

Proposal: Scaling-up of Sustainable Biomass Energy Management Systems in sub-Saharan Africa

This is a final approved collaborative proposal between GTZ-ProBEC and ITDG, which came about as one of the outputs of the Workshop.



Programme proposal

Scaling-up of Sustainable Biomass Energy Management Systems in sub-Saharan Africa

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ITDG and GTZ-ProBEC**

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➤ **Programme Outline**

Details of the proposed programme of work: beneficiary groups; justification for the programme; contribution to the Millennium Development Goals; areas of action and requested funding.

➤ **Schedule for Programme Development**

A schedule is provided for the first phase of work, over a 6 month period, to develop this proposal into an effective programme of work.

➤ **Partnership Arrangement**

This section illustrates the partnership arrangements for the project. This clearly shows that the programme will not only involve the immediate programme partners, but will directly involve the networks of organisations with whom the partners already currently operate, including multi-national organisations, government ministries, community based organisations and small private sector companies.

➤ **Profile of Partner Organisations**

The background and experience of the organisations included in the partnership are presented. The profiles show the wealth of experience of these organisations, in particular the breadth of knowledge of the subject area and wide experience of working in of the sub-Saharan region, with a diverse range of stakeholders, operating from community to policy level.

➤ **Team Résumés**

Resumes of 29 experts in the field from all the partner organisations are presented. They are all available to undertake this work. These individuals bring together the substantial range of skills required to undertake the programme activities.

Introduction to proposal

Proposal Origins and Development

This proposal came out of the Implementation conference of the Stakeholder Forum, which took place during the World Summit for Sustainable Development in Johannesburg (26th to 28th August 2002). The conference sub-group on sustainable biomass produced the first draft of a work programme for sub-Saharan Africa. Most of the partner organisations involved in this proposal were represented in this sub-group. ITDG and GTZ-ProBEC later took the lead in developing the programme proposal presented in this document.

Great effort has been taken to cover all the skill requirements needed to manage and undertake all the identified areas of action. In this proposal we have included details of organisational experience and a number of CVs, which demonstrate our diverse and highly experienced team. In addition, it is recognised that the partners will have to work with a large number of stakeholders to complete the work programme. Therefore we have been careful to show the networks through which the programme partners will work to ensure effective implementation of the programme.

Key issue addressed by this programme proposal

The International Energy Agency estimate that currently 2.4 billion people world-wide rely heavily on biomass fuels (wood, dung, agricultural residues and charcoal) for cooking and heating. In sub-Saharan Africa 89% of the population (575 million people) rely on biomass. In addition, there are many small industries, such as food processing, metal working and brick making, which use biomass as their primary fuel.

The problem, which these communities are facing, is considerable. Women and children can spend up to seven hours a day gathering fuel, leaving less time for other activities such as child-care, education and income generation. In urban areas, people spend up to one third of their income on energy, mostly for cooking. Smoke from burning biomass on open fires kills 2.5 million people each year. Smoke is a major factor contributing to the contraction of acute respiratory illness, and is the major cause of death for children under five years of age.

At the moment, the majority of people in these countries live in rural areas. However, urbanisation is one of the defining trends in developing countries. Many poor people living in cities in the developing world are still dependent on traditional biomass fuels for their energy needs. Increasing demand for commercially traded fuel wood and charcoal will put significant pressure on natural resources of the surrounding rural area.

Use of biomass draws significantly on the scarce natural resources in rural areas. In most parts of the sub-Saharan region there has been insufficient replanting and management of these resources to allow for regeneration of forests.

These issues provide a compelling argument for an urgent need to focus on biomass energy management in sub-Saharan Africa.

Requested Funding

In the first instance the partners are requesting seed money for programme development of US\$70,000 over 6 months. It is estimated that the full programme will cost up to US \$10 Million for 1st Implementation Phase (five years), which will involve at least 10 organisations and networks with a considerable expertise in the field of biomass energy management and policy issues in Sub-Saharan Africa.

Programme Outline

Scaling-up of Sustainable Biomass Energy Management Systems in sub-Saharan Africa

Purpose of programme	Widen access to more sustainable energy options for households and small businesses
Beneficiaries / Target groups	Low income rural and urban households as well as small businesses and institutions using biomass energy (wood fuel, agricultural residues and charcoal) for cooking, baking, heating and food processing. In the first instance the project will be operational in three countries in Eastern and Southern Africa, with the aim of including other countries, including West African, later in the programme. The selection of the countries will follow a consultative process.
Justification	<p>For the foreseeable future, biomass will remain the primary source of basic energy for most African countries, providing up to 80% of total energy consumed by families and small businesses. Thus, it is of paramount importance that the available energy is being used in an environmentally sound and socially responsible way.</p> <p>In many African countries, on going Biomass Energy Management programmes are already enhancing:</p> <ul style="list-style-type: none">➤ the use of more energy efficient technologies (improved stoves),➤ use of alternative renewable energy sources: e.g. solar, gel fuel,➤ introduction of more efficient firewood management (drying wood, natural resource management, etc) and➤ improved kitchen management (e.g. reducing time for cooking process, better ventilation at the cooking place) <p>Excellent results have been achieved in a number of these programmes, especially in East and Western Africa. Today, more than 15 million households in Sub-Saharan Africa are applying biomass energy conservation methods. These results are well documented and substantiated by a number of studies carried out by national and international development organisations and scientific institutions.</p> <p>Nevertheless greater emphasis on scaling up these technologies and techniques in households, and a stronger orientation of the</p>

Contribution to the UN Millennium Development Goals

programmes towards small scale businesses is required. Through Sustainable Energy Management Programmes it is feasible to reach multiple, long-lasting social, economic, and environmental benefits:

- **Additional jobs** are created in the informal sector through production and marketing of improved technologies. Also, small and medium enterprises (SMEs) will be more profitable. This will reduce the number of people whose income is less than 1 \$ a day and thus contribute to 'Eradication of extreme poverty and hunger' - (MDG 1) and increased job possibilities for youth (Target 1.8).
- Women are primarily targeted in training and extension services. This **promotes gender equality** and empowers women (MDG 3), in terms of both intellectual advancement and to increase their income level.
- Smoke reduction can be achieved through a combination of improved combustion efficiency, and interventions such as well-designed chimney stoves, smoke hoods, and eaves spaces. Measures such as these can remove up to three-quarters of the smoke (using smoke hoods), reducing substantially the risk of respiratory diseases both for women and children. This contributes also to **the reduction of child mortality** (MDG 5).
- Reduced work burden in poorer households and a better energy supply for better food will **help to mitigate the effects HIV/AIDS** (MDG 6), especially for the PLWHA+. HIV/AIDS awareness will be an integrated part at all programme interventions, supporting the fight against the pandemic.
- Reducing wood fuel consumption saves forest areas; the use of more energy efficient and alternative technologies will **reduce CO₂ emissions**. This will directly contribute to environmental sustainability (MDG 7) and thus, to the international Convention to Combat Desertification.

Areas of actions

The programme will engage with key stakeholders, and especially target beneficiary groups, throughout the programme in the following priority six areas of action:

1. Commercialisation and scaling up of improved technologies for households

- identify and share information on matured technologies;
- up-date socio-economic and environmental analysis;
- further develop new appropriate technologies for sustainable energy use such as 'waste-to-energy';
- select and adapt technology options;
- develop strategies and mechanisms for scaling up product supply, involving producers, marketing channels, quality control and support mechanisms;
- carry out training and enhance awareness and marketing

campaigns;

- continuously monitor impact.

2. Commercialisation and scaling up of improved technologies for SMEs

As above but concentrating on needs for SMEs

3. Address indoor air pollution and health impacts of biomass energy systems

- assess current smoke levels in homes and small businesses;
- using participative methods, develop appropriate interventions for reducing indoor air pollution;
- monitor impact of improved biomass systems.

4. Lobbying and influencing policies

- enhance full integration of biomass energy into the energy planning process;
- demonstrate and disseminate best practise models;
- advocate for greater biomass considerations at policy level and for financial support

5. Capacity building, research and knowledge management

For example:

- train practitioners on biomass energy issues at all levels
- further research the implications of HIV/AIDS on biomass energy use and vice versa
- up-date comprehensive and interactive IT database

6. Strengthen Sustainable Biomass Energy Supply

- natural forest management
- sustainable wood lots
- energy efficient transformation processes
- enhance legal base for private (community)forestry
- support tax-system, which gives advantage to sustainable forest management (SFM)
- support establishment of control system for illegal fuel-wood production (in order to maintain advantage of SFM)

**Requested
funding**

Seed money for programme development of US\$70,000 over 6 months.

Full programme estimated at US \$10 Million for 1st Implementation Phase (five years).

SCHEDULE	M 1	M 2	M 3	M 4	M 5	M 6
Programme planning						
Consultation for country selection						
Participative consultation with beneficiary group						
Identification of key programme stakeholders						
Develop strategies for 6 areas of actions: Teams will be set-up to develop strategies for addressing the 6 key action areas: <ol style="list-style-type: none"> 1. Commercialisation and scaling up of improved technologies for households 2. Commercialisation and scaling up of improved technologies for SMEs 3. Address indoor air pollution and health impacts of biomass energy systems 4. Lobbying and influencing policies 5. Capacity building, research and knowledge management 6. Strengthen Sustainable Biomass Energy Supply 						
Development of country strategies						
Develop integrated programme strategy						
Partner Workshop						
Final sub-Sahara programme strategy and budget compiled and submitted for funding						

