RENEWABLE ENERGY AND DECENTRALIZATION (READ)

RWANDA STAKEHOLDERS WORKSHOP, KIGALI

Project EP/L002469/1, 2013-2015

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READ Renewable Energy and Decentralization

LCEDN Low Carbon Energy for Development Network

Gamos

PRACTICAL ACTION Technology challenging poverty

1 EXECUTIVE SUMMARY

READ, Renewable Energy and Decentralisation, is an 18 month project of the Engineering and Physical Sciences Research Council (EPSRC, UK), the UK Department for International Development (DFID) and the UK Department for Energy and Climate Change (DECC). Led by Loughborough University (UK) in partnership with Gamos Ltd (UK) and Practical Action Consulting in Eastern Africa (PAC-EA), it began in October 2013 and is being implemented in Rwanda and Kenya. The READ research team was in Rwanda from 26th April to 2nd May 2014 to run an interactive workshop and conduct informant interviews with key stakeholders in line with the objectives of the project.

The READ workshop was officially opened by Emmanuel Kamanzi, Principal Engineer in charge of Energy, Water and Sanitation at the Ministry of Infrastructure and was attended by 23 participants from Ministries, Public Agencies, Districts, Administrative Sectors, NGOs/INGOs, ICS associations and cooperatives. The workshop aimed at developing an understanding of the impact of political decentralization in Rwanda on decentralized energy access. The objectives of the workshops were (1) To confirm the project team's understanding of the systems of local government in Rwanda (2) To understand better the role of local governments in addressing energy access issues in Rwanda (3) To map key stakeholders in the energy sector (4) To learn lessons from the Rwandan experience for the new Kenyan decentralization process, particularly in relation to energy issues (5) To understand how local governance works in practice here, the opportunities that it provides for energy access progress and any potential limitation

In-line with the objectives of the workshop participants shared knowledge and their experiences on decentralized energy access in Rwanda, discussed challenges to energy decentralization and identified measures to enhance capacities of local authorities to play their role in promoting access to clean energy in Rwanda. Major constraints to the role of Districts and sectors in energy access in Rwanda include:

- Renewable energy solutions are still very expensive yet the purchase power of the rural population is still very low *(45% of Rwandans are below poverty line and majority in rural areas),*
- There is limited technical capacity for the installation, operation and maintenance of clean energy technologies such as solar and biogas, particularly in rural areas
- The mind-set, behavioural and cultural rigidities among the population negatively impacts on the adoption of modern renewable energy technologies

However, with a clear national energy development plan and the government's political will towards real decentralisation of authority, resources and capacities, the role of the decentralised authorities in energy access is expected to increase. At the end of the workshop, participants identified key next steps to enhance decentralised energy access: (i) The government and stakeholders to explore innovative financing mechanisms for clean energy projects, drawing on experiences such as M-kopa used in Kenya (ii) Districts and Sectors to use the Participatory Market Mapping tool for better coordination of stakeholders' efforts and taking advantage of available synergies for enhanced energy access (iii) Energy platforms to be created at the District and Sector levels to provide more space for stakeholders' discussions on energy challenges and promote harmonized planning and implementation of energy programmes for more impact (iv) The government and stakeholders to engage into systematic capacity building process to create a critical mass of technicians at District and Sector levels who are capable of installing, operating, maintaining, repairing renewable energy technologies in the country.

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2 GLOSSARY

"Canamake": Literally translated as "use few pieces of charcoal". This stove produced by Cooperative AJDR reduces charcoal use by 40-50%. *"Canamake ivuguruye":* Literally translated as improved version of Canamake stove

"Canarumwe": Literally translated as "use only one piece of wood". The *Canarumwe* stove produced by *Ubumwe* cooperative/*Kamonyi* reduces wood use by 50%

***"Umudugudu"*:** refers to a village. Each *"Umudugudu"* is headed by an executive secretary and a council. *"Umudugudu"* is largely responsible for community sensitization and mobilization towards Government programmes.

Capital Expenditures (CAPEX): Expenditures on acquisition or upgrade of physical assets that create future benefits.

Cell: Each Administrative Sector in Rwanda comprises a number of cells which in turn are made up of a number of villages or *"Umudugudu".* Cells are non-budget holding entities and therefore largely depend on the Districts financially. Cells also provide services such as: certificates of residence, attestations of birth, organise and facilitate local security units/teams, organise and facilitate garbage collection etc. Each cell is headed by an Executive Secretary and a Cell Council which is the topmost decision making body of the cell.

Cooperative: In the context of this report, a cooperative means a group of people under an organized management structure making improved cook stoves for profit/for income generation. Associations, on the other hand, are not-for-profit organizations.

District: The District is the fundamental decentralized administrative entity in Rwanda. There are 30 Districts in all, each of which is administratively and financial autonomous. A district is composed of sectors and cells.

ESWG: Energy, Sector Working Group: is a platform where all stakeholders in energy (government, NGOs, civil society, private sector, churches etc.) at District and Sector level meet (at least once per quarter) to discuss energy issues, explore partnerships and synergies, streamline coordination of energy interventions etc.

JADF: Joint Action Development Forum, is a platform where all stakeholders at District and Sector level meet at least once per quarter to discuss development issues, explore partnerships and synergies and streamline coordination of interventions.

Sector: Each District of Rwanda is comprised of a number of sectors. Following the 2006 reforms there are now 2,048 sectors in the country. They are non-budget entities.

***"Umurenge"* SACCOs:** These are local saving and lending institutions at every Sector level in Rwanda. These were created by Government in 2008 in-line with the country's vision 2020 that aims to increase access of financial services by all citizens of Rwanda.

3 ACRONYMS

AfDB	African Development bank
AJDR	Association Des Jeunes
BPR	Bank Populaire du Rwanda
BTC	Belgian Technical Cooperation
CAPEX	Capital Expenditures
EAC	East African Community
EDPRS	Economic Development and Poverty Reduction Strategy
ESwap	Energy Sector-wide Approach
ESWG	Energy Sector Working Group
EU	European Union
EWSA LTD	Energy, Water and Sanitation LTD
GIZ	German Development Agency
GLE	Great Lakes Energy
ICS	Improved Cook Stoves
IPRCs	Integrated Polytechnic Regional Centers
JADF	Joint Action Development Forum
JICA	Japanese International Development Agency
MINALOC	Ministry of Local Government
MINECOFIN	Ministry of Finance and Economic Planning
MINEDUC	Ministry of Education
MININFRA	Ministry of Infrastructure
MINIRENA	Ministry of Natural Resources
NDBP	National Domestic Biogas Programme
NGOs	Non-Government Organizations
PMM	Participatory Market Mapping
PMSD	Participatory Market System Development
RALGA	Rwanda Association of Local Government Authorities
RBS	Rwanda Bureau of Standards
RCA	Rwanda Cooperative Agency
RDB	Rwanda Development Board
READ	Renewable Energy and Decentralization
RGB	Rwanda Governance Board
RRA	Rwanda Revenue Authority
RREA	Rwanda Renewable Energy Association
RURA	Rwanda Utilities Regulatory Agency
SACCOs	Savings and Credit Cooperatives
SMEs	Small and Medium Enterprises
SNV	Netherlands Development Agency
WV	World Vision
TVET	Technical, Vocational Education and Training
UNDP	United Nations Development Programme
WB	World Bank
WDA	Workforce Development Authority

4 INTRODUCTION

READ, Renewable Energy and Decentralisation, is an 18 month project running from October 2013 to April 2015. It is funded by the Engineering and Physical Sciences Research Council (EPSRC, UK), the UK Department for International Development (DFID) and the UK Department for Energy and Climate Change (DECC). It is being implemented in Rwanda and Kenya by Loughborough University (UK) in partnership with Gamos Ltd (UK) and Practical Action Consulting in Eastern Africa (PAC-EA). It is aimed at exploring the role of decentralised governance in encouraging increased adoption of clean energy services among low income communities in Eastern Africa and is expected to contribute to benefiting communities by strengthening livelihoods, encouraging economic growth, improving health and protecting the environment.

The READ Project is driven by the following objectives:

- To assess the roles and responsibilities of local authorities in relation to energy issues across African states.
- To examine how the roles and responsibilities of local authorities in relation to energy issues have already been affected by the transfer of powers and budgets under decentralization initiatives.
- To analyze the implications for local authorities in relation to energy issues of further, more profound, transformations that would see further transfer of powers and budgets under decentralization initiatives
- Understand what kind of capacity local authorities need in order to play the potentially crucial role of integrating clean energy transitions into local development planning and how those capacities are being enhanced.

On 30th May 2014, a one-day READ Project workshop was held at Umubano Hotel in Kigali, Rwanda. It was attended by 23 people representing different Ministries, Public Agencies, Districts, Sectors, INGOs, NGOs, ICS cooperatives and Private entrepreneurs. Key informant interviews were also held in the period between 27th April and 2nd May 2014 (*see the list of workshop participants and the list of informant interviewees in the annexes to this report*).

4.1 WORKSHOP OBJECTIVES, PARTICIPANTS, OUTPUTS

The workshop objectives were as follows:

- To develop a common understanding of the systems of local government in Rwanda
- To understand how local governance works in practice, the opportunities that it provides for energy access progress and any potential limitations
- To develop a common understanding of Energy and Decentralisation among Rwandan stakeholders
- To understand better the role of local governments in addressing energy access issues in Rwanda
- To map key stakeholders in the energy sector
- To learn lessons from the Rwandan experience for the new Kenyan decentralization process (particularly in relation to energy issues)
- To identify the issues and gaps that need to be addressed to enable local governments to implement successful decentralised energy programmes and projects in the Districts and Decentralised entities

Participants were drawn from actors with interests in decentralization and energy issues. They included National Ministries, Academia, Public Agencies, Local Governments (Districts and Sectors), NGOs, INGOs, Associations and ICS Cooperatives. In all, thirteen Rwandese institutions and organisations were represented, as follows:

- **Ministries:** Ministries involved included: Ministry of Education and Ministry of Infrastructure.
- **Public Agencies:** Energy, Water and Sanitation Ltd EWSA, Tumba College of Technology TCT
- **ICS Cooperatives**: AJDR cooperative and Cooperative "Ubumwe"
- **INGOs:** World Vision
- **Energy Associations:** Rwanda Renewable Energy Association
- **Districts**: Bugesera District, Gicumbi District and Rulindo District
- **Sectors**: Nyamata Sector in Bugesera District
- **Cell:** Murama cell of Nyamata Sector in Bugesera District

Among the 25 participants that attended, 19 were male and 6 were female representing a 76%:24% mix. Workshop outputs included: development of an improved understanding of decentralised energy and decentralised governance and identification of key next steps to be taken to enhance decentralised energy access in Rwanda.

4.2 OPENING SPEECH BY KAMANZI EMMANUEL, PRINCIPAL ENGINEER, MININFRA

The READ workshop was officially opened by Emmanuel Kamanzi, the Principal Senior Engineer in charge of Energy, Water and Sanitation at the Ministry of Infrastructure (MININFRA).

Mr. Kamanzi underscored the importance of the READ workshop in terms of engaging stakeholders in tackling decentralised energy issues at the grass roots. He noted that energy decentralisation is aligned to the UN goal of universal access to energy by 2030 as well as to Rwanda's EDPRS II and vision 2020 on energy access. He noted that improved access to affordable energy is considered a game changer for poverty reduction and rural transformation and sustainable development.

He stressed that initiatives undertaken by stakeholders such as Practical Action in relation to decentralised energy technologies complement the Government of Rwanda's on-going electrification efforts particularly in remote areas of the country. The country plans to increase electricity access from the current 18% to 70% by the end of June 2017(Rwanda Energy Sector Strategic Plan 2013-2018). It is expected that 48% of the enhanced access planned will be via on-grid access and 52% off grid. The crucial question is how the off-grid component of this expansion will be realised. Mr. Kamanzi encouraged participants to engage in thorough discussions of the issues surrounding decentralised energy and to come up with actionable resolutions that can be pursued by the Ministry of Infrastructure and its stakeholders.

Figure 4-1 Mr. Kamanzi in his opening speech

4.3 THE READ PROJECT – AN OVERVIEW AND THE EMERGING ROLE OF DECENTRALISED ENERGY

Dr. Ed Brown, Senior Lecturer from Loughborough University gave an introduction to READ and outlined its objectives described above. The READ project team's review of secondary data and information indicates that there is very little previous research available on the relationship between political decentralization and decentralized energy. A 2009 UNDP Study is the only significant study that attempts to link energy access and decentralization. The UNDP study explored decentralization policies in over 60 countries and found explicit mention of energy issues in only four cases, Rwanda being one of the few cases.

In the above context therefore, the "READ" Project set out to explore the challenge of addressing the issues of energy access, energy security and climate change in a context of political decentralization using the cases of Kenya and Rwanda with a view to build a body of knowledge, experiences and replicable lessons and best practices in dealing with the relationship between political decentralization and decentralized energy.

5 DECENTRALISATION IN RWANDA– HOW DOES IT WORK?

Dr. Simon Batchelor, Gamos Ltd (UK) introduced this discussion by explaining that there are two movements towards decentralisation - political decentralization and decentralised energy systems. The question that arises here is*, "Can political decentralisation and decentralised energy facilitate and enhance each other?"*

The READ team is interested in exploring these issues in Rwanda since the country has experienced a recent history of strong political decentralisation that now spans a decade since the process was initiated in the early 2000s, as compared to Kenya where the devolution process is hardly a year old. The result of this is that there is clear evidence of tangible decentralisation of roles and responsibilities to local administrative entities (i.e. Districts and sectors in Rwanda) leading to increased citizen participation in development, system accountability, effectiveness, coherency and civic peace.

With reference to the 2009 UNDP Study on decentralization stated above, Rwanda is one of a very limited number of countries where the addressing of energy issues has been integrated into the overall decentralization policy and processes. Nevertheless, it is important to explore how these processes are operating and the degree to which local authorities in Rwanda are able to support clean energy projects (e.g. solar PV, hydro, ICS and Biogas).

5.1 GROUP STAKEHOLDER MAPPING EXERCISE AND DISCUSSIONS

In order to respond to the above questions, two discussion groups were created each composed of representatives drawn from across the various participating actors. The rationale for the first discussion session of the workshop focused on identifying the key stakeholders active in the energy sector in Rwanda, the roles and responsibilities of each and the dynamics of their inter-relationships with each other. The groups were tasked with the following:

- To group the stakeholders according to their scale of operation and type
- To identify any missing stakeholders in the field of decentralised energy access
- To map the communication process between the stakeholders
- To discuss the roles and responsibilities of each stakeholder in the context of energy decentralisation

Figure 5-1 Participants during the stakeholder mapping exercise

During the mapping exercise, participants initially grouped the pre-identified stakeholders provided on each table by category and level e.g. central government/national level, NGOs/INGOs, CSOs, private sector, religious organizations, and local government and proceeded to identify missing stakeholders at each level. After exhaustive discussion of the grouping and identification exercise, participants also then charted the communication relationships between the stakeholders and discussed the roles of each of the stakeholders in the context of energy decentralization.

The table below summarizes the stakeholders identified through the stakeholders mapping exercise as well as their different categories and roles in energy access:

Table 5-1 Energy stakeholders in Rwanda and their key roles

STAKEHOLDER CATEGORY/ LEVEL	STAKEHOLDER NAME	KEY ROLES/RESPONSIBILITIES
GOVERNMENT	GOVERNMENT MINISTRIES	
	Ministry of Infrastructure	Energy Policy and Strategies ; Signs MOUs with Independent Power producers before they start plant development
	Ministry of Local Government	Policy and oversight of Decentralized authorities i.e. Provinces, Districts, Sectors
	Ministry of Natural Resources	Policy on natural resources management and environment
	Ministry of Internal Security	Ensuring security of public energy infrastructure in rural and urban areas
	Ministry of Education	Resource mobilization; Logistical support in the identification, mobilization and sensitization of rural schools for electrification
	Ministry of Health	Resource mobilization; logistical support in the identification, mobilization, sensitization of hospitals and health centers for electrification
	Ministry of Finance and Economic Planning	Resource mobilization for energy projects/programmes; budget provision; Planning, monitoring and evaluation
	PUBLIC AGENCIES	
	Energy, Water and Sanitation Ltd (EWSA Ltd)	Off-take grid power; technical support to energy actors; energy generation; Electricity transmission and distribution; Electricity and water sales
	Rwanda Utilities Regulatory Agency (RURA)	Regulation of utilities; Tariff setting, licensing
	Rwanda Bureau of Standards (RBS)	Setting standards; certificate; controls right of importation
	Workforce Development Authority (WDA)	Policy and strategies promoting techno- vocational skills; Oversight of implementation by IPRCS and TVETs
	Rwanda Governance Board (RGB)	Registration of NGOs/INGOs ; Provide permissions for operation
	Rwanda Environment Management Authority (REMA)	Technical support; approvals of Environmental Impact Assessments

	Rwanda Revenue Authority (RRA)	Collecting taxes; approving tax exemptions
	Rwanda Development Board (RDB)	Entry point for all investment; one-stop-center for company registration & sector information; One-stop center for investment information; Conducts negotiations with investors, including Power Purchase Agreements
DEVELOPMENT PARTNERS	DONORS	
	World Bank	Funding & Technical Assistance
	European Union	Funding & Technical Assistance
	Japan International Cooperation Agency (JICA)	Funding & Technical Assistance
	African Development Bank (AfDB)	Funding & Technical Assistance
	Belgian Technical Cooperation (BTC)	Funding & Technical Assistance
	United Nations Development Programme (UNDP)	Funding & Technical Assistance
NON-GOVERNMENT ORGANISATIONS	NGOs/INGOs	
	Practical Action	Training, Consultancy & Advisory services on renewable energy
	World Vision	Funding and Technical Assistance
	Care international	Trainings, Consultancy & Advisory services on ICS, Biogas, Solar
	SNV	Trainings, Consultancy & Advisory services on ICS, Biogas, Solar
	Millennium Village Project	Trainings, Consultancy & Advisory services on ICS, Biogas, Solar
	Delagua Ltd	Trainings, Consultancy & Advisory services on ICS and Solar
	Prison Fellowship	Funding & Technical Assistance
	UN Women	Funding & Technical Assistance
	Red Cross	Funding & Technical Assistance
ACADEMIA, TRAINING, RESEARCH INSTITUTIONS	ACADEMIC/RESEARCH INSTITUTIONS	
	University of Rwanda/School of Science and Technology	Engineering & ICT training programmes & research
	Tumba College of Technology	Training programmes in Computer Hardware & Software
	TECHNICAL TRAINING INSTITUTIONS	
	Integrated Polytechnic Regional Centers	Training in computer repair, welding, carpentry, masonry & metalwork
	Technical, Vocational Education and Training	Trainings in computer repair, welding, carpentry, masonry & metalwork
PRIVATE SECTOR	SOLAR COMPANIES	
	Munyax Eco (local)	Solar water heaters and solar kits
	GLE (local)	Solar kits
	Mobisol (local)	Solar systems and solar kits
	Gigawatt solar (USA)	Grid-connect solar investor currently constructing an 8.5 MW solar plant in Agahozo Shalom village /Rwamagana District
	Goldsol/Spain	Grid-connect solar investor currently conducting a feasibility study who will also construct a 10 MW solar plant in Rwinkwavu /Kayonza District
	IMPROVED COOKSTOVES	
	Inyenyeri (local)	Imports and sells improved cook-stoves
	BIOGAS	
	Various biogas construction companies	Construction of Household Biogas Digesters under the National Domestic Biogas Program (NDBP)

COOPERATIVES	IMPROVED COOKSTOVES	
	"Ubumwe" cooperative	Production & sales (wholesale and retail)
	AJDR Cooperative	Production & sales (wholesale and retail)
FINANCIAL INSTUTUTIONS	BANKS	
	Banque Populaire du Rwanda	Provides biogas loans to farmers payable at special interest rates negotiated with EWSA Ltd. - 16% over 3 years
	Development Bank of Rwanda	Provide loans for Energy Projects
	I&M Bank	Provide loans for Energy Projects
	MFIs	Provide loans for Energy Projects
	"Unguka" Investment Group Ltd	Provide loans for Energy Projects
	Umurenge SACCOs	Manage Biogas subsidies on behalf of Districts; provide 3 –year biogas loans to farmers' at negotiated interest rates of 16%
LOCAL GOVERNMENTS	DISTRICT LEVEL	Provide approvals for hydro site developers which in turn facilitates them to enter into MOUs with MININFRA and enables them to obtain power generation licenses from RURA; Are responsible for the security of energy infrastructure; Mobilize and sensitize citizens on national energy programmes ; Support MININFRA and EWSA Ltd in maintaining a data base of all energy installations
	District council	Approves of District Development plans and programmes and advises on implementation
	Mayor	Heads the District
	Vice Mayor for Finance and Economic Development	Planning, Strategizing, Resource Mobilization
	District Officer in charge of Environment, Infrastructure & Lands	Focal person for infrastructure (which includes energy), environment & land affairs
	JADF	Forum of stakeholders that discusses and implements development plants of the district.
	SECTOR	
	Sector Council	Approval of Sector Development plans & programmes
	Executive Secretary	Head of Sector
	JADF	Forum of stakeholders that discusses & implements development plans for the sector.
	Sector officer in charge of cooperatives	Membership recruitment; registration, co-ordination & oversight of all the cooperatives in the sector
	Sector Agronomist	Focal person for infrastructure (including energy), environment & land affairs
	CELL	
	Cell council	Approval of Sector Development plans & programmes
	Executive Secretary	Head of Cell
	Officer in charge of social and economic development	Focal person for all social & economic development programs (including energy)
	VILLAGE/*UMUDUGUDU*	
	Village council	Mobilization and sensitization of people on government development programs; oversight of program implementation
	Head of Village	
END USERS	Institutions	Buyers & consumers
	Hotels	Buyers & consumers
	Universities	Buyers & consumers
	HOUSEHOLDS	Buyers & consumers
	Family members	Buyers & consumers

Figure 5-2 Participants discussing roles and relationships

There is a complex but integrated communication process between all the above stakeholders regarding energy projects.

As shown above, central government (Ministries, Public agencies) is majorly consulted on policy, strategy, standards and regulatory and legal matters related to the energy. Decentralized administrative entities (Districts and Sectors) integrate energy into their annual plans and budgets and are responsible for different approvals (for example approval to develop a hydro site) to private companies, NGOs and others operating in energy within Districts and Sectors. They are also responsible for creating public awareness around energy issues/projects and energy efficiency.

Academic institutions train engineers and conduct research to inform national energy policy and strategies. Technical institutions are engaged in a continuous capacity building process of personnel required for sustainable implementation of energy projects and programmes. Development partners provide financial support to energy programmes through grants, loans and also offer technical assistance. Financial institutions provide loans to Government and to private developers of energy projects. End users on the other hand are the beneficiaries of energy services.

Plenary discussions on the stakeholder mapping exercise concluded that:

- Energy decentralization is a collective responsibility
- There are many stakeholders involved in energy decentralization, both nationally and locally
- Energy stakeholders comprise various categories i.e. central government, decentralized government, NGOs/INGOs, religious organizations, private companies etc. and each of them have a key role to play in provision of energy access
- Stakeholder mapping is critical as it helps to identify the actors and to explore partnerships and synergies towards addressing the issues of energy decentralization
- Stakeholder mapping provides a better understanding of processes, procedures and how decisions are made with respect to implementation of energy access programmes and projects
- Stakeholder mapping is the first step towards collective effort, harmonization and coordination of plans and activities related to energy decentralization

6 DECENTRALISATION AND ENERGY ISSUES

6.1 LOCAL AUTHORITIES AND ENERGY GOVERNANCE: A SNAPSHOT ON GLOBAL CASE STUDIES

Dr. Ed Brown of Loughborough University presented a global overview of role of decentralized governance in enhancing energy access and addressing the challenges of energy security and climate change. Despite positive trends, political decentralisation has frequently not led to significant decentralisation of authority, budgets and

strategic roles in many parts of the world and there is still a general lack of attention paid to local governance in most international approaches towards addressing sustainable energy access. Key themes tend to either be about national ministries and/or large-scale private companies or NGOs, SMEs and households. In most of Africa, local governments frequently do not have specific policies and budgets for addressing energy issues. Yet, if empowered, local government can be of key significance in addressing key issues such as reducing and alleviating poverty, improving health and education, enhancing peace, security and ensuring increased energy access.

With reference to the setting up of Agenda 21, it is important to recognise that local authorities are critical in constructing, operating and maintaining economic, social and environmental infrastructure, overseeing planning processes, establishing local environmental policies and regulations, and assisting in implementing national and sub-national environmental policies. Being closer to the people, local governments play a vital role in educating, mobilizing and responding to the public to promote sustainable development. It is surprising that the role of local government, which has been prominent in areas such as resource management or infrastructure development, does not appear to be equally significant on issues of energy and energy access in the developing world, yet local governments played a major role in the development of the electricity infrastructure in many northern countries. In the UK, for example, local government agencies supplied about one third and two thirds respectively of gas and electricity consumption in 1945 prior to nationalization (Byrne, 2000:22) and in the US, municipal and state provision (and cooperative provision in rural areas) was the rule rather than the exception for much of the 20th Century. In fact, there is also a growing movement for local governments to take a leadership role in promoting decentralized energy in the European Union e.g. Freiberg in Germany and some UK Municipalities. Examples of local energy programmes run by or supported via individual local governments also exist elsewhere, such as waste to energy schemes in Nicaragua in Latin America.

Experience has shown that the role of local authorities in energy generation and access does not just happen. It is instead a result of a deliberate and systematic process driven by Governments to ensure effective and efficient service delivery, significant public participation in development programs and projects, as well as to ensure enhanced local government responsibility and accountability.

There are also examples of African, Asian and Latin American countries where local authorities are playing a major role in on-grid and off-grid electrification schemes. In South Africa, electrification projects are linked to regional planning processes and are increasingly run by local authorities. Municipalities also have responsibility for implementing Free Basic Alternative Energy Policy. In Brazil and India, regional, state or local authorities play an increasingly major role in energy and energy access. Mozambique and Burkina Faso have assigned responsibility over electricity generation to sub-national governments, but often face major capacity challenges in operations and maintenance of generation plants, and are generally hampered by budgetary constraints to invest in new energy projects. Other examples of successful local government-administered schemes, both in terms of grid extension and off-grid initiatives also exist in countries such as Nepal. The success of such initiatives, however, seems to depend upon various factors including sufficient local/regional control of budgets, capacity building for local institutions and multi-level collaboration with clearly defined roles for each partner.

Even where there is no coherent national support for the role of local or regional government to tackle energy issues, some municipalities have taken the initiative to develop their own programmes. Actions that individual local authorities have engaged in, which have contributed to improved energy access, include: energy audits and needs assessments; public consultations to determine energy needs of communities and local businesses and ranking of these needs against other necessities and desires (e.g. Central African Republic and Nicaragua). These

social consultation processes also feed into improving overall national energy policies and plans to reflect the needs of society. Other important roles for local authorities include:

- Ensuring that NGO/private sector energy initiatives are connected adequately into local and regional development strategies and local programmes in water, education, health etc.
- Provision of information and training on for example, specific energy technologies; use of energy for improved livelihoods; contacts of various energy products suppliers and service providers; potential funding opportunities etc.
- Demonstrating and promoting new technologies or approaches in the delivery of energy products and services to local citizens e.g. use of clean energy technologies in powering municipal buildings

6.2 CASE STUDIES ON WORKING TOGETHER WITH LOCAL GOVERNMENTS TO IMPROVE ENERGY ACCESS IN RWANDA

6.2.1 ACCESS TO RENEWABLE ENERGIES IN BUGESERA DISTRICT: CASE PRESENTED BY JULIUS RUKUNDO, THE VICE MAYOR IN CHARGE OF FINANCE AND ECONOMIC DEVELOPMENT

Figure 6-1 Mr. Julius Rukundo during his presentation

Bugesera District is one of the 7 districts that comprise the Eastern Province of Rwanda. It has a population of 363,339 people of which 185,935 are female and 177,404 are male. The District has 79,146 households. (*Ref: National Population Census, 2012*). The District is comprised of 15 administrative sectors, 72 cells and 581 villages/"Umudugudu".

For a long time, Bugesera District has been one of the driest parts of the country largely due to environmental degradation caused by human activity e.g. tree cutting for construction, charcoal burning, agriculture etc. The drought of 1998-2000 in this District prompted the Government of Rwanda to take measures such as re-afforestation to increase the forest surface, encouraging agro-forestry and reduction of wood consumption though promoting the use of alternative energy sources such as Biogas, Solar and ICS. Today, Bugesera District is one of the most advanced in terms of access to renewable energy.

Energy access in Bugesera District

Below are the District statistics in terms of access to renewable energy:

- 60% of households use improved cook-stoves
- 204 households use biogas for cooking and lighting
- 5 institutions use biogas (4 boarding schools, and Rilima prison),
- More than 250 households mainly in 3 villages of Batima in Rweru Sector, and Karambi and Kanazi villages in Nyamata Sector use solar for lighting, phone charging and TV/Radio
- Solar energy is also used for lighting and cooking at the Nelson Mandela Technical Secondary school in Ntarama Sector. The school has signed a PPA with the Energy, Water and Sanitation Ltd to feed excess electricity into the national grid. The school receives payment for the power it supplies every 3 months.

The role of Bugesera District in promoting energy access

In order to achieve the above, Bugesera District has played the following roles:

- Planning and setting energy priorities in annual district development plans, which are linked to national goals and priorities, and are monitored through performance contracts. Sector plans are similarly aligned to District plans and priorities.
- Undertaking the required due diligence and providing approvals for energy projects in the district.
- Working with EWSA Ltd. to identify and agree upon appropriate alternative energy interventions for areas not connected to the grid
- Working with EWSA Ltd. to identify, and ensure access by eligible households to biogas subsidies
- Entering into a biogas cooperation agreement with EWSA Ltd. to facilitate access by the district to biogas subsidies
- Managing the biogas subsidies and facilitating their access, and proper disbursement by "Umurenge SACCOs" and reporting to EWSA Ltd.
- Organizing ICS producers into cooperatives for better management and sustained production
- Undertaking public sensitization and mobilization with regard to renewable energy projects including biogas, solar, ICS etc. Encouraging productive use of energy through small scale income generating activities such as welding, cereal milling mills, phone charging businesses, hair salons, bars, and boutiques
- Mobilising resources and budgeting for the implementation of both on and off-grid energy projects
- Assessing property in energy projects, for compensation where necessary
- Ensuring the safety and security of district energy infrastructure such as power plants, transmission and distribution networks and ICS production units

Current challenges in improving energy access in the District

Despite the above achievements, the following key challenges exist:

- High energy demand amid budgetary constraints. There are multiple priorities in agriculture, education, health and security and the there is insufficient funding to address all these priorities, including energy
- Limited local-level technical capacity in solar installation, operation and maintenance, among others, that hampers sustainability of some investments in these systems
- Few trained ICS producers who are unable to produce sufficient stoves to satisfy the growing demand
- Limited and, sometimes, a total lack of management skills among local ICS associations or cooperatives leading to poor performance and, in some cases, collapse of ICS cooperatives
- Cultural preferences among sections of the population. These include concerns that food prepared using ICS or Biogas does not produce the same aroma or taste as food prepared on the traditional three stone stove. A lot more needs to be done to bring about behavioural change

Future plans to improve energy access in Bugesera District

- The district will continue promotion of alternative energy as a priority in its district development plans and budgets (especially for off-grid areas) in-line with the country's objective of reducing biomass dependency from the current 85% , to 55% by 2017, and 50% by 2020
- The district will continue public sensitization and mobilisation towards the use of alternative energy such as Biogas, Solar and improved cook stoves especially for households far off the national grid.

- The district will work closely with the WDA and EWSA Ltd to train more technicians in biogas, ICS production, solar installation, operation and maintenance
- The district will create a forum of energy actors to plan together and explore synergies towards improving energy access in the district
- The district will mobilise resources and collaborate with other stakeholders such as Rwanda Cooperative Agency (RCA) to support the building the internal management capacity of local biogas and ICS cooperatives

Alongside the emphasis on alternative sources of energy, particularly for remote off-grid areas, the district is also looking towards increasing energy access from the grid. The ongoing promotion of productive end-use of energy is expected to lead to improvements in education, health and business, resulting in increased household incomes and leading to increased revenues for the district.

6.2.2 INCREASE RURAL ENERGY ACCESS IN RWANDA THROUGH PUBLIC-PRIVATE PARTNERSHIPS (IREARPPP) PROJECT-CASE PRESENTED BY SYLVESTRE RWABIZI, PROJECT ENGINEER

Figure 6-2 Sylvestre Rwabizi, IREARPPP

Background

The IREARPPP Project is implemented by EWSA Ltd and has two components of solar PV electrification of 15 villages *"Umudugudu"* located in 15 rural districts, and 300 rural secondary schools in Rwanda. This is a 6- year project (2008-2014) funded by the EU and the Government of Rwanda and is being implemented by INALOC, MINEDUC, MININFRA, MINECOFIN EWSA Ltd, EU, the contractor and the beneficiary districts.

Progress/achievements of the IREARPPP Project and planned activities/way-forward

- In 2012 1,494 households in 15 villages were installed with 5W solar PV systems for lighting, charging cell-phones and operating a radio. By the end of May 2014, each of the 1,494 beneficiary households will receive 2 additional solar lamps
- 15 technicians, one from each of the 15 villages were identified by their cells and sectors and trained in system installation, operation and maintenance to ensure sustainability
- 150 rural off-grid secondary schools, identified by MINEDUC in collaboration with the relevant districts and sectors, have been installed and the remaining 150 will be installed by December 2014.
- More than 600 technicians have been trained, comprising at least 2 teachers from each of the 300 schools and 1 person from each sector in the project.
- The contractors, which are private companies, will cover operation and maintenance services to the 300 schools over a one year guarantee period

- An operation and maintenance strategy for the schools has been developed and will be implemented by MINALOC and MINEDUC in collaboration with districts and sectors. The strategy requires MINEDUC to allocate a budget for this activity and to disburse these funds to the respective districts. Districts will then enter into operation and maintenance contracts with private companies will provide services on demand, and then invoice the District for services rendered.

The role of the Local Governments in the implementation of the IREARPPP Project

- The 15 beneficiary districts, in collaboration with MINALOC, identified the beneficiary Umudugudu through consultations with their sectors
- Districts and sectors, in collaboration with MINEDUC, identified the 300 rural off-grid beneficiary secondary schools
- Beneficiary Umudugudu, in collaboration with their cells, identified 30 technicians for training
- The sectors provided the training venues in all the 15 villages
- The local administration at village, cell, sector and district levels have played a major role in mobilising and sensitising all the beneficiaries in order to create ownership of the systems; to ensure security of the systems and their productive end- use
- Sectors will also provide storage space for the additional solar lamps to be provided to households

Challenges encountered during project implementation

- Free distribution of the solar systems has, to some extent, led to lack of ownership. Some beneficiary household have sold their systems or lamps for cash thus putting the project sustainability into question
- There is still a general lack of technical capacity in installation, operation and maintenance at village, cell, sector and district levels, as most of the trained technicians either moved to cities in search of employment, or moved to other villages/districts or schools
- A few cases of vandalism due to inadequate security measures, in villages and schools, have been reported
- Behavioural change is a long-term process particularly for some households, which still use firewood for space heating

Energy Experiences: Elements for successful decentralisation

Briefly revisiting the global case studies and the examples of Bugesera District and the IREARPPP Solar Project in Rwanda, Mr. Simon Batchelor highlighted 5 common elements in all these cases that are critical to the success of improving decentralised energy access:

- The necessity of adequate knowledge among stakeholders about the options and opportunities for cleaner (renewable) energy,
- The need for adequate skills among stakeholders to effectively implement clean energy programmes/projects
- The need to complement awareness creation with more public platforms to discuss energy concerns
- The need for the right institutional framework with clear roles and responsibilities
- The importance of aligning stakeholder behaviour towards the development of clean energy

6.3 GROUP DISCUSSIONS ON THE ROLE OF DECENTRALISED AUTHORITIES IN ADDRESSING ENERGY ISSUES

Figure 6-3 Lilian Uwabyaye, Tumba College of Technology

Drawing from experiences from the case studies, participants reflected on two questions about the role of local government in addressing energy issues in Rwanda. These questions were:

- *Has the action of local authorities in terms of energy been enough to affect long term development plans for clean energy?*
- *What are the opportunities and constraints?*

The following were the key conclusions from the plenary discussion:

On the adequacy of the role of local administrative entities in energy:

- National energy targets are ambitious i.e. 563 MW by 2017 and 70% electricity access, up from the current 115 MW and 18% electricity access respectively. Local authorities will play a key role in order to achieve these targets
- Numerous actions by local authorities are already underway towards improving energy access in Rwanda, such as integrating energy targets into District and Administrative sector annual plans, budgets and annual performance contracts. This is evidenced by the Bugesera and IREAPPP case studies
- Districts and sectors also frequently monitor progress of project implementation their territories and provide feedback to relevant authorities i.e. District and sector councils, District Joint Action Development Forum (JADF), for either information or action.
- Local authorities will continue to be a key player in mobilizing and sensitizing the public to embrace different energy technologies such as biogas, solar and ICS.
- Decentralized authorities play a key role in providing the requisite approvals and facilitating investors, while NGOs, INGOs and other players implement energy programmes and projects and ensure the physical security of such investments

Constraints to decentralised energy:

While appreciating that a lot is already being done by local authorities in the area decentralised energy; participants noted that several constraints still exist and, to an extent, hamper meaningful energy decentralisation. These include:

- Renewable energy technology such as solar and biogas is still expensive to acquire and maintain for rural Rwandese population which has very low purchasing power. 45% of Rwanda's 10.5 million people *(census, 2012)* are under the poverty line and the majority of these are in rural areas.

- There are still only a very limited number of capable local companies dealing in renewable energy technologies and these are concentrated in urban areas, leaving rural areas inadequately served
- There are very few qualified technicians in rural areas, and, despite training provided by EWSA Ltd through the support of SNV, WV and Practical Action, many of these trainees migrated to urban areas in search of employment, leaving the rural areas inadequately served
- In addition to energy, districts and sectors have other priorities such as education, health, agriculture, industry, and available funds are shared among these areas leading to inadequate funding for energy
- Districts and sectors also have human resource challenges, with a single officer frequently being responsible for 3-4 large portfolios. At a district level, energy falls under the officer for Infrastructure, Environment and Land use.
- Mind-set and behaviour/cultural change - some people in the rural areas still prefer traditional sources of lighting, cooking and space heating methods over modern energy technology even after they have access to the latter
- Access to modern energy technology often involves taking loans from the bank or other financial institutions such as SACCOs and cooperatives or associations. However, there is still exists a general "*fear of loans*" among the Rwandese population, especially in rural areas
- Where modern energy technology has been distributed for free, there is general lack of ownership

Opportunities for improved decentralisation of energy:

Despite the above challenges, participants noted the enormous opportunities for improved energy decentralisation in Rwanda such as:

- Rwanda enjoys tremendous political stability and national security

- There is political will for the real decentralisation of roles, resources and capacities including energy roles, budgets and knowledge and skills/capacities

- The existence of an institutional framework governing the energy sector i.e. the Ministry of Infrastructure; the ESWG - a national forum for all energy stakeholders ; EWSA Ltd – the agency that implements energy policies and projects; RURA – the electricity utility regulator; RBS – the standards authority and RDB , which mobilises private investment in energy and other sectors

- The existence of clear policy and legal frame-works: Rwanda has an energy policy and The Energy Sector Strategic Plan (2013-2018) to guide energy sector development. Specific laws such as the gas law, the geothermal act etc., also exist

- Demand for energy is high nationally, suggesting a high potential market for decentralised energy. The country has very low installed power capacity of 115 MW with no requisite reserve capacity, and only 18% of the population has access to grid electricity

- Rwanda has considerable potential renewable energy resources, e.g. there are more than 300 micro and pico hydro sites that could be developed for off-grid or on-grid electricity production by Independent Power Producers. Other resources include methane, solar, biogas, ICS etc.

- Infrastructure such as the road network and the electricity grid has been greatly improved countrywide - including rural areas- in the past 20 years, which makes decentralised energy options more achievable.

- Government poverty reduction programmes such as the 'one cow per poor family' programme are a boost to improving energy access, as they lead to increased rural incomes which enables them afford renewable energy technology, and promotes increased uptake of domestic biogas systems by households with 2 or more cattle

- Over the past 2 years, local financial institutions in Rwanda have opened up financing for investment in the energy sector

- Rwanda was ranked 1st in East Africa and the 3rd in Sub-Saharan Africa in the World Bank *Doing Business Report 2013*. The country's investment environment is conducive for investors in the energy sector as shown below:

Attractive Incentives for Investors in the Energy Sector in Rwanda:

- Value Added Tax (VAT) and Import duties exemption on imported power equipment
- Investment allowance (accelerated depreciation) up to 50% of project CAPEX
- As an EAC custom union member, Rwanda has duty free importation for EAC products
- Common external tariff
- No restriction on repatriation of capital and profits
- Research and Development costs written off 100%
- Employment Incentives (profit tax discount of 2% if an investor employs 100- 200 people; 5% for 201- 400 employed; 6% for 401- 900 & 7% if more than 900 people employed)
- One year free visa to project experts (maximum 3 experts per project)
- Provision of key account managers to fast-track project implementation

In view of the above, participants concluded that in order to address current constraints, district and sector administrators together with other energy stakeholders should use existing platforms - such as JADF and ESWG - to come up with practical mechanisms to build on the achievements and opportunities in energy decentralisation in a consolidated manner.

7 INTRODUCTION TO PMM AND ENERGY MARKETS FRAMEWORKS

7.1 PARTICIPATORY MARKET SYSTEM DEVELOPMENT (PMSD)

The final session was presented by Tameezan wa Gathui of PAC EA, who introduced PMSD, an approach developed by Practical Action, for strengthening the role of small businesses into market systems and connecting marginalised market actors to viable markets - in this case - renewable energy markets. The PMSD approach uses existing market actors' capabilities and encourages development practitioners to partner with and build upon what is being offered by the market actors themselves, in a participatory manner.

7.2 PARTICIPATORY MARKET MAPPING (PMM)

Participatory Market Mapping is a tool of PMSD that brings together market actors to jointly discuss and assess the roles they play in a market system; to understand the constraints and to identify available opportunities as well as solutions to these constraints. This results in the development of a 'Market Map' and a plan of action which clearly defines priority actions and a consensus on who will take forward the agreed actions. It involves coordinating interventions of different market actors and creating partnerships and taking advantage of synergies for better market performance.

7.3 THE MARKET MAP

The Market Map produced through PMM defines three layers of the market system as follows:

Layer 1: Market chain actors e.g. Producers, distributors, retailers and consumers/end users

Layer 2: Service providers or 'supporters' e.g. Testing facilities for quality control, skilled labour, promotional and marketing teams, financiers.

Layer 3: Enabling environment or 'influencers' e.g. Policy, legislation, taxation, standards, research

Each of the actors across the three (3) layers of the market map above have clearly defined and interlinked roles which should be performed in tandem to make the market system operational and effective.

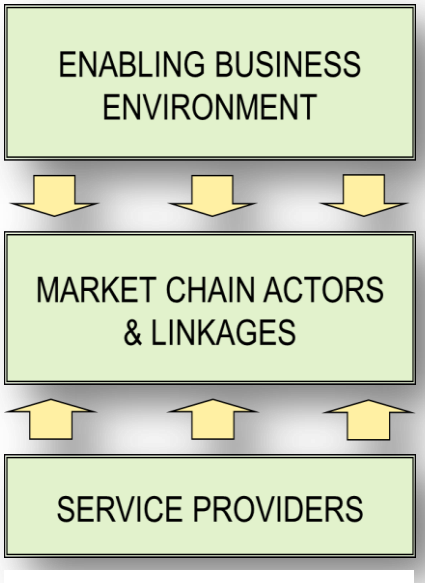

Figure 7-1 The 3 layers of a Market Map

7.4 STEPS IN PARTICIPATORY MARKET MAPPING

The production of the Market Map for renewable energy markets is a systematic process conducted through the following four key steps:

i. Conduct background research about a specific sector e.g.ICS, Biogas or Solar
ii. Develop a preliminary market map indicating the key actors in the sector being mapped, and some of the key constraints or gaps, based upon the background research
iii. Bring together the market actors ensuring representation from all the levels in the market system
iv. Facilitate a market 'game' between the market actors to develop a better understanding of the roles of each actor in the market system. The market game comprises three steps:
    - **Step I:** Assign a market actor "role" to each participant
    - **Step II:** Support each 'actor' to understand his/her role
    - **Step III:** Use role play to enable participants to discuss:
        - "Who is the most important 'person' in my 'core' business?"
        - "Who/ what can interfere with my business?"
        - "Which services do I need for the success of my core business?"

The market game helps market actors to communicate their own issues, to better understand perspectives of the other market actors as well as identify any partnerships and synergies that can be created. PMM strengthens relationships between market actors in an interactive way. A final Market Map is then developed consolidating the outcomes of the discussions and charting a way forward.

7.5 ENERGY MARKET SYSTEM FRAMEWORK AND ANALYSIS TOOL

Building on the discussion of PMSD, Dr. Ewan Bloomfield of PAC Rwanda, presented the Energy Market System Framework and Analysis Tool developed by Practical Action that enables analysis of energy market systems to assess their performance. The same 3 layers in the Market Map discussed above are given in Figure 7-2.

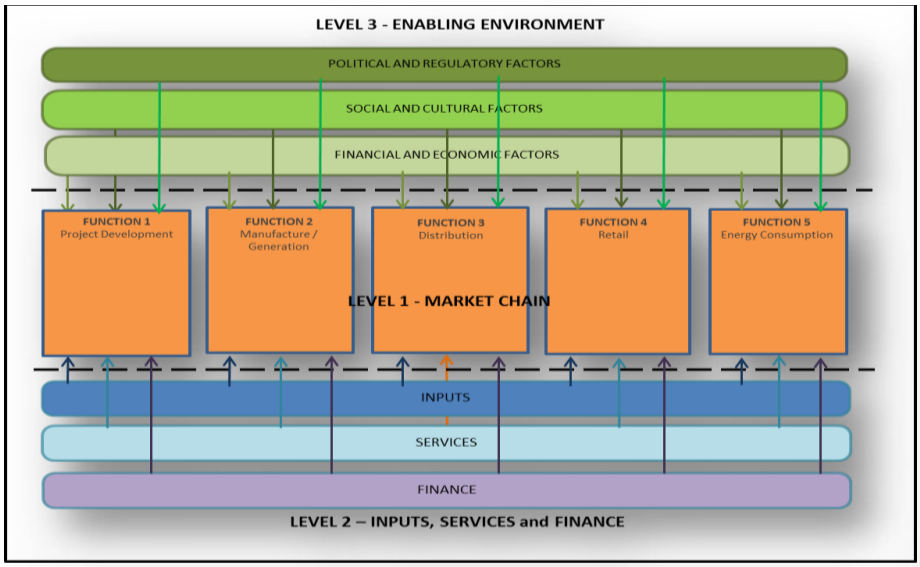

Figure 7-2 The Energy Market System tool

The Energy Market System tool assesses energy markets using the following indicators at each level:

LEVEL 1 – MARKET CHAIN

Performance:

- How well does each market chain actor perform?
- How well do organisations operate and what are their business models?
- What is the performance of the respective products and appliances?

Relationships:

- What are the types and quality of relationships between different market actors?
- What is the level of connection, coordination and competition between market chain actors?
- What is the relationship between actors within each function, and between different functions?

Numbers:

- How many market actors are there in each function?
- The current number of actors as well as potential actors who might join.
- The density or geographic distribution of market actors

LEVEL 2 – INPUTS, SERVICES and FINANCE

Inputs: The physical materials and objects required by each market chain actor, such as labour and technical equipment are assessed; **Services**: The services that are provided to each of the market chain actors such as training and data collection and **Finance**: the financial services provided to companies and end users (e.g. loans, equity, and microloans).

LEVEL 3 - ENABLING ENVIRONMENT FACTORS

Political and Regulatory factors are assessed such as rural electrification policies, quality control standards, fiscal regulations (e.g. VAT), permits and licenses; **Social and Cultural factors** such as public awareness levels; social norms (e.g. cooking practices); understanding of technology performance and informal community ownership and **Financial and Economic Factors** where end user income levels and ability to pay; formality of payment systems are assessed

Different energy market system frameworks - such as electricity mini-grids, solar PV lanterns, solar home systems, improved biomass cook stove and fuel, alternative fuel and cook stoves - can be analysed using this tool. This analysis enables identification of gaps at the different levels and the development of action plans. Practical Action has designed a range of interventions some of which are given in Table 7-1 below:

Table 7-1 Market Interventions

Intervention Type	Intervention Description
Technical Assistance Interventions	
Business Development Support	Increased capacity of market chain companies to develop their business models.
Technical Support	Increased capacity of market chain companies on technical issues.
Policy Support	Increased capacity of government departments to overcome a particular 'enabling environment' force.
Advocacy Support	Increased capacity of relevant stakeholders to allow them to participate in the development of particular policies and regulations as well as ensuring they are enforced.
Awareness-raising Support	Increased capacity of end-users to assess benefits of energy products and appliances.
Financial Assistance interventions	
Direct Grant Funding	Provision of grant funding to directly subsidise the costs of establishing an energy delivery system e.g. a mini-grid or establish a stove production facility.
Loan Financing Support	Provision of loan financing.
Equity Financing Support	Provision of financing for equity investment in companies.
Complementary Financing Support	Provision of complementary financing (e.g. policy risk mitigation, currency risk mitigation etc.).

7.5.1 GROUP DISCUSSIONS ON PARTICIPATORY MARKET MAPPING

Following the presentation on PMM and the Energy Market System Framework and Analysis Tool above, three discussion groups were created to discuss the following questions:

- Can this tool assist with planning for energy interventions?
- What other tools are particularly relevant?
- What action is required to strengthen the roles of local authorities in encouraging clean energy?

Key conclusions from the group discussions on PMM are summarised below:

Figure 7-3 Lutagira Jackson, Gicumbi District, discussing the PMM tool

Potential of PMM in planning energy interventions:

- PMM is very useful tool in analysing the energy market system, identifying challenges at different levels, identifying actors and roles and planning interventions
- PMM presents the following specific advantages:
- participatory assessment of energy issues and planning interventions together increases coordination of interventions of different actors
- Participatory planning of interventions also leads to clarity of roles among actors in the energy sector and enables creation of partnerships and synergies
- Participatory assessment of energy issues and harmonised planning of interventions improves ownership of energy programmes/projects and interventions by different actors
- The tool also enables division of labour and improves responsibility and accountability among different actors in energy

Other important/relevant mechanisms that contribute towards coordination of energy interventions:

Participants also identified the following other important existing mechanisms:

Division of Labour: There is clear division of labour among development partners per sector where every development partner chooses their area of intervention from the priority areas identified by the Government. This process is led by the Ministry of Foreign Affairs and Cooperation in collaboration with the Ministry of Finance and Economic planning. This not only leads to focussing of efforts in one or two areas for greater impact, but also ensures that such interventions are linked to national priorities including energy. Key development partners in energy include: WB, EU, BTC, JICA, AfDB, GIZ, Government of the Netherlands and KfW.

Energy Sector-wide Approach, ESwap: This is a strategy to harmonise planning, share information and pool resources between different energy sector actors including ministries, public agencies, development partners, private sector including consultants, and civil society in order to enhance performance. These actors meet at Energy Sector Working Group (ESWG) meetings at least once per quarter to discuss progress of different energy projects/programmes, appreciate challenges and advise on the way-forward.

Joint Action Development Forum JADF: The JADF is a multi-stakeholder platform at district level in which all stakeholders in the district meet to discuss priorities, share action plans, experiences and challenges. The JADF approach enables district authorities know who is doing what in the district, and avoids duplication through better coordination and facilitates partnerships and synergy. It also ensures stakeholders' compliance with district plans and national vision.

7.5.2 ACTIONS REQUIRED FOR STRENGTHENING THE ROLE OF LOCAL AUTHORITIES IN CLEAN ENERGY

Participants identified the following key actions to enhance the role of local authorities at District and Administrative sector level in clean energy:

- Renewable/clean energy options such as Biogas, solar, ICS must appear in all District and sector plans, as well as in all local leaders' performance contracts.

- Improve the local peoples' purchasing power through Self-help associations, cooperatives etc. to enable them access finance for renewable energy

Figure 7-4 Evariste Gatete, vice chair RREA, stresses a point.

- The Government in collaboration with energy stakeholders, should build a critical mass of technicians skilled in the installation, operation and maintenance of a range of renewable energy technologies including biogas and solar. This will create jobs, encourage private companies to scale up dissemination and ensure projects/programme sustainability

- Districts should have staff dedicated specifically to infrastructure and energy. Currently, in many Districts, due to human resource deficits, personnel in charge of energy are also in charge of lands, environment, construction etc. This hampers delivery.

- District should engage of other energy stakeholders to set up energy forums/platforms at District and Sector levels through which to discuss energy issues and coordinate interventions.

8 WORKSHOP SUMMARY AND NEXT STEPS

The workshop identified the following key actions as next steps:

- Participants to share information from the workshop with relevant authorities and networks to catalyze decision making and action related to renewable energy access at different levels

- The functioning of District-One-Stop centers should be improved to provide adequate and timely information and facilitation potential private actors, NGOs, INGOs etc. in renewable energy sub sector

- Districts should bring together different market actors at JADF levels to discuss the issues of access to renewable energies divide labor and take actionable recommendations with specific implementation timelines. Progress must be evaluated at an agreed time interval

- The capacity of the private sector in different districts should be developed - through business trainings, installation, operations and maintenance trainings etc. - to ensure sustainability of different renewable energy projects implemented at the local level

- Identify how best MININFRA/EWSA Ltd can work with WDA/IPRCs, Tumba College of Technology and other players to create a critical mass of technicians in solar, biogas etc. at local level

- Decentralised entities i.e. districts and sectors, in collaboration with other actors such as NGOs and civil society, should step up awareness creation efforts, mobilization and sensitization of the population towards embracing the use of renewable energy i.e. Biogas, solar, ICS

- Stakeholders should work together with RBS to ensure standards for renewable energy are in place to facilitate implementation of renewable energy projects

- MININFRA/EWSA Ltd should work closely with MINALOC, RALGA, RREA to set up energy forums/platforms at district and sector levels

- Explore innovative financing mechanisms for access to renewable energy through engagement with existing models i.e. M-kopa in Kenya etc.

- Engage stakeholders to develop a specific strategy to attract the private sector in off-grid systems

- MININFRA should use the lessons learn from the workshop to feed into the ongoing review of Rwanda's Energy Policy

9 WORKSHOP EVALUATION AND CLOSING REMARKS

9.1 WORKSHOP EVALUATION

An evaluation was conducted at the end of the workshop to find out if the workshop met participants' expectations and to discern lessons learnt. Participants indicated that the global cases presented on the role of decentralization in improving energy access, the local case of Bugesera District and the IREARPPP case presented by EWSA Ltd and the stakeholder mapping exercise were particularly helpful in improving participants' understanding of the role of decentralized entities in improving access to renewable energy. The following key lessons that came out strongly from the assessment:

- Political decentralisation does not always necessarily lead to decentralized access to services

- Political decentralisation must be accompanied by decentralisation of decision-making authority, resources (budgets, human resources etc.) and capacity building if it is to lead to meaningful access to services including access to renewable energy

- Achieving energy access at local level is a collective responsibility of all stakeholders at local level who must be engaged to ensure that the objective of energy access is achieved

- Since the initiation of decentralisation in Rwanda more than a decade ago, the role of districts and sectors in energy access has increased, as planning gets more streamlined and decentralised budgets increase

- The role of central Government in facilitating energy access still critical and includes ensuring that adequate budgets for energy, policy, strategy and legal frameworks

- Although the role of districts and sectors has increased gradually, there are still challenges in ensuring energy access such as budgetary constraints , limited technical skills in rural areas, etc., that need to be addressed

- There is need to establish local level energy platforms at the district and sector levels to create space to discuss issues, create partnerships and synergies and enable coordination of interventions

- Participatory Market Mapping can serve as a useful tool to identify energy stakeholders and their roles in the achievement of decentralized energy access

9.2 CLOSING REMARKS/VOTE OF THANKS

The organisers thanked all the participants for their attendance and active participation, noting that this was a learning experience for the whole team, particularly on how political decentralization facilitates energy decentralization in different countries such as Rwanda, Kenya, and Nicaragua. The workshop was an eye opener for all in terms of understanding the roles each stakeholder plays in improving energy access at local level. The actions identified for the way-forward constitute an informal agreement amongst the workshop participants, and they were urged to pro-actively take steps to ensure that these actions were taken forward and implemented.

10 APPENDICES

10.1 APPENDIX 1: LIST OF PARTICIPANTS

Name	Organization
Bahingana Vincent	EWSA
Bimenyimana Augustin	G.S. Bweyeye/ MINEDIC
Denyse Umubyeyi	PAC EA
Ed Brown (Dr.)	Loughborough University, UK
Ewan Boomfield	PAC EA
Gatete S. Evariste	Rwanda Renewable Energy Association
Jayshree Bloomfield	PAC EA
Jerome Nsengiyaremye	MININFRA
Kampire Berthille	PAC EA
Kayitera Safari Dieudonnee	World Vision, Rwanda
Liliane Uwabyaye	Tumba College of Technology
Lutagda Jackson	Gicumbi District
Muhawenimana Issa	Ubumwe Cooperative
Niyigaba Theoneste	PAC EA
Pasika Peace F.	EWSA
Rukundo Julius	Bugesera District
Silvestre Rwabizi	EWSA
Simon Batchelor (Dr.)	Gamos Ltd., UK
Stany Nizeyimana	EWSA
Tameezan wa Gathui	PAC EA
Hakizimana Jean De Dieu	Murama cell/ Bugesera
Rugambage Emmanuel	Bugesera District/Nyamata Sector
Nengiyumva Jean Bosco	AJDR
Munyarukero Jean	Rulindo District
Nkurunziza Deogene	Rulindo District

10.2 APPENDIX 2: WORKSHOP PROGRAMME, 30TH APRIL 2014

TIME	SESSION	PRESENTER	FACILITATOR
8.00 : 8.30	Participant Registration	-	Denyse Umubyeyi; Berthille Kampire
8.30 : 8.45	Welcome, Opening Speech	Mr. Kamanzi, Director of Energy and Water, MININFRA	Vincent Bahingana
8.45 : 9.00	Introductions Workshop Expectations	Self-introductions	Vincent Bahingana
9.00 : 9.15	READ project overview and the emerging role of decentralised energy	Ed Brown	Vincent Bahingana
9.15: 9.30	Decentralised processes – Our understanding so far of how it works in Rwanda	Simon Batchelor	Vincent Bahingana
9.30 : 10.30	Group discussion 1: (2 Groups) *Can we confirm the roles and responsibilities of the local government in energy access? (Stakeholder mapping exercise)*		Vincent Bahingana
10.30 : 10.45	**TEA BREAK**		
10.45 : 11.05	Presentations from Group Discussion 1 and Plenary Discussion		Denyse Umubyeyi
11.05 : 11.50	Case studies on working together with local governments to improve energy access	Ed Brown ENADOM EWSA	Denyse Umubyeyi
11.50 : 12.05	Energy Experiences	Simon Batchelor	Denyse Umubyeyi
12.05 : 1.00	Group discussion 2: (3 groups) *Has the action of local authorities in terms of energy been enough to affect long term development plans for clean energy? What are the opportunities and constraints?*		Denyse Umubyeyi
1.00 : 1.45	**LUNCH**		
1.45 : 2.15	Presentations from Group Discussion 1 and Plenary Discussion		Tameezan wa Gathui
2.15 : 2.45	Introduction to Participatory Market Mapping and Energy Markets Frameworks.	Tameezan wa Gathui; Ewan Bloomfield	Vincent Bahingana
2.45 : 3.45	Group discussion 3: (3 groups) *Could this tool assist with planning for energy interventions, what other tools are particularly relevant, what action is required to strengthen the roles of local authority in encouraging clean energy?*		Simon Batchelor
3.45 : 4.00	Tea break		
4.00 : 4.30	Presentations from Group Discussion 3 and Plenary Discussion		Tameezan wa Gathui
4.30 : 5.00	Next steps, action planning	Tameezan wa Gathui	
5.00 : 5.15	Workshop Summary and next steps Feedback on expectations Vote of thanks Workshop evaluation	Ed Brown Participant Denyse Umubyeyi	Vincent Bahingana
5.15	**END OF WORKSHOP**		

10.3 APPENDIX 3: INFORMANT INTERVIEWS PROGRAMME

Name	Organization	Type
27th April 2014		
Issa Muhawenimana, President	Ubumwe Cooperative	Cooperative
28th April 2014		
Evariste Gatete, Vice Chairman	Rwanda Renewable Energy Association (RREA) & Biogas Entrepreneur	NGO
Jacques Gashumba, Executive Secretary	Nyamata Sector	Local government
Nsengiyumva J. Bosco, Vice President	AJDR Cooperative	ICS Cooperative
29th April 2014		
Josh Kefauver, General Manager	DELAGUA Health	INGO (ICS & Water filters)
Francine Munyaneza, Managing Director	Munyax Eco	Private Company (Solar)
2nd May 2014		
Sam Dargan, Managing Director	Great Lakes Energy GLE	Private Company (Solar)
Jonathan Nzayikorera, Head of Fiscal Decentralisation	Ministry of Finance & Economic Planning	Central Government
Frank Kobukyeye	Ministry of Local Government	Local Government