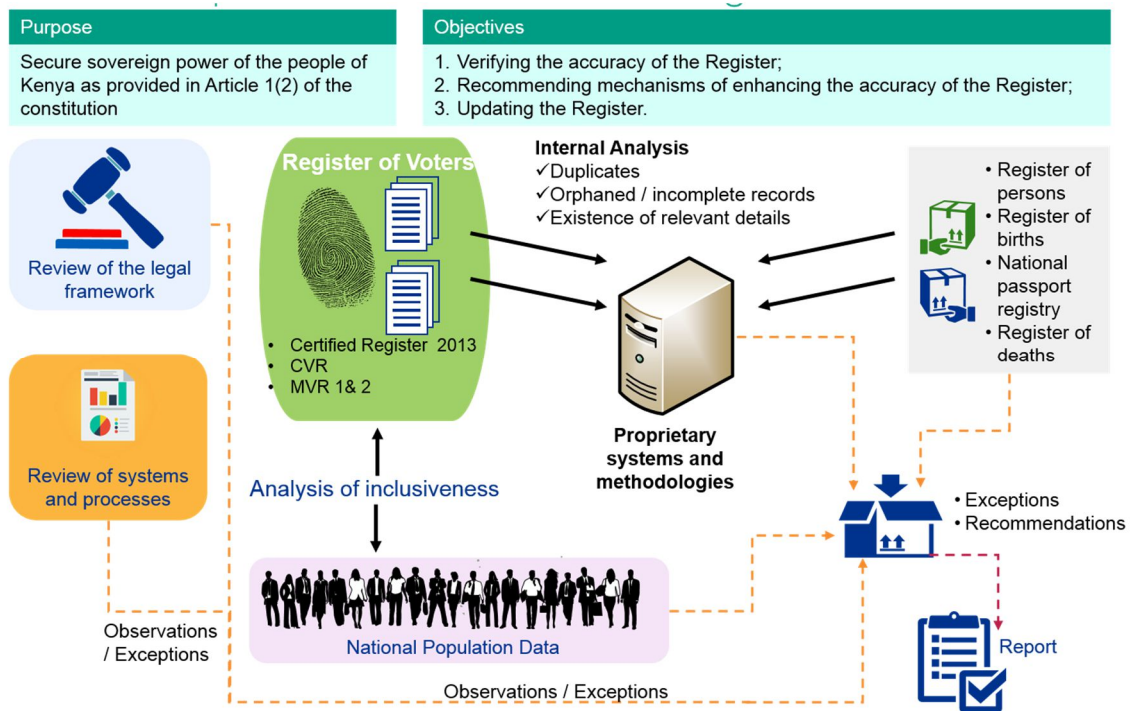


2 Approach and Methodology

Our technical proposal included a comprehensive methodology for audit of the Register of Voters that is grounded in the Constitution of Kenya and applicable laws.

We set out in the figure below an overview of the audit approach and methodology that we used in conducting the audit of the Register of Voters. We also include in Section 3.4 a summary description of each of the steps in the methodology.

Overview of the audit methodology



2.1 Summary description of our methodology

Our approach and methodology was designed to address the specific terms of reference defined by the Commission. An outline of the specific terms and approach to the audit is described in the table below.

Specific task	Our approach
Review the legal framework relating to voter registration.	<ul style="list-style-type: none"> Review the legal framework to understand the requirements of the law with regards to the voter registration process and creation of the Register of Voters. In undertaking the Audit of the Register of Voters, we have been guided by the Constitution of Kenya and related legislation. The key laws we have relied on Include: <ul style="list-style-type: none"> The Constitution of Kenya- Specifically Articles 1, 10, 12, 38, 81, 83, 86, 88, 249 and 260



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Specific task	Our approach
	<ul style="list-style-type: none"> - The Elections Act, 2011 as amended in 2012, 2016 and 2017 - The Elections (General Regulations), 2012 and the Elections (General) (Amendment) Regulations, 2017 - The Elections (Registration of Voters) 2012; and the Elections (Registration of Voters) (Amendment) Regulations, 2017 - The Elections (Technology) Regulations, 2017 - The Kenya Citizenship and Foreign Nationals Management Service Act - Births and Deaths Registration Act - Kenya Citizenship and Immigration Act - Registration of Persons Act - The Independent Electoral and Boundaries Commission Act <ul style="list-style-type: none"> • We reviewed the data, processes and systems relating to voter registration and generation of the register to assess their compliance with applicable laws • We noted areas for improvement in relation to the legal framework governing voter registration and data
<p>Review the voter registration process, voter transfer process and voter updates processes</p>	<ul style="list-style-type: none"> • We reviewed controls over the recruitment of voter registration staff • We reviewed the deduplication and adjudication process for Biometric and Biographic Information • We reviewed the process of validating registration documents • We reviewed the process of identifying registration centres and polling stations (streaming) • We reviewed the follow up of specific claims and complaints about the register, such as recording of logs, monitoring and updating the status of the claim and complaints • We reviewed the collaboration processes between IEBC and other departments to ensure authenticity of registration documents • We checked the integrity of the process via review of orphaned objects, such as, voters not assigned to polling stations or polling stations with no allocated voters • We reviewed segregation of duties on voter registration and update processes and systems
<p>Review the Biometric Registration System Database that hosts</p>	<ul style="list-style-type: none"> • Performed a database system security audit to check: <ul style="list-style-type: none"> - Controls in the Biometric Voter Registration (BVR) database (Access, passwords and authorizations)

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Specific task	Our approach
data on registered voters	<ul style="list-style-type: none"> - Recovery of data (Recovery, DR) - Protection of confidentiality of the data - Encryption - Backups to external removable media (Backups) - Data governance - Super user access - Program changes - Review of logs to confirm audit trail and that changes are authorized - Licenses and version review
Review the process of identifying and removing deceased voters from the Register of Voters	<ul style="list-style-type: none"> • Reviewed the process of making amendments to the Register of Voters such as: <ul style="list-style-type: none"> - Authority levels and specific responsibilities of staff - Controls in making any changes to the register - Review of system records of all updates to the system and integrity related data - Review of audit logs - Collaboration with relevant State Agencies such as the National Registration Bureau (NRB), Civil Registration Services (CRS), and Department of Immigration Services (DIS) - Review of the validation and adjudication process - Segregation of Duties for access with regard to the deceased registers
Assess the accuracy of the Register of Voters in terms of completeness of the details of voters' data, matching of voters details (Biometrics) to the voter	<ul style="list-style-type: none"> • Verification of certification of BVR system and compliance with good practice standards • Reviewed de-duplication process and adjudication controls • Reviewed de-duplication reports (AFIS) including Exceptions and Duplicates reporting and rectification • Carry out independent de-duplication on a representative sample of the biometric voter register. Validate exceptions through performance of independent adjudication procedures over exceptions to identify duplicated • Independent verification of duplicate by matching the text data with state agencies data sources, more specifically the register of national IDs from the NRB, and the Register of Passports from the DIS • Biometric deduplication on a sample of the records in the RoV • Biographic deduplication of the entire RoV. These procedures were performed across the full population through use of Data Analytics tools. Primary objectives of the tests included:

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Specific task	Our approach
	<ul style="list-style-type: none"> - Existence of mandatory fields and key particulars of registered voters in accordance with applicable laws - Verify the validity of registration documents by matching the IDs and Passport numbers and names in the RoV against reference data from the Register of national IDs from the NRB, and the Register of Passports from the DIS - Identification of duplicate records and Other Exceptions based on the tests above - Generation of an exception report with appropriate validations and recommendations to the Commission for updates and rectification - Key scenarios considered in our testing include: <ul style="list-style-type: none"> ▪ Text and biometric match implies duplicate ▪ Text match but no biometric match ▪ Conformance with voter registration eligibility criteria such as Age and to identify underage voters or voters who may appear too old ▪ Existence of accurate and valid particulars e.g. ID / Passport Names, Gender, Associated Polling Centre ▪ Identification of Deceased Voters and recommendation for removal based on matching of the registered voter details to death registry records from the CRS
<p>Assess inclusiveness of the Register of Voters in relation to eligible voting population based on gender, age and geographic distribution</p>	<ul style="list-style-type: none"> • Analyse inclusiveness of RoV's and distribution by geography / county, gender, age • Compare distribution of registered voters against National Population data as provided by the Kenya National Bureau of Statistics; and Registered Persons with Active IDs from the NRB • Assess the proportion of deceased voters flagged for deletion or removal against available Vital Statistics on Registered and Expected Deaths from the CRS • Assess the data to establish eligible voters per geographic distribution categorised by age and gender and compare against the registered voters to determine any variance towards a particular parameter • Assess the Commission's target and review what interventions have been undertaken to address variances between target and enrolment rates

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Specific task	Our approach
	<ul style="list-style-type: none"> • Compare the enrolment rate of voters in the country with other African countries through research • Provide recommendations on a strategy to reach out to under-represented groups
<p>Review and recommend improvement on existing mechanism for continuous update of the Register of Voters</p>	<ul style="list-style-type: none"> • Review the process of continuous update to the Register of Voters in relation to: <ul style="list-style-type: none"> - Continuous Voter Registration (CVR) and Mass Voter Registration (MVR) to cater for new applications for registration - Update of the register to cater for change in particulars of registered voters, deletion of deceased persons from the register, adjudication of claims • Review the process of transfer of voting registration details from one polling station to another • Review the process of segmentation of the BVR kits to the polling stations • SOD rights of staff responsible for registration of voters and continuous updates to the register
<p>Analyse the security of the registration of voters' data and infrastructure</p>	<ul style="list-style-type: none"> • Review the security controls over the BVR system, database and underlying infrastructure which hosts the register • Review the security measures in place to protect voters data after the register has been saved in electronic format; Protection of Data against virus and malware • Perform vulnerability assessment and penetration testing of the system (Refer to Section 1.5) • Review the system maintenance and support plan, such as technical capability of staff and technological sustainability of the system • Review the security and control measures in place to safeguard the BVR kits and monitoring and tracking of inventory and authorized use • Backup and Recovery Plans over BVR systems • Physical and environmental controls over BVR systems
<p>Make recommendations for enhancing the accuracy and inclusiveness of the Register of Voters</p>	<ul style="list-style-type: none"> • Report on factual findings about the RoV against, Register of Persons, Register of Passports and Register of Deaths • Report on gaps noted during the audit of the voters register • Provide recommendations on addressing the gaps, the system and process to enhance the accuracy of the RoV