



## International Workshop: Sustainable Rural Bioenergy Solutions in Africa

In rural areas of sub-Saharan Africa, solid bioenergy is the main source of energy for cooking and heating for up to 90 percent of the population. Due to growing demands on food and energy from population growth, coupled with the increasing frequency of natural disasters and climate change, it has become more challenging for rural communities in Sub Saharan Africa to meet their own food, energy and development needs. This has substantial implications for poverty alleviation as well as for environmental protection, including forests, ecosystems and biological diversity within the region. Various innovative technologies to produce renewable bioenergy, which promote the sustainable use of locally-available resources without disrupting food and water supply, are affordable and efficient and have been emerging within the region. This workshop aims to exchange best practices and tools and establish a sound knowledge basis for policy makers and development practitioners, including private sector actors, non-governmental organizations and researchers. The workshop will focus on three themes; (1) Sustainable Rural Biomass Supply, (2) Biomass-to-Energy Innovations, and (3) Tools for Enhanced Bioenergy Sustainability. At the end of the workshop, a panel discussion on the creation of enabling conditions for scaling-up innovation will be held.



## **International Workshop: Sustainable Rural Bioenergy Solutions in Africa**

1. **Date:** 19 January 2018
2. **Venue:** World Agroforestry Center (ICRAF), Conference Room
3. **Organizers:** IRENA, ICRAF, JIRCAS, with financial contribution from the Ministry of Foreign Affairs of Japan and the Ministry of Agriculture, Forestry and Fisheries of Japan and technical cooperation by GIZ
4. **Agenda:**
  - Overall host (Dr. Yasuko Inoue, IRENA-JIRCAS)
  - Reporter & Time keeper (Mr. Lennart Kuntze, IRENA)

9:00-9:30 Opening Remarks (5 min each)

- IRENA (Mr. Sakari Oksanen, Deputy Director General)
- Kenya Ministry of Energy and Petroleum (Mr. Dan Marangu, Director of Renewable Energy (Bioenergy))
- Japan Embassy to Kenya (Ms. Yui Takashima)
- ICRAF (Dr. Ravi Prabhu, Deputy Director General)

9:30-9:40 Photo session

9:40-10:10 Coffee Break

10:10-11:40 Session 1. Sustainable Rural Biomass Supply (10 min each)

- 1-1. Introduction -agroforestry and agroecology for bioenergy (Dr. Miyuki Iiyama, ICRAF) [Moderator role]
- 1-2. Gender framework for bioenergy in Kenya (Dr. Linda Davis, wPower)
- 1-3. Agroecology for sustainable development, food and energy security in Uganda (Mr. Ndyabandiho Saul, Center for Energy Governance, Uganda)
- 1-4. Farmer Field Schools (FFS) for sustainable agroforestry in Kenya and Ethiopia (Mr. Shinji Ogawa, JICA FFS Project)
- 1-5. Bio-char and food, water and energy NEXUS (Mrs. Veronica AgodoaKitti, ASA Initiative, Ghana)
- 1-6. Tree breeding for enhanced bio-carbon stock in Kenya (Dr. Muturi, Gabriel M., Mr. Kariuki Jason G., Dr. Omondi, Stephen.F. and Mr. Muchiri, David. K, KEFRI, JICA)
- 1-7. Firewood from tree pruning on farm and biochar producing cooking systems (Dr. Mary Njenga, ICRAF, Dr. Miyuki Iiyama, ICRAF& JIRCAS, Dr. James Kinyua, University of Nairobi & ICRAF, Dr. Ruth Mendum, Penn State University))

11:40-12:40 Session 2.1. Biomass to Energy Innovations (10 min each) Part 1

- 2-1-1. Introduction - bioenergy innovation (Mr. Mbeo Ogeya, Stockholm Environment Institute (SEI)) [Moderator role]
- 2-1-2. Biomass to energy innovation: Briquette from rice husks and peanuts residues in Tanzania (Mr. Kaya Suleman Kazema, Tromso, Co. Ltd.)
- 2-1-3. Production of Ethanol from cassava wastes in Nigeria (Dr. James Ogbonna, Nigeria University, Dr. Yoshinori Murata, JIRCAS, Dr. Hide Omae, JIRCAS)
- 2-1-4. Resource recovery for briquettes and women empowerment in humanitarian conditions in Kenya (Dr. Mary Njenga, ICRAF, Ms. Oana Baloi, UN-Habitat, Dr. Miyuki Iiyama, ICRAF& JIRCAS, Ms. Yuka Terada, UN, Habitat, Dr. Ruth Mendum, Penn State University)
- 2-1-5. Unlocking Potentials of New Cooking Methods with Bio-Briquettes and Efficiency Stoves for Rural Areas in Madagascar (Mr. Deepak Kumar Mohapatra, TH Köln - University of Applied Science)
- 2-1-6. Recycled charcoal briquettes in Mozambique -Affordable and quality energy for all- (Ms. Junko Arisaka, Verde Africa Lda.)

12:40-13:30 Lunch Break

13:30-14:30 Session 2.2. Biomass to Energy Innovations (10 min each) Part 2

- 2-2-1. Powering Agriculture project in Africa (Ms. Katharina Meder, GIZ) [Moderator role]
- 2-2-2. Biogas Milk Chilling to Increase Productivity and Incomes of Dairy Farmers through their off-grid, biogas-powered milk chiller (Ms. Dorine Poelhekke, SimGas)
- 2-2-3. Improving Coffee Production and Quality Using Infrared Technology powered by biogas generated from coffee pulp and coffee husk (Ms. Etsub Assefa, Horn of Africa)
- 2-2-4. A mobile power plant that uses agricultural waste to fuel (Ms. Maggie Flanagan, Village Industrial Power)
- 2-2-5. Biomass-Powered Thermal Processing of Bamboo (Mr. Dereje Worku, African Bamboo)
- 2-2-6. Commercializing Biomass EverGreen Energy Systems for integrated food production with electrical power generation (Dr. Dennis Garrity, ICRAF)

14:30-15:30 Session 3. Tools for Enhanced Bioenergy Sustainability (10 min each)

- 3-1. GIS based REnergy demand-supply analysis for REDD+ in Mozambique (Mr. Joaquim Macuacua, Ministry of Environment/ex-IRENA consultant) [Moderator role]
- 3-2. Challenges to create information hub and village finance in Mozambique (Mr. Atsushi Matsunaga, NBF Co.Ltd.)
- 3-3. Sustainability Matrix for local investment in green energy for sustainable development of off-grid economic zones in Zimbabwe (Mr. Charles Kanyunga, Harare Institute of Technology, Zimbabwe)
- 3-4. Bioenergy sustainability assessment tool with GBEP indicators for IRENA Project Navigator (Dr. Takashi Hayashi, PRIMAFF, Dr. Yasuko Inoue, IRENA-JIRCAS)
- 3-5. Community biogas and clean cooking solutions for food processing in rural Ghana (Mr. Lovans Owus-Takyi. ISEES)

15:30-16:00 Coffee Break

16:00-17:00: Panel Discussion/Plenary Discussion – to create enabling conditions for scaling-up innovation

Panel 1. IRENA (Mr. Sakari Oksanen, Deputy Director General, Coordinator for Africa) [Moderator role]

Panel 2. Research perspective (Dr. Rocio Diaz-Chavez, Stockholm Environment Institute (SEI))

Panel 3. Government & community perspective (Ms. Jane Ndeti, Kenya Forest Service, Farmers Field School)

Panel 4. NGO perspective (Mrs. Veronica AgodoaKitti, ASA Initiative, Ghana)

Panel 5. Business perspective (Mr. Teddy Kinyanjui, Cookswell Jikos, Kenya)

17:00-17:15 Wrap-up and Closing Remarks

- IRENA (Mr. Sakari Oksanen, Deputy Director General)

17:30-19:30 Cocktail

## **5. Demonstration & Poster Presentation**

- Mr. Simon Kamonde, Muguga Ecosystem Research CFA
- Mr. Teddy Kinyanjui, Cookswell Jiko
- Ms. Nellie Oduor, KEFRI/INBAR
- Mr. George Muthoni, SimGas