CENSUS FIELD MONITORING DASHBOARD

USER GUIDE

United Nations
Economic Commission for Africa

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African Centre for Statistics
United Nations Economic Commission for Africa

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INTRODUCTION

1.1 Population and Housing Censuses

Population and Housing Census is pivotal in monitoring development agendas, offering crucial data and statistics on various socio-economic issues. As it covers the entire population, census provides an indispensable resource for granular analysis of small geographic areas and specific population. It is a cornerstone for national planning, policy formulation, and resource allocation. Besides the population related data, it also presents invaluable insights on housing conditions, migration, other societal data for effective governance and sustainable economic development.

A Population and Housing Census is complex and massive exercise for any country. Its complexity stems from the vast logistical management involved: comprehensive mapping of the entire nation, deployment of a large workforce for data collection, and implementation of innovative technology for efficient data management, transfer, processing, and analysis.

During the 2020 Population and Housing Census Round, many countries transitioned from traditional paper-based methods to digital approaches for conducting their censuses. This shift aims to enhance the efficiency and accuracy of data collection. Using digital tools like CAPI-based questionnaires and real-time data transfer, offices managing the census can streamline workflows, minimise errors, and expedite the dissemination of census results.

The shift presents an opportunity to employ innovative digital tools to significantly improve management of the census, communication among the parties involved, data quality and effectiveness of the processes at each of the operation. In particular, real-time data transfer to central servers and online connectivity of enumerator and supervisors, as well as census data coming from the field geo-tagged and time-stamped, could enable continuous monitoring of census operations, allowing managers to track field staff performance and assess data quality in real-time. This facilitates the early detection and correction of anomalies and the implementation of adaptive measures timely while the census is taking place.

1.2 Census Monitoring Dashboard

To support this transition, the United Nations Economic Commission for Africa (ECA) has developed several tools essential at various stage of the digital census process. One such tool is the ECA-developed Field Monitoring Dashboard System, which is designed to enhance the monitoring of census field operations.

The Dashboard is designed to enhance digital census operations through effective oversight of data and performance. It provides real-time monitoring for immediate identification and resolution of issues on performance and data quality. With intuitive graphs and charts, the Dashboard visualises complex data, enabling census managers to assess key indicators and make informed decisions quickly. It tracks performance against

predefined benchmarks and targets, helping managers monitor progress and identify areas needing attention.

Additionally, it includes alerts and notifications to promptly inform managers on critical situations, thereby mitigating potential risks. The Dashboard also presents performance trends over the census period, aiding in adjusting strategies for more streamlined and successful census operations.

It is a web-based tool that can be accessed by any device, anywhere and anytime, with ease and user-friendly interfaces for better use of the dashboard results ultimately improving the efficiency of census processes.

Key features include:

- It provides live view of indicators, enabling users to monitor operations in near real-time. This instant access helps quickly identify and address issues as they occur;
- Users can quickly analyse census data through dynamic charts and graphs, aiding informed decision-making and improving operational outcomes;
- It is built with state-of-the-art open-source tools and offers adaptability to different environments, flexibility to changes and scalability. It also integrates seamlessly with industry-standard database management systems to manage large volumes of data and support geographic functionalities;
- The design is generic and customisable, making it suitable for variety of censuses and as well as survey monitoring needs;
- It is configured to alert users to critical information by email and in-app notification, allowing for prompt responses and potentially mitigating risks;
- It is entirely free and open source, and the source codes and applications are available on our GitHub repository to encourage collaboration and continuous improvement of the tool.

The Census Monitoring Dashboard transforms census management and empowers census managers and demographers to achieve more efficient and effective data collection results and improve data collection and quality.

This user guide is designed to assist users of all levels in using the field monitoring dashboard and taking appropriate actions. It provides step-by-step instructions and detailed explanations to ensure users can effectively use all its features.

Users are encouraged to consult the Dashboard management guide and the technical documentation provided with the source code for a comprehensive understanding of the system. The technical documentation offers in-depth information on system architecture, configuration, and advanced functionalities.

CONTENT OF THE DASHBOARD

The primary contents of the Dashboard are indicators. These indicators could be derived from the questionnaire data, the area hierarchies, lookup files like list of enumerators and supervisors, or metadata provided by the CSPRO breakout database. The following are some of the possible indicators that have been implemented on the course of the dashboard use in many countries in Africa. The indicators speak to the needs of the statistics office managing the census and should not be limited to the list provided below.

- **Percentage of households listed against the target by area:** This shows the proportion of households listed compared to the target in each geographic area.
- **Number of households listed against target by area:** This displays the number of households listed against the target in each geographic area.
- **Population listed against target by area:** Indicates the number of individuals listed compared to the target population in each geographic area.
- **Households listed against target by day:** Tracks daily progress of households listed against the daily target.
- **Population listed against the target by day:** Monitors the daily progress of the population listed against the daily target.

- **Average interview time by area:** Measures the average duration of interviews conducted in each household for each geographic area.
- **Partial vs. completed cases:** Compares the number of partially completed cases to fully completed ones.
- **Percentage of households enumerated against the target by area:** This shows the proportion of households enumerated compared to the target in each geographic area.
- **Number of households enumerated against target by area:** Displays the count of households enumerated against the target in each geographic area.
- **Percentage of population enumerated against target by area:** Indicates the proportion of the population enumerated compared to the target in each geographic area.
- **Population enumerated against target by area:** Displays the number of individuals enumerated against the target in each geographic area.
- **Households enumerated by day:** Tracks the number of households enumerated daily.
- **Households enumerated by day (cumulative):** Cumulatively tracks the total number of households enumerated over time.
- **Population enumerated against target by day:** Monitors the daily progress of the population enumerated against the daily target.
- **Population enumerated against target by day (cumulative):** Cumulatively tracks the total number of individuals enumerated over time.
- **Average household size:** Calculates the average number of individuals per household.
- **Average number of rooms per household:** Measures the average number of rooms per household.
- **Average interview time by area.** Measures the average duration of interviews conducted in each geographic area.
- **Partial vs. completed cases:** Compares the number of partially completed cases to fully completed ones.
- **Crude birth rate per 1000 population:** Measures the number of live births per 1000 people in each area.
- **Crude death rate per 1000 population:** Measures the number of deaths per 1000 people in each geographic area.
- **Maternal mortality ratio (per 100,000 live births):** Indicates the number of maternal deaths per 100,000 live births.
- **Population distribution by age group:** Displays the population distribution across different age groups.
- **Population pyramid by area:** Illustrates the age and sex distribution of the population in each geographic area.
- **Sex ratio by area:** Shows the number of males per 100 females in each area.
- **Percent of women of reproductive age (15-49):** Indicates the proportion of women aged 15-49 in the population.
- **General fertility rate:** Measures the number of live births per 1000 women of reproductive age.
- **Single age population:** Displays the population count for each single year of age.
- **Partially completed cases by EA:** This report lists the number of partially completed cases in each Enumeration Area (EA).
- **EAs with no birth/death in the last 12 months:** Lists Enumeration Areas with no reported births or deaths in the past year.
- **Supervisors/Enumerators performance:** Evaluate the performance of supervisors and enumerators.
- **List of enumerators last synchronised 48 hours ago:** Displays the enumerators who last synchronised their data more than <12 or 24, or 48> hours ago.

The information is presented as scorecards, charts, tables, and downloadable reports.

KEY DASHBOARD ARTEFACTS

The Dashboard comprises of several key artifacts that represent diverse indicators in various forms and formats. The current version primarily utilizes the following four artifacts to present and provide data to users:

- **Charts:** Designed to display performance or quality indicators visually effectively, making the information more accessible to users. The charts may differ depending on the needs of users at the design stage and appropriateness of the displaying the underlying data.
- **Scorecards:** Provide quick, single-number insights into performance metrics or critical quality data from census operations.
- **Maps:** Overlay performance data on geographical maps using traffic light symbols to indicate different performance levels.
- **Reports:** These reports offer detailed information about the census by enumeration areas, helping to identify areas that require intervention. They complement the information presented in charts and scorecards.

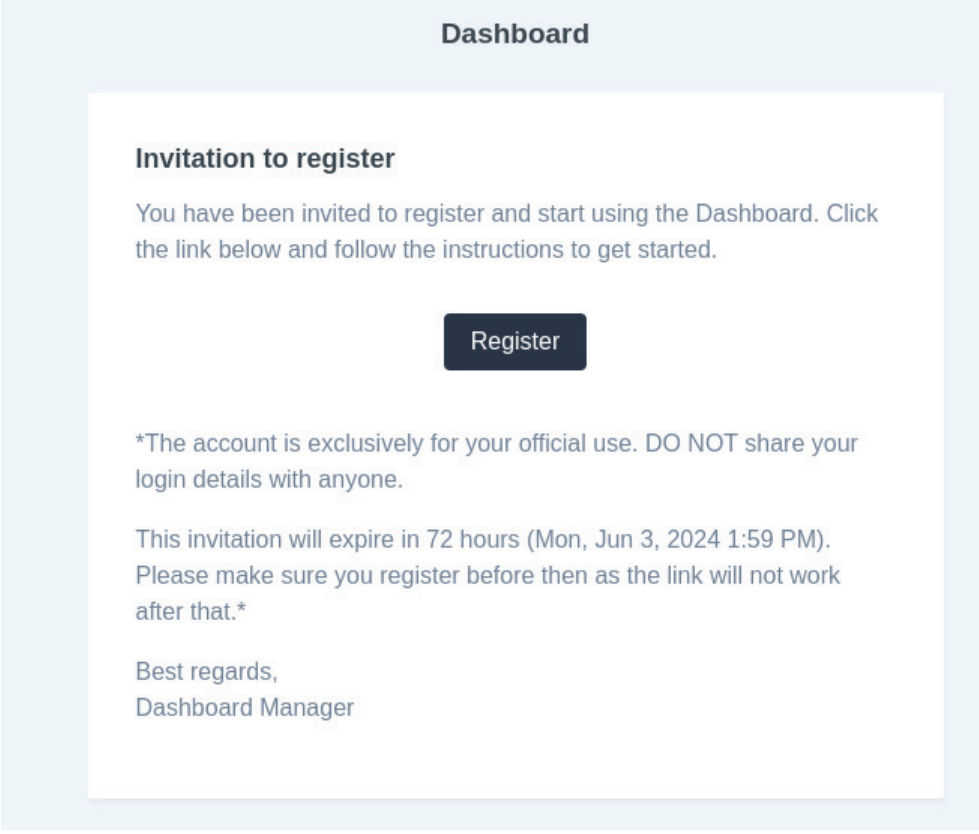
ACCESSING THE DASHBOARD

The Dashboard is a secure, web-based application designed for internal use and accessible via any internet browser. Please note: As census data undergoes multiple processing phases before publication, dashboard results should not be considered final or disseminated to external users. The displayed results are intended for internal monitoring purposes to enhance census operations efficiency. Data presented here is sourced directly from field and processed by the dashboard; it may not represent the full coverage or accuracy picture of census results.

This Dashboard is available exclusively to users who have received specific invitations. As a potential user, you will receive an email from the dashboard manager inviting you to join.

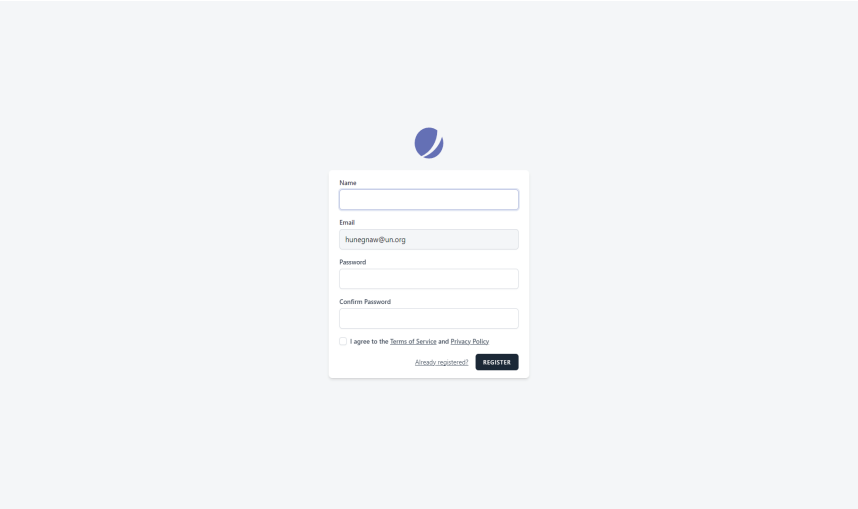
2.1 Registering to the Dashboard

When you are invited, you will receive an email that looks like the following:



Follow the instructions in this email to begin the registration process:

Step 1: Click on the [REGISTER] link in the invitation email. This will take you to the registration page as shown below:



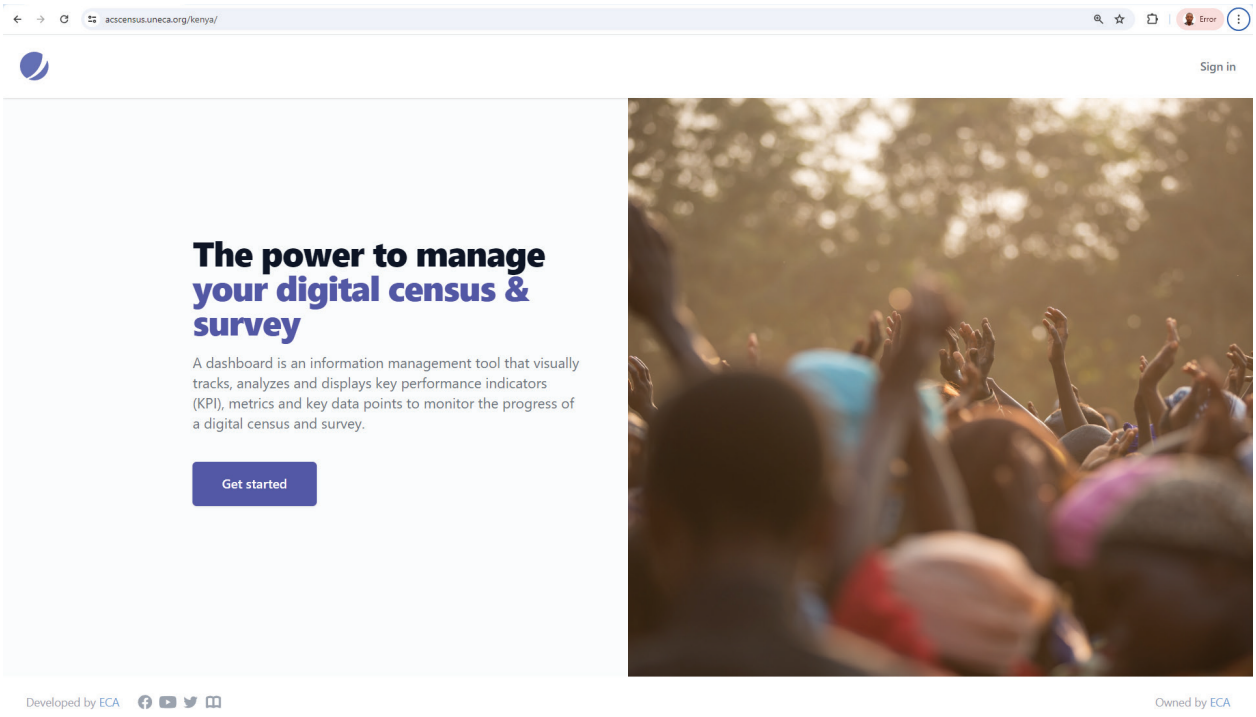
Step 2: Enter your name and create a password. Please note that the password should be entered twice. Then, check the terms of services and the privacy policy box.

Step 3: Click the register button located at the bottom to complete the registration. If successful, you will then be directed to the Dashboard's home page.

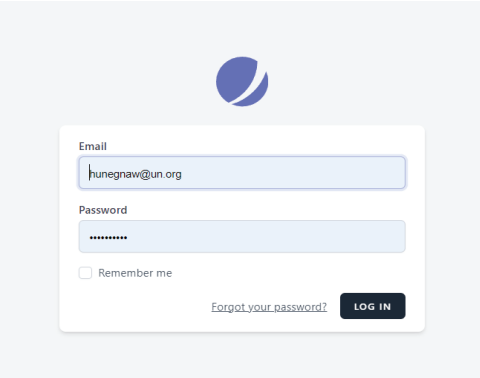
2.2 Signing into the Dashboard.

The Dashboard is an internal, web-based application accessed via an internet browser. You need to be successfully registered and provided with a URL address. Follow the steps below to sign in to the Dashboard:

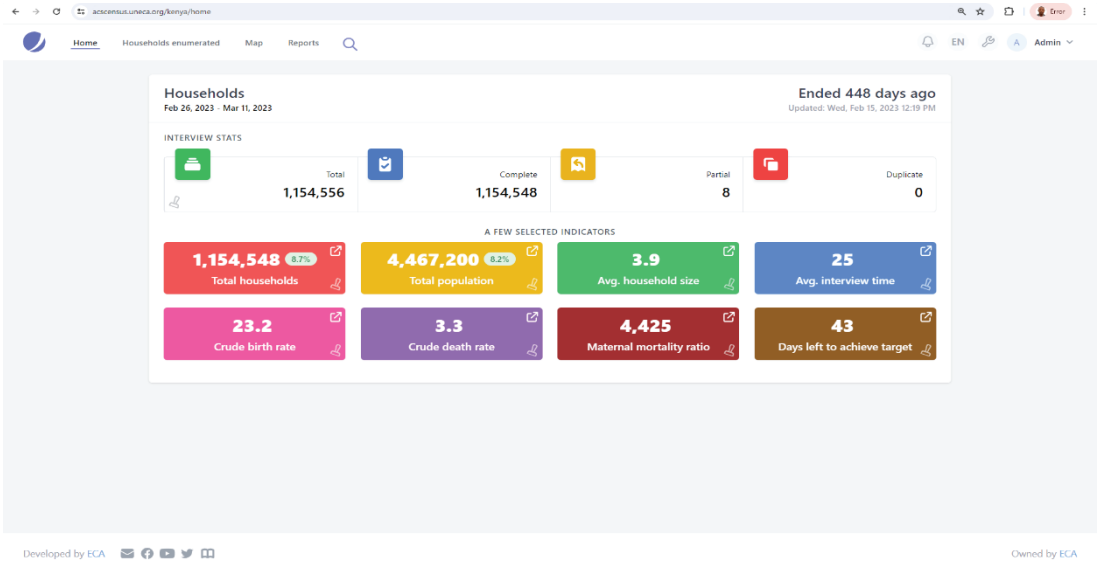
Step 1 – OPEN YOUR BROWSER: Open your internet browser and enter the provided URL into your browser's address bar. The landing page of the Dashboard System, as shown below, will open on pressing Enter or click open button.



Step 2 – LANDING PAGE: On the landing page, click on either the "Sign In" or "Get Started" buttons to go to the login page.



Step 3 – USERNAME AND PASSOWRD: Enter your username and password into the designated boxes and click the "Login" button. Upon successful login, you will be directed to the Dashboard's home page, as depicted below:



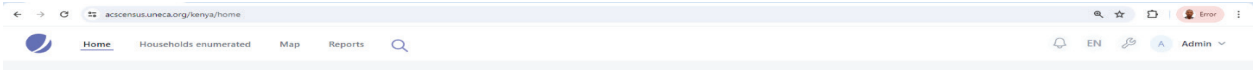
2.3 Overview of the Home page

The dashboard's home page provides a comprehensive view of ongoing census operations, prominently featuring key indicators. These indicators include counts of cases from the field, categorised into completed, partial, and duplicate cases. It also displays key scorecards that provide insights into the ongoing performances and quality of the data. At the top of the Dashboard, the particular census exercise period is clearly displayed, ensuring users are aware of the current phase of the operations.

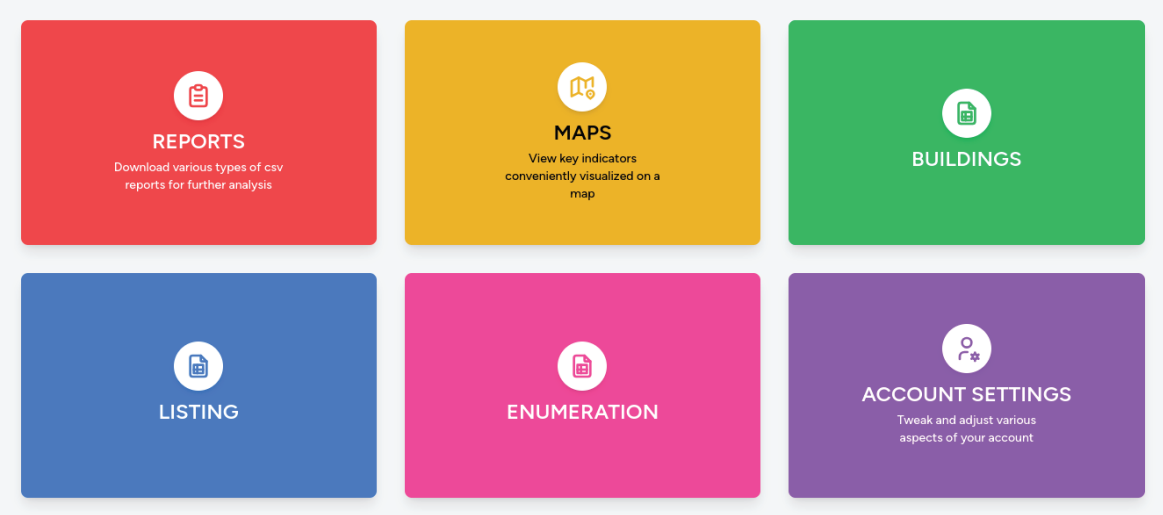
NAVIGATING THE HOME PAGE

The homepage has several sections to aid user navigation and enhance user experience on using the dashboard results. This design of the dashboard ensures that users can efficiently monitor and interact with real-time data and performance metrics, which is vital for effectively managing census activities. The home page is typically divided into four main sections:

Section 1- Menu section: The menu section is located at the very top of the page. It is designed to provide easy access to various parts of the Dashboard. The menu looks like the following picture.



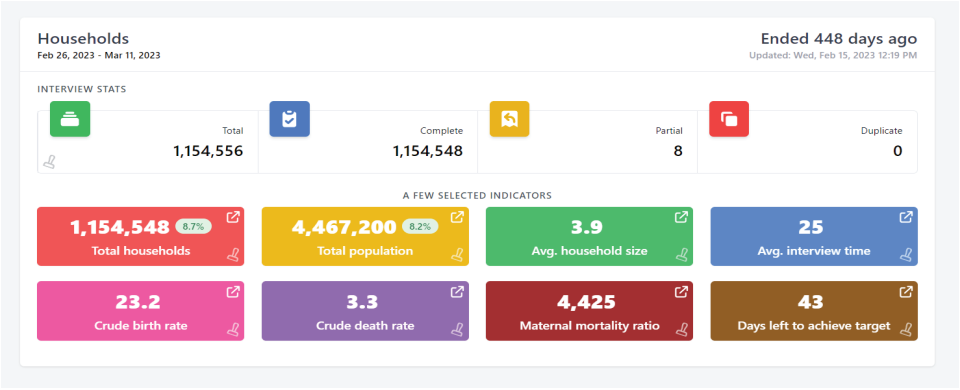
These same menu items can also be accessed through a more graphical menu which can be found near the bottom of the home page.



On the left side of the menu, the logo of the office is prominently displayed, followed by menu links to various pages. On the right side, the menu section, the Dashboard provides key user information, including the language of the Dashboard, the logged-in user's name, and an alert icon to display notifications. Additionally, depending on the role of the logged in users, an icon could be available to take to the Dashboard's administration or management page. For more details on what this icon leads to, please refer to the **Managing the Dashboard Section.**

Section 2: Exercise/questionnaire information: This section displays crucial information related to ongoing exercises, which could vary depending on the number of exercises, pages, or questionnaires being managed. These pages display collection of indicators to monitor the census. Typically, you might see information related to listing, household enumeration, institutions, etc., depending on how the census is structured. Please note that these pages could be grouped differently depending on the implementation of the dashboard.

The following picture shows what a typical household enumeration page looks like.



This section typically displays four sets of information:

1. **Exercise period:** It displays the start and end date of the exercise and where the exercise is precisely compared to the current date.
2. **Key stats:** Counts of cases transferred from the field, categorised into completed, partial, and duplicate cases.
3. **Scorecards:** These are selected indicators that highlight key ongoing performance metrics. Typically, they show the household and population counted, average interview time, and other selected key performance or demographic summaries like average household size, birth rate, etc.
4. **Featured indicator/charts:** The last section displays indicators-based charts to show critical indicators from the census operations. It typically shows the population pyramid, household enumeration by next-level geographic areas, and sex ratio. The number of indicators to display is decided considering server load or the need of the dashboard owners.

Depending on the dashboard setup, this could be repeated for each questionnaire or exercise.

Section 3: Menu cards: The third section on the home page features menu cards for a quick access to different functionalities and pages, typically Listing, Enumeration, Map, and Reports pages.

Section 4: Footer: The footer contains information about the National Statistical Office (NSO) or the office managing the census operation. It includes links to general information such as contact details, social media pages, and credits for the developer.

2.4 Exercise/Questionnaire Page

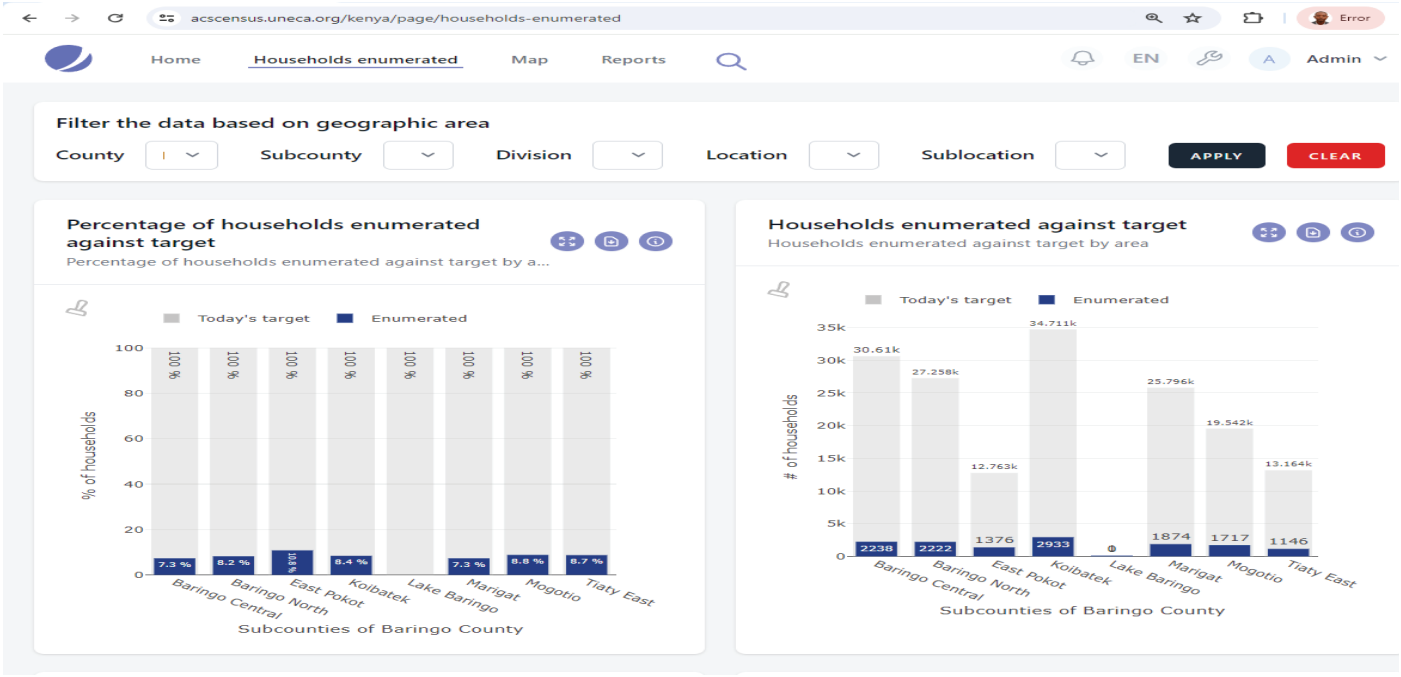
Various pages or exercises within the dashboard display information arranged by geographical area. The indicators used vary from one exercise to another and are tailored to meet the specific needs of the users, focusing on monitoring performance and the quality of data collected during the census.

THE INDICATORS/QUESTIONNAIRE PAGE LAYOUT

Beyond the home page, the Dashboard features dedicated pages for specific collections of indicators. These pages may be tailored to a particular questionnaire, exercise, or operational aspect. Each page presents analytical indicators in both chart and table formats, providing an intuitive yet detailed overview. This enables users to effectively monitor progress, performance, and data quality for the specific exercise, questionnaire, or operational area under observation.

These charts dynamically display data such as the percentage of households listed, population enumerated, and average interview times, facilitating quick assessment of trends and comparisons across different geographic areas.

Detailed information on charts display like the number of households listed or enumerated, population distribution by age group, and the performance of supervisors and enumerators, enabling in-depth analysis and precise tracking of targets versus actuals. Combining these analytical tools ensures that users can efficiently manage the census process, promptly identify and address issues, and make informed decisions based on real-time data. The following page depicts what a typical household enumeration exercise page looks like:



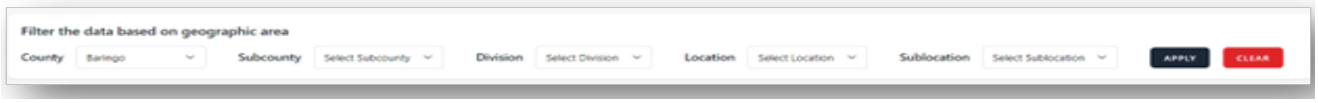
EXERCISE/QUESTIONNAIRE OR INDICATORS PAGE LAYOUT AND FUNCTIONALITY

This Dashboard has a comprehensive and intuitive layout that promotes easy navigation and effective data visualisation. It features two distinct charts side by side, each representing different indicators crucial for analysing data efficiently.

Key Sections of the INDICATORS/EXERCISE/QUESTIONNAIRE Page

Section 1: Geographic area filter: At the top of each page geographic area filter is displayed. This section integrates a geographic filter that organises areas into a hierarchical structure tailored to the specific arrangement of the census structure.

- The filter starts at the country's highest administrative level and allows users to drill down through successive levels to the lowest administrative level just above the Enumeration Areas (EAs). This granularity enables users to show specific regions for targeted monitoring and decision-making.
- Users can select any level within this hierarchy to filter the data displayed on the page.



Detailed steps to use the geographic area filter:

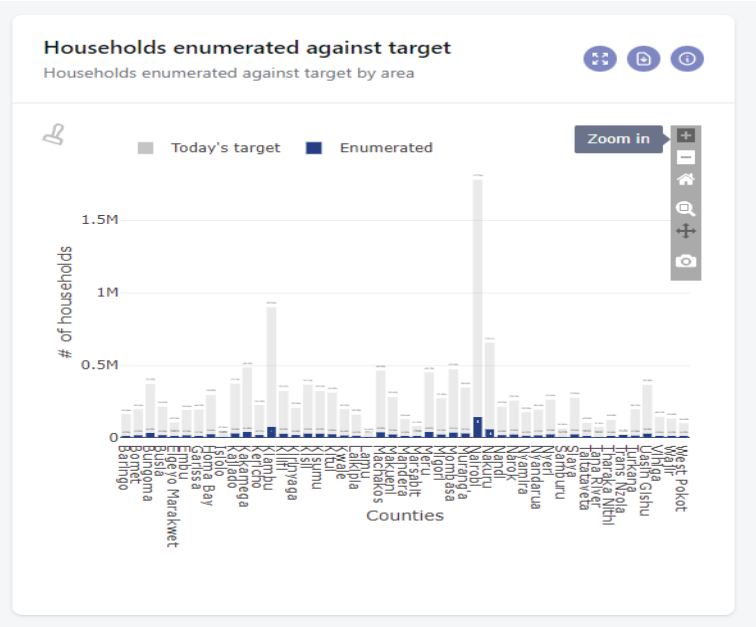
1. Begin by selecting a larger geographic area, such as a "county." Click the "apply" button on the right to refresh the page with the selected area's charts and tables.
2. To browse indicators to a more granular level, after selecting the geographic area such as the "county", choose from the list of next level geographic areas in this case "sub-counties" displayed and so on. Click the "apply" button to update the page content, ensuring the corresponding charts and tables reflect the selected geographic area.

Section 2: List of indicators: This section displays a variety of charts and tables, with bar charts commonly used for their clarity in displaying data comparisons across geographic areas. However, the system supports various charts to suit different analytical needs.

The number of charts displayed per page can be customised according to user needs. The default setup includes two charts per page, but any number of indicators can be arranged in two columns for a coherent and user-friendly display.

	Clicking this icon will expand the chart to full screen for enhanced viewing.
	Click this icon to download the data in Excel/CSV format.
	To display detailed information about the indicator.
	Data could be delayed while processing the database queries and computer processing time could delay it, so it is important to show when this was last updated. Hover on the icon to get the last updated time for the scorecards and charts.

Additional chart features



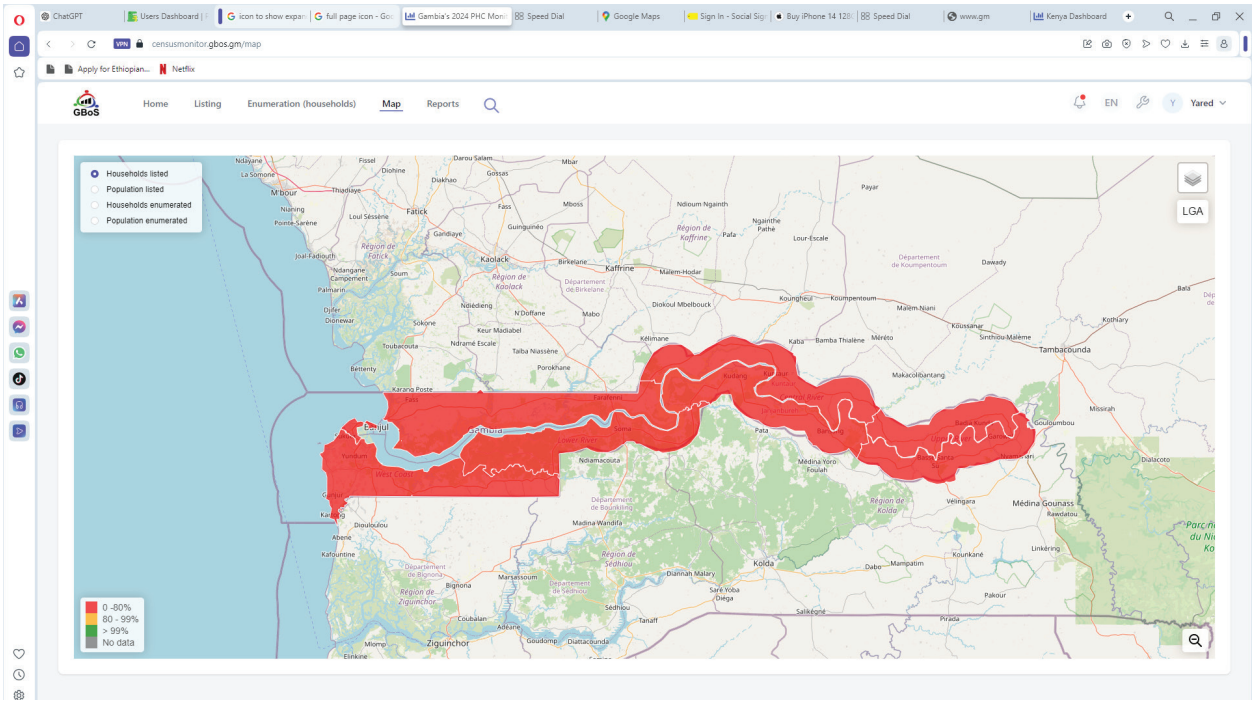
On mouse hover, there are several features that the chart presents that are inherent in online charts. The features include zoom in, zoom out, save, reset, etc.

2.5 Maps

The Dashboard includes a map visualisation feature that displays census performance indicators using a Red-Amber-Green (RAG) scenario. This visual tool helps to monitor performance levels across different geographic areas quickly. These map-based interactions are designed to enable users to understand and analyse census performances intuitively and efficiently.

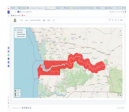
Steps to use the map features:

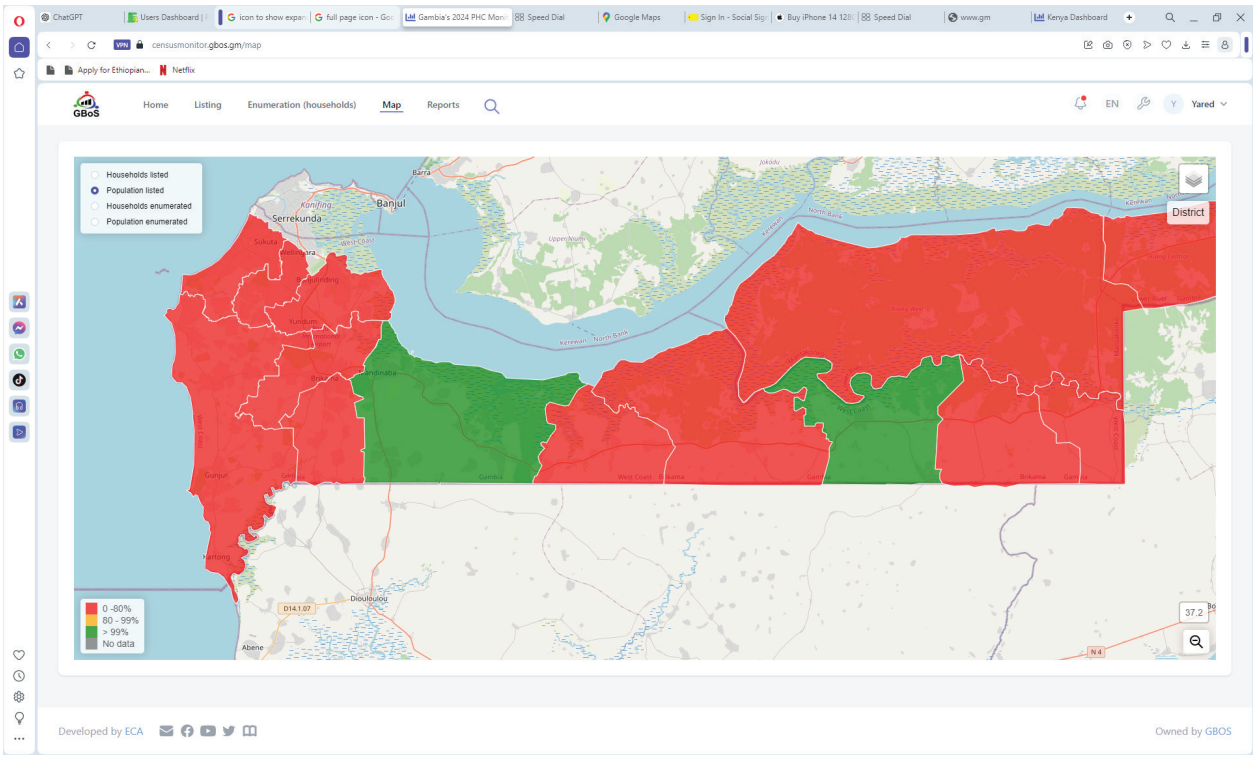
Step 1: Select an indicator: Identify and click on the name of the desired indicator listed at the top left of the screen. The map will update to reflect the performance of the selected indicator, colouring the map regions according to their performance levels (Red, Amber, Green). The page resembling the picture below is shown upon selecting an indicator.



Step 2: Navigate through the map: Hover over the different areas on the map to display tooltips showing the actual performance metrics and targets. Depending on the users requirement at the development of the dashboard, additional information could be displayed on mouse hover, such as enumerator's name, supervisor's name at EA level, geographic area details, etc.

Step 3: Access the next level geography: Click on a specific area of the map to zoom into the next lower level of geographic area, offering a more detailed view of the performance metrics for lower-level geographies, as shown below.

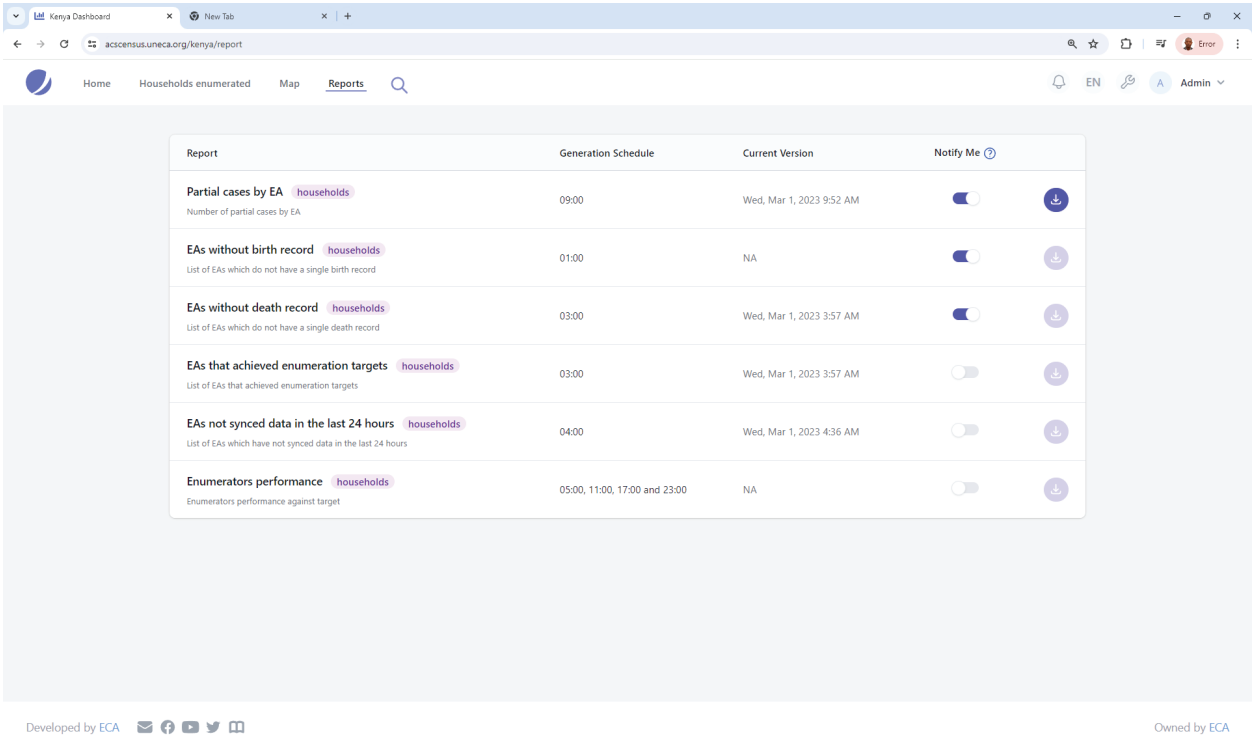
	Click this icon to return back to the higher geographic area .



2.6 Reports

The Reports section of the Dashboard provides census managers with detailed information, typically to complement the charts on the exercise pages. These reports are essential tools for tracking comprehensive details on various census operations.

Accessing reports: Clicking on the "Reports" item in the dashboard menu opens a list of available reports presented in a structured tabular format, as shown below.



Understanding the report table

The reports are organised in a table with key columns, each offering specific information:

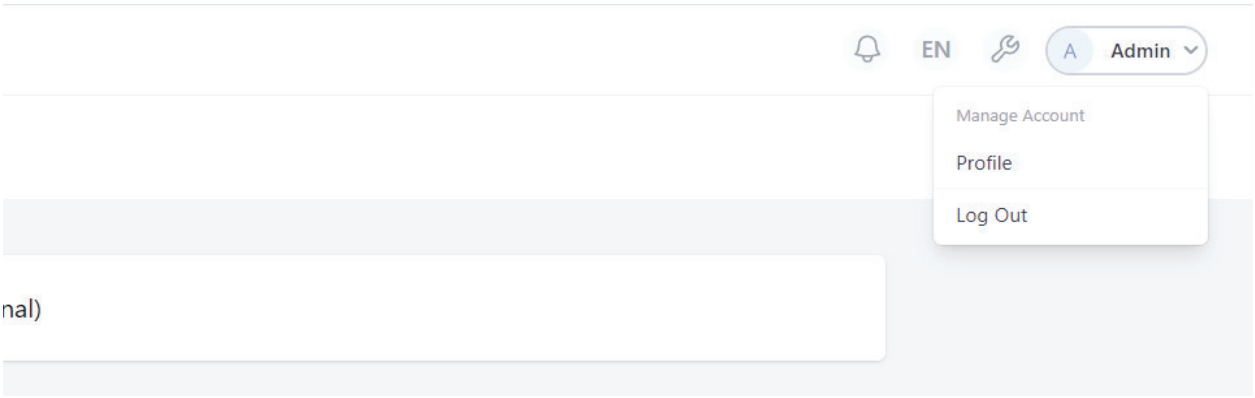
1. **Column one: Report details:** Displays each report's title and brief description. Highlights the source or the questionnaire from which the report data is derived.
2. **Column two: Schedule:** This column shows the scheduled time for each report's generation, aiding in planning and resource allocation.
3. **Column three: Latest version:** Indicates the most recent version of each report. If no reports have been generated yet, this column will display "N/A" (Not Available).
4. **Column four: Notifications:** This column features a switch to activate notifications when a new report is ready. Users are required to activate this switch if they want to receive notifications, ensuring they are promptly informed of new report availability.
5. **Column Five: Download reports:** Click the download icon to download the report. If the reports are not ready, the download icons will be greyed out to indicate unavailability.

This structure allows users to efficiently manage and access detailed census data, facilitating timely decisions and ongoing monitoring of the census process.

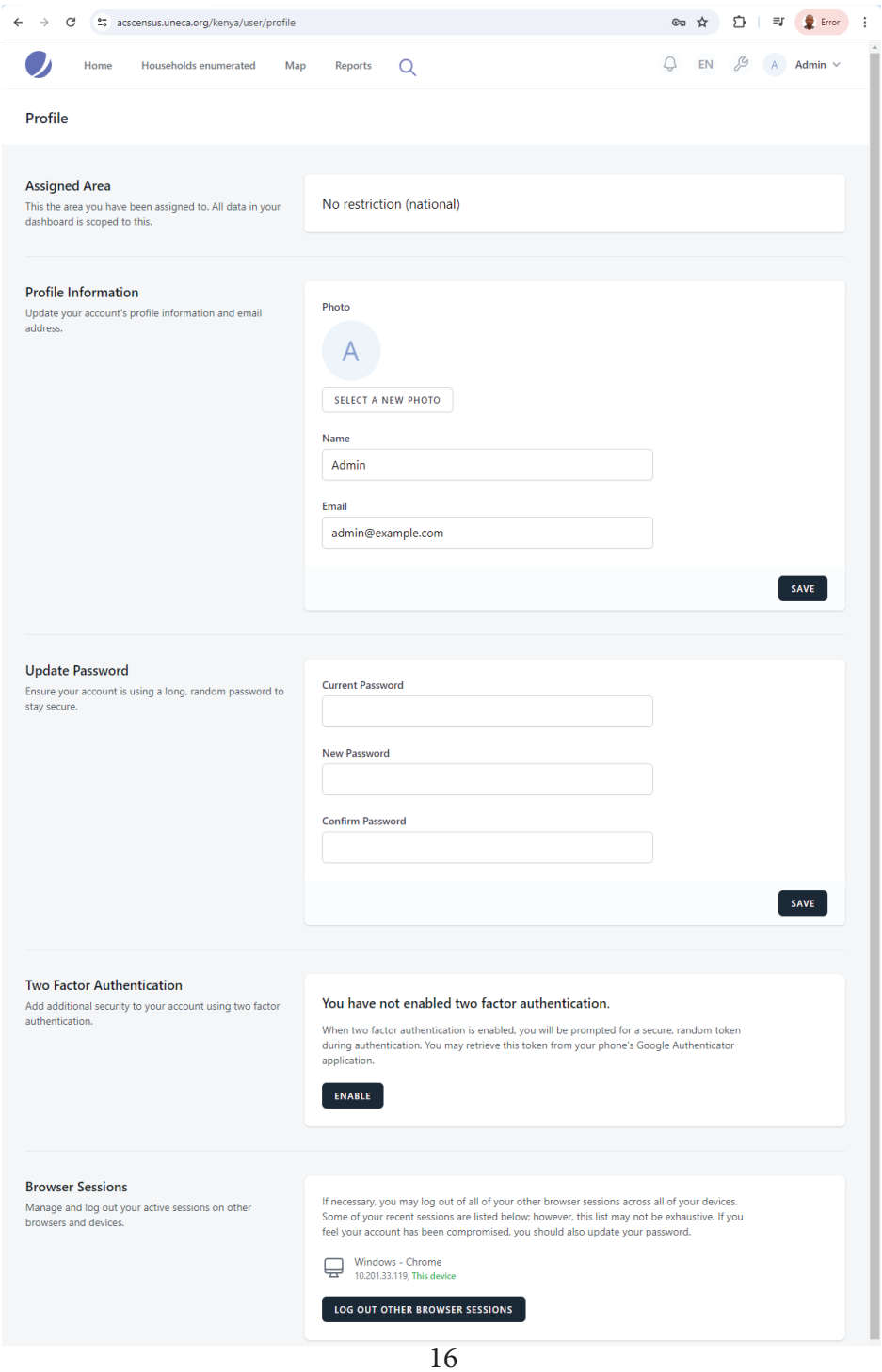
2.7 Changing Your User Profile

The system provides options to customise your user profile as well as option to make user account more secure through two factor authentications. Here are the detailed steps to modify your profile settings:

Step 1: Accessing your profile: Click on your name or icon at the screen's top right corner. A dropdown menu will appear, offering you to go to your profile page or log out from the current session.



Step 2: Open profile page: Click "Profile" from the dropdown menu. This will open your profile page as depicted below, where you can view and change your profile settings.



PROFILE PAGE SECTIONS

The profile page is organised into five sections, each serving a specific purpose:

a) **Section 1: Area assignment:** This section indicates a geographic area restriction applied to your account, defining where you can operate within the Dashboard.
b) **Section 2: Profile information:** This section displays your current profile picture, name, and email address. You can update your information and save the changes by clicking 'Save' button.
c) **Section 3: Password change:** To update your password, enter your current and new passwords twice to confirm accuracy. The system may enforce a password strength policy to enhance security.
d) **Section 4: Two-Factor Authentication (2FA):** Enhances the security of your account by requiring a second form of verification. Click the "Enable" button and follow the on-screen instructions to set up 2FA. This step is crucial if your device is shared or could be accessed by others.
e) **Section 5: Browser session management:** This allows you to view all active sessions and their geographic locations, allowing you to identify any suspicious activity using your account. Click "Logout other browser sessions" to terminate all other sessions except the one you currently use. This ensures that your account is secured against unauthorised access from different devices and locations.

By following these steps, you can effectively manage your profile, enhancing the personalisation and security of your dashboard experience.

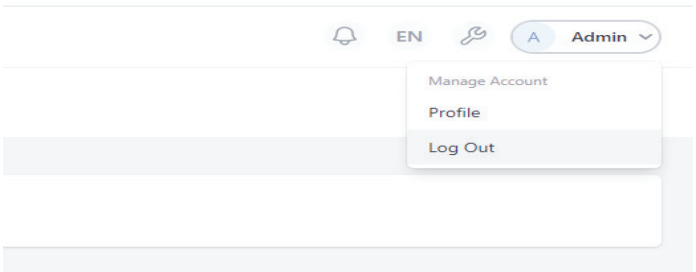
2.8 Signing out from the Dashboard

For enhanced security, it is recommended that you log out of the Dashboard when it is no longer in use. Logging out helps protect your account from unauthorised access, especially when using shared or public computer or devices.

Step 1: Click on "your name" or the profile icon at the screen's top right. This action will open a dropdown menu.

Step 2: Click the "Logout" option. from the dropdown menu.

These steps will securely log you out of the Dashboard, ensuring your data and access remain protected.

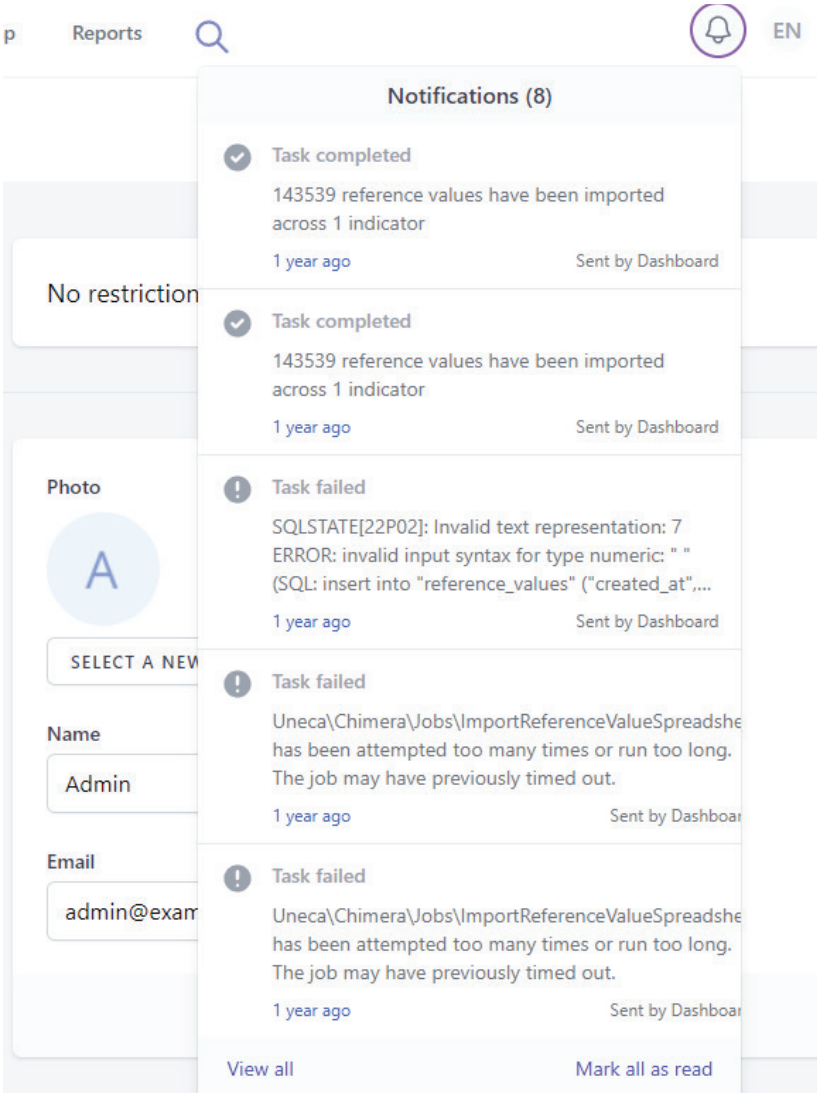


2.9 Notification and alerts

The Dashboard has a comprehensive notification system to update you on relevant issues and information. This feature ensures you stay informed about important updates and messages from the Dashboard's manager or other users.

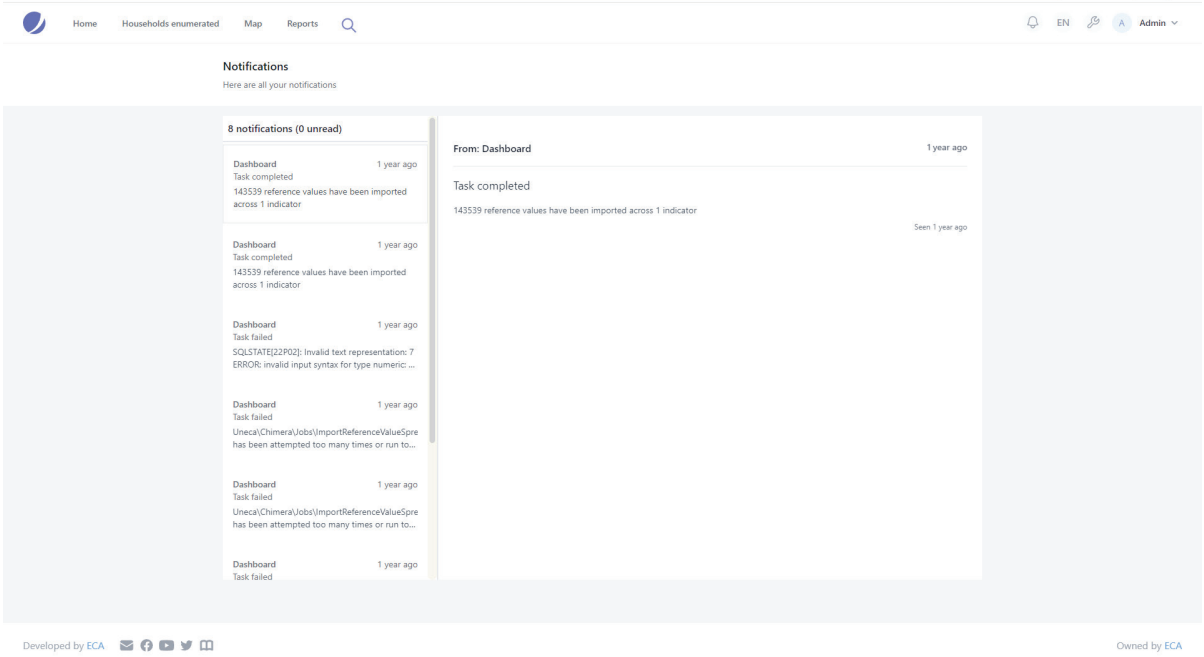
There are two types of notifications:

a) Email notifications: Messages are sent directly to your email inbox, ensuring you receive critical updates even when not logged into the Dashboard.
b) In-App notifications: These alerts appear within the dashboard interface and are indicated by a numeric badge on the bell icon, showing the number of new notifications.



Accessing notifications:

a) **To access the notification,** Click on the bell icon in the Dashboard's top right corner. A dropdown list will display all recent messages sent to you.
b) Click on a specific alert within the dropdown list to read more about the message.
c) Select the "View All" option to open a more detailed view, similar to an email inbox, where you can browse all received notifications.



EFFECTIVE USE OF THE DASHBOARD

The field monitoring dashboard's ultimate benefit lies in using results to improve the census's performance, coverage, and quality. To maximise the dashboard effectiveness, several proposals and suggestions can be made. Among them is regular monitoring of key indicators, enabling census managers to identify areas needing intervention swiftly. Establishing regular review meetings to analyse and discuss dashboard data helps identify trends. Secondly, a clear team structure with assigned roles and clear communication channels to staff on the actions and insights from the dashboard is essential to reach those who should take last action. The other aspect is knowing how to use the dashboard. This could be done through a comprehensive training session for all staff members managing the census on dashboard usage and interpretation of results.

3.1 Use of indicators for effective monitoring

The dashboard could have a plethora of indicators implemented on the data, lookups and metadata collected. However, not all indicators are critical for regular monitoring. Some indicators could be developed for information purposes. The following are the issues to consider for the effective use of the indicators:

a) **Define actionable indicators**: Effective monitoring starts with defining actionable indicators. These indicators can directly inform decisions and prompt action. For instance, indicators like average interview time, household and population counts, and EA not transferring data provide clear insights into how the census operations is progressing. Managers can quickly identify issues and take corrective measures by focusing on indicators like those that clearly reflect critical aspects of the process. Such targeted approach ensures that resources are used efficiently, and interventions are timely.

b) **Avoid data overload:** Although many indicators could be developed, it does not mean that everyone should investigate them all the time, which can quickly become overwhelming. Indicators could be distributed and delegated among various users. Assign specific indicators to teams or individuals who can focus on them in-depth. This makes the data more manageable and ensures that each indicator is given the attention it deserves. For example, one team could focus on performance while another analyses demographic data accuracy. Breaking down the workload prevents data overload and ensures a more thorough analysis.

c) **Focus on what is important:** Sometimes issues coming from the dashboard could be overwhelming and much to handle. However, not all problems can be addressed simultaneously, nor do they carry equal weight in the census operation. Prioritize indicators critical to the census's success. For instance, if data collection is lagging, this should take precedence over less impactful issues like minor data errors. Focusing on the most essential problems ensures that your efforts yield the most significant improvements. This prioritization strategy optimizes limited resources and maximizes the effectiveness of the enumeration period..

d) **Prepare for unforeseen problems:** Even with the best planning, unforeseen issues can arise during census operations. Having a team of analysts ready to mine the data for unexpected problems is crucial. These analysts can quickly identify anomalies that were not initially anticipated. By being

prepared to address unknown issues, you maintain flexibility and can adapt to new challenges, ensuring the census runs smoothly. The report page of the dashboard is for those analysts to dig deeper into the detail data whenever there is an anomaly dected.

e) **Train the users:** For the dashboard to be effective, the users who interact with it must be well-trained. This includes understanding how to interpret the indicators and take appropriate actions based on the data. Clear guidelines and documentation can help users navigate the data more effectively.

f) **Use it in for pilot census:** Conduct a pilot census using the dashboard with the defined indicators before the main census. This trial run allows you to test the effectiveness of your indicators and make necessary adjustments. Analysing the pilot data will enable you to identify gaps or weaknesses in your monitoring process. This proactive approach ensures that you have a robust system for tracking and improving operations when the actual census begins.

3.2 Actions for monitoring census operations

Effectively addressing issues that arise during census operations is critical for ensuring accurate and timely data collection. Here are some actions you can take when encountering common problems like slow progress or quality issues: Please note: These actions are among the many possible scenarios, intended to alert you and help you prepare for potential actions to take based on the dashboard results.

Actions for slow progress

a) **Recruit more field staff:** When census operations are lagging, you may need to increase field staff to boost productivity. Hiring additional staff or reassigning existing personnel to areas experiencing slow progress can ensure that more households are reached promptly. This approach speeds up data collection and helps cover hard-to-reach areas, contributing to more comprehensive and representative census data.

b) **Use overtime or work longer hours:** Extending working hours or allowing field staff to work overtime can help compensate for lost time. This strategy can be particularly effective when approaching tight deadlines. By maximising the time spent in the field, more data can be collected in a shorter period, ensuring that the census stays on track without compromising the quality of the data collected.

c) **Extend the length of your collection window:** Sometimes, the most effective solution is giving yourself more time. Extending the data collection period can relieve pressure on the field staff, allowing them to work more accurately. This additional time can ensure that all areas are thoroughly covered and that any initial non-responses are followed up.

Actions for quality issues

a) **Issue new instructions to field staff:** If quality issues are detected, issuing updated guidelines can provide field staff with the necessary information to correct the data collection and methods. Detailed instructions on common errors and best practices can significantly enhance the accuracy and consistency of the collected data.

b) **Re-interview:** Follow-up interviews can be an effective way to validate and correct initial data. By re-engaging with respondents, discrepancies can be identified and resolved, ensuring the final data is accurate. This step is essential for critical data points significantly impacting the overall analysis.

c) **Replace or deploy more field staff:** In cases where certain field staff are underperforming, replacing them with more qualified personnel may be necessary. Additionally, deploying extra field staff to areas with identified quality issues can provide oversight and support to improve data collection processes. This ensures that all interviews are conducted professionally and accurately.

d) **New communications:** Effective communication campaigns can play a crucial role in improving response rates and data quality. Launching new advertising initiatives can increase public awareness and understanding of the census, encouraging higher participation rates. Clear messaging about the importance of the census and participation instructions can lead to more accurate and comprehensive data collection.

e) **Fix in data processing:** Finally, data cleaning and validation could be the step to fix some of the issues. Implementing robust data processing protocols can help identify and correct missed errors during the initial collection. This process includes cross-checking responses, validating outliers, and correcting inconsistencies, which enhances the reliability and accuracy of the final dataset.

3.3 Proposed working arrangement

a) **Set up committees/boards/task teams with terms of reference:** Establishing dedicated committees, boards, or task teams is essential for streamlined for monitoring the census and use of the dashboard effectively. It is important to establish teams with a clear term of reference that outlines its purpose, scope, and specific responsibilities. For instance, a data quality committee might focus on ensuring the accuracy and consistency of the collected data. At the same time, a field operations board could oversee the logistical aspects of data collection. Clearly defined TORs help in setting expectations and provide a framework for accountability. These teams ensure that all critical areas of the census are monitored and managed by specialised groups with the right expertise.

b) **Meet regularly (daily) and predefine agenda with regular reporting:** Regular meetings are crucial for effective communication and issue resolution on the dashboard and the overall census operations. Daily meetings, preferably at the start of each day, help review the previous day's progress and plan for the current day. These meetings should have a predefined agenda to ensure they are focused and productive. Key points include reviewing progress on critical indicators, discussing any challenges faced by field staff, and planning immediate actions. Regular reporting during these meetings allows real-time issue tracking, ensuring problems are identified and addressed promptly. This continuous monitoring helps maintain momentum and prevents minor issues from escalating into major problems.

c) **Reporting by exception – focus on issues first (e.g. red):** Adopting a reporting by exception approach means focusing first on areas where significant deviations from expected outcomes are often flagged as 'red' issues on the dashboard. This approach prioritises critical problems that require immediate attention, ensuring that resources are directed towards resolving the most pressing issues. For instance, if a particular geographic area shows significantly lower response rates, this area would be highlighted for urgent intervention. By concentrating on exceptions, the team can address high-impact issues quickly, thereby maintaining the overall quality and efficiency of the census operations.

d) **Dashboard manager:** A dedicated dashboard manager (s) is/area essential for effectively using the monitoring dashboard. This person should be the primary point of contact within the office for all matters related to the dashboard. The dashboard manager's responsibilities include ensuring that the dashboard is user-friendly, meets the needs of its users, and provides accurate and timely data. They should regularly liaise with different teams to gather feedback and make necessary adjustments to the dashboard. Additionally, the dashboard manager should oversee training sessions for staff to ensure they are proficient in using the dashboard. This role is crucial for maintaining the dashboard's effectiveness as a central tool for monitoring and decision-making.

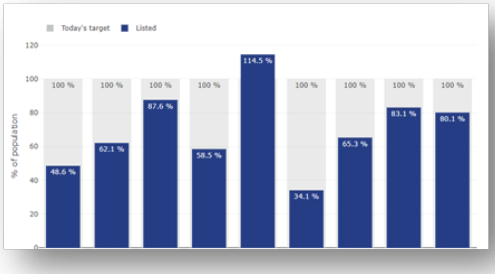
3.4 Target and expected values

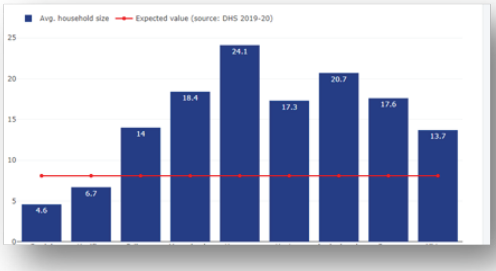
The dashboard indicators provide valuable insights, especially when there are clear expected values. These expected values serve as benchmarks against which performance and quality can be measured.

For performance indicators, such as those used during the listing phase, data collected from the mapping exercise—such as the number of households and population counts—can be used to gauge performance. During enumeration, the data from the listing exercise—number of households, population, and average household size—can serve as benchmarks to assess the progress and effectiveness of the enumeration process.

For quality indicators or demographic data like mortality ratios/rates, birth rate, sex ratio, and other implemented indicators, estimates or projections from sources like the last census, demographic, and health surveys (DHS), or demographic estimates and projections could be used. If such data are unavailable, estimates or projections from reputable international sources, such as the United Nations, can be used.

The target or expected value implementation could either be a constant value or vary across geographic areas. For example, the grey areas illustrate the different target performances across various regions, while the red horizontal bar represents a constant expected value across all areas.





Using these targets and expected values allows census managers to identify deviations and address issues promptly, ensuring that the census operations maintain high performance and data quality standards.