

EWB-DK / SDU student project: **Community solar power business hub**



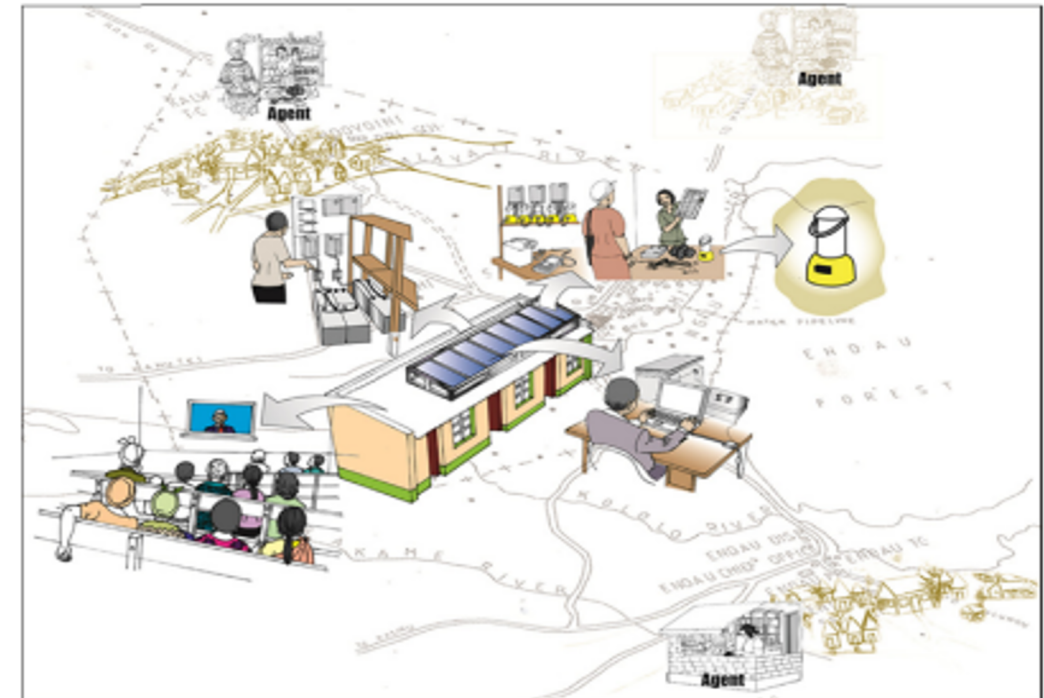
EWB-DK / SDU student project

Community solar power business hub

Most villages in Sierra Leone do not have access to electricity. On the other hand, they have unlimited amounts of solar energy, which is obvious to utilize in relation to supplying the villages with sustainable energy.

Together with the local partner SEND, EWB-DK has carried out projects with mobile charging stations in several villages in the Kenema district, where villagers can have their mobile phones, radios and power banks charged.

- What is the unsolved matter or issue?



Community solar power business Hub

Initial problem statement

There is a need for establishing energy supply in villages in Sierra Leone. The access to electrical energy can support a positive development of living conditions in rural areas.

A “Community solar power business hub” demonstrate that sustainable energy can be established locally.

How is it possible to provide/ develop/ implement electrical applications that creates value in the village?

Develop one or more applications/ systems and asses them with focus on their value creation.

Initial suggested Constraints:

- The system can be implemented locally
- The system can be operated and serviced by the local users and or local service providers
- Fit the student project into the 5-step development framework (figure 1)

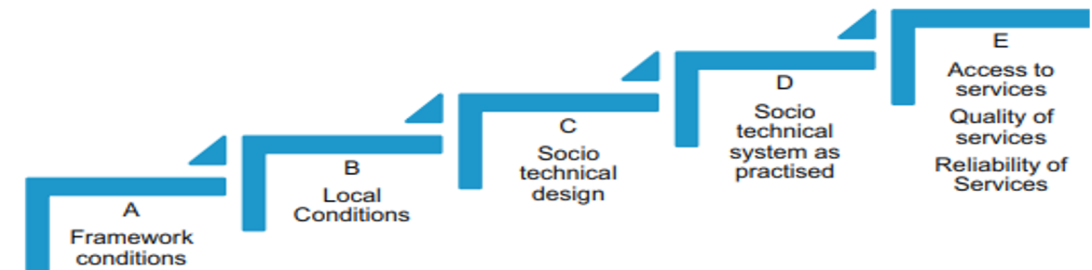


Fig. 1. The five-step analytical framework for examining and understanding village-level power supply

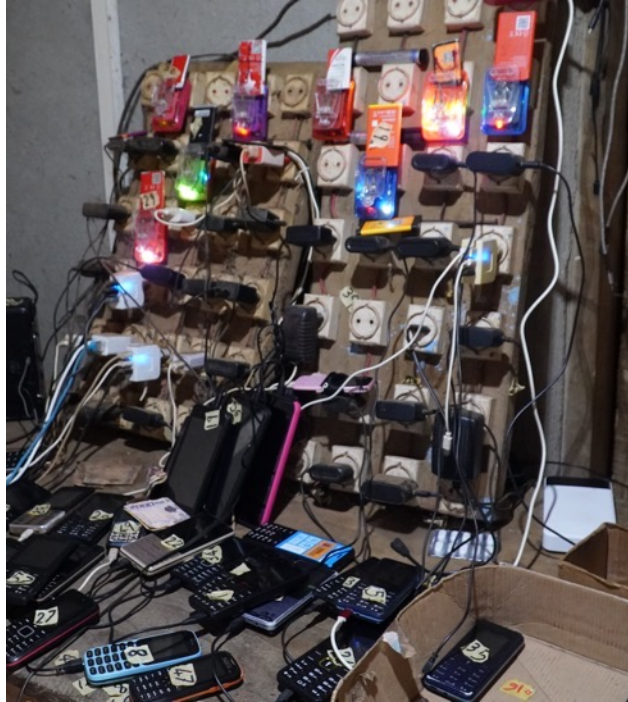
A five-step analytical framework for examining village-level power supply systems has been developed and will be used in the development phase.

Begin to investigate and understand the details and local needs of community and to align the social and technical design of the planned energy system.

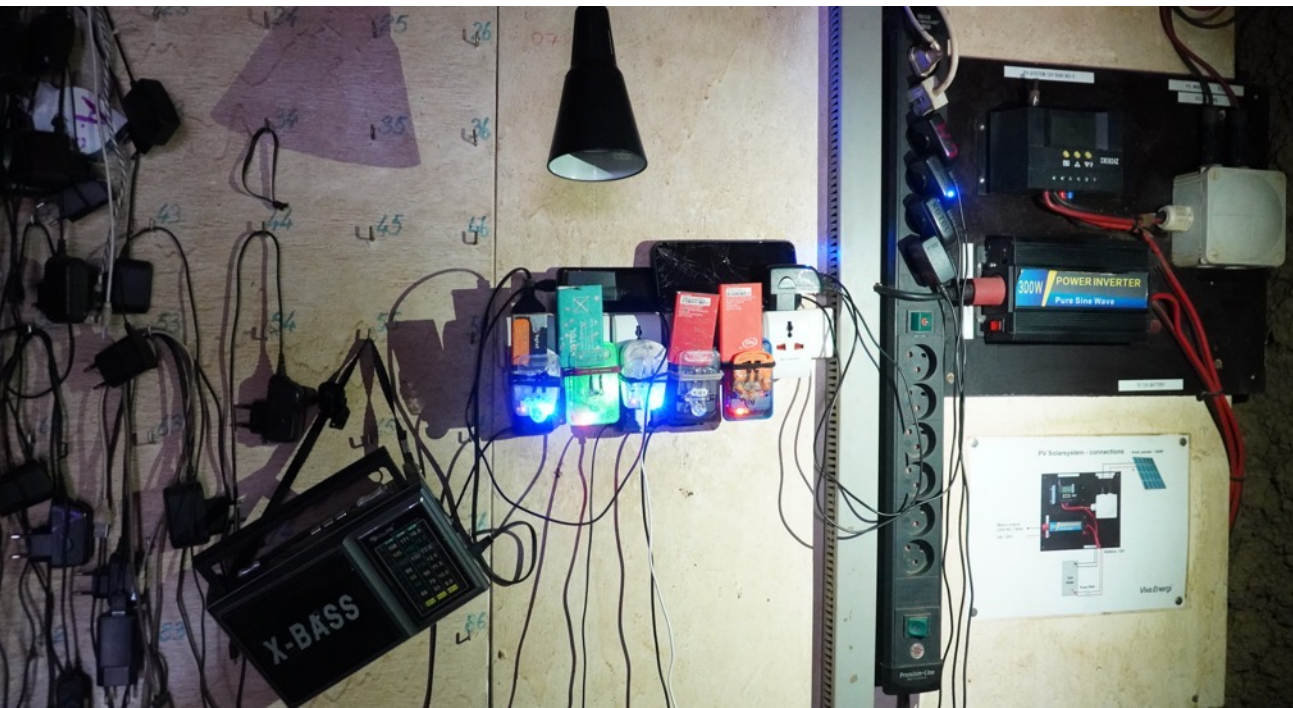
Examples of questions to look into:

- What level of energy (peak power and average energy pr day/year) is needed to drive the system?
- What amount of energy is available from a typical solar power plant?
- What value does one kwh consumed by your new system create?
- How can the system be designed and how shall it be financed and operated?
- Design a business model?
- How can a “business model” that provides sufficient incentive structure and sustainable financing be created?





Examples of a community solar powered Business Hub



Keys words: income generation, solar power, community driven, needs based development, climate friendly production, innovation and adaptation of local technology, gender equality, poverty eradication.