Project Fact Sheet

Updated: March 2008

Development and Energy in Africa (DEA)

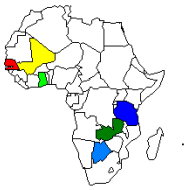
Programme area:	COOPENER, (Community cooperation with developing countries)
Target countries:	Botswana, Ghana, Mali, Senegal, Tanzania, Zambia
Status:	ongoing

Coordinator:	Gordon Mackenzie UNEP Risø Centre, Risø National Laboratory, Technical University of Denmark (DTU), Denmark E-mail: gordon.mackenzie@risoe.dk Tel: +45 4677 5171
Partners:	ECN, Netherlands EECG, Botswana — ENDA, Senegal KITE, Ghana — TaTEDO, Tanzania Mali Folkecenter, Mali — CEEEZ, Zambia
Website:	http://www.deafrica.net

Objective:	Development and application of a method to assess the development impacts of energy interventions.
Benefits:	The simple operational approach facilitates analysis of project outcome and impact analysis, and, if used for improved project design, can lead to enhanced development impacts of future energy projects.

Keywords:	development, impact, assessment

Duration:	05/2005 – 10/2007
Budget:	€ 0.651 M (EU contribution: 50%)
Contract number:	EIE/04/201/S07.40687



DEA
Development and Energy in Africa

Short description

Access to energy is an essential input in the process of development and poverty alleviation. Better understanding of development-poverty-energy linkages can lead to energy interventions which have higher development and poverty alleviation outcomes. DEA has developed an Assessment Framework to identify and quantify the outcomes and impacts of energy projects in collaboration with centres in six Sub-Saharan Africa countries (Botswana, Ghana, Mali, Senegal, Tanzania and Zambia). The Project is aimed at national energy- and development-policy makers, initially in the six participating African countries, but with a view to wider application in Sub-Saharan Africa.

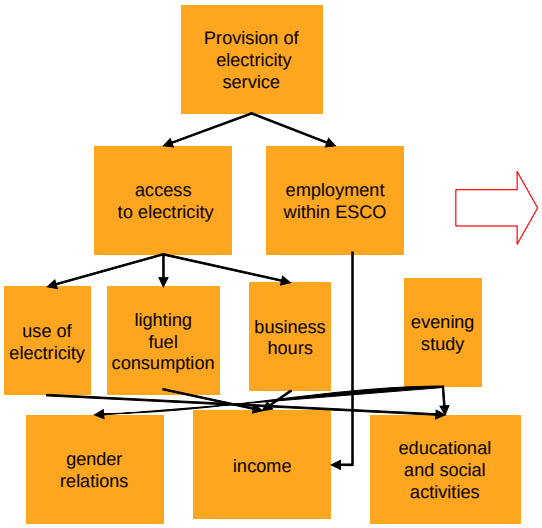
The DEA project worked closely with the International Monitoring and Evaluation for Energy and Development (M&EED) Group established by GVEP, EUEI, UNEP, DFID, GTZ and a number of other institutions. The assessment framework employs a 4-level causal chain approach to structure the energy intervention in terms of inputs, outputs, outcomes and impacts. Indicators which are highly case specific are selected at each level and the assessment process identifies appropriate sources and methods to evaluate the indicators as shown in the figure below.

Six case studies were carried out in the participating countries, comprising:

- rural electrification by grid connection (Botswana and Ghana)
- rural electrification by solar ESCOs (Zambia)
- solar water pumping and agriculture (Tanzania)
- renewable energy for women (Mali)
- improved cookstoves and sustainable forestry (Senegal)

From 4-level diagram to tables

- 4- level causal link diagram – similar to Logframe



Elements	Indicators	Units	Source	Method
Inputs: •provision of electricity service	established ESCO	ESCOs	ESCOs	desk study
Outputs: •access to electricity •employment	•total SHS installed •jobs	•SHS •no. jobs	•SHS •no. jobs	•interviews •interviews
Outcomes: •use of electricity •lighting fuel •business hours •evening study	•appliances •fuel costs •av. b. hrs •school study/night	•number •$ •hrs •hrs	•number •$ •hrs •hrs	•survey •interview •survey •focus group
Impacts: •income •educational •gender	•income •sch. perf. •decision-making roles	•$ •grades •h/h	•$ •grades •h/h	•interview •interview •focus • group

Achieved results

- a proven and demonstrated evaluation methodology with real case study examples
- a catalogue of small and medium-sized energy interventions in the six countries
- a survey of literature on impact assessment of energy projects
- a participatory approach to identify outcome and impact indicators at the local level
- enhanced capacity in countries for assessing outcomes and impacts of energy projects
- enhanced awareness among stakeholders of how energy access contributes to development

Lessons learnt

- Energy projects can have significant developmental impacts, but attribution is difficult because of other simultaneous factors. It is important therefore in assessing any energy intervention to take into account other relevant activities in the project context.
- Improved energy access is an essential input along with other infrastructure developments, such as water supply, roads, schools and health centres.
- Awareness among stakeholders of the importance of energy access can be enhanced by working together across sectors to examine the outcomes and developmental impacts of energy projects.

Main outputs

Literature Survey	A review of recent literature dealing with impact assessment at the micro level energy interventions
Catalogue	Synthesis of energy project catalogues from the 6 participating countries
Policy makers' needs	Synthesis of consultations with national stakeholders and policy makers
Case Studies	Detailed reports of 6 country studies Synthesis Report of all case studies
Methodology	Assessment Procedure Guideline - the methodological core of the DEA project, describing in practical terms how to conduct an Impact Analysis
Workshop Reports	• Project Workshops • National Workshops • Regional Workshop