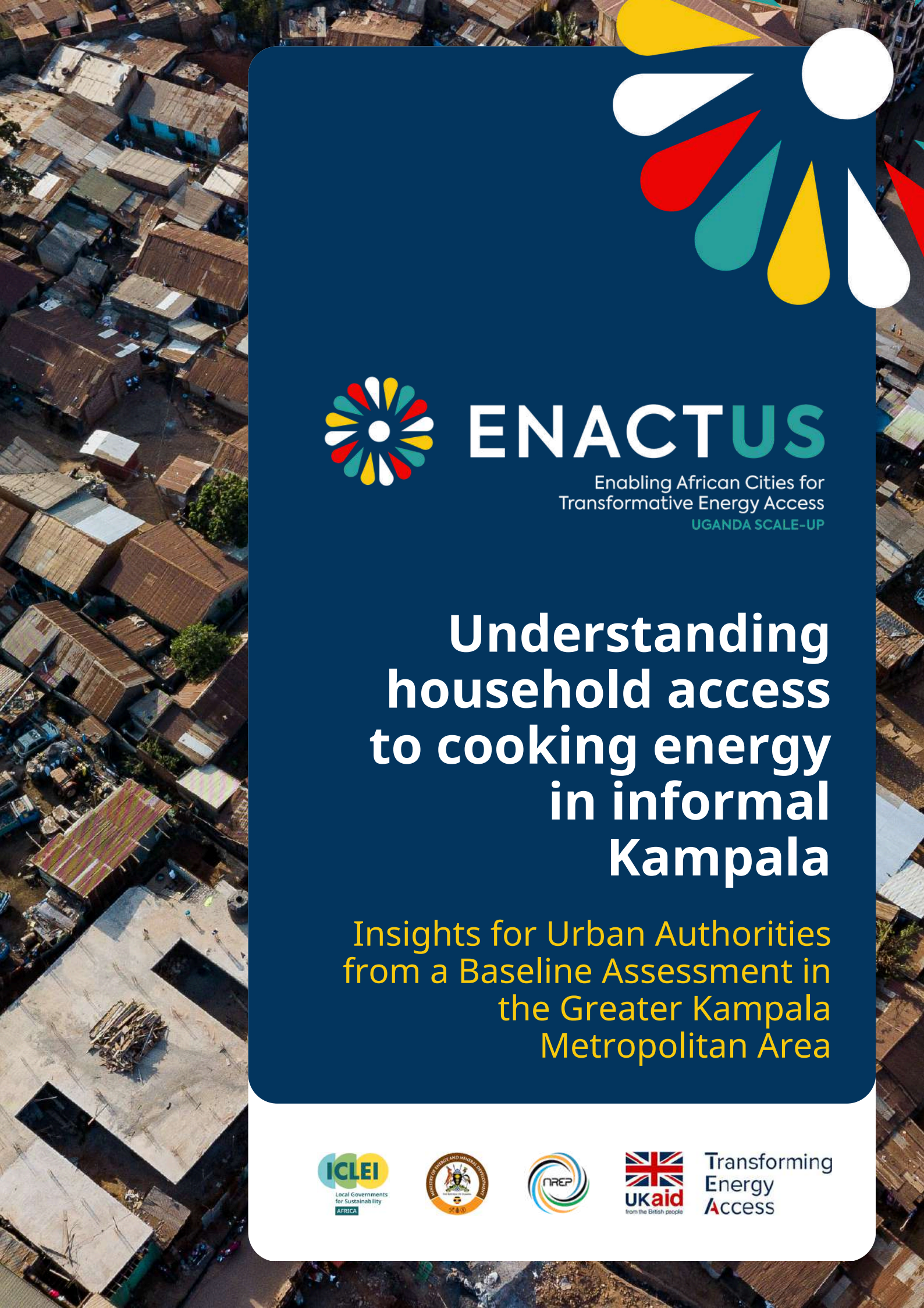

ENACTUS

Enabling African Cities for Transformative Energy Access

UGANDA SCALE-UP

Understanding household access to cooking energy in informal Kampala

Insights for Urban Authorities from a Baseline Assessment in the Greater Kampala Metropolitan Area

ICLEI Local Governments for Sustainability AFRICA

UKaid from the British people

Transforming Energy Access

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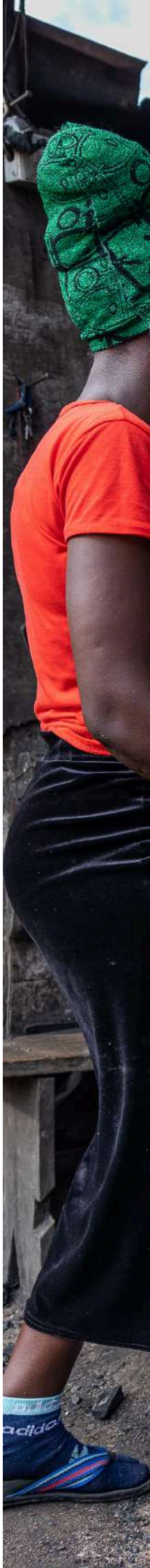


Executive summary

The ENACT (Enabling African Cities for Transformative Energy Access) programme supports a just and inclusive transition to clean cooking in urban informal settlements, addressing key barriers such as awareness, affordability, cultural preferences, institutional gaps, and limited access to modern energy solutions.

What is the baseline situation?

This baseline survey provides a snapshot of household cooking energy access in four informal settlements within the Greater Kampala Metropolitan Area (GKMA): Banda, Kirinya, Nankulabye, and Nansana East. Conducted jointly by ICLEI Africa and ACTogether Uganda in support of the Ministry of Energy and Mineral Development (MEMD)'s Clean Cooking Unit and local governments, the study covered 1,110 households to understand patterns of energy use, housing, income, and cooking behaviour.

Findings reveal that these settlements are densely populated, low-income communities, with an average household size of 4.4 people. The majority of respondents are female (82%), reflecting women's central role in household energy decisions. 67% of households are tenants, underscoring the transient, rental-dominated nature of informal urban life.

While electricity access is relatively high, cooking remains almost entirely dependent on biomass fuels—charcoal and firewood—used by over 90% of households. Fewer than 10% use LPG or electric appliances as their main cooking source, though small but growing numbers of households now combine modern and traditional technologies in fuel-stacking arrangements.

Why does it matter for local government and national policy and regulation?

The findings reveal an urban energy divide: access to clean and modern energy for cooking is not keeping pace with urbanisation. Despite dense settlement and grid proximity, most households remain energy-poor, spending a large share of income on inefficient fuels. At the extreme, over 95% of households surveyed reported living below the USD 2.15 per person per day extreme poverty line. This limits their ability to adopt cleaner options without affirmative actions to overcome affordability barriers.

This situation carries serious health, gender, and environmental consequences. Women and children face daily exposure to indoor smoke, while the demand for charcoal drives deforestation and urban heat-island effects. For local governments, the results clarify that clean cooking is not only a household matter—it is a public-health, environmental-management, and local-governance responsibility.

What can the government do next?

Support market-based clean-cooking delivery.

Public–private collaboration should focus on the ease of doing business for commercial entities engaged in the promotion and sale of clean cookstoves meeting government mandated quality standards, as well as engaging on affordability mechanisms beyond handouts—such as PayGo, micro-finance, and carbon-linked subsidies—particularly for tenant households.

Strengthen awareness and coordination.

National and city agencies can jointly lead behaviour-change campaigns, leveraging youth and women's groups already active in these communities.

Use settlements as demonstrators for decentralised implementation.

The four ENACTUS target settlements, as well as sites host to projects implemented by other development partners, offer practical platforms for testing scalable business models and for local governments to exercise their energy-governance mandate under the Energy Policy 2023.

Integrate energy access into local development planning.

Urban authorities should embed household energy data within physical development plans, health strategies, and environmental and commercial by-laws.

This baseline establishes a clear access profile for low-income urban households in the GKMA and identifies where policy, planning, and market action can most effectively converge. By addressing affordability, strengthening local governance and recognising informal settlements as viable markets, Uganda can accelerate the clean-cooking transition while advancing inclusive urban development.

This report provides a concise access profile of households across four informal settlements in the GKMA, establishing a baseline for evidence-based planning and local-government engagement. Subsequent publication will expand on behavioural, environmental, and market-readiness analyses.

Why focus on informal settlements?

Uganda's cities are expanding rapidly, with much of this growth occurring in informal settlements that remain largely excluded from infrastructure and energy planning. Within the Greater Kampala Metropolitan Area (GKMA), communities face severe energy poverty and high exposure to household air pollution, making them priority areas for inclusive clean-cooking action.

Uganda's Energy Policy 2023 (Section 11.2) positions local governments as a key component of the country's energy-transition agenda. It entrusts local governments with the authority to coordinate, monitor, and deliver decentralised energy services at the grassroots, ensuring that national programmes—such as those promoting sustainable energy consumption, are implemented in ways that respond to local realities. Local governments are also empowered to develop by-laws, manage local energy resources, and supervise private sector energy providers to improve service delivery for their communities. The ENACTUS project supports this mandate by linking MEMD, Kampala Capital City Authority (KCCA), and other urban authorities to enable improved availability and access of clean-cooking solutions at the grass roots level.

This decentralised responsibility is especially critical in informal settlements, which now account for over 60 percent of Kampala's housing and host the majority of low-income urban residents. These areas face acute deficits in basic services, high exposure to indoor air pollution, and environmental degradation linked to charcoal and firewood use. Focusing clean-cooking interventions here allows city and municipal authorities to fulfil their statutory mandate for inclusive service delivery, while directly addressing health, gender, and environmental burdens borne disproportionately by women and children.

By targeting informal settlements, ENACTUS supports the government in their enabling role in scaling access to clean and modern cooking energy, reducing health and environmental impacts, strengthening local governance capacity, and demonstrating how national clean-energy goals can be achieved through city-level, community-driven action.

Survey and community situational context

Settlement selection criteria

The selection of target settlements for the study followed a Multi-Criteria Decision Analysis (MCDA) designed to ensure that pilot areas combine both high need and strong market potential. This structured approach applied a set of weighted criteria to identify sites where clean-cooking interventions could be commercially tested and scaled.

Criteria included population density, proximity to infrastructure and electricity, presence of organised community structures, alignment with local-government priorities, and scope for scalability and private-sector participation. Each candidate settlement within the GKMA was scored on a 1–5 scale, triangulating existing datasets, field transect observations, and validation meetings with local leaders.

From this process, Banda, Nankulabye, Kirinya, and Nansana East emerged as optimal sites—dense, diverse, and socially organised communities representing both the greatest demand and the highest potential for commercial uptake.

These settlements now serve as testbeds for PayGo, hire-purchase, and door-to-door delivery models, allowing demonstrations of how inclusive business approaches can overcome affordability, access, and behavioural barriers at scale.

Methodology snapshot

To provide a strong evidence base for the ENACTUS project, a baseline survey was conducted in four informal settlements - Banda, Kirinya, Nankulabye, and Nansana East The survey combined quantitative and qualitative approaches to assess household cooking energy practices, awareness of clean cooking solutions, affordability barriers, safety concerns, institutional roles, and cultural preferences.

Table 1 on the next page outlines the stakeholders engaged in the baseline on the clean cooking status and awareness raising gaps.

Stakeholder Group	Mode of Data Collection	Number of Respondents Interviewed	Actual Profile of Respondents
Households	Household Survey Interviews (in-person) – Questionnaire	1,110 households	200 males and 910 females
Local Leaders	Focus Group Discussions (FGD)	4 FGDs (28 respondents)	20 males and 8 females
Cooked-food Based Business Representatives	Focus Group Discussions (FGD)	5 FGDs (35 respondents)	15 males and 20 females
Young People	Focus Group Discussions (FGD)	4 FGDs (28 participants)	18 males and 10 females
Village Health Teams	Focus Group Discussions (FGD)	1 FGD (7 participants)	3 males and 4 females
Religious and Cultural Leaders	Focus Group Discussions (FGD)	1 FGD (7 participants)	5 males and 2 females
Vendors of Cooking Fuel and Cookstoves	Focus Group Discussions (FGD)	1 FGD (7 participants)	3 males and 4 females
Key Informants	Key Informant Interviews (KII)	10 respondents	5 males and 5 females

Table 1: Stakeholders engaged during the baseline survey.

Through the study 1110 participants in the areas of Banda, Nankulabye, Nansana East and Kirinya were interviewed on a household basis. Though the results show that the majority of the respondents were from Nansana (46%), followed by Nankulabye (24%), then Kirinya (17%) and the least were from Banda (13%), the number of participants represents 1.13% of each of the settlements' populations.The largest percentage of the respondents were females (82%) with males making up 18 percent of respondents.

Ward	Sample Representation (%)	Households (n)
Banda	13%	144
Nankulabye	24%	266
Kirinya	17%	189
Nansana East	46%	511
Total	**100%**	**1,110**

Table 2: Sample size distribution.

A spatial geographical technology (Maps.me) application was used to randomly interpolate the 1110 surveys as points in the study areas. Each enumerator was assigned daily targets to administer the questionnaires on the ACTogether Uganda Kobo Collect platform. This approach reduced potential biases in respondent selection on the ground.

Overview of the four sites

The baseline survey captured demographic characteristics of 1110 respondents across four informal settlements in Greater Kampala target settlements: Banda, Kirinya, Nankulabye, and Nansana East. The insights from this data provide context for understanding how cooking behaviours and energy decisions are shaped by age, gender, education, and household roles within these communities.

Age and gender of respondents

The demographic profile of respondents across the four baseline settlements reflects the gendered nature of cooking and household energy use in informal urban contexts. Overall, 82% of respondents were female, confirming that women remain the primary cooks and household energy decision-makers. Men accounted for 18%, often representing household heads or small business owners involved in food vending or retail energy activities.

Age distribution was concentrated among the working-age population (23–49 years), which collectively comprised nearly 90% of respondents. The largest single age group was 33–37 years (21.7%), followed closely by 28–32 years (22.5%) and 23–27 years (21.7%), illustrating a predominantly young and economically active respondent base.

This profile suggests engagement with a core demographic of productive, income-earning women—a group well positioned to adopt and influence the uptake of modern cooking solutions, provided that affordability, flexible financing and targeted awareness campaigns are embedded within market activation strategies.

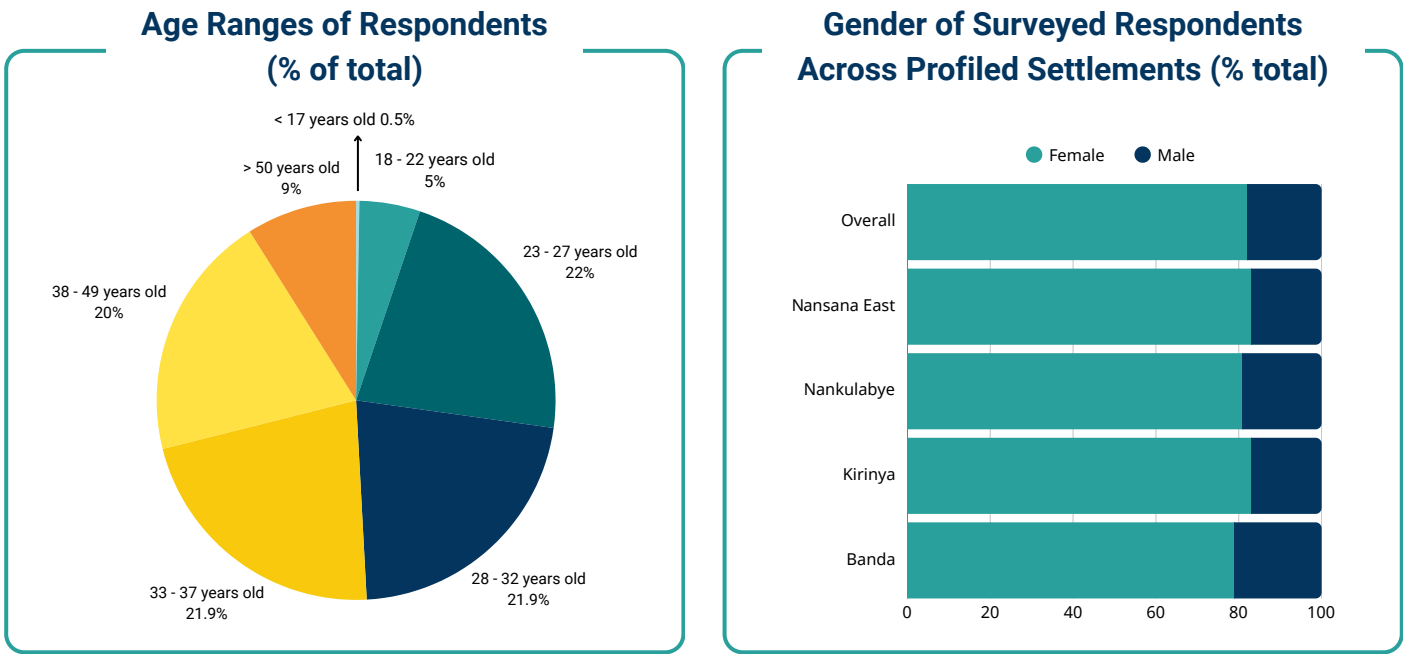


Figure 2: Age and gender distribution of surveyed respondents: Across all profiled settlements, women constituted about 80% of respondents, reflecting both their central role in household cooking decisions and they were often the household members able and willing to participate during visits.

Education levels

Education levels across the four baseline settlements are generally moderate, with most respondents (53%) having attained secondary-level education. Overall, O-Level completion (29.5%) was the most common education level among respondents, followed by primary education (19.5%), A-Level (19.5%), and vocational or technical training (10.8%). A smaller proportion reported completing diplomas (7%), undergraduate degrees (4%), or postgraduate qualifications (1%).

The distribution of education levels is broadly consistent across the four study sites but with notable nuances.

- **Banda:** The majority of respondents completed O-Level (30%), followed by primary education (27%), reflecting a fairly balanced lower-secondary profile.
- **Kirinya:** Respondents are relatively more educated, with the highest share having completed O-Level (39%) and A-Level (15%), alongside 11% with technical or vocational training.

- **Nankulabye:** Education is evenly distributed, with O-Level (26%) and primary education (25%) being most common, and 19% having attained A-Level.
- **Nansana East:** Displays a slightly more advanced profile, with O-Level (28%) and A-Level (23%) dominant, and 14% reporting vocational or technical qualifications.

Overall, this pattern suggests a largely literate, semi-skilled population, representing a promising consumer base for market-based clean-cooking initiatives that rely on comprehension of product use, safety, and financing terms.

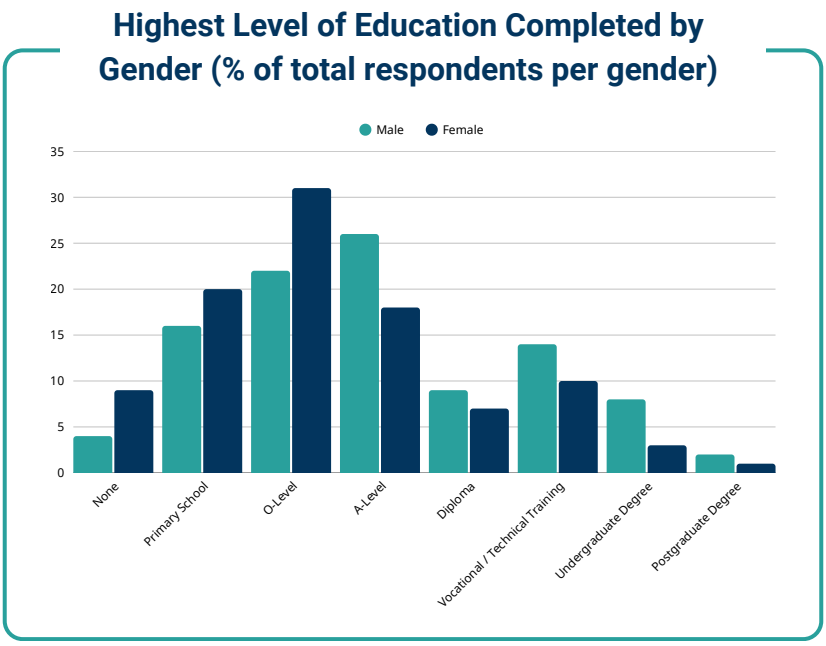


Figure 3: Highest Level of Education Completed by Gender (% of total respondents per gender) Around 60 percent of women report their highest level of education as O-Level or below, though 9 percent report having no formal education. Among men, the majority (59%) have completed vocational training, A-Level, or higher qualifications, indicating that men are more likely than women to progress beyond secondary education.

The education profile across the four settlements points to a relatively literate and youthful population, with a strong presence of students and recent school leavers—particularly in Banda and Nankulabye, where proximity to major tertiary institutions attracts transient, rental-based tenants. This segment represents both a challenge and opportunity for clean-cooking adoption: while limited asset ownership constrains uptake of high-cost appliances, their digital literacy and openness to innovation make them ideal early adopters and peer influencers.

Educated youth can also serve as local ambassadors, sales agents, or demonstration leads, helping to bridge awareness and trust gaps in informal markets. Leveraging this demographic could significantly enhance the commercial and behavioural scaling potential of clean-cooking interventions.

Children in households

Across all surveyed settlements, 76.4% of respondents (848 households) reported living with children, while 23.6% (262 households) did not. Among households with children, nearly 90% live with five or fewer children, and only 10% have more than five. The average number of children per household is 3.1, with a median of three, reflecting typical household sizes in urban informal contexts. For children under five years, the average is 1.5 per household, indicating a high concentration of young dependents.

Settlement-level patterns are consistent across all four areas: Kirinya has the highest proportion of households with children (82.1%), followed by Nankulabye (79.4%), Banda (72.9%), and Nansana East (73.7%). The prevalence of young children significantly increases vulnerability to indoor air pollution, as infants and toddlers spend much of their time near cooking spaces in poorly ventilated dwellings.

Household income

Across all four baseline settlements, household income levels reflect the low-income and financially constrained nature of informal urban communities, with the majority of respondents earning below UGX 600,000 per month.

Overall, 36% of all respondents reported earning between UGX 200,000 – 400,000, followed by 26% earning UGX 400,001 – 600,000, and 20% earning below UGX 200,000. Only a fifth of respondents (approximately 18%) earn above UGX 600,000, while those exceeding UGX 1 million represent just 2% of all households.

These findings suggest that while affordability remains a central barrier to clean-cooking adoption, the presence of income variability within each settlement creates opportunities for tiered market segmentation and flexible financing mechanisms such as PayGo or hire-purchase models to reach different consumer groups.

A Village Health Team member from Bwaise described the risk vividly:

"I was cooking beans on a charcoal stove in the house at night. I woke up around 1 am with a headache, and the kids were all coughing. I had to put the stove outside, but we all felt bad."

This evidence underscores that clean cooking is not only an energy-access priority but a child-health imperative, critical to protecting the youngest and most vulnerable residents of informal settlements.

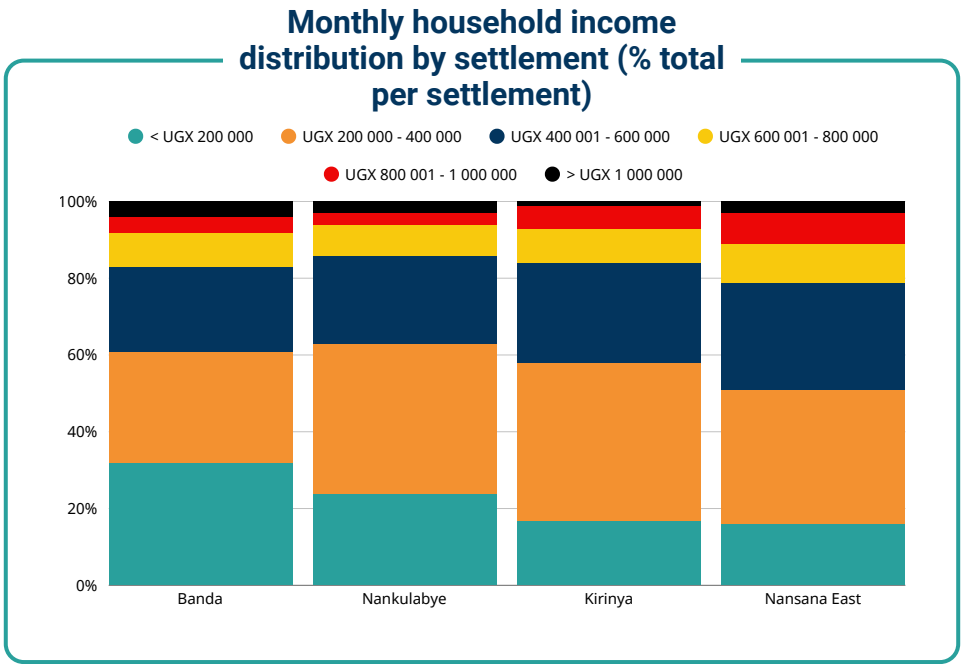


Figure 4: Monthly household income distribution by settlement.

Most households across the settlements report a household income of between UGX 200,000 and 400,000 (USD 53–105) per month, particularly in Kirinya (41%) and Nankulabye (39%), reflecting widespread low-income levels. With an average household size of 4.4 persons, this equates to only UGX 1,500–3,000 (USD 0.40–0.80) per person per day, highlighting severe affordability constraints for clean cooking adoption. (Note: many residents derive their income from informal, seasonal, or cash-in-hand activities, causing large fluctuations in actual earnings and purchasing power. Consequently, the per-person daily estimates provide only a rough indication of economic capacity rather than fixed income levels)

When household income is benchmarked against the USD 2.15/day international extreme poverty line (≈ UGX 240,000 per person per month at recent exchange rates), and using the average household size of 4.4 persons observed across the baseline, a household would need to earn approximately UGX 1.05 million per month to remain above the poverty threshold. In this context, over 95 percent of surveyed households fall below that benchmark, with most earning less than UGX 600,000 per month. This confirms that the target communities are predominantly living in extreme poverty, with limited disposable income for energy expenditures.

However, given the high proportion of respondents engaged in casual labour (17.3%) and self-employment (52.9%), reported household incomes may underestimate actual or fluctuating earnings. Many livelihoods in informal settlements are irregular, cash-based, and seasonally variable, making income difficult to quantify. This highlights the need to interpret

income data cautiously and to complement it with expenditure, livelihood, and asset indicators when assessing affordability for clean-cooking technologies. Nevertheless, the findings underscore the importance of flexible financing mechanisms—including PayGo models, micro-finance schemes, and carbon-subsidised pricing—to enhance affordability and uptake among low-income urban households.

Asset ownership

Statistical analysis confirmed a strong association between household income and asset ownership, reinforcing the use of durable goods as a proxy for market segmentation and credit readiness.

The distribution of assets across income categories, illustrated in the figure below, highlights these differentiated market dynamics. Mobile phone (95% on average) ownership remains consistently high across all income groups, demonstrating near-universal digital connectivity even among the lowest income groups. Television ownership (81% on average) follows a similarly steady trend, reflecting strong aspirational behaviour across income brackets. Refrigerator ownership, however, rises steeply with income, reinforcing its value as a clear marker of financial stability and readiness for higher-value, energy-dependent technologies. Radio ownership fluctuates only slightly, indicating its cultural persistence and affordability.

Collectively, these trends illustrate an evolving urban consumer base—one that is connected, aspirational, and gradually moving toward appliance-based energy use, but still constrained by affordability and supply reliability.

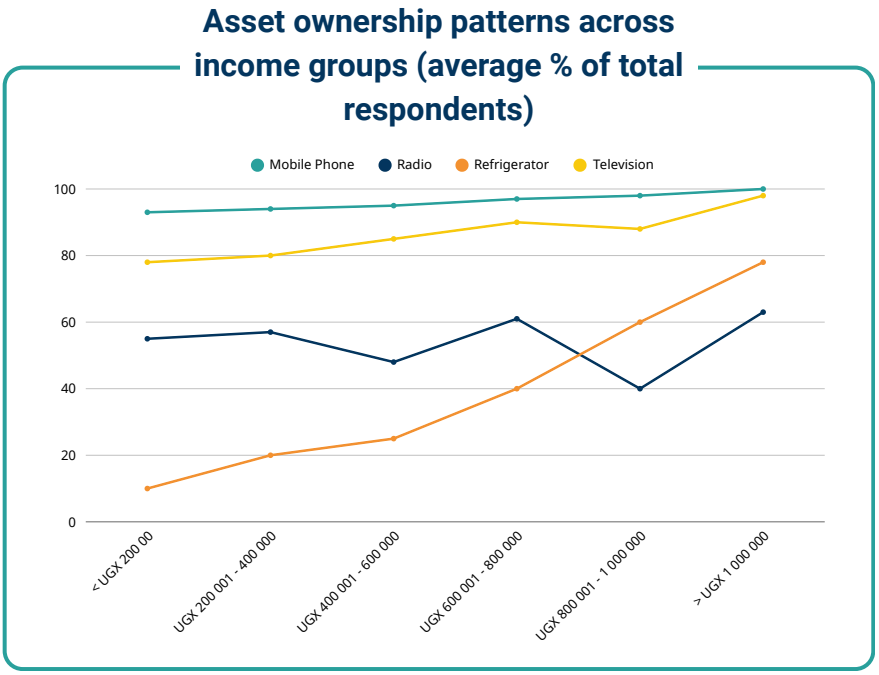


Figure 5: Asset ownership patterns across income groups: Mobile phones are the most widely owned asset across all income levels, while refrigerator ownership increases steadily as income levels increase.

Mobile Phones (93–100%)

Mobile phones are nearly ubiquitous across all income groups, indicating deep market penetration even among lower-income households. Their widespread use for mobile money transactions suggests a foundation for digital payment systems and Pay-As-You-Go (PAYGo) mechanisms for clean cooking technologies. This reflects a baseline financial inclusion rather than wealth differentiation.

Televisions (75–96%)

Television ownership is relatively stable across all income bands, reflecting broad aspirational consumption.

While not a direct marker of wealth, TV ownership implies some level of discretionary spending, making this group suitable for small-to-medium ticket credit products.

Radios (55–65%)

Radio ownership shows limited variation by income and is less indicative of purchasing power or financial stability. Its prevalence suggests cultural and informational importance but limited relevance for market segmentation or credit profiling.

Refrigerators (12–74%)

Refrigerators show the clearest income gradient—ownership increases steadily from 5% among households earning below UGX 200,000 to over 20% among those above UGX 1 million. This makes refrigerators a strong proxy for higher income stability and electricity access, identifying a higher-value market segment that may qualify for longer-tenure or bundled finance products (e.g., electric pressure cookers or solar home systems).

Implications for market segmentation

- **Base of the pyramid (≤ UGX 400,000/month):** High mobile-phone ownership but negligible refrigerator access; most appropriate for short-tenure, low-cost PAYGo products.
- **Emerging middle (UGX 400,000–800,000/month):** Increasing refrigerator and TV ownership signals readiness for flexible credit models targeting modern clean cooking and energy-efficient appliances.
- **Upper informal segment (> UGX 800,000/month):** Higher refrigerator penetration and consistent appliance ownership suggest creditworthiness for larger, higher-value investments with extended repayment periods.

Tenancy, tenure and energy decision-making

Across all surveyed settlements, two-thirds (66.7%) of households are tenants, while 28.3% are landlords and 3.1% caretakers. Tenancy rates are highest in Nankulabye (80.5%) and lowest in Kirinya (56.8%), which also has the highest proportion of landlords (37.9%). This dominance of rental housing is a defining feature of informal urban areas, shaped by rural-to-urban migration and limited land ownership.

High mobility and lack of property rights mean renters have limited incentive to invest in long-term assets such as modern stoves or electrical wiring.

Their energy choices are further constrained by landlord restrictions on what can be used within rented spaces. As one landlord explained, ***"It's very hard for tenants to cook using firewood because landlords can't allow them to spoil their houses."*** (FGD, Bwaise). Tenants echoed this dependency: ***"One will decide to buy a specific cooking stove depending on the rules of the landlord."*** (FGD, Nansana).

The data therefore underscores that clean cooking adoption in informal settlements requires a dual-engagement strategy, targeting both tenants and landlords. While tenants are the primary users, landlords act as gatekeepers, controlling space, infrastructure, and often electricity access.

Effective interventions must educate, incentivize, and regulate landlords to support safer, cleaner, and more flexible cooking solutions, while communicating the immediate benefits of clean cooking, health, safety, and fuel savings, to renters.

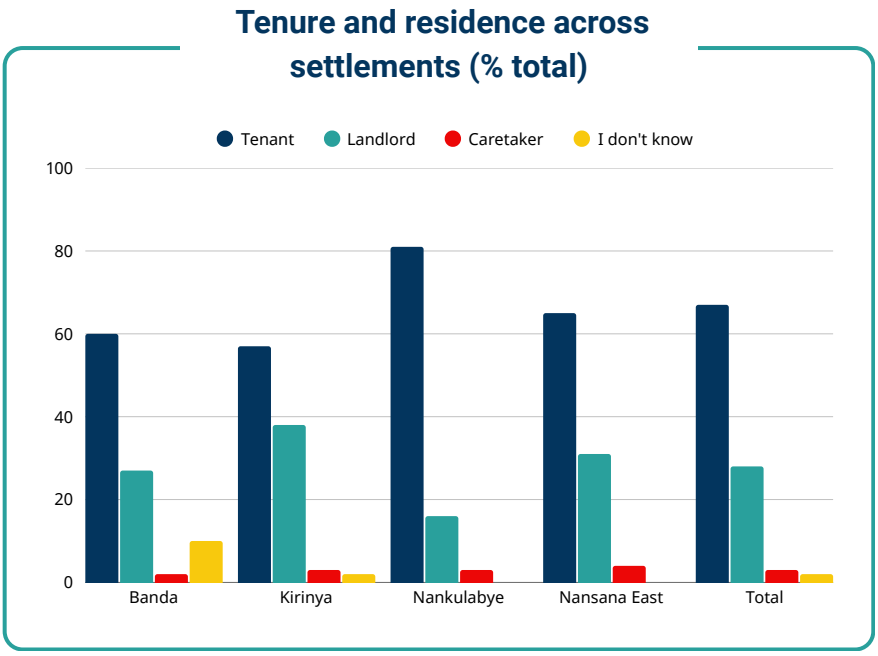


Figure 6: Most respondents are tenants (67%), especially in Nankulabye (81%), reflecting rental-dominated settlements with limited ownership.

Housing characteristics and market segmentation

The baseline findings reveal clear housing and construction-based market segments within the target informal settlements, providing useful insight into the differentiated purchasing power and risk profiles of potential clean-cooking consumers.

Among owner-occupied households (315 HHs), over half (55%) live in permanent structures made of burnt brick walls, iron sheet roofs, and cement floors, with an additional 18% in cement-block houses. These dwellings indicate higher asset ownership and investment capacity, positioning this segment as early adopters for higher-value clean-cooking technologies such as LPG systems and electric pressure cookers (EPCs), particularly where electricity is available.

By contrast, tenant households (741 HHs)—though largely housed in similar structures (66% in burnt-brick, iron-sheet, cement-floor dwellings)—exhibit greater variation in housing quality. Around 5% occupy lower-standard units built from mud and wattle or unburnt brick, while others rent upgraded rooms with tiled floors, often within subdivided compounds. This heterogeneity translates into multiple consumer tiers:

- Upgraded tenants in tiled or cement-finished dwellings form a mid-tier market, likely responsive to flexible payment models such as PayGo or hire-purchase schemes;
- Lower-income tenants in temporary or shared dwellings represent a base-of-pyramid segment, best reached through micro-retail distribution, fuel-by-the-day options, and community-driven finance mechanisms.

Floor type also correlates strongly with income and thus market potential: tiled-floor households increase sharply with income (from 6% in the lowest bracket to over 50% above UGX 1 million). This pattern reinforces that physical dwelling quality serves as a practical proxy for consumer affordability, helping private-sector actors and programme designers tailor product pricing, messaging, and credit mechanisms to the specific sub-segments within informal settlements.

Household access profile: Key findings

This section explores respondents' cooking habits and preferences, focusing on the types of stoves commonly used, the practice of stove stacking, and the factors influencing stove purchasing decisions. It also examines household expenditure on cooking fuels, patterns of fuel usage. Insights from this section help to better understand the dynamics shaping household energy choices and affordability considerations.

Primary cookstoves

A primary cookstove refers to the main stove or cooking device that a household uses most frequently for preparing meals. i.e. it is the one used regularly rather than occasionally. The household survey identified the primary cookstoves used across households. The results showed a range of cookstoves, from traditional metallic and ceramic stoves (sigiri), to electric coils and plates, electric cookers, and a few ethanol and biogas cookers in use within the households. The top three most common primary cookstoves in the four settlements are the traditional metallic stove (used by 48% of residents), the ceramic stoves (used by 32% of residents) and the three-stone open fires (used by 10% of residents).

The category “ceramic stove (sigiri)” was used as a catchall term to represent both traditional and improved clay-lined charcoal stoves commonly found across the target settlements. During fieldwork, respondents rarely distinguished between the two, as both share a similar design, fuel type, and user experience.

Technical testing by the Centre for Research in Energy and Energy Conservation (CREEC) shows that traditional ceramic stoves achieve thermal efficiencies of around 35%, higher than metallic sigiri (20–24%) and three-stone fires (≈15%). Improved ceramic models—often metal-clad or insulated—can reach 36–40% efficiency, offering modest gains in fuel savings but negligible reductions in harmful indoor emissions compared to the traditional variants. Their key advantage lies in improved structural durability, while unreinforced conical ceramic models remain prone to cracking and short lifespans.

Given this functional and performance overlap, and the limited emissions differentiation between traditional and improved types, the “ceramic stove” category is appropriately treated as a continuum of similar charcoal-based technologies, capturing the dominant middle tier of stove use in informal urban markets.

Three stone fire

Traditional metallic cookstove / Sigiri

Ceramic cookstove / Sigiri
(Traditional Variant)

Ceramic cookstove / Sigiri
(Improved variant)

Figure 7: Common Biomass Cookstoves in Study Area

The analysis shows a clear and statistically significant relationship between household income and the cookstove type. Among lower-income households (earning less than UGX 600,000 per month) traditional metallic and ceramic *sigiris* dominate, with limited use of three-stone fires. As income increases households begin adopting cleaner options such as LPG and electric stoves, while reliance on biomass stoves steadily declines.

Overall, the data suggest that income growth alone does not automatically translate into modern energy adoption. Without targeted awareness and affordability mechanisms—such as PAYGo financing, cross-subsidised pricing, or results-based incentives—most urban households are likely to remain trapped in a partial transition, balancing between cost, convenience, and access.

Primary cooking fuel

81% of residents use charcoal while 11% of residents use firewood as their primary fuel for cooking. These are also the fuels used by the 90% of households where the three commonest primary cookstoves – traditional metallic, traditional ceramic and three-stone fires are used. 96% and 97% of households which use traditional metallic and traditional ceramic stoves use charcoal, while 97% of those who use three-stone open fires use firewood, as shown in figure 5 below. The near-total reliance on traditional biomass for primary cooking indicates a market that is not resistant to change but is highly task-specific and economically rational. Households are willing to adopt and use modern energy sources like electricity for their comparative advantages in speed and convenience for discrete tasks (e.g., boiling water, making tea) while retaining biomass for primary meal preparation due to cultural preferences, perceived taste superiority, and for bulk cooking where the cost advantage of charcoal is perceived to hold. This behavior reveals a critical entry point for partial adoption and demonstrates that the transition will be gradual and not a direct switch.

Purchasing primary cookstoves

The means through which respondents own their current stoves vary. A majority of residents purchase stoves via cash, and the others via hire-purchase, loans or by building themselves. The different means of owning a cookstove are presented in the table 3 below:

	No. of responses	Percentage of households
Purchased through cash	1016	92%
Hire purchase/PayGo	1	0.1%
Loans	1	0.1%
Self-built	82	7.3%
Received as donation	3	0.3%

Secondary cookstoves

A secondary cookstove refers to an additional cooking technology used alongside a household's primary stove, for example, a household that mainly cooks on a metallic sigiri but also uses a three-stone fire for bulk cooking or an electric coil plate for tea. Across the four ENACTUS target settlements, 42% of households (468 respondents) reported owning a secondary stove technology, while 58% relied solely on a single cooking technology.

Ownership patterns vary across settlements: Kirinya (51%) and Banda (49%) have the highest prevalence of secondary stove technologies, while Nankulabye (39%) and Nansana (38%) report comparatively lower levels. Among households with secondary stoves, 64.7% report using clean cooking technologies (e.g. electric devices including kettles, coils / plates; LPG) indicating that secondary devices often serve as an entry point for clean cooking experimentation or complementary use.

Community voices: Why households use secondary stoves

Secondary stoves are not simply backups—they are tools for convenience, speed, and flexibility. Across the settlements, residents describe using them to save time, juggle multiple tasks, or handle specific cooking needs that their main stove cannot.

"I can put my beans on electricity as I do my other stuff."
(FGD, Local Leaders, Bwaise)

This sentiment captures the quest for convenience and multitasking—the top driver cited by 40% of households. For many, the secondary stove enables parallel cooking or less labour-intensive meal preparation.

"At my home and work space I get ease using electricity whereas charcoal gives me hard time..."
(FGD, Micro-entrepreneurs, Nankulabye)

Such testimonies highlight the functional role of the secondary stove, often used for boiling water (62%) or quick tasks that require immediate heat. These decisions are pragmatic, shaped by time constraints, cost, and fuel reliability, rather than by technology preference alone.

In essence, secondary stove ownership reflects adaptive cooking behaviour—a deliberate strategy to balance affordability, availability, and efficiency within tight household routines.

Frequency data show that 44.9% of respondents use their secondary stove daily, 24.7% at least twice a week during specific seasons, and 18.4% throughout the year, while 12% reserve it for special occasions. This pattern illustrates that secondary stoves are not marginal or occasional devices but integral components of household cooking systems—key to understanding fuel stacking behaviour in informal settlements.

The most common drivers of secondary stove use include comfort and cooking convenience (40%), fuel cost savings (30%), seasonal fuel unavailability (25%), and food-specific suitability (28%). These reasons highlight a pragmatic and adaptive cooking culture, where households balance affordability, availability, and practicality.

Overall, secondary cookstove ownership underscores the complexity of energy use in low-income urban settings—where multiple stoves coexist as a strategy for resilience, cost management, and cooking flexibility rather than as transitional stages toward a single "clean" solution.

Decision-making on cookstoves and fuels

The decision to obtain a secondary cookstove in 68% of households is made alone, and in 18% of households is made with the spouse. Similar to the method of purchasing the primary stoves, 92% of the residents who have a second stove purchased them through cash payments.

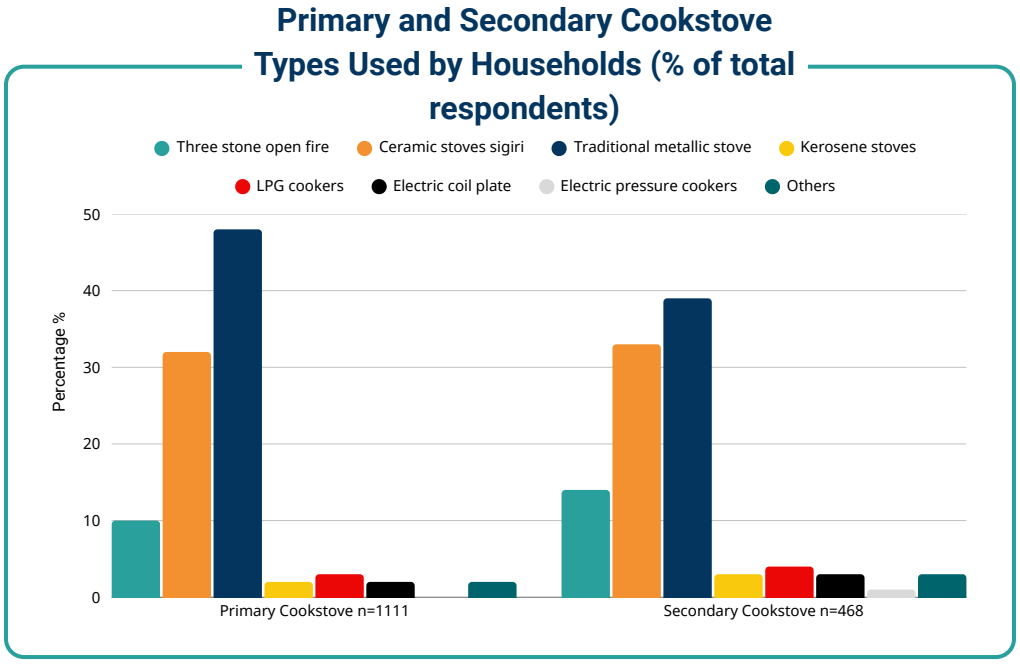


Figure 7: Primary and Secondary Cookstove Types Used by Households (% of total respondents): Traditional metallic sigiris are the most common primary cookstove, followed by ceramic sigiris. Three-stone fires are less common as primary stoves but appear more frequently as secondary options. Only a small share of households report using LPG, electric, or kerosene stoves. For the women (n=254) who represent 80% of those who make the decision to obtain a secondary stove alone, this shows the potential for driving uptake through the design of gender-responsive energy programmes that empower women's groups or cooperatives.

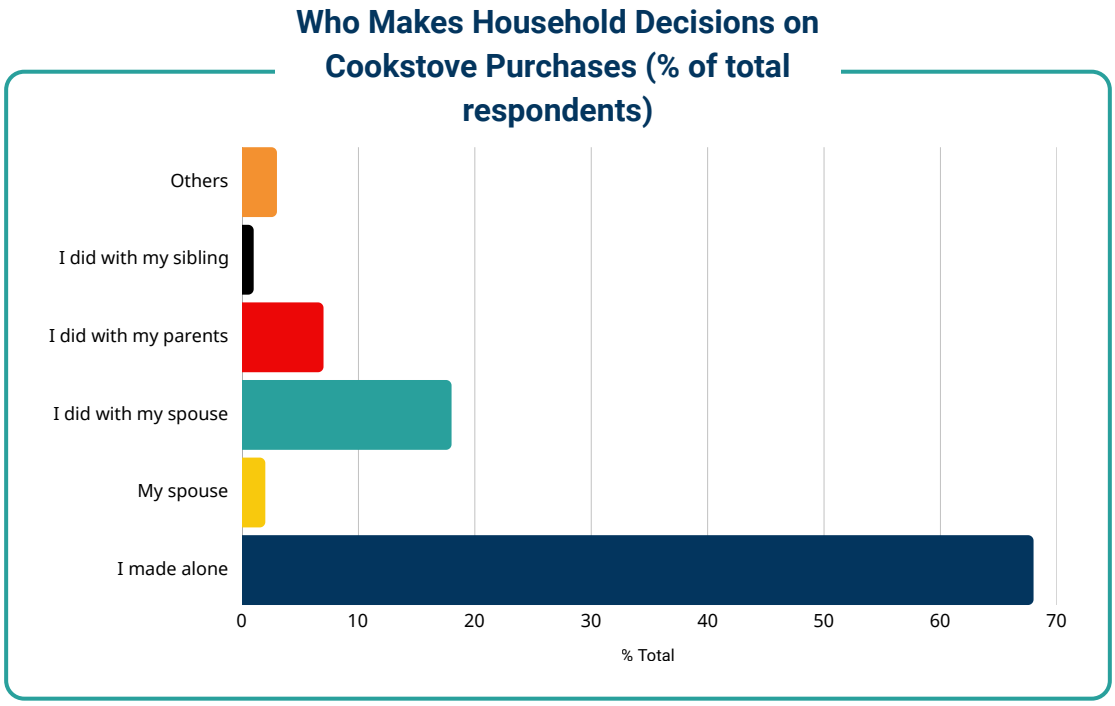


Figure 8: Who Makes Household Decisions on Cookstove Purchases (% of total respondents): Most respondents reported making cookstove purchase decisions independently (around two-thirds of households). A smaller share made these decisions jointly with their spouse, while very few involved parents, siblings, or other family members. This suggests that cookstove adoption decisions are largely individual, though spousal consultation remains a secondary influence in many households.

Stove stacking trends

Building on the finding that 42% of households own a secondary cookstove, the relationship between primary and secondary stoves was further examined to understand how households combine different technologies in practice.

Analysis confirmed a significant relationship between households' primary and secondary cookstoves, indicating that stove combinations are not random but reflect deliberate choices shaped by cooking practices, affordability, and access. This stove stacking pattern demonstrates that households rarely rely on a single cooking technology. Instead, they maintain multiple stoves to balance fuel costs, availability, and cooking convenience.

The heatmap below illustrates how stove types are paired across households. Darker purple cells represent combinations occurring more frequently than expected, while lighter (orange) cells indicate less common pairings.

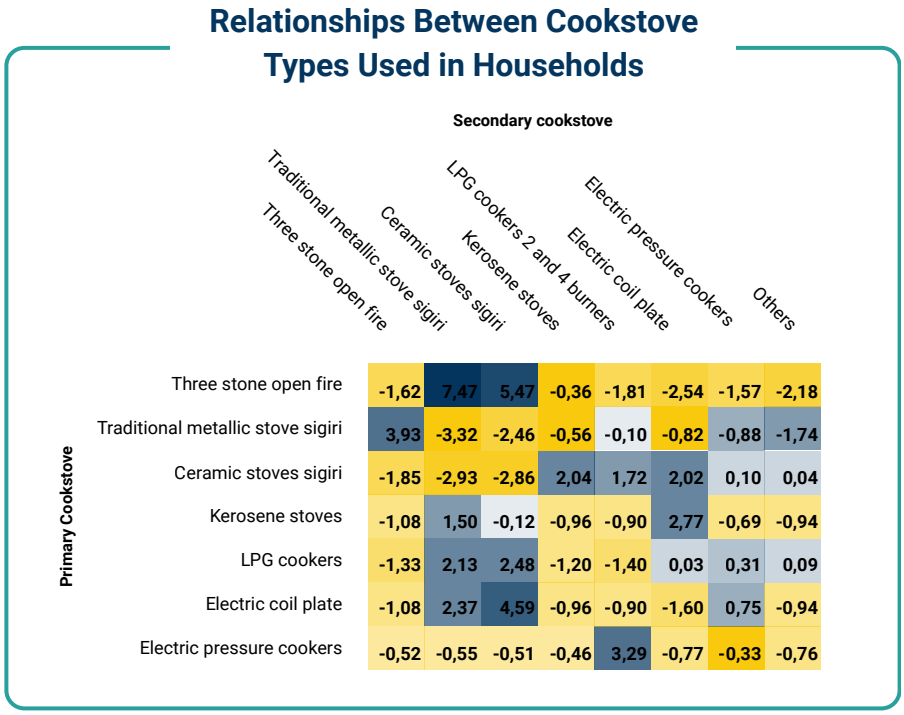


Figure 9: Relationships Between Cookstove Types Used in Households. The heatmap shows how strongly different stove types are used together within households. Darker purple cells indicate combinations that occur more often—showing a significant relationship—while lighter or yellow cells show weaker links. Two main clusters emerge: a charcoal cluster (three-stone fire, metallic and ceramic sigiris) and a modern energy cluster (electric coil plates, electric pressure cookers, LPG), reflecting distinct household cooking patterns.

The analysis reveals that traditional biomass stoves remain deeply entrenched in household cooking systems:

- Households using three-stone open fires often retain metallic sigiris or ceramic stoves as secondary options.
- Electric coil plate users frequently keep ceramic charcoal stoves, suggesting that electric cooking complements rather than replaces biomass use.
- At the higher-income end, electric pressure cookers (EPCs) are commonly paired with LPG stoves, reflecting energy diversification and reliability concerns.

Rank	Primary Stove	Secondary Stove	Interpretation
1	Three-stone open fire	Traditional metallic stove (sigiri)	Common combination of traditional biomass stoves
2	Three-stone open fire	Ceramic stove (sigiri)	Charcoal used as a backup for open-fire users
3	Electric coil plate	Ceramic stove (sigiri)	Transitional users pairing electricity with biomass
4	Traditional metallic stove (sigiri)	Three-stone open fire	Reversion to open fires for larger meals or cost saving
5	Electric pressure cooker	LPG cooker (2- & 4-burner)	High-income users diversifying modern energy use

Table 4: Most strongly statistically associated primary and secondary stove combinations.

Electricity meter ownership across settlements

Electricity access in the target settlements reveals a strong link between housing tenure and meter ownership, highlighting how energy inequality in informal areas is shaped by property rights.

Qualitative data reveals that electricity access is not a simple binary of having a connection or not; it is a complex spectrum of control, restriction, and vulnerability that actively suppresses the adoption of electric cooking. For tenants, access is often mediated and rationed by landlords, making it unreliable, unavailable during key daytime cooking hours, and subject to arbitrary pricing.

Among owner-occupied households, the majority report having their own electricity meters, enabling greater control over energy use and billing. Ownership rates are highest in Nankulabye (77%) and Nansana (72%), followed by Kirinya (65%) and Banda (56%). This reflects higher grid connectivity and more stable tenure conditions or formal recognition from local authorities that are all dependencies for utility infrastructure investment. Households with meters typically enjoy predictable expenditure, greater flexibility to adopt electric cooking technologies, and stronger energy security overall.

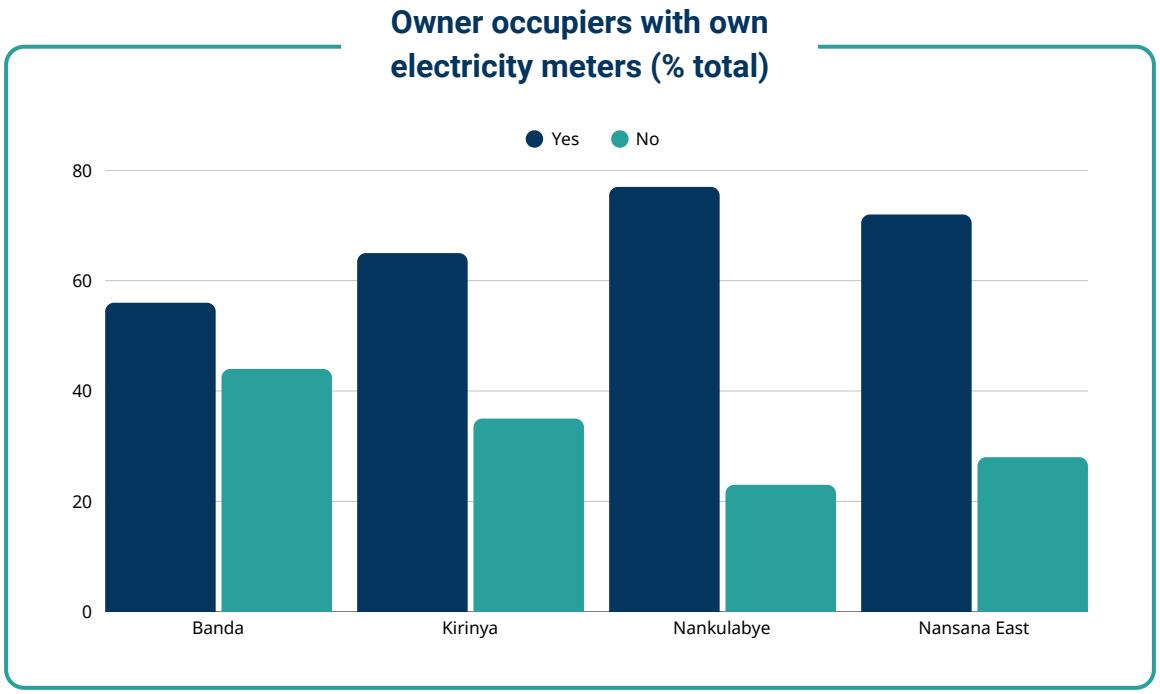


Figure 10: Owner occupiers with own electricity meters

In contrast, tenants are far less likely to have individual meters—only 18% to 35% across the four settlements. The majority rely on shared, sub-metered, or informal connections, which are often controlled by landlords. Access is lowest in Banda (18%) and Kirinya (21%), improving slightly in Nankulabye (31%) and Nansana (35%). This dependence limits tenants' ability to manage their own consumption or invest in electric appliances, reinforcing structural barriers to equitable energy access.

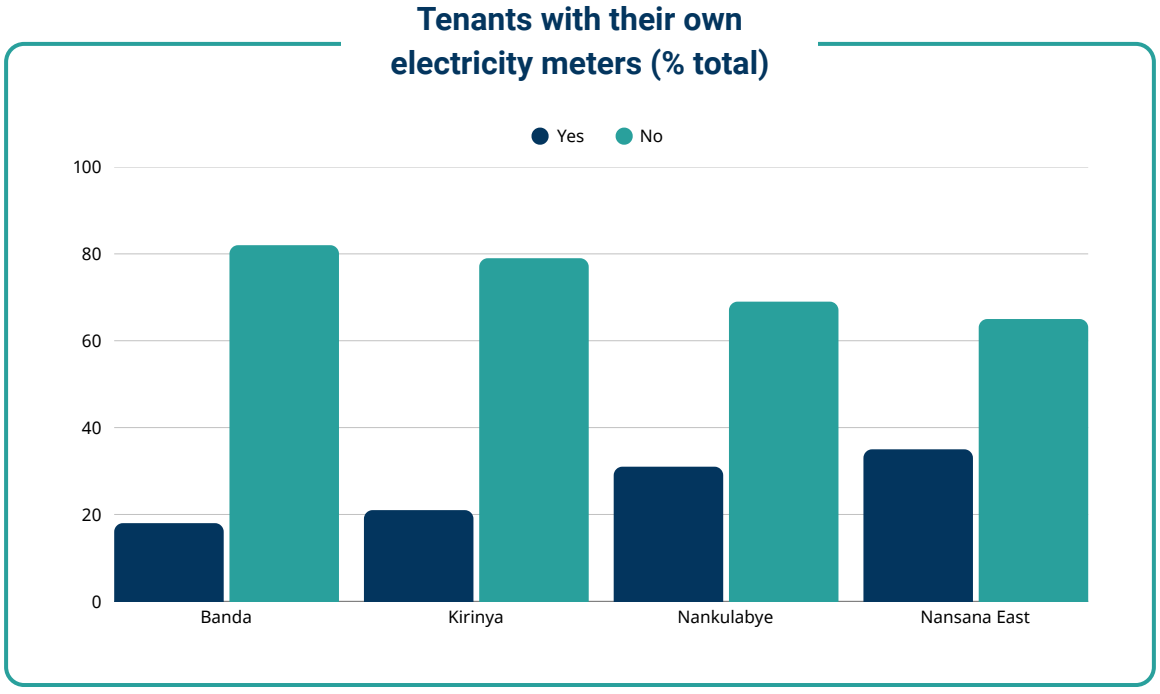


Figure 11: Tenants with own electricity meters

This reality transforms the adoption of an electric cooking solution into an impractical one, as households cannot depend on the consistent and autonomous access required for daily meal preparation. Consequently, the market for efficient electric appliances is suppressed for a significant segment of the population, not due to a lack of willingness, but due to a fundamental lack of control over their own energy supply. The situation is not merely a lack of infrastructure but often involves active control by landlords, who act as gatekeepers.

On landlord control as a direct barrier to choice:

A Nansana youth explicitly states that landlord policies are a primary determinant of technology use, making electric cooking impossible for those who might want it:

"In some areas of Nansana, one will decide to buy a specific cooking stove depending on the rules of the landlord." (FGD, Nansana Leaders).

This directly links tenancy to restricted energy options.

Even for those with access, the unreliability of the grid is a major deterrent. A Nansana participant weighs the options, stating:

"Electricity is good, but it keeps on and off. But for gas, it's always there. Even if it rains, yo can still be able to use it." (FGD, Nansana Leaders).

Together, these findings underscore a critical governance gap: ***equitable electricity access is still largely a privilege of property ownership.*** *For clean-cooking and e-cooking transitions to succeed in informal settlements, strategies must therefore include appropriate metering mechanisms that extend autonomy and affordability to the large tenant majority.*

Health risks

Health and safety

The safety of cooking fuels is a critical consideration for households, as different fuels pose varying levels of risk. The overall majority (75.09%) of the respondents (1,110 respondents) did not face any injuries as a result of their cookstove. Only 24.91% faced injuries.

Out of the respondents that faced injuries (276 respondents), the major injury faced was burns/fires/poisoning at 83.7%. The distribution of injuries faced across the four settlements is as follows;

- Death/Permanent damage: 3.99% (276 respondents)
- Burns/Fires/Poisoning: 83.7% (276 respondents)
- Cough (light or heavy): 23.91% (276 respondents)
- Asthma/respiratory problems: 9.06% (276 respondents)
- Itchy/Watery eyes: 14.86% (276 respondents)
- Other: 2.54% (276 respondents)

While the survey highlights a low direct injury rate, the qualitative data paints a different picture of pervasive health problems.

A Village Health Team (VHT) respondent stated that firewood

"Emits a lot of smoke which causes uneasiness on me."

Another local leader noted that they ***"know the effects of firewood due to the smoke it emits which can cause suffocation and it was affecting my wife too."***

These are not acute injuries, but chronic conditions that significantly impact quality of life and are likely underreported in a survey asking about "injuries."

The low reported injury rate might also be a reflection of the community's forced acceptance of risk due to a lack of affordable alternatives. As noted in the previous sections on preference to adopt clean cooking, the continued use of traditional fuels and cookstoves with their associated risks points to an endurance of risk/ dangers. This implies that people are willing to endure health risks and dangers because they have no other choice, which may lead to a low reporting of the related health issues as "injuries."

What needs to change (Pathways to scale)

Barriers and motivations for transition

The baseline findings reveal that clean cooking transitions in informal settlements are constrained less by a lack of awareness than by affordability, risk perception, and structural barriers linked to tenure and infrastructure. While over 90 percent of households rely primarily on charcoal or firewood, nearly half already use electricity for lighting, signalling latent readiness for modern energy services.

Key barriers

Affordability and liquidity constraints: With a median household income of UGX 400 000 and 95 percent of families below the international extreme poverty line, most households cannot absorb the upfront cost of LPG kits, EPCs, or improved biomass stoves. Even modest lump-sum fuel purchases are unaffordable, driving reliance on daily charcoal or kerosene purchases.

Tenure insecurity: Two-thirds of respondents are tenants, limiting long-term investment in stoves or electrical upgrades. Landlord restrictions, particularly related to the control of electricity supply and pricing, shape fuel choice and lock tenants into transitional options such as metallic or ceramic sigiris, or kerosene.

Infrastructure and reliability: While grid coverage across all settlements is relatively high, electricity access remains inconsistent and often indirect. Many households share meters or depend on informal connections, leading to unpredictable billing and limited control over usage. Only around three-quarters of homeowners have their own meters, compared to less than one-third of tenants, reflecting widespread dependence on landlord-controlled supply. Across the settlements, frequent outages, voltage drops, and overloaded wiring further undermine reliability and discourage the use of electricity for cooking. As a result, even in electrified homes, most households continue to maintain charcoal or kerosene stoves as the primary energy sources for cooking of meals, sign that the challenge is not grid reach, but dependable, affordable, and autonomous access.

Cultural and behavioural norms: Cooking outdoors or over open fires remains embedded in social practice. Some respondents perceive modern stoves as unsuitable for traditional meals or “family-sized” cooking.

Motivations for change

Despite these barriers, the survey and FGDs identified strong practical drivers of change.

Convenience and time savings: 40 percent of households cite multitasking and quicker cooking as their main motivation for adopting a secondary stove.

Health and cleanliness: Respondents recognise the indoor-smoke risk, especially to children.

Aspirations and social value: Ownership of modern stoves and appliances is increasingly associated with social mobility, especially among youth and women entrepreneurs.

These insights underscore that the transition is not blocked by disinterest but by a mismatch between household cashflow, technology design, and delivery models.

Financing and distribution models

Scaling clean cooking in urban settlements requires consumer-centred business models that match the financial realities of low-income, rental households.

Pay-as-You-Go (PAYGo) and smart-metered finance: PAYGo models linked to IoT or GSM technology can enable daily or weekly payments, lowering the entry barrier for LPG and electric cookers. Pilot concepts combining balance monitoring and carbon-subsidised pricing show high potential for replication.

Bundled appliance–energy packages: Partnerships with utilities (e.g. UMEME) or distributors could provide integrated electricity-plus-appliance offerings, allowing customers to pay through existing energy bills or mobile-money deductions.

Micro-finance and savings-group integration: Over 60 percent of respondents reported participation in informal savings groups. These provide trusted community channels for collective purchase, risk pooling, and after-sales repayment.

Carbon-linked incentives: Verified carbon methodologies (PAYGo + IoT tracking) can subsidise end-user pricing while attracting private investment for scale.

Awareness and behaviour change strategies

Awareness is necessary but not sufficient. The baseline shows that most households understand the health and environmental impacts of charcoal, yet still prioritise cost and convenience. Behaviour-change efforts must therefore go beyond messaging to address perceived risk, product trust, and usability.

Effective pathways include

Demonstration-based learning: Community energy days and cook-off events led by women's groups and VHTs have proven effective in previous ENACT engagements.

Youth and media channels: High mobile-phone penetration and strong youth networks (particularly in Banda and Nankulabye) make social media, radio talk shows, and SMS campaigns powerful tools.

Landlord engagement: Targeting landlords as gatekeepers can unlock collective adoption—e.g. incentives for shared metered kitchens or safe LPG storage points.

Health framing: Positioning clean cooking within maternal and child health messaging resonates more strongly than climate narratives at community level.

Implications and recommendations

Local government: by-laws, health campaigns, infrastructure roles

Integrate clean cooking into existing urban planning and service-delivery frameworks: Local governments can mainstream household energy access within local development plans and environmental health strategies, promoting safe cooking spaces, improved ventilation, and awareness of modern fuel options through ongoing community programmes. Doing so can also improve the ease of doing business for clean cooking enterprises by clarifying siting and permitting processes, supporting access to market spaces, and integrating energy considerations into urban infrastructure upgrades. This creates a more enabling environment for both households and private-sector actors to adopt and supply clean cooking solutions.

Use local health systems as awareness nodes: Village Health Teams and Division Health Offices can incorporate household air-pollution messaging into routine outreach.

Prioritise basic infrastructure: Drainage, access roads, and formalised markets enable distribution of clean fuels and reduce delivery costs.

Support metering access by: Coordinating between UEDCL and community leaders/landlords to encourage formal documentation of property titles and encourage legal connections.

Private sector: Entry points and financing channels

Target market segmentation:

- **Tenants:** low-ticket PAYGo or stove-leasing models.
- **Owners:** higher-value EPC or LPG packages with credit.

Leverage local networks: Partner with savings groups, youth cooperatives, and micro-entrepreneurs as retail agents.

Bundle after-sales support: Product longevity and service reliability are crucial for consumer trust in improved stoves.

Conclusion

The results of this baseline survey confirms that clean cooking access in the Greater Kampala Metropolitan Area remains deeply constrained, even within largely electrified settlements. While most households have grid connections, few enjoy the autonomy, reliability, or affordability needed to use electricity for cooking. Charcoal and firewood therefore remain dominant, reinforced by insecure tenancy, shared meters, and power instability.

Yet, the findings also show a population that is adaptive and aspirational. Households invest progressively in improved housing, multiple stoves, and small appliances, signalling readiness for transition if affordability and reliability barriers are addressed. Fuel stacking reflects practical resilience rather than reluctance to modernise.

Women remain central to the clean cooking challenge and opportunity — they carry the health burden of traditional fuels but also drive savings, community leadership, and purchasing decisions. Engaging them meaningfully is essential to any sustainable shift in cooking energy use.

These insights are directly relevant to Uganda's national policy objectives. Achieving the targets of the National Energy Policy 2023, NDP IV, and the Nationally Determined Contributions (NDC)—as well as the Clean Cooking Unit's Integrated Clean Cooking Strategy—requires approaches that are grounded in household realities. Expanding access to clean, affordable, and reliable cooking energy in urban settlements is not only a social or environmental imperative but also a core pathway toward national energy transition and climate resilience.

By embedding clean cooking into urban planning, infrastructure investment, and local government coordination, the Government of Uganda and its partners are helping demonstrate how national energy and climate commitments can be operationalised at the city level—linking policy ambition with the everyday realities of Ugandan households.

Kirinya, Kira Municipal Council Wakiso District, GKMA

Location: 0°20'23"N 32°41'39"

Estimated Population: 296,500

Context & Demographics

Average household size: 4.9 persons per household

Tenure status: 57% tenants, 38% owners, 3% caretakers

Households with children: 82% live with children

Education levels: 8% None
18% Primary
26% O-level
6% Vocational
22% A-level or higher

Main livelihoods: 52% self-employed, 19% casual labour, 22% salaried

Income ranges (UGX thousands): <200 - 15%
200-400 - 37%
400-600 - 23%
600-800 - 10%
800-1000 - 4%
>1000 -1%

Key insight: Households are young, predominantly female-led, and economically constrained, reflecting a need for affordable, flexible access to modern energy solutions.

Cooking Practices & Health

Primary Stove Type: Traditional Metallic Stove / Sigiri - 42%
Ceramic Stoves / Sigiri - 33%
Three Stone fire - 16%

Primary Fuel Type: Charcoal - 78%
Firewood - 17%
Electricity - 1%

Secondary Stove Ownership: Electric Coil / Plate - 27%
LPG cookers - 16%
Kerosene Stoves - 7%

Percentages show the distribution of reported secondary stoves (n = 96)

Average Monthly Cooking Cost: UGX 300,000 (median)

Cooking location: 53% indoors
15% veranda
13% outdoors
18% detached kitchen/other shared indoor spaces

Key insight: Charcoal remains dominant even in electrified areas. Stove stacking is widespread, driven by affordability, fuel availability, and convenience.

Behaviour & Transition Pathways

Awareness of Clean Cooking Campaigns: 5% recall any campaign

Main Information Channels: Radio, door-to-door sensitisation, community meetings

Top Motivations for Transition: Health, convenience, time savings

Main Barriers: High upfront cost, unreliable supply, landlord restrictions

Preferred Financing Options: PayGo, SACCO loans, hire purchase

Key insight: Awareness remains low, but readiness to transition is high if affordability, reliability, and information barriers are addressed. Women and youth networks are key entry points for behaviour change.

Kirinya is located in the south-eastern part of Kira Municipality, Wakiso District, within the Greater Kampala Metropolitan Area. Covering about 4,400 acres, it has an estimated 296,500 residents, around 70% of whom are tenants. The settlement comprises six zones—Kirinya Main, Namataba, Kito A, Kito B, Kito C, and Bukasa—and includes a mix of Mailo (33%), public (22%), and freehold (45%) land. There are about 31,500 structures, mostly permanent (75%), used for residential and mixed commercial purposes. Infrastructure consists of tarmac and marram roads, with access to water, sanitation, and drainage services.

Banda, Nakawa Division, Kampala Capital City, GKMA

Location: 0°20'43.45"N, 32°38'11.16"E

Estimated Population: 50,000

Context & Demographics

Average household size: 3.9

Tenure status: 60% tenants
27% owners
2% caretakers

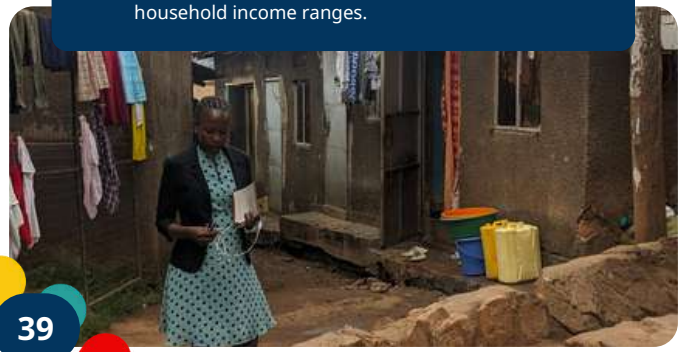
Households with children: 73% of households live with children

Education levels: 8% None
27% Primary
30% O-level
7% Vocational
28% A-level or higher

Main livelihoods: 55% self-employed, 18% casual labour, 9% salaried

Income ranges (UGX thousands): <200 - 25%,
200-400 - 23%,
400-600 - 17%,
600-800 - 7%,
800-1000 -3%,
>1000 -3%

Key insight: Households are likely to choose fuels that can be purchased in small quantities as needed, as indicated by the employment categories and household income ranges.



Cooking Practices & Health

Primary Stove Type: Traditional Metallic Stove / Sigiri - 42%
Ceramic Stoves / Sigiri - 35%
Three Stone fire - 8%

Primary Fuel Type: Charcoal - 79%
Firewood - 10%
Electricity - 3%

Secondary Stove Ownership: Electric Coil / Plate - 23%
LPG cookers - 18%
Kerosene Stoves - 15%

Percentages show the distribution of reported secondary stoves (n = 71)

Average Monthly Cooking Cost: UGX 300,000 (median)

Cooking location: 55% indoors
20% veranda
10% outdoors
15% detached kitchen/other shared indoor spaces

Key insight: Traditional fuels like firewood and charcoal are similarly the predominant fuels. Over half of the population cooking indoors reinforces the need for interventions centred around awareness on indoor air pollution and its health implications.

Behaviour & Transition Pathways

Awareness of Clean Cooking Campaigns: 10% recall any campaign

Main Information Channels: Door-to-door sensitisation, Community Radio and Campaign materials

Top Motivations for Transition: Convenience - faster (60%), better flame size (35%) and cleaner kitchen environment (36%)

Main Barriers: High upfront cost of stove and fuels and unreliable supply

Preferred Financing Options: Soft loans - 36%
Hire purchase - 17%
Credit from local cookstove supplier - 21%
Loans from SACCO - 15%
Microcredit from MFIs - 1%
Others - 10%

Key insight: Awareness through door-to-door sensitisation, community radio, and campaign materials can be carried out with an emphasis on the convenience of cleaner cooking technologies and fuels.

Banda is located in Nakawa Division, Kampala Capital City, within the Greater Kampala Metropolitan Area. Covering about 438 acres, it has an estimated 50,000 residents across 8,000 households, mostly tenants. The settlement comprises 11 zones and includes a mix of customary (20%), private (55%), and government (25%) land. It has about 20 internal roads, with transport mainly by motorcycles and on foot, and drainage maintained irregularly by the city authorities. Most residents rely on casual labour and small businesses such as vending and transport, while some children engage in scrap collection. Electricity is commonly used for lighting, and charcoal remains the main cooking fuel, alongside candles and fuel used for both lighting and cooking.

Nansana East, **Nansana Municipal Council, Wakiso District, GKMA**

Location: 0°22'54.90"N 32°31'0.10"E **Estimated Population:** 30,000

Context & Demographics

Average household size: 4.3

Tenure status: 65% tenants
31% owners
4% caretakers

Households with children: 74% of households live with children

Education levels: 6% None
15% Primary
28% O-level
14% Vocational
35% A-level or higher

Main livelihoods: 51% self-employed, 16% casual labour, 20% salaried

Income ranges (UGX thousands): <200 - 15%
200-400 - 33%,
400-600 - 27%,
600-800 - 12%,
800-1000 -6%,
>1000 -2%

Key insight: The high percentage of tenants suggests a preference for portable cooking solutions, while the main livelihoods indicate that fuels which can be purchased daily or weekly in small amounts will be of greater interest. Awareness of the impacts of current cooking fuels—especially on children's health—should be a priority.

Cooking Practices & Health

Primary Stove Type: Traditional Metallic Stove / Sigiri - 51%
Ceramic Stoves / Sigiri - 30%
Three Stone fire - 10%

Primary Fuel Type: Charcoal - 79%
Firewood - 12%
Electricity - 3%

Secondary Stove Ownership: Electric Coil / Plate - 15%
LPG cookers - 21%
Kerosene Stoves - 20%

Percentages show the distribution of reported secondary stoves (n = 514)

Average Monthly Cooking Cost: UGX 300,000 (median)

Cooking location: 47% indoors
19% veranda
14% outdoors
20% detached kitchen/other shared indoor spaces

Key insight: There is limited access to clean cooking technologies, as indicated by the dominance of traditional fuels and stoves. The use of electricity as a cooking fuel appears to be increasing among households that are transitioning to cleaner options.

Behaviour & Transition Pathways

Awareness of Clean Cooking Campaigns: 3% recall any campaign

Main Information Channels: Door-to-door sensitisation, Social gatherings, and Campaign materials

Top Motivations for Transition: Convenience - faster (68%), better flame size (46%) and cleaner kitchen environment (45%)

Main Barriers: High upfront cost of stove and fuels, and unreliable supply

Preferred Financing Options: Soft loans -34%
Hire purchase -18%
Credit from local cookstove supplier - 22%
Loans from SACCO - 18%
Microcredit from MFIs - 1%
Others - 10%

Key insight: Low awareness points to a missed opportunity for behaviour change communication, which is crucial for increasing adoption. Messaging should therefore focus initially on primary motivators such as convenience.

Nansana East lies within Nansana Municipality's fast-urbanising periphery, hosting roughly 30 000 residents across dense, mixed-use clusters. The settlement occupies predominantly Mailo land, where tenure insecurity and limited planning have produced a patchwork of residential and small-business premises. Infrastructure gaps are pronounced—unpaved roads, poor drainage, and unreliable grid connectivity constrain both living conditions and enterprise productivity. Most households depend on charcoal and kerosene for cooking, while a small number use electricity for lighting through informal connections. Youth and women's saving groups are active, presenting an opportunity to anchor awareness and micro-financing for clean-cooking solutions. The area's proximity to Nansana's main commercial corridor offers a ready consumer base for PayGo stoves and refill services, provided engagement is coupled with municipal support to address flooding and tenure-related vulnerabilities.

Nankulabye, Rubaga Division, Kampala City, GKMA

Location: 0°19'32.15"N 32°33'34.83"E

Estimated Population: 50,000

Context & Demographics

Average household size: 5

Tenure status: 80% tenants
17% owners
3% caretakers

Households with children: 79% of households live with children

Education levels: 13% None
25% Primary
25% O-level
6% Vocational
31% A-level or higher

Main livelihoods: 51% self-employed, 17% casual labour, 13% salaried

Income ranges (UGX thousands): <200 - 22%,
200-400 - 36%,
400-600 - 21%,
600-800 - 8%,
800-1000 -3%,
>1000 -3%

Key insight: There is a young and dependent population, highlighting the health imperative of transitioning to clean cooking. The high tenancy rate supports the use of portable clean cooking solutions, while the income ranges suggest that households are likely to prioritise affordability when choosing which fuel to use for cooking.

Cooking Practices & Health

Primary Stove Type: Traditional Metallic Stove / Sigiri - 49%
Ceramic Stoves / Sigiri - 36%
Three Stone fire - 6%

Primary Fuel Type: Charcoal - 87%
Firewood - 7%
Electricity - 3%

Secondary Stove Ownership: Electric Kettle - 25%
Electric Coil / Plate - 19%
LPG cookers - 17%

Percentages show the distribution of reported secondary stoves (n = 101)

Average Monthly Cooking Cost: UGX 300,000 (median)

Cooking location: 49% indoors
22% veranda
13% outdoors
15% detached kitchen/other shared indoor spaces

Key insight: The moderate interest in the use of electricity and LPG indicate the residents' readiness for transitioning to cleaner technologies. Half of the population cooking indoors reinforces the need for interventions centred around awareness on indoor air pollution and its health implications.

Behaviour & Transition Pathways

Awareness of Clean Cooking Campaigns: 3% recall any campaign

Main Information Channels: TV and radio announcements, door-to-door sensitisation and campaign materials

Top Motivations for Transition: Convenience - faster (67%), better flame size (46%) and cleaner kitchen environment (43%)

Main Barriers: High upfront cost of stove and fuels and availability of stoves

Preferred Financing Options: Soft loans - 33%
Hire purchase - 22%
Credit from local cookstove supplier - 20%
Loans from SACCO - 15%
Microcredit from MFIs - 2%
Others - 8%

Key insight: Awareness remains low, but readiness to transition is high if issues of affordability and supply reliability are addressed. The convenience associated with modern clean cooking is a strong motivating factor for households to make the transition.

Nankulabye is a long-established informal settlement in Lubaga Division with approximately 50 000 residents. It combines dense residential quarters with a vibrant informal business economy serving the nearby Makerere and Kasubi areas. Flooding, inadequate waste management, and poor drainage remain chronic issues, while housing is largely rental and constructed from mixed materials. Charcoal dominates household energy use, supplemented by limited electricity mainly used for lighting. Community inception meetings revealed strong leadership structures and multiple federation-affiliated savings groups actively engaged in development initiatives. Local residents expressed enthusiasm for demonstrations and awareness campaigns, emphasising the health and cost burdens of current fuels. Given its social cohesion and proximity to universities and urban markets, Nankulabye presents high potential for early adoption of clean-cooking technologies and for linking youth and women entrepreneurs to new energy-service opportunities.

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ACTogether Uganda led the household survey implementation and contributed to data cleaning, analysis, and validation. The ACTogether team included Francis Mawejje, Junior Sebbanja, Waiswa Kakaire, and Edris Lubega.

Established in 2006 as an independent Ugandan organisation affiliated with the international network of Shack/Slum Dwellers International (SDI), ACTogether works to facilitate and support grassroots-led advocacy efforts aimed at building strong, self-reliant communities.

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ICLEI Africa also extends its appreciation to all partners for their dedication, collaboration, and shared commitment to advancing clean cooking access across Uganda.

KCCA
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