Technology Deployment in Kenya's General Election

(August 8, 2017)

and on the Repeat Presidential Election

(October 26, 2018)

A report by The Kenya ICT Action Network (KICTANet)

December 2017

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Background

The Kenya ICT Action Network (KICTANet) deployed a 25-person election observer mission for Kenya's 2017 General Election that took place on August 8, 2017. Kenyans voted for six positions namely Presidential, Senate, Parliamentary, Women's Representative, Governor, and Member of County Assembly. KICTANet's observation focused specifically on the use of technology from a user perspective and accordingly released a preliminary report https://lists.kictanet.or.ke/pipermail/kictanet/attachments/20170811/356bef8e/attachment.pdf which was published on **11 August 2017**.

The highlights of the report are as follows:

Pre-election period

- The biometric voter registration was carried out in a satisfactory manner albeit some issues of discrepancy in the voters register being reported.
- While voter information was accessible, there was no adequate online security for the voters' database available at the IEBC website when it was first published online.
- Massive misuse of online spaces for electioneering was witnessed. KICTANet engaged with regulators such as the National Cohesion on Integration Commission (NCIC), and platforms such as Facebook, in seeking solutions to fake news and hate speech online.

On the Election Day

- KICTANet observers were generally satisfied with pre-polling station opening procedures where most polling stations observed time, and only a few were late in opening. The duration of lateness did not exceed 30 minutes.

- All the stations observed had adequate Kenya Integrated Election Management System (KIEMS) kits and one station had extra tablets.
- Not all voters were identified using biometrics. There was a small number whose fingerprints could not be read by the KIEMS kit either due to cuts on their hands, or as a result of doing too much manual work. Observers noted many of the polling clerks had challenges with the KIEMS kits and sometimes it would take ten minutes to process a single individual. The duration for identification decreased as the polling clerks got more acquainted with the gadgets.
- The polling stations closed between 5pm and 6.55pm after which counting of votes commenced and was done manually.
- The results had to be transmitted electronically to the constituency tally centers, county tally centers and the national tally center. This transmission exercise presented challenges in places with poor internet network coverage. At the tallying centres where KICTANet had observers, there were screens where results from different polling stations were displayed, although not in real time.
- It was possible to use mobile phones and access the internet in and around the polling stations. For further reading and more details, refer to the preliminary report https://www.kictanet.or.ke/mdocs-posts/preliminary-observation-on-technology-deployment-in-kenyas-2017-general-elections/

The Presidential Nullification

The opposition challenged the Presidential results in the Supreme Court, arguing that the electronic system was hacked, resulting in manipulation of the voting system. On September 1, 2017, Kenya's Supreme Court nullified the Presidential election on the basis that there were irregularities. Further, it ordered a repeat Presidential election within sixty (60) days.

Following this nullification of the presidential election, the KICTANet mission continued to monitor and prepare for the re-run election which took place on October 26, 2017.

Concerns and proposals for the Re-run and future tech based elections

The KICTANet observers noted several issues that would need attention during the October re-run and in future tech based elections. Indeed, most operational problems reported during the August election were at the results transmission stage. A highlight of observations and suggestions for improvement include:

1. The IEBC officials in most of the stations observed during the August election worked long hours and under high pressure.
    - The language in the KIEMS form needed to be simplified to make it easier for the IEBC officers to fill.
    - Further, the returning officers and the party agents should not feel pressured, and should take time to verify and correct the figures before the transmission.
    - There were polling stations whose results were not displayed on the IEBC results transmission portal. The explanation offered was that some of the stations faced network challenges, resulting in delayed transmission.
    - ***KICTANet observers felt that there should be alternatives and backup arrangements for stations with network challenges.***

2. IEBC procedures envisaged transmission of results in figures as well as a scanned image of the physical results form. However, images of forms displayed on the IEBC portal were not consistent. ***KICTANet observers were of the opinion that these Forms should be standardized. Further, verification procedures such as checking the format of the document uploaded for transmission should be introduced.***
3. Data in the results transmission portal was not meaningfully displayed. For example, there were a limited number of views and combinations of data. ***There is therefore the***

need to expand the 'views' function to allow for more meaningful interaction with results data.

4. The integrity of the forms posted on the IEBC portal was queried. The explanation offered was that uploading of the forms was delayed due to network challenges. ***KICTANet's opinion was that the images taken at polling stations should be locked in the device until transmitted.***
5. There were allegations of hacking of the IEBC database that could not be conclusively investigated by tech observers. ***Accordingly, it would be important to provide system documentation to reduce opacity on the deployment of technology in election processes.***

Repeat Presidential Elections

In the repeat election, KICTANet had 17 observers who visited over 60 polling stations across several counties.

On the runup to the elections, there were last minute instructions on change of technology and electronic transmission process for results.

Observers attended pre-election preparation meetings with IEBC on October 13, 2017 where some of the recommendations by KICTANet and other observer missions were implemented. At this meeting, the state of election preparedness was discussed. This included the gazetting of all polling stations, standardization of polling forms, particularly Forms 34A and 34B, clarification on the complementary mechanism, transmission of results, and gazettement of winners. Safaricom, the largest telecommunications company in the country at the time provided sim cards for all 40833 gadgets used in the elections. 3000 polling stations did not have 3G internet. IEBC only depended on the internet service providers for internet connection. Drafts of all form 34B were to be availed to agents before printing the final form 34B. IEBC stated that results would only be announced once all the votes had been counted.

IEBC also committed to involve the Media in all phases of the elections, and allowed for live coverage of results at constituency level.

The KIEMS devices had been configured to only provide for two candidates during the Presidential repeat elections after the key opposition figure Raila Odinga withdrew from the repeat presidential election. However, the court of appeal ruled that all Presidential candidates who had participated in the August 8 election were free to participate in the October 26, 2017 repeat elections. The implication of inclusion of all presidential candidates meant that KIEMS devices, configuration to intake results of two candidates would need reconfiguration.

Training of senior electoral officials took place on 17 October, 2017, which was close to the polling date. This was followed by training of officers at regional level. On this same day, a delegation from KICTANet's mission attended the national stakeholders meeting at a Nairobi hotel where among others, explanation was given that KIEMS Results Transmission System (RTS) was only configured for two presidential candidates as IEBC did not have ample time to re-configure to include all the 7 presidential candidates that were on the ballot paper. Among issues raised was the safety of electoral officers and devices, due to the tension following the withdrawal of Hon. Raila Odinga, a key presidential candidate. IEBC assured stakeholders that security would be provided by the state. ***Although information on where KIEMS kits were deployed was provided, it did not include GPS coordinates of the*** KIEMS kits. Observers noted that the KIEMS kit should have Geofencing for areas where the Returning Officer (RO) does not need to move to a different location to transmit* results. IEBC should have provided data links via Satellite to safeguard the Kits from being moved from areas without coverage, trying to get Internet connection.

As with the August election, the level of online misinformation was high. There were coordinated attacks against political parties, politicians and political institutions. Politicians' engaged in hate speech during this period which was amplified on social media, with the public petitioning for their arrest.

Mixed messaging from IEBC did not inspire public confidence. For instance, press releases were sometimes not in the known standard style, which made the public question the credibility of the publications. There were too many points of information that were contradictory.

Election Day Observations

Similar to the previous election, observers noted that polling station opening procedures and biometric identification of voters was largely successful. Election officials were more comfortable operating the KIEMS kits this time round. ***However, it was noted in a few polling stations that changes in electronic reporting and transmission of the results were not adequately comprehended by officials.***

In general, these were the observations;

- A significant lower turnout of voters in centres observed was noted, with the majority of stations registering between 7-20% voter turnout. However, in stations such as some within the Ongata Rongai area where the turnout was between 45- 50%.
- There was more use of complementary identification methods for voters who were not identified by the KIEMS kits.
- IEBC had not mapped and geo-referenced the KIEMS kits to the polling centers. Geofencing would show the location of KIEMS kits when they transmitted results, and whether the kits were at the polling stations.
- It was noted that the KIEMS kits were used only for transmission of images of electoral forms. The kits only had two Presidential Candidates and were not reconfigured to include all candidates as directed by the court of appeal. There were queries as to why the names of all Presidential candidates could not be added at the server level so as to make the electronic system similar to what the case was on August 8.
- There was difficulty in comparing observed results with results at the tallying center as electronic displays screens were limited.

- Presiding Officers were anxious in transmitting results as many had been made aware that announced results would be final. At stations observed by KICTANet, the Presiding Officers reconciled figures to ensure that KIEMS figures tallied with figures on physical forms. Agents and observers were allowed to witness the reconciliation. However, lighting was bad in some areas so images were not optimum. Presiding officers had challenges reconciling figures as KIEMs were designed for the number of people identified on the kit to tally with total ballots cast .
- Results transmission was more efficient in the repeat election. In all stations observed, transmission was successful. IEBC also reported to have electronically received 36,986 of 40,883 Forms 34A, and 118 out of 291 Forms 34B, on the night of 27 October, 2017.
- An observer from KICTANet ran a computer script to download all uploaded forms from the IEBC results portal. They observed that the script could no longer reach the server on the evening of 27 October 2017.
- It was not clear which of the tallying processes were manual and which were automated at the constituency and county tallying centres. Returning Officers were observed using excel sheets.
- When data on voter identification was released by OT Morpho (the contractor responsible for supplying the devices and software), it was noted that over 20% of voters were identified using means other than biometrics.

Post Election

Misinformation online continued on social media, making it difficult for the public to discern the truth. Media did not immediately verify content circulating online on alleged police brutality. Inconsistencies and incomplete information in reporting election results by the IEBC fueled tensions online. Media tallies were allowed to go on uninterrupted unlike in previous elections. **In future, the tallies should also explain the methodology and data sources to the public.**

There was confusion when IEBC gave different numbers of the voter turnout. An attack on journalists on 31 October 2017, resulted in more media blackout.

KICTANet's Recommendations to IEBC

Policy	Strategy	Operational
- Develop an access to information policy providing for public information, protection of personal information, evidence preservation measures, and access to IEBC data for researchers. - Release of old election data to the public through Kenya National Archives, or Kenya Open Data initiative.	- Provide information that increases trust in the electronic system.	- Tweak the results portal to be more open varied in views Examples from the 2017 would be: - Comprehensive system documentation explaining to the public among others system design, processes, actors, redundancy plans, risk mitigation and recovery to the public. - Register of devices used in the election including GPS coordinates. - Alongside results, publication and verifying

		of information such as logs, penetration certificates.
- Public participation	- Improve public participation	- Responsive and timely communication from IEBC to public queries. - Proactive disclosure of information such as system documentation. - Review the Elections Technology Advisory Committee (ETAC) judgement, where this committee was declared unconstitutional. - Give access to the electoral system to tech observers.
- Data protection policy	- Train ICT personnel on security of personal information.	- Integrate security before publication of databases with personal information.
- Data ownership/residency policy	- Development of local data centers. - Include national ownership of data during contracting for electoral systems.	
- Monitoring and evaluation of tech	- Integrate mechanisms for technical evaluation of electoral systems.	- Tech audit of the electoral systems to identify points of failure.

		- Provide access to election data to researchers post-election.
- Early/holistic preparations	- Improve knowledge of the system in preparation for next elections.	- Early and comprehensive training of staff. - Public education. - Continuous engagement with the tech community.
- Improvement of KIEMS / Electronic system	- Assure security of electoral data	- Publish measures taken to secure electoral data including personal data for public input.
	- Voter identification system	- Publish identification data such as number of people identified using the different systems with poll results. - Publish supporting documentation e.g. forms indicating number of people identified using complementary methods at each polling station.
	- Increase trust in the results transmission system	- Translate system documentation into palatable public information showing the electronic system process.

		- Give comprehensive information and documentation when processes change as was the case during the presidential rerun.
	- Improve integrity of the results transmission system	- Design more legible Form 34As and consider other methods of duplicating forms more legibly. - Simplify the language in the forms for better results. - Create a mechanism for redoing forms where there is an error discovered at the polling station. - Integrate means of human verification of data before it is submitted e.g. re-inputting the data. - Optimize image files to make them legible before transmission.
	- Improve efficiency of reporting results	- Redesign portal to give more complete information on results including identity of the transmitting device and other data on the device such as opening

		and closing times, number of voters identified on the device etc - Set portal to show actual results as received. - Include mechanisms for certifying that text and images were received from assigned polling stations. - Increase the number of views that a user can have e.g. by polling station, by constituency, by county etc. for observers and public to verify results against observed results. - Integrate mechanisms for reporting erroneous data by the public.
	- Redundancy measures	- Satellite phones.
	- Transparency of tallying procedures	- Relay and display results real time as they are tallied. - Tallied results should correspond to the total number of voters who physically accessed a polling station, and number of total registered voters.

	- Areas with connectivity issues	- Provide connectivity through complementary means prior to the elections
	- Sustainability	- Redesign electoral systems with possibilities of re-run election and re-use in subsequent elections.

General Recommendations

1. There is a need for a general data protection framework.
2. There should be utilization of mechanisms such as Universal Service Funds (USF) to provide connectivity to underserved areas to also allow for tech deployment in elections.
3. Requirement of political accountability for online content through transparency in election spending.
4. Digital literacy for voters.
5. Media should be more innovative in carrying out its role in provision of information during tense times. For example, a combined effort of media houses could have spread resources to cover more polling centers during the election. Media should also consider partnership with crowdsourcing platforms like mytally.org.
6. Election observation should extend to party primaries with emphasis on tech issues such as protection of personal data collected during campaigns and registration of members.

7. Carry out a tech audit of the election, and allow researchers to carry out a tech audit of the election and election system.
8. Review judgement in ETAC case to craft a way to have advisory for technology and public engagement within the law.

About KICTANet

The Kenya ICT Action Network (KICTANet) is a multi-stakeholder platform for people and institutions interested and involved in ICT policy and regulation. The Network is a think tank dedicated to bringing evidence, expertise, and more voices into ICT policy decision-making. KICTANet promotes public interest and rights-based approach in ICT policy making.

Our Pillars

POLICY ADVOCACY: We work to bring stakeholders together to discuss the best policy alternatives and also monitor the progress of policy development processes.

CAPACITY BUILDING: To ensure continuity and diversity in the policy development, we bring in new voices in the different stakeholder backgrounds through training and events.

RESEARCH: Our policy advocacy and capacity building are supported by evidence based research through an established working group on both current and emerging issues.

STAKEHOLDER ENGAGEMENT: Have structured dialogue between all stakeholders through collaborative initiatives in face-to-face Town Hall meetings, and in the KICTANet's interactive mailing list where stakeholders engage regularly on ICT policy issues

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