



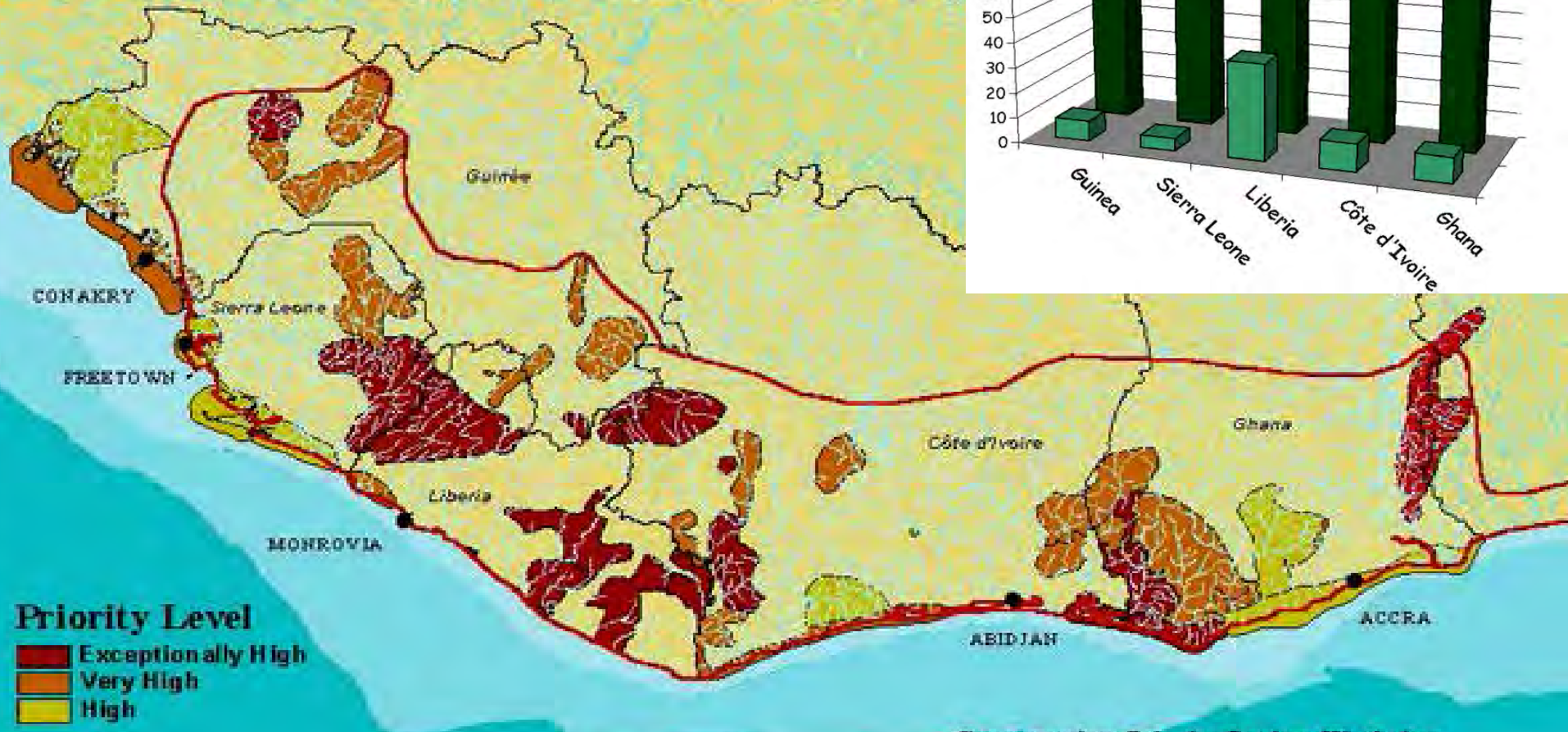
# RE4Food Workshop KNUST-Kumasi 13-14 October 2015

- The Operating Context of Sierra Leone
- Background to EFA
- Project Research Output by EFA
- REESL Roadmap
- REAL Summary
- Biodiversity and Renewable Energy Learning Centre  
(Opportunities for Renewable Energy in SL)

# Biodiversity Hotspots in West Africa

Regional Conservation Priorities

*From the Forest to the Sea: Biodiversity Connections*  
*De la Forêt à la Mer: Les Connexions de l'Écosystème*



*Conservation Priority Setting Workshop  
 Elmina, Ghana Dec 6-10, 1999*

# Slash and Burn Agriculture

## Preparing for the farming season



# Clearing Forests for Farming and Fuel



# Logging and Deforestation

## in Liberia



# Charcoal for Cooking

## Transport into the city



# Artisanal Diamond Mining



# The Precious Diamonds

## Curse or Blessing?





# Bauxite Mining in Sierra Leone



# Rutile Mining

## Titanium ore in Sierra Leone



# Rutile Mining

## Titanium ore in Sierra Leone



# Result of Rutile Mining

**Attempts to rehabilitate land – Acacia planted in 1992  
Picture taken in 2004**



# Impact of Sand mining

- The beaches of the Freetown Peninsular are potentially a significant economic resource (tourism)
- Extraction of building sand from beaches may promote erosion and spoil the potential value from tourists.

- *(high salt content in beach sand can cause concrete “cancer”).*



Erosion ~ 10 meters per year



# Rising Sea Levels

eroding economic livelihoods - Freetown 2009



# Rising Sea Levels

eroding economic livelihoods – Freetown 2008



# EFA background

Established in 1992:

to empower the local people to protect the integrity of nature in their local environs.

Five key program areas have evolved

- Advocacy;
- Environmental Education;
- Landscape Restoration,
- Protected Area Management
- Renewable Energy



Environmental

# Awareness Raising & Education





Environmental Awareness Raising, in a village

# Information Collection and dissemination



Information and educational booklets, documentaries and training videos, & mapping of natural resources

# The RE4FOOD Project & ROLE of EFA

- **WP4: Multi-stakeholder engagement, dissemination and knowledge transfer.**
- T4.1 Identify key stakeholders (e.g. farmers, food processors, energy suppliers, local government, financiers, educationalists, etc.) and establishing a post-harvest food chain multi-stakeholder network to support the project
- Hold multi-stakeholder network knowledge gathering events (Kenya, Sierra Leone, and Ghana). These events will provide the opportunity to gather data, discuss needs, and identify real or perceived barriers, current and future developments which will feed into WP1, 2 & 3. (Month 3 to Month 5)

- Hold multi-stakeholder network knowledge dissemination events (Kenya, Sierra Leone, and Ghana). These events will provide a means of building buy-in, knowledge transfer, disseminating best practice and to plan future demonstration projects based on the project research outcomes.
- Milestones:
- M4.1 Establish multi-stakeholder network
- M4.2 Produce plan for future demonstration projects

# Project Partners

- University of Newcastle upon Tyne,
- Njala University,
- Jomo Kenyatta University of Agriculture and Technology University
- Kwame Nkrumah University of Science and Technology, having an office at
- Stellenbosch University & Kassel University
- Practical Action

# SIERRA LEONE

## INNOVATIVE THINKING

Renewable Energy Empowerment in Sierra Leone: A Vision to  
Electrify Rural Sierra Leone

Final Report



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## Introduction

In early 2013, EFA secured a grant from the Climate and Development Knowledge Network (CDKN) to engage stakeholders and catalyse the development of renewable energy (RE) technologies in an African country, through an “Innovative Process”.

### *CDKN Project Requirements*

- Project timeframe is **≤ 6 months**.
- **Lead Applicant is African**
- (and not an international institution based in Africa).
- Project team includes **two (2) or more African partners**.



EFA worked with Njala University, Ministry of Energy, Government Technical Institute, and Environmental Resources Management Foundation, to conceptualise the REESL Project (Rural Energy Empowerment for Sierra Leone) which was launched with the following primary objective:

*Lead the execution of a successful innovative process, which is tailored to meet the needs of stakeholders in Sierra Leone and which catalyses innovation in the Renewable Energy (RE) sector and therefore contributes to RE development for rural communities.*

The more detailed aims of the project, and a summary description of the key tasks is provided overleaf.

(Further information is provided in *Appendix A*).



## Aims of the REESL Project:

Catalyse innovation in the Renewable Energy (RE) sector in Sierra Leone to serve rural communities through:

- Development of a roadmap (action plan) to inform policy/decision-making at a national level and spin-off innovative projects.
- Development and definition of a number of options for project implementation, for consideration by CDKN and relevant third-party co-funders

## Key Tasks :

- Carry out six months of national-level baseline information-gathering across Sierra Leone to examine:
  - the existing and potential availability, applications and socio-economic implications of renewable energy (RE) technology; and
  - opportunities for innovation and social benefit.
- Establish a RE “Knowledge Base” of information that has been tested and discussed by the public, including experts”.
- Develop a network of stakeholder relationships and contacts, connecting those with interests in the RE sector and development of this sector within Sierra Leone and further afield.
- Host a multi-stakeholder workshop to develop a roadmap, setting out the key actions that may be needed to catalyse developments of this sector, reflecting the thoughts and contributions of workshop attendees and members of the public.
- Workshop to include a “Renewable Energy Fair” i.e. public exhibition of RE technologies.

## Project Deliverables

- **A Knowledge Base (KB)** - online database of existing docs, other existing resource (e.g. video links) and new information (generated by the REESL team).
- **Stakeholder Listing**– summarising stakeholder names, interest groups, and associated RE interests.
- **National Roadmap** to inform policy/decision-making and spin-off innovative projects.



## *Section 2*

# Baseline Community Surveys

## Objectives of the Survey

- National coverage
- Comprehensive: covering users, producers, household and small business use
- Up-to-date and Quantitative

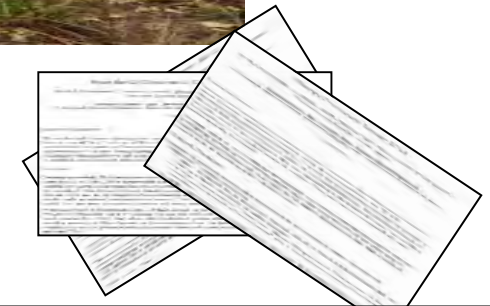
## Characteristics of the Survey

- Stratified random sample
- Stratified by Administrative Region (N, S, E & W)
- Stratified by environment:
  - Forest edge
  - Coastal
  - Farm Bush
  - Mountain
  - Degraded/mining
  - Urban
- 24 communities, 5 compounds/households in each community



## Outputs of the Survey

- **Three (3) Survey Reports:** Business, Household and Producers (to be made available to Project stakeholders as part of the Knowledge Base)
- **Quiz Materials**– to engage stakeholders at the workshops and help embed the knowledge/insights gained from the surveys



### Questions, Questions, Questions

- Q1 - What percentage of households only rely on kerosene for lighting?  
a) less than 1%, b) about 10% c) more than half.
- Q2 - How many tons of batteries are thrown away each year?  
a) 150 tons b) 1,500 tons, c) 15,000 tons
- Q3 - People in the city use more charcoal than rural people?  
a) true b) false c) they use the same

## *Section 3*

# Stakeholder Outreach Programme

**Highlights** Outreach programme included contacting stakeholders from:

- The private sector;
- Not-for-profit civil society
- Authorities/Regulators and Government
- Financial agencies and donors
- Sierra Leone
- Wider Africa
- Ireland, the UK and wider Europe
- Further afield

• Mechanisms of outreach

- EOI Letter
- Formal Invitation



• Email/Phone with Event Information

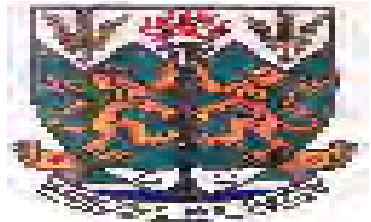
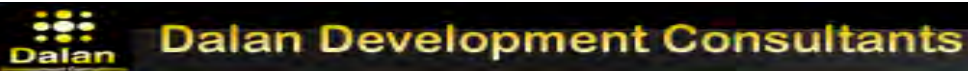


• Media Coverage



## Contacts

An indication of those contacted is provided below



## Outcomes

- Overwhelming response.
- Network of contacts. The majority of those contacted:
  - Expressed an interest in the REESL project
  - Attended the workshop
  - Donated/provided equipment for the RE Fair
  - Expressed an interest in ongoing engagement activities



## Outcomes

- Every major stakeholder group represented at the workshop
- Strong representation from the government, private sector and NGOs
- Multiple stalls of equipment established for the Energy Fair
- One donor opportunity identified
- Two partnership opportunities identified

## *Section 4*

The Innovation Workshop  
(and Energy Fair)





# SIERRA LEONE

## INNOVATIVE THINKING

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RENEWABLE ENERGY EMPOWERMENT  
IN SIERRA LEONE  
A ROADMAP TO ENERGISE RURAL SIERRA LEONE

### VENUE

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THE BIODIVERSITY AND RENEWABLE ENERGY LEARNING CENTRE,  
FREETOWN

### DATE

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18TH – 19TH OF JULY (WORKSHOPS),  
20TH – 21ST (OPEN PUBLIC EXHIBITION)



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## Workshop Objective:

### **Catalyse development of Knowledge, Attitudes and Actions needed to promote Innovative Thinking, a Network of *RE Ambassadors* and a RE Roadmap**

#### **Knowledge**

- understand the basic findings of the the renewable energy research
- know where to access them on the internet
- know at least five examples of good practice in renewable energy

#### **Attitudes**

- motivation to become a renewable energy ambassador
- motivation to spread the RE message in their organization/networks/home situation
- motivation to continue as a network of ambassadors and innovators

#### **Action**

- Sign their ambassadors certificate and commit themselves to a number of follow-up actions
- Commit to meet again in a few months to evaluate roadmap en steps taken so far
- Make a link to the knowledge base on their own website
- Publish photos of the renewable energy fair on their website
- Bring in two more renewable energy ambassadors from their own organization and list them in the EFA Renewable Energy Ambassadors on line gallery
- Have their colleagues do the RE quiz



<b>Event</b>	<b>Renewable Energy Empowerment in Sierra Leone: A Roadmap to Energise Rural Sierra Leone</b>
<b>Date</b>	Two Day Workshops (18 and 19 July 2013). Two Day Public Exhibition (20 and 21 July 2013).
<b>Host</b>	Environmental Foundation for Africa (EFA)
<b>Attendees</b>	Fifty (50) individuals from government ministries, academic institutions, NGOs and the private sector

Time	Agenda Item
<b>DAY 1</b>	
08.30 – 09.30	Breakfast & Registration
09.30 – 10.45	<p><b>Session 1: Opening Session</b></p> <ul style="list-style-type: none"> <li>• Welcome from local communities</li> <li>• Introduction to the REESL team and REESL project</li> <li>• Presentation of the workshop objectives, agenda and approach/methodology</li> <li>• Summary statements from:               <ul style="list-style-type: none"> <li>• the Minister of Agriculture, Forestry and Food Security;</li> <li>• the Executive Chairperson of the Environmental Protection Agency ;</li> <li>• the Minister of Trade and Industry;</li> <li>• a civil society representative;</li> <li>• a donor representative;</li> <li>• a private sector representative; and</li> <li>• a community representative.</li> </ul> </li> <li>• Formal opening of the Innovation Workshop by the Minister of Energy.</li> </ul>
10.45– 11.00	Tea/Coffee
11.45 – 13.00	<p><b>Session 2: Energy Fair</b></p> <ul style="list-style-type: none"> <li>• Six stalls demonstrating RE technologies and/or entrepreneurial skills and innovation</li> </ul>
13.00 – 14.00	Lunch
14.00– 14.45	<p><b>Session 3: Sharing our Research (Quiz)</b></p> <ul style="list-style-type: none"> <li>• Interactive group exercise to facilitate understanding and discussion of the findings. Attendees work in pairs to consider, deliberate and debate findings of the Baseline Community Surveys (presented in Quiz format)</li> </ul>
14.45 – 15.45	<p><b>Session 4: Visualising our Future (Newspaper Session)</b></p> <ul style="list-style-type: none"> <li>• Small group exercise to map our RE opportunities and our vision for the sector</li> <li>• Each group designs the front page of the “Freetown Times” – 15 years from today when the newspaper is celebrating successful RE development</li> <li>• Gallery walk where all individuals view the vision of the different groups</li> </ul>
15.45 – 16.00	<p><b>Session 5: Personal Reflection</b></p> <ul style="list-style-type: none"> <li>• Plenary session to view three portrait paintings and consider the RE story “behind” the paintings. Individuals encouraged to develop story, poem or song connecting the three portraits and RE development for rural communities</li> </ul>
16.00 – 16.15	<p><b>Session 6: Drawing Conclusions</b></p> <ul style="list-style-type: none"> <li>• Short evaluation of Day 1 proceedings and outcomes</li> <li>• Planning for Day 2</li> </ul>
16.30	<p>Departures</p> <ul style="list-style-type: none"> <li>• Informal discussion and drinks at the Learning Centre for those who wish to remain on</li> <li>• Transport back to Freetown</li> </ul>

# Agenda



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Time	Agenda Item
<b>DAY 2</b>	
08.30 – 09.30	Breakfast - meet & greet with coffee and sandwiches
09.30 – 11.30	<p><b>Session 7: Making Good Choices</b></p> <ul style="list-style-type: none"> <li>• Group sessions to map out the choices needed to realise our collective vision of the future for the RE sector and rural communities.</li> <li>• Focus: Personal commitments from individuals</li> <li>• Small groups with coloured cards. Clustered by the groups themselves</li> </ul>
11.30 – 12.00	Tea/Coffee
12.00 – 13.00	<p><b>Session 8: Defining Expectations</b></p> <ul style="list-style-type: none"> <li>• Small mixed group discussions to identify the expectations we all have for the various stakeholder groups</li> <li>• Expectations recorded on flipcharts during plenary session</li> </ul>
13.00 – 14.00	<p><b>Session 9: Innovating Solutions</b></p> <ul style="list-style-type: none"> <li>• Each stakeholder group works to map out their response to the expectations of others – focusing on key actions to be undertaken in the next 12 months and where they need help</li> </ul>
14.00 – 15.00	Lunch
15.00 – 16.00	<p><b>Session 10: Ambassador Sessions</b></p> <ul style="list-style-type: none"> <li>• Individuals reflect on the proceedings of the two days</li> <li>• Each participant writes a letter to themselves with their key actions</li> <li>• Certificates are signed off and distributed to newly empowered ambassadors (by a representative of the Ministry of Energy)</li> <li>• Closing remarks</li> </ul>



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## Session 3: Sharing Our Knowledge (Quiz Session)

### Questions, Questions, Questions

Q1 - What percentage of households only rely on kerosene for lighting?

a) less than 1%, b) about 10% c) more than half.

Q2 – How many tons of batteries are thrown away each year?

a) 150 tons b) 1,500 tons, c) 15,000 tons

Q3 – People in the city use more charcoal than rural people?

a) true b) false c) they use the same

Q4 – Three in four households use only wood for cooking? a) true, b) false

Q5 – What percentage of farmers use mechanised rice mills?

a) less than 10%, b) 15% c) more 20%

Q6 – How much fire wood does it take to process one “batta” of palm oil?

a) 10 “4 stick ties” b) 20 ties, c) 30 ties

Q7 – How much fire wood does it take to bake one loaf of bread

a) 0.5 kg b) 1.5 kg c) 2.5 kg

Q8 – Most journeys are made by: a) okada's b) poda-poda's c) taxi's

Q9 – On average how often do people charge their mobile phone?

a) every day, b) twice a week, c) once a week

Q10 – In five years time people in city will be using?

a) wood, charcoal, batteries

b) hydro power, solar power, bio-digestors

c) afrigas, kerosene, petrol generators

Q11 – What relevant question in this quiz do you think is missing?

# Project Outputs

- **Collective insight and learning**
- **Network of empowered ambassadors**
- **Stakeholder Listing**– summarising stakeholder names, interest groups, and associated RE interests.
- **Energy Fair Materials** - RE Technologies and information
- **A Knowledge Base (KB)** - online database of existing docs, other existing resource and new information (generated by the REESL team).
- A **“Roadmap”** for Renewable Energy Empowerment in rural communities in Sierra Leone where we specify:



## The Way Forward

**Coordinate and Support Efforts for Implementation of the vision in ROADMAP**

**Utilise Learning Centre to Promote RE technologies and initiatives**

**Collect, synthesise and publicise best-practice demos of RETs nationally, regionally and internationally**





Thank You