



Food and Agriculture
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National dialogue on Wood Energy and Forest Landscape Restoration in Ghana

Workshop Summary Report

27 - 28 January 2020

Conference Room of the FAO Regional Office for Africa (RAF),
#2 Gamel Abdul Nasser Road GP 1628 - Accra (Ghana)



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Background

Reliance on traditional biomass for energy production is quite land intensive and overharvesting of woodfuel has been recognized as a major cause of land degradation in Sub-Saharan Africa, where the registered deforestation rate is 5 times higher than the world average (IPCC, 2019). Woodfuel overexploitation is often due to the lack of efficient tools/technologies to convert feedstock into fuel or directly into energy, as it happens, for instance, in the case of charcoal mainly produced, both in Ghana and in Togo, by using traditional and inefficient mounds (kilns). Furthermore, woodfuel is frequently extracted from native hardwood species (e.g. Mangroves and Cassia), whose declining abundance negatively affects land and population resilience to extreme weather events caused by climate change, with consequent severe impacts on people's wellbeing.

This situation implies an urgent need for a holistic approach and coordinated actions between the wood energy and the Forest Landscape Restoration (FLR) sectors in Sub-Saharan Africa. Urgent efforts are needed to revise the Forest Management Systems, by foreseeing National Reforestation and Afforestation Plans, dedicated forest plantation and plans for native forest conservation. Beyond these actions, which have been already included in the FLR and AFR100 programmes of work, urgent actions should be taken to deeply modernize and formalize the traditional wood energy pathway, as well as to raise awareness and promote bioenergy value chains that could constitute sustainable alternatives to it.

With the aim to bring together relevant stakeholders from the wood energy and the FLR sectors, and to offer them an opportunity for discourse, FAO/GBEP has been implementing the project "International Dialogues on Forest Landscape Restoration and Wood Energy" (GCP/GLO/012/GER), with funds from the "Deutsche Gesellschaft für Internationale Zusammenarbeit" (GIZ) on behalf of the Federal Ministry for Economic Cooperation and Development (BMZ) of Germany and in cooperation with IEA Bioenergy.

In this context, a "**National dialogues on Wood Energy and Forest Landscape Restoration**" was organized and implemented in Ghana on 27-28 January 2020. The workshops were organized in collaboration with FAO and GIZ country's offices, as well as with FAO Forestry Department, which contributed through the Forest and Farm Facility (FFF) and through the FAO focal point for the AFR100 and FLR Initiatives in Africa.

The dialogue has seen the active participation of pre-selected members of a **National Multi-Stakeholder Working Group** (NMSWG), formed *ad hoc* in the country for the purpose of this project, by involving stakeholders of the FLR and of the bioenergy sectors, with a particular focus on the wood energy pathway. The creation of the NMSWG was achieved by building upon the activities carried out by FAO/GBEP in Ghana in 2018, in the context of the project "[Capacity Building on GBEP Sustainability Indicators for Bioenergy in the ECOWAS countries: Togo and Ghana](#)", implemented with the financial support of GIZ. The existing NMSWG, which initially included only relevant national stakeholders for the bioenergy sector, has been enlarged for the purpose of the present project, in a way to include the relevant stakeholders for the FLR sector. Therefore, the event saw the participation of representatives of governmental ministries (e.g. ministries of the environment, of food and agriculture, of energy, of social affairs), technical commissions (e.g. Energy and Forestry commissions), private sector (e.g. SME, charcoal and farmer producer organizations), academia and research institutes, civil society and NGOs. Furthermore, the NMSWG has seen the active participation of the country representative of the AFR100 and of the FLR Initiatives, as well as representatives of the major international organizations (e.g. GIZ, IUCN, AFD) currently working on the same thematic area and geographical context.

Main objectives of the events

The main objective of the National dialogue on wood energy and FLR was to provide participants with an opportunity to share knowledge on best practices that could favour synergies between the bioenergy and the FLR sectors, as well as to raise awareness on the activities currently on-going and on the results achieved so far on this thematic area at country level. This participatory approach was adopted with a view to facilitate the connections amongst the members of the NMSWG, to intensify opportunities for collaboration amongst them and to facilitate the development of a joint agenda for action around this thematic area, thus speeding up the achievement of common goals in the territory.

To achieve the above-mentioned overarching goal, the workshops was planned to pursue the following specific objectives:

- provide a detailed description of the wood energy value chains in the beneficiary country by highlighting specific facets, strengths, weaknesses, opportunities and threats;
- raise participants awareness on the FLR and AFR100 initiatives currently interesting a wide range of countries across Africa and on the specific country's commitments and strategies set to achieve them;
- share knowledge, raise awareness and discuss successful and replicable practices already implemented at country level in the bioenergy and in the FLR sectors;
- provide practical demonstrations of bioenergy systems that could contribute to reduce the pressure on Forest Landscapes, thus contributing to their conservation while providing sustainable energy services for cooking, heating and power generation;
- share knowledge and showcase use of bioenergy by-products to contribute to FLR and soil rehabilitation; and
- provide inputs for policy recommendations to improve the sustainability of the wood energy value chains as a contribution to FLR targets and vice versa in the country.

Workshop speakers initially provided detailed information on the wood energy value chains, by describing and emphasizing the main peculiarities and features of the wood energy pathway in the specific socio-economic, environmental and regulatory country context. Afterwards, participants' awareness was raised on the main pursued goals established and activities performed at country level in the context of the AFR100 and FLR Initiatives, currently on-going all across the African continent. The importance of wood energy in the country energy framework was recognized and discussed as well. Currently biomass represents 40 percent of total country energy consumption in Ghana. The key role that FLR and AFR100 initiatives should cover in the near future, to ensure the availability of woody biomass, was highlighted, as all the members of the NMSWG agreed on recognizing that wood energy will remain important in ensuring energy, food and livelihood security in the country. To achieve this goal, possible strategies have been identified as suitable: the adoption of sustainable forest management practices and of the "cascading-use of wood" principle and/or the need to foresee dedicated forest plantations. In particular, the species adopted for these type of plantations should be suitable for energy production purposes (e.g. teak wood is not worthwhile for charcoal production) and should not jeopardize the biodiversity of local forest and agro-ecosystems (e.g. care is needed before introducing invasive species like bamboo or *Acacia spp.*).

Furthermore, participants were guided throughout the analysis of all the various steps of the wood energy value chains as performed at country level. For each of the identified steps, the invited speakers provided examples of a range of best practices that could enhance the efficiency of the processes, thus improving the sustainability of the entire value chain and reducing the pressure on local forest resources. Moreover, besides providing best practices that could directly act on the wood energy value chains, speakers illustrated a range of technologies, other biomass and improved feedstocks that could potentially provide valuable alternatives to woody biomass, thus contributing to a more sustainable bioenergy production and use. All the alternative technologies illustrated by the speakers were examples of activities already implemented at country level, sometimes in form of piloting plants and technologies, sometimes as solutions already implemented at large scale in the country. Ultimately, the existing policy framework and the country's NDCs settled in relation to FLR and wood energy sectors at country level were illustrated and discussed during the workshop.

Key outcomes and take home messages

The workshops **raised participants' awareness** about a wide variety of bioenergy value chains that could improve the sustainability of the traditional use of woodfuel or that could constitute a valuable alternative to it. Particular attention was dedicated to illustrate **successful bioenergy practices already in place** in the country, by also providing **practical demonstrations** of a few of them (e.g. micro-gasifier, improved feedstock from woody residues).



Figure 1: Practical demonstration of a micro-gasifier fed with corncobs based pellet

The discussions undertaken during the workshop brought out the main **barriers that prevent the market uptake of modern bioenergy pathways** in the country and the urgent **need to develop specific governmental policies and measures (P&Ms)** to overcome them. It was commonly agreed that a **wider access to alternative sustainable modern energy forms is key to reduce wood energy consumption and would be of huge support to accelerate the achievement of the objectives and the prolongation of the positive results produced within the AFR100 and the FLR Initiatives.** As an example, participants have highlighted that the current NDCs framework foresees incentives to spread the use of solar panel and LPG cooking stoves. These types of incentives are necessary but not sufficient to allow for a wider access to energy for all as they are not targeting the entire population, but just a limited number of people. Representatives of the Forestry, Farm and Charcoal producers' organizations reported that people in the rural areas have to cover long distances (up to 30 km) and spend a large amount of time to reach a LPG distribution point to refill their LPG tank. Furthermore, even if the LPG stoves are provided free of charge by the government (which is supposed to distribute 500,000 LPG stoves in Ghana by December 2020, with funding from South Korea), the lack of fuel affordability and availability for people in the rural areas remains a big concern. On the contrary, if the government would foresee financial or fiscal incentives and/or provide the population directly with improved cook stoves and/or micro gasifier, everyone could get the necessary feedstock at local level. These types of stoves could be fed with improved feedstock (e.g. pellet, chips) or with agricultural, forestry and agro-industrial solid residues. This would allow for the development of an internal market for pellet and/or other improved feedstock and would reduce the export of these products, which currently occur massively towards European countries. Furthermore, the spread of locally produced, improved and more efficient technologies would bring additional positive socio-economic externalities at local level (e.g. waste disposal, adding value to waste and residues).

The National dialogue held in Ghana led to the definition of the following take home messages:

1. The reduction of woody supply is becoming more and more evident in Ghana. The fear of not being, in the near future, able to meet an increasing demand of wood for timber and energy purposes (currently equal to 30 Million m³/year) is leading to the adoption of urgent measures to boost the plantation of trees, bushes and grasses. Unfortunately, this reforestation race is not always accompanied by an accurate selection of the right species to be used or by wider considerations regarding the long-term sustainability of the applied solutions. Therefore, while it is common to hear about the use of imported and invasive species (e.g. Acacia spp, bamboo), themes such as biodiversity conservation, energy efficiency, diversification of resources and equity between rural and urban people, assume a minor importance.
2. There is an actual **lack of awareness on the existing range of opportunities offered by sustainable modern bioenergy to accelerate the achievement of the objectives established in the context of the AFR100 and the FLR Initiatives**, and of its contribution to set the basis for a long-term persistency of the results achieved. The NMSWG consulted in the context of this National dialogue has expressed the need of being targeted by information and training campaigns on existing bioenergy systems and on the various environmental, economic and social benefits that these can deliver to local populations. In particular, representatives of the forest and farm producer organizations, claimed for a more available **information and technical trainings on the use of alternatives to wood fuels and on the use of bioenergy by-products (e.g. digestate and biochar) and compost** as fertilizers and soil amendment to increase agricultural yield and to rehabilitate degraded forest and agricultural soils.
3. **Charcoal** value chain in Ghana covers a key role to ensure energy, food and livelihood security to local populations, especially in the rural areas of the country and its **important contribution to the country energy mix is not expected to decline in the near future. The charcoal supply chain is not sustainable**. This is due to various reasons but mainly because of: 1) lack of land/tree ownership that cause a low or null level of engagement of charcoal producers and/or farmers in planting new trees; 2) the extremely low efficiency of charcoal production processes (usually lower than 15 percent); 3) the lack of dedicated plantations and the usual exploitation of slow growing native forest species for wood energy production (e.g. mangroves for fish-smoking); 4) lack of adoption or replication of modern bioenergy alternatives. So far, the possibility to change the situation in relation to the first two above mentioned key points are scarce. Therefore, it is urgent to adopt measures and policy that can help to solve the last two above mentioned key points.
4. The Energy Commission (EC) in Ghana, received in 2011 the mandate to **revise the national Woodfuel Regulation** and this mission is currently under implementation. The draft woodfuel regulation is focusing on the need to ensure woodfuel traceability, certification, to reduce losses during charcoal transportation. No references have been made so far to the spread of alternatives technologies and/or feedstocks, nor to dedicated plantations, neither to support the cascading use of wood or agroforestry techniques. FAO, through GBEP and FFF, together with GIZ have confirmed to the EC delegate in charge of revising the wood energy regulation, their availability to provide EC with all the technical support needed to achieve this task. Furthermore, EC asked the support of FAO to map charcoal producers in the country.
5. Participants asked for the **establishment of a permanent MSWG** to favor participatory processes and ensuring a crosscutting approach in defining policy recommendations. The institution of the MSWG will give to all interested stakeholders (e.g. public representatives, SMEs, academia, farmers and producer organizations in the rural areas) an opportunity to meet with the relevant authority, share knowledge and ensure transparency of the process;
6. **The Environmental Protection Agency (EPA) is currently under the process to review the NDCs**. So far, the NDCs include only measures to spread the use of improved LPG cooking stove, and no references have been made to any forms of bioenergy, neither at large scale nor at household level. It is key that the revised NDCs as well as the country **Renewable Energy policies** will include the wide spread and the local development of bioenergy value chains in the country as a key objectives to ensure the achievement of SDG7 while contributing to achieve the objectives foreseen in the context of the AFR100 and FLR

Initiatives. This could be done by foreseeing incentives and tax exemptions for alternative bioenergy forms (e.g. biogas, pellet, micro-gasifier). Incentives are key to increase the competitiveness of these bioenergy forms with charcoal, that is currently the cheapest (and thus the preferred) form of energy in the country.

Beyond the above-mentioned take home messages brought out from this stakeholder consultation, the reporter would like to recommend the following actions:

- A. **to map bioenergy enterprises** currently working in the beneficiary countries (e.g. biogas plants, SMEs working on the production of improved cookstoves and improved feedstock – pellet, briquettes, chips; charcoal producers). Such map will allow to:
 - 1- supporting the creation of consortia or producers organizations in a way to facilitate synergies amongst the various supply chains and with the FLR sector and to ask for major support from the government;
 - 2- letting consumers know where to find improved technologies, feedstock and bioenergy by-products to be applied in the field;
 - 3- favoring the traceability of biomass flows in the country and quantifying the amount of biomass exported each year as bioenergy source; and
 - 4- identifying the most successful practices and facilitating their replicability.
- B. **to replicate these type of dialogue in all the African countries that have adhered so far to the AFR100 and/or FLR Initiatives.** This experience has allowed building connections amongst all wood energy and the FLR stakeholders, to deeply analyze the current status of these two realms at local level and to define room for more structured interventions and synergies. All these outcomes will be of tremendous help for the definition of a holistic and more precise strategy for technical support, towards the achievement of both SDGs, AFR100 and FLR objectives.

All materials related to the workshop (e.g. agendas, PPTs, minutes, pictures, media coverages) have been stored and made available for all in [a dedicated page on the GBEP website](#).