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IKI INTERNATIONAL CLIMATE INITIATIVE

KENYA: KISUMU COUNTY, MOMBASA COUNTY, NAKURU COUNTY

HARNESSING RENEWABLES FOR CLEAN COOKING IN KENYA

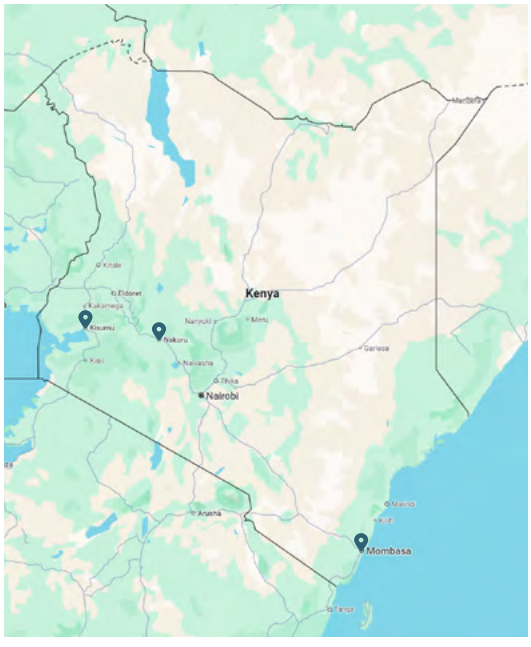


Figure 1: Map of Kenya (Source: Google Maps)

Facts and figures

Kisumu County, Kenya:

Population
1,155,574 residents (2019)

Total area
2,009.5 km^2

Municipal budget
USD 105 million (2023)

Nakuru County, Kenya:

Population
2,162,202 residents (2019)

Total area
7,498 km^2

Municipal budget
USD 146 million (2023)

Mombasa County, Kenya:

Population
1,208,333 residents (2019)

Total area
114 km^2

Municipal budget
USD 114 million (2023)

Introduction

The Kenyan national government, in conjunction with county governments, is seeking to transform the economy and ensure sustainable energy development. It is however facing challenges such as securing financing for necessary infrastructure, loss of natural habitat, inequality, and energy poverty in its rural and urban areas. The low level of energy access, especially access to clean cooking, is rife due to the dependence of almost 80% of the population on traditional biomass and paraffin for cooking (as per the 2019 census). Access to clean cooking technologies cuts across all these issues and is a particular priority for the country. The use of these traditional cooking fuels contribute to pollution, health impacts, and environmental damage, often impacting women and children the most. The adoption of clean cooking technologies in conjunction with the use of cleaner fuels is therefore a critical part for a just energy transition [1].

Clean cooking refers to the use of more efficient fuels that emit fewer pollutants as compared to traditional biomass and open fire cooking. The World Health Organization defines clean fuels and cooking technologies as those using solar, electric, biogas, Liquified Petroleum gas (LPG), alcohol and configured biomass stoves with limited particulate matter emissions [2].

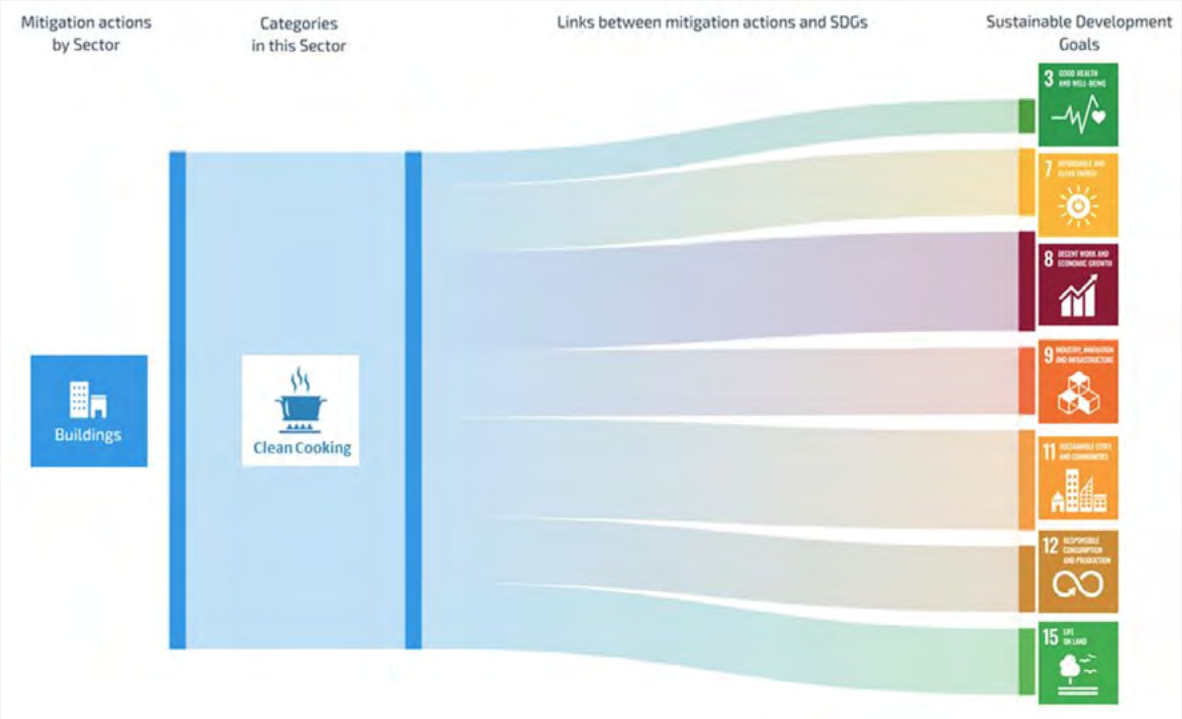


Figure 2: *Clean cooking and its links to the SDGs*
(Source: The Kenyan Cooking Sector - Opportunities for Climate Action and Sustainable Development, NewClimate Institute, 2021)

According to the World Health Organization (WHO) 3.2 million people die prematurely due to health-related complications from exposure to particulate matter and other pollutants, byproducts from the combustion of charcoal, wood and kerosene. Some of the most common illnesses are ischaemic heart disease, stroke, lower respiratory infections, chronic obstructive pulmonary disease (COPD), and lung cancer, with cases being more prevalent amongst infants and women [3].

The relationship between traditional cooking methods and environmental impact is explained by combustion of biomass releasing high quantities of carbon dioxide (CO_2) and other greenhouse gasses like methane (CH_4) into the atmosphere leading to climate change. According to the Food and Agriculture Organization (FAO), roughly 2.6 billion people worldwide used traditional fuels for household cooking in 2019; biomass and charcoal alone represented around 88 percent of the traditional cooking fuels used in lower and middle income countries during that year, while its use is comparably higher in Africa where 63 percent of households and more than 90 percent of all wood harvested in Africa is used as woodfuel [4].

As more people adopt clean cooking methods, dependence on firewood and other traditional biomass fuels decreases. A study by Bakehe et al. (2023) using data from 92 developing countries between 2000 and 2015 found that access to clean cooking fuels and technology reduces deforestation. The study also introduces the concept of an "energy ladder," which describes the progression from reliance on biomass at the lower rungs to the use of cleaner, less harmful fuels at higher levels [5].

Finally the socio-economic impacts attributed to the non-use of clean cooking can be seen in the detrimental effects it produces on communities, causing hardship on families by way of adverse health effects, specifically on women and children, food insecurity, and economic stagnation [6].

The table below highlights the various benefits and opportunities linked to clean cooking fuels.

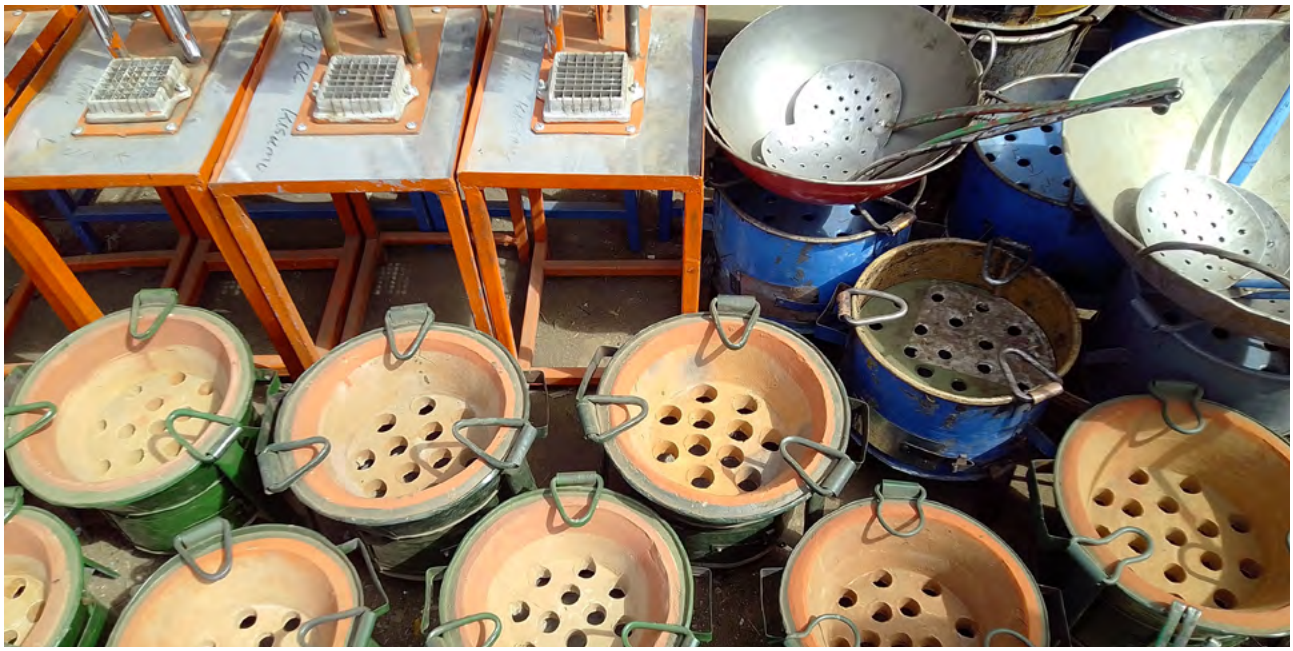
Table 1. *Opportunities when using cleaner fuels for cooking [7]*

Fuel	Liquefied Petroleum Gas (LPG) and natural gas*	Ethanol	Biogas	Electricity
Impact on health	The reduction or eradication of household/indoor air pollution results in a reduction in respiratory risks; better growth and development in children; and a reduction in physical health challenges such as red eyes, running nostrils, burns and other forms of injury.			Eliminates exposure to harmful pollutants associated with other fuels, offering the best possible health outcomes.
Emissions	Produces minimal smoke and emissions compared to solid fuels.			Emissions-free for the user, making it the most environmentally friendly option.
Economic opportunities	Less time spent gathering fuelwood, Reducing the time spent on fuel processing and cooking significantly improves the lives of women and children. By freeing up their time, they can access education, healthcare, and opportunities for personal growth, leading to stronger communities and a better quality of life.			Frees up time for education, healthcare, and other personal growth activities by removing the need for fuel gathering and processing.
Environmental impact	Reduced deforestation, thus improving the ability of forests to sequester carbon, and support climate change protection. This also leads to the protection of forest habitats which are important for many species and biodiversity impacts, as well as livelihoods. It also leads to a reduction in carbon emissions and other pollutants from domestic cooking.			Completely avoids carbon emissions and other pollutants for the user, significantly contributing to climate change mitigation and forest habitat preservation.The source of electricity is the deciding factor for its emissions intensity.

** While LPG and natural gas are considered clean cooking fuels by the WHO, they are not renewable, even though they are deployed as alternatives to traditional biomass and are beneficial in comparison across some crucial metrics.*

There are a number of shortcomings for each of the fuels mentioned above. For example, LPG and natural gas are fossil fuels. Renewable alternatives such as biofuels are feasible if sourced sustainably, as is electrification to enable the use of renewables-based electricity. However, the electrification of kitchens incurs higher costs compared to other alternatives. This includes the need for skilled professionals for proper installation, maintenance expenses, and the cost of batteries to enable cooking during the evening and early morning.

In any case, as a result of the benefits listed above, many local and regional governments such as the counties of Kisumu, Mombasa, and Nakuru in Kenya have prioritized clean cooking initiatives as part of their broader transition toward cleaner and more sustainable energy solutions to mitigate climate change. The efforts made by these local governments exemplify the challenges ahead, but their progress and continued dedication to this critical issue serves as a model not only for other Kenyan counties but for other countries as well. This case study provides an overview of the strategies employed by local governments in these counties, along with an analysis of the results achieved and the necessary adjustments, offering valuable lessons learned for future initiatives.



Locally manufactured improved cookstoves at a market in Kisumu County (May 2023)

Kenyan counties' renewables journey

Kenya relies heavily on renewable energy, but despite this progress, about 13 million people or roughly 25% of the population lacked access to electricity in 2018 [8].Access to electricity is a significant concern, largely due to the financial challenges involved in distributing it to rural communities and low-income households in urban areas. As a result, many people rely heavily on alternative fuels for cooking. The distribution of types of fuels commonly used by households in Kisumu County according to the 2019 National Census shows that firewood was the main source of fuel followed by LPG and Charcoal, with minimum use of Electricity with less than 1% of households using it. Indoor air pollution from polluting fuels led to an estimated 14,300 premature deaths throughout Kenya in 2010 [9].

Kisumu County

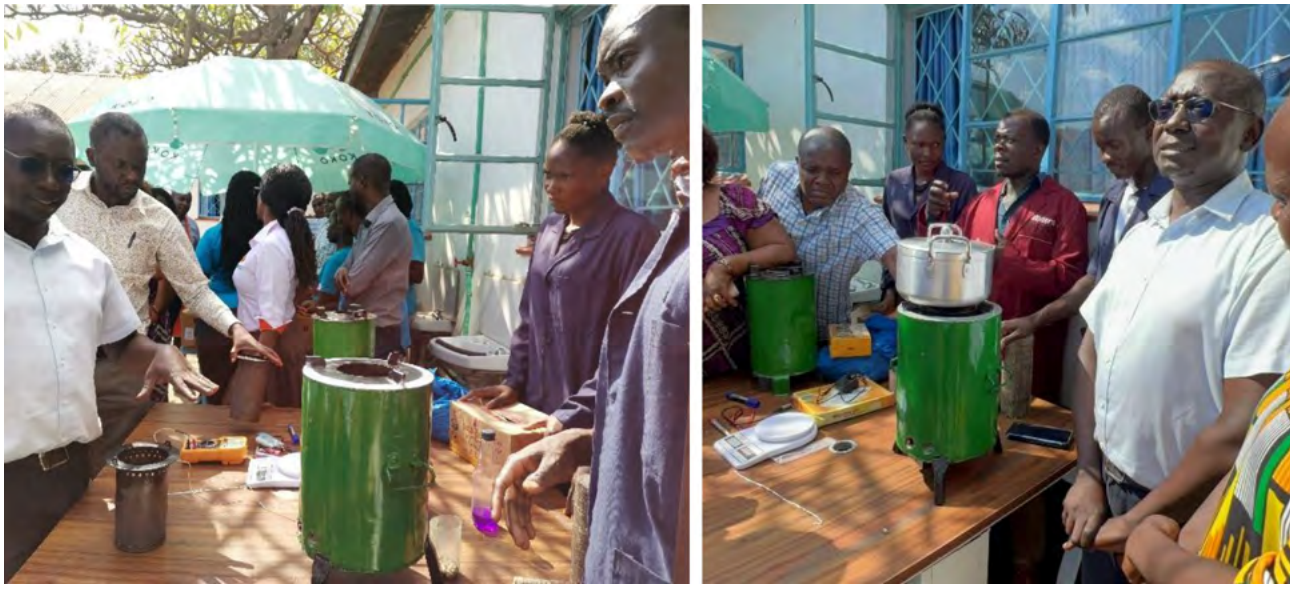
Strategically located on Lake Victoria's shores, Kisumu County serves as a key commercial and transport hub for Western Kenya and the broader East African region. In 2019, the Kisumu County population was approximately 1.15 million with around 300,745 households. The majority of people in Kisumu (61.8%) live in rural areas with a high poverty rate (48%) [10]. The local economy mainly revolves around trade, farming, and fishing.

As in many sub-Saharan African countries, Kenya heavily relies on biomass for cooking. The 2019 census showed that firewood 49.6%, charcoal 22.2%, and paraffin 7.8% were the primary cooking fuels, with LPG usage at 18.7%. This marks an improvement from 2015 when reliance on firewood and charcoal was higher at 58.2% and 29.3%, respectively [8].

Kisumu's Action Plan

In 2024, Kisumu County's governor highlighted the importance of sustainable energy as a catalyst for development in Kisumu County emphasizing that access to clean energy is crucial for improving health, water access, agricultural productivity, industrial output, education, and overall quality of life [11]. Kisumu County's 2019 Climate Change Policy addresses clean cooking through various targeted objectives. The policy recognizes that the use of biomass fuels for cooking negatively impacts local forests and poses a threat to the county's environmental stability. As a result, reducing biomass use in cooking has been prioritized. The policy's key initiatives include:

- Phasing out the production and use of charcoal and promoting the adoption of eco-friendly fuels like biomass briquettes, with community support for their production and use.
- Phasing out traditional biomass technologies, such as three-stone cooking stoves, and replacing them with clean cooking solutions.
- Promoting ethanol stoves for cooking, currently in the pilot stage.
- Installing biogas systems in learning institutions, an initiative that is ongoing [12].



Participants at a clean cooking demonstration in Kisumu County (May 2023)

The County aims to promote the development and adoption of renewable energy technologies and incentivize the adoption of renewable energy technologies that use biogas and solar energy. It also supports the adoption of clean cooking solutions, with targets for the phasing out of traditional biomass use at both institutional and household levels, the promotion of ethanol stoves for cooking, and the installation of biogas systems in learning institutions.

Kisumu County was part of a clean cooking initiative, carried out in partnership with the Clean Cooking Association of Kenya (CCAK) and Netherlands Development Organization (SNV), that aimed at promoting sustainable energy use and improving health outcomes. The initiative focused on reaching healthcare workers, community health workers, and people living with disabilities across the county. The initial phase involved distributing gel stoves and fuel in Kisumu East and Central sub-counties. The program is set to expand to other sub counties, with Ojola hosting Kisumu West and Seme, and Ahero hosting Nyakach, Nyando, and Muhoroni.

Kisumu County is also undertaking innovative initiatives such as the water hyacinth biogas project. This project converts invasive water hyacinth into clean cooking gas, reducing reliance on firewood, improving air quality, and managing waste. As a result, the project contributes to local energy independence, creates employment opportunities, and helps mitigate climate change [13]. One example of the success of this approach is demonstrated by the Centre for Science and Technology in Africa, using the invasive water hyacinth to produce ethanol for cooking. Founded in 2016, the center now supplies 560 households with ethanol for their domestic cooking at a retail price of KES 7,052 [14].

Clean cooking demonstration in Kisumu County (May 2023)

Nakuru

Nakuru County is Kenya's third-most populous region after Nairobi and Kiambu. Slightly more than half of its residents live in rural areas and the remaining 46% live in urban centers. Nakuru County's gross domestic product (GDP) in 2019 was estimated at KES 613 billion, contributing 6.9% to Kenya's national GDP despite a poverty rate of 29.1%, which is slightly lower than the national average of 36.1% [15]. The county's economy has been expanding, primarily driven by natural resource sectors like agriculture, forestry, fishing, wildlife, and quarrying. Agriculture remains the cornerstone of the local economy,

accounting for approximately 60% of total economic activity. Other key sectors include agribusiness, financial services, geothermal power generation, and tourism. Nakuru's economic prosperity is linked to its ecosystems and the essential services they provide, such as a stable climate, fresh water, fertile soil, and wildlife [15].

Nakuru's Roadmap to Clean Cooking

As part of Nakuru County's efforts to transition the population to clean cooking, the County has created the "Accelerating Clean Cooking Solutions for Households" program under its County Energy Plan (CEP). The goal of this initiative is to increase access to cleaner cooking solutions, aiming to raise the current access rate from 46% in 2021 to 70% by 2027 and ultimately achieve 100% access by 2030. It is a multi-pronged approach, incorporating the following steps.

1. **Partnership development:** This involves establishing partnerships with cooking energy providers, development partners, and relevant government departments, including hosting consultative forums to gather input from stakeholders.

2. **Awareness creation:** This involves developing and implementing awareness campaigns about the benefits of clean cooking, as well as conducting surveys to understand the needs and preferences of different communities. Marketing firms will also be involved to create awareness materials.

3. **Clean cooking solutions:** This step involves identifying and promoting suitable clean cooking technologies and ensuring that they are integrated into the relevant county plans. It also includes the development of a detailed list of clean cooking service providers. The rollout of these solutions (such as ethanol, biogas, and pellets) will be accelerated through consumer financing and result-based financing (RBF), which ties financial support to achieving specific outcomes. This increases access to affordable clean cooking options. Additionally, the Clean Cooking Association of Kenya (CCAK) is enhancing its presence at the county level by signing MoUs with counties, promoting local collaboration and adoption of clean cooking technologies.

4. **Policy and institutional framework:** This step consists of reviewing and strengthening existing policies and regulations related to clean cooking with the ultimate aim of developing a comprehensive policy framework to support the transition to cleaner cooking. A dedicated unit within the county government to oversee clean cooking initiatives would also be established.

5. **Financial support:** Ensuring clean cooking solutions are affordable is crucial. This can be done by mobilizing financial resources from various sources, including government budgets, development partners, and private sector investments, developing financial incentives and subsidies to encourage the adoption of clean cooking technologies, as well as by establishing a revolving fund to support the implementation of clean cooking projects.

6. **Monitoring and evaluation:** In order to track progress and identify areas for improvement, a robust monitoring and evaluation framework is also necessary. This involves collecting data on the number of households adopting clean cooking solutions, health outcomes, and environmental benefits, and analyzing and using this data to inform program adjustments and decision-making.

The County also laid out similar strategies for educational institutions and health centers, and has been actively engaging these institutions. For schools and learning institutions, Nakuru aims to discuss with schools their

clean cooking options and challenges, map out and create a register of stove providers for institutions, and develop associated funding strategies. A similar plan will be followed for healthcare facilities, with initial discussions and needs assessments, an identification of partners for technical and financial support, followed by a final roll-out of clean cooking programs for such institutions [16].

As part of the local government's effort to introduce clean cooking practices to the local population, Nakuru County hosts annual "Clean Cooking Weeks" as part of a national initiative. The week-long event seeks to foster collaboration between the national government and county governments to advance clean cooking adoption. These types of events help spread awareness about the issue and engage communities by educating them on the dangers of using traditional methods. They also serve as a meeting point between different stakeholders such as consumers, sellers, producers, and entrepreneurs, where business contacts can be made to expand the local market. The involvement of the local government is key to support the communities and local businesses while advancing the transition to clean cooking practices.

A demonstration of electric pressure cookers in Kisumu (May 2023)

Mombasa

Mombasa County, located in the southeastern part of Kenya's coastal region, is the smallest county in the country by area but ranks fourth in contributing to Kenya's GDP. With a population of approximately 1.3 million people, the county benefits from its proximity to the Indian Ocean's Exclusive Economic Zone to the east. Most industries in Mombasa rely entirely on electricity as their primary energy source. However, according to the county's census [17] paraffin is the dominant energy source for cooking with 32.1% of households using it for these purposes, respectively. Other cooking fuels include charcoal (23.2%), firewood (4.7%), LPG (37.6%), and electricity (1.3%). For lighting, (51.5%) of households use paraffin [18].

Mombasa County's Integrated Development Plan (CIDP) underscores the county's

dedication to creating a robust legal and regulatory framework for tapping into solar and wind energy resources. The plan emphasizes modernizing the county's energy infrastructure, with a focus on developing renewable, affordable, and reliable energy sources while expanding rural electrification efforts [18].

Mombasa's Efficient Biomass Cookstoves Initiatives

In its 2023–2027 CIDP, Mombasa County prioritizes the adoption of clean cooking technologies, including biogas and biomass cookstoves, to reduce greenhouse gas emissions and promote environmental sustainability. To facilitate the transition from traditional fuels like wood and charcoal, the county plans to offer subsidies for biogas adoption, making it a more accessible and affordable cooking option for households [19].

In addition, Mombasa's Climate Action Plan contains a list of 47 key actions related to climate change adaptation and mitigation. One of the key areas of focus is the transition to clean cooking. The plan highlights the importance of promoting local industries to support this transition. This includes encouraging the local manufacture of clean cookstoves as well as the fuels and other related appliances, developing and enforcing quality standards, and ensuring the proper servicing of these stoves [20].

While transitioning to non-traditional-biomass fuels for cooking is the ultimate goal, these solutions are not always feasible, particularly in coastal areas of Kenya like Mombasa County. High costs of gas canisters and limited access to electricity present significant barriers. As a temporary solution, the use of improved biomass stoves could be effective. These stoves, made from materials such as clay, metal, or ceramic, burn biomass like firewood and charcoal but are designed to achieve higher burning temperatures. This efficiency reduces biomass consumption and lowers the emission of pollutants.

Mombasa County has planned to distribute 10,000 units of fuel-efficient biomass stoves, which are locally known as jikos. These jikos serve as a transitional technology between traditional cooking methods and electric stoves. The Annual Development Plan for Mombasa County outlines the distribution of 10,000 jikos for the fiscal year 2023/2024, with an additional 10,000 units planned for both the 2024/2025 and 2025/2026 fiscal years. The county aims to involve 10 partners each fiscal year in this initiative, with a budget allocation of 30 million Kenyan shillings (~233,000 USD) [21].

However, one major challenge in adopting these stoves is the underdeveloped local market. Importing stoves from central Kenya into coastal counties like Mombasa results in high costs. Therefore, fostering local production of these stoves is crucial for market sustainability. Achieving this requires a synergistic partnership between local government, organizations, and the private sector. Further government involvement in connecting producers with retailers, distributors, and wholesalers is essential. These actions will stimulate local business growth, leading to the creation of skilled jobs in the region. By creating a favorable environment through incentives or subsidies, the government can encourage both producers and consumers to adopt these sustainable cooking technologies [22].

An example of an initiative supporting this effort is a four-year program launched in 2021 by a consortium that includes the German Federal Ministry for Economic Cooperation and Development (BMZ), the Green Climate Fund (GCF), and Energy 4 Impact. This program aims to improve the accessibility and affordability of clean cooking alternatives for low-income communities. The government's role in the program involves equipping producers with the necessary knowledge of techniques and regulations, demonstrating the standards required for certification by the Kenya Bureau of Standards. Additionally, financial support from the Kenya Forest Service has been vital

for the growth of small and medium-sized enterprises (SMEs) in this sector.

Despite challenging economic circumstances, the project successfully provided 82,356 improved cookstoves to rural Kenyan communities, including in Mombasa County, from the time of its launch and March 2023. A key achievement has been expanding the distribution network to coastal regions, making cleaner and more efficient cooking options accessible to previously underserved areas. Environmental impact data for 2022 demonstrates the effectiveness of these improved cookstoves. Compared to traditional stoves, the stoves sold through the program have reduced carbon dioxide emissions by over 170,000 tonnes [22]. This significant reduction contributes to mitigating climate change and improving air quality in rural communities.

Lessons learned

Engage with and respond to community needs

Local governments in Kenya have recognized the importance of understanding the specific needs of their communities, and cultural preferences particularly when it comes to adopting new cooking technologies. The challenges some communities face can significantly affect the rate at which these technologies are adopted. In response, local governments have focused on implementing pragmatic economic solutions that serve as a secure, intermediate step toward the full transition to clean cooking options. For example, the Mombasa County Government's distribution of more efficient biomass stoves reflects an understanding that not all communities are currently able to switch to cleaner fuels. However, by providing them with more efficient stoves, the government is taking meaningful action to mitigate some of the health risks associated with biomass use in the short run, particularly for women and children. This approach demonstrates a commitment to gradual, but impactful, improvements in public health and environmental sustainability, even as the ultimate goal remains a complete transition to cleaner cooking alternatives.

Private sector participation is key

The involvement of the private sector is essential in the transition to cleaner cooking alternatives, as they can significantly expand accessibility and lower the associated costs. The private sector's expertise and market understanding must complement local government efforts, creating a synergistic collaboration that drives economic growth and informs effective policy making. Nakuru County exemplifies this approach by actively promoting the commercialization of alternative fuels and technologies. One key initiative by the government is the organization of local events, such as the week-long clean cooking expos. These expos bring together various commercial sectors related to clean cooking, fostering partnerships and creating business opportunities. They also include consumers, allowing them to explore different clean cooking options and raising awareness about the importance of transitioning to safer and more sustainable cooking methods. Through these events, the government not only supports the private sector but also empowers consumers with knowledge and access to cleaner cooking solutions, further accelerating the adoption of these technologies.

Political will is paramount

The counties of Mombasa, Kisumu, and Nakuru have actively worked to draw attention to the harmful effects these cooking practices have on their communities. Highlighting the negative impacts on health and the environment serves as a foundation for enacting effective policies. These efforts are supported by public awareness campaigns and collaborations with local organizations and NGOs, aiming to educate the population and empower them to make informed decisions about their cooking practices. One significant outcome of these initiatives is the emergence of community leaders, particularly women, who are most affected by traditional cooking methods, as vital links between the community and the government [23]. The success achieved so far in transitioning to cleaner cooking technologies can largely be attributed to the proactive efforts of local governments in recognizing the issues and initiating discussions on viable solutions

Adopting a holistic approach

The transition to clean cooking in the counties of Mombasa, Kisumu, and Nakuru involves a combination of large scale initiatives and smaller, targeted efforts. This multifaceted approach is crucial for creating the right conditions for the desired transformation. A key component is ensuring reliable access to cleaner fuels at competitive costs compared to traditional fuels like biomass. The development of LPG facilities in Mombasa County exemplifies this strategy, paving the way for the growth of the LPG market, which will benefit consumers through lower costs and better accessibility. These large projects also bring additional advantages, such as job creation and economic prosperity for local residents, helping them climb the energy ladder and transition to cleaner cooking fuels.

In parallel, smaller initiatives, such as the distribution of more efficient biomass cookstoves, play an equally important role in this transition. These projects not only provide immediate benefits to communities but also contribute to the broader goal of cleaner cooking. Local governments must engage in projects of varying scales, as they provide essential insights that can guide future initiatives and inform better policy decisions.

Partnerships between governments and both large and small organizations or industries strengthen these efforts and expand their reach to even the most remote and vulnerable communities. Implementing smaller projects in these areas not only supports the just energy transition but also connects small communities to the government, ensuring they are represented and heard on this and other critical issues. This comprehensive strategy is essential for achieving long-term success in the transition to clean cooking across these counties.

Careful introduction of transition fuels and technologies

Given that clean cooking access is linked to issues related to the environment, health, and justice, a lot of governments choose to promote and adopt clean fuels that are not necessarily renewable (such as natural gas and liquefied petroleum gas), but which are better alternatives to traditional biomass in terms of their impact on health and the environment, and are quicker to deploy. Yet, these fuels are major contributors to climate change. The ultimate goal should ideally be to switch to electricity or sustainable bioenergy sources in order to achieve the benefits of clean cooking fuels while avoiding contributing to climate change. This is particularly beneficial in a country like Kenya where electricity is almost entirely sourced from renewable sources.

Where this is not feasible (due to upfront costs, community resistance, etc.), non-renewable clean cooking fuels should be deployed as transition fuels, with plans in place to eventually shift away from them. This should be

done to avoid a lock-in of supply chains, infrastructure, and behavior, which can hamper efforts to shift away from fossil fuels entirely in the long run.

Monitoring progress

To comprehensively assess the impact of clean cooking practices on local communities, context specific key performance indicators (KPIs) should be developed. These KPIs will guide the systematic collection and analysis of data, which can then inform implementation plans and allow for necessary adjustments. For instance, the Kenya National Cooking Transitions Strategy outlines KPIs to track Kenya's progress in adopting clean cookstoves, with a focus on addressing the disparity between rural and urban areas in terms of accessibility and affordability of cleaner fuels. Proxy indicators, such as geographic location and income levels, are utilized to identify which demographics are able or unable to switch to cleaner cooking methods. By classifying households based on their ability to afford cleaner fuels, the government can tailor policies and projects to target specific groups, thereby promoting a just transition to clean energy.

The Kenya National Cooking Transitions Strategy also highlights several key areas for monitoring. In terms of health, it suggests tracking improvements by measuring mortality and morbidity rates related to respiratory diseases caused by traditional cooking methods. From an economic perspective, the strategy proposes using financial instruments like result-based financing (RBF) to enhance accountability, transparency, and efficiency in program implementation. This approach not only supports SMEs, but also enables them to contribute to the government's clean cooking goals. Additionally, the strategy recommends converting GHG emissions reductions into monetary values, demonstrating both environmental and economic benefits. In addition, tracking girls' performance in school can serve as an indicator of how much time they are spending on cooking-related activities. As cleaner cooking methods reduce the time needed for fuel collection and cooking, improved academic performance may reflect the additional time girls can dedicate to their education instead of household chores. This makes school performance a valuable metric for assessing the broader impact of clean cooking solutions on girls' lives [24].

Conclusion

The transition to cleaner cooking alternatives in Kisumu, Mombasa and Nakuru County, Kenya, is progressing, and various approaches have been adopted to address the implementation challenges. It is crucial to consider the synergies between various sectors addressing local challenges, and overarching county and country development goals. The private sector's involvement can be crucial in introducing affordable and user-friendly technologies. However, there is still substantial potential for developing new industries and expanding existing ones. Efforts to create standards and policies have facilitated the adoption of new cooking technologies, but this approach needs to be extended to other fuel types. Establishing a network of alternative fuels would give residents the flexibility to choose the best option based on their economic and geographical needs. Additionally, understanding cultural cooking preferences and incorporating education are essential for helping residents integrate new technologies into their daily lives. Success hinges on direct, comprehensive engagement with these communities, employing a bottom-up approach to ensure the effective implementation of programs.

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The 100% Renewables Cities and Regions Roadmap project facilitates the energy transition by raising local awareness on renewable energy sources, showcasing how local and national governments can create coordinated enabling frameworks and policies, exploring access to public and private sector finance, and building local renewable energy projects to address electricity, heating and cooling.

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ICLEI – Local Governments for Sustainability is a global network of more than 2500 local and regional governments committed to sustainable urban development. Active in 125+ countries, we influence sustainability policy and drive local action for low emission, nature-based, equitable, resilient and circular development. Our Members and team of experts work together through peer exchange, partnerships and capacity building to create systemic change for urban sustainability.

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