

**COMPETE INTERNATIONAL WORKSHOP ON
'BIOENERGY POLICIES FOR SUSTAINABLE DEVELOPMENT IN AFRICA'**

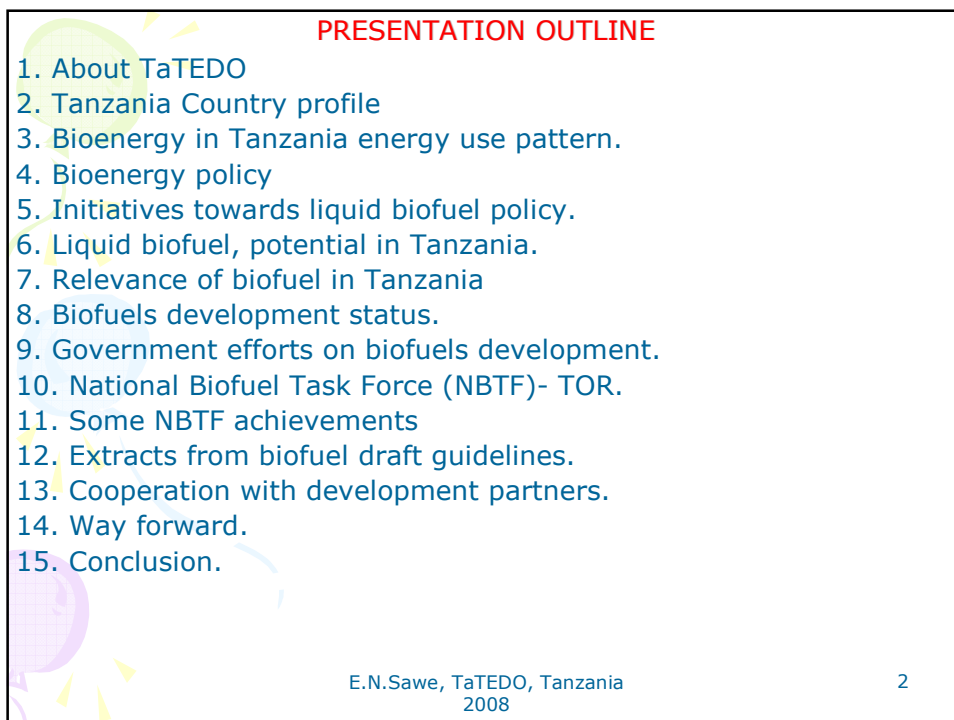
**BIOENERGY POLICIES IN
TANZANIA**

NOVEMBER 25 TO 28th 2008

BAMAKO, MALI

E.N.Sawe, TaTEDO, Tanzania
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PRESENTATION OUTLINE

1. About TaTEDO
2. Tanzania Country profile
3. Bioenergy in Tanzania energy use pattern.
4. Bioenergy policy
5. Initiatives towards liquid biofuel policy.
6. Liquid biofuel, potential in Tanzania.
7. Relevance of biofuel in Tanzania
8. Biofuels development status.
9. Government efforts on biofuels development.
10. National Biofuel Task Force (NBTF)- TOR.
11. Some NBTF achievements
12. Extracts from biofuel draft guidelines.
13. Cooperation with development partners.
14. Way forward.
15. Conclusion.

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About TaTEDO



- **The Organization background:** A sustainable Energy, Development, non-profit sharing organization established in 1990, currently with 50 full time members of staff.
- **Vision:** Poverty free and self-reliant communities in Tanzania accessing sustainable modern energy services.
- **Mission:** To advance popular access to sustainable modern energy technologies in marginalized communities in Tanzania through technological adaptations, capacity building. Community mobilization and advocacy for increased access to sustainable energy services, poverty reduction and environment conservation.
- **Some key activities:** Capacity building, community mobilization, advocacy, energy technologies development and transfer, networking, energy related enterprise development services, etc.

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TANZANIA COUNTRY PROFILE.



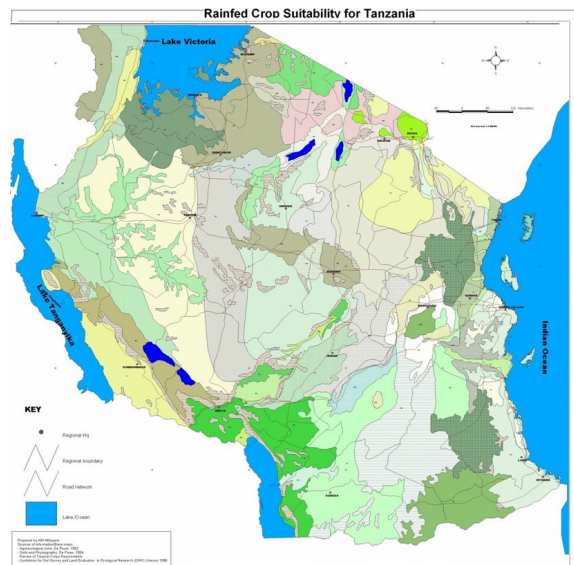
Country Location

- Tanzania is located in Eastern Africa between longitude 29^o and 41^o East, Latitude 1^o and 12^o South.
- **Tanzania has frontier to the following countries:**
 - North : Kenya and Uganda
 - West: Rwanda, Burundi and Democratic Republic of Congo
 - South: Zambia, Malawi and Mozambique
 - East: Indian Ocean
- **Area: Total 945,000 km²**
 - Mainland: 881,000km²
 - Arable Land 88million ha- less than 10% is under use,
 - Zanzibar: 2,000 km²
 - Water: 62,000 km²
 - Forest and woodlands: 33,500 km²
- **Political system:** Young Multi party democracy
- Estimated at 34.6 million people (2002) growing at about 2.8% p.a.;

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MAP OF TANZANIA.



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BIOENERGY CATEGORISATION

Bioenergy can be broadly defined as:

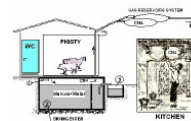
- **Solids-** Woodfuels, Agro/forest residues (bagasse, sawmill waste, etc) for co-generation, cooking and other thermal applications .
- **Liquids** - Bio-ethanol and biodiesel, for engines, cooking and other heat requirements.
- **Gaseous fuels** – biogas and producer gas.



Natural Forests



Biofuels



Biogas

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BIOENERGY ROLE IN THE TANZANIAN ENERGY CONSUMPTION PATTERN.

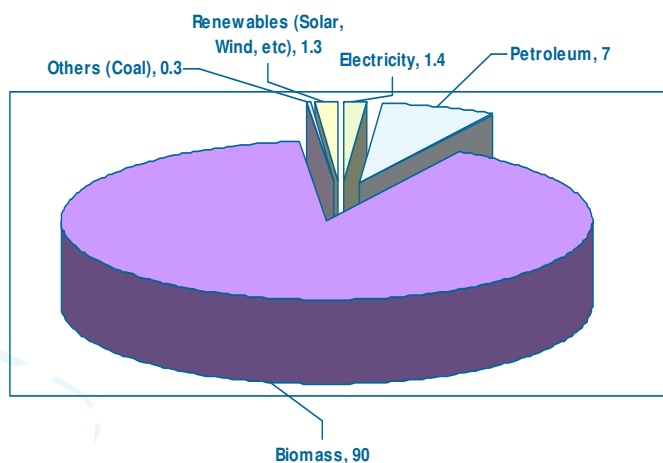


- In Tanzania solid bioenergy (woodfuels, agro/forest residues) still account for 90% of total energy consumed, while modern commercial energy contribute: petroleum 7%, electricity 1.4% others 1.6%.
- Also solid bio-energy provide process heat for most rural industries, i.e. pottery, crops processing, brick and lime burning, fish smoking, local beer brewing, etc.
- Some industries i.e. sugar, pulp and paper mills use solid bio-energy for cogeneration of electricity and heat.
- Use of gaseous (Biogas/producer gas) and liquid (ethanol gel) bioenergy is still very limited in Tanzania .

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Percentages of Supply of Primary Sources of Energy



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TANZANIA BIOENERGY POLICY



- Tanzania has no specific bioenergy policy, however there are statements within the energy, agriculture, forest, land and environment policies aimed at improving supply and demand of solid bioenergy.
- Only recently has Tanzania initiated efforts towards a liquid bioenergy policy, regulatory framework and guidelines for sustainable liquid biofuels development through a National Biofuels Task Force.

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SOME BIOENERGY RELATED POLICY STATEMENTS



- **Forest Policy(1998)**-ensure sustainable supply and use of forest products including bioenergy, firewood and charcoal through participation of key stakeholders in joint forest management.
- **Energy Policy(2003)**-Promote efficient conversion and use of bioenergy to reduce land degradation, deforestation and mitigate climate change.
- **Environmental Policy(1997)**-Investment in biomass development vital for environmental protection and poverty reduction.
- **Land Policy (1997)**-Land belong to the government, users can lease for use for an agreed period of years.
- **Agriculture Policy (1997)**-promote sustainable food security, income generation, employment and export enhancement through use of environmentally friendly practices and technologies.
- No specific reference to liquid biofuels in these policies.

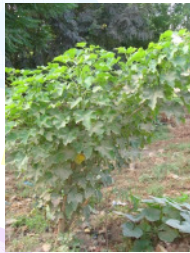
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INITIATIVES TOWARDS A LIQUID BIOENERGY POLICY



Presently the main driver of liquid Biofuels development in Tanzania is still unfortunately external rather than internal and national in a situation without adequate policies, regulations and a poorly informed public.



Jatropha-new fuel



Firewood-biomass for rural areas



Charcoal- biomass for urban areas

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LIQUID BIOFUELS, TANZANIA HAS HUGE POTENTIAL.



- Tanzania has favorable climate that supports the growth of energy crops.
- Strategic location of Tanzania Indian Ocean, borders with 8 countries – favorable conditions for bio-energy trade.
- Land law: In Tanzania land belongs to the Government and a lease for specific period is given to person(s)/company/institution(s)
- Investment policy – implemented through Tanzania Investment Centre.

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LIQUID BIOFUELS, TANZANIA HAS HUGE POTENTIAL.



- Land availability, more than 88mill.ha (most of which is arable), but need to be carefully assessed considering multi-uses.
- Water availability (precipitation, surface and underground resources, lakes) at many places;
- Demonstrated Interest of various actors/developers on biofuels (local and foreign),
- Potential market for biofuels domestic and international.
- Availability of labour force and small scale farmers.
- Reduce dependence on traditional biomass (woodfuel) and imported fuels.

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RELEVANCE OF LIQUID BIOFUELS TO TANZANIA

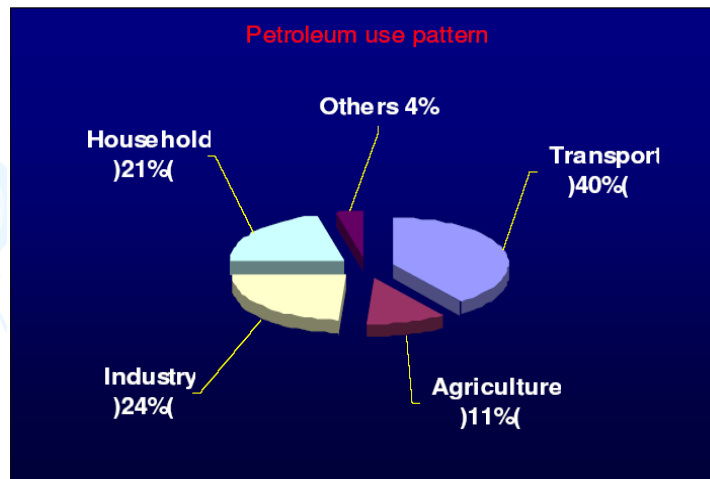


- Contribution to improve energy security at all levels.
- Creating new bio-energy industries at different levels.
- Introduction of alternative or additional cash crops to farmers (small and large scale),
- Creating new jobs and income opportunities through biofuels production,
- Reduction of volumes of oil imports and hence foreign exchange savings,

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PETROLEUM USE PATTERN.



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STATUS AND ACTORS IN BIOFUEL DEVELOPMENT IN TANZANIA


- Biofuel industry is still at the infancy stage, only about 650, 000 hectares allocated from potential 88mill. hectares of arable land.
- Key actors include several Government Ministries and institutions, Civil society organizations, village governments, private investors and development/diplomatic partners
- Specific Actors and developers on the ground are at various stages of developing/promoting biofuels. Mostly foreign investors.
 - Sekab Biofuels (T) Ltd - to promote sugarcane based bioethanol Prokon of Germany [Mpanda - Rukwa],
 - WILMA from United States [Croton spp.] (muhihi) -Biharamulo, Kagera];
 - Mitsubishi Corporation of Japan [Arusha and Dar es Salaam],
 - Farming for Energy Livelihood in Southern Africa (FELISA) a Tanzanian and Belgium company [Oil palm -Kigoma]
 - KAKUTE of Arusha Tanzania [Jatropha, Arusha,]
 - Diligent - Dutch Firm [Jatropha Oil - Arusha]
 - TaTEDO of Tanzania [Jatropha local awareness, extension services and uses by small farmers]
 - SunBiofuels (T) [Jatropha - Kisarawe]
 - And others [some with TIC investment certificates]

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GOVERNMENT'S EFFORTS ON BIOFUELS DEVELOPMENT.


- The Government recognizes the importance and need to develop alternative and strategic fuels such as biofuels.
- Biofuel industry is high on the Tanzania's sustainable development Agenda.
- Following the increased interests and enquiries from local and international actors/investors on bio-fuels development the National Biofuels Task Force was established in 2006. To prepare an enabling policy and regulatory environment for sustainable development (production and utilization) of biofuels in Tanzania.



Sugarcane –a potential source for ethanol production



Jatropha



Moringa Oleofera

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THE NATIONAL BIOFUELS TASK FORCE--TOR

- Facilitate the ongoing and potential Biofuel initiatives in Tanzania;
- Review and develop Policy and Regulatory framework;
- Develop guidelines for dealing with biofuels as an interim arrangement in Tanzania;
- Prepare a coordinated and integrated programme for the development of biofuels in Tanzania; and
- Identify and map-out/zones of suitable areas/land for Biofuels Development in Tanzania.

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THE BIOFUELS TASK FORCE- SOME ACHIEVEMENTS.



- SWOT of biofuels development assessed and Prioritized Strategic Actions,
- Draft guidelines for biofuels developed.
- Preliminary review of relevant policies and legalization carried out
- Prepared project Document with **action plan** on “Strengthening the policy, legal, regulatory and institutional framework to support the development of a sustainable biofuels industry in Tanzania” – document for soliciting support.

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SOME EXTRACTS FROM THE DRAFT BIOFUELS GUIDELINES

- **Legal framework:** Biofuels producers should adhere to all laws (Tanzania), international treaties and agreements made.
- **Compensation:** Land acquisition for biofuels production should not displace people but rather should incorporate land owners, land should be their collateral.
- **Consultation:** Biofuels project should be transparent (pros and cons) consultative and participatory to involve most key stakeholders.
- **Food security:** Biofuels production should not impair food security.
- **Production:** Biofuel producers should acquire efficient and modern processing facilities to realize final products (biodiesel, ethanol and other by products)
- **Marketing strategy:** Biofuels producers should ensure that local market is of priority followed by export.
- **Energy crops:** Selection should be made on the appropriate crops and land for biofuels production.
- **Soil:** Biofuels production should not directly or indirectly damage soils.
- **Conservation:** Biofuels production should not be allowed to directly or indirectly endanger areas of high conservation value.
- **Human and livelihoods:** Biofuels production should adhere to human/labor rights and gender equity.

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COOPERATION WITH DEVELOPMENT PARTNERS.



Government cooperation with development partners is considered crucial with each partner having the following roles among others:

- Government of Tanzania:
 - Have in place clear goals, policy, strategy and inter-ministerial and institutional coordination.
 - Clear regulatory mechanism for guiding biofuels development.
 - Supportive mechanism for investments and local actors, including small scale farmers empowerment based on sustainability criteria.
- Development partners:
 - Support capacity building for the policy, regulatory and strategy process.
 - Facilitate investment based on sustainability criteria.
 - Support efforts to empower local actors
 - Support integrated socioeconomic infrastructure and programmes.

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SUSTAINABILITY ISSUES/CHALLENGES.



- Food Security – ensure availability, reliability & better markets for farmers.
- Energy security – ensure accessibility, reliability, affordability and availability.
- Poverty reduction – Vision 2025, PRSP targets and MDGs from income generation.
- Social consideration: Empowerment and Participation of Tanzanians in the biofuels industry, improved livelihoods.
- Environment conservation: biodiversity, reduced GHG, soil protection, water conservation, reduced deforestation
- Well thought Land ownership and management arrangements
- Agronomy/track record of bioenergy crops.
- Priority bioenergy crops.

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WAY FORWARD

- Government, civil society, communities and private sector will have to work together to come up with realistic and effective policies, regulations and strategies necessary for sustainable biofuel development in Tanzania.
- Tanzania policy drivers are many, key ones include: poverty reduction, creation of economic opportunities, rural livelihoods improvement, enhance alternative energy supply and industrial development, biofuel industry has a significant role.
- Key stakeholders need to fully participate in the preparation and implementation of the national integrated biofuels development programme.

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CONCLUSION

- Tanzania has huge opportunity to be secure in food and fuel with sustainably produced biofuels.
- To reap the many benefits biofuels could offer Tanzania, more focused efforts are required to develop and implement a policy framework that encourages investment, while protecting users, communities, small scale farmers and the environment.
- Sustainable Biofuels systems could contribute significantly to Tanzania's future energy mix and contribute to energy poverty reduction.
- Biofuels could enhance Tanzania's participation in the global energy business .
- Bring about new investments and industries.
- Enhance food and fuel security (if appropriate strategies are in place)
- Ensure increased employment and income generation, hence poverty reduction.
- Win-win situation is possible if biofuels initiatives are carefully designed to address and cater for core sustainability issues.

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**THANK
YOU !**

TaTEDO, P. O. Box 32794, Dar es Salaam, Tanzania
Tel: 255-22-2700438/12700771
Email: energy@tatedo.org
Website: www.tatedo.org

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