

The sunny South

Solar panels were first introduced to Africa during the 1970s. A number of large systems were installed to power electric wire fences around game reserves and to pump water from wells. In the early 1990s, solar energy began to be used for households, enabling many to access electricity for the first time.

Large amounts of development assistance have been invested in several solar projects implemented by companies such as BP and Shell. The results have often been disappointing. Goals for installed capacity have not been realized, and many systems have been stolen. According to Preben Maegaard, director of the Nordic Folkecenter for Renewable Energy, the problem is that donors look at solar projects as if they were 'typical' power projects. But building a hydro dam is completely different from organizing the decentralized installation of solar power systems in rural areas.

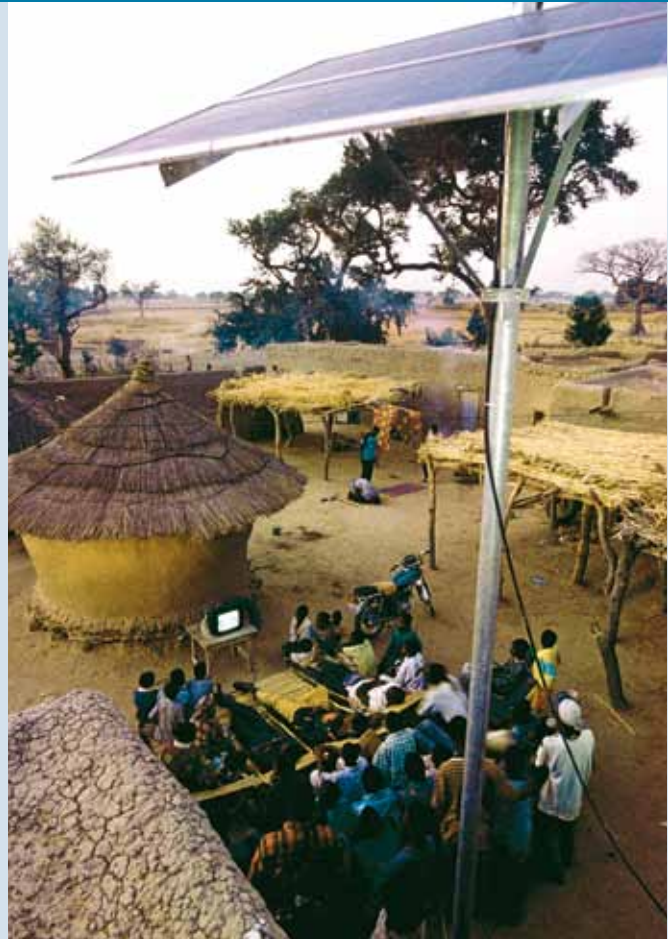
Harish Hande, who received international awards for his social entrepreneurship in green technologies, also points at the importance of local applicability. 'There seems to be little patience to create products based on the actual needs of users. The subsidies involved in donor projects kill the incentive to create innovative products'.

In most donor programmes solar panels remain the supplier's property and users pay a monthly fee. But according to Frank van der Vleuten of ETC Energy, this does not consider the customer's point of view. 'The average African does not want to be in debt', he says. 'They would rather pay cash for a smaller system when they can'. Hande thinks, however, that the lack of financing through rural banking institutions has caused many projects in Africa to fail. Rural banks in India, by means of customized loans and microfinance, have enabled tens of thousands of people to enjoy the benefits of solar cell electricity.

Market development

A self-sustaining local market for solar energy is the priority if poverty alleviation is the objective. 'The local markets consist of small and micro enterprises [that] do not operate with long-term theoretical business plans', says van der Vleuten. 'Furthermore, the major obstacle to local market development is often the limited involvement of and support for such entrepreneurs. Therefore it is better to work within the reality of existing entrepreneurial networks than to demand entrepreneurs to adopt "alien" business models supposedly needed to become effective in the solar sector'.

The American Energy Access Foundation and ETC Energy's Energy Access programme provide case studies of best practices that prove delivering needs-based solar systems is possible. 'Close coaching of solar entrepreneurs appears to be one of the key factors of success. Market development, in



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Solar panels for community use in Konseguela, Mali.

Africa especially, is a matter of flexibility and being capable of overcoming setbacks', says Van der Vleuten. But it is certainly also helped by progressive government policies, such as exempting PV products from VAT and import taxes, which Mali and Kenya have done. A local solar market has developed in Kenya over the past 10-15 years. Up to 30,000 solar systems are sold each year, and some 5000 Kenyans earn an income from them.

Solar systems give rural Africans a light in the evening and help them charge their precious mobile phones. But industrial opportunities for Africa are a long way away. Large-scale production of panels for export to Europe is not likely to happen. These panels are manufactured on automated production lines in Europe, the US, Taiwan and China.

Innovative applications of solar, such as seawater desalination, is still a very expensive solution for the Sahel. But it is highly relevant. In dry areas, pumping water is an environmental hazard. Small electric grinders can run on solar power. But for ploughing fields, solar is not yet suitable. This requires a combined use of wind, biomass and solar energy. Since Africa has all of these in abundance, there is still a world to gain. ■

By **Ellen Lammers**