RURAL ELECTRIFICATION PLANNING

DURATION

10 days

TARGET AUDIENCE

Ministries in charge of energy

Rural electrification agencies

National utilities

Engineering firms

Engineering school and training institutes

Independent consultants

PREREQUISITES

Mastering GIS software

A FEW REFERENCES

CI-ENERGIES (Ivory Coast)

REA (Tanzania)

MIME (Cambodia)

SBEE (Benin)

USED TOOLS

Manifold©, GEOSIM©

**Innovation Énergie Développement**

2 chemin de la Chauderaie

69340 Francheville FRANCE

Telephone : +33 4 72 59 13 20

Fax : +33 4 72 59 13 39

Mail : ied@ied-sa.fr

Website: www.ied-sa.fr

OBJECTIVES

This course aims to answer all questions related to rural electrification planning, whatever the size of the study area : Which settlements should be electrified in priority in order to maximize the impact on population ? What is the current and future demand for electricity services ? What are the most appropriate energy supply options ? Where can we support the use of renewable energy ? Which solutions can we offer to the most remote communities ?

This course is based on Geosim©, a tool to support planning decisions. Geosim© is an interactive software base on GIS technology, designed to create rural electrification planning scenarios.
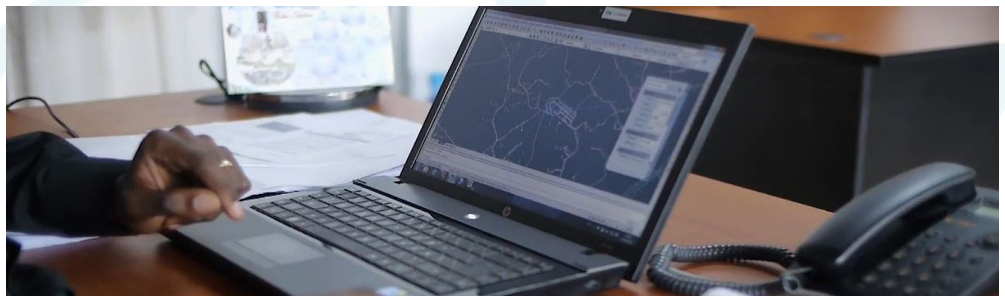
TRAINING PROGRAMME

1. Introduction to rural electrification — GEOSIM©
♦ Principles and concepts of rural electrification
♦ General presentation of the tool and its modular approach
♦ Setting and preparation of the GIS database

2. Spatial analysis of a geographical area
♦ Theoretical concepts
Practical session : Spatial analysis on a limited geographical area

3. Load forecasting
♦ Presentation and demonstration of the module
Practical session : Load analysis of a limited geographical area

4. Supply options
♦ Presentation of the module, comparative analysis of supply options
Practical session 1: Network extension and voltage drop validation,
Practical session 2: Decentralized projects and renewable energy (hydro, isolated diesel, biomass, PV and wind hybridization…)
♦ Pre-electrification solutions and assessment of investments
♦ Sensitivity analysis

5. Preparation of electrification scenarios
♦ Production of project reports ad maps
♦ Economic and social indicators of projects (beneficiaries, electrification rate..)
♦ Investment sequencing and project portfolio