

Bioenergy developments are high on many countries' agendas today in an effort to improve energy access, energy security and in the context of concerted efforts towards lowering global greenhouse gas emissions. Over time, however, serious concerns on the environmental and social feasibility and sustainability of bioenergy have arisen, especially with first generation bioenergy. In this context FAO, with funding from the Government of Germany, set up the Bioenergy and Food Security (BEFS) project to assess how bioenergy developments could be implemented without hindering food security.

Although strong arguments exist for promoting biofuels - enhanced fuel energy security, climate change mitigation and agricultural rural development, the reality is more complex. Biofuel developments have local, national, regional and global impacts across interlinked social, environmental and economic domains. A key concern for many poor countries is the effect biofuel production will have on food security. The interface between bioenergy and food security is complex. Biofuel production may compete with food production for land and other agricultural resources. On the other hand, biofuel developments could play a pivotal role in promoting rural development through increased local employment and energy supply. Implementing bioenergy production can result in improvements or a worsening in the food security conditions depending on the bioenergy pathway chosen. The precise effects on food security will depend on many factors ranging from the land used for bioenergy production, type of feedstocks, agricultural management practices, the industrial set-up of the sector as well as developments in global agricultural and energy markets.

The majority of Tanzania's poor live in rural areas and continue to rely on conventional biomass for basic energy services. In common with many African countries, Tanzania's dependence on agriculture is likely to remain high for some time to come. But if agriculture is to provide the basis of future growth and poverty reduction, the sector requires urgent modernization in order to improve productivity and generate growth. In Tanzania, there is a real willingness to exploit bioenergy developments to improve energy security which in turn impacts on food security. However, bioenergy developments must be integrated into a wider process of agricultural modernization through better use of land, water, labour and other resources. Failure to do so may result in a bioenergy sector that bypasses the poor. There are strong theoretical arguments for promoting bioenergy but for Tanzania the real issue lies in managing the development of the sector in a manner that promotes more equitable growth.



There is already a sound understanding of this in Tanzania. The National Biofuels Task Force (NBTF) which is charged with the design of a biofuel policy is made up of representations of various ministries which should ensure that developments occur against the backdrop of ensuring food security. The NBTF is comprised of the various ministries including: Ministry of Planning, Economy and Empowerment, Ministry of Energy and Minerals, Ministry of Agriculture, Food Security and Cooperatives, Ministry of Labour, Employment and Youth Development, Ministry of Finance, and the Vice President's Office – Division of Environment.

It is against this context that the FAO developed the BEFS project to create a set of tools that permits an exploration of the interface between food and bioenergy in order to reveal significant policy directions. The BEFS assessment for Tanzania enables a comprehensive consideration of the conflicts and synergies in the food security-bioenergy nexus in order to contribute to a more informed policy process that in Tanzania will contribute to the formulation of a biofuels policy. The BEFS Analytical Framework generates information on how the development of the bioenergy industry can positively or negatively impact on food security and poverty. Through this analysis, policy-makers are able to consider alternative pathways of bioenergy development that are consistent with Tanzania's own poverty reduction strategy.

Importantly BEFS does not restrict itself to an analysis of the feasibility of the bioenergy sector. Rather, the Analytical Framework is more rounded with a clear recognition that the basis of this industry is rooted in the agricultural sector, which in Tanzania, has been performing weakly for some time. Naturally there are concerns that competition with a bioenergy sector will compromise the traditional role of agriculture to provide food. However, the development of a bioenergy sector at the cost of food security in Tanzania holds little ground. This is because food insecurity everywhere in Africa is driven by low yields. Improving food crop productivity would do much to allay any arguments that food was competing with fuel. Secondly, in Tanzania, land is currently being used for export crops such as coffee and tea and this has not raised the same concerns as for potentially using land for bioenergy. The BEFS tools help to untangle the many considerations involved in developing a new bioenergy sector. BEFS cannot provide all the answers but it can point a way forward by helping policy-makers to understand key relationships between bioenergy development and food security.

Currently there are three partner countries, namely **Peru**, **Tanzania** and **Thailand**. These three countries provide a comprehensive analysis of the interaction between bioenergy developments and food security at different stages of bioenergy developments and the countries' economic development. Furthermore, although the assessment presented here is limited to a selected number of crops, Tanzania will be able to look at the analyses undertaken within Peru and Thailand to see how BEFS can extend into other forms of bioenergy, other crops and other constraints such as, for example, water.

Finally, for other interested countries, the examination of the BEFS analysis provides a good example, at similar stages of development, on how to handle the development of a bioenergy sector whilst promoting food security or ensuring continued food security.

The BEFS analysis for Tanzania is structured as follows:

Chapter 2 introduces the bioenergy and food security nexus and provides the intuition that underpins the BEFS Analytical Framework. This section presents an overview of the five technical Modules that constitute the BEFS analysis approach. Chapter 3 sets the context against which the bioenergy sector will be developed in Tanzania. This section illustrates the macroeconomic performance of the country, the agriculture and energy sector, the food security situation and the respective policies. The bioenergy guidelines and the status of the bioenergy policy in Tanzania are presented. A real case scenario is presented to illustrate the gap between policy and the reality on the ground. Chapters 4 to 8 are the technical chapters of the analysis that contain the results of the five Modules that constitute the BEFS Analytical Framework. Chapter 9 concludes the analysis with showing how BEFS can assist policy-makers on the technical chapters of the analysis.