

# MADAGASCAR



# RURAL SCHOOLS ELECTRIFICATION



## The Context

The project « **Solar Electrification of fifteen school establishments in rural areas in Madagascar** » is the result of a partnership between UNESCO, the international firm PANASONIC and OPEP Foundation.

This project comes within the framework of the International Foundation for Development. It aims at **promoting Education by electrifying schools** that were not connected to the local power grid. Photovoltaic modules were used as a mean to supply renewable energy for schools to be energy self-sufficient.

## Our mission

The project also consisted of providing **computer equipment and Internet connection hardware**.

Enviroearth was responsible for the overall project management, namely:

- System Design according to IEC standards provided (to each school)
  - 2 inverters
  - 2 battery charge controller
  - a 9.6kWh battery bank
  - 4 PV modules (120W)
  - Earthing system
- Establishment of a **strategy for solar electrification**,

- **Lighting classroom** and power plug installation
- **Supply, installation and commissioning** of computer equipment connected to internet service,
- **User** (teachers and students) and **maintenance training** regarding the equipment supplied (photovoltaic and computer)

## Our Project Management

Main steps:

- **Research and establishment of a partnership** with local businesses,
- **Validation of choice of selected schools**,
- Finding and **replacing five of the fifteen institutions** due to lack of GSM network coverage,
- **Installation phase**.

From a **technical point of view**, the **structure of schools** was a major challenge, especially regarding the condition of the roof, the age of the buildings and the classroom configuration.

The delivery of the equipment on the island, the location of schools and access at each site were also difficulties our engineers had to master in order to complete the mission successfully.

The presence of an Enviroearth project manager and a team of six

**local technicians** was necessary to achieve the fifteen facilities on time (two months). Our team has worked with a lot of **rigor and responsiveness** throughout the installation phase to ensure that each installation is identical in terms of quality, user safety and aesthetics.

## The project in figures

- **15 electrified schools**
- installed capacity of **7.2 kWp**
- Over **2 500** beneficiaries among which **400** have been formed,
- More than **2 500 km** covered.

## Our added-value

For this project, our team has overcome many difficulties and **anticipated various risks and constraints**.

**Our international experience in managing complex projects**, especially in terms of **logistics and adaptation to the local context** - such as isolated areas or strong geographical constraints areas - was our main force

Enviroearth carried out this project thanks to the **collaboration with the Malagasy National Commission for UNESCO, the Ministry of Education and the representative office of UNESCO in Paris and Madagascar**.