Bioenergy and Development in Sub-Saharan Africa: Are the Policies Conducive?

Charles B.L. Jumbe, PhD (Econ)
Centre for Agricultural Research and Development (CARD)
Bunda College of Agriculture (University of Malawi)
&
Frederick Msiska
Ministry of Agriculture and Food Security, MALAWI
in partnership with
WIP-Germany & FANRPAN
funded by the EU

Presented at the International Workshop on 'Bioenergy Policies for Sustainable Development in Africa'
25-28 November 2008, Bamako, Mali

Outline

- Background
- Why do we need policies
- Objectives of the study
- The approach
- Key findings
- The future &Way forward
- Take home messages

Presented at the International Workshop on 'Bioenergy Policies for Sustainable Development in Africa'
25-28 November 2008, Bamako, Mali

Introduction

- Fossil fuels continue to be the pivot of economic and social development of all countries around the world
- However, there are on-going concerns over supply & use of fossil fuels around 3 main aspects
  - Soaring fuel prices that reached >US$130 per barrel
  - Instability of energy supply as much of fossil fuels are imported fuels from politically fragile states
  - Environmental contamination thru GHG emission and air pollution from burning of biomass & fossil fuels.
- Therefore, biofuels are considered as an alternative to fossil fuels

Why do we need policies?

- Global production of biofuels doubled over the last 5 years and is likely to double again in the next 4 years.
- FAO (2007) predicts that demand for biofuels will grow by 170% by 2010
- Biofuels are expected to contribute 25% of the world energy needs in the next 15 to 20 years.

Sources of Growth

USA:

- About 20% of the whole maize was used for ethanol production in 2006 only to meet 2% of automobile fuel requirements.
- Eliminating fossil fuel use entirely in USA will require doubling the current 200 mn ha currently under farming.
- An extra 36 mn ha of land will be required if **maize ethanol** alone will be used to meet 15% share in biofuels for automobiles.

Sources of Growth

- The **EU has set a** target of 5.75% biofuels share in all transport fuel by 2010
- This translates to 18.6 mn. tons of oil equivalent

ASIA:

- Japan will need 6 bn. litres of ethanol every year to meet the blending ratio of **only** 3% biofuels.
- China will need 22.7 mn. metric tonnes of biofuels to blend 10% biofuel into all Chinese cars by 2020.

The BIG Question

- How will these targets achieved?
- **"Gold rush" for land in AFRICA**
  - Most countries in Africa have adequate land, cheap labour force and favourable climate for growing energy crops
  - Biofuels can easily be integrated with traditional farming practices
- Today, investors are now coming to Africa to acquire land & put up plants and machinery for commercial biofuels production
- About 4 mn sq km of land will be grown to energy crops in Southern Africa region (e.g., Jatropha) over the next 5 years

Objectives of the Study

- To explore the extent to which the national policies incorporate strategies for mainstreaming or supporting the development of the biofuel sector.
- **Key questions:**

1. What do the policies state regarding bioenergy or biomass energy development?
2. What are the notable gaps in the policies across countries with regard to bioenergy and energy crops development?

Approach

- PRSPs/national development frameworks
- National energy policies
- Specific biofuels strategies
- National Trade Policies
- Regional Development Frameworks (SADC, ECOWAS, COMESA)
- International biofuels/trade policies (e.g., WTO, USA, EU & Asia)

Main findings

National Development/Energy Policies

- Only the PRSP for **Ghana** contains specific strategies for biogas development, with a target of substituting 20% of national gas and oil consumption with biodiesel and 30% of paraffin to be replaced with Jatropha oil by 2015.
- **Mozambique** has adopted a policy for large-scale production of biofuels, including the gradual introduction of blending of fossil fuels with biofuels initially at 5 – 10%.
- **South Africa** has a specific biofuels strategy aims at achieving market penetration of 2% in biofuels by 2013.
- **Malawi, d**espite having more than 20 years experience producing, **has no specific biofuel strategy**

Main findings

International policies

- There is no clear WTO position on biofuels that may affect international trade in biofuels:
  - Biofuels classification within the context of the WTO harmonized system
  - How subsidies to promote the production or consumption of biofuels fit in the context of WTO rules, and
  - Consistency of domestic regulations and biofuels standards.

Main findings

Incentives

- Substantial government support has been provided to many countries that have made significant progress in biofuels such as South African, USA and other countries in Asia & Europe

Regional Policies

- Unlike in **ECOWAS region**, there is no clear **coherent policy and strategy** on biofuels in the SADC or COMESA region

What are the Implications of the findings

- African biofuel sector is unlikely to be competitive on international markets due to
  - **Subsides** and **tax** incentives provided to producers & consumers of biofuels in developed countries
  - **Law state of art** in biofuel production & processing
  - High international **standard specifications** for biofuels

"Cost" of Inaction

- While the consequences of biofuels on food supply remain uncertain, they cannot be ignored.
- Adopting a "**wait and see**" policy will lead to
  - **Food insecurity** as more land will be taken away from mainstream agriculture for growing of energy crops
  - **Damage to environment & loss of biodiversity** through clearing of forests and/or encroachment of protected areas for biofuels
  - Missing out on **opportunities** of biofuels development
    - **Employment opportunities** both direct and indirect
    - Relief on the **fuel import bill** (blending of fossil fuels with biofuels)
    - **Rural development** such as rural energy supply

A grain of hope

- **Agriculture** has always adapted to the changing needs of mankind- The same should also be possible with biofuels.
- If we slow down the pace and allow **science** to nurture technologies that will
  - increase agricultural productivity per unit of land or labour
  - Enable the use of non-food biomass for biofuels
- A **happy bending** will be possible where agriculture meets both energy & food needs of mankind

Way Forward

- As biofuels are expanding rapidly in Africa, there is urgent need to reinforce 3 key areas:
- **RESEARCH-** Rigorous research & analysis is urgently needed in Africa to
  - Better understand the direct and indirect impacts of biofuels development on agricultural production systems
  - Assess technical and policy options for both reducing the negative impacts of biofuels on food security & the environment
  - Harnessing the potential of biofuels for rural transformation and development

Way Forward

- **POLICY DEVELOPMENT-** There is need to help African governments develop biofuels policy & guidelines that safeguards rural communities and the environment

- **ADVOCACY**-There is need to sensitize politicians & civil society on the urgency for African governments to develop policies and strategies
  - To exploit the potential benefits from biofuels exploitation
  - To mitigate the negative effects of biofuels expansion

Take-home messages

1. **Human well-being & Right to Food:**
   - To be the centre of biofuels policies, strategies and programs development.
   - It is **politically and socially immoral (insane)** to transform all food into fuel for cars, when many people go to bed hungry.
   - Taking food off of the table and use it to produce fuel for cars will make the poor in Africa worse-off.
2. **Policies & Regulatory Frameworks**:
   - To protect the rural dwellers from being evicted off their land for biofuels
   - To prevent rural people from falling deep into food poverty by replacing food crops with energy crops for biofuels
   - To prohibit biofuels expansion into protected areas

Take-home messages

3. **Development Path**:
   - Biofuels may be sustainable in some instances while destructive in others.
   - Each country therefore needs to define its own biofuels development path.
- For most countries, biofuels development should have a rural development focus but not a commercial one
- Biofuels expansion beyond meeting rural development objectives should be carefully monitored and regulated.
- **If left unregulated,** biofuels development will put a heavy burden on the poor

Conclusion

- As we now live in a **global village**, any significant shift in agriculture landscape in the industrialized world will heavily impact Africa.
- **Yes, biofuels era is here to stay**!
- For biofuels,
  - ***"Now is not the time for any country to hesitate, delay, derail or block development, but an opportune time to develop or adapt our policies in order to survive in the fast changing world."***

- **Thank you for your attentio**

charlesjumbe@yahoo.com

Presented at the International Workshop on 'Bioenergy Policies for Sustainable Development in Africa' 25-28 November 2008, Bamako, Mali