

A worker in a green uniform and hard hat is inspecting a large array of solar panels. The panels are arranged in rows and are tilted. The worker is leaning over one of the panels, possibly checking for damage or cleaning it. The background shows more panels and some greenery.

*Mini-grids business experiences in
Western Africa*

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Rural electrification programmes in West Africa

Some Sub-Saharan African countries with mini-grid concessions

Country	Mini-grid program use	Years in operation	Number of mini-grid concessionaires and mini-grids in operation	Total number of connections made through mini-grid concessions	Average number of connections per mini-grid
Burkina Faso	Electricity cooperatives (Coopels)	2003-present	Concessionaires = 92 Mini-grids = 92	14.250	155
Guinea	Decentralised Rural Electrification (PERD) Project	2006-present	Concessionaires = 26 Mini-grids = 26	8.248	317
Madagascar	Mini-grid concessions	2005-present	Concessionaires = 30 Mini-grids = 30	7.100	237
Mali	Projets de candidatures Spontanées d'ER (PCASER)	2003-present	Concessionaires = 68 Mini-grids = 250	78.000	312
Senegal	Projets d'ER d'initiative Locale (ERIL)	2003-present	Concessionaires = 4 Mini-grids = 4	500	125

Source: Rural electrification concessions in Africa by WB (2017); figures are from end 2015 / start 2016

Strategy rural electrification in Mali: 3 approaches

Spontaneous local proposals (PCASER) :

Based on issuance of preliminary permits on the basis of manifest of interest from operators, NGO's, associations...The PCASER revealed a combination of speed of project approval and good governance.

(Bottom-up method)

Call for tenders :

Tender documents are written by AMADER (REA) for the choice of operators that are authorised in the realisation and exploitation of rural zone concessions.

(Top-down method)

Call for proposals :

AMADER proposes to operators the conditions for electrification and exploitation of disadvantaged communities with a certain level of subsidies, a number of customers and specific tariffs for different services.

(Bottom-up method)

**Authorisation for electrification is provided by the Ministry of Energy
(Authorisation Decree)**

Strategy rural electrification in Burkina Faso

Unique structure built around electricity cooperatives (COOPELS)

- The Fond de Development de l'Electrification (FDE) allows cooperatives formed by village leaders and entrepreneurs to be electrified. Concession contracts are signed with each COOPEL.
- The cooperative recruits a builder and a private technical operator.
- FDE provides a mix of loan and grants to help pay for the construction of transmission lines (100% grant) and distribution lines (60% grant).
- Of these small concessions, 15% generate their own power; the remaining 85% distribute power purchased on contract from SONABEL.

(Bottom-up method)

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Electrification Rurale d'Initiative Locale (ERIL)

- Goal: stimulate the development of small, bottom-up village level concessions that would operate in isolation from the network of SENELEC, the national utility.
- Detailed guidelines and formulas for the program were set up, covering the allocation of subsidies, the collective purchase of equipment, and the selection of engineers and construction firms to be hired by the Agence Sénégalaise d'Electrification Rurale (ASER).
- Under the concessions: assets are state owned, and tariffs are determined by the regulator (and not by ASER).
- However the complete bidding process occurred only once (in 2006) with four mini-grid concessionaires selected for support. Three of the four were established by local entrepreneurs and one by a donor.

(Bottom-up method)

Rural Zone concessions

Programme prioritaire d'Electrification Rurale (PPER):

- 2003-2004: Identification of 10 large target areas (servicing 10.000 – 30.000 customers) not served by the national utility SENELEC.
- International tender: bidding of concessions. Winners are the operators that propose to connect the largest numbers of households during the first 3 years.
- Technology neutral, at the lowest costs, 25 years concession, tariff system agreed with the regulator.
- 6 private parties signed a concession agreement. Share of private financing ranges from 22 to 68 percent of total financing.

(Top-down method)

Strengths of rural electrification framework in Mali

- Policies clearly stipulates the priority for rural electrification and the use of renewable energies.
- AMADER holds a great deal of responsibility over the rural electrification sector serving as promoter and regulator.
- Close cooperation between the government and operators.
- Staff AMADER: well trained and well aware of the challenges of rural electrification; they are adequate in finding a consensus and fast processing of issues and questions.
- Well elaborated (and complete) authorisation contract between government and private operators (15 years).
- Bottom up approach.
- Transparency of national policies (such as related to grid extension).
- Regular meetings between ministry of energy, AMADER and all operators.

What can be improved

- More efforts to mitigate risks related to regulatory, economical, fiscal, policy issues.
- Public support through co-financing grants and risks mitigation mechanisms still important.
- Minimize trial and error through benchmarking and exchanges with other countries. This will help to accelerate the electrification process.
- It is important to have dedicated institutional structures and to have an independence from political agendas to ensure that efforts are sustainable and electrification objectives are not interfered according to politicians personal agendas.
- Revision of the legal framework that allows a sustainable management of rural electrification projects by the private sector (in case of minigrids that have to be transferred to the national electricity company,...).

Thank you for listening



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