International Conference and Policy Debate on 'Bioenergy Sustainability Schemes - An African Perspective'

Competence Platform on Energy Crop and Agroforestry Systems for Arid and Semi-arid Ecosystems - Africa

16-18 June 2008

Arusha, Tanzania

COMPETE Declaration on Sustainable Bioenergy for Africa

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Background

The use of bioenergy has come to the fore most recently as a result of the concept of it being used to mitigate climate change. There are many arguments in favour of the use of biomass, e.g. security of energy supply, diversification of energy sources, low-carbon emission, an alternative market for agricultural products, and rehabilitation of degraded lands, among others. However, the current debate focuses on the possible negative social and environmental implications, especially with regards to land competition, questions about the reduction of emissions in practice and the 'fuel versus food' debate. Some of these implications are related to either the lack of policy or policies that do not encompass sustainable development.

One of the main problems in tackling climate change has been the lack of appropriate policies. Global-level policies have often ignored the human and social needs which energy fulfils, particularly in developing countries. Although there is no single policy or measure which can provide a total solution, there is need for immediate action. If African countries are willing to engage in the "bioenergy sector" in part by replacing the traditional use of biomass with more modern forms whilst ensuring that they can fulfil their own energy needs, it will be necessary to meet sustainability assurance (environmental, social and economic) and incorporate it into local policy and governance.

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Conference Objectives

The COMPETE Conference and Policy Debate on 'Biofuels Sustainability Schemes - An African Perspective' on 16-18 June 2008 in Arusha, Tanzania, brought together more than 60 high-level participants including decision makers from several African countries, representatives from the Private Sector, NGOs, the donor community, FAO, UNEP, international initiatives (e.g. RSB) as well as national and international energy experts and stakeholders.

The main aim of this COMPETE conference was to elaborate recommendations addressing the opportunities and challenges of the global bioenergy development from an African Perspective.

Thereby, emphasis was given to:

- ensure that a strong African perspective is encouraged to emerge in the global arena of energy, climate change and bioenergy policy making
- engage the policy and decision makers of African countries in sustainable bioenergy development
- assist African countries in the development of strong regional and national policies on the sustainable development of bioenergy resources for indigenous and export markets
- highlight ways of developing food AND fuel and avoiding the food versus fuel conflict

The present COMPETE Declaration on Sustainable Bioenergy for Africa was elaborated along the lines of the following two Roundtable Discussions engaging high-level decision-makers from Kenya, Mozambique, Tanzania, Uganda, Zambia, as well as the Union Economique et Monétaire Ouest Africaine (UEMOA).

Roundtable 1: Policy strategies to enhance the bioenergy potential in Africa

- H. E. Jaime Himede, Vice – Minister, Ministry of Energy, Mozambique
- Mr. Oscar Kalumiana, Director, Ministry of Energy and Water Development, Zambia
- Mr. Mamadou Dianka, Coordinator Biomass Energy Regional Programme, UEMOA
- Mr. Styden Rwebangila, Ministry of Energy and Minerals, Tanzania

Roundtable 2: Sustainability tools and means to assure, monitor and reward sustainable bioenergy production in Africa

- Ms. Faith Odongo, Senior Renewable Energy Officer, Ministry of Energy, Kenya
- Mr. Turyahabwe Elsam, Director of Renewable Energy, Ministry of Energy and Mineral Development, Uganda
- Ms. Martina Otto, UNEP, Roundtable on Sustainable Biofuels (RSB)
- Ms. Janske van Eijck, Diligent Tanzania Ltd.

COMPETE Declaration on Sustainable Bioenergy for Africa

Policies and implementation strategies to enhance the bioenergy potential in Africa

Bioenergy should be seen as part of the solution of energy needs and greenhouse gases reduction and not as part of the problem. Major opportunities as well as constrictions need to be considered within the range of alternatives that bioenergy can provide especially in developing countries. Five main topics considered within policies and implementation strategies are as follows:

1) Visions guiding the implementation of policies for bioenergy development in Africa

The following visions should provide the guiding principles for bioenergy policy development in African countries:

- ***Rural development and improved livelihoods*** for the rural population in African countries
- ***Increased energy access*** and ***income generation*** opportunities
- Successful ***transition from traditional biomass to modern biomass***
- Sustainable large-scale production of biofuels ***involving communities, smallholders, cooperatives, local enterprises and foreign investors***
- ***Modernisation of agricultural practices*** and ***sustainable soil and land management*** to exploit complementarities of food and bioenergy production
- Full exploitation of the potential of energy crops and agricultural residues for the ***production of power, household energy, charcoal, biofuels, materials and food***
- ***Reduced dependence on imported expensive fossil fuels***
- Achievement of the ***Millennium Development Goals (MDG)***

2) Markets (local, national, international) for bioenergy development in Africa

The following policy measures and principles for bioenergy market development should be implemented in African countries:

- Create ***policies and (technical) standards*** to facilitate and guide bioenergy market development in Africa (favour local over export markets in initial stages of market development)
- Select and implement ***appropriate policy tools*** to establish local and national bioenergy markets (such as subsidies to encourage local bioenergy production)
- Give ***priority to small-scale projects and local markets*** (e.g. rural electrification, water pumping, transport fuels in agriculture)
- Create new and long term ***local and national markets*** for bioenergy (e.g. blending targets)
- Then, explore ***export, global markets*** and large-scale projects (e.g. sugar cane)
- In all cases, ensure ***value created for local farmers*** and rural development through local processing and value adding instead of exporting primary feedstock
- Highlight the importance of ***bioenergy by-products*** for the efficient use of biomass for (local) market creation and for multiple products and services (e.g. power, household fuel, food-fuel, materials, chemicals, bio-charcoal to improve soil characteristics)
- Develop **appropriate policy frameworks for investors** in cooperation with investors as well as creating links with communities
- Integrate bioenergy development in ***overall investment policies***
- Establish mechanisms for "equitable markets" and access to the different markets for African countries first at local level and then on regional and global level

3) Development of Land Use Strategies as means to ensure sustainable bioenergy development in Africa

The development of effective land use strategies (such as agro-ecological mapping and zoning initiatives) is an essential tool to avoid food-fuel conflict and ensure food security AND bioenergy development in African countries through:

- Inclusion of bioenergy in ***national land use plans and regulations***
- ***Harmonisation of policies*** in the agricultural, natural resources (e.g. water) and energy sector

- ***Zoning and identification of real potential*** of countries and regions to produce food, energy crops, materials and chemicals

- ***Mapping of indigenous land use practices*** (***participatory mapping*** from grass-root level) in order to build bioenergy development on existing knowledge and practices

- Identification of ***appropriate use of land and water resources*** (with special focus on soil properties and environmental issues) with respect to the ***local needs of rural communities***

- Promotion of ***better land use management*** (zoning resolution needs to reflect complexity)

- ***Create and enforce regulatory frameworks*** on land use issues involving the ***private sector and smallholder farmers***

- Create frameworks and policies to ensure ***food security AND bioenergy development*** in African countries (in case of existing food-fuel conflicts priority should be given to food production)

- Ensuring appropriate ***flexibility*** of land allocation

- Promotion of ***intercropping*** and ***integrated production complexes*** of food and energy crops

- ***Dissemination of information*** on agro-ecological zoning to the public (farmers)

4) Appropriate land tenure systems as pre-requisite to ensure sustainable bioenergy development in Africa

Appropriate land tenure systems should ensure that bioenergy development in Africa brings benefit to the rural population. We acknowledge that land (ownership) is a very sensitive issue in African countries, and that land ownership of foreign investors is not permitted in many African countries.

- ***Concessions/ownership granted by national authorities*** for bioenergy projects focussing on rural and social development

- ***Clear procedures on land tenure*** issues for investors

- Investors need to consult with ***Government authorities AND the local population to be responsive to their needs (participatory approach)***

- Investors need to ***respect rules and regulations*** of the host country

- ***Avoid displacement*** of the rural population

- ***Avoid corruption*** regarding land use issues demonstrating transparency in all process regarding land tenure

5) Capacity building and R&D

Capacity building of all stakeholders (decision-makers, farmers, extension services, technicians, scientists, researchers) as well as enhanced R&D activities are urgently needed to build-up the necessary human resources in African countries to ensure a sustainable bioenergy development. Fields of specific importance include:

- Knowledge on ***policies and implementation strategies*** and capacity to develop and implement clear strategies and regulations
- Expertise on ***energy and environmental planning***
- Expertise on ***bio-geochemical modelling*** and ***Integrated Soil Fertility Management***
- ***Agricultural and technical expertise***, R&D on new crops and improved crop management systems (capacity building for farmers and extension workers)
- ***Standardisation*** to guarantee adequate quality of bioenergy products
- Establishment of ***structures for the development of a suitable knowledge base*** and continuous knowledge improvements (e.g. for farmers)
- Promotion of ***technology transfer*** as well as South-South and North-South cooperation
- Scaling up of existing ***best practices in Africa***
- R&D on infrastructure needs for the whole supply chain of biomass

Sustainability tools and means to assure, monitor and reward sustainable bioenergy production in Africa

1) Why sustainability assurance and certification schemes are needed?

Major dangers and opportunities exist for the exploitation of biofuels in Africa, either for domestic or export purposes. Many of these problems and opportunities stem from the likely changes in economic land value, the potential for rural employment provision or the exclusion of rural populations from the land. As with agriculture in general, longer term environmental and social impacts, positive and negative, could also result from changing land use to include the provision of bioenergy. Therefore, a set of tools to understand, monitor and quantify these impacts, opportunities and threats must be developed.

These 'sustainability tools' will include environmental and social impact assessment (EIA and SIA), strategic environmental assessment (SEA), life-cycle assessment (LCA). Developed sustainability tools will also need to be underpinned by local to global standards monitored through assurance and certification schemes. Sustainability tools must focus on the local communities but must also consider all stakeholders in the potential biofuel supply chain including national and international governments and international organisations as required. The following points should be considered for the African context and worldwide regarding the use of sustainability tools:

- There is an urgent need to implement the use of 'sustainability tool sets' as outlined above.

- However, viewing biofuels in isolation from the rest of the agricultural and forestry production sectors is inconsistent and potentially distorting. Therefore sustainability tools **should be implemented across all land-use sectors.**

- These tools will by definition need to encompass **economic, social, and environmental (including climate change) principles.**

- Understanding and being sensitive to the scale and context of feedstock production and conversion industry is of critical importance. The implementation of tools needs to be practical **for the use of (small scale or large scale) farmers.** Therefore, there is need **to improve and develop capacity** to understand the level of detail required at a particular scale and to appropriately enforce the monitoring. This is a central component to the viability of such schemes.

- Sustainability tools are already in place for **existing management tools,** with some complying to existing ISO standards. They are gaining support as a planning tools at multiple scales.

- Major opportunities for investment in agricultural production, related infrastructure and knowledge could be driven, in-part, by foreign investors and so the **option to export biofuels** and include the **private sector** must be retained.

- The standards underpinning the sustainability tools will need to include **social issues, land tenure, guidance for the selection and participation of stakeholders** and on **contract development, particularly for farmer groups (e.g. cooperatives).**

2) What level of scale and complexity is needed for the sustainability tools

Guidance on the use of the tools is needed at the various scales of production and conversion and the market that the product will reach (e.g. internal or for export). If internal, the tools should consider transitions towards sustainable agriculture and forestry. The monitoring process should reward good practice and penalise bad practice. Considerations on the scale include:

- Need to **define scales** of commercial products and **differentiate crops** for large and small scale
- Understand the implications of the different **scales and conditions** of small holders, large scale or hybrid systems and **empower small scale** farmers to have more secure market opportunities
- Three areas to consider**: agriculture, production** (conversion) **and marketing**
- Encourage **large scale projects to support small holders** (multi-scale) applying **Corporate Social Responsibility** principles
- Consider the **social structures** and work conditions of the **small holders** which is **more sustainable but often regarded as more expensive,**

3. Sustainability tools and applications in biofuel production

The application of standards and certification may vary from government and private sectors and may be seen as regulatory or reporting duty. The inclusion of climate change considerations in the life cycle assessment of products may also put an additional element into the sustainability views of the production system. Some of the reflections on this are:

- There is need of a **model framework in Africa** that considers other issues such as **land use change impacts** (indirect)
- Use **existing tools** (EIA, EA) and **policies** in place but **distinguish between the available tools with the new themes**
- Consider **available models of production** (e.g. sugar cane)
- Need to use **cooperation "blocks" in Africa** such as ECOWAS for sharing knowledge
- Use of other models and **South-South cooperation** including **CDM experience**
- **Education** is needed in all steps towards achieving sustainability

The COMPETE Project

COMPETE Objectives

The Competence Platform on Energy Crop and Agroforestry Systems for Arid and Semi-arid Ecosystems – Africa (COMPETE) will establish a **platform for policy dialogue and capacity building** and identify **pathways for the sustainable provision of bioenergy**

- to improve the quality of life and create alternative means of income for the rural population in Africa
- to aid the preservation of intact ecosystems in arid and semi-arid regions in Africa
- to enhance the equitable exchange of knowledge between EU and developing countries

COMPETE Activities

COMPETE will deliver a matrix of multi-disciplinary and cross-sectoral work-packages

- to evaluate current and future potential for the **sustainable provision of bioenergy** in Africa in comparison to existing land use patterns and technologies
- to facilitate **South-South technology and information exchange** capitalising the world-leading RD&D in bioenergy in the key countries Brazil, Mexico, India, China and Thailand
- to develop **innovative tools for the provision of financing** for national bioenergy programmes and local bioenergy projects, including: carbon credits, bilateral and multi-lateral funding instruments, and the role of international trade
- to develop **practical, targeted and efficient policy mechanisms** for the development of bioenergy systems that enhance local value-added, assist local communities and address gender inequalities
- to establish the **Competence Platform** to ensure effective dissemination and knowledge exchange inside and outside the network

COMPETE Partnership

The COMPETE partnership comprises 20 European and 23 non-European partners - 11 partners from 7 African countries, 3 regional African policy and financing bodies (African Development Bank; Food, Agriculture and Natural Resources Policy Analysis Network of Southern Africa; UEMOA - Biomass Energy Regional Program), 9 partners from Latin America and Asia - and the Food and Agriculture Organisation of the United Nations (FAO).

COMPETE Website: **www.compete-bioafrica.net**

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