the Oshakati by-election on 24 August 2019, it was discovered that a woman had voted twice. Newspaper reports noted that "The woman entered a vote twice on an electronic voting machine (EVM) while she was being assisted by an election official."[46] The ECN is investigating the matter, which, theoretically, could only have been caused through an error or act of negligence – willful or not – by the polling official responsible for issuing a ballot to the voter. By the time of going to print, the result of this investigation was not yet made public, and whether this was indeed an error of the polling official, or a fault of the EVM, was not yet known. ECN Director, Theo Mujoro, told The Namibian, however, that "I don't have the details of that incident. But I don't think it has anything to do with the robustness of the EVMs. It is just a human failure, something that has to do with training of the ballot issuer. It is almost unthinkable that it happened in the presence of the observers, [the police, political party officials and ECN]."[47] There is no doubt that this incident has rattled the already diminishing trust of opposition parties in the EVM, and it is critical that in order to build public confidence in this and other technologies, the possibility of human error must be minimized and transparency with regards to the workings of the EVM should continue to be fostered.

In this line, key amongst the issues identified with the Namibian EVM is the lack of a Voter Verifiable Paper Audit Trail (VVPAT), as prescribed in clause 97(3) of the Electoral Act. In fact, this was the major issue on which political parties hinged their arguments when they took the ECN to court just days before the 2017 election. Note that the VVPAT should be differentiated from the printout (which ECN also refers to as a paper trail) that can be generated after voting with EVMs, and which would only be printed if prescribed by a court order.

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[43] ECN, 2016.
[44] Election Commission of India, 2019. https://eci.gov.in/faqs/evm/general-qa/electronic-voting-machine-r2/
[45] ECN, 2019. Press Release. Postponement of EVM Hacking Challenge, 16 July 2019.
[46] The Namibian, 2019. Double vote blunder in Oshakati by-election. 24.08.2019. https://www.namibian.com.na/82365/read/Double-vote-blunder-in-Oshakati-by-election.
[47] Election Commission of India. 2018. Handbook for Presiding Officers. October 2018.

Calls for a VVPAT remain as strong as ever, with some opposition political parties even going as far as to call for the return of paper ballots. In his court case challenging the use of EVMs for the 2019 election, Independent Presidential Candidate, Dr. Panduleni Itula, as an alternative to the complete withdrawal of the EVM from the election, called for the simultaneous use of paper ballots, as a means of verification. If hindsight is 20/20 - particularly with respect to the 2009 election in which the elections results were challenged in the courts - a return to paper ballots would not necessarily solve the problem. However, if such a return were to be made, it would be imperative that all loopholes or mistakes brought to light in the 2009 election challenge be fully resolved. Furthermore, it would be important to ensure mechanisms are put in place to enhance the integrity of the election and to avoid the delays witnessed in the 2009 elections.

Notably, the EVM provides a solution to the time factor, but in the absence of a VVPAT, does not fully address the question of whether a voter can verify that the party or candidate for whom he/she voted is indeed recorded as such. But even if the ECN did everything perfectly and even if all aspects of the use of the EVM are above board, critics of its use, being inherently distrustful that the process is free and fair, and doubting the technical aspects of the EVM , will always target this technology– rather than the full electoral process itself – as a constraint to credible elections. Given the Indian experience, and the fact that the Namibian EVMs are modeled on the Indian EVM and would have the necessary capacity to use the VVPAT, it is clear that the implementation of the VVPAT, in line with electoral law, is long-overdue. Without the paper audit trail offered by the VVPAT, 'it can be difficult to detect errors or breaches in the voting machine's software or hardware'[48], and although such a trail presents a partial return to paper ballots, as IPPR has called for in the past, its implementation is key. Doing so would enhance and ensure public trust in the electoral process, increase buy-in from the participating political parties, and ensure that any challenge to the election can provide for a physical recount.

Provision in the Namibia's Electoral Legal Framework for the use of Electronic Voting Machines

Voting machines in elections

97. (1) Before the commencement of the poll on a polling day at any polling station, the presiding officer must -
1. (a) satisfy himself or herself that all voting machines to be used at the polling station are cleared of any votes;
2. (b) permit the inspection of the voting machines by the persons entitled in terms of section 94(1) to attend at the polling station, and who are so present; and
3. (c) immediately thereafter close and seal all the voting machines in the prescribed manner.
(2) Despite anything to the contrary contained in this Act or any other law, the Commission may adopt voting by way of voting machines in the manner as may be prescribed, including -
1. (a) the manner of registering and recording of votes by way of voting machines;
2. (b) the procedure relating to voting to be followed at polling stations where voting machines are used;
3. (c) the procedure as to counting of votes recorded by way of voting machines; and
4. (d) the safe custody of voting machines, in respect of any constituency, region or local authority area as the Commission, having regard to the circumstances of each case, may specify by notice in the Gazette.
(3) The use of voting machines referred to in subsection (2) is subject to the simultaneous utilisation of a verifiable paper trail for every vote cast by a voter, and any vote cast is verified by a count of the paper trail.
(4) In the event that the results of the voting machines and the results of the paper trail do not accord, the paper trail results are accepted as the election outcome for the polling station or voting thread concerned.

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[48] Gambhir , R.K. and Karsten , J. 2019. Why paper is considered state-of-the-art voting technology. Brookings. Wednesday, August 14, 2019. https://www.brookings.edu/blog/techtank/2019/08/14/why-paper-is-considered-state-of-the-art-voting-technology/

Lessons from India - How the VVPAT Works

During its 2019 general election, India used VVPAT machines alongside the EVMs. The use of the VVPAT was mandated by a 2013 Supreme Court ruling that highlighted the importance of voters having a chance to verify that the vote they cast was indeed the vote that was recorded, as well as the 2019 Supreme Court Order that the Electoral Commission of India use the VVPAT in every assembly constituency.

'The Voter Verifiable Paper Audit Trail (VVPAT) is an independent printer system attached with the Electronic Voting Machines (EVM) that allows the voters to verify that their votes are cast as intended. When a vote is cast by pressing the button on Balloting Unit (BU), a ballot slip is printed by the VVPAT printer containing the serial number, name and symbol of the candidate and remains exposed through a transparent window for 7 seconds. Thereafter, this printed slip automatically gets cut and falls in a sealed drop box of the VVPAT'.[49] The life of a printed VVPAT slip is five years.[50]

A VVPAT consists of a printer and a VVPAT Status Display Unit (VSDU). It runs on a power pack or battery of 22.5 volts. The control unit and VSDU are kept with the presiding officer or polling officer and balloting unit and printer are kept in the voting compartment.

Image source: India Today, 2019

[49] Election Commission of India. 2018. Handbook for Presiding Officers. October 2018.
[50] India Today, 2019. https://www.indiatoday.in/elections/lok-sabha-2019/story/what-is-vvpat-and-how-it-works-to-ensure-smooth-polling-1499243-2019-04-11

Somaliland breaks new electoral ground with iris scanning biometric technology

In November 2017, Somaliland became the first country in the world to use iris recognition biometric technology to register voters for a national election, after launching the registration process in January 2016.

According to the country's National Electoral Commission (NEC), "Somaliland has held five successful elections since 2002 as part of its democratization process. While national observers have generally deemed these elections peaceful and credible, all but one have been held without a voter register, leaving the process susceptible to problems such as multiple voting." [51] It was for this reason – particularly after the 2012 local council elections – that the NEC sought solutions for voter registration.

"NEC deployed the Iris ID iris recognition system after trials showed it surpassed both fingerprint and facial recognition systems in identifying duplicate registrations, with an estimated 30,000 duplicates found. The technology also provided speed benefits."[52] With the help of the University of Notre Dame's biometric research group, a biometric system to improve the accuracy of Somaliland's election process was developed. Its implementation made the system one of the most advanced and technically sophisticated voter registration systems in the world.

In order to register voters, the NEC purchased 350 portable registration kits. Each kit consists of a laptop computer, handheld iris scanner, webcam for facial photos, a flash and tripod. Registration stations were set up across the country – many in remote rural areas[53], with voter registration taking place throughout much of 2017. In the election, a voter turnout of about 80% was recorded.

The use of this technology is seen as groundbreaking and important for building public confidence. "Like fingerprints, everyone's eyes are unique. But because our irises also have a highly complex pattern, they're more reliable than other biometrics. To establish someone's identity, iris scanning involves capturing high-quality images of an individual's eyes. To record the greatest detail possible, the scan uses special cameras capable of sensing both visible and infrared light. The images are then added to a database where they can be compared with any other saved images to find potential matches, indicating a duplicate."[54]

International IDEA notes that "Iris recognition has several advantages over fingerprint recognition: the eye and the iris are better protected physically than fingerprints, and an iris scan can be taken from a distance without contact with any equipment, making dirt and physical wear less of an issue. On the downside, recognition rates depend on lighting conditions, and the cost of iris-scanning technology is still comparatively high."[55] In trials to check for the possibility of duplicate/multiple voters in the register using the iris scanning technology, researchers found all the duplicates in a large sample of images, highlighting the accuracy of the technology, and its ability to prevent registered voters from registering or voting more than once.

That said, although iris scans present an excellent alternative to other biometric technology options, they are not infallible, and concerns regarding the privacy of these scans have been raised. "For the system to work, images must be stored and, to create a national registry, transmitted. That means a data breach is possible. And emerging technologies suggest individuals' eyes could soon be scanned without their consent. So-called long-range iris scanning makes it possible to capture a scan from dozens of feet away."[56]

The technologies being created and explored to enhance the electoral process are exciting and groundbreaking, and Somaliland's use of iris scanning technology is a shining example of how elections are spurring great technological innovations. Importantly, a number of issues should be considered when choosing which technologies to use during an election, ensuring that the data generated is well-protected, and that the credibility and integrity of the electoral process is promoted. (See the 10 recommendations from International IDEA on introducing biometric technologies in elections).

Source: Somaliland NEC.

[51] Somaliland NEC. 2017.

[52] Burt, C. 2018. Somaliland election saw Iris ID technology deployed. Biometrics Research Group. 4 January 2018

[53] Somaliland Press. 2018. Somaliland Conducts Successful Presidential Election with Help from Iris ID. https://www.irisid.com/somaliland-conducts-successful-presidential-election-with-help-from-iris-id/

[54] Solomon, S. 2017. To Improve Trust in Its Elections, Somaliland Goes High-tech. VOA News, 14 November 2017. https://www.voanews.com/silicon-valley-technology/improve-trust-its-elections-somaliland-goes-high-tech

[55] Wolf, P. 2017. Introducing Biometric Technology in Elections. International IDEA. https://www.idea.int/sites/default/files/publications/introducing-biometric-technology-in-elections-reissue.pdf

[56] Solomon, S. 2017.

10 Recommendations for Introducing Biometric Technology in Elections from International IDEA

1. Capturing stakeholder expectations and analysing existing voter registration problems are essential for understanding if, how and which biometric technology can address them.
2. Biometric technology is very efficient for reducing or eliminating multiple registration and multiple voting, as well as producing high-quality, tamper-resistant voter ID cards.
3. Low registration rates will not be improved by using biometric technology. Additional measures such as providing voter information about the registration systems in place, removing any registration barriers and introducing an inclusive registration process are essential regardless of whether a biometric system is used.
4. Biometric technology cannot be expected to operate entirely without the risk of failure. Fallback procedures should be in place to prevent disenfranchising voters and creating unnecessary registration barriers.
5. Biometric technology may malfunction, especially in difficult physical and environmental conditions, or where the necessary infrastructure is limited. Piloting, testing and fallback options in case of failure are essential.
6. Biometric technology is expensive, and alternative solutions should be considered. Technology costs are related not only to the initial procurement and rollout, but also to long-term ownership and maintenance.
7. If a decision to introduce biometrics has been taken, sufficient funding needs to be secured in a timely manner.
8. In contexts where citizens already have reliable and trusted identification and/or where multiple voting and impersonation are minor problems, the added value of biometrics in elections is likely limited.
9. Biometric technology should only be introduced where an appropriate legal framework and registration procedures are in place.
10. A common reason for the failure of new technologies is insufficient time for project implementation. The gradual introduction of technologies over several electoral cycles is safer than an immediate full-scale rollout nationwide.

International IDEA, 2017

Securing the Ballot

Whether elections take place via paper ballot or EVM, public confidence and trust in how free and fair the election is depends largely on the security of the electoral infrastructure being used. In fact, in countries that use electronic and internet voting, the field of Election Cybersecurity has grown exponentially, as countries seek to ensure free and fair elections that protect the secrecy of the vote and ensure that election principles are observed. Oftentimes, the focus is on the movement and security of election materials on voting day. It is important, however, that this be considered throughout the electoral cycle. In the Namibian case, safeguarding and securing all components of the EVMs, ensuring their security to prevent any form of electoral malpractice, and tracking of their movements has become an important aspect of how the electoral process is managed. How the electoral management body manages all security aspects as it plans for election day, handles logistical issues, and carries out the election are pivotal to the level of trust the public will afford it. The management body should not allow any incidences to undermine the integrity of the election.

In October 2019, the ECN faced an important test about the security of the ballot, which raised public questions about the possibilities of electoral fraud, when it came to light that some of its EVMs were missing. As the story goes, in 2017, the ECN had loaned EVMs to the Swapo Party Elders Council for their internal elections. According to the ECN, the full consignment of the requested equipment included 156 Ballot Units, 53 Control Units, 4 Tabulators and 2 Printers. The party was tasked with ensuring the security and safe transportation of this equipment to and from the ECN for the conduct of these elections, with Sackey Shanghala taking on the responsibility of the Retuning Officer. Two ballot units and four control units – were, however, never returned to the ECN, and were reported as lost or missing. According to an ECN public information notice, police investigations were ongoing in the search for the missing units.

This incident highlighted both the gaps that exist in the ECN's operational security, as well as the important security measures that are already in place. With regards to the operational gaps, entrusting another party with the security and safe transport of the EVMs – given the potential for such incidences to occur – was a clear misstep by the ECN. The commission has acknowledged this, noting that "the ECN Secretariat undermined its own administrative protocols by allowing an external organization to transport sensitive electoral equipment." That said, it also noted that it "has put in place additional standard operating procedures and safety standards around the management, storage and transportation of EVMs, which are strictly enforced, to ensure that an incident like this will never happen again."

On the plus side, this incident also highlighted some of the security measures in place to safeguard the ballot. The ECN displayed a clear understanding of which units were missing based on the serial numbers of each of these devices (note that paper ballots also contain serial numbers as a security mechanism), and highlighted the various measures taken to safeguard the EVMs. These include preparing the units for election in the presence of political party agents and candidate representatives; having all equipment to be used escorted by and kept in the custody of the police before and after the poll; recording the serial number of all components and the stations to which they will be deployed, with political parties able to place their own seals on these to ensure transparency in the movement of the EVMs; and a poll test of the EVMs before the commencement of voting.

It is promising that the ECN has been transparent and accountable in dealing with this issue. It is of utmost importance that public confidence in the modality used for casting our votes on election day is restored. Because the ECN and the EVMs are seemingly a preferred target at the moment for questioning the election process (regardless of the measures put in place to secure them, despite their technical attributes, and in spite of the reasons for which EVMs were introduced), the ECN has to be completely above board in all matters related to the election, be uncompromising in securing the ballot, implement strong controls in securing the 'chain of custody' of electoral materials', and in ensuring the election is truly free and fair.

*Sources: Electoral Commission of Namibia, IPPR, International IDEA

An Interview with ECN Chief Electoral Officer, Theo Mujoro
(Interview conducted in August 2019)

*Image Source: The Namibian Newspaper

What are the different technologies being used in the elections this year?

The Electoral Commission of Namibia (ECN) adopted various technologies for voter registration, voter verification and voting processes to improve and manage these processes efficiently. Biometric voter's registration system that is composed of Mobile Registration Kits (MVRKs) and Automated Fingerprint Identification System (AFIS) were introduced to assist the process of creating, maintaining and managing the voters register, while the Voter Verification Devices (VVDs) were introduced for the verification of voters during polling. Similarly, Electronic Voting Machines (EVMs) were introduced to facilitate the casting of votes. (See pages 7 to 11 for more details on these technologies)

In your view, what are some of the pros and cons of using EVMs and other technologies being used in the election?

The technologies used in the elections were introduced with a goal to enhance and increase efficiency in the electoral processes. As far as we know, they achieved that goal. However, issues of mistrust and lack of understanding or fear of technologies amongst our stakeholders is creating a wrong perception of the technologies, especially the EVM.

Furthermore, it is important to note that any technological solution is only as good as the operational environment, users and implementation thereof. Issues of electricity and telecommunication services are some of the constraints to optimal use of the technologies to their full potential, particularly when it comes to the MVRKs and VVDs. Ideally, we would want to have these devices connected to the central server, but limited telecommunication services in some areas is restrictive. In addition, the human factor in the operation of these technologies can be deemed as a negative, especially when mistakes are made due to ignorance or if training is not adequate. Technologies in general have the potential to fail and one should always have a backup plan should that happen. Hence, the ECN always provides a backup plan, especially when it comes to voter verification devices where all polling stations are provided with a manual voters register to mitigate against any eventualities.

How does the use of these technologies improve the operations of the elections - particularly on election day?

The use of the biometric voter's registration system enabled the ECN to have a near perfect voters register ensuring that only eligible voters will vote.

During the Presidential and National Assembly elections, voters can vote anywhere in the country,

meaning each polling station must have the whole country's voters register. Therefore, verification of voters will be quicker with the use of the VVD, which will reduce the time a voter spends queuing to vote as compared to manually searching for a voter amongst large number of pages for the whole country's voters register.

Polling with the EVM eliminates spoiled and rejected ballots ensuring that all votes cast are valid and counted. The past experience with the EVM in 2014 and 2015 elections proved that pressing a button is easier than writing a mark on a ballot paper, especially for the elderly voters. The EVM eliminated the cumbersome process of manual counting of ballot papers making the process fast and error free by a press of a button.

How do these technologies enhance the integrity of the elections?

Looking back at past experiences before we adopted these technologies, elections were always challenged in the court of law and the problems were mainly related to issues with the voter's register and human error. The biometric voter's registration system enabled us to have a robust voters register which increased the credibility of the elections process. Furthermore, the use of technology decreases the possibility of human error, especially during voting and counting, thus enhancing the integrity of the elections.

With respect to the technologies used, what were some of the key lessons learned during the 2014 elections? How are these lessons being applied in the upcoming elections?

During 2014, the ECN experienced challenges with the use of some technologies which was attributed to staff ability to operate such technologies or technical glitches specifically with MVRKs and VVDs. The training of elections officials was identified as one cause of the challenges because it was deemed insufficient. In addition, we experienced long queues in some parts of the country where polling concluded well beyond the expected closing time of 21H00, which was attributed to the mobile teams and the time allocated to the mobile points.

Technical glitches were resolved and the ECN placed measures to intensify the training of all officials on the technologies. In order to mitigate the issue of long queues and delays in closing time, the ECN will create streams at polling venues in high volume areas. Additionally, we resolved to minimize mobile teams in high density areas replacing them with fixed point.

The ECN has organised a hackathon for civil society and opposition parties to test the integrity of the electronic voting machines. What is the aim and purpose of this exercise?

As an institution governed by the principals of free, fair, transparent and credible elections, the ECN is committed to transparency and openness at all levels of our processes. We are aware that some of our stakeholders have reservations when it comes to the EVM, and the ECN simply wants to provide them an opportunity to examine and interrogate the EVM in a transparent and open manner. The purpose of the exercise is to ensure transparency and build confidence in the electoral process. (Note that the planned hackathon was postponed, but to date, none has taken place.)

Will a VVPAT be used with the EVMs during the upcoming elections? If not, why not, and how is ECN working to ensure transparency, voter confidence and accountability given lack of paper trail? When does the ECN anticipate that this functionality will be added?

As this present moment, it is technically and operationally impossible to introduce the VVPAT for the upcoming elections. However, the ECN is busy with a process to find a suitable solution for a VVPAT.

There is a need to differentiate between a VVPAT and paper trail. A VVPAT is a system of printing a paper after voting that shows the voter the candidate or party for which his/her vote was cast. This requires developing a printing device that can be integrated with the EVM. However, the EVM in its current form produces a paper trail. The EVM have the capability of printing out the records of the votes casted, but this can only be done by court order.

Various electoral experts and institutions have highlighted the importance of having well trained polling officials in order to avoid and/or be able to handle any glitches related to voting technologies on election day. Kindly comment on how ECN has trained and is preparing polling staff for the immense task of carrying out the elections.

Training was one of the challenges identified from past experiences and the ECN places emphasis on intensifying the training of all elections officials. We increased the training days and streamlined the training program to address the identified challenges. In addition, we will be deploying technical support staff in all constituencies to provide prompt technical assistance where needed. We will train and deploy young Namibians to all the 121 Constituencies to provide technical support on the EVM as well as assist

in the area of results transmission from Collation Centers to the Central Election Results Center.

Continuous voter education - including possibilities for voters to be exposed to voting technologies before the election - has also been highlighted as a key aspect in the use of voting technologies. Kindly outline some of the ECN's efforts in this regard.
The ECN decentralized the voter education to all regions to ensure that every potential voter is reached. The voter education focuses on technologies that the voters are expected to directly interact with. Hence, voter education officials have been provided with EVMs which is the only technology the voter will interact with on election day.

Notes

About the Author

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About Democracy Report

Democracy Report is a project of the IPPR which analyses and disseminates information relating to the legislative agenda of Namibia's Parliament. The project aims to promote public participation in debates concerning the work of Parliament by publishing regular analyses of legislation and other issues before the National Assembly and the National Council. Democracy Report is funded by the Embassy of Finland.

About IPPR

The Institute for Public Policy Research (IPPR) is a not-for-profit organisation with a mission to deliver independent, analytical, critical yet constructive research on social, political and economic issues that affect development in Namibia. The IPPR was established in the belief that development is best promoted through free and critical debate informed by quality research.

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