



2023/24 Kenya Housing Survey

Pilot Survey Report

December 2023

Forward

The 2023/24 Kenya Housing Survey (KHS) is designed to gather information and generate estimates for housing indicators in Kenya. The survey will target households and institutions engaged in housing development in the country. In addition, satellite images and aerial photographs will be analyzed to determine spatial changes in housing construction. The survey is being implemented by KNBS in collaboration with the State Department of Housing and Urban Development.

In line with international guidelines, it's recommended that a pilot survey be conducted prior to the main data collection exercise. The pilot survey is supposed to test the efficacy of the instruments, estimate the time and costs requirements and recommend ways to address challenges which may be encountered during the main field work. The Bureau undertook a Pilot Survey for 2023/24 KHS from 28th November 2023 to 7th December 2023. This report presents how the pilot survey was implemented, the survey logistics, key issues encountered and recommendations for the main survey.

The Kenya National Bureau of Statistics is grateful to all the households and institutions which participated in the pilot survey by providing the required data and information which made the exercise a success. Special thanks to all members of staff from KNBS and the State Department for Housing and Urban Development who gave valuable contributions in the preparation of survey instruments and during the pilot survey exercise. In addition, the Bureau wishes to express its gratitude to all stakeholders who played a critical role towards the implementation of the Kenya Housing Survey Pilot exercise through providing technical and financial support during planning, data collection and report writing. In particular, the Bureau is grateful to the World Bank for the financial support received under the Eastern African Regional Statistics Program for Results (EARSPforR) to undertake this activity.

Finally, my sincere appreciation goes to the Government of Kenya for providing an enabling environment for the Bureau to discharge its mandate effectively. I trust the information provided in this pilot survey report will lay a solid foundation for effectively implementing the Kenya Housing Survey beginning January 2024.

A handwritten signature in black ink, appearing to read 'Macdonald G. Obudho', with a stylized flourish at the end.

Macdonald G. Obudho, PhD, EBS, MBS

Director General

Table of Contents

Forward	i
Table of Contents	iii
Chapter 1: Introduction	1
Chapter 2: Scope and Coverage	5
2.1. Survey Scope and Coverage	5
2.2. Survey Instruments	5
Chapter 3: Sample Design and Size	6
3.1. Reasons for Sample Selected	6
3.2. Sample Size	9
Chapter 4: Pilot Survey Implementation	10
4.1 Distribution of Households and Institutions Covered (Response Rates)	10
4.2 Pilot Survey Personnel.....	10
4.3 Cluster Identification and map use	10
4.4 Data Collection	12
4.5 Questionnaire Design and updates after pilot.....	13
4.6 Data Entry.....	16
4.8 Quality of Fieldwork	17
Chapter 5: Logistics	19
5.1 Team Composition	19
5.2 Communication	19
5.3 KNBS County Staff Roles.....	19
5.4 Coordination of NGAOs.....	19
5.5 Quality and Adequacy of Transport	19
5.6 Budget.....	20
5.7 Access to Households and Institutions	20
Chapter 6: Challenges and Recommendations.....	21
APPENDICES	24
Appendix I: Questionnaires	24

List of Abbreviations

KNBS	Kenya National Bureau of Statistics
KHS	Kenya Housing Survey
NSS	National Statistics System
SDHUD	State Department for Housing and Urban Development

Chapter 1: Introduction

1.1. Background

The Kenya National Bureau of Statistics is mandated to collect, analyse and disseminate official statistics in line with international standards and methods. These statistics are mainly used to inform national economic planning processes on a regular basis. In this regard, the bureau is supposed to develop and maintain a national housing database, as well as conduct housing censuses and surveys in liaison with other government ministries, counties and agencies and the private sector.

The housing sector plays an important role in the social and economic growth and development of an economy. Kenya Vision 2030 recognizes housing under the social pillar; as a critical contributor to the Country's Gross Domestic Product (GDP). This contribution can only be measured through housing statistics that present a comprehensive analysis of housing in Kenya, thus allowing data-driven decision making at all levels of government.

Despite these challenges in ensuring timely collection of housing data, the Bureau has over the years routinely included the housing component in the national censuses of 1989, 1999, 2009 and 2019 in compliance with the United Nations recommendations of 1988. While housing data emanating from these censuses are vital in providing benchmark statistics, they are however deficient in detail to facilitate certain conclusions and decisions. As such, the Bureau in collaboration with then Ministry of Housing carried out the first National Housing Survey in 2011/12; which established a baseline for continuous updating and improvement of data to ensure credibility. The subsequent surveys were to be done after every five years, meaning that the second survey should have been done in 2017. However, due to budgetary constraints, this was not done.

In undertaking its mandate, KNBS has planned to undertake the 2023/24 Kenya Housing Survey (KHS). The survey intends to gather information and generate estimates for key housing indicators in Kenya. The scope of KHS will include collecting information from households, residential housing developers, housing regulators, housing financiers and the built environment professionals. In addition to the data collected through the survey, satellite images and aerial photographs will be analysed to determine spatial changes in housing construction between the years 2018 and 2022. The Survey is also one of the key activities under Eastern Africa Region Statistical Program for Results (EARSForR).

It is also standard practice for the bureau to add survey modules that collect individual statistics from household members that would otherwise require a standalone survey. In line with this practice the Kenya Housing Survey will include a child labour module that will generate key statistics on paid and unpaid work undertaken by individuals below 18 years of age.

In addition, the survey will include a real estate module in the institutional questionnaire. The main objective of the Real Estate module will be to collect statistics on purchase, sale and value of rental buildings in Kenya. The Module will also collect information on fees and overheads charged against various Real estate transactions by agents and brokers.

The primary objective of the 2023/24 Kenya Housing Survey is therefore to gather information and generate estimates for key housing indicators, child labour indicators and Real Estate Indicators in Kenya.

The specific objectives of the 2023/24 Kenya Housing Survey are to provide: -

- i. Statistics on individual developers from household perspective, Institutional developers and information on housing characteristics developed.
- ii. Data on housing finance which will be collected through the financiers' module.
- iii. Statistics on Proportion of population living in informal housing and other indicators on low-cost housing demand.

- iv. Institutional regulators opinions on effectiveness of various housing regulations instituted.
- v. Up to date statistics towards the attainment of Sustainable Development Goals (SDGs) 1, 7 and 11 indicators related to housing.
- vi. The status of infrastructure and services for housing development as at 2022.
- vii. Proportion of Individuals aged 5-18 years who engaged in an economic activity 7 days prior to the survey date.
- viii. Characteristics of primary jobs of individuals aged 5 years and above.
- ix. To collect and collate real estate statistics on Kenya's to bridge the existing data gap on house prices.
- x. To meet international, regional (EAC) and domestic requirements on compilation of real estate statistics.
- xi. To update KNBS statistics business register.

In line with international guidelines, it's recommended that a pilot survey be conducted prior to the main data collection exercise.

Objectives of the Pilot Study

The Kenya National Bureau of Statistics subscribes to international standards and best practices in statistical production. One of the international best practices is for a pilot survey to be undertaken prior to undertaking full-scale survey. A pilot survey is a critical process in the Build phase of the Generic Statistical Business Process Model (GSBPM) which entails a small-scale data collection, to test the collection instruments, followed by processing and analysis of the collected data, to ensure the statistical business process performs as expected.

The main objective of the pilot exercise is to test the proposed design, survey instruments and logistics. The specific objectives of Kenya Housing Survey pilot exercise are: -

- i. Identify and address issues in the pilot study in order to reduce errors and risks in the main study. This increases the reliability and validity of the main study's results.

- ii. Assess the practicality and feasibility of the main study
- iii. Test the efficacy of 2023/24 KHS instruments
- iv. Identify and address any logistical problems
- v. Estimating the time and costs required for the survey
- vi. Determine the resources requirements (financial, human and transport) needed for the study
- vii. Identify the data collection issues that affect data quality
- viii. Pre-test the interview format.
- ix. Test the practicality of undertaken a labour module and Real estate module together with a housing survey.

Chapter 2: Scope and Coverage

2.1. Survey Scope and Coverage

The Kenya Housing survey will employ a cross-sectional survey design. The household survey component is designed to provide housing survey Indicators at National, Rural, Urban and County level domains while the institutional survey component will provide indicators at the National level only. The housing survey component will also provide labour indicators at the National level. The scope of the survey is limited to collecting data on housing and individual characteristics using a structured household and 4 institutional questionnaires. The survey excludes physical inspection and measurement of buildings. All data collected is in reference to residential dwelling units and will reference a 5-year period preceding the survey date.

The Pilot Survey scope remained mainly the same, testing the efficacy of the instruments. However, Pilot Survey coverage was limited to a purposively selected sample that tested a number of logistical/administrative issues as outlined in chapter 3.

2.2. Survey Instruments

The Survey piloted all instruments designed for data collection in the Kenya Housing Survey. The questionnaires piloted included;

1. Household questionnaire.
2. Institutional questionnaire.
3. Institutional and Regulators questionnaires covering;
 - a. County Governments
 - b. National Environment Management Authority
 - c. Water Sewerage and Sanitation providers
4. Built environment Professionals Questionnaire.

The Survey instruments are as attached in Appendix 1.

Chapter 3: Sample Design and Size

3.1. Reasons for Sample Selected

Household Pilot component; The pilot survey tested the process of identification of households to be interviewed in the survey. 14 clusters were selected on the basis of;

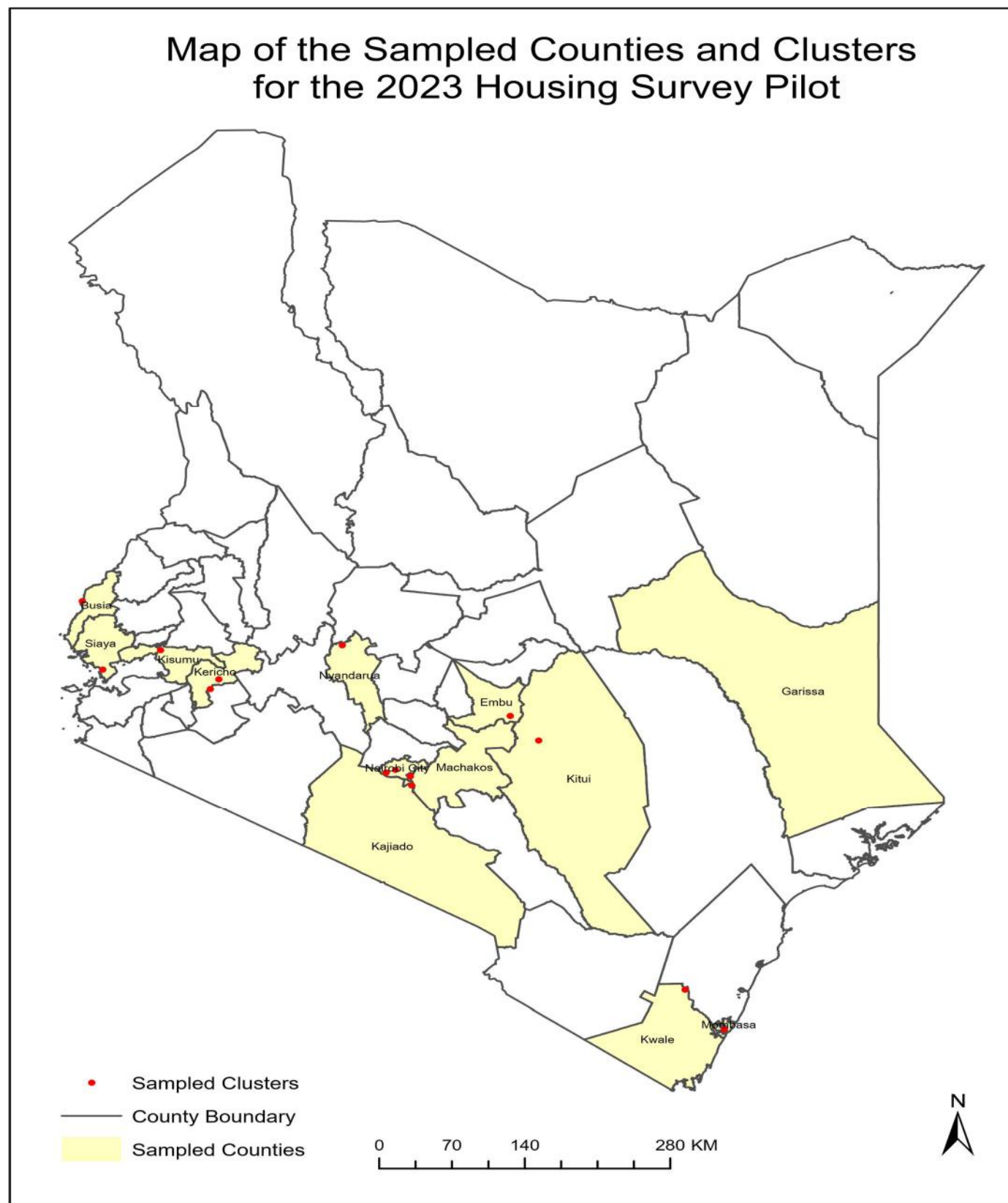
- i. Regional balance
- ii. Social Status (Wealth quantiles)
- iii. Residence (Urban/ Rural)
- iv. Age of dwellings (Built Up)
- v. Border counties
- vi. Areas with high rates of child labour

The pilot clusters used the KHMSF frame and the selected clusters will not be part of those to be covered during the main survey. The selected clusters were distributed as follows;

0	REGION	CATEGORY	RESIDENCE	NO. OF CLUSTER	COUNTIES	Reason for sampling
1	Rift valley	Farming county	Rural	1	Kericho	Testing access to employer provided housing
			Urban	1	Kericho	Testing Urban household characteristics outside Nairobi
		Age of Dwelling	Urban	1	Kajiado	Testing Nairobi Metropolitan area growth nodes and upcoming urban areas
2			Built up	1	Kisumu	Testing Built up levels in cities
	Nyanza	Child labour	Rural	1	Siaya	Testing level of child labour participation in areas where fishing is prominent

3	Eastern	-	Urban	1	Machakos	Testing modules on mortgage financing and construction loans
		Child labour	Rural	1	Embu	Testing level of child labour participation in areas where Miraa growing is prominent
4	North eastern	Asal	Rural	1	Garissa	Testing the ease of locating pastoral communities
5	Western	Border county	Urban	1	Busia	Testing housing characteristics differentials in border areas
6	Nairobi	Social status	Urban	1	Nairobi	Testing access to households in high end urban areas
		/ Wealth quantile				Testing access to households in middle income wealth quintile categories in urban areas
7	Coast	Social Status	Urban	1	Mombasa	Testing Land tenure module in low income urban clusters
		/Land Tenure				
		Low income Rural Households	Rural	1	Kwale	Testing ease of identifying households in urban informal settlements.
8	Central	Age of Dwelling	Peri Urban	1	Nyandarua	Testing level of built up areas in upcoming municipalities
				14	12	

Map of Sampled Counties and Clusters for the 2023 Housing Survey Pilot



Institutional Pilot component; A total of 278 institutions were selected for the pilot survey. The institutional questionnaire was administered to cover the developers/contractors who are involved in development of residential housing. The developers sampled in the pilot exercise will not be part of the Main Survey data collection. The developers were sampled from smaller institutions in the larger frame. A sample of 10 real estate firms were also included in the pilot sample for testing the real estate module.

3.2. Sample Size

Household Component; The household sample size for this pilot survey was 280 households distributed across 14 clusters as indicated in the table below. The sample size was mainly determined by the number of clusters selected based on the above mentioned selection reasons and the determination that 20 households per cluster will be covered in the housing survey.

Institutional Component; All teams were allocated 278 institutions/developers to administer the institutional questionnaire to; 268 contractors, 10 real estate firms and 10 Financiers were sampled for the survey to test all institutional survey questionnaires.

	COUNTY	TEAMS	CLUSTERS			HOUSEHOLD	
			Rural	Urban	Rural	Urban	Total
1	Kericho	1	1	1	20	20	40
2	Kajiado	1		1		20	20
3	Machakos			1		20	20
4	Kisumu	1	1		20		20
5	Siaya		1		20		20
6	Busia	1	1	1	20	20	40
7	Nairobi	1		2		40	40
8	Embu	1	1		20		20
9	Nyandarua		1		20		20
10	Kitui	1	1		20		20
11	Mombasa	1		1		20	20
12	Kwale		1		20		20
		8	7	7	140	140	280

Chapter 4: Pilot Survey Implementation

4.1 Distribution of Households and Institutions Covered (Response Rates)

Households

A total of 280 households were sampled for the Pilot survey in the 12 Counties. 228 households were found and interviewed. The response rate was 81.4 per cent.

County	Household Found/Completed	Sampled Households	Response Rate %
BUSIA	17	20	85
EMBU	20	20	100
KAJIADO	18	20	90
KERICHO	30	40	75
KISUMU	18	20	90
KITUI	20	20	100
KWALE	17	20	85
MACHAKOS	16	20	80
MOMBASA	15	20	75
NAIROBI CITY	19	40	47.5
NYANDARUA	18	20	90
SIAYA	20	20	100
Totals	228	280	81.4

Institutions

The institution questionnaires sampled were in total 278. The list comprised of Developers:10, Contractors: 240, Real Estate:21, and Financiers:10. The response rate for institutions was 25.5 per cent, with a total of 102 institutions being found.

4.2 Pilot Survey Personnel

A total of 14 Supervisors, 42 Interviewers and 28 Coordinators participated in the pilot data collection exercise. The names and designations of the participants are as attached in Appendix II.

4.3 Cluster Identification and map use

The success of survey data collection is heavily dependent on the accurate identification of target households. In the recent housing pilot survey, the cartography team

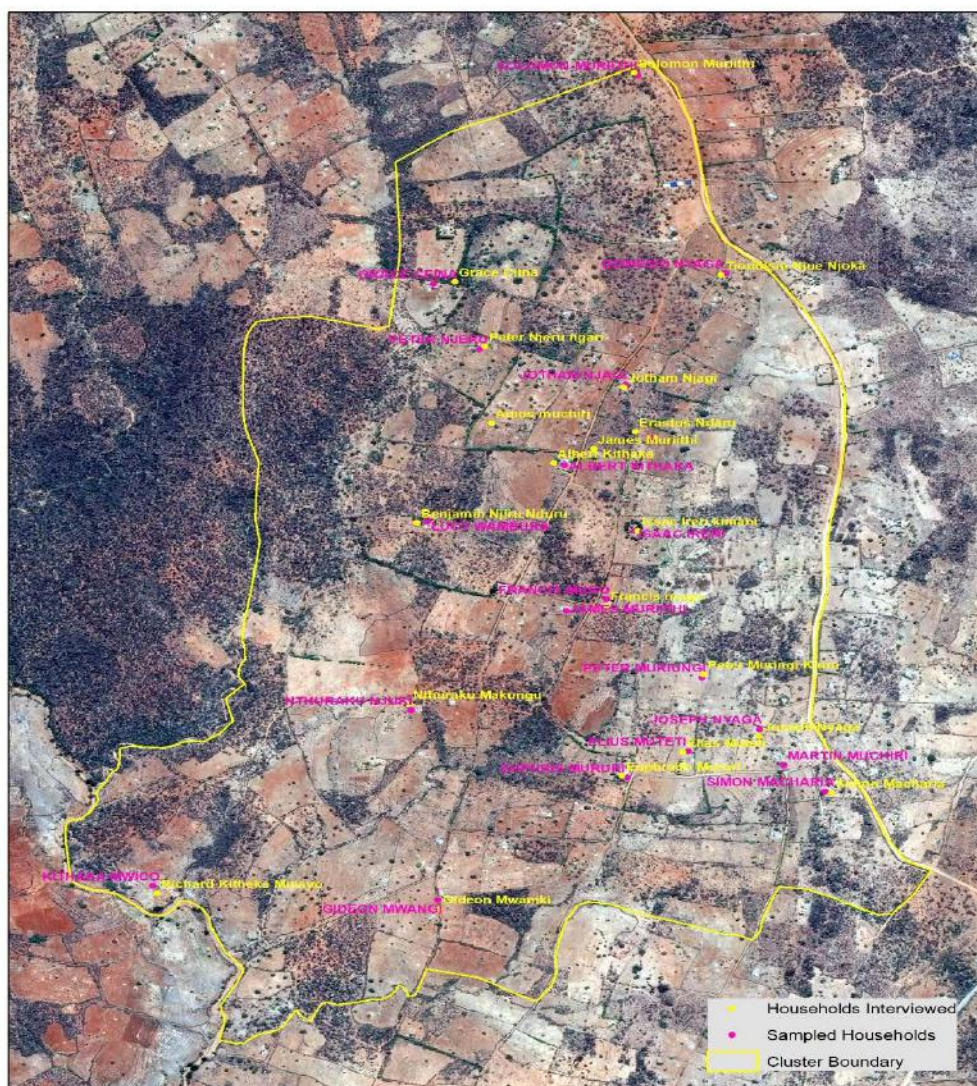
implemented a strategy utilizing interactive maps to enhance the precision and efficiency of cluster location and household identification.

Field teams were equipped with interactive maps tailored for each selected cluster. These maps featured essential functionalities such as;

- i. Zooming
- ii. Panning
- iii. Locator (to pinpoint the exact location within the map)

The maps had a centroid to guide teams, facilitating precise navigation to the selected cluster.

The image below displays a map of a cluster in Embu with Sampled and interviewed household presented in one image.



4.4 Data Collection

The Pilot fieldwork for the 2023/24 Kenya Housing Survey took place between the 28th of November 2023 to the 7th of December 2023, a period of 10 days. Each field team was assigned 2 clusters for the housing questionnaire and a list of institutions to administer the institutional questionnaire. Furthermore, the field teams also administered the Institutional & Regulatory Framework Questionnaire (to County Govts, NEMA county offices, & county WSSPs) and Built Environment Professionals Questionnaire (for Architects, Quantity Surveyors etc.)

On average, each team took a period of 2.5 days to complete a cluster. The duration varied for urban and rural clusters with the former prioritizing weekends for callbacks. For

a full breakdown of the coverage for each team see the response rates section of this report.

Interviews for the household questionnaire were conducted exclusively using Computer Assisted Personal Interviews (CAPI). However, for the Institutional questionnaire, some of the respondents requested for a hardcopy version that would be filled by the relevant personnel at their convenience and collected by the survey personnel at a later date.

Each of the eight survey field teams consisted of research assistants and supervisors as the core team for data collection. A field team consisted of one supervisor and three research assistants (RAs). Each team was attached to coordinators who supported the team in technical, logistics and team management issues. At the county level, each team was facilitated with a driver, a team vehicle, and a KNBS county statistical assistant to guide the personnel in locating and accessing the sampled households using the GPS locator System. In addition, the National Government Administrative Officers provided logistical support at the local level through the Chiefs and Assistant Chiefs by identifying and assigning the team capable village elders for each sampled cluster.

Fieldwork coverage was monitored using a web-based dashboard hosted on the KNBS server that provided real-time status updates for all the teams with regards to the households covered versus those assigned and aided in the timely identification and resolution of challenges that the field teams might have been facing.

4.5 Questionnaire Design and updates after pilot

1. Household Questionnaire

Modules covered are Demographics, Housing amenities and Characteristics, Environment and Location, Transport, Disability, Land Ownership, Housing Ownership and Child Labour.

2. Institutional Questionnaire

Covers general particulars of institutions and project specific questions. This questionnaire was administered to Contractors, Developers, Real Estate Agents and Housing Financiers.

3. Regulators Questionnaires

These questionnaires were administered to County Government, NEMA offices in the county, and Water Service providers based in the Counties.

4. Build Environment Professionals Questionnaire

The questionnaire was administered to Quantity Surveyors, Planners, Architects and Engineers.

All the 2023-2024 Kenya Housing Survey Questionnaires were programmed using the Survey Solutions software enabling the use of CAPI (Tablets were used in data collection). Questionnaire design in the system was based on the hard copy questionnaires. Skip patterns were done automatically by the program based on the answer options picked. Validation checks to ensure consistency have also been put into place to ensure quality data was collected. The system also allows for unique features like: Gps collection, time of interview, data quality checks for supervisors where they can access the questionnaire and either approve or reject the interviews.

The questionnaire was assigned to the supervisor who then assigned them to the Research Assistants. Each assignment is based on the unique structure and housing unit numbers. The flow of the questions is determined by the answers given by the respondent. The survey solutions program allowed for the interviewer to skip questions as it filters questions based on relevance. In the Housing questionnaire it filters based on age for Education, Labour, ICT and Child Labour.

On average the Household questionnaire took 2hrs 30 minutes, the institution questionnaire took 5 hrs for an institution with at most two projects, the regulatory questionnaires took 7 hours to a day plus given that a hard copy was left with the institution and data entry was done later. The period depended on the completeness of information which necessitated going back to the respondent. (This is based on the two counties that managed to fill this data).

Updates to the Questionnaires after pilot exercise

CAPI (Professional)

- i. For the Professional Questionnaire, the CAPI system was updated to incorporate the 'status options' as it is in the Household and Institution Questionnaire e.g. not found, Refusal, etc.

Architects module in built environment questionnaire

- i. Prof 4 was updated to include the none option.
- ii. Prof 10,17,18 & 22 were changed to multi-select type questions.

Institutional questionnaire

- i. For the developers and(or) contractors doing alterations or renovations, the questionnaire was updated to not apply questions on new buildings to them.
- ii. The real estate module was updated to apply to developers only.

Valuers module in built environment questionnaire

- i. It is a challenge for valuers to calculate the cost of construction for residential units since they value per square foot, and they have undertaken many projects within the reference period.
- ii. It is a challenge to calculate the cost of the project inclusive of land since parcels vary according to location and they have many projects.
- iii. For commercial buildings, it is a challenge to estimate the cost of construction since the plinth area per unit differs.
- iv. In the institutional and professional questionnaire, an error warning persists when inputting government, private, or foreign shareholdings. This was updated by removing the logic check that was giving the error message.
- v. Land size in was updated have a decimal point and at least(minimum) options to avoid recording errors.

Households

- The completion prompt for employment/labour questions was updated to apply only to individuals who were engaged in economic activities 5 days prior to the survey.

4.6 Data Entry

Given that some institutions requested for a hardcopy of the questionnaire to fill at their convenience and collected at a later date, this required the filled data to be transferred by the responsible research assistants from the paper questionnaire to the CAPI device. During the debriefing, field teams reported that this exercise of transferring data took an hour on average, but also posed some challenges such as:

- i. Respondents did not observe the logic/skip patterns as indicated in the questionnaire resulting in callbacks to the firms for further clarifications.
- ii. Some response fields (including required fields) were left unanswered by the respondents and required callbacks to fill the gaps.
- iii. The questionnaire's formatting was not optimized for written responses resulting in some of the information not being legible or exhaustive.

4.8 Quality of Fieldwork

The Quality of Fieldwork is encompassed on ensuring data collected is reliable, unbiased and a good representation of the target population. To ensure that all these requirements were met, the following measures and actions were taken;

Training of the pilot survey personnel – the staff selected to undertake the pilot exercise were thoroughly trained on the various survey instruments for a period of 12 days. The training entailed going through the hard copy questionnaire alongside the manual before embarking on the soft copy questionnaire in the CAPI system.

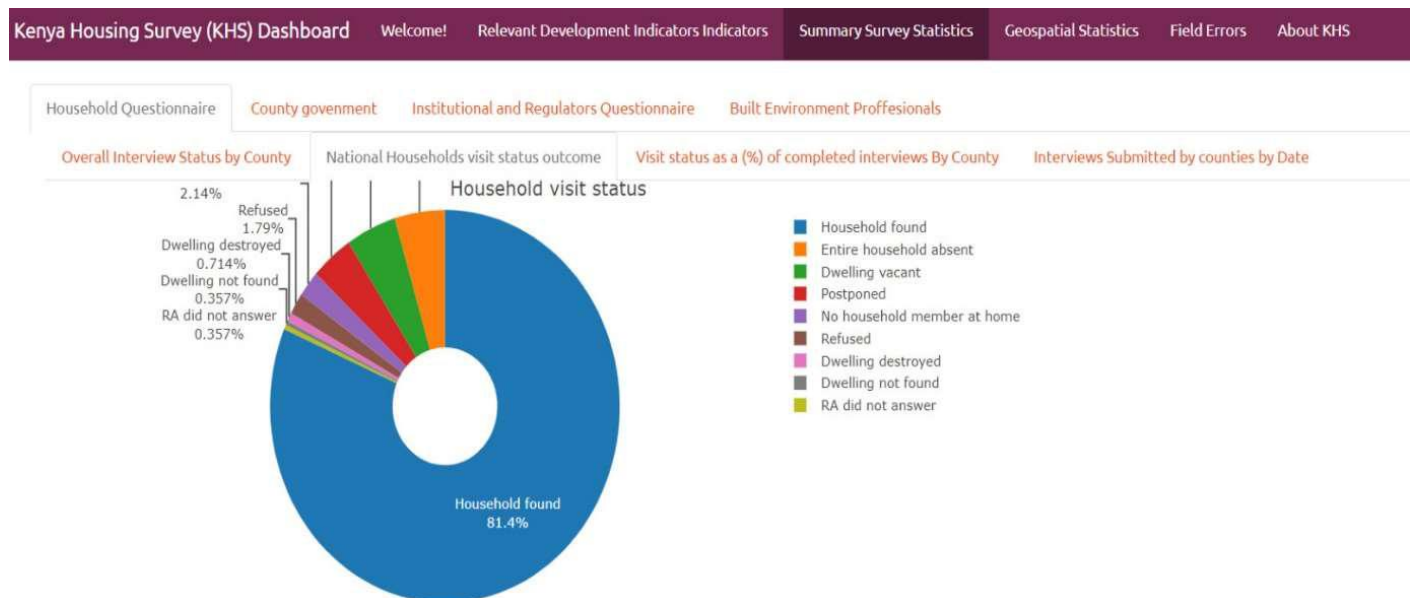
The survey personnel were also taken through various interviewing techniques to improve on their communication with the respondents. Good communication improves on quality of data and coverage status.

Run checks ahead of time -During the CAPI training, all issues identified in the questionnaires were rectified. A pre-test exercise was undertaken for both the household and the institutional questionnaire in preparation for the pilot exercise. All teams gave a brief report of the pre-test, and all issues reported were addressed.

Implementation of automated quality checks- The CAPI system was programmed to automatically enable quality checks from within the system. Error windows popped up on sections where the interviewers entered data that was illogical, thus forcing the interviewer to review the answers for that question/ section. The system also didn't allow the interviewer to proceed until mandatory fields were filled.

Development and monitoring of the dash board-The CAPI implementation team had developed a dashboard for data being collected from the main; considering the coverage for both complete and incomplete interviews and highlighting areas that needed attention. The dashboard also incorporated the cartographic maps and showed how picked GPS mapped on the sampled clusters, and any points that mapped incorrectly outside the clusters and any unpicked locations of sampled households. The dashboard is able to download status reports that can be shared with the supervisors to

correct any mistakes in their teams. The following screenshots present some highlights from the pilot survey dashboard.



Chapter 5: Logistics

5.1 Team Composition

The pilot teams, consisted of five people that is the Supervisor (Team Lead), three Research Assistants and a Driver. The teams demonstrated effective teamwork crucial for the success of the housing survey. The coordinators and supervisors (team leaders), who were KNBS staff with experience in conducting surveys, ensured a unified objective and synergy in the execution of the pilot survey. County-level support from KNBS County officers and collaboration with the County Government further contributed to the success of the pilot exercise.

5.2 Communication

Effective team communication played a crucial role in the success of the pilot housing survey. Daily briefings and group messaging facilitated seamless information flow. Airtime was provided to the field teams for ease of communication. To further enhance communication, it is recommended to explore and implement a dedicated communication platform for real-time data, quality team that will updates errors.

5.3 KNBS County Staff Roles

The support provided by County Staff, particularly statistical assistants assisting in locating households, was commendable. However, minor delays in response time occurred when immediate assistance was needed due to staff engagements in other activities. To address this, optimizing communication channels and ensuring dedicated staff availability during critical survey phases is suggested.

5.4 Coordination of NGAOs

Coordination with National Government Administrative Officers (NGAOs) contributed to smooth collaboration in community engagement. To enhance this collaboration, it is recommended that regular consultative meetings be held to ensure smooth coordination of the main survey. These meetings will prove beneficial in addressing emerging issues, such as changes in Village elders, particularly in urban setups.

5.5 Quality and Adequacy of Transport

Transport logistics were generally satisfactory. However, in anticipation of unforeseen breakdowns, it is recommended that a backup vehicle be readily available. The allocated vehicles should be of good quality and serviced before the fieldwork. Thorough consideration of fuel allocations is also suggested to prevent disruptions in the survey process.

5.6 Budget

Financial management adhered to the budgetary framework during the pilot survey which ensured efficient resource utilization. A review of fuel allocations and timely disbursement is advised to optimize fieldwork operations.

5.7 Access to Households and Institutions

Access to households was generally smooth, but challenges were encountered when gaining entry to some institutions. Issues included closures, relocations, and requirements for official letters. To improve institutional access, it is recommended to establish prior communication channels, especially for institutions with specific entry protocols.

Chapter 6: Challenges and Recommendations

During the pilot survey, specific challenges emerged that require attention before the main survey. Key considerations include the duration of interviews, selection of establishments, allocation of work to enumerators, targeting SACCOs for the Financiers' Module, engagement with professional associations, procurement of materials, publicity methods, quality assurance, and preparation of cluster maps.

Addressing these challenges is crucial to ensure efficiency and success of the main housing survey. Below is a summary of challenges and recommendations:

S/NO	CHALLENGES	DETAILS	RECOMMENDATIONS
1	Institutions with many projects	Institutional questionnaire proved lengthy if the institution has many projects	Have a dedicated team to handle institution questionnaire
2	Selection of institutions	It was difficult to locate many contractors during the pilot survey.	Engage with the National Construction Authority (NCA) and other relevant bodies for an updated list of contractors. Distinguish between large and small contractors.
3	Allocation of work to enumerators	Allocate different enumerators to household and institutions questionnaires	Identify enumerators to handle institutional survey questionnaires different from the ones handling household questionnaires in major towns.
4	Financiers' Module	For SACCOs, it's better to target the ones dealing with housing projects.	Consult SASRA and housing cooperation for a comprehensive list by County. Establish a way for contacting banks for interviews.
5	Professionals Questionnaire	Notify IQSK and other professional associations about the survey.	Engage IQSK and other professional associations for awareness and sample identification.
6	Procurement of materials	Reflector jackets were not provided during the pilot survey	Ensure timely availability of reflector jackets
7	Publicity	Publicity and advocacy was not done.	A team set aside responsible for undertaking publicity tasks. Proposed methods include a launch, communication through associations, TV ads, county sensitization, and household-level publicity.

8	Quality Assurance	Appoint a team to check on the data quality during the field work.	Establish a dedicated quality assurance team.
10	Cluster maps	Hosting of cluster map in the tablet.	Provide a separate tablet with maps for statistical assistant at the county office
11	Cluster Identification	Statistical assistant need training	Conduct training on cluster and household identification .
12	Use of Hard copy questionnaires	There were some data gaps in the hard copy questionnaires	Discourage the use of hardcopy questionnaires and priority be given to CAPI
13	Communication	Real-time communication	Have a dedicated communication platform for real-time updates and efficient collaboration

Lessons learnt from the pilot survey and resolutions taken to improve quality of main survey data collection

1. From the pilot exercise, it was clear the average interview duration for a household questionnaire inclusive of the labour module is two hours and thirty minutes. Given the resources available and the domain of analysis for indicators required, the household component sample size was reduced from 29,240 households to 25,900 households.
2. The average interview duration for an institutional questionnaire in a firm with 5 projects or more was five hours. It was resolved that the financiers' module in the institutional questionnaire be put as a separate questionnaire.
3. Given the challenge of locating developers sampled in the pilot, it was resolved that the universe of the population of developers shall be inclusive of all firms registered with the National Construction Authority level 1 to 4 and all developers registered with Kenya Property developers' association.
4. The workload analysis from the pilot revealed that to cover the entire sample, each team would require 60 days of data collection to complete all households sampled.

In Nairobi 7 teams will be added to cover institutions/developers, real estate firms and regulators.

5. It was resolved that the locator/household identification system will be assigned to KNBS county staff who will act as cluster guides. The guides will undergo a two-day training during the main survey training on the system and will assist the field teams in identifying sampled households.

APPENDICES

Appendix I: Questionnaires

[Survey Instruments](#)

Appendix 2: Pilot Survey Participants

SNo.	Participant Name	Survey Designation
1	Isaac Ndegwa	Technical Coordinator
2	Stephen Ngugi	Technical Coordinator
3	Stephen Kakungu	Technical Coordinator
4	Peter Nyariwo	Technical Coordinator
5	Ruth N. Wekesa	Technical Coordinator
6	Gladys Mbaluku	Technical Coordinator
7	Tabitha Wambui	Technical Coordinator
8	Lilian Onono	Technical Coordinator
9	Alinoor Hussein Hapicha	CAPI Coordinator
10	Maureen Odhiambo	CAPI Coordinator
11	Silvester Maingi	CAPI Coordinator
12	Samuel Mwenda	CAPI Coordinator
13	Jim Kirimi	CAPI Coordinator
14	Linah Ngumba	CAPI Coordinator
15	Yvonne Chebet	CAPI Coordinator
16	Christine Magu	Sampling Team
17	Edwin Metto	Sampling Team
18	Newton Amugune	Sampling Team
19	Benson Kaboro	Sampling Team
20	John Otieno	Cartographer
21	Christine Baranya	Cartographer
22	Peter Muthama	Cartographer
23	Mathew Mburu	ICT Support team
24	Fridah Katua	ICT Support team
25	Januaries Muli	ICT Support team
26	Samuel Wanjohi	Supervisor
27	Doris Syombua	Supervisor
28	Isaac Otachi	Supervisor
29	Pheunus Buluma	Supervisor
30	Cynthia Mulee	Supervisor
31	Felix Juma	Supervisor
32	Osman Ahmed	Supervisor
33	Rose Kamau	Supervisor
34	Kevin Chepkwech	Interviewer
35	Vincent Kemei	Interviewer

36	Cynthia Kiptoo	Interviewer
37	Miriam Khakasa	Interviewer
38	Janet Nalomito	Interviewer
39	Pauline Wanjiru Kamau	Interviewer
40	Dedan Otieno Ogutu	Interviewer
41	Brian Odhiambo	Interviewer
42	Duncan Okoth Auma	Interviewer
43	Julius Ochanda	Interviewer
44	David Okoth	Interviewer
45	Bonventure Osundwa	Interviewer
46	Archibald Gacheru	Interviewer
47	Cynthia Njeri	Interviewer
48	Victoria Githendu	Interviewer
49	Monica Mugure	Interviewer
50	Benson Muroki	Interviewer
51	Mohamed Abdihakimi	Interviewer
52	Mohamed Dubani	Interviewer
53	Aisha Razik Said	Interviewer
54	Christopher Obuchere	Interviewer
55	Alice Mwendwa	Interviewer
56	Kelvin Kaloyo	Interviewer