National dialogue on Wood Energy and Forest Landscape Restoration in Ghana

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 AND OBJECTIVES

Several challenges are currently affecting the wood energy pathway along all the steps of the value chain in Ghana, with significant cascading impacts on forest landscapes and on related forest ecosystem services. For instance, woodfuel is frequently extracted from native hardwood species, depending on their availability in the various areas of the country. Along the coast, the most important species used for woodfuel production are Mangrove, mostly used to smoke fish, and Cassia (Obiri *et al.*, 2014), 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.

The wood energy pathway in Ghana involves various actors and offers employment to more than 2 million people, both in urban and rural areas. As of today, in Ghana, 73 percent of the rural population relies on woodfuel for cooking and heating purposes. In the urban areas this percentage is limited to 25 percent. Besides being used for cooking and heating purposes at household level and within public institutions (e.g. schools, hospitals), woodfuel is also used in productive activities, such as food processing industries.

Reliance on traditional biomass is quite land intensive: supplying a household for one year can require more than half a hectare of land (IPCC, 2019). Overharvesting of woodfuel (fuelwood and charcoal) is a major cause of land degradation in Sub-Saharan Africa. Overharvesting of wood for charcoal contributes to the high rate of deforestation which, in SSA, is 5 times the world average (IPCC, 2019).

Wood fuel over exploitation is often due to the lack of efficient tools/technologies to convert feedstock into fuel or directly into energy. As an example, charcoal production mainly occurs using traditional and inefficient mounds (kilns); it is drudgery and oftentimes causes health problems in workers employed in its production. Furthermore, infrastructure for wood fuel transportation is inadequate.

This situation implies an urgent need for coordinated actions between the wood energy and the FLR sectors in Ghana. Urgent efforts are needed to deeply modernize and formalize the existing wood energy pathways, as well as to revise Forest Management Systems, National Reforestation and Afforestation Plans which include forest landscape restoration and rehabilitation actions, dedicated forest plantation and plans for native forest conservation.

This national dialogue is part of a wider series of initiatives implemented in the context of the project "International Dialogue on Forest Landscape Restoration (FLR) and Wood Energy". This project has been implemented by the Global Bioenergy Partnership (GBEP) on behalf of FAO, in collaboration with IEA Bioenergy, with funding from the "Deutsche Gesellschaft für Internationale Zusammenarbeit" (GIZ) on behalf of the Federal Ministry for Economic Cooperation and Development (BMZ) of Germany. The overall objective of the project is to facilitate raising awareness and dialogue among stakeholders from both FLR and bioenergy communities on the positive contribution of Sustainable Bioenergy to FLR and vice versa, with a view to intensify opportunities for collaboration and to develop a joint agenda for action.

In Ghana, this project will build upon the achievements of the activities conducted by GBEP in 2018, in the context of the project "Capacity building on the GBEP Sustainability Indicators for bioenergy in the Economic Community of West African States (ECOWAS) countries". It will benefit from the involvement of the Multi-Stakeholders Working Group (MSWG) established in 2018, which originally focused on multifaceted aspects of bioenergy production and use in the country. The existing MSWG was enlarged for the scope of the present project, with the aim to include relevant stakeholders for the FLR sector in Ghana, thus providing an opportunity to set the basis for a long-term cooperation and coordination amongst these two sectors. Furthermore, this event represents an example of a joint action amongst various international agencies (i.e. FAO Forestry Department, GBEP, FFF, GIZ), national research institutes and civil society working on the same thematic area in the country. It will provide an opportunity to share knowledge and raise awareness about the activities currently on-going and on the results achieved so far in the country, thus allowing for a better allocation of funds and speeding up the achievement of respective goals in the territory.

In this context, the present workshop will:

- share information on the wood energy value chain in Ghana by emphasizing its peculiarities and features in the specific socio-economic, environmental and regulatory context;
- enlarge the previously established bioenergy MSWG, already formed in 2018, with a view to include relevant stakeholders of the FLR sector;
- connect international organizations and relevant national stakeholders, actively working to enhance the sustainability of the wood energy and the FLR sectors in Ghana, in order to create synergies and facilitate future collaborations amongst them;
- share knowledge and raise awareness on **best practices in the bioenergy and the FLR sectors**;
- identify those best practices that facilitate **synergies** between FLR and bioenergy sectors, thus speeding up the achievement of economic, social and environmental sustainability for both of the sectors and accelerating the achievement of FLR targets;
- share knowledge and discuss successful, replicable bioenergy systems that could significantly 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 rehabilitation**;
- 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.

Expected outcomes

- Participants awareness raised on current on-going initiatives, projects and activities on FLR and wood energy sectors;
- Participants awareness raised on FLR and wood energy sustainable management practices and best practices shared and demonstrated;
- Relevant stakeholders in the FLR and wood energy sectors connected, with a view to facilitate their future collaboration in the context of current and future project implementation on the same thematic area (e.g. GIZ project on FLR through a sustainable wood energy value chain in Ghana);
- Inputs on policy recommendations provided to improve the sustainability of the wood energy value chains as a contribution to FLR targets and vice versa.

Expected follow ups from the part of participants

- If consent is given, members of the established MSWG may be contacted in the future to provide follow-up information and/or to be involved as FLR and wood energy experts in the implementation of future activities carried out by GBEP, the FFF, GIZ and other international organizations and/or research institutes on this thematic area in the country.

Expected follow ups from FAO

- Follow-up with financial institutions to explore the possibilities for funding of educative and practical trainings of trainers and extension agents on sustainable forest management practices as well as on modern practices and technology to improve the efficiency of the wood energy sector in Ghana. Further activities shall be dedicated to raise awareness and share experience on the cascading use of wood and of non-food agricultural resources, with a special focus on the recycling and use of waste, residues and by-products (e.g. biochar, digestate, compost) of agricultural and forestry value chains as means to increase yields and restore soil quality.
- Follow-up with financial institutions to explore possibilities for funding of the full implementation of the GBEP indicators in Ghana, with a view to deeply analyse the whole bioenergy sector, identify space and draft effective policies to support its sustainable development, through an inclusive and joint effort in collaboration with local stakeholders. Indeed, only the adoption of a

systemic and inclusive approach that identifies measures to improve use efficiency and propose alternative uses of locally available resources, could actually contribute to reduce the pressure on local forest resources by bringing, at the same time, an additional cluster of social, economic and environmental benefits for the local population.

- Explore possible future collaborations with local government, international agencies, research institutes, civil society (e.g. producers organizations and cooperatives, NGOs) working on the same thematic area in the country.

		Monday, 27 January 2020
09:30		**Registration of participants**
Opening session		
10:15		Opening session/Welcome Remarks • **Introductory remark - *Dr. Tiziana Pirelli*** - FAO HQs • **Statement – *Mr. Steffen Behrle*** - GIZ Ghana; • **Opening remarks - *Mr. Wisdom Togobo*** - Dir., Renewable and Alternate Energy, Ministry of Energy • **Welcome statement - *Ms Jocelyn Brown-Hall*** - DRR FAO RAF & OiC FAO Representation in Ghana
10:45		Group photo and networking coffee
Session 1: Need to establish a dialogue between FLR and sustainable wood energy in Ghana **Moderator:** *Kwabena Twumasi*, GIZ Ghana		
11:00		Synergies between sustainable wood energy and Forest Landscape Restoration – An overview ***Dr. Tiziana Pirelli*** - Global Bioenergy Partnership, Food and Agriculture Organization of the United Nations (GBEP/FAO)
11:20		A SWOT analysis of the Ghanaian Wood Energy Value Chain ***Dr. Beatrice Obiri*** - Forestry Research Institute of Ghana - *(CSIR, Kumasi)*
11:40		**Open discussion**
Session 2: How FLR could produce more sustainable woody biomass in Ghana? **Moderator:** *Mr. Kofi Ameyaw Kwakye*, Ghana Forestry Commission		
12:00		Making FLR work for the people and by the people ***Mr. Daryl Bosu*** - A Rocha Ghana
12:20		Community- Based governance arrangement for charcoal production in Ghana ***Mr. Joseph Asante*** – Tropenbos – Kumasi
12:40		The Restoration Opportunities Assessment Methodology (ROAM) as an effective tool for identification and prioritization of FLR opportunities for achieving sustainable woodfuel value chains. Considerations for gender responsive forest FLR on opportunities assessments. ***Mrs. Saadia Bobtoya Owusu-Amofah*** - IUCN
13:00		**Open discussion**
13:30		**Lunch break**
Session 3: How sustainable bioenergy could contribute to FLR and forest conservation. *Alternatives biomass and more efficient bioenergy technologies to reduce pressure on forest resources* **Moderator:** *Mr. John Yeboah, Ghana Energy Commission*		

14:20		Improved technologies for wood energy production: biomass gasification and pyrolysis ***Dr. Francis Kemausuor and Mr. Lovans Owusu-Takyi*** - Agricultural and Biosystems Engineering (KNUST) and Institute for Sustainable Energy and Environmental Solutions (ISEES)
14:40		Alternative feedstock: use of bamboo for energy production ***Mr. Michael Kwaku*** – International Bamboo and Rattan Org. - INBAR Ghana
15:00		Alternative feedstock: use of solid agricultural residues as fuel ***Dr James Korang*** - *CSIR-FORIG*
15:20		**Coffee break**
15:35		Improved feedstock: pellet, chips and briquettes. The experience of Abellon CleanEnergy Ghana - Ltd ***Mr. Pragnesh Mishra*** - Country Head, Abellon CleanEnergy Ghana Ltd
15:50		Alternative feedstock and alternative technologies: anaerobic digestion of liquid waste for energy production ***Mr. Enoch Kofi Boadu*** - Assistant Secretary to the Biogas Association of Ghana (BAG).
16:10		**Open discussion**
16:30		**End of day one**

		Tuesday, 28 January 2020
09:00		**Registration of participants**
Con't… **Session 3: How sustainable bioenergy could contribute to FLR and forest conservation.** ***Use of bioenergy by-products as a contribution to FLR and for soil rehabilitation*** **Moderator:** *Mr. John Yeboah, Ghana Energy Commission*		
09:15		Bioenergy by-products for forest rehabilitation: use of biochar to restore cocoa forest in Ghana. A proposed initiative of the Ghana Cocoa Board (COCOBOD) and the Volcani Centre of Israel. ***Dr. Ellen Graber***, Volcani Center ARO (Israel) & ***Prof. Frimpong***, University of Cape Coast (Ghana)
09:40		Use of digestate and compost as soil fertilizers and soilless substrates for forest plant seedlings. ***Mr. Gideon Annor*** - SAFI SANA (Ghana)
Session 4: Example of good practices and initiatives **Moderator:** *Dr. Tiziana Pirelli, GBEP/FAO*		
10:00		The potential of FFPOs in Forest Landscape Restoration and Sustainable Forest based value chains. Experiences of FFF in Ghana. ***Ms. Sophie Grouwels*** - *Forest and Farm Facilities focal point - FAO HQs*
10:20		Sustainable Forest Management Practices and Forest Planning: conservation of native forests and of forest in protected areas and the need to foresee dedicated forest plantations ***Mr. Rik Sools*** - Managing Director of FORM International
10:40		Forest Landscape Restoration through a Sustainable Wood Energy Value Chain. Project activities and expected outcomes from the implementation of a GIZ funded project in Ghana. ***Cisco Aust*** - *GIZ project coordinator*
11:00		**Coffee break**
Session 5: Policy coordination at national level **Moderator:** *Dr. Ernest Foli, FORIG*		

11:15		Ghana experience with successful Bioenergy policy frameworks that resulted in positive effects on the implementation of successful Bioenergy Services: i) Legal and regulatory experience; ii) Fiscal incentives. ***Mr. Julius Nkansah-Nyarko*** **-** Chief Programme Officer, Ghana Energy Commission
11:35		Ghana positive experience in terms of Forestry Planning that could favor the increase of woody/biomass supply while contributing to FLR and conservation. i) Forest planning; ii) Legal and regulatory experience iii) Incentives ***Dr Kwakye Ameyaw*** - Technical Advisor to the Chief Executive of the Forestry Commission
11:55		Fostering synergies between wood energy and FLR processes in the NDCs ***Dr. Daniel Benefor*** - Environmental Protection Agency, Ghana
12:30		**Lunch break**
Session 6: Showcase of best practices: opportunities for differentiating farmers revenues and reduce pressure on forest resources, thus contributing to FLR and Conservation **Moderator:** *Ms. Soalandy Rakotondramanga, FAORAF, FOA Programme officer*		
13:30		**Demonstration of the following practices:** • Alternative feedstock to replace woodfuel • Production of improved feedstock (e.g. pellet and briquettes) from agricultural and forestry residues and waste; • Use of chips to improve burning efficiency; • Improved kiln for charcoal production • Micro-gasification: an improved technology for cooking energy and biochar; • Biochar as soil amendment to increase yield, restore polluted soil, contrast pests; • Compost and digestate as soil amendment and as components of soilless substrates for forest seedlings production. ***Ms. Veronica Agodoa Kitti,*** Chief Executive Officer ASA Initiative
14:10		• What are the challenges to strengthen the dialogue and the cooperation between Wood Energy and FLR stakeholders in Ghana? • Which Policies and Measures are needed to foster synergies between the wood energy and the FLR sectors in Ghana? **Open discussion**
15:10		Remarks ***Mr. Wisdom Togobo*** **-** Dir., Renewable and Alternate Energy, Ministry of Energy
15:15		Way forward ***Dr. Tiziana Pirelli***, FAO HQs
15:30		Final remarks ***Mr. Benjamin Adjei*** **–** Assistant (Programmes) FAOR
16:00		**End of the event**