
**Liquid Bioenergy Development
Policy Status
Dar es salaam
Tanzania.**

**Eng. RNMtunze, Ministry of Agriculture Food Security and
Cooperatives**

**In Collaboration with
Ministry of Energy and Minerals**

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Outline

PART 1

- Introduction to bioenergy

PART 2

- Key Drivers and Concerns
- Input for Liquid bioenergy Policy



PART 1

Introduction to Bioenergy

Bioenergy are either, solid, gaseous and liquids sources of energy produced from biomass.

- From these sources of Energy we have 3 categories of fuels:
 - **Solid** – Firewood, charcoal, solid wastes
 - **Gaseous** – Biogas, producer gas
 - **Liquids** – Ethanol, biodiesel, Straight Vegetable Oils (SVO) derived from crops, plant residues or animal wastes. **Liquid bioenergy provide alternative fuel for cooking, lighting, power generation and transportation.**



Introduction to Bioenergy *Cont..*

- Liquid Bioenergy

- Biodiesel, bioethanol, vegetable oils (SVO), recycled cooking oils, greases or oils or animal fats.

Introduction to Bioenergy *Cont..*

○ Bio-diesels

- Produced by processing the said oils. The most widely used process is trans-esterification. A fat or oil is reacted with an alcohol, like methanol, in the presence of a catalyst to produce methyl esters or biodiesel. Biodiesel is a principle fuel used as an alternative to mineral diesel (gasoil). The catalyst is usually sodium or potassium hydroxide.



Introduction to bioenergy *Cont.*

○ Bio-ethanol

- Is an alcohol based fuel produced from starch based crops, cornstalks and vegetable waste. Bio-ethanol fuel is mainly produced by the sugar fermentation process. Bio-ethanol is a principle fuel used as an alternative to gasoline.



Introduction to Bioenergy *Cont.*

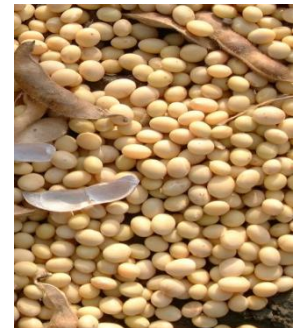
- **Straight Vegetable Oils (SVO):**
means oil extracted from seeds and used as fuel in special appliances without any processing. In other words SVO is pure vegetable oil.

Introduction to Bioenergy *Cont.*

Energy Crops

- Energy crops are crops, which are grown specifically for energy use.
- Crops that can produce Liquid bioenergy
 - Biodiesel: Jatropha, Oil Palm, and Cashew nuts, Coconuts, sunflower, castor beans, soybeans, groundnuts.
 - Bioethanol: Sugarcane, maize, sorghum, cassava, rice, cotton among many others

Some Energy Crops





PART 2

Key Drivers

○ **Energy Security**

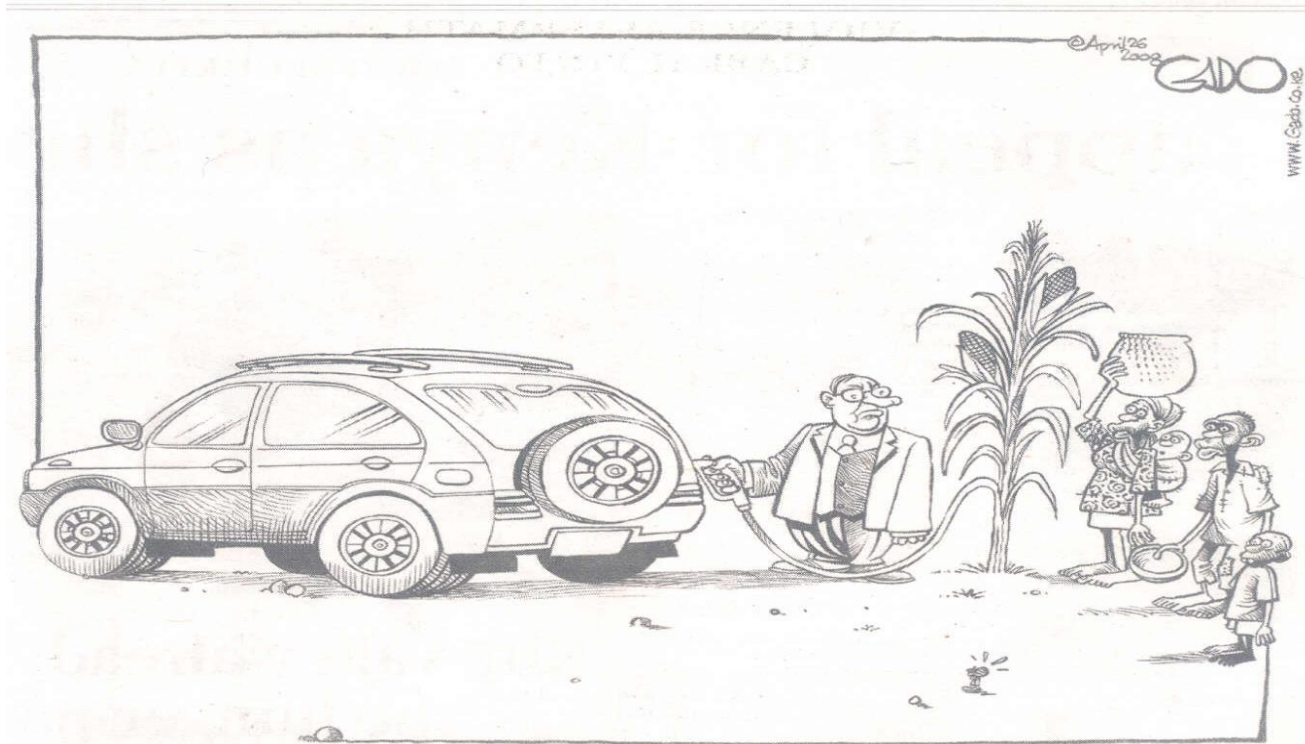
- A foreseen 10% - 15% bioenergy target by 2020, would equal about 160 - 200 thousand tonnes of liquid bioenergy. These fractions are based on **a foreseen** 10-15% replacement of diesel and gasoline respectively.
- Diligent Tanzania Ltd demonstrated the use of Straight Vegetable Oil (SVO) as fuels for cars.
- **Cooking Fuels**
- Moto Poa Company Limited in Dar es Salaam produce ethanol-based jelly for cooking
- **Power generation using Multifunctional Platform (MFP)**

Key Drivers

- Rural Development –
 - Employment and income opportunities,
 - Creating new rural industries,
 - Improved Infrastructures,
- Agricultural Development Option– alternative cash crops for farmers (small and large scale)

Key Concerns

Food Security





AGROENERGY: INTEGRATING FOOD AND FUEL

- Integrating food and bioenergy foster investments in the agro-industrial complex;
- Develops a structured agricultural system;
- Occupy labour in a permanent way;
- Generates income all year round, not only during harvest;
- Suppliers can be organized in cooperatives;
- Labourers will get better qualification to work in those complexes;
- The production of bioenergy allow the use of clean energies and can obtain carbon credits and others instruments.

Areas under bioenergy Crops Production



● Jatropha – Sun bioenergy, Bioshape, Prokon, Diligent, Kakute

● Palm Oil – Felisa in Kigoma and Environvest in Handeni

● Sunflower – Local producers -Singida

● Cotton- Africa Biofuel & Emission Réduction

● Sugarcane – Agroeco energy

● Areas with sugarcane plantation for sugar production

Key Concerns

- Displacement and Resettlement
 - Zoning and mapping areas for bioenergy production
- Environmental Concerns

Bioshape Tanzania Ltd – Jatropha plantations in Kilwa District





Why Liquid bioenergy Policy

The current policies, legal and institutional framework in Tanzania is not adapted to take care of the key concerns in the bioenergy industry.

Government reaction on Bioenergy

- In 2005 - 2006 increased Number of bioenergy Investments
- National Biofuels Taskforce established and tasked to prepare
 - strategic actions including formulation of bioenergy guidelines (interim)
 - Project Document on "Strengthening the policy, legal, regulatory and institutional framework for bioenergy development in Tanzania.
 - Both policy, legal and regulatory frameworks are still in draft form.



Important experiences towards formulation of Liquid bioenergy Policy

- Consultant review reports on Policy, Legal and Regulatory Framework.
- Strategic Environment Assessment (SEA) being finalized.
- Objectives/drivers developed by stakeholders during Consultative Workshops
- Analysis of the bioenergy Guidelines
- Opinion obtained for regions in the awareness work in 5 regions.
- Sustainability Criteria developed by SADC Task force.



ROLE OF STAKEHOLDERS

- **Local Government**
- **Private Sector**
- **Communities**
- **NGOs and Civil Societies (CSOs)**
- **Academic and Research Institutions**
- **Development Partners (DPs)**
- **Media**



THANK YOU!

ASANTENI!