

# Linking Energy, Health and Sustainable Livelihoods: Policy Options for Scaling Up Improved Cooking Solutions in Kitui County of Kenya

The lack of clean, affordable and appropriate cooking solutions has a direct impact on human health and the environment, as well as on livelihoods and gender equality. Women and girls spend long hours searching for firewood, affecting school attendance or denying them opportunities to engage in more productive activities.

In response to calls from local women's groups the county government of Kitui has initiated a number of policy measures to redress this situation. They include establishing a clean cooking programme within the Governor's office and making a budget provision of 100 million Kenya Shillings (around USD 1 million) in the County Integrated Development Plan (CIDP) for 2018-2022 to promote and train communities on installation of clean cookstoves. However, there is still a long way to go to ensure access to sustainable energy and cooking solutions for all.

This Policy Brief outlines some lessons learned by the Voice for Change Partnership (V4CP) in rolling out clean cookstoves across Kitui, Kiambu and Kilifi counties in Kenya. In particular, it highlights some "low hanging fruit" at the county level that can help link the clean cooking agenda to broader sustainable development goals. Given the similarity of clean energy access challenges in other parts of the country, it is expected that such an approach has potential for replication and scaling up.

## Impacts of Unclean Cooking in Kitui: The Evidence

The majority of households in Kitui County depend on biomass for cooking. The predominant fuels used are firewood and charcoal, agricultural residues and kerosene. The use of inefficient cookstoves further aggravates the problem. Even urban households that report using gas and other clean fuels supplement it with biomass.

In 2018, GROOTS Kenya carried out a study to understand the health impacts of unclean cooking among 455 households in Kitui County. The study revealed that the majority of households that use three-stone cookstoves are more predisposed to respiratory diseases and other ailments such as irritation of the eyes and wheezing.

The following are some of the health impacts of unclean cooking in the County as reported by the surveyed households.

## Key messages

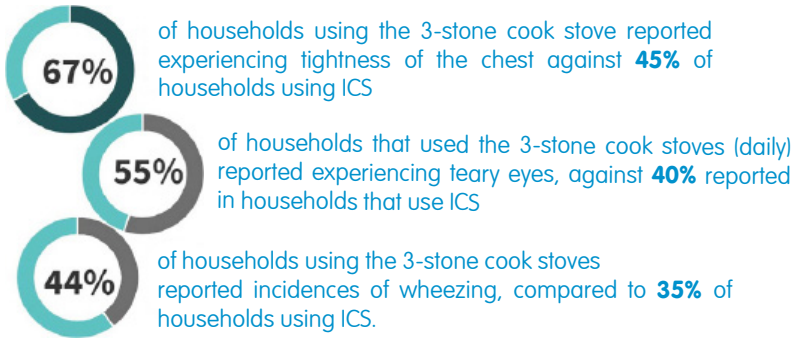
*Evidence from a community-level study confirms that using unclean fuels and technologies has a major impact on health, as well as livelihoods of low-income families in Kitui County.*

*By earmarking funds for improved cooking solutions, Kitui County has demonstrated its commitment to the clean energy transition. However much more needs to be done to ensure access to safe and sustainable energy for all.*

*There are many opportunities to increase demand for clean energy solutions through, among other actions: raising public awareness of clean energy products and services; improving technical skills in the production and use of clean fuels and technologies; and promoting business models to roll out improved cooking solutions at the local level.*

*However, "winning hearts and minds" for the transition to clean cooking requires integrated and systems-wide actions. These include linking awareness programmes to a stable supply of clean, efficient, culturally-appropriate and affordable energies and technologies, as well as access to finance for both households and local businesses.*

## Health Impacts



## Gender and Livelihood Impacts

Women account for **88%** of the total time used in fetching firewood compared to **12%** spent by men.



Women spend **9 times** as much time as men to cook and prepare meals.

## Environmental Impacts

Heavy reliance on unclean and inefficient fuels and cookstoves is linked to unsustainable wood harvesting, which contributes to land degradation in the arid and semi-arid county. Whereas the county government has taken drastic measures to reverse the situation through issuing a charcoal ban, there is need both for effective enforcement of the ban as well as sustainable alternatives for energy access and livelihoods. This calls for integrated, system-wide solutions in which clean cooking is viewed within a broader clean energy framework that includes targets for promoting solar, wind, liquefied petroleum gas (LPG) and other cleaner energy solutions.

## Mueni's Story

*Mueni is a 21-year old mother of one living in Mbitini Ward of Kitui Rural sub-county. In June 2016, Mueni, who suffers from epilepsy, complained of dizziness and decided to rest. Later that day, when a neighbour received no response after knocking on the door, she walked in and found Mueni lying motionless next to the open fire, with severe burns on her hands, face and parts of her body.*

*In addition to suffering pain and a worsening of her epileptic condition due to the burns, the ordeal created a financial burden for Mueni's mother. "We used a lot of cash in treating my daughter. I wish I had used that money to buy a safer cookstove," says Mueni's mother regretfully.*

*Mueni's story illustrates the health impacts of unsafe and inefficient cookstoves, which can also plunge households deeper into poverty. These interrelated dimensions need to be included in decision-making processes on climate change and energy security at both the national and county levels.*

## Winning "hearts and minds" for the transition to clean energy

Despite "political and policy will" to promote safe and sustainable energy solutions, a number of structural and social barriers, as well as knowledge gaps, hamper the widespread adoption of efficient and clean cooking practices in Kitui County. They include the cost of the clean fuels and/or technologies, insufficient attention to cultural appropriateness of some devices, and low awareness among some users of the health, livelihood and environmental impacts of polluting fuel use.



**Towards improved cooking solutions:** A traditional 3-stone fire; an improved cooking unit built by trained local artisans; and a woman prepares a meal using a biogas-fuelled stove promoted by the Africa Biogas Partnership Programme

As shown in the following diagram, nearly 70% of households surveyed by GROOTS Kenya expressed interest in adopting ICS, while less than half had adopted clean fuels and technologies.

This indicates that there is room for targeted social marketing campaigns to reach those who may still not be aware of ICS, or to address their specific needs.



These conclusions are echoed by a county government analysis of factors influencing household energy needs in Kitui. The government study found that while most households may be aware that there are better alternatives for their cooking and other energy needs, many still find it hard to make the transition to clean energy. Scaling up the uptake of ICS will require demonstrating that such solutions are not only clean and safe, but, even more importantly, their use will not fundamentally affect how households plan for, prepare and consume their meals.

### Policy and market drivers for investing in improved cooking solutions

Kitui County’s Country Energy Outlook for 2017 discusses a number of opportunities for creating greater demand for clean energy solutions. They include: raising awareness of clean energy products and services; improving technical skills (for instance the installation of biogas or making of biomass briquettes for household and institutional use); and rolling out improved cookstoves that take account of economic and social realities. The policy document further notes that convenience of use can be enhanced through offering basic technical skills training and enhancing the design of improved cookstoves and other ICS through incorporating feedback from households, and especially women, on aspects such as type of food cooked, frequency of cooking and other needs such as heating or lighting.

Policy measures that discourage the use of unclean or environmentally destructive fuels – such as enforcing the county’s ban on charcoal burning and transport – also offer opportunities to shift to cleaner energy solutions. If well-integrated into county

national initiatives such as the “Mwananchi Gas Project” (which aims to distribute six-kilogramme gas cylinders to poor households), can support a systems-wide approach at the county level.

Diverse public and private initiatives are also promoting ICS such as the low-emission ceramic “jiko okoa” cookstoves that enable households to use biomass much more efficiently. Some of the latest models incorporate a USB power outlet that can be used to charge cell phones and other USB devices using the heat produced during cooking. However, the cost of these improved cookstoves remains out of reach for many poor households. The current cost of an advanced stove on the market is around US\$ 75, which is almost four times the price of simpler cookstoves.

### Financing the transition

Ultimately, finance remains one of the most important factors influencing the wide-scale adoption of ICS. Not only do the poorest households find it difficult to purchase improved cookstoves, it is also important to support artisanal cookstove builders to build sustainable businesses that can provide ICS services and products (clean fuels) at the local level.

This conclusion is confirmed by a recent market analysis by GROOTS Kenya, which indicated that a majority of small-scale stove builders shy away from the business due to the high initial cost and low profit margins involved. The study concluded that county authorities can help address these challenges by allocating funds to promote alternatives to charcoal burning and subsidising poor households to purchase improved cookstoves. Such measures will also help stimulate demand on the ground, thus creating sufficient work for local artisans, including women.

As a civil society network, GROOTS Kenya has amassed considerable experience in establishing revolving credit funds for women to invest in LPG and biogas. The network is using this knowledge to support the county government and private sector actors to mainstream clean cooking into county budgets and business models.

### Policy Recommendations

Investing in improved cooking solutions can contribute to multiple benefits, including improved human health and livelihoods, as well as environmental protection. The experience of GROOTS Kenya and the broader Voice for Change Partnership in advocating for ICS at the local level highlights the following broad policy lessons.



GROOTS Kenya Clean Cooking Champions present results of the Kitui mapping study to county officials.

1. Enhancing the uptake of ICS is a **multi-dimensional challenge that requires systems-wide policy solutions**.

At the county level, it is imperative that stakeholders in the energy, finance, planning, health, agriculture, forestry and environment sectors are fully involved in the design and execution of locally appropriate interventions.

2. There is need to **invest in micro-financing models** to enable households to manage the high upfront cost of purchasing some improved cookstoves, as well as transition to alternative cleaner fuels such as LPG, solar or biogas. Such funding should be linked to capacity building and providing access to financing for female entrepreneurs in the ICS and fuel distribution chain.

3. Additional efforts are needed to **further develop and sustain public awareness campaigns** on the impacts of using unclean cooking fuels and technologies. This should be done in collaboration with all relevant stakeholders such as national and county governments, NGOs and community-based organisations, private ICS manufacturers and service providers and development partners. An important component of the campaigns should be to encourage behaviour change by

4. It is critical to **link national and county-level policy frameworks and development plans** to ensure synergies in rolling out clean cooking solutions. Some of the issues that need to be addressed to create this broader enabling environment include:

- Reviewing taxation regimes for all ICS and their accessories and introducing fiscal incentives to make clean fuels and clean cooking technologies more affordable for end users.
- Allocating financial resources to support the design, manufacture and dissemination of affordable clean cooking technologies.
- Building infrastructure for knowledge transfer and capacity building of local manufacturers, such as jua kali (informal) artisans to produce cleaner and more efficient cookstoves.
- Supporting business models that promote alternative fuels such as briquettes, ethanol, biogas, solar and LPG.
- Enhancing quality control and related public information channels to ensure that consumers have access to products that have been independently verified and that offer the best value for money.
- Developing standards for cookstoves and fuels to spur commerce and growth of the sector while ensuring consistency and harmony in measurements and parameters tested.

### Biomass briquettes: An opportunity to link health, environment and livelihoods

*Briquettes are produced by compacting loose biomass residues into solid blocks. They can be produced from diverse raw materials such as sawdust and charcoal residues (produced from the production process), coffee and coconut husks, and maize cobs. They are ideal for domestic and industrial use because they are cheap, readily available and fuel efficient. However, they need time to prepare as well as adequate space for drying out. Prior training on how to use the raw materials is also required. Kitui's County Integrated Development Plan for 2018-2022 includes provisions for community awareness and training for women and youth to produce briquettes and wood pellets for domestic use as well as an income source.*



### Further Reading

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County Government of Kitui (2017). County Integrated Development Plan, 2018-2022

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