

Project Fact Sheet

Project Title **Sustainable Energy Education Districts for Informal Settlements (SEED)**

Keywords Sustainable energy supply, renewable energies, informal settlements, infrastructure development, resilience, R&D, Mozambique, Kenya, international partnerships

Project Details

Project Start	April 2021	Duration	3 Years
Grant Scheme	Resilience strengthening and capacity building in African cities and urban areas	Project ID	01DG21015A
Funding Authority	BMBF		
Project Budget	517.223 € (Sub-project THI)		
Project Leader	Prof. Dr.-Ing. Wilfried Zörner		
Contact Person	Stefan Schneider		

Cooperation Partners

Project Partners: Universität Bayreuth (UBT), Technical University of Kenya (TU-K), Universidade Eduardo Mondlane (UEM), Phaesun GmbH
Associated Partners: Nairobi City County, Ministry of Mineral Resources and Energy Mozambique, Practical ACTION Kenya, Associação de Energias Renováveis do Limpopo Mozambique, Festo Didactic

Description

Access to electricity is a basic prerequisite for economic development and indispensable for improving the health and education situation. In sub-Saharan Africa, however, about half of the population still has no access to electricity, and people living in informal settlements in cities are particularly affected, in addition to the population in rural areas. Therefore, illegal and unsafe electricity supply structures are often established in informal settlements, which entail risks such as increased fire or health hazards.

The *Sustainable Energy Education Districts for Informal Settlements (SEED)* project aims to provide the population in informal settlements with access to electricity and adequate energy infrastructure and thus strengthen the resilience of African cities in the long term. The overall objective of the joint project is to develop a comprehensive and sustainable energy supply concept that meets the different needs in informal settlements and also has a structure-building and community-building effect. The international research project is coordinated by the Institute of new Energy Systems (InES) and realised with partners from Germany, Kenya and Mozambique, but the project consortium is pursuing the goal of developing a broadly effective concept that can be transferred to other cases worldwide with similar conditions.

SEED pursues a *dual approach* to achieve its goals: On the one hand, the social, economic and cultural needs of the local population in Maputo (Mozambique) and Nairobi (Kenya) are analysed as examples. Also relevant are the survey and investigation of the current energy supply, the different energy needs, the social perception and expectations of electricity supply as well as the role of state and non-state actors on site.

On the other hand, based on the results of this analysis, a sustainable energy supply concept (energy hub) will be developed, which will provide electricity and hot water, among other things. Such an energy hub considers the diverse interests of potential consumers such as small entrepreneurs, local households or public services. At the same time, through different workshops, a greater awareness of the potential of renewable energy resources will be created among the local population and authorities. The project consortium will also analyse the valid legal framework for such a decentralised energy supply in the project countries and define business models for mobile payment processing for energy use. This will ensure the long-term operation and use of the energy hubs and strengthen the ownership of the local population. Various local actors are involved in both the analysis and the development, which enables a continuous transfer of knowledge and promotes intra-African networking.

The long-term goal is to implement the tested concept in a follow-up project at a selected location.