Mozambique: Private Participation in Isolated Electrical Grids

Following the passage of the Electricity Law in 1997 which de-monopolized EDM, the national utility, and allowed private sector participation in the industry, the Urban Household Energy Project funded a pilot isolated grid electrification project in two coastal towns in Mozambique. Low-cost electricity services were extended to the two isolated areas after an enabling framework had been created for private sector participation.

Impact on the ground

- Cost recovery tariffs were introduced. The tariffs were set to generate revenues to cover all costs including the management fee, depreciation, and a return to the government of about 8 percent on its capital investment.
- More than 60 new jobs were created during construction.
- About 400 households/industries now enjoy 24-hour electricity supply. The demand growth exceeded the projection by 50 percent, with a monthly growth of over 10 percent.
- Obsolete low-voltage overhead lines and some poles were replaced and new transformers and other facilities were placed. The grids were extended to the Vilankulo airport which has become a main hub to bring in an increasing number of tourists.
- Noise pollution from the gas generators was contained by placing them in sound-proof power houses with the high boundary walls.
- A number of streetlights have been built along the main roads and around the public places. The estimated electricity consumption for streetlighting is about 5 percent of electricity generated, which is paid for by the electricity users.
- Better lighting improved health clinic services and extended their operating time.
- The power sector reforms that permitted the creation of independent grids with cost-based tariffs were rated as a "significant achievement" by the Bank's internal independent review (OED).
Lessons learned

- It is possible to significantly reduce electrification costs via lower-cost options, i.e., independent grids rather than costly transmission extensions and use of readyboards.
- It is difficult to estimate the suppressed demand and willingness and ability to pay. The average electricity tariff for consumers is estimated at MT 1,558 (US cents 12.6)/kWh, which is significantly higher than the current average national tariff at US cents 7.5. After the systems were commissioned, demand grew much faster than anticipated at the time of the feasibility study.
- The electricity law restructured the power sector, which set the legal framework for private participation in the program and sustainable sector operation. However, full reform implementation is not a prerequisite for private participation in distribution.
- The private sector can be attracted to participate in rural electrification schemes, even in a poor country, if the appropriate legal framework and risk management options are in place, including the assurance of a level playing field in terms of competition and the ability to charge full cost-recovery tariffs.
- Financial support for house-wiring/connections and for the purchase of appliances helps increase coverage and build load.
- Consumers are able and willing to pay higher tariffs in return for improved services and theft can be avoided. Non-technical distribution losses are very low (around 5 percent) and collection exceeds 98 percent.
- The availability of electricity stimulates the development of small and micro enterprises and led to increase in new private investments.

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