Bio-energy – large scale agriculture investments in Africa –Food security: emerging perspectives – by Ruhiza Jean Boroto, FAO[1]

Abstract

The preliminary findings of study under way on behalf of the Africa Ministerial Council of Water (AMCOW) indicates that between 2000 and 2012, a total area of approximatively 3.4 hectares of land has been acquired across Africa for large scale agriculture investments, with 50% of these shared among 6 countries: (1) Ethiopia (15%); Mozambique (11%); Tanzania (9%); Ghana (6%), Mali (5%) and Zambia (4%). The other countries share the remaining 50%. The study also finds that 68% of land acquired is for biofuel, 26% for growing food crops, 3% for cotton and 3% for livestock. Food crops (rice, sugarcane (for sugar), maize, wheat and vegetables) and biofuels are mostly cultivated by investors.

It is of worth to recognise the potential benefits that such large scale investments hold for beneficiary countries, which include (1) increased agricultural productivity leading to improved national food security and rural household incomes; (2) infusion of capital, technology and know-how; (3) increased employment and (4) improved social amenities.

However, considering that 68% of the land acquired is for biofuel, the question arises on the need to reconcile food security and bioenergy production. This paper presents the FAO's Bionergy and Food Security (BEFS) approach, which is a tool that is designed to help countries design and implement sustainable bioenergy policies and strategies, by ensuring that bioenergy development:

- contributes to agricultural and rural development in a climate-smart way, and
- fosters both food and energy security

Opportunities and risks for growing of 'non-food' bioenergy crops as integral components of land-use systems in SSA

The following are some of the opportunities that can be identified with growing 'non-food' bioenergy crops as an integral components of land-use systems in sub Saharan Africa**:**

- Job creation and income generation for the farmers and their workers, contributing to the generation of wealth and the reduction of poverty in general.
- Diversification of sources of food and improved diets, considering that the income generated would improve the buying power for food other than that crops produced by subsistence agriculture.
- The production of additional energy available which could be available for several economic activities such as the transport and industry.

On the other hand, the risks include:

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- Opaque land acquisition transactions which might reflect poor governance, with several consequences on sustainability and equity if only economic gains are pursued.
- Marginalization of affected vulnerable livelihoods if their needs are not taken into account and/or if they are not consulted and informed of such transactions.
- Ecosystems might also be negatively affected by such activities because of their interdependence with the targeted lands.

How must multi-functional land-use systems be designed in order to promote food and energy security as well as rural development?

The design of such systems need to consider the interaction, dependence and impact of land use such as:

- On other natural resources, such as water, which is often a condition the development of land resources: the question to answer is whether there is enough water to for the proposed land use activity and to assess whether the water requirements of the proposed activity will not affect negatively other competing water uses.
- A similar consideration needs to apply to other ecosystem parameters such as soils, flora and fauna, including the goods and services that these ecosystems provide – to rural folks and others - and how they will be affected by the proposed land use activities.
- With specific reference to rural folks, the benefits/losses with regard to their livelihoods (with the risks of: loss of productive land, unfair compensation,) require special attention.
- Finally, opportunities that such land-use systems will contribute to food and energy security as well as rural development need to be at the core of the activities considered, and when necessary innovative systems should be contemplated such as inter cropping, conservation agriculture, etc if relevant.
- Local communities should also be given preference for job and capacity development opportunities created by such investments.

Likely benefits and synergies of 'non-food' bioenergy crops in agricultural land-use systems for other sectors

The responsible development of non-food bioenergy in agriculture land -use systems hold the potential for benefits and synergies for other sectors, such as:

- A general improvement of the quality of life through availability of additional energy, which might also reduce the dependence on external markets, thus providing stability against price volatility.
- High incomer generation which would increase disposable income, boosting other sectors (health, education, housing and business in general)
- Opportunity for integrated landscapes which would contribute to greater sustainability, resilience and might trigger benefits such as increase in tourism if these landscapes are develop in an innovative manner.
- Production of clean energy which will benefit the environment in general and for other sectors with less pollution, price predictability, stability in jobs, etc.
- Diversification of sources of energy - to alleviate power shortages – by feeding into the electricity distribution grid.

Reconciling the need for biofuels with the need for food security: The BEFS's approach.

The FAO's Bionergy and Food Security (BEFS) Approach is a tool that is designed to help countries design and implement sustainable bioenergy policies and strategies, by ensuring that bioenergy development:

- contributes to agricultural and rural development in a climate-smart way, and
- fosters both food and energy security

It is a participatory (through stakeholder dialogue and capacity building) process that focuses on a country's specific context, analyzing its natural resources base for biomass potential assessment. By identifying energy end use options with a techno-economic analysis coupled with a socioeconomic analysis, it generates country specific evidence to support policy formulation and provides for the monitoring and evaluation of impact, with appropriate responses, as relevant. The BEFS also provides throughout the process for risk prevention, management and investment screening.

The BEFS approach has been applied to several African countries, and demand from other countries is increasing. Currently it is being applied in Cote d'Ivoire, has been tested in Malawi, Tanzania and Sierra Leone. visit http://www.fao.org/energy/befs

Way forward: Integrating of security of tenure and sustainable management of land and water resources

It is important to stress that security of tenure is critical in achieving good agriculture water management practices as well as natural resources management in general. Indeed, secured tenure provides a good incentive for agriculture water management as the smallholder or the farmer in general is assured that he can benefit from long term investments – water

infrastructure or sustainable land management and practices – whereas in the absence of such security of tenure, he will simply aim at maximizing his short term gains with no consideration for any sustainable or responsible practices to protect the natural resources and the ecosystems and the other goods and services that they provide at large. This holds for any land or water use, food, bioenergy or other uses. Water tenure remains a challenge as a concept and in practice, but fostering transparency and good practices will go a long way towards ensuring sustainable water resources management, the ultimate objective of any tenure.