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Policy Environment for the Adoption and Diffusion of Clean Cooking Solutions in Kenya

Abstract

There is a pressing call for countries in East Africa to meet the growing energy demand while securing the health of people and the environment. A major goal of their national vision is to ensure sustainable access to affordable, reliable and modern energy for socio-economic development. In this report, we take a regional perspective to review the status of the development of clean cooking solutions in Kenya and Tanzania. The report reviews policy instruments and regulatory environment around clean cooking solutions with the aim of identifying policy gaps and proposing actions that support current policies to catalyse the adoption and diffusion of clean cooking solutions in Kenya and Tanzania.

It is evident that Kenya has a more established clean cookstove market compared to Tanzania. Donor-supported cookstove initiatives and programs have given prominence to clean cookstove development, which has contributed to the current rate of adoption and diffusion in Kenya and Tanzania. Analysis of policies provides an impression of governments' effort to promote the use of clean cookstove as an alternative to traditional sources of energy. As much as these policies exist, their rate of their impact on the clean cookstove sector is rather low. The report argues that it is not just about the existence of multiple policies but how well they are well aligned to address the problems and to help achieve the adoption and diffusion of clean cookstove sectors in the society.

The report identifies some drivers of change that can support transformational policy change in driving forward a market-driven approach for promoting the adoption and diffusion of clean cooking solutions in Kenya and Tanzania. These are: the removal of market barriers such as taxes, levies and licences; prioritization of market-driven models for clean cookstoves; conducting clean cookstove market intelligence; access to finance; tapping into local innovation through research and development; infrastructure for cookstove testing and standards; behavioural change, and exploring emerging financial mechanism such as carbon finance. Strengthening the current policy environment presents a good opportunity to stimulate a change of consumer behaviour, government thinking, policy relevance, legislative landscape and institution set-up, among other things for the adoption and diffusion of clean cookstove in Kenya and Tanzania.

Introduction

In the last decade, the need for cleaner and efficient energy alternatives to address health and environmental problems associated with continued use of traditional cooking methods has been gaining momentum at national and international levels. In a global consensus highlighting the critical role of access to energy for sustainable development, the United Nations in 2012 launched the Sustainable Energy for All (SE4All) initiative that ambitiously targets a universal access to electricity and modern cooking energy systems by 2030. Goal 7 of the United Nations' Sustainable Development Goals (SDGs) "ensure access to affordable, reliable, sustainable and modern energy for all" by 2030 put clean and efficient energy at the centre stage. Nonetheless, to achieve universal access to clean cooking energy for the world over the next 15 years, a total of around US$ 31 billion per year will be required (World Energy Outlook, 2017).

East Africa countries are faced with the pressing challenge of expanding access to affordable, reliable and modern energy services. Over 81% of its populations live without access to modern energy services (EAC, 2009). Traditional biomass energy, primarily wood and charcoal, plays an important role in the larger economy of East African countries, particularly in the rural areas. The majority East Africans rely mainly on wood and charcoal as their main cooking fuel. For example, between 76 - 82% of the population in Kenya and Tanzania relies on traditional biomass for cooking. Research has documented multifaceted negative implications of traditional biomass energy usage in East Africa including deforestation, increasing GHG emissions, land degradation and Indoor Air Pollution (IAP), which is linked to an estimated 15,000 deaths (of mainly women and children) in Kenya and 18,900 deaths in Tanzania annually (Clough, 2012; Lambe et al. 2015; UNIDO, 2015).

The cookstoves are regarded as one of the oldest and simplest household technologies for cooking in many developing countries. For East Africa, the development of the cookstove sector started in the 1980s, with the introduction of the charcoal cookstove by the Kenyan Ceramic Jiko (KCJ). Since then, several improved clean cooking technologies have been introduced into the market to serve both urban and rural communities. There has been wide variation in the adoption and diffusion of clean cooking solutions in East African countries. In Tanzania, the rate of adoption and diffusion of clean cookstoves has been rather slow, due to the low capacity for large-scale commercialization and the fact that most of the clean cooking initiatives have been smaller scale donor-assisted projects with short-lived funding (Clough, 2012). Kenya has the most advanced clean household energy sector in East Africa in terms the adoption of improved cookstoves technologies, diversity of producers and products, marketing and distribution of products (Lambe et al. 2015).

In spite of the significant progress, the adoption and diffusion rates of clean cooking solutions remain low: this points to the persistence of significant barriers. In addition to lack of awareness and understanding of the economic, social and environmental benefits of clean cooking solutions, recent studies have indicated the need for: (i) more efficient, affordable and durable products, (ii) more intelligent business models (marketing and distribution networks, and accessing finance for working capital); (iii) smarter and holistic policies; and (iv) better understanding of household behaviour change techniques

(Global Alliance for Clean Cookstove [GACC], 2013; Namagembe et al. 2015; Lambe 2016).

There are several innovative cookstove initiatives and programs designed to address the socio-economic and environmental challenges. For instance, institutions such as the Global Alliance for Clean Cookstoves have been at the forefront of supporting the development of improved clean cookstoves programmes and initiatives in East Africa. We also see a growing cookstove sector that has the potential for large-scale commercialization given the correct financial and business development support. In order to achieve large-scale adoption and diffusion of clean household solutions, there is a need for recognition of the relevance of clean household energy use to the larger economy, especially in rural areas. The creation of an enabling environment is critical for adoption and diffusion of clean cooking solution in Kenya and Tanzania. Such an environment must foster the formulation and implementation of pro-poor economic policies, regulation and institutions that remove market barriers, nurture home-grown innovations, facilitate access to finance and credit for the development and upscale of clean cooking initiatives.

Conducive policy environment and efficiently functioning institutions play a central role in driving deployment of clean cooking solutions market and requires long-term stability, timely and adequate adaptation. Policies and regulations that change after a short period are most likely to compromise investors' confidence. Current knowledge suggests that policy framework that provides incentives for private sector operators' engagement in the production; distribution and sale of clean cooking solutions would be an enabler for the adoption and diffusion of clean cooking solution (Rehfuess et al., 2014). A well-functioning institutional arrangement is a critical enabling environment for innovations to thrive.

This paper adopts a regional perspective, focusing on the review of existing policies and regulatory frameworks that support or hinder the adoption and diffusion of clean cooking solutions in Kenya and Tanzania. The aim is to identify the gaps and propose actions and recommendations that will help to address the identified policy gaps. The paper also examines the institutional arrangements around the clean cooking solutions and whether it is a catalyst or a barrier to adoption and diffusion of the technology.

Methodology

The paper employs mix methods for data collection and analyses, drawing on both primary and secondary sources of data. Specifically, the paper draws on empirical research published in scientific literature including peer-reviewed articles, research papers and review papers, grey literature such as policy documents, strategy and actions plans, project reports, consultancy reports, donor reports and documentaries on clean cooking solutions, among others. The paper also draws on previous studies on clean energy solutions and low carbon development that were conducted by the research team. In addition to the review, the paper relies on expert consultations and data from surveys conducted on clean cooking solutions actors in Kenya and Tanzania.

Policy environment for Clean Cookstoves Market in Tanzania

Perhaps the most inclusive mechanism that provides a more conducive policy environment for the adoption and diffusion of clean cookstoves and fuels in Tanzania is the Biomass Energy Strategy (BEST) Tanzania

project. The project, which commenced in 2013, resulted in multiple products including the Tanzania Biomass Energy Strategy and Action Plan and a national BEST Communication Strategy. The process consisted of several national stakeholder workshops and forums. The BEST Tanzania Project, led by the Ministry of Energy and assisted by the BEST Steering Committee identifies strategies to address key issues in the biomass energy sector, particularly deforestation and degradation caused by charcoal and commercial wood fuel production. The project is expected to – ensure a more sustainable supply of biomass energy; raise the efficiency of biomass energy production and use; promote access to alternative energy sources where appropriate and affordable, and ensure an enabling institutional environment for implementation. The BEST Communication Strategy is intended to help build awareness and a common understanding of the biomass energy sector issues and to provide the media with information for public dissemination. In the National BEST Action Plan, key recommendations include the development of a biomass energy policy, supply-side and demand-side actions with a long-term view to the year 2030.

The government of Tanzania has also shown some level of commitment towards clean energy use through the provision of tax incentives. In 2006, the government waived all forms of taxes on LPG and gas cylinders. Six months into the implementation of this decision, industry actors confirmed a 50% growth in the market (UNIDO, 2015; Ministry of Natural Resources and Tourism [MNRT], 2014). The LPG market has since seen a good level of stability. Another example of government policy incentive was the decision to subsidize electricity connection charges to customers of Tanzania Electric Supply Company Limited (TANESCO).

Policies supporting Clean Cookstoves Development in Tanzania

The government has a crucial role to play in the provision of a conducive environment for investment and use of the clean cookstove. There are several existing policies and regulations that may encourage the adoption and diffusion of clean cookstoves. These policies briefly discussed below could provide the basis for developing specific clean cookstove policies or bring to a light hidden aspect of these policies that promotes or inhibits the adoption and diffusion of cookstoves in Tanzania.

a) Tanzania Development Vision 2025

The Tanzania Development Vision 2025 is the country's blueprint on which all policies, strategies are anchored. The overall goal of the Vision 2025 is to achieve a high-quality livelihood for its people and develops a strong and competitive economy. A major limitation of this strategic document is the silence on the promotion of clean energy use such as clean cookstoves. As key determinants of quality living, clean energy cooking solutions for the people, particularly in rural areas of Tanzania should have featured prominently in the Vision 2025. This, however, is not the case. The Vision recognises individual and the private sector initiatives as driving forces for building a strong, productive and renewing economy; however, it remains vague on the specific details and the strategy to achieve this. As a long-term development strategy In Tanzania, the expectation is that it will inspire all other strategies for the country. Therefore it is recommended that any amendments to the vision document should take into consideration emerging role of clean cooking solutions and initiatives that address forest degradation through reduction of fuelwood and charcoal, indoor air pollution and improve socio-economic livelihoods.

b) The National Strategy for Growth and Poverty Reduction (NSGRP)

The National Strategy for Growth and Poverty Reduction (NSGRP) is a vehicle for realizing Tanzania's Development Vision 2025. The strategy supports a framework for the adoption and diffusion of clean cooking solutions in Tanzanian. Even though there is no specific mention of clean cookstoves, the strategy advocates for scaling up the role and participation of the private sector in priority areas of growth and poverty reduction. In digging deeper into the priority areas, the clean energy solutions and the clean cookstove subsector play a prominent role in contributing economic growth and poverty reduction particularly in rural areas and among urban poor. The strategy, under cluster II, calls decent shelter and energy use, with emphasis on affordable and reliable modern energy services. This opens up an enormous opportunity for local investors to explore the clean cookstove sector as one of the strategies towards the use of reliable and affordable modern energy.

c) The National Energy Policy (NEP) 2003

The national energy policy (NEP) is perhaps the most critical policy for the adoption and diffusion of clean cookstoves in Tanzania. It provides the framework for energy development and consumption in the country. It outlines the diverse energy sources and stipulates the roles of each source in developing the energy sector. According to the policy, biomass energy contributes more than 90% of Tanzania's energy supply. In spite of this important contribution, biomass energy receives very limited attention in the policy compared to the emphasis on petroleum, electricity, and gas, among other energy sources. However, the policy underlines the necessity for reliable and sufficient sources if the country should pursue a sustainable development pathway. Given that the tedious and often low-productive time-consuming labouring for firewood is mainly done by women the policy provides an opportunity that encourage the adoption and diffusion of clean cooking solution as it provides an institutional focus on improvements of rural and semi-urban energy practices in order to reduce women workload and to involve them in the problem solving and decision-making processes on energy issues.

d) National Science and Technology Policy (1996)

The policy encourages research and development in the clean cookstove sector. It calls for the development of new and renewable energy sources. The policy calls for the reduction of laborious activities performed by women and children by promoting appropriate technologies designed in consultation with women. It also encourages strengthening mechanisms for diffusion, extension and commercialization of technologies relevant to the needs of the people, especially in rural areas. The policy calls for the development of training and research institutions, where innovations can be produced in the clean cookstove sector.

e) National Environmental Policy (1997)

The National Environment Policy internalizes environment considerations in other sector policies and programmes and coordinates them in order to achieve sustainable development. While not directly mentioning the clean cookstove idea, the policy seeks to offer a good opportunity for the adoption and diffusion of clean cookstoves through the minimization of fuelwood consumption and the promotion of sustainable renewable energy resources.

f) National Investment Policy (1996)

The National Investment Policy has a strong support for clean cooking technologies as it calls for investments in:

- Development of all possible commercial and alternative sources of energy with emphasize on utilizing domestic resources as well as reducing dependence on biomass fuels,
- Promoting adoption of energy systems which are efficient and not detrimental to the environment, and
- Promoting sub-regional and regional cooperation and collaboration in the energy sector.

g) The National Forest Policy (1998)

The National Forest Policy is favourable towards the adoption of clean cooking technologies. It emphasises alternative sources of energy with the goal to reduce the pressure on the forest. Along with the policy, the Forest Act of 2002 provides enforcement mechanisms for forest conservation and promotion of alternative energy sources. The implementation of these instruments according to have contributed to a reduction in the level of unregulated activities such as charcoal burning and timber harvesting, forest encroachment, and fire incidences. The clean cookstove sector presents a sustainable solution for curbing rapid exploitation of forest resources through the adoption and diffusion of efficient clean cookstoves. Future amendments to the policy and legislative instruments must explicitly highlight the potential contribution of clean cookstoves towards the reduction of forest degradation.

h) The National Micro-finance Policy

The National Micro-finance policy makes provision for financial services to households, smallholder farmers, and small and micro enterprises in rural areas as well as in the urban sector. It offers a good avenue for local investors, micro and small enterprises to invest in businesses by securing financial services from government-sanctioned micro-finance agencies. This implies individuals, micro and small enterprises involved in the manufacture, distribution and marketing of clean cookstoves have the opportunity to expand or build their business.

i) The Economic Empowerment Policy

The Economic Empowerment Policy seems to be a promising policy that can foster the development of the clean cookstove sector. The policy seeks to provide an enabling environment for various groups of Tanzanians to participate effectively in economic activities in all sectors of the economy. It hopes to address all economic empowerment needs of the individual citizens of Tanzania and local enterprises in which there are not less than 50% ownership by citizens of Tanzania. The policy proposes multiple strategies that may assist local investors to explore and utilize both local and foreign market. These strategies include; facilitating production of high-quality products at competitive prices and encouraging the use of modern technology in economic activities. To assure the citizenry about the commitment of the government to implement this policy, the Economic Empowerment Act 2004 was enacted, which subsequently led to the establishment of the Economic Empowerment Council with the mandate to implement the empowerment policy. The policy, acts and institution for national empowerment present local investors with a good opportunity to improve the clean cookstove subsector.

Key policy gaps in Tanzania

In Tanzania, the 2003 Energy Policy continues to be the overall policy framework for the different energy subsectors. Several identified gaps in the policy do not facilitate the promotion the clean cookstove sector in Tanzania. The policy exists without implementation strategy to spell out the different strategies for the different energy subsectors and to measure the progress of implementation of the policy. The key gaps identified in the policy include:

- The low priority accorded the clean cookstoves and biomass energy use in the policy and by several energy-related government agencies;
- The lack of a national policy framework for cookstove subsector and biomass energy;
- The lack of clean cookstove and biomass fuel emphasis in the policy seems to suggest that the subsector as inferior source of energy equivalent with underdevelopment;
- The poor public awareness of biomass energy efficiency issues, and options;
- Poorly-regulated governance of commercial clean cookstove production and market;
- Additionally, a study by African Energy Policy and Research Network (AFREPREN) identified policy gaps between national and local levels. These gaps include:
- The top-down approach to the formulation of the energy policy, thus neglecting some realities at the lower level.
- The policy-making process was biased towards macro-energy issues such electricity than micro energy issues such as clean cookstove
- Ministries linked to this process lacked policy-based research to inform correctly the policy development or any change that needed to be included in the policy
- The policy formulation was donor-driven to the extent the support for review and final drafting was donor funded. In this case, donor interests may have substantially influenced the content and priorities of the policy.
- Lacked clearly stipulated implementation structures and sustainability potential.

Conclusion

This paper has has analysed the policy and regulatory environment, including the gaps that may influence the adoption and diffusion of clean cookstove in Kenya and Tanzania. The clean cookstove sector in both countries for a very long time remained unregulated and lacked specific policy measures and incentives that encourage the adoption and diffusion of clean household cookstoves. However, there are slight improvements in the specific policy initiatives that foster the development of the clean cookstove sector. Tanzania recently develops the Biomass Energy Strategy (BEST), which seeks to promote access to alternative energy sources, including clean cookstoves and to raise the efficiency with which biomass energy is produced and utilised. In Kenya, there are visible efforts to incentivise cookstove diffusion with the government of Kenya reducing the import duty on energy efficient cookstoves from 25% to 10%.

Despite promising trends, there are several gaps in policy and regulatory frameworks associated with the clean cookstove markets in Kenya and Tanzania. The most notable gaps in the policy environment have to do with institutional set-up, prioritization of government policies, tax and tariff policies, the

infrastructure for cookstove quality testing, access to finance and regulations on biomass and modern fuels. Nonetheless, the cookstove sector could still benefit from utilizing effectively existing policy environment.

Government agencies play important roles in the growth of the clean cookstove markets. Coordinated and coherent policies, tax incentives and funding, regulations, and standardization are critical to effective adoption and diffusion of clean cooking solutions as well as building on business base for clean cookstoves. It is essential for stakeholders in the cookstove sectors to advocate for inclusive policies that support clean cookstove business start-ups and formalization while lobbying for the prioritization of clean cookstove development, which is currently not among government priorities. An enabling policy environment presents a good opportunity to stimulate a change of consumer behaviour, government thinking, policy relevance, and legislative landscape, among other things for the adoption and diffusion of clean cookstove in Kenya and Tanzania.

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