

# Improving life for women and girls in Sierra Leone

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**W**omen constitute 51 per cent of Sierra Leone's population of 6 million. They are responsible for nearly all household duties, from food production and processing to child bearing and family upbringing. Often, however, women are viewed not as individuals but as part of a male-headed household with some unique needs of their own related to their perceived roles. This approach generally takes little account of their real needs, let alone their potential.

Around 4 million of Sierra Leone's 6 million people live in rural areas with no access to electricity. People depend on firewood and charcoal for lighting, cooking and heating, which is of poor quality, and batteries for electrical appliances, which are costly. The extension of the electricity grid will take some time to reach these communities, some of which are so dispersed and demand so little power that even mini-grids are not an economic solution. The lack of electricity means that they are extremely isolated and have little opportunity for economic improvement.

## ***Smart villages in Sierra Leone: how did they start?***

In Sierra Leone, the concept of smart villages began with the idea of distributing solar home systems in rural areas by removing financial and technical barriers. Twelve women, drawn from 12 villages in the northern region of Sierra Leone where rural electricity was a huge challenge, were trained at Barefoot College, Telonia, India<sup>1</sup>. The women were illiterate or semi-literate, and on completion of their training at Barefoot College the issue arose of how to sustain and transfer the knowledge they had gained.

The Barefoot Solar Training Centre was built in 2009 with funds from the government of

***The model promotes decentralised small business and financing systems that enable the rural poor to learn how to pay for their own solar panels***



**Box 1 Has this intervention changed lives?**

**The solar network is helping to change the lives of women and girls in the following ways:**

- **Attitudes:** confidence building and ownership of the project.
- **Health:** home kerosene use, which created respiratory and eye problems, especially for women and girls involved in household chores, has been reduced. Health clinics have also received solar lighting, improving health care; women with babies are particular beneficiaries as they are regular visitors to these clinics.
- **Education:** girls can now study at night in a safe environment and some schools have received solar electrification facilities.
- **Environment:** over the lifetime of each 50-watt panel that replaces kerosene lighting, between 3 and 6 tonnes of carbon dioxide emissions will be avoided.
- **Savings on energy costs:** the solar panels were less expensive than current rural energy options, thus households could make savings. As women are the breadwinners in rural settings, the money saved can be used for other economic purposes.
- **Opportunities for income generation:** Nancy Koroma, head of a family of five in Koya Port Loko district, says that the 35-watt panels allow her to carry out her home activities at night<sup>4</sup>. This frees up her days for selling juice to generate income which helps pay off the loan for the solar system. A random sampling of Nancy's cohort in other regions of Sierra Leone has confirmed how solar power can help alleviate poverty in rural areas, which are heavily populated by women and girls.
- **Employment:** capacity building among the solar grandmothers has provided an avenue for self-employment for the women, as they earn income from the installation or repair of the solar grids around the country. The solar energy enterprise can provide employment for numerous women.

Sierra Leone, and implemented by the National Commission for Social Action (NaCSA). The Barefoot Women Solar Engineers Association of Sierra Leone<sup>2</sup> (BWSEASL) was formed with the sole aim of getting solar technology to all the country's remote and inaccessible villages. The approach was based on the belief that those who benefit from solar electricity are its most important promoters. The model therefore encourages decentralised small business and financing systems that enable the rural poor, especially women, to learn how to pay for their own solar panels. This gives them responsibility

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for their electricity use and at the same time allows many more people to have access to the technology.

### *Training illiterate women gives them a new life*

The goal of BWSEASL is to give girls and women dignity, respect and independence through the creation of an electricity supply for their village homes. No working contract is signed with the women beneficiaries as the idea is for them to take ownership of the overall concept. The working relationship aims to build tolerance, trust, compassion and generosity with the women.

Capacity building is one of the easiest ways of achieving these goals and a further seven women were selected by the local traditional leaders on their willingness to be sent to India for basic training in solar photovoltaics. They were called the solar grandmothers because they became the trainers of other women in basic solar electrification in Sierra Leone.

By August 2014, 59 women drawn from the different regions of the country had completed their training. They are now expected to electrify a targeted 21,810 houses around Sierra Leone. Plans are underway to train a further 150 female solar engineers<sup>3</sup> selected from each of the country's 14 electoral districts. These women will introduce simple, basic and clean electricity through the use of solar photovoltaics in remote inaccessible villages.

### **Box 2 Key impacts of the approach**

- Electrification of houses by solar panels in villages and essential buildings in rural communities such as schools, health centres, police stations and market centres.
- Construction of two production workshops funded by the United Nations Industrial Development Organization (UNIDO) for micro-enterprises.
- Selection of 149 chiefdom headquarters in Sierra Leone for possible solar electrification, including schools, clinics and social centres.
- Training of caretakers for UNIDO Growth Centres.
- Distribution of solar lanterns to police checkpoints, posts and other public places.
- Construction in 2009 of a training centre for women, supported by the government of Sierra Leone.



### ***Is the approach sustainable?***

The BWSEASL began their work by demonstrating rural residents' willingness to pay for the technology. Grants from the government paid the upfront costs for the construction of the Barefoot training centre and for a small number of homes to obtain solar panels. The beneficiaries, along with the rest of the villagers, then created a revolving fund to help others get panels. After a deposit of approximately US\$ 115, residents could pay off the loan at about US\$ 6 per month, which is less than they used to pay for batteries and kerosene lighting. We have found from interviews that the revolving fund has financed more than 600 solar home systems in marginal rural communities in 12 districts of the country's four provinces.

Women trained by the BWSEASL became entrepreneurs, running small businesses selling the solar panels, and now form a solar network made up of 16 micro-enterprises such as the Solar System Home Management Committee (SSHMC).

### **References**

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- 3. Edward M. Anaque,** General Secretary, Barefoot Women Solar Engineers Association (*pers. comm.*).
- 4. Nancy Kanu,** Chief Solar Engineer, Barefoot Women Engineers Association of Sierra Leone (*pers. comm.*).

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