



**REPORT
ON
EXTERNAL EVALUATION
OF
THE RURAL ENERGY ACTIVATING LIVELIHOODS (REAL)
PROJECT
“RENEWABLE ENERGY” PROJECT IN KAILAHUN, KENEMA,
KONO, AND PUJEHUN DISTRICTS**

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ACRONYMS/ABBREVIATIONS

APF	Agenda for Prosperity
CC	Charging Centres
DC	District Council
ED	Executive Director
EFA	Environmental Foundation for Africa
ENFORAC	National Forum for Environmental Action in Sierra Leone
ENFOSAL	Environmental Foundation for Sierra Leone
EU	European Union
FAO	Food and Agriculture Organisation
GAWA	Green Actors of West Africa
GDP	Gross Domestic Product
GoSL	Government of Sierra Leone
HH	Household
HW	Hot Water
IC	Independent Consultant
Le	SL Leone (Currency)
MDG's	Millennium Development Goal's
MoE	Ministry of Energy
NGO	Non-Governmental Organisation
NR	National Resource
PMT	Project Management Team
PRO	Public Relation Officer
REAL	Rural Energy Activating Livelihood
SE4ALL	Sustainable Energy for All
SO	Specific Objective
ToT	Trainer of Trainers
UNHCR	United Nations High Commission for Refugees
UK	United Kingdom

PROJECT BASIC INFORMATION

Country: Sierra Leone: Pujehun, Kenema, Kailahun and Kono Districts	Name of project: The Rural Energy Activating Livelihood (REAL) Project
Project number:	
Project priorities: <ul style="list-style-type: none"> Promotion of solar energy for lighting and productive use in rural communities. Developed capacity of youth and structured local communities in managing the solar technology. Enhanced rural communications amongst beneficiaries and the world. Strengthening educational and health institutions for socio-economic development. 	
Project holder: Environmental Foundation Africa (EFA)	

Objectives of the action	Overall objective: Improve the quality of livelihoods in rural communities through access to renewable energies. Specific objective: Vulnerable groups and institutions in rural areas improve their livelihoods with the help of economically viable and environmentally friendly renewable energy (solar) for lighting, water heating and mobile charging.
Expected results	Result 1: Provided solar PV installations to selected targeted 41 communities Result 2: Built capacity on solar technology through basic training programs to 10 youths in each project affected communities. Result 3: Facilitated micro-finance schemes to support income generation projects and small enterprises, and supply householders with opportunities for investment in solar home lighting products. Result 4: Built capacity for trained youths to establish their own business in solar technology (home lighting products)
Target group and final beneficiaries	<ul style="list-style-type: none"> Rural communities in selected chiefdoms and towns in the Pujehun, Kenema, Kailahun and Kono Districts of Sierra Leone (41 selected communities benefited)

Project phase duration:		Reporting period:	
Total eligible cost of the action: €2,129,151	Amount from the Contracting authority: €1,597,313	Amount from project holder: € 281,000	Others: FAO €250,000
Co-financer: European Union (EU), FAO, EFA Delegation of the European Commission to Sierra Leone REAL Project			

Implementing organisations:	
Main national partner: EFA SL	Main international partner: FAO SL
Number project staff	Expatriate: 0 National: 22

SUMMARY

The main objective of the independent evaluation of the rural energy activating livelihood (REAL) is to use field verification results, impact analysis and sustainability criteria to determine the project outcomes and impacts, in assessing the improvement of access to modern energy in 41 selected rural communities of Kenema, Pujehun, Kailahun and Kono districts and the level of enhancing project partnership between Environmental Foundation for Africa (EFA) and Food and Agriculture (FAO). The project is 75% funded by the European Union (EU) and 25% by EPA and FAO of which the later failed to fully honour its obligations. The project has duration of 3 – 4 years.

The overall objective of the Rural Energy Activating Livelihood (REAL) project that is now being evaluated is to improve the quality of livelihoods in rural communities through access to renewable energies and there were four (4) specific objectives given below:

SO1. Provide solar PV installations to the target communities

SO2. Building capacity on solar technology through basic training programs.

SO3. Facilitate micro-finance schemes to support income generation projects and small enterprises, and supply householders with opportunities for investment in solar home lighting products.

SO4. Building capacity for trained youths to establish their own business in solar technology (home lighting products)

The objective of this assignment is: (1) To validate/ assess the effective results with regard to the technical choices and orientations within the assigned context, (2) To assess the methodology and the organisational support, (3) to give opinion on sustainability and (4) to assess the impact trends.

For this assignment, the evaluation is based on information obtained from EFA's internal project documentation, IC's observations, field visits, semi-structured interviews and assessments.

The base for the evaluation constitutes the efficiency, effectiveness, relevance, impact and sustainability of the above consultancy objective.

Furthermore, major questions and observations were focused on investigating the following:

- i. Establishment of Solar PV system installations in village community centres, primary and/or secondary schools and clinics providing lighting, as well as power for charging centres/stations, vaccine fridges, agricultural produce drying; with additional solar-water-heating and water pumping systems in clinics.
- ii. Employment and well-trained technicians capable of system installation and training for community members, on the basics of system operation and maintenance
- iii. Well-trained community maintenance teams allocated to each installation, responsible for basic system operation and maintenance.
- iv. Successful community youth trainees/graduates will be able to access micro-finance schemes in order to support their own enterprise(s). Income generation for the village committee through charging stations for phones and home lighting systems primarily and solar enterprises owned by the successfully trained technicians are established in rural Sierra Leone.
- v. Solar enterprises owned by the successfully trained technicians are established in these rural communities.

- vi. Successful establishment of seven (7) man management committee in each project affect communities.
- vii. Assessment of project sustainability at community levels

The REAL Project relevance is high regarding the core challenges of the lack of clean energy for lighting and heating in rural communities and the objectives of the project implementing partners Environmental Foundation for Africa (EFA) Food and Agriculture (FAO) to have worked amicably. Nevertheless, EFA was virtually left alone to implement the project to its fullest even though FAO is claiming to have supported the implementation by providing staffing and transportation of solar PV equipment to all project sites.

The project is particularly relevant for the objectives of the Government of Sierra Leone and in particular the Ministry of Energy as well as for the objectives of the donor, the European Union, aiming at promoting sustainable development through the energy sector using solar PV sources, as well as empowering youth and women through training in solar energy technologies and management of the asset at rural community level.

The effectiveness of the REAL project was realistically and professionally planned regarding the tangible achievements gained. The result chain which is improving the quality of livelihoods in rural communities through access to renewable energies (solar) and transition to sustainable development focused on four areas: Mechanism for the sustainable management of solar lighting and charging stations are introduced; Installing Solar PV to the target communities are provided; communication, education, health and entertainment opportunities for improving livelihood are promoted and rural households empowered to make use of solar energy and Building capacity on solar technology through basic training programs & local community and institutions are strengthened to promote socio-economic development process

The intervention logic is well aligned to predominant access to clean modern energy under the National Energy Strategy Plan (2014-2018) and the Agenda for Prosperity (A4P) (2014-2017). The Logframe is a consistent and precise project document. The results and outcomes are clearly achieved based on the project purpose and overall objectives.

In the preparation process of the proposal, EFA had intensive consultations with the proposed selected 41 rural communities. The proposed activities were identified through a participatory approach. EFA is very familiar with the situation due to the implementation of similar rural community based projects and previous working experience

The project partner's implementation capacity (especially accountability) and the general need for capacity development were not sufficiently taken into account during the project preparation, neither in the proposal, nor in the budget, and even less during implementation.

A proper hand-over or exit strategy need to be implemented even though it was clearly conceptualised during project planning and preparation or defined in the project document.

EFA was well known in the selected communities due to previous interventions. The communities and their members were not difficult to mobilise, especially due to the community demand-driven approach. This ensured full community involvement and created considerable ownership among these communities.

The REAL project followed specific gender strategy and women were targeted and formed part of the training.

The 22 staff needed to implement the project was significantly adequate.

The EFA managed the REAL project well. Project infrastructure was in place and fully operational. Project staff are committed and dedicated and the office was adequately equipped. Fieldwork and

monitoring even though was a challenged due to bad road networks but this situation was taken as an opportunity to have very skilled and professional drivers.

The cooperation and collaboration among communities, local authorities and PMT was good and efficient. The REAL project team is professional and utilised monitoring tools and results for project management.

The cooperation and collaboration among EFA and FAO was a challenge since the project started, but yet did not impact any field activities. The relationship is characterised by lack of commitment, little willingness for genuine collaboration and a sense of patronisation on the part of FAO. The majority of the overall planned outputs have been delivered in a meaningful sequence.

Under a simple cost benefit ratio comparison, the budget is divided by the number of direct beneficiaries and the implementation months. It turns out that on average about €/beneficiary were spent to achieve the current level of energy access.

Financial monitoring was carried out according to EFA standard financial procedures.

M&E unit was in place that carried out periodic and on-the-spot monitoring and evaluation of all project sites and activities efficiently.

The findings/outcomes of the REAL project was an activity undertaken during the evaluation process to assess whether the solar PV equipment were supplied, installed and operate well, whether management committee team was set and to ensure how effective the team was managing the systems in their various communities, and also the livelihood changes it brought to the beneficiaries. There is a table that gives detailed demonstration of financial model, management committees, sustainability and impact trend in each selected community.

The REAL project impact trend in this context assessed the positive changes that this project has delivered in the lives of the selected 41 communities who benefited from the project in key areas of community development as stated below:

- The selected Community Health Sector - Periphery Health Units (PHU's);
- The selected Community Educational Sector (Secondary and Primary Schools);
- General Community Livelihood (Social, Cultural and Economic) Activities;
- Mobile Phone Communication facilities;
- Security of persons and community;
- Willingness of people to pay in cash for the services and
- Cross-cutting gender (women) issues

This intervention is contributing considerably to the Sustainable Energy for All (SE4ALL) programme by 2030 and the Millennium Development Goals 1 and 7 (“eradicate extreme poverty” and “ensure environmental sustainability”).

The sustainability aspect of the REAL project has to do with several measures to be put in place to ensure the long-term viability of the project such as:

1. Community collaboration in running the systems
2. A local management committee in place to oversee the smooth running of the system.
3. Local youths trained in solar installation and maintenance and
4. Proper accountability of money collected from the charging stations.

In addition, the sustainability criteria for this REAL project will depend on the compliance to the following project specific areas:

Solar Technology & Spares (Specifications); Capacity Building (Training of Trainers); Management Structure (Ownership) and Revenue Enhancement (collection)

However, the major sustainability challenge that is envisaged is the availability of ready funds to replace faulty or damaged solar PV panels, batteries and water heater collector panels, which are very expensive to purchase. The communities will need to be supported either by the District Councils or the local community authority.

It is required that the two result objectives 3 & 4 be implemented to enhance sustainability.

While overall sustainability seems high, more time is needed to consolidate the initiated development processes.

On the REAL project specific conclusions, the EU-funded project with Co-financing from EFA and very little financing from FAO has provided a significant contribution to increased energy access in the four participating districts (Pujehun, Kenema, Kailahun and Kono), comprising 41 rural communities in Sierra Leone. The project achievements are considerable and it is remarkable that the EU has managed to provide the funding and was flexible throughout the Ebola crisis period, which no-one could have anticipated. .

The project's accomplishments need to be consolidated, sustained and even expanded. Finally, the project could have achieved even more if FAO had committed fully to its obligations as partner with a real joint implementation approach.

In Lessons Learnt, it is true that, the cooperation and collaboration with FAO as partner was EFA's desire for the REAL Project. However in the future, to develop a fruitful partnership, it is crucial to note the followings: (i) develop joint project preparation and planning procedures; (ii) improve and sharpen implementation agreements (MoU); (iii) develop a detailed understanding of project partners' strengths, constraints and limitations, their internal organisation development processes and challenges; and (iv) to develop preparedness measures.

Finally, recommendations are made to the REAL project implementation, the partnership with FAO, the Donors and future programme of similar nature.

1.0. BACKGROUND

The Environmental Foundation for Africa (EFA), as part of the project exit strategy hired an Independent Energy Consultant on 1st June, 2016 to carry out the final external evaluation of a 3-year Rural Energy Activating Livelihood (REAL) project which is the “renewable energy” project cycle in Kenema, Kono, Kailahun and Pujehun Districts comprising of 41 communities. The evaluation process is expected to end on 15th July, 2016.

EFA was founded in United Kingdom 1992 as the Environmental Foundation for Sierra Leone (ENFOSAL) and started implementation in Sierra Leone 1995. During the height of the war years in Sierra Leone, the organisation was established in Liberia in 1997, under the current name - Environmental Foundation for Africa (EFA). It was relocated to Sierra Leone in 1999 and has since operated under this name in both countries. EFA Sierra Leone (EFA-SL) is operating as the local partner to the international NGO EFA, based in UK.

Vision - EFA works for environmental sustainability, poverty reduction and people empowerment

Mission - EFA's mission is to conserve and protect the richly bio-diverse and threatened ecosystems of West Africa, to restore degraded environments, empower local communities and contribute to poverty reduction through environmental education, advocacy, provision of access to renewable energy, promotion of sustainable ecotourism development, sustainable environmental and natural resource management.

Furthermore, EFA is governed by an International Board of Trustees based in the UK with co-opted members functioning in Sierra Leone as an Advisory Board. Together, the Board of Trustees in UK and Advisory Board in SL are responsible for guiding overall programmatic direction of the organization, as well as general oversight of policies for country operations. The organization has maintained a country program in Sierra Leone since 1995, and is currently headquartered at the Biodiversity and Renewable Energy Learning Centre, on the Peninsula Road, Freetown. The Executive Director (ED) and Administrative and Finance Manager provide technical and administrative leadership for the country program, with the ED serving as interface with the International Board of Trustees in UK and Advisory Board in SL.

The EFA Sierra Leone manages the Tiwai Island Wildlife Sanctuary situated on the Moa River in southeastern Sierra Leone and recently completed construction of a Biodiversity Conservation and Renewable Energy Learning Centre near Sussex, on the seaward edge of the Western Area Peninsula Forest, close to the capital, Freetown. EFA is also a founding member of the National Forum for Environmental Action in Sierra Leone (ENFORAC) and works closely with all of the major partners involved with environmental management and biodiversity conservation in Sierra Leone.

In Liberia, until 2014, EFA was UNHCR’s partner, responsible for the environmental management of all past and current refugee/ IDP affected areas in Grand Cape Mount, Montserrado, Grand Gedeh, Maryland and Nimba counties, where it conducted environmental education and livelihood training in tree nursery management and plantation establishment, agro-forestry, swamp cultivation, and domestic energy conservation. EFA is also a founding member of the NGO Coalition of Liberia.

On the Regional front, EFA is the initiator and founding member of the Green Actors of West Africa network, which brings together national environmental coalitions from across the region to draw attention to, and provide solutions for environmental issues affecting West Africa. EFA hosted the secretariat and was the coordinating agency of the GAWA network from its founding in 2005 until 2012.

The UK-based Trustees support EFA by providing strategic guidance on project development and institutional planning. EFA is conducting targeted advocacy and awareness campaigns on natural resource management issues in Africa, as part of its environmental sustainability outreach program for target audiences in Europe.

During the REAL Project Implementation phase, EFA's experiences and lessons learnt can be outlined as follow:

Enhanced community capacity to improve their livelihoods. Developing locally adapted facilitation processes for community-based planning for sustainable environmental and NR management which integrates with traditional authority and local governance systems, and building capacity of local NGOs and partners to use these. This involves bringing the traditional authorities and communities at local level together to analyse their situation, rights and responsibilities and generate more inclusive plans which build on existing systems and structures but also respond more equitably to the poor people's demands for improved livelihoods.

Facilitated improved linkages between communities and services they require for identified sustainable environmental and economic priorities. EFA now builds the capacity of its beneficiary communities to implement decisions and make informed demands for services, following needs assessments. Support is given for skills training in for example cost benefit analysis, negotiation, organisational development and financial management. EFA facilitates group exposure to alternative technologies, sources of information and available services, and fora for exchange between farmers and groups.

Supported community participation in district development and policy decisions, and for implementing community-based natural resources (NR) management: Enabling communities know the legal and policy environment and their rights to benefits from NR and supporting dialogue between actors engaged in NR management which includes farmers and NR users. Facilitation of representative community organizations which can work with the authorities to manage natural resources. EFA collaborates with national and regional NGOs engaged in NRM and interacts with national policy makers and District Authorities to ensure information is disseminated and to advocate for improved rights for farmers to benefit from forest products and management.

The objective of the Rural Energy Activating Livelihood (REAL) project that is now being evaluated is outlined below:

Overall objective:

- Improve the quality of livelihoods in rural communities through access to renewable energies.

The most vulnerable groups of people living in Sierra Leone are empowered to achieve their entitlements to adequate electricity supply and to participate in educational and economic development activities that improve their well-being.

Specific objectives:

SO1. Provide solar PV installations to the target communities

SO2. Building capacity on solar technology through basic training programs.

SO3. Facilitate micro-finance schemes to support income generation projects and small enterprises, and supply householders with opportunities for investment in solar home lighting products.

SO4. Building capacity for trained youths to establish their own business in solar technology (home lighting products)

1.1 Reason and aim of the evaluation

The primary aim of the independent evaluation is to use impact analysis and a target-actual comparison to determine the project outcomes and impacts. The evaluation is based on information in EFA's internal project documentation, observations, field visits, semi-structured interviews and assessments.

The bases for the evaluation were provided in the consultant's contract document that constitutes the efficiency, effectiveness, relevance, impact and sustainability of the project.

Major questions and observations were focused on investigating the following:

- i. Establishment of Solar PV system installations in village community centres, primary and/or secondary schools and clinics providing lighting, as well as power for charging centres/stations, vaccine fridges, agricultural produce drying; with additional solar-water-heating and water pumping systems in clinics.
- ii. Employment and well-trained technicians capable of system installation and training for community members, on the basics of system operation and maintenance
- iii. Well-trained community maintenance teams allocated to each installation, responsible for basic system operation and maintenance.
- iv. Successful community youth trainees/graduates will be able to access micro-finance schemes in order to support their own enterprise(s). Income generation for the village committee through charging stations for phones and home lighting systems primarily and solar enterprises owned by the successfully trained technicians are established in rural Sierra Leone.
- v. Solar enterprises owned by the successfully trained technicians are established in these rural communities.
- vi. Successful establishment of seven (7) man management committee in each project affect communities.
- vii. Assessment of project sustainability at community levels

2.1 Objectives and Expectations of the Evaluation Assignment

The objective of this assignment is:

- i. To validate/ assess the effective results with regard to the technical choices and orientations within the assigned context

This is focusing on the technical options selected by the project, some as core activities and some as pilot ones. It is expected from the evaluation to assess the **relevance** and the scaling up opportunities of these options in the local context, comparatively with other possible options.

- ii. To assess the methodology and the organisational support

This evaluation concerns the **relevance, effectiveness** and **efficiency** of the methodology.

- ✓ The methodology: that is designed and developed for the evaluation is relatively new in Sierra Leone (given the novelty of Renewable Energy projects in the country) and different from what other NGOs are used to implementing in Sierra Leone; the project is looking for a high intensity of participation in, and empowerment of the communities and local actors, thus combining the external supply of technical materials and a high level of “soft” activities (sensitization, social mobilisation, coaching and continuous engagement. What are, in the local context, the advantages and bottlenecks of such an approach, and how the different stakeholders perceive and judge this core aspect of the methodology?
- ✓ Cost efficiency: assess the cost-effectiveness of the action according to the balance between the project human resources and the achieved results. Evaluate the degree of efficiency of the action: meaning its capacity to fulfil the objectives according to the consumed resources.

iii. To give opinion on sustainability

The evaluation mission is requested to give its opinion on the existing and potential sustainability of the results produced by the project, taking into account that the thrust of this first project cycle was to initiate a dynamic and test appropriate technical and organisational responses to the identified needs. Sustainability, although considered as a major stake by the project, was not expected to be achieved fully, during the 3-4 year project cycle, as it is such a limited period of time from a developmental point of view.

To assess the level of ownership of the different components promoted by the project from the community people and their local authorities

iv. To assess the impact trends

This evaluation concerns the assessment of the first impact trends in improved health care and school performances in those areas where solar installations were done

- To evaluate the rise in income generated from solar installations in charging centres and propose an assessment of the main benefits accruing to the target groups involved in activities linked with running the charging centres established by the project
- To observe multiplier effects (in the sense of a dissemination of practices in the non-targeted villages) in the area
- To show an appreciation of the impact produced by the action on the daily practices of the users, especially regarding access to electricity supply in the schools, clinics and charging centres, as well as on other areas, whichever the nature of this impact. Such an analysis should be completed, if feasible, by a quantification of the benefits produced within the frame of the local economy.

2.0. SCOPE OF WORK

The scope of work of this assignment covers four (4) Districts in Sierra Leone namely; Pujehun, Kenema, Kailahun and Kono comprising of 41 communities. The assignment is to assess the technical choices and orientations within the assigned context; assess the methodology and the organisational support; provide opinion on sustainability and assess the impact trends - using the criteria of relevance, effectiveness, efficiency, impact, sustainability. (Similarly to conduct an evaluation of project activities such as photo-voltaic (PV) lighting installations, solar water heater installations, setting-up of a 7-person management committees to manage the assets, financing model of the facilities and the sustainability of the intervention in the 41 communities). This assignment commenced on 1st June, 2016 and end on 15th July, 2016.

3.0. METHODOLOGY

The methodological approach used for this assignment was the evaluation process and the evaluation method.

3.1 Evaluation Process

The evaluation took place from the 1st June, 2016 to 15th July, 2016. An initial meeting was held on the 1st June, 2016 with the EFA Director Mr. Tommy Garnett, and staff in the REAL Project office at their Renewable Energy Complex in Freetown. After field visits, a debriefing meeting took place with representatives from the Delegation of the European Union Sierra Leone and with a representative of the Food and Agriculture Organisation (FAO), in Freetown. Assessments, field trips, inspections of project sites and numerous interviews with stakeholders, community leaders, solar management committees and solar trainees and operators were conducted.

During the evaluation process, the general situation in the participating communities was peaceful, lively and stable. In the entire 41 project communities, no severe incidences happened during the assessment and evaluation process. Only one community could not be visited for very serious road network challenges with long distance to cover.

3.2. Evaluation Methods

The evaluation took into account the four results areas bordering on five criteria defined in the Terms of Reference (ToRs): Assessment of the technical choices and orientations within the assigned context; Assessment of the methodology and the organisational support; provide opinion on sustainability and assessment of the impact trends using the criteria of relevance, effectiveness, efficiency, impact and sustainability.

In general, data collection was carried out by the following methods:

- semi-structured interviews with stakeholders, beneficiaries, institutional authorities and local community representatives.
- field visits and focus group discussions on sites including project staff in the field.
- context and outcome assessment and analysis.
- observation of framework conditions, structures and project outputs set up by the project
- assessment and analysis of project reports, studies, concepts and other relevant documents
- debriefing and discussions with the project team and major stakeholders

Normally, not all project measures could have been visited in the timeframe of the evaluation, which may have limited the findings of this evaluation to a certain extent. However, the Independent Consultant was able to visit 40 out of 41 project site communities and had performed in similar areas in a comparable context during previous assignments.

Finally, it is based on elements collected from multiple visits in the field, including exchanges with the beneficiaries, the teams of facilitators and the authorities including the Ministry of Energy, EU representatives and FAO.

4.0. FINDINGS/OUTCOMES

4.1. Project Effectiveness

4.1.1. Realisation and achievement of project purpose

The purpose of the REAL project was to improve the quality of livelihoods and enhance rural communities' well-being in sustainable manner through access to renewable energies for people living in rural areas in Pujehun, Kenema, Kailahun and Kono District in Sierra Leone. In the process, the project being a new renewable energy technology application in the country was ring fenced on the following result areas:

R1. Provided solar PV installations to the target communities

R2. Built capacity on solar technology through basic training programs.

R3. Facilitated micro-finance schemes to support income generation projects and small enterprises, and supply householders with opportunities for investment in solar home lighting products.

R4. Built capacity for trained youths to establish their own business in solar technology (home lighting products)

The project was comprehensive and holistic but was unable to fully implement R3 and R4 due to budgetary constraints.

The project was able to make a considerable contribution to the overall objective/impact statement.

4.1.2. Project preparation and planning

The project was realistically and professionally planned regarding the project objectives and constitutes a successful and exemplary step in work development.

Project preparation was based on experience gained and lessons learnt, as well as relationships established with the targeted communities in similar projects. Furthermore, EFA conducted a pre-assessment study to define the required inputs and activities.

The number of staff needed to implement the project was sufficient and adequate during the planning and implementation processes.

4.1.3. Quality of selected group, actor and situational analyses

During the preparation process of the proposal, EFA had intensive consultations, workshops and meetings with the selected communities. The proposed scope of activities was identified in a participatory manner. In fact, EFA was very familiar with the situation due to previous work experience. The situational analysis corresponded with the realities on the ground.

The project partners' capacities (especially regarding financial contributions based on cost allocations) was sufficiently received by EU but insufficient contribution from the FAO side.

4.1.4. Extent self-help approaches are taken into account

The self-help approach is generally considered by EFA as a core concern of project intervention strategies. The self-determined activities by the target groups to improve their livelihoods and to induce a sustained development in the communities were part of the project implementation approach. The communities contributed space for the solar equipment and security during the implementation of

the project. They also encouraged some of their youths to be trained in solar PV installations, operations and maintenance.

The implementation approach aimed to promote a self-sustained social, technical, and economic development, led by and building on the experiences and self-help potential of the target groups.

4.1.5. Quality of the project planning

The project planning was done in a logical, tangible and well calculated manner. Almost all outputs define tangible products or services, as well as outcomes describing immediate and direct effects of outputs. Between outputs and outcomes there is a logical and plausible causal link, as well as between outcomes and impact.

The complementary strategies below were very helpful and important in contributing to the achievement of the specific objective such as:

- the integration of value chains
- the inclusive community and institutional approach focusing on vulnerable beneficiaries (women, youth, elderly, poorest), schools and health facilities
- the community demand-driven activities and initiatives
- the cash and in-kind contributions from beneficiaries for better appropriation, ownership sustainability and self-directed development
- the integration between solar energy, revenue enhancement and capacity-strengthening for domestic and productive use as a sustainable strategy

The challenge of bad road conditions in very remote areas was well managed by the project.

The exit strategy was not properly conceptualised during project planning or clearly defined in the project document. Nevertheless, sustainability is fully mainstreamed in the project design by the involvement of local authorities, an inclusive community approach, and promotion of savings to banks of revenue collected through the charging stations.

4.1.6. Analysis of the results chain

The project concept as derived from the project proposal is coherent and holistic and contributed to project effectiveness.

The coordinated link between the results corresponds to contemporary project approaches in institutional solar and solar kiosk system for rural development. Training of trainers was developed to support sustainability of the project activities, and improved solar energy practices, improved educational and health facilities in communities. The management committee set up to provide proper and direct leadership to manage the facilities and resources. Also the support of local authorities and institutions to promote the socio-economic development plays a crucial role for the overall development and improvement of livelihood in the communities.

Resulting impact hypotheses can be illustrated as follows:

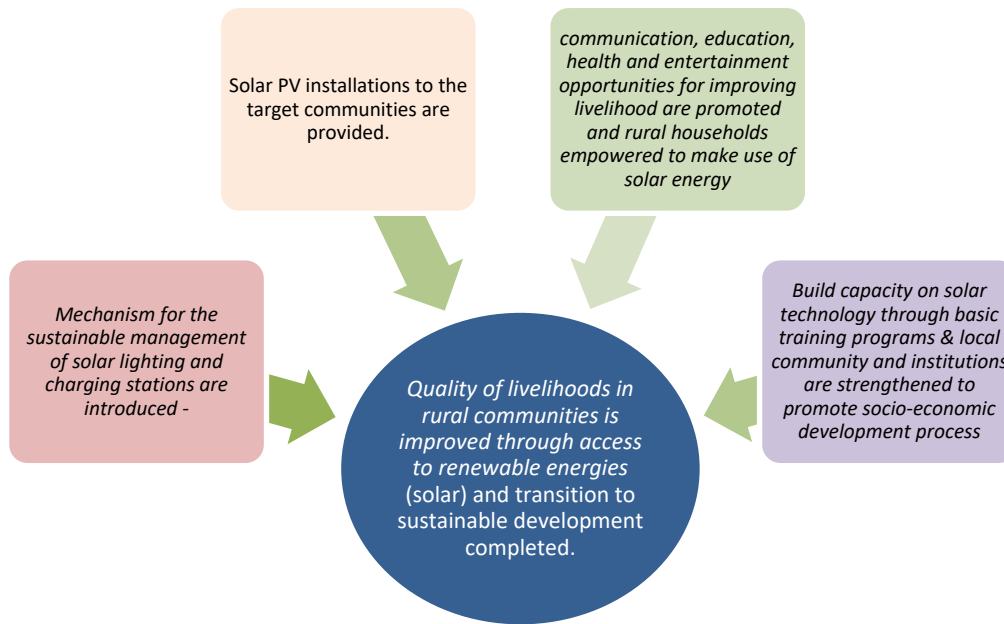


Figure I: Results chain

4.1.7. Appropriateness of staff, material and financial planning

The project was adequately staffed taking into consideration the amount of planned activities. The corresponding budget lines for project staff were not adequately funded due to FAO failing to meet its full financial obligations. Logistics, equipment and material were realistically and appropriately calculated and budgeted.

4.1.8. Organisational structure

EFA Sierra Leone is operating as the project management organisation. EFA, with a board in the UK, is guided by a constitution and is coordinated by a chairman. The organisation has a fully functional administration, head office and sub-offices in the district with equipment and some technical staff. EFA manages its own equipment. In this project, EFA could not avoid the impression that funds were not used according to accountability requirements and that the accounting performance was weak.

The project was developed and managed by EFA. The Project Management Team (PMT) comprises the EFA Director, financial accountant, field officers and logistic support staff. The project team functions on clear rules and regulations. The entire project communication and transportation is sufficiently established and project equipment is appropriate and in place, although some have worn down. The PMT planned its activities through annual and quarterly work plans.

The project holder, EFA, works well together with the EU, focusing on their own respective strengths and experiences to ensure cost effectiveness. EFA is responsible for planning, timely implementation and quality control of the project. EFA ensured the coherent implementation and is the sole contract holder and reports to the Delegation of the European Union in Sierra Leone.

4.1.9. Staff, equipment and logistics

The project started on time, but soon became delayed by almost a year, due to partnership challenges associated with FAO reneging on their initial financial pledge. Once the project got going in 2013, further delays were caused by the Ebola virus disease outbreak in the country in 2014 -2015. The project staff are committed and dedicated. The project office is adequately equipped, project infrastructure is in place and fully operational. The working atmosphere is cordial and productive. The

cooperation and collaboration among project communities and EFA is good and efficient, whereas the relationship between EFA and FAO is characterised by deep suspicion and little willingness for genuine collaboration. No doubt these can be attributed to the administrative difficulties EFA had within this project.

4.1.10. Project steering

The PMT of the REAL project is professional and utilises monitoring and evaluation results for project management, feedback and consultations.

4.1.11. Financial Administration

Of the original €531,000 of co-financing promised, the FAO had committed in writing to provide €250,000 and EFA was to mobilize €281,000. Quite early on, when FAO's leadership in Freetown changed, the FAO went back on its pledge saying it would not support the project. Subsequently there were several additional exchanges with the FAO in Freetown and in Rome, in which different amounts were pledged at different times and the FAO committed to planning and executing the project collaboratively and supplying the reports and financial statements EFA needed to report to the EU. However despite repeated efforts by EFA to plan activities jointly, to obtain such reports and to execute the project collaboratively, the FAO simply did not respond in a timely manner or in a manner that allowed a collaborative approach. The issue came to a head in June 2014 when the Chairman of EFA sent the attached letter and travelled to Freetown to meet with the FAO's top three managers. EFA's Chairman concluded that the FAO was using the REAL project as a means to generate funding for its office's activities and had no genuine intention of collaborating with EFA or contributing to the project as approved by the EU. Even after the Ebola crisis had passed, the situation did not appear to have improved. The REAL project Director presented a letter he sent earlier in June 2016 recounting the final period which outlined EFA's needs.

EFA was challenged to provide the full co-financing required by the project (€281,000). In the end, EFA provided from the UK and Ireland approximately €160,300 in cash, plus another €22,000 worth of managerial staff time to the REAL project. There are additional co-financing and in-kind contributions made by EFA. One of the primary reasons for the challenge was that the Ebola crisis trumped all other priorities for at least a year, mid-2014 to mid-2015. Donors were not interested in supporting renewable energy in the midst or aftermath of a health crisis.

Despite the shortfalls in funding, the project succeeded in achieving most of its objectives, and one could argue it achieved these in a cost-effective manner.

4.1.12. Project's Partner cooperation

Partnerships with communities and other, national in-country groups went very well. The project team is hoping that the project might develop additional partnerships with international supporters, such as the British Government's Climate & Development Knowledge Network, since this was not possible during the REAL project. However EFA fully intends to continue promoting renewable energy in Sierra Leone through its Biodiversity and Renewable Energy Learning Centre in Sussex. Future partnerships are likely to emerge from this.

This project was special in that such a large grant was made to a national, Sierra Leonean entity. Normally, most grants of this nature are made to International NGOs or institutions that work in partnership with national institutions. While this model is justified on the grounds of capacity-building and knowledge transfer, what happens in effect is that all the senior positions are held by foreigners and there is little trust shown to national entities to be able to manage such a project from technical or financial perspectives. While governance is indeed very challenging in a place like Sierra Leone, the very limited salary scale allowed for national staff almost guarantees that top-quality

nationals are not interested in the positions they could occupy within these projects. Instead such posts go to expatriates and a two-class system emerges.

EFA showed how a large-scale project like REAL could be implemented by a national organization with a high-quality national manager. The challenges that arose during project implementation were outside of the direct control of the implementing agency.

4.1.13. Quality of the project execution

The project required several smaller contracts agreed with national and local suppliers, and with national staff, which were managed by EFA's Freetown office. The unavoidable extensions required executing the project fully, and the period when EFA had to declare force majeure because of the Ebola crisis, meant that contracts frequently had to be stopped and started. This was challenging but well-managed by the Project Director. However it required a lot of administrative time and energy, and resulted in some frustration and uncertainty on the part of certain staff. The biggest single contracting challenge came when the supplier of all solar equipment, Diffuselec, a French company, unilaterally withdrew from the project in late 2013. EFA was forced to identify another supplier rapidly, choosing SpinTech (Senegal) which had been selected to do installations of the equipment. This change resulted in delays to project implementation, and the requirement to extend staff contracts without the EU being able to offer additional funding to cover this. EFA enforced its rights to retain a portion of Diffuselec's bank guarantee as a way of recouping some of the losses, although this required considerable effort by the project team to manage and complete

4.1.14. Presentation and evaluation of the project activities and outputs

The activities planned under results 1 and 2 have all been fully achieved. The majority of the overall planned outputs have been delivered to date and in a meaningful sequence. They are contributing fully to outcome achievement. In addition, activities were well conceptualised, of good quality and highly appreciated by the communities. However, results 3 and 4 could not be achieved due to inadequate funding and lack of full participation of FAO.

The project established an inclusive and complementary approach and training was judged of good quality and easily understood by the beneficiaries.

Below, the most important activities are briefly outlined:

Result One: Provided solar PV installations for lighting, water heating and charging mobile phones to 41 targeted communities in schools, health units and communities centres

Result Two: Built capacity on solar technology through basic training programs to ten (10) youth included women in each community.

Result Three: This result was not achieved due to inadequate resources needed to carry out the facilitate process of the micro-finance schemes that is to support income generation projects and small enterprises, and supply householders with opportunities for investment in solar home lighting products.

Result Four: This result was partially achieved after training and building the capacity of the youths but could not establish their own business in solar technology (home lighting products) due to lack of start-up capital.

4.1.15. Involvement of the target group

EFA is well known in most of the communities due to previous projects. The communities and their members were not difficult to mobilise, especially due to community enthusiasm for the new solar technology, which provides light to homes and community facilities. This buy-in ensured full community involvement and created considerable ownership among this target group. This was amplified by the communities' involvement in installation and other construction works. .

The project follows a specific gender strategy, where gender issues were considered at all levels. Women were targeted with special training workshops; they benefited significantly from the new solar technology.

4.1.16. Overall evaluation of the execution

EFA has managed the project well. However, field work and monitoring were challenging, due to FAO's weak partnership and inadequate contributions. . Overall, funds were disbursed in a timely fashion.

Nevertheless, the outbreak of Ebola virus disease in Sierra Leone disrupted the project completion date and caused the project to be shifted by 6 months with no cost extension to consolidate project achievements.

The cooperation and collaboration between EFA and the EU was very cordial, whilst that of FAO was inadequate and had a detrimental impact on field activities.

4.1.17. Assumptions and risks

The assumptions and risks are all external factors and turned out to be realistic.

4.2. FIELD FINDINGS

4.2.1. Status of PV Installations in 41 selected communities.

Based on the Independent Consultant's findings on the solar PV installations done in all REAL communities, the tables below show installation outcomes of all 40 out of 41 communities visited in the four (4) Districts namely, Pujehun, Kenema, Kailahun and Kono. (Table details are shown below: Number of PV Solar installed in Health Units, Schools and Community Centers and Table details are indicated below: Community Management of solar facilities, Business model, Revenue collected, Sustainability and Impact Trend).

4.2.2. Solar Management Committee

A management Committee was set in each of the REAL targeted communities. The committee is comprised of a seven man team, which constitutes the:

1. Chairman
2. Chairlady
3. Auditor
4. Financial Secretary
5. Treasurer
6. P.R.O
7. Adviser

Within the management committee, women were given an equal opportunity to be part of decision-making. In each of the communities visited, women were encouraged and enabled to hold at least one position within the management committee.

The function of the team is to manage the smooth running of the system installed in each community, and ensure proper accountability of funds collected from the systems installed.

4.2.3. The Financial Model

This financial model was developed by the communities. In this model, a charging officer, who is one of the trainees in solar installation and maintenance, is in charge of the charging station. Each charging station is controlled by a local management committee. A sum of five hundred Leones (Le500 -1000) is charged per phone re-charge. In this model a particular amount is agreed upon by the community, which the charging officer should pay at the end of every month. The weakness of this model is that the charging officer pays the same amount irrespective of how much revenue is actually collected. At the end of every collection, the money is handed to the chairman of the management committee. In some communities these monies are deposited in local banks, while others kept theirs at home.

4.2.4. Impact trend

The impact trend in this context is to assess the positive changes that this project has delivered in the lives of the communities who benefited from the REAL project.

The evaluation process was undertaken to assess whether the management committee team was set and to ensure how effective the team was in managing the systems in their various communities, and also the changes it brought to the beneficiaries. Below is the table that shows the financial model, management committee, sustainability and impact trend in each selected community.

4.2.5. Sustainability

Systems installed by this project require maintenance over an on-going period of time. Several measures have been put in place to ensure the long-term sustainability of the project:

- I. Community collaboration in running the systems
- II. A local management committee in place to oversee the smooth running of the system.
- III. Local youths trained in solar installation and maintenance. The responsibility of these youths is to rectify any minor problems that arise with the installed systems
- IV. Proper accountability of money collected from the charging stations. The money collected from charging is crucial for sustaining these facilities. The understanding is that as the project shall have phase, the community will have full ownership for maintaining and managing these community facilities. Furthermore, there is concern for communities that do not have a charging station as a component of installation, as this may undermine the longer-term sustainability of the installation if funding is not in place to replace faulty components.

4.3. PUJEHUN DISTRICT

Table 1: STATUS OF PHOTO VOLTIAIC (PV) INSTALLATIONS IN EIGHT (8) SELECTED COMMUNITIES

HW= Solar Hot Water, L=Solar Light. PDEC=Pujehun District Education Council Primary

NO	Community	Chiefdom	Youth Train in Solar installation	School	Status	Health Center		Status	Charge Center	Status	Others	status	Comments
						L	HW						
1.	Potoru	Barri	Yes (10 person)	(PDEC) Primary	Functional	Yes	Yes	Functional	Yes	Functional			
2.	Vaama	Barri	Yes (10 person)	RC Primary School	Not Functional, due to the theft of the solar PV.	Yes	Yes	Water heater installation not completed, due to the absence of water tank.	Yes	Functional			The people in this community have decided to contribute the sum of 600,000 to EFA within the month of June-July 2016 for the reinstallation of the system in the school.
3.	Kambama	Barri	Yes (10 person)	-	-	-	-	-	Yes	Functional			The charging facility is timely and appreciated by the community.
4.	Jene	Barri	Yes (10 Person)	-	-	-	-	-	Yes	Functional			
5.	Nainiahun	Barri	Yes (10 person)						Yes	Functional	Guest House	Functional	The installation is highly appreciated. Before this time they go to the neighboring community to charge their phones.
6.	Boama	Barri	Yes (10 person)	-	-	-	-	-	Yes	Functional			
7.	Sahun	Barri	Yes (8 person)	-	-	-	-	-	Yes	Functional	-	-	
8.	Tiwai Island	Barri		-	-	-	-	-	-	-	Visiting Center	Not Functional	Installation done was destroyed due to heavy storm.

School. RC=Roman Catholic Primary School.

Table 2: PUJEHUN DISTRICT: MANAGEMENT COMMITTEE, FINANCIAL MODEL, SUSTAINABILITY AND IMPACT TREND IN EIGHT (8) SELECTED COMMUNITIES

No	community	Chiefdom	POP	Facility	Management Committee.	Financial Model	Comment	Sustainability	Comment	Impact Trend
1	Jene	Barri	250	1.CC	Management Committee is set, and is functioning .	The community demands the charging officer to pay Sixty thousand Leones at the end of every month. Money collected is saved by the chief who is the highest authority on the land. Le500 rate per charging phone. Collected Le140,000	Having properly check money collected from charging on daily bases, it Cleary shows that more money is collected than the one given to the community, by the charging officer. For proper system, more money should be given to the community rather than the charging officer.	Sustainability of the facility installed in this community is guarantee.	Sustainability is sure due to: 1. The management committee structure already established in the community. 2. Training of youths in solar installation and maintenance . 3. Proceeds collected from the charging station should help in buying solar equipment when damaged within a given period of time. 4. The community guarantee in providing security for the facility installed in their communities.	The installation (charging station) has given an opportunity to the people in this community to charge their mobile phone, DVD Laptops, radios etc .at a cheaper cost. The installation also provides lightening which gives the opportunity for school going children to study at night, also community elders to hold meetings relating to community matters at night.
2	Naianahun	Barri	665	1.guest house 2. CC		Le500 rate per charge. Le400,000 savings but not Bank.	Having properly check money collected from charging on daily bases, it Cleary shows that more money is collected than the one given to the community, by the charging officer. For proper	Sustainability of the facility installed in this community is guarantee.	Sustainability is sure due to: 1. The management committee structure already established in the community. 2. Training of youths in solar installation and maintenance . 3. Proceeds collected	The installation (charging station) has given an opportunity to the people in this community to charge their mobile phone, DVD Laptops, radios etc .at a cheaper cost. The installation also provides lightening

							system, more money should be given to the community rather than the charging officer.		from the charging station should help in buying solar equipment when damaged within a given period of time. 4. The community guarantee in providing security for the facility installed in their communities.	which gives the opportunity for school going children to study at night, also community elders to hold meetings relating to community matters at night.
3	Kambama	Barri	450	1.CC	Management Committee is set, and is functioning	Le30,000 savings. Le500 rate per charging mobile phone. Proper recording of sales.	Having properly check money collected from charging on daily bases, it clearly shows that more money is collected than the one given to the community, by the charging officer. For proper system, more money should be given to the community rather than the charging officer.	Sustainability of the facility installed in this community is guaranteed.	Sustainability is sure due to: 1. The management committee structure already established in the community. 2. Training of youths in solar installation and maintenance. 3. Proceeds collected from the charging station should help in buying solar equipment when damaged within a given period of time. 4. The community guarantee in providing security for the facility installed in their communities.	The installation (charging station) has given an opportunity to the people in this community to charge their mobile phone, DVD Laptops, radios etc .at a cheaper cost. The installation also provides lightning which gives the opportunity for school going children to study at night, also community elders to hold meetings relating to community matters at night.
4	Potoru	Barri	6,850	1.CC 2.LH 3. LS	A seven man committee was set,	Le500 rate per mobile phone charging. Revenue	Having properly check money	Sustainability of the facility installed in	Sustainability is sure due to: 1. The management	The installation (charging station) has

					and is functioning	collected is shared 50/50 between operator and mgt. committee.	collected from charging on daily bases, it Cleary shows that more money is collected than the one given to the community, by the charging officer. For proper system, more money should be given to the community rather than the charging officer.	this community is guarantee.	t committee structure already established in the community. 2. Training of youths in solar installation and maintenance . 3. Proceeds collected from the charging station should help in buying solar equipment when damaged within a given period of time. 4. The community guarantee in providing security for the facility installed in their communities.	given an opportunity to the people in this community to charge their mobile phone, DVD Laptops, radios etc .at a cheaper cost. The installation also provides lightening which gives the opportunity for school going children to study at night, also community elders to hold meetings relating to community matters at night.
5	Saahun	Barri	550	1. CC	A seven man committee was set, and is functioning	Le500 per charge. Le500,000 savings but not bank. 30% to operator and 70% to mgt. committee	Having properly check money collected from charging on daily bases, it Cleary shows that more money is collected than the one given to the community, by the charging officer. For proper system, more money should be given to the community rather than the charging officer.	Sustainability of the facility installed in this community is guarantee.	Sustainability is sure due to: 1. The management committee structure already established in the community. 2. Training of youths in solar installation and maintenance . 3. Proceeds collected from the charging station should help in buying solar equipment when damaged within a given period	The installation (charging station) has given an opportunity to the people in this community to charge their mobile phone, DVD Laptops, radios etc .at a cheaper cost. The installation also provides lightening which gives the opportunity for school going children to study at night, also community elders to hold meetings relating to

									of time. 4. The community guarantee in providing security for the facility installed in their communities.	community matters at night.
6	Vaama	Barri	1,010	1.CC 2.LH 3. LS (RC Primary School).	A seven man committee was set, and is functioning .	Le500 rate per mobile phone charging. Weekly returns of six days revenue collected. And one day for operator.	Having properly check money collected from charging on daily bases, it Cleary shows that more money is collected than the one given to the community, by the charging officer. For proper system, more money should be given to the community rather than the charging officer.	Sustainability of the facility installed in this community is guarantee.	Sustainability is sure due to: 1. The management committee structure already established in the community. 2. Training of youths in solar installation and maintenance . 3. Proceeds collected from the charging station should help in buying solar equipment when damaged within a given period of time. 4. The community guarantee in providing security for the facility installed in their communities.	The installation (charging station) has given an opportunity to the people in this community to charge their mobile phone, DVD Laptops, radios etc .at a cheaper cost. The installation also provides lightening which gives the opportunity for school children to study at night, also community elders to hold meetings relating to community matters at night.
7	TWAI(Visiting Center)	Barri-Koya		lighting				Sustainability of the facility installed in this community is grantee.		
8	Boma	Barri	500	1.CC	A seven man committee was set, and is functioning .	Le500 per charging. Le150,000 savings. 20% to operator and 80% to mgt. committee	Having properly check money collected from charging on daily bases,	Sustainability of the facility installed in this community is guarantee.	Sustainability is sure due to: 1. The management committee structure already established	The installation (charging station) has given an opportunity to the people in this

								it Cleary shows that more money is collected than the one given to the community, by the charging officer. For proper system, more money should be given to the community rather than the charging officer.		in the community. 2. Training of youths in solar installation and maintenance . 3. Proceeds collected from the charging station should help in buying solar equipment when damaged within a given period of time. 4. The community guarantee in providing security for the facility installed in their communities.	community to charge their mobile phone, DVD Laptops, radios etc .at a cheaper cost. The installation also provides lightening which gives the opportunity for school going children to study at night, also community elders to hold meetings relating to community matters at night.
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4.4. KENEMA DISTRICT

Table 3: STATUS OF PHOTO VOLTIAIC (PV) INSTALLATIONS IN FOURTEEN (14) SSELECTED COMMUNITIES

NO	Communi ty	Chiefdo m	Youth Train in Solar installati on	Schoo l	Status	Health Center		Status	Charg e Cente r	Status	Others	status	Comments
						Ye s	Ye s						
1.	Blama	Small-Bo	Yes (10 person)	St.JA SS	Function al	Ye s	Ye s	1.Function al 2.Not Functional	-	-	-	-	The hot water system at the health center is assemble but not connected to water supply source, which makes it non functional.
2.	Gbado	Kandule kpiama	Yes (10 person)	-	-	Ye s	Ye s	1.Function al 2.Not Functional	Yes	Function al	-	-	The hot water system is assemble, but not connected to a supply source.

															There is no storage tank at the health center.
3.	Dodo	Dodo	Yes (10 person)	-	-	Yes	Yes	1.Functional 2.Functional	Yes	Functional	-	-			In this community all the systems are working effectively.
4.	Panguma	Lower Bambarra	Yes (10Person)	-	-	-	-	-	Yes	Functional	-	-			
5.	Massao	Malegohun	Yes (10 person)	-	-	-	-	-	Yes	Functional	-	-			
6.	Joru	Guare	Yes (10 person)	-	-	Yes	Yes	1.Functional 2.Not Functional	Yes	Functional	-	-			The hot water system is assemble, but not connected to a supply source. There is no storage tank at the health center.
7.	Golahun Vaama	Niawa	Yes (10person)	-	-	-	-	-	Yes	Functional	-	-			
8.	Yabiama	Languarma	Yes(10person)	LJSS	Functional	-	-	-	Yes	Not Functional					Since installation the system is not working, problem with the charge controller.
9.	Segbewema	Koya	Yes(10person)	-	-	-	-	-	Yes	Functional					
10.	Baoma	Koya	Yes(10person)	-	-	Yes	Yes	1.Functional 2.Functional	Yes	Functional					In Baoma the solar water heater is assemble and connected to a water supply source, and is working effectively.
11.	Giema	Koya	Yes(10person)	-	-	-	-	-	Yes	Functional	-	-			
12.	Mapoma	Koya	Yes(10person)	-	-	-	-	-	Yes	Functional					
13.	Nyandehun	Koya	Yes(10person)	-	-	Yes	Yes	1.Functional 2.Not Functional	Yes	Functional					The solar hot water assembles but not connected to a supply source. No water tank.
14.	Gegbwema	Tonkia	Yes(10person)	-	-	Yes	Yes	1.Functional 2.Functional	Yes	Functional	-	-			All the systems are working. The platform of the hot water system needs

to be properly constructed for perfect work.

HW= Solar Hot Water, L=Solar Light, JASS= St. Joseph Agriculture Secondary School, LJSS=Langrama Junior Secondary School,

Table 4: KENEMA DISTRICT: MANAGEMENT COMMITTEE, FINANCIAL MODEL, SUSTAINABILITY AND IMPACT TREND IN FOURTEEN (14) SELECTED COMMUNITIES

No	community	Chiefdom	POP	Facility	Management Committee	Financial Model	Comment	Sustainability	Comment	Impact Trend
1	Golahun Vaama	Niawa	850	1.CC	Management Committee is set, and is functioning .	Le1000 Rate per charging. Le500,000.00 savings. 40 % to operator and 60 % to Mgt. committee. Revenue collected not bank.	Having properly check money collected from charging on daily bases, it Cleary shows that more money is collected than the one given to the community, by the charging officer. For proper system, more money should be given to the community rather than the charging officer.	Sustainability of the facility installed in this community is guarantee.	Sustainability is sure due to: 1. The management committee structure already established in the community. 2. Training of youths in solar installation and maintenance . 3. Proceeds collected from the charging station should help in buying solar equipment when damaged within a given period of time. 4. The community guarantee in providing security for the facility installed in their communities.	The installation (charging station) has given an opportunity to the people in this community to charge their mobile phone, DVD Laptops, radios etc .at a cheaper cost. The installation also provides lightening which gives the opportunity for school going children to study at night, also community elders to hold meetings relating to community matters at night.
2	Blama	Small-Bo	13,655	1. LS(St. Joseph Agric. Sec. School) 2. LH with Water	Management Committee is set, and is functioning .	School funds		Sustainability of the facility installed in this community is guarantee.	Sustainability is sure due to: 1. The management committee structure already established	The installation also provides lightening which gives the opportunity

				Heater not installed					in the community. 2. Training of youths in solar installation and maintenance . 4. The community guarantee in providing security for the facility installed in their communities.	for school going children to study at night, also community elders to hold meetings relating to community matters at night.
3	Gbado	Kandu Lekpima	3,985	1.CC 2. LH Water heater installation in progress. No water tank and foundation	Management Committee is set, and is functioning .	Le1000 rate per charging. Le500,000. 30 % to operator and 70%	Having properly check money collected from charging on daily bases, it Cleary shows that more money is collected than the one given to the community, by the charging officer. For proper system, more money should be given to the community rather than the charging officer.	Sustainability of the facility installed in this community is guarantee.	Sustainability is sure due to: 1. The management committee structure already established in the community. 2. Training of youths in solar installation and maintenance . 3. Proceeds collected from the charging station should help in buying solar equipment when damaged within a given period of time. 4. The community guarantee in providing security for the facility installed in their communities.	The installation (charging station) has given an opportunity to the people in this community to charge their mobile phone, DVD Laptops, radios etc .at a cheaper cost. The installation also provides lightening which gives the opportunity for school going children to study at night, also community elders to hold meetings relating to community matters at night.
4	Dodo	Dodo	2,500	1.CC 2. LH. Water Heater functioning well	A seven man committee is not instituted.	Not charging taking place				
5	Yabiana	Langta	550	1. CC,	A seven	No charging				The

		ma		faulty charging unit 2.light in school, and is functional	man committee was set, and is functioning .	taking place, no money collected				installation provides lightening in school which gives the opportunity for school going children to study at night, also allow the teachers to prepare their lesson notes. The lightening facility has improves the outcomes of examination result of pupils in that community.
6	Panguma	Lower Bambara	7,250	1.CC	A seven man committee was set, and is not functioning .	No charging taking place, no money collected				
7	Nyandahun	Koya	550	1.CC 2. LH Water Heater in position but not Installed. Need water tank	A seven man committee was set, but weak functioning .	Le500 – 1,000 rate per charging. Le360,000 savings. 25% to operator and 75% to mgt. committee	Having properly check money collected from charging on daily bases, it Cleary shows that more money is collected than the one given to the community, by the charging officer. For proper system, more money should be given to the community rather than the charging officer.	Sustainability of the facility installed in this community is guarantee.	Sustainability is sure due to: 1. The management committee structure already established in the community. 2. Training of youths in solar installation and maintenance . 3. Proceeds collected from the charging station should help in buying solar equipment when damaged within a given period of time. 4. The community	The installation (charging station) has given an opportunity to the people in this community to charge their mobile phone, DVD Laptops, radios etc .at a cheaper cost. The installation also provides lightening which gives the opportunity for school going children to study at night, also community elders to

									guarantee in providing security for the facility installed in their communities.	hold meetings relating to community matters at night.
8	Baoma	Koya	3,400	1. CC 2. LH Water Heater in position, Installed and operational. Need foundation base.	A seven man committee was set and function efficiently.	Le500 – 1,000 rate per charging. Le195,000 savings. 25% to operator and 75% to mgt. committee	Having properly check money collected from charging on daily bases, it Cleary shows that more money is collected than the one given to the community, by the charging officer. For proper system, more money should be given to the community rather than the charging officer.	Sustainability of the facility installed in this community is guarantee.	Sustainability is sure due to: 1. The management committee structure already established in the community. 2. Training of youths in solar installation and maintenance. 3. Proceeds collected from the charging station should help in buying solar equipment when damaged within a given period of time. 4. The community guarantee in providing security for the facility installed in their communities.	The installation (charging station) has given an opportunity to the people in this community to charge their mobile phone, DVD Laptops, radios etc .at a cheaper cost. The installation also provides lightening which gives the opportunity for school going children to study at night, also community elders to hold meetings relating to community matters at night.
9	Mapoma	Koya	450	1. CC 2. Guest House	A seven man committee was set and function efficiently	Le500 rate per charging. Le150,000 savings. Guest House collected Le250,000.00 25% to operator and 75% to mgt. committee	Having properly check money collected from charging on daily bases, it Cleary shows that more money is collected than the one given to the community	Sustainability of the facility installed in this community is guarantee.	Sustainability is sure due to: 1. The management committee structure already established in the community. 2. Training of youths in solar installation and maintenance. 3. Proceeds	The installation (charging station) has given an opportunity to the people in this community to charge their mobile phone, DVD Laptops, radios etc .at a cheaper

							y, by the charging officer. For proper system, more money should be given to the community rather than the charging officer.		collected from the charging station should help in buying solar equipment when damaged within a given period of time. 4. The community guarantee in providing security for the facility installed in their communities.	cost. The installation also provides lightening which gives the opportunity for school going children to study at night, also community elders to hold meetings relating to community matters at night.
10	Giema	Koya	135	1. CC	A seven man committee was set and function efficiently	Le500 rate per charging. Le200,000 savings. 25% to operator and 75% to mgt. committee	Having properly check money collected from charging on daily bases, it clearly shows that more money is collected than the one given to the community, by the charging officer. For proper system, more money should be given to the community rather than the charging officer.	Sustainability of the facility installed in this community is guarantee.	Sustainability is sure due to: 1. The management committee structure already established in the community. 2. Training of youths in solar installation and maintenance. 3. Proceeds collected from the charging station should help in buying solar equipment when damaged within a given period of time. 4. The community guarantee in providing security for the facility installed in their communities.	The installation (charging station) has given an opportunity to the people in this community to charge their mobile phone, DVD Laptops, radios etc. at a cheaper cost. The installation also provides lightening which gives the opportunity for school going children to study at night, also community elders to hold meetings relating to community matters at night.
11	Joru	Guara	5,900	1. CC 2. LH Water	A seven man committee	Le500 – 1,000 rate per charging.	Having properly check	Sustainability of the facility installed in this	Sustainability is sure due to: 1. The	The installation (charging

				Heater in position, Installed and operational. Need foundation base.	was set and function efficiently	Le300,000 savings. 25% to operator and 75% to mgt. committee	money collected from charging on daily bases, it Cleary shows that more money is collected than the one given to the community, by the charging officer. For proper system, more money should be given to the community rather than the charging officer.	community is guarantee.	managemen t committee structure already established in the community. 2. Training of youths in solar installation and maintenance . 3. Proceeds collected from the charging station should help in buying solar equipment when damaged within a given period of time. 4. The community guarantee in providing security for the facility installed in their communitie s.	station) has given an opportunity to the people in this community to charge their mobile phone, DVD Laptops, radios etc .at a cheaper cost. The installation also provides lightening which gives the opportunity for school going children to study at night, also community elders to hold meetings relating to community matters at night.
12	Gegbwema	Tunkia	2,500	1.CC 2. LH Water Heater in position, Installed and operational. Need foundation base.	A seven man committee was set and function efficiently	Le500 rate per charging. No savings.	Having properly check money collected from charging on daily bases, it Cleary shows that more money is collected than the one given to the community, by the charging officer. For proper system, more money should be given to the communit	Sustainability of the facility installed in this community is guarantee.	Sustainabilit y is sure due to: 1. The managemen t committee structure already established in the community. 2. Training of youths in solar installation and maintenance . 3. Proceeds collected from the charging station should help in buying solar equipment when damaged within a	The installation (charging station) has given an opportunity to the people in this community to charge their mobile phone, DVD Laptops, radios etc .at a cheaper cost. The installation also provides lightening which gives the opportunity for school going children to

							y rather than the charging officer.		given period of time. 4. The community guarantee in providing security for the facility installed in their communities.	study at night, also community elders to hold meetings relating to community matters at night.
13	Massao	Malegohun	468	1.CC	A seven man committee was set but not function efficiently	Le1000 rate per charging. Le1,200,000.00 savings	Having properly check money collected from charging on daily bases, it Cleary shows that more money is collected than the one given to the community, by the charging officer. For proper system, more money should be given to the community rather than the charging officer.	Sustainability of the facility installed in this community is guarantee.	Sustainability is sure due to: 1. The management committee structure already established in the community. 2. Training of youths in solar installation and maintenance. 3. Proceeds collected from the charging station should help in buying solar equipment when damaged within a given period of time. 4. The community guarantee in providing security for the facility installed in their communities.	The installation (charging station) has given an opportunity to the people in this community to charge their mobile phone, DVD Laptops, radios etc. at a cheaper cost. The installation also provides lightening which gives the opportunity for school going children to study at night, also community elders to hold meetings relating to community matters at night.
14	Segbewema	Koya	465	1.CC	A seven man committee was set and function efficiently	Le500 rate per charging. Le500,000 savings	Having properly check money collected from charging on daily bases, it Cleary shows that more money is collected	Sustainability of the facility installed in this community is guarantee.	Sustainability is sure due to: 1. The management committee structure already established in the community. 2. Training of youths in solar installation	The installation (charging station) has given an opportunity to the people in this community to charge their mobile phone, DVD

														assemble, but not connected to a supply tank.
3.	Malema	Yawei	Yes(10p erson)	Yes(MPS)	Function al	Ye s	Ye s	1.Function al 2.Not Functional	-	-	-	-	-	Solar water heater assembles but not connected to a tank. No storage facility.
4.	Benduma	Jawei	Yes(10p erson)	-	-	-	-	-	Yes	Function al	-	-	-	
5.	Baiima	Mandu	Yes(10p erson)	-	-	Ye s	Ye s	1.Function al 2.Not Functional	Yes	Function al				Solar water heater assembles but not connected to a tank. There is a tank.
6.	Sakeyema	Dia	Yes(10p erson)	Yes(R C)	Function al	-	-	-	-	-	-	-	-	
7.	Jojoma	Malema	Yes(10p erson)	Yes(P IPS)	Function al	-	-	-	Yes	Function al	-	-	-	
8.	Siama	Upper Bambara	Yes(10p erson)	Yes(MPS)	Function al	Ye s	Ye s	1.Function al 2.Not Functional	Yes	Function al	-	-	-	Solar water heater assembles but not connected to a tank. No storage facility.
9.	Beudu	Kissi Tongi	Yes(10p erson)	Yes(K LDCS)	Function al	-	-	-	Yes	Function al				
10.	Koindu	Kissi Teng	Yes(10p erson)	-	-	-	-	-	No	Not Function al				The facility area was wired by the project, later after all the wires were stolen, which at that time could not qualify them for solar PV installation. However, the community has made commitment in providing the wires.
11.	Kailahun	Luawa	Yes(10p erson)	-	-	-	-	-	-	-	Radio station(Radio Moya)	Function al		

HW= Solar Hot Water, L=Solar Light, KLDCS= Kailahun District Community Primary School, PIPS= Provincial Islamic Primary School, MPS= Methodist Primary School, RC= Roman Catholic Primary School,

Table 6: KAILAHUN DISTRICT: MANAGEMENT COMMITTEE, FINANCIAL MODEL, SUSTAINABILITY AND IMPACT TREND IN ELEVEN (11) SELECTED COMMUNITIES

No	community	Chief dom	POP	Facility	Management Committee.	Financial Model	Comment	Sustainability	Comment	Impact Trend
1	Benduma	Jawei	2,600	1.CC	Management Committee is set, but weak functioning.	Le1000 rate per charging. Le1,500,000.00 savings. The community demands the charging officer to pay Sixty thousand Leones at the end of every month. Money collected is saved by the chief who is the highest authority on the land.	Having properly check money collected from charging on daily bases, it Cleary shows that more money is collected than the one given to the community, by the charging officer. For proper system, more money should be given to the community rather than the charging officer.	Sustainability of the facility installed in this community is guarantee.	Sustainability is sure due to: 1. The management committee structure already established in the community. 2. Training of youths in solar installation and maintenance . 3. Proceeds collected from the charging station should help in buying solar equipment when damaged within a given period of time. 4. The community guarantee in providing security for the facility installed in their communities.	The installation (charging station) has given an opportunity to the people in this community to charge their mobile phone, DVD Laptops, radios etc .at a cheaper cost. The installation also provides lightening which gives the opportunity for school going children to study at night, also community elders to hold meetings relating to community matters at night.
2	Baiima	Mandu	2,400	1.CC 2.LH, Water Heater not connected but equipment in position.	Management Committee is set, and is functioning.	Le1000 rate per charging. Le800,000 savings.	Having properly check money collected from charging on daily bases, it Cleary shows that more money is collected than the one given to the community, by the charging officer. For proper	Sustainability of the facility installed in this community is guarantee.	Sustainability is sure due to: 1. The management committee structure already established in the community. 2. Training of youths in solar installation and maintenance . 3. Proceeds collected from the	The installation (charging station) has given an opportunity to the people in this community to charge their mobile phone, DVD Laptops, radios etc .at a cheaper cost. The installation also provides lightening which gives the opportunity for school going children to study at night, also community elders

							system, more money should be given to the community rather than the charging officer.		charging station should help in buying solar equipment when damaged within a given period of time. 4. The community guarantee in providing security for the facility installed in their communities.	to hold meetings relating to community matters at night.
3	Sakieyema	Dia	1,700	1.LS, R C Primary school	Management Committee is not yet set.	School funds		Sustainability of the facility installed in this community is guarantee.	Sustainability is sure due to: 1. The management committee structure already established in the community. 2. Training of youths in solar installation and maintenance. 4. The community guarantee in providing security for the facility installed in their communities.	. The installation also provides lightening which gives the opportunity for school going children to study at night, also community elders to hold meetings relating to community matters at night.
4	Jojoima	Malema	7,500	1.CC 2. LS (Provincial Islamic Primary School).	Management Committee is set, but not functioning well	Le500 rate per charging. Le440,000 savings.	Having properly check money collected from charging on daily bases, it Cleary shows that more money is collected than the one given to the community, by the charging officer. For	Sustainability of the facility installed in this community is guarantee.	Sustainability is sure due to: 1. The management committee structure already established in the community. 2. Training of youths in solar installation and maintenance. 3. Proceeds collected	The installation (charging station) has given an opportunity to the people in this community to charge their mobile phone, DVD Laptops, radios etc .at a cheaper cost. The installation also provides lightening which gives the opportunity for school going children to study at night, also

							proper system, more money should be given to the community rather than the charging officer.		from the charging station should help in buying solar equipment when damaged within a given period of time. 4. The community guarantee in providing security for the facility installed in their communities.	community elders to hold meetings relating to community matters at night.
5	Siama	Upper Bambara	1,200	1.CC 2.LH, water heater not installed 3. LS (Methodist Primary School).	Management Committee is set, and irregularities amended.	No charging taking place				
6	Kailahun	Luawa	12,500	1.PV lighting system in Radio MOA				Sustainability of the facility installed in this community is guarantee.		
7	Buedu	Kissi Togi	11,500	1.CC 2.LH, water heater not installed 3. LS (KL-DEC Primary School).	Management Committee is set, but not functioning well	No charging taking place				
8	**Koindu Town	Kissi Teng	9,500	1. CC to be installed	Management Committee is to be set-up. Authorities promised to install and secure asset.					
9	Bunumbu	Pejeh	2,70	1.The	Management	Le500 rate per	Having	Sustainability	Sustainability	The installation

		west	0	re are two CCs 2. LS (Methodist Primary School).	Committee is set and functioning well	charging. Le150,000 savings.	properly check money collected from charging on daily bases, it Cleary shows that more money is collected than the one given to the community, by the charging officer. For proper system, more money should be given to the community rather than the charging officer.	y of the facility installed in this community is guarantee.	y is sure due to: 1. The management committee structure already established in the community. 2. Training of youths in solar installation and maintenance . 3. Proceeds collected from the charging station should help in buying solar equipment when damaged within a given period of time. 4. The community guarantee in providing security for the facility installed in their communities.	(charging station) has given an opportunity to the people in this community to charge their mobile phone, DVD Laptops, radios etc .at a cheaper cost. The installation also provides lightening which gives the opportunity for school going children to study at night, also community elders to hold meetings relating to community matters at night.
10	Bendu	Yawei	4,500	1.CC 2.LH, water heater not installed 3. LS	Management Committee is set and functioning well	Le500 rate per charging. Le500,000 savings. 50%/50% share.	Having properly check money collected from charging on daily bases, it Cleary shows that more money is collected than the one given to the community, by the charging officer. For proper system, more money should be given to the community rather than	Sustainability of the facility installed in this community is guarantee.	Sustainability is sure due to: 1. The management committee structure already established in the community. 2. Training of youths in solar installation and maintenance . 3. Proceeds collected from the charging station should help in buying solar equipment when	The installation (charging station) has given an opportunity to the people in this community to charge their mobile phone, DVD Laptops, radios etc .at a cheaper cost. The installation also provides lightening which gives the opportunity for school going children to study at night, also community elders to hold meetings relating to community matters at night.

								the charging officer.		damaged within a given period of time. 4. The community guarantee in providing security for the facility installed in their communities.
11	Malema	Yawei	4,400	1.LH, water heater not installed 2. LS, Methodist primary school					Sustainability of the facility installed in this community is guarantee.	Sustainability is sure due to: 1. The management committee structure already established in the community. 2. Training of youths in solar installation and maintenance. 3. Proceeds collected from the charging station should help in buying solar equipment when damaged within a given period of time. 4. The community guarantee in providing security for the facility installed in their communities.

4.6. KONO DISTRICT

Table 7: STATUS OF PHOTO VOLTIAIC (PV) INSTALLATIONS IN NINE (9) SELECTED COMMUNITIES

NO	Community	Chiefdom	Youth Train in Solar installation	School	Status	Health Center		Status	Charge Center	Status	Others	status	Comments
						L	HW						
1.	Jaiama	Nimikoro	Yes (10 person)	Yes(JSS)	Functional	-	-	-	Yes	Functional	-	-	The systems installed are functioning very well. Even though the charging station system is working, but it is not functioning for the purpose for which it was installed. Since installation no money has been collected from the charging station.
2.	Njala	Nimikoro	Yes(5 person)	-	-	Yes	Yes	1.Functional 2.Functional	-	-	-	-	A solar hot water system assembles and connected to water supply tank, and is working.
3.	Yengema	Nimikoro	Yes(10 person)	Yes (YSS)	Functional	Yes	Yes	1.Functional 2.Functional	Yes	Functional	-	-	
4.	Yormadu	Sandor	Yes 10 person	Yes (YHS)	Functional	-	-	-	Yes	Functional	-	-	
5.	Kaiyema	Sandor	Yes 10 person	-	-	-	-	-	Yes	Functional	-	-	
6.	Tombodu	Kamara	Yes 10 person	Yes ANJS	Functional	-	-	-	Yes	Functional	-	-	
7.	Manjama	Sao	Yes 10 person	-	-	Yes	Yes	1.Functional 2.Functional	Yes	Functional	-	-	
8.	Ngandorhun	Gbane	Yes 10 person	Yes UMC	Functional	-	-	-	Yes	Functional	-	-	
9.	Koardu	Gbane	Yes 10 person	-	-	-	-	-	Yes	Functional	-	-	

HW= Solar Hot Water, L=Solar Light, YSS= Yengema Secondary School,JSS= Jaiama Secondary School, YHSS= Yormadu High Secondary School,

ANJSS= Ahmadiyya Nusran Jahan Secondary School, UMC= united Methodist Church Primary School.

Table 8: KONO DISTRICT: MANAGEMENT COMMITTEE, FINANCIAL MODEL, SUSTAINABILITY AND IMPACT TREND IN NINE (9) SELECTED COMMUNITIES

No	Community	Chiefdom	POP	Facility	Management Committee.	Financial Model	Comment	Sustainability	Comment	Impact Trend
1	Ngandorhun	Gbane	2,500	1.CC 2.LS, UMC primary school	Management Committee is set, and is functioning.	Le500 – 1000 rate per charging. Le800,000.00 savings. 20% to operator and 80% to mgt. committee. Money collected is saved by the chief who is the highest authority on the land.	Having properly check money collected from charging on daily bases, it clearly shows that more money is collected than the one given to the community, by the charging officer. For proper system, more money should be given to the community rather than the charging officer.	Sustainability of the facility installed in this community is guarantee.	Sustainability is sure due to: 1. The management committee structure already established in the community. 2. Training of youths in solar installation and maintenance. 3. Proceeds collected from the charging station should help in buying solar equipment when damaged within a given period of time. 4. The community guarantee in providing security for the facility installed in their communities.	The installation (charging station) has given an opportunity to the people in this community to charge their mobile phone, DVD Laptop s, radios etc .at a cheaper cost. The installation also provides lightning which gives the opportunity for school going children to study at night, also community elders to hold

										meetings relating to community matters at night.
2	Manjama	Sao	1,800	1.CC 2.LH, No water Heater on site	Management Committee is set but weak.	Le1000 rate per charging. Le310,000 savings in Bank. Debt of Le800,000 not yet paid used to buy chargers and cables.	Having properly check money collected from charging on daily bases, it Cleary shows that more money is collected than the one given to the community, by the charging officer. For proper system, more money should be given to the community rather than the charging officer.	Sustainability of the facility installed in this community is guarantee.	Sustainability is sure due to: 1. The management committee structure already established in the community. 2. Training of youths in solar installation and maintenance. 3. Proceeds collected from the charging station should help in buying solar equipment when damaged within a given period of time. 4. The community guarantee in providing security for the facility installed in their communities.	The installation (charging station) has given an opportunity to the people in this community to charge their mobile phone, DVD Laptop s, radios etc .at a cheaper cost. The installation also provides lightening which gives the opportunity for school going children to study at night, also community elders to hold meetings relating to community

										matters at night.
3	Koardu	Gbane	1,500	1.CC	Management Committee is set and conflict resolved.	Le1000 rate per charging. Le750,000 savings in Bank.	Having properly check money collected from charging on daily bases, it Cleary shows that more money is collected than the one given to the community, by the charging officer. For proper system, more money should be given to the community rather than the charging officer.	Sustainability of the facility installed in this community is guarantee.	Sustainability is sure due to: 1. The management committee structure already established in the community. 2. Training of youths in solar installation and maintenance. 3. Proceeds collected from the charging station should help in buying solar equipment when damaged within a given period of time. 4. The community guarantee in providing security for the facility installed in their communities.	The installation (charging station) has given an opportunity to the people in this community to charge their mobile phone, DVD Laptop s, radios etc .at a cheaper cost. The installation also provides lightening which gives the opportunity for school going children to study at night, also community elders to hold meetings relating to community matters at night.
4	Yengema	Nimikoro	8,700	1.CC 2.LH,water heater	A seven man committee was set, and	Le500 rate per charging. Le600,000	Having properly check	Sustainability of the facility installed in	Sustainability is sure due to: 1. The	The installation

				working well 3. LS (Yengema sec. School).	is functioning.	savings in Bank. 20% to operator and 80% to mgt. committee.	money collected from charging on daily bases, it Cleary shows that more money is collected than the one given to the community, by the charging officer. For proper system, more money should be given to the community rather than the charging officer.	this community is guarantee.	management committee structure already established in the community. 2. Training of youths in solar installation and maintenance. 3. Proceeds collected from the charging station should help in buying solar equipment when damaged within a given period of time. 4. The community guarantee in providing security for the facility installed in their communities.	(charging station) has given an opportunity to the people in this community to charge their mobile phone, DVD Laptop s, radios etc .at a cheaper cost. The installation also provides lightning which gives the opportunity for school going children to study at night, also community elders to hold meetings relating to community matters at night.
5	Jaiama	Nimikoro	4,700	1.CC 2. LS (Jaiama Nimikoro sec. School).	A seven man committee was set but not functioning.	No charging taking place. System is not being used over one year.				
6	Njala	Nimikoro	850	1.LH,water heater not on site, no						

				water Tank						
7	Yormadu	Sandor	3,500	1. CC is faulty 2. LS (Yormadu High School).	A seven man committee was set, and is functioning.	No charging due to system fault	Having properly check money collected from charging on daily bases, it Cleary shows that more money is collected than the one given to the community, by the charging officer. For proper system, more money should be given to the community rather than the charging officer.	Sustainability of the facility installed in this community is guarantee.	Sustainability is sure due to: 1. The management committee structure already established in the community. 2. Training of youths in solar installation and maintenance. 3. Proceeds collected from the charging station should help in buying solar equipment when damaged within a given period of time. 4. The community guarantee in providing security for the facility installed in their communities.	The installation (charging station) has given an opportunity to the people in this community to charge their mobile phone, DVD Laptop s, radios etc .at a cheaper cost. The installation also provides lightening which gives the opportunity for school going children to study at night, also community elders to hold meetings relating to community matters at night.
8	Kaiyema	Sandor	3,600	1. CC	A seven man committee was set, and	Le500 rate per charging. 25% to	Having properly check	Sustainability of the facility installed in	Sustainability is sure due to: 1. The	The installation

					is functioning.	operator and 75% to mgt. committee	money collected from charging on daily bases, it Cleary shows that more money is collected than the one given to the community, by the charging officer. For proper system, more money should be given to the community rather than the charging officer.	this community is guarantee.	management committee structure already established in the community. 2. Training of youths in solar installation and maintenance. 3. Proceeds collected from the charging station should help in buying solar equipment when damaged within a given period of time. 4. The community guarantee in providing security for the facility installed in their communities.	(charging station) has given an opportunity to the people in this community to charge their mobile phone, DVD Laptop s, radios etc .at a cheaper cost. The installation also provides lightning which gives the opportunity for school going children to study at night, also community elders to hold meetings relating to community matters at night.
9	Tombobu	Kamara	2,800	1.CC 2. LS (Ahamed Nusran Jaham sec. School).	A seven man committee was set, and is functioning	Le500 rate per charging. Le1,000,000 savings. 13% to operator and 87% to mgt. committee	Having properly check money collected from charging on daily bases, it Cleary	Sustainability of the facility installed in this community is guarantee.	Sustainability is sure due to: 1. The management committee structure already established in the	The installation (charging station) has given an

							<p>shows that more money is collected than the one given to the community, by the charging officer. For proper system, more money should be given to the community rather than the charging officer.</p>		<p>community. 2. Training of youths in solar installation and maintenance. 3. Proceeds collected from the charging station should help in buying solar equipment when damaged within a given period of time. 4. The community guarantee in providing security for the facility installed in their communities.</p>	<p>opportunity to the people in this community to charge their mobile phone, DVD Laptop s, radios etc .at a cheaper cost. The installation also provides lightning which gives the opportunity for school going children to study at night, also community elders to hold meetings relating to community matters at night.</p>
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4.7. THE LIST OF MANAGEMENT COMMITTEES FORMED IN 41 SELECTED COMMUNITIES IN THE FOUR DISTRICTS NAMELY: KONO, KAILAHUN, KENEMA and PUJEHUN.

4.7.1. KONO DISTRICT

Table 9: KAIYEMA-Sandor Chiefdom

NO	NAMES	POSITION	CONTACT
1.	Tamba Mondeh	Chairman	
2.	Bintu Nfallie	Chairlady	
3.	Kumba Mondeh	Treasurer	
4.	Tamba John Truer	Secretary	
5.	Fatmata Kamor	Adviser	
6.	Sarh Kabba	P.R.O	
7.	Johnathan Momodu	Auditor	

Table 10: YENGEMA-Nimikoro Chiefdom

NO	NAMES	POSITION	CONTACT
1.	Mohamed Sissoko	Chairman	
2.	Isha .M. Johnny	Chairlady	076-686005
3.	Chief .k. Tommy	Secretary	
4.	Nanie Turay	Adviser	
5.	Assistant chief Richard Johnbull	P.R.O	
6.	Michael .A.S. Ngaujah	Auditor	
7.	Mrs. Fanny	Treasurer	

Table 11: NGANDORHUN-Gbane Chiefdom

NO	NAMES	POSITION	CONTACT
1.	Samuel Moss Kpaita	Chairman	077-763062
2.	Hannah .M. Kondeh	Chairlady	
3.	Tamba .A. Basihru	P.R.O	
4.	Jerimaya Mowio	Secretary	
5.	T.S.E Ellie	Treasurer	
6.	Komba Kowah	Auditor	
7.	Chief Allieu Konguwah	Adviser	

Table 12: TOMBODU-Kamara Chiefdom

NO	NAMES	POSITION	CONTACT
1.	Saffa Charles	Chairman	078-581788
2.	Kadiatu Simbo	Chairlady	
3.	Victor Mejour	Treasurer	
4.	Komba Karku	Secretary	
5.	Sheku Sella	P.R.O	
6.	Sarh Pesima	Auditor	

7.	Alhaji Mansary	Adviser	
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Table 13: YORMADU-Sandor Chiefdom

NO	NAMES	POSITION	CONTACT
1.	Ibrahim Kamada	Chairman	076-183390
2.	Hawa Sam	Chairlady	
3.	Samuel Kambo	Secretary	078-853696
4.	Finda Yorba	Treasurer	
5.	Tamba Ansumana	Auditor	
6.	Foday Katigo	P.R.O	
7.	Chief Matia	Adviser	

Table 14: KOARDU-Gbane Chiefdom

NO	NAMES	POSITION	CONTACT
1.	Osman Yobodo	Chairman	030-340815
2.	Sia Aruna	Chairlady	
3.	Kadiatu Manchendeh	Treasurer	
4.	Anthony Farma	Secretary	
5.	Sarh Watay 11	Auditor	
6.	Komba Sandy 1	Adviser	
7.	Tamba Torniwa	P.R.O	

Table 15: MANJAMA-Sao Chiefdom

NO	NAMES	POSITION	CONTACT
1.	Tamba Lebbie	Chairman	
2.	Kadiatu Aruna	Chairlady	
3.	Aih Jumbu	Treasurer	
4.	Musa Jawarra	P.R.O	
5.	Amidu Safia	Auditor	
6.	Komba Mawi	Adviser	

Table 16: JAIAMA-Nimikoro Chiefdom (Not Formed)

NO	NAMES	POSITION	CONTACT
		Chairman	
		Chairlady	
		Treasurer	
		Secretary	
		Auditor	
		Adviser	
		P.R.O	

4.7.2. KAILAHUN DISTRICT

Table 17: BUNUMBU-Pejeh West Chiefdom

NO	NAMES	POSITION	CONTACT
1.	Momoh Jinnah	Chairman	099575817
2.	Sombo Momoh	Chairlady	
3.	Jusu Senesie	Secretary	
4.	Steven Lamin	Treasurer	
5.	Saffa Momoh	Auditor	
6.	Mohamed Mustapha	Adviesr	
7.	Musa Gbofio	P.R.O	

Table 18: SIAMA-Upper Bambara Chiefdom

NO	NAMES	POSITION	CONTACT
1.	Michel Fatoma	Chairman	076-760594
2.	Nyallain Bockarie	Chairlady	
3.	Jibilah Turay	Treasurer	
4.	Mustapha Bally	Secretary	
5.	Momoh Kallon	Adviser	
6.	Jauna Koroma	Auditor	
7.	Titus .M. Musa	P.R.O	

Table 19: BENDUMA –Jawei Chiefdom

NO	NAMES	POSITION	CONTACT
1.	Lansana Lahun	Chairman	078-366919,077-155335
2.	Zanib Koroma	Chairlady	
3.	Ibrahim Vandi	Treasurer	
4.	Mohamed .S. Anthony	Secretary	
5.	Manbu Samuka	Adviser	
6.	Kemoh Bangali	Auditor	

Table 20: BAIIMA-Mandu Chiefdom

NO	NAMES	POSITION	CONTACT
1.	Harison .V. Sowa	Chairman	
2.	Emma Boima	Chairlady	
3.	Lahai Karfo	Treasure	
4.	Ansu Lamin	Secretary	
5.	John .M. Ansumana	Auditor	
6.	Lamin.B. Donko	Adviser	

Table 21: BUEDU-Kissi Tongi Chiefdom

NO	NAMES	POSITION	CONTACT
1.	Mustapha Kamara	Chairman	076-551017,030-369472
2.	Marima Lavalie	Chairlady	
3.	Tamba William Sengo	Secretary	
4.	Fatmata Sesay	Treasurer	
5.	Fayia Sengu	Auditor	
6.	Benjamin Korsor	Adviser	
7.	Brima Fayia	P R O	

Table 22: SAKEYEMA-Dia Chiefdom

NO	NAMES	POSITION	CONTACT
1.	Tokowa Tewelleh	Chairman	
2.	Massa Bockarie	Chairlady	
3.	Hawa Kanneh	Treasurer	
4.	Mohamed Massaquoi	P R O	
5.	Momoh Junna	Auditor	
6.	Sheku Jusu	Adviser	078-959285
7.	Lamin .B. Junna	Secretary	076-134956

Table 23: JOJOMA-Malema Chiefdom

NO	NAMES	POSITION	CONTACT
1.	Chief Abu Boa	Chairman	076-679311
2.	Zarrah Ahmed	Chairlady	076-627040
3.	Chief Musa Lansana	Treasurer	
4.	Jinnah Foday	P R O	
5.	Murie .W.E.Kallon	Auditor	
6.	Chief Kemoh Sherrif	Adviser	078-446412
7.	Amara Kebbie	Secretary	076-759016

Table 24: MALEMA-Yawei Chiefdom

NO	NAMES	POSITION	CONTACT
1.	Francis Saffa Karimu	Chairman	077-934633
2.	Abdulai Senesie	Secretary	088-212818
3.	Mamie Amara	Treasurer	
4.	Samba Keikula 2	Auditor	030-647864
5.	Alieu Koroma	P R O	
6.	Jattu Soriba	Chairlady	
7.	Samba Keikula 1	Adviser	030-667067

4.7.3. KENEMA DISTRICT

Table 25: GBEGWEMA- Tunkia Chiefdom

NO	NAMES	POSITION	CONTACT
1.	Lahai Sawyer	Chairman	
2.	Baindu Konneh	Chairlady	
3.	Sheku .B. Sannoh	Secretary	
4.	Satta Samai	Treasurer	
5.	Vandi Koroma	P R O	
6.	Musu Karimu	Auditor	
7.	Sheku Feika	Adviser	

Table 26: JORU-Guara Chiefdom

NO	NAMES	POSITION	CONTACT
1.	Abdulai Momoh	Chairman	
2.	Kartha Sannoh	Chairlady	
3.	Mohamed Sheriff	Secretary	
4.	Abdulai Kanneh	Auditor	
5.	Hawa Mansaray	P R O	
6.	Malikie Sheriff	Adviser	
7.	Watta Lukulay	Treasurer	

Table 27: MASSAO-Malegohun Chiefdom

NO	NAMES	POSITION	CONTACT
1.	Sam Alieu	Chairman	
2.	Safiatu Mustapha	Chairlady	
3.	Steven .B. Abdulai	Secretary	
4.	Mamie Foday	Treasurer	
5.	Bockarie Kallon	P R O	
6.	Betty Momoh	Auditor	
7.	Kadie Bockarie	Adviser	

Table 28: PANGUMA-Lower Bambara Chiefdom

NO	NAMES	POSITION	CONTACT
1.	Mohamed Sitta	Chairman	
2.	Jenneh Morray	Chairlady	
3.	Amodu Kamara	Secretary	
4.	Joseph Kanneh	P R O	
5.	Alpha Bah	Auditor	
6.	Adelikali Tarawally	Adviser	
7.	Mariama Seppah	Treasurer	

Table 29: DODO –Dodo Chirfdom

NO	NAMES	POSITION	CONTACT
1.	Patrick .D. Feika	Chairman	
2.	Adima Mannah	Chairlady	
3.	Moses .K. Abu	Secretary	
4.	Sallay Jusu	P R O	
5.	Mamie Tengbeh	Treasurer	
6.	Feimata Frank	Auditor	
7.	Momoh Njollah	Adviser	

Table 30: GBADO –Kanduliekpiama Chiefdom

NO	NAMES	POSITION	CONTACT
1.	Mohamed Saidu	Chairman	
2.	Fatmata Kekula	Chairlady	
3.	Mohamed Sesay	Secretary	
4.	Mohamed Mollu	P R O	
5.	Kadiatu Gassimu	Adviser	
6.	Oliva Sandi	Auditor	
7.	Massah Kadon	Treasurer	

Table 31: YABIAMA –Langurama Chiefdom

NO	NAMES	POSITION	CONTACT
1.	Sheku Kanneh	Chairman	
2.	Iye Wuyah	Chairlady	
3.	Suliam Koroma	Secretary	
4.	Iye Vandi	P R O	
5.	Mariam Jaiah	Treasurer	
6.	Abdulai Koroma	Auditor	
7.	Gamanga Alpha	Adviser	

Table 32: GORAHUN VAAMA –Niawa Chiefdom

NO	NAMES	POSITION	CONTACT
1.	Mustapha .M. Koroma	Chairman	
2.	Isata Sei	Chairlady	
3.	Bockarie Sesay	Auditor	
4.	Ibrahim .A. Combay	Secretary	
5.	Momoh Kallon	Adviser	
6.	Kamoh Abu Nyallay	Treasurer	
7.	Fatorma Nyallay	P R O	

Table 33: NYANDEHUN –Koya Chiefdom

NO	NAMES	POSITION	CONTACT
1.	Jonny Kamara	Chairman	
2.	Kula Konneh	Chairlady	
3.	Mariama Koroma	Treasurer	
4.	Jonny .A. Wango	Secretary	
5.	Foday Fieka	Auditor	
6.	Sandi Kamoh	P R O	
7.	Jusu Kemoh	Adviesr	

Table 34: SEGBWEMA-koya Chiefdom

NO	NAMES	POSITION	CONTACT
1.	Vandi Kanneh	Chairman	
2.	Sallay Sesay	Chairlady	
3.	Dulai Kargbo	Secretary	
4.	Momahed Konneh	Auditor	
5.	Shaka Kanneh	Adviser	
6.	Musu Koroma	Treasurer	
7.	Ibrahim Kallon	P R O	

Table 35: GEIMA-Koya Chiefdom

NO	NAMES	POSITION	CONTACT
1.	Michel Foray	Chairman	
2.	Amie Swaray	Chairlady	
3.	Sheku .A. Kamara	Secretary	
4.	Abdul Kallon	Auditor	
5.	Sao Wilson	Adviser	
6.	Mohamed Kallon	Treasurer	
7.	Karimu Swaray	P R O	

Table 36: MAPOMA-Koya Chiefdom

NO	NAMES	POSITION	CONTACT
1.	Alpha Kanneh	Chairman	
2.	Jebeh Kallon	Chairlady	
3.	Foday Kamara	Treasurer	
4.	Abu Kallon	Auditor	
5.	Ibrahim .A. Kombeh	Secretary	
6.	Fatoma Nylah	P R O	
7.	Kemoh Mansaray	Adviser	

Table 37: BAOMA -Koya Chiefdom

NO	NAMES	POSITION	CONTACT
1.	Bockarie Gonda	Chairman	078-302329
2.	Mamie Kanneh	Chairlady	
3.	Vandi .S. Kallon	Secretary	

4.	Alimamy Swaray	Treasurer,.	
5.			
6.			
7.			

Table 38: BLAMA-Small-Bo Chiefdom

NO	NAMES	POSITION	CONTACT
1.	Mohamed Rogers	Chairman	076-502704
2.	Hawa Mabu	Chairlady	
3.	Isata Dabor	Secretary	
4.	Yama Dauda	Treasure	
5.	Hawa Koroma	Adviser	
6.	Hawa Abu	Auditor	
7.	Abu Kandeh	P R O	076-428018

4.7.4. PUJEHUN DISTRICT

Table 39: SAHUN-Barri Chiefdom

NO	NAMES	POSITION	CONTACT
1.	Sheku Konneh	Chairman	
2.	Hawa Bawah	Chairlady	
3.	Musa Kamara	Auditor	
4.	Brima Bawah	Treasurer	
5.	Vandi Bokon	P R O	
6.	Shaka Kallon	Secretary	
7.			

Table 40: POTORU-Barri Chiefdom

NO	NAMES	POSITION	CONTACT
1.	Chief Lahai Magona	Chairman	076-340638
2.	Sayah Nyallow	Chairlady	
3.	Shaku Kpaka	Auditor	
4.	Lucinda Koroma	Treasurer	
5.	Samie Kamara	P R O	
6.	Shaku Mangona	Secretary	
7.	Alex Foday Mansaray	Adviser	088-253588

Table 41: KAMBAMA-Barri Chiefdom

NO	NAMES	POSITION	CONTACT
1.	Mohamed .B. Koroma	Chairman	079-795174
2.	Jebbeh Kallon	Chairlady	
3.	Chief Alansan Koroma	Auditor	
4.	Hannah Lansana	Treasurer	
5.	Bockarie Koroma	P R O	
6.	Jinna Koroma	Secretary	
7.	Lahai Lukulay	Adviser	

Table 42: JENNE-Barri Chiefdom

NO	NAMES	POSITION	CONTACT
1.	Vandi Sesay	Chairman	
2.	Baindu Sowa	Chairlady	
3.	Bockarie Koroma	Auditor	
4.	Momoh Sannoh	Treasurer	
5.	Mustapha Kallon	P R O	
6.	Sulaman Fekai	Secretary	
7.	Baindu Koroma	Adviser	

Table 43: BOAMA-Barri Chiefdom

NO	NAMES	POSITION	CONTACT
1.	Mohamed Kpuwamu	Chairman	
2.	Fatty Koroma	Chairlady	
3.	Foday Kallon	Auditor	
4.	Ansu Koroma	Treasurer	
5.	Mohamed Kallon	P R O	
6.	Mustapha Sesay	Secretary	
7.	Ansu Fekai	Adviser	

Table 44: VAAMA-Barri Chiefdom

NO	NAMES	POSITION	CONTACT
1.	Tamba Junna	Chairman	076-844114
2.	Kula Samba	Chairlady	
3.	Vandi Swayor	Secretary	
4.	Mustapha Sannoh	Treasurer	
5.	Moalamu Samba	P R O	
6.	Mohamed Yorboi	Adviser	
7.	Vandi Swayor 11	Auditor	

5.0. ASSESSMENT OF RESULTS

5.1. Efficiency

The analysis of project efficiency in the assessment of results is based on the assessment how economically (in terms of quality, quantity and time) and financial inputs were converted to outputs. This assessment starts with the assessment of the budget allocations, project activities and results. There is no major over or under-spending detected. The REAL project team adhered to the planned budget and disbursement scheduled accordingly. EFA and FAO financial obligations were shared of the budget by €281,000 and €250,000 respectively so that the current budget including EU support €1,597,313

Financial governance and transparency seem generally adequate, supported through a strict control by the REAL project manager and external accounting audits. EU monitors very closely the financial reporting by EFA. The project is still having some slight budgetary constraints due to FAO's failure to meet its full financial obligations.

5.1.1. Cost/performance ratio

Although this evaluation did not dwell extensively on financial management aspects of the project, the consultant was able to review previous external audit reports verified that the management of project funds was largely in alignment with the terms of grant contract with the EC. The IC was also aware that a final external audit/verification of REAL project expenditures was on-going at the time of conducting the evaluation and that the report will be submitted to the EC Delegation.

5.1.2. Cost/benefit ratio

As a simple breakdown, the cost/benefit ratio links project expenditures according to the budget to the projected number of beneficiaries. Of course, this is rather theoretical, but it gives an overview on the efficiency of the investments.

5.1.3. Quality of the M&E system

The REAL Project established an activity-based M&E unit that conducts monthly monitoring feedback meetings, visits to the project sites to monitor project outcomes achievements, quality and work plan timelines, and provide technical support and reporting.

Reports focused not only on the accomplished activities, but also on outcomes and lessons learnt.

However, the project's timing was extended on a number of occasions, at first because of delays due to initial organizational issues, difficulties in developing the partnership with FAO and delays from contractual matters. A second delay was caused by the Ebola crisis. However in the end, these delays did not fundamentally subvert the project's objectives or activities; they merely changed the timeline and required a reduction in certain components. The EU was very supportive in finding ways to allow the project to be implemented in spite of these challenges.

5.2. Quantitative Assessment

The quantitative assessment is done based on the supply component of the Bill of Quantity (BoQ) of the REAL project against a physical count of the number of PV components installed at the 41 selected project sites. The Independent Consultant was able to verify that 100% of the equipment was supplied and installed as reported on the field finding Tables above.

5.3. Qualitative Assessment

The qualitative analysis of the REAL project is carried out based on the following approach:

- The Planning and Methodological approach to the REAL project was very professional, well-structured and focus oriented.
- The quality, integrity, standards and reliability of the installed solar PV system are of international standard and excellent quality.
- The quality and appropriateness of community youths and members that are trained as solar technicians turn out to be well-trained and highly capable of installing, operating and maintaining the system.
- The REAL Project established a dedicated seven (7) man management system (100% Ownership), financial model, sustainability and impact trend were well thought of and conceptualised. This could be replicated in future similar projects.

The Independent Consultant was able to verify that a rating of excellent performance is achieved on the qualitative assessment of the work undertaken by EFA and Team, as reported on the field finding Tables above.

There is a 100% level of ownership demonstrated by the community people and their local authorities with the introduction of the solar management team in each selected community.

The school, health and local authorities expressed appreciation for the improved health care, school performances of students, community security and livelihoods after the solar light facilities were installed in their selected communities.

The Independent Consultant observed a rise in the income generated from solar installations in charging centres, and various positive outcomes attributable to an increase in productive time outside of daylight hours. Observed outcomes include the ability to work longer hours and hold social gatherings during the evening, and the ability to charge mobile phones and other small household devices without having to travel outside of the village.

The IC also observed multiplier effects whereby neighbouring communities travel to REAL project communities to charge their own solar lamps and mobile phones, and communicate this to relatives, friends and business partners in other locations. .

6.0. PROJECT IMPACT TO SELECTED COMMUNITIES

The project achieved an evident shift from participating communities' reliance on firewood, kerosene and candles, which can be dangerous and also contribute to carbon emissions.. Access to clean, renewable energy delivers positive livelihood and time-saving benefits for participating rural communities. For this evaluation report, impact is being considered in the following areas of interventions:

- The selected Community Health Sector - Periphery Health Units (PHU's);
- The selected Community Educational Sector (Secondary and Primary Schools);
- General Community Livelihood (Social, Cultural and Economic) Activities;
- Mobile Phone Communication facilities;
- Security of persons and community;
- Willingness of people to pay in cash for the services and
- Cross-cutting gender (women) issues

6.1. Health Sector

Where health centres in REAL project locations have been equipped with solar lights and solar water heaters, there has been an increase in the number of pregnant woman giving birth in safe environments with appropriate medical care. More broadly, 24-hour lighting means that emergency care can be delivered outside of daylight hours. This contributes to the wider health and productivity of community members.

6.2. Education Sector

The primary and secondary schools that benefited from solar energy saw an increase in the number of pupils passing examinations with good grades. Lighting outside of daylight hours also increased students' study hours and enabled teachers to prepare teaching notes and lesson plans during evenings.

6.3. General Community Livelihood (Social, Cultural and Economic) Activities

There have been a number of important socio-cultural and economic outcomes benefiting communities in REAL projects locations. For example, it is now easier to hold community meetings outside of daylight hours, including the settling of minor disputes, which contributed to greater peace within communities. Small businesses are being developed due to the availability of light to sell their commodities and goods even at night. The impact is also felt in people's social lives, using the charging system to power their solar lamps, radios, laptop computers, etc.

6.4. Mobile Phone Communication

The impact of having the facility to charge mobile phones for communication cannot be overemphasised. The community members can now keep in contact with relatives, friends and business partners in in seconds compared to serious difficulties in the past to contact people by phone far more easily than previously was the case.

6.5. Security

The people living in these communities now feel safer to go out at night, and can easily identify and avoid any dangerous obstacles or hazards.

6.6. Willingness to Pay for Services

Fortunately, the communities acknowledge the culture of paying for services, and the willingness-to-pay culture is embraced by all. This is evident in the IC findings. However, the communities need to ensure that they are able to mobilise the resources necessary to pay for the maintenance and possible replacement of components such as solar panels and batteries.

6.7. Cross-cutting

Cross-cutting issues were adequately mainstreamed in the REAL project. Women are involved and promoted in solar technology and operations. They represent about 40% of total direct beneficiaries. But the project duration is too short to cause significant changes regarding women's empowerment.

Finally, it must be stated that, although the project achievements are strong and remarkable, further consolidation is required to ensure effectiveness and sustainability of most of outcomes of Result Objectives 3 and 4 above.

6.8. Contribution to the Sustainable Energy for ALL (SE4ALL) and Millennium Development Goals (MDG's)

The project intervention was relevant and effective for promoting and supporting UN mandate of sustainable energy for all by 2030 and the Millennium Development Goals 1 and 7 ("eradicate extreme poverty" and "ensure environmental sustainability"). To a certain extent it promoted poverty reduction, especially regarding the increase in access to modern clean energy in rural communities; improved livelihood and economic development in the selected communities, job creation in adherence to the MDGs, as well as gender equality and women's empowerment.

7.0. SUSTAINABILITY

The sustainability criteria for this REAL project will depend on the following project specific areas:

7.1. Solar Technology & Spares (Specifications)

There should be a standard specification manual and catalogue for ease of reference for replacement of components/parts

7.2. Capacity Building (Training of Trainers)

There should be continuity in training of trainers especially in the event of major or slight modification of solar technologies and installations including O & M.

7.3. Management Structure (Ownership)

The seven (7) man committee having the responsibility to manage the affairs of the solar project must be allowed to function effectively, efficiently and operate independently taking instruction from the Chief or the ruling community leader.

7.4. Revenue Enhancement (collection)

During the IC's field visit, it came out clearly that there is the willingness to pay for services from the communities but the current rate of paying per charge units cannot off-set the cost of replacement of major components of the solar system. Therefore, the communities need to find an alternative form of generating revenue to sustain the solar system's operation and maintenance.

7.5. Sustainability Challenge

The major sustainability challenge that is envisaged is the availability of ready funds to replace faulty or damaged solar PV panels, batteries and water heater collector panels, which are expensive to purchase. The communities will need to be supported either by the District Councils or the local community authority.

It is required that the two result objectives 3 & 4 be implemented to enhance sustainability.

8.0. CONCLUSIONS

8.1. Project specific conclusions

The EU-funded project with Co-financing from EFA and FAO for the REAL project has provided a significant contribution to increased energy access in the four participating districts (Pujehun, Kenema, Kailahun and Kono), comprising 41 rural communities in Sierra Leone. The project achievements are considerable and it is remarkable that the EU has managed to provide the funding and was flexible throughout the Ebola crisis, which no-one could have anticipated. .

The project's accomplishments need to be consolidated, sustained and even expanded. Finally, the project could have achieved even more if FAO had committed fully to its obligations as partner with a real joint implementation approach.

8.2. Lessons Learnt

The cooperation and collaboration with FAO as partner was EFA's desire for the REAL Project. In the future, to develop a fruitful partnership, it is crucial to note the followings: (i) develop joint project preparation and planning procedures; (ii) improve and sharpen implementation agreements (MoU); (iii) develop a detailed understanding of project partners' strengths, constraints and limitations, their internal organisation development processes and challenges; and (iv) to develop preparedness measures.

Nevertheless, projects with the objectives "to enhance and increase clean energy access to the rural communities and to improve their livelihood with the help of economically viable and environmentally sound renewable energy technologies" truly has undergone a successful and sustainable implementation.

9.0. RECOMMENDATIONS

9.1. Recommendations to REAL project implementation

- The REAL project should use the remaining time for a meaningful exit strategic. Handing over ceremony.
- EFA and FAO should jointly find a way to resolve their conflict management.
- The REAL project should concentrate on finding resources or support to realise fully the outcomes of R3 and R4.
- The REAL project should ensure that issues with project sustainability are put in place.
- The project concept is exemplary and should be used for further country programme development in the energy sector.
- Potential donors would be easier to attract and to convince for further funding with an effective and convincing impact-oriented monitoring system.
- Even though training was conducted for community members in solar maintenance, a day training was not enough for them to maintenance these facilities. For sustainability of this project it is recommended that more training is needed.
- The community needs to have ownership of these facilities in their localities, with that the project needs to be handed to the communities
- For the solar hot water system, in some communities like Vaama in the Pujehun District, and Gbado in the Kenema District these systems were just assemble, but not connected to a water supply tank that feeds in the heater tank of the solar components. It is recommended that water tanks are installed to all areas that do not have a water supply tank. Also to do a proper standing foundation floor for the water heater systems.

9.2. Recommendations to Project Partner FAO

- FAO needs to improve, strengthen and professionalise their partner cooperation approach.

9.3. Recommendations to Project Funding Agency EU

- The EU should consider in the future supporting EFA's rural development projects and programmes in recognition of the quality and transparent manner in which this REAL project was conceived, planned and implemented within budget and timelines.

REFERENCES

- REAL Project Documents received from EFA
- De-briefing meeting with REAL Project Director on 15th – 16th June, 2016
- Discussions meeting with FAO Programme Manager on Friday 24th June, 2016 at 9am.
- Email received from EFA Chairman
- De-briefing meeting with EU Directors on Friday 24th June, 2016 at 11am.
- Final Evaluation Report of the Food Security and Economic Development Project in the Bo, Pujehun and Kenema Districts (FoSED) , 2014