



National Round Table Forum

***“Energy Accessibility and
Efficiency in Tanzania”***

– Report –



Project	<i>Enhancing Energy Accessibility & Efficiency through establishing sustainable STI Support National Networks with a regional dimension in East Africa</i>
Acronym	ENRICH
Grant Number	FED/2013/330-235

Project	<i>East African Higher Education Network on Sustainable and Energy Efficient Campus Development</i>
Acronym	SUCCEED Network
Grant Number	FED/2013/320-274

The ENRICH Project is co-financed by the European Commission on the framework of the ACP-EU Co-operation Programme in Science and Technology (S&T II). SUCCEED Network is a project within the EDULINK II Programme: ACP-EU Higher Education Cooperation funded by the European Union. The ACP S&T II and Edulink II programmes are implemented by the ACP Group of States.

ENRICH consortium:

European Union:

- University of Alicante, Spain (Coordinator)
- Glasgow Caledonian University, United Kingdom

East Africa:

- African Virtual University, Kenya
- Moi University, Kenya
- Mzumbe University, Tanzania
- Makerere University, Uganda
- Inter-University Council of East Africa, Uganda
- Directorate of Research management & Development, Ministry of Education, Science and Technology, Kenya
- Tanzanian Commission for Science and Technology, Tanzania
- Uganda national council for science and technology, Uganda

SUCCEED Network consortium:

European Union:

- University of Alicante, Spain (Coordinator)

East Africa:

- Université du Burundi, Burundi
- Moi University, Kenya
- University of Rwanda, Rwanda
- Mzumbe University, Tanzania
- Makerere University, Uganda
- Inter-University Council of East Africa, Uganda

Contact information:

Project coordinator

International Project Management Office (OGPI) – University of Alicante

E-mail: project.management@ua.es

ENRICH Project Website: www.enrich-project.eu

SUCCEED Network Project website: www.project-succeed.eu

Acknowledgments: To the dedicated staff in the partner institutions who are truly invested in the success of this project; as well as to the European Commission for supporting and funding this project through the ACP S&T and ACP/Edulink programmes.

To the local organisers in Tanzania for their support in the organisation of this event, in particular Mzumbe University

Legal Notice

The present document was developed and edited by the partner institutions of the ACP S&T and ACP/Edulink Projects ENRICH '*Enhancing Energy Accessibility & Efficiency through establishing sustainable STI Support National Networks with a regional dimension in East Africa*' and SUCCEED Network '*East African Higher Education Network on Sustainable and Energy Efficient Campus Development*', under the coordination of the University of Alicante (Spain).

The results, views and opinions expressed in this publication are those of the authors, and the European Commission cannot be held responsible for any use which may be made of the information contained therein.

All contents generated by the ENRICH and SUCCEED Network projects are protected by intellectual property laws, in particular copyright. The reproduction and distribution, with non-commercial purposes, in whole or in part, in any form or by any means (including Internet) of the information contained in this Report is allowed, with a visible indication of:

- Name of the projects (SUCCEED Network '*East African Higher Education Network on Sustainable and Energy Efficient Campus Development*' Project Ref. Number FED/2013/320-274) and (ENRICH, '*Enhancing Energy Accessibility & Efficiency through establishing sustainable STI Support National Networks with a regional dimension in East Africa*' Project Ref. Number FED/2013/330-235)
- Title (National Round Table Forum "ENERGY ACCESSIBILITY & EFFICIENCY IN TANZANIA" Report)
- The present document has been produced with the financial support of the ACP/Edulink Programme of the European Commission.

CONTENTS

FOREWORD	4
ENRICH	4
SUCCEED Network.....	4
OBJECTIVES OF THE NATIONAL ROUND TABLE	5
PARTICIPANTS	5
ROUND TABLE	7
DISCUSSION 1: “PROBLEMS AND ISSUES IN THE FIELD OF ENERGY AFFECTING NATIONAL STAKEHOLDERS”	7
DISCUSSION 2: “AWARENESS OF THE REAL NEEDS OF SCIENCE, TECHNOLOGY AND INNOVATION (STI) RELATED TO ENERGY ACCESS AND EFFICIENCY”	8
CONCLUSIONS AND RECOMMENDATIONS	10
ANNEXES	10

FOREWORD

Energy deficit and energy poverty have become a major obstacle to growth and development in Eastern Africa. One of the major energy issues is price volatility and energy security. Eastern Africa suffers from high prices in the energy market and shrinking natural energy resources. Restricted access to energy resources is hampering the East African region from sustainable development.

Despite the energy emergency in the region, support from research institutes and academia is inadequate to address this situation. However, at the policy level, various countries have stressed the importance of energy access and quality research and innovations. Unfortunately, there is a mismatch between policies, political decisions and societal needs.

ENRICH

Launched in February 2014, the three-year project ENRICH is an ACP S&T project (contract number FED/2013/330-235) funded by the European Commission, which aims to promote quality science, technology and innovation (STI) support services in Kenya, Tanzania and Uganda, and strengthen co-operation links in the energy sector at national and regional level among academia, researchers, industries and policy makers. Regional co-operation in the energy and environment sectors in East African countries will be promoted by establishing three national networks to support STI and a regional portal with a database of experts. This infrastructure will foster regional dialogue improving the flow of communication between the levels of policy and operation. Managers and researchers will be trained in crucial aspects of innovation management and will replicate these trainings through national support networks. Collaboration and dialogue with policy makers will take place at national (round tables) and regional (supranational conferences) level.

SUCCEED Network

Launched in October 2013, the three-year project SUCCEED Network is an ACP/Edulink project (contract number FED/2013/320-274) funded by the European Commission, which aims to promote East African university campuses as “living laboratories” for sustainability and energy efficiency, in particular by establishing a sustainable campus development platform to foster collaborative learning and action for energy access and efficiency, with the idea of contributing to solve the problems described above. The project will do this via a set of activities with the objective of improving institutional, academic and cooperation building which should result in a stronger institutional background, an enriched academic offer in renewable energy and energy efficiency, and an increased attractiveness for relevant stakeholders in order to establish new cooperation schemes in the field of energy.

OBJECTIVES OF THE NATIONAL ROUND TABLE

The National Round Table Forum “*Energy Accessibility and Efficiency in Tanzania*” was held on 02/08/2016 at the Mzumbe University – Main Campus in Morogoro. It was organised in the framework of the ENRICH & Succeed Network ACP S&T and ACP/Edulink projects.

The aim of the event was to bring together the main stakeholders in the field of energy in Tanzania (including higher management and researchers from Higher Education Institutions, research & project managers, policy makers, managers from energy industries, experts) to exchange ideas and discuss energy issues at a national level in energy accessibility and efficiency.

The **specific objectives** of the National Round Table were to:

- Discuss problems and issues in the field of Energy affecting National Stakeholders, with the idea of identifying where the Higher Education System could contribute with specific services/input.
- Enhance awareness of the real needs of Science, Technology and Innovation (STI) related to energy access and efficiency in Tanzania.
- Encourage dialogue and strengthen co-operation links in the energy sector at national level among academia, researchers, industries and policy makers.
- Present the ENRICH & Succeed Network projects and their developments.

PARTICIPANTS



The National Round Table brought together several relevant stakeholders in the field of Energy in Tanzania, including:

Institution	Name	Role	
University of Dar es Salaam	Dr. Isaac Legonda	Lecturer, Deputy Manager, Technology Transfer, Coordinator, Centre for Small Hydropower in Tanzania, University of Dar es Salaam,	Panellist
Mzumbe University	Dr. Joseph Sungau	Ag. Dean –Faculty of Science and Technology. Mzumbe University	ENRICH Project Coordinator
	Dr. Athanas Ngalawa	Head of Department, Centre for Rural Development, Mzumbe University	SUCCEED Project Coordinator
	Dr. Felchesmi Lyakurwa	Head of Department Department of Engineering Management Studies Mzumbe University	Member - ENRICH Project
	Prof. Aurelia Kamuzora	Professor in economics Mzumbe University	Member - SUCCEED Project
	Mr. David Mwangosi	Environmental Health Officer, Mzumbe University	Member - SUCCEED Project
	Mr. Prosper Leonard	Senior Estate Officer, Mzumbe University	Member - SUCCEED Project
	Mr. Ashiraf Abeid	Lecturer in engineering management, Mzumbe University	Invited members
	Mr. Batistino Mponzi	Lecturer in Environment aspects	Invited members
	Mr. Eliaza Mkuna	Assistant Lecturer in Economics Mzumbe University	Invited members
	Ms Lena Lyama	Assistant Lecturer Department of Engineering Management Studies	Invited members
	Dr. Hawa P. Tundui	Ag. DVC A Mzumbe University	Guest of Honor
	Dr. Dominick Muya	Head of Department Department of Population Mzumbe University	Panellist
Solargrid Tanzania Ltd	Mr. Edwin Kiamba	Chief Operations Officer Solargrid Tanzania Ltd	Panellist

ROUND TABLE

DISCUSSION 1: “PROBLEMS AND ISSUES IN THE FIELD OF ENERGY AFFECTING NATIONAL STAKEHOLDERS”

This panel addressed the following points:

- Challenges facing energy sector in Tanzania
- Ways forward in improving energy sector in Tanzania
- The role of HEIs in energy sector in Tanzania



Moderator: Dr. Atanas Ngalawa

Panellist: Dr. Dominick Muya

Dr Muya, gave a comprehensive presentation about the problems and issues of concern in the energy field that affect national stakeholders especially households in rural areas of Tanzania. In his presentation, he highlighted the core challenges facing the energy sector of Tanzania and strategies to overcome them. Several challenges were identified and discussed by members which included little awareness by households about benefit – costs of using non-renewable energy source, energy investments does not involve local citizens at earliest stages (not participatory), lack of policy that guides energy investments - so far there is no policy that guides new investments in the energy sectors such that local opinions could be integrated in the energy investments. The nexus between government policies and local developments priorities is lacking. The role of high learning education (Universities) in STI

support on energy access and efficiency is very low. This was observed to be caused by lack of financial and policy support for the energy technology transfer to the local population who are the majority in Tanzania. As results people are not informed about countries developments, hence Universities should think of how to link innovation activities of the university students with the local population to bring impact.

DISCUSSION 2: “AWARENESS OF THE REAL NEEDS OF SCIENCE, TECHNOLOGY AND INNOVATION (STI) RELATED TO ENERGY ACCESS AND EFFICIENCY”

This second panel addressed the following points:

- Improving energy access in Tanzania
- Improving energy efficiency in Tanzania



Moderator: Dr. Felichesmi Lyakurwa

Panellists:

1. Mr. Edwin Kiemba
2. Isaac Legonda

Presentation by Mr. Edwin Kiemba

Mr. Kiamba, gave a presentation about their NGO's experience towards households access to renewable energy sources in both rural and urban areas of Tanzania. First he acknowledged that people are aware and are ready to pay for solar energy source and appliances. Besides, through his presentation the presenter and members in the workshop came up with the following issues that might solve the current problem of energy access and efficiency in Tanzania especially the rural poor.

- Political – institutional barriers to energy access and efficiency that contributed greatly to the low adoption of new energy technologies.
- Most of the local population are poor, thus switching from high carbon energy sources (fossil fuels) to low carbon energy sources (solar) has become difficult. The government should intervene or public private partnership approach should be adopted to subsidize some of the initial investment costs in the renewable energies.
- So far there several NGO's in Tanzania that deals with training, and distribution of solar energy facilities, such that people's awareness about other energy sources is increasing in urban areas.
- Development of local expertise is highly needed as most of the local people do not have knowledge about repair of solar PV for example.
- Solar PV energy is not appropriate for social-economic activities that need strong power – most people are not able to use solar energy to power their crop processing machines etc
- The role of Universities towards energy access and efficiency is not significant – not training conducted by universities to local people so far.

Presentation by Dr. Isaac Legonda

Dr. Isaac gave presentation that describes the awareness of the real needs of science, technology and innovation (STI) related to energy access and efficiency in Tanzania. He identified main issues to be considered to ensure energy access and efficiency as well as the role of STI towards energy access and efficiency. Through the discussion it was observed that todate the STI support on energy access and efficiency in Tanzania is not significant and thus, the following recommendations were made for improvement.

- Awareness raising and education to the households on the benefit – costs of using non-renewable energy sources is critical. Thus, sensitization of the population is required via different means.
- Renewable energy resources should be utilized effectively and efficiently.
- Government leaders from village to higher levels should develop and implement action plans that emphasis energy access and efficiency.
- Capacity building to local persons needs to be carried out. This can be achieved through EAC Energy Centres in collaboration with other partners.

- EACREE to establish strong network to State Partners and
- EACREEE to focus on All energy resources

CONCLUSIONS AND RECOMMENDATIONS

The Tanzania national round table was fruitful as a good number of experts attended and their valuable contributions towards improvement of energy access and efficiency made the discussion live throughout the meeting. It was observed that, the trajectory shift from dependency on fossil fuel to renewable energy sources, which have been given much attention by researchers and international forums due to its core benefits including cost saving (oil price fluctuations), increased access to reliable energy sources and environmental protection. The expert opinion based on the opportunities and challenges facing the energy sector in Tanzania as follows:

1. An energy investment in Tanzania is not participative as local people are not involved from the beginning.
2. The role of high learning education (Universities) in STI support on energy access and efficiency is very low. This was observed to be caused by lack of financial and policy support for the energy technology transfer to the local population who are the majority in Tanzania. As a result people are not informed about countries developments, hence Universities should think of how to link innovation activities of the university students with the local population to bring impact.
3. Development of local expertise is highly needed
4. Awareness on the benefit – costs of using non-renewable energy sources is lacking to the majority. Thus, sensitization of the population is required via different means.
5. So far there is no policy that guides new investments in the energy sectors such that local opinions could be integrated in the energy investments.
6. Political – institutional barriers to energy access and efficiency that contributed greatly to the low adoption of new energy technologies.
7. Most of the local population are poor, thus switching from high carbon energy sources (fossil fuels) to low carbon energy sources (solar) has become difficult. The government should intervene or public private partnership approach should be adopted to subsidize some of the initial investment costs in the renewable energies.
8. The nexus between government policies and local developments priorities is lacking.
9. So far there several NGO's in Tanzania that deals with training, and distribution of solar energy facilities, such that people's awareness about other energy sources is increasing in urban areas.

ANNEXES

- Agenda

02/08/2016 (Tuesday). Venue: Mzumbe University main Campus. Sellasie Building Conference Room Number 215			
From	To	Duration	Activity
09.00	09.30	30'	Registration of the participants
09.30	09.45	15'	Official Welcome and opening Prof. Josephat Itika, DVC (A) Mzumbe University
10.00	10.00	15'	ENRICH Project, Mzumbe University Dr. Joseph Sungau, Project Coordinator,
10.15	10.15	15'	SUCCEED Network Prof. Aurelia Kamuzora, Project member, SUCCEED Project, Mzumbe University
10.15	10.30		Objectives of the Round Table, Dr. Joseph Sungau
10.30	10.45	15'	Coffee Break
10.45	12.25	100'	Topic 1: Problems and issues in the field of energy affecting national stakeholders <ul style="list-style-type: none"> Challenges facing energy sector in Tanzania Ways forward in improving energy sector in Tanzania The role of HEIs in energy sector in Tanzania 2 panelists, 20 minutes each: Dr. Domick Muya, <i>Plenary Discussion</i>
12.25	12.40	15'	Summary about topic 1 Dr. Athanas Ngalawa
12.40	14.40	120'	Topic 2: Awareness of the real needs of science, technology and innovation (STI) related to energy access and efficiency <ul style="list-style-type: none"> Improve energy access in Tanzania Improve energy efficiency in Tanzania 3 panelists 20 minutes each: Mr Edwin Kiemba and Dr. Isaac Legonda.
14.40	14.55	15'	Summary about topic 2 Dr. Felichesmi Lyakurwa
14.55	15.25	30'	Round table wrap up/closure Prof. Aurelia Kamuzora
15.25	15.40	15'	Evening Coffee

- Powerpoint presentations available to download at:

<https://www.dropbox.com/sh/wjkqe58626kyw6r/AADInd-e7-V0MIPzOoA2si1va?dl=0>