SIXTH FRAMEWORK PROGRAMME

FP6-2004-INCO-DEV-3

PRIORITY A.2.3.: Managing Arid and Semi-arid Ecosystems

National Policies and Strategies on Bioenergy in Africa

Case Study: Sierra Leone

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COMPETE

Competence Platform on Energy Crop and Agroforestry Systems for Arid and Semi-arid Ecosystems - Africa

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The Competence Platform on Energy Crop and Agroforestry Systems for Arid and Semi-arid Ecosystems – Africa (COMPETE) will establish a **platform for policy dialogue and capacity building** and identify **pathways for the sustainable provision of bioenergy**

- to improve the quality of life and create alternative means of income for the rural population in Africa
- to aid the preservation of intact ecosystems in arid and semi-arid regions in Africa
- to enhance the equitable exchange of knowledge between EU and developing countries

The current document has been elaborated within Work Package 6 on Policy Development of the COMPETE project by the consortium partner WIP Renewable Energies.

The objective of COMPETE Work Package 6 is to coordinate policy research activities in African countries aimed at facilitating the efficient implementation of improved energy crop and agroforestry systems in order to enhance economic productivity and sustain rural and peri-urban livelihoods. It is also aimed at avoiding adverse environmental and social degradation that could arise from faulty policy development and implementation.

Within the context of the COMPETE Work Package 6 current national and international policies and strategies (including national legal and institutional frameworks) are identified addressing the implementation of improved energy crop and agroforestry systems.

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National Policies and Strategies on Bioenergy in Sierra Leone

Government: Constitutional Republic
President: Ernest Bai Koroma (since 17 September 2007)
Capital: Freetown
Area: 71,740 km²
Population: 5,866,000 (estimate July 2007)
GDP (PPP) 2005 estimate
- Total $4.921 billion (151st)
- Per capita $903 (172nd)

1. Introduction

Since independence in 1961, Sierra Leone has struggled to achieve socio-economic stability. The Republic of Sierra Leone is currently emerging from a decade long civil war, which has paralysed the economy, and during which most economic and social infrastructures, including energy related facilities, were destroyed.

Sierra Leone faces the urgent need to regulate the energy sector as economic development will largely depend on available and reliable energy supply. Until today, energy planning was concentrated on urban areas and the energy need of the majority of the population living in rural areas and depending on biomass has been for the most part ignored.

The Republic of Sierra Leone has a wealth of renewable energy resources specifically biomass, hydro and solar energy resources. About 86% of Sierra Leone's land area (ca. 7.3 million hectares) is covered with natural forest. 80% of the primary energy in Sierra Leone comes from domestic biomass and the remaining 20% is supplied by crude oil and its by-products. With respect to biomass, 656,000 tonnes of crop wastes are annually produced in Sierra Leone.

The need for an appropriate energy policy is also recognised by major programmes for various sectors in the Poverty Reduction Strategy Paper (PRSP).

2. Policies in the Field of Energy and Environment

Based on a new awareness and the large availability of renewable energy resources in Sierra Leone, the Ministry of Energy and Power is currently focussing on biomass, solar, wind and hydropower. However, a specific biomass energy policy has not been developed, and renewable energies (including biomass) are not regulated.

The National Environment Action Plan (NEAP) defines the environmental policy framework for many sectors, including energy. The main goals of this plan are to ensure sustainability, security and equitable use of resources to satisfy the basic needs of present and future generations with regard to health and environment.

In Sierra Leone general environmental management is governed by the National Environmental Policy (NEP) of 1994 and the National Environmental Protection Act (NEPA) of 2000.

In October 2002 the National Commission for Privatisation Act 2002 came into force by the Government of Sierra Leone establishing the creation of the National Commission for Privatisation (NCP). The NCP is responsible for the privatisation and reform of public enterprises and is overseeing 24 public enterprises including the National Power Authority (NPA).

Through the NPA (Amendment) Act, 2006, which came into force on March 31, 2005, the monopoly of the National Power Authority over the generation, transmission, supply and other related activities is now repealed.

In the general field of energy policy the government of Sierra Leone has the following prime objectives:

- Training and other incentives will be given to industries in order to adopt more efficient energy end-use technologies.
- Environmental performance auditing will be enforced.
- Co-ordination between institutions concerned with energy, industry and environmental issues will be improved.
- Financial incentives will be provided for energy efficiency (e.g. the introduction of “time-use” electricity charges).
- Government will promote energy efficiency awareness amongst industrial energy consumers, and encourage the use of energy efficient practices in the industry sector.

3.0 Policies and Strategies in the field of Renewable Energy

The dependence of rural areas on biomass will continue for a long time. The supply of wood and biomass has to be addressed, and proactive measures should be taken by the government to address the energy problem. Renewable energy policies are urgently needed to encourage and develop its widespread application throughout the country.

The following policy objectives for the promotion and increased implementation of Renewable Energy Technologies (RETs) in Sierra Leone are currently under discussion:

- Appropriate financial and administrative institutions will be set up to manage Renewable Energy Technologies (RETs).
- Appropriate norms, codes of practice, guidelines and standards for RETs will be instituted thus creating an enabling environment for its sustainable development.
- Biomass conversion and end-use technologies will be promoted in order to save resources, reduce rate of deforestation and land degradation, and minimize threats of climate change.
- Environmental considerations will be included in all renewable energy planning and implementation; co-operation will be enhanced with other relevant stakeholders.
- Research and development will be supported in renewable energy technologies.
- A central body will be set up to regulate the RET industry.

- Government will legislate the registering of associations and organizations involved in fuel wood, charcoal and improved stoves with the MAFSS.
- Government will consider the reduction of taxes waivers for the import of RET equipment.
- Agro based industries will be encouraged to produce electricity from wastes.
- The manufacture of RET equipment will be actively pursued by encouraging their promotion and providing the necessary investments.

The following activities and initiatives are foreseen in Sierra Leone to promote Renewable Energy Technologies (RETs):

- Support the dissemination of biomass and other Renewable Energy Technologies (RETs) to increase their positive impact on the energy balance and the environment.
- Facilitate adequate financing schemes for RETs by establishing sustainable financing mechanisms to make them more accessible.
- Ensure that RET producers and importers ascribe to certified performance and technical standards.
- Include renewable energy and energy efficiency in the curricula of schools, universities, vocational training centres and other institutions of education.
- Support efforts to develop biomass resources in agreement with the national Forestry policy.
- Promote agro-forestry enterprises, including fruit trees and mechanisation in the Inland Valley Swamps.
- Encourage solar water heating in hospitals, clinics, boarding homes for sterilisation and hygiene purposes.
- Take measures to reduce fears of using solar cookers in rural areas because of cultural and traditional practices.
- Co-operatives should be encouraged to facilitate the financing mechanism for RETs.

Energy technologies which are predominant in the household sector such as biomass and wood fuel are currently not well regulated. The providers of Renewable Energy Technologies will be required to register with the Ministry of Energy and Power which will provide adequate general outlines for the operation of the sector. All wood fuel and charcoal sellers should be registered with the Ministry of Agriculture, Forestry and Food Security. The aim of this registration is the provision of required regulations such as to activate measures to increase awareness, quality control and standards.

4.0 Energy Projects and Initiatives

4.1 Energy Project by the Government of Sierra Leone and UNDP Initiative

The Government of Sierra Leone and the Ministry of Energy and Power (MEP) is currently engaged in an energy project in cooperation with the National Power Authority (NPA), established in 1982 by an Act of Parliament and responsible for the distribution of electricity throughout the country.

The main objective of this energy project is to increase access to modern energy services for the rural sector in Sierra Leone, including:

- Solar home systems in 100 villages
- Energy supply based on other available renewable energy resources, such as:
    i. Biomass (e.g. crop residues), with an annual energy potential of at least 2,706 GWh
    ii. Wind power (wind speed > 5m/s)
    iii. Hydro power, with a countrywide potential of 1.200 MW.

This project is financed by the United Nations Development Programme (UNDP) with 300,000 US$. The Ministry of Energy and Power has the responsibility of planning and coordinating the implementation of the project.

4.2 Cassava Initiatives

Cassava is the second most important food crop in Sierra Leone (after rice). In Sierra Leone ethanol is currently not being made from cassava. The government is not interested in ethanol production at a small scale as it does not want to encourage alcohol consumption.

The Ministry for Agriculture, Forestry & Food Security (MAFF) has the responsibility for agricultural production initiatives, whereas the Ministry for Trade and Industry (MTI) is responsible for post-harvest activities, such as processing of raw materials.

Farmers in Sierra Leone are organised in the following organisations and groups:

- Farmer's organisations. The National Association of Farmers of Sierra Leone has been initiated by the President in 1987.
- Community groups: 149 rural counties/chiefdoms and 30 in Freetown; grouped into 12 rural districts and 2 in Freetown. These groups campaign for higher cassava production, although a market has not been established.

The demand for ethanol in Sierra Leone has not yet been explored. The production of ethanol at industrial level is not considered as priority and depends on private industrial initiatives.

The following initiative for the large scale production of cassava exists in Sierra Leone. The NGO UPWARDS (United Programme for Women in Agriculture, Rural Development and Social Services) is interested in the establishment of mechanised large scale cassava production schemes (1,500 ha in Bombali district) and supporting it is additionally supporting 500 small scale initiatives. Currently, the organisation is seeking support to establish industrial processing units.

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