

Partners for Africa Policy Dialogue Conference, 22nd - 24th June 2005

Tanzania National Energy Policy: Focus on Renewable Energy and Poverty Reduction

J. Uisso, & N. Mwhava
Ministry of Energy and Minerals

Tanzania

1

Presentation Structure

- **Tanzania Selected indicators**
- **Energy**
- **Poverty and Energy**
- **National Energy Policy**
- **Operationalisation of National Energy Policy**
- **Options/possibilities to Alleviate Poverty**
- **Conclusion**

Tanzania

2

1. TANZANIA Selected Indicators

- Area - 945,749 km².
- About 70% of the national population live in rural areas.
- Population (million): 34.6 (2002)
- Population growth rate -2.1% (2001)
- GNP per capita (US\$): 270 (2001)

Tanzania

3

Tanzania selected Indicators ctd.

- Energy sources:
 - Indigenous: Biomass, hydro, coal, natural gas, geothermal, solar, wind, uranium, ocean (waves, tides & OTEC), etc.
 - Imported: white petroleum products
- Installed Electricity capacity (MW): 950 (2005)
- Electricity generation per annum (GWh): 2,917 (2002)

Tanzania

4

Selected Indicators ctd.

- Electricity consumption per capita (kWh): 84 (2002);
- Poverty line (kWh/month) : 50
- Modern energy consumption per capita (kgoe): 20.2
- Woody biomass Consumption per capita: 1m³ or about 183 kgoe.
- Overall energy consumption per capita (kgoe): 700
- Electrification levels (%) National: 10 (2002); Urban: 39 (2002) Rural: 2 (2002)
- Rural population as percentage of total population: 66.8 (2001)

Tanzania

5

2. ENERGY

- Energy Resources
- Biomass:
 - forested area: about 33.5 with 23.8 million ha productive and 9.7ha protection/catchment forest :
 - *annual sustainable yield: 24.5 million m³*
 - *15 m. tons p.a of crop residues*
 - *1.1 m. tons p.a. of forest residues*
 - *Animal droppings from 17.5M cattle, 12.5 M goats & 3.5 m sheep (1998 Census)*
- Coal resources: 1.9 billion tons potential, of which 304 million tons proven
- Hydropower: 4,700 MW, out of which only 561 MW has been developed

Tanzania

6

Resources.....

- **Renewable Energy**
- **the average wind speed: 3ms^{-1} but there are areas with annual averages of $> 5\text{ms}^{-1}$**
- **The average solar insolation is to the tune of 218 kWm^{-2} .**
- **Geothermal energy potential is yet to be confirmed**
- **Ocean energy: not yet studied**

Tanzania

7

■ Energy Consumption Pattern

- **Transport sector accounts for 40% of petroleum based energy**
- **Agriculture consumes only 11% of petroleum products.**
- **The Industry and Households consume about 24% and 21% of petroleum based energy**
- **Electricity consumption: industry (50%), households & business(40%), and public lighting (10%).**
- **Most biomass is used for cooking and agro industries.**

Tanzania

8

3. POVERTY AND ENERGY

- **Poverty**
- **≥50% of the population is living in poverty, 35.7% of which is unable to access all of the basic needs**
- **The incidence of poverty in households headed by people who work in the agricultural sector is about 57%.**
- **In the urban areas, the poor are mainly concentrated in the informal sector.**

Tanzania

9

■ **Energy and the Poor**

- **Traditional biomass is the fuel for the poor in Tanzania**
- **Firewood accounts for about 40% of cooking energy needs in peri-urban areas**
- **Charcoal is the most common cooking fuel in urban areas**
- **Tanzania's energy balance shows that woodfuel account for about 90% of energy consumed nationally**
- **Scarcity of biomass fuels affects women and children - longer distances to collect firewood.**

Tanzania

10

Energy expenditures as %age of Household income in urban centres

Fuel Type	Poor	Non-Poor	All Households
Electricity	1.68	2.49	2.42
LPG	0	0	0
Kerosene	17.68	5.48	6.56
Charcoal	12.38	5.42	6.04
Woodfuel	0.12	0.27	0.26
Dry cells	3.30	0.79	1.01
Total Household expenditure	35.16	14.45	16.29

Tanzania

11

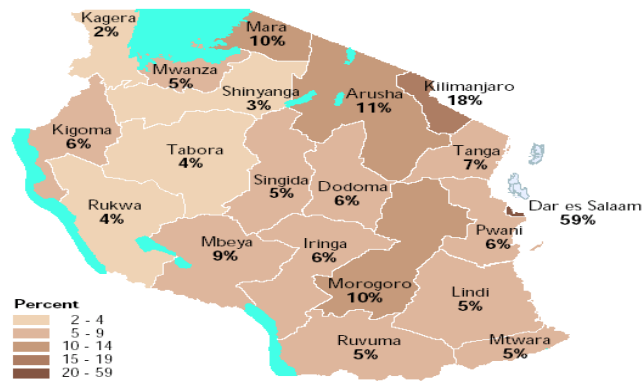
Energy and the poor.....

- the poor spend $\geq 35\%$ of their household income on energy while the richer spend a about 14.45%.
- In both households, kerosene is the largest single energy cost item, accounting for 17.68% and 5.48% of all household expenses respectively
- The urban poor spend about 50% of their energy budget on kerosene and about 35% on charcoal and /or firewood.

Tanzania

12

Percentage of households with access to grid electricity (HBS 2000/2001)



Tanzania

13

4. NATIONAL ENERGY POLICY

The overall energy policy objective is to provide an input in the development process by establishing efficient energy production, procurement, transportation, distribution, and end-user systems in an environmentally sound manner and with due regard to gender issues.

Tanzania

14

Specific Objectives of National Energy Policy

- To exploit the abundant hydro-electric sources
- To develop and utilise natural gas and coal resources
- To step up petroleum exploration activities

Specific Objectives ctd.

- To reduce deforestation through efficient woody biomass to energy conversion technologies & techniques
- To promote development and utilisation of renewable sources of energy

Specific Objectives ctd.

- To promote energy conservation and efficiency
- To develop human resources for facilitation of energy technologies development.

5. OPERATIONALISATION OF NATINAL ENERGY POLICY

- Establishment of a Rural Energy Agency (REA), Rural Energy Fund (REF)
- Implementation of on-going planned projects/programmes/initiatives
- Formulation of a national Energy Strategy

Proposed Rural Energy Agency (REA) Functions & Activities

- REA will:
 - Facilitate modern rural energy projects
 - Promote modern rural energy services
 - Provide technical assistance to developers

Tanzania

19

Functions & Activities ctd.

- Recommend projects to Rural Energy Board for financing approval
- Projects monitoring & valuation

Tanzania

20

Proposed Rural Energy Board (REB)

- REB will have representatives from key stakeholders:
 - Ministries responsible for Energy, Finance, Local Government, etc.
 - Private sector and financial sector
 - Development Partners
 - NGOs. Civil society

Tanzania

21

REB ctd.

- Responsibilities
 - Approve all projects funded by REF & set conditions
 - Oversee the REA and REF
 - Approve REA's operational plan
- REA is being established through a specific statutory instrument (Act) passed by Parliament and assented in June 2005.

Tanzania

22

Key Functions Of REA Departments

- Project identification and planning
- Project facilitation
- Technical assistance to project developers
- Project appraisal
- Project supervision
- Monitoring and evaluation

Tanzania

23

Funding of REF

- Government subventions;
- Donor funds;
- Levies from the generation or sales of energy products including electricity and petroleum goods;
- Contributions from other sources; and,
- Interest on account.

Tanzania

24

6. OPTIONS/POSSIBILITIES TO ALLEVIATE POVERTY

- There are several options/possibilities to alleviate poverty in relation to sustainable energy. Some of them are: -
 - **Rural electrification.** Extension of the national electricity grid to boost SMEs and other productive activities in rural areas
 - **Energy efficiency.** Energy efficiency can reduce the demand for biomass for the activities
 - **Promotion of Appropriate (environmentally sound) energy technologies** for mechanized agriculture, water pumping, agro-processing, educational & health facilities, etc.
 - **Agro forestry with multipurpose tree growing**

Tanzania

25

Tanzania's Energy Strategy ideas

- Tanzania's strategy/direction as regards to energy-poverty reduction include:
 - Promoting affordable and reliable energy supplies in the whole country;
 - Reforming the market for energy services and establish an adequate institutional framework
 - Enhancing the development and utilisation of indigenous and renewable energy sources and technologies
 - Taking adequate account of environmental concerns in all energy activities
 - Promoting energy efficiency and conservation in all sectors
 - Increasing energy education and building gender-balanced capacity in energy planning, implementation and monitoring

Tanzania

26

■ Other possible in elements of the Energy Strategy include:

- Capacity building in terms of skills for managing appropriate energy technologies and financial resources ,
- Substantive involvement of the local people in energy and poverty planning aspects ,
- Improving the availability and access to energy services, including promotion of utilisation of renewable energy technologies at grassroots level,
- Promoting more efficient and sustainable utilisation of traditional fuels for income generating activities at grassroots levels
- Information and awareness creation on the possibilities and options available in increasing energy services,

7. CONCLUSION

Reliable, affordable, socially and environmentally acceptable energy services will continue to be a key ingredient in supporting Tanzania in its fight against poverty and quest to achieve the MDGs and sustainable development in general.

CONCLUSION ctd.

- While the National energy policy is clear on the direction statements, the comprehensive national energy strategy need to be worked out to ensure that policy objectives are realised. The establishment of rural energy agency and Fund are just part of the strategy.

**Thank you for
your attention**