Ecodevelopment and Resilient Energy Policies

Laura E. Williamson - Project Director

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Renewable Energy Policies for Climate Resilience, Sustainable Development and Poverty Reduction

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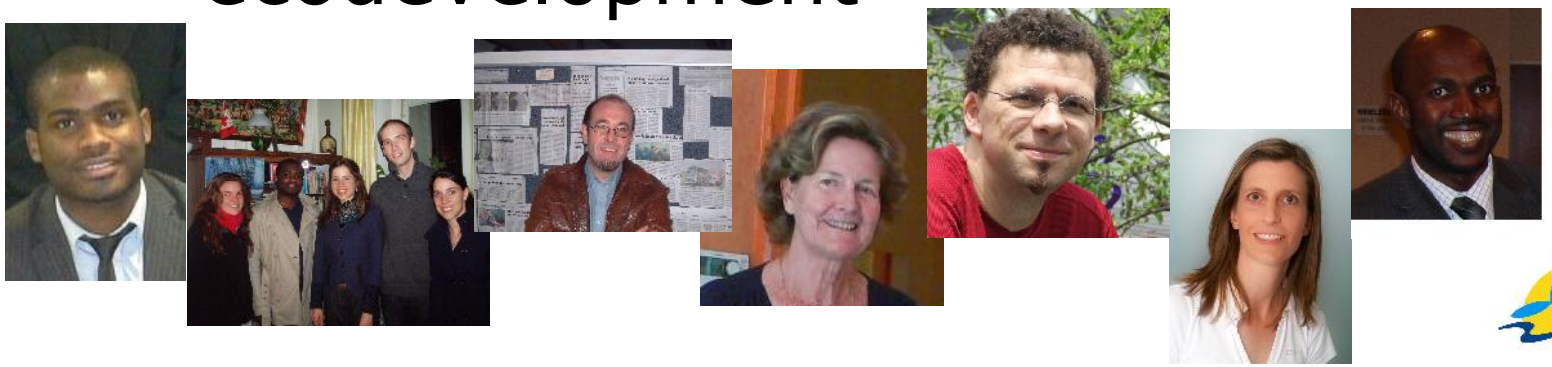
- International, non-profit think tank
- Network of energy experts
- Develop tools to ensure delivery of safe, clean, affordable energy services that support ecodevelopment



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Ensuring Energy Security in a Changing Climate

- Climate change impacts **both** the demand and supply-side of the energy equation:
  - Impacts of temperature and climatic changes - direct AND indirect, immediate or delayed
  - Role of efficiency in increasing security (decreasing demand rather than increasing costly supply)
- Main obstacle: Lack of commonly accepted parameters/indicators to compare:
  - Adaptation needs
  - Effectiveness of adaptation measures
  - Total social costs (free of subsidies & including externalities)

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Million $$ Question

- How to climate-proof energy systems and policies while also meeting other goals such as maintaining a healthy ecosystem, achieving development priorities and improving the overall quality of life?

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Response

1. Need to address policy and system aspects:
   - Understand the context in which energy services are provided and used,
   - Assess how climate change may impact the balance of energy supply and demand
1. Proposed solutions must be part of a genuine strategy of ecodevelopment:
   - Devised and adopted by citizens living in the area (agenda 21)
   - Environmentally sound
   - Technologically and economically sustainable

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HELIO's Response…

- Develop a tool

Traitement de l'information pour les politiques énergétiques et l'écodéveloppement

Processing Information for Energy Policy and Ecodevelopment

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TIPEE is…

- …a tool to help decision-makers make use of available information to make better energy decisions.
- …comprised of a methodology and a 24 easy to calculate indicators
- …allows decision makers to check how well national energy policies are contributing to ecodevelopment under fluctuating weather conditions.
- …designed to be applied NOW!

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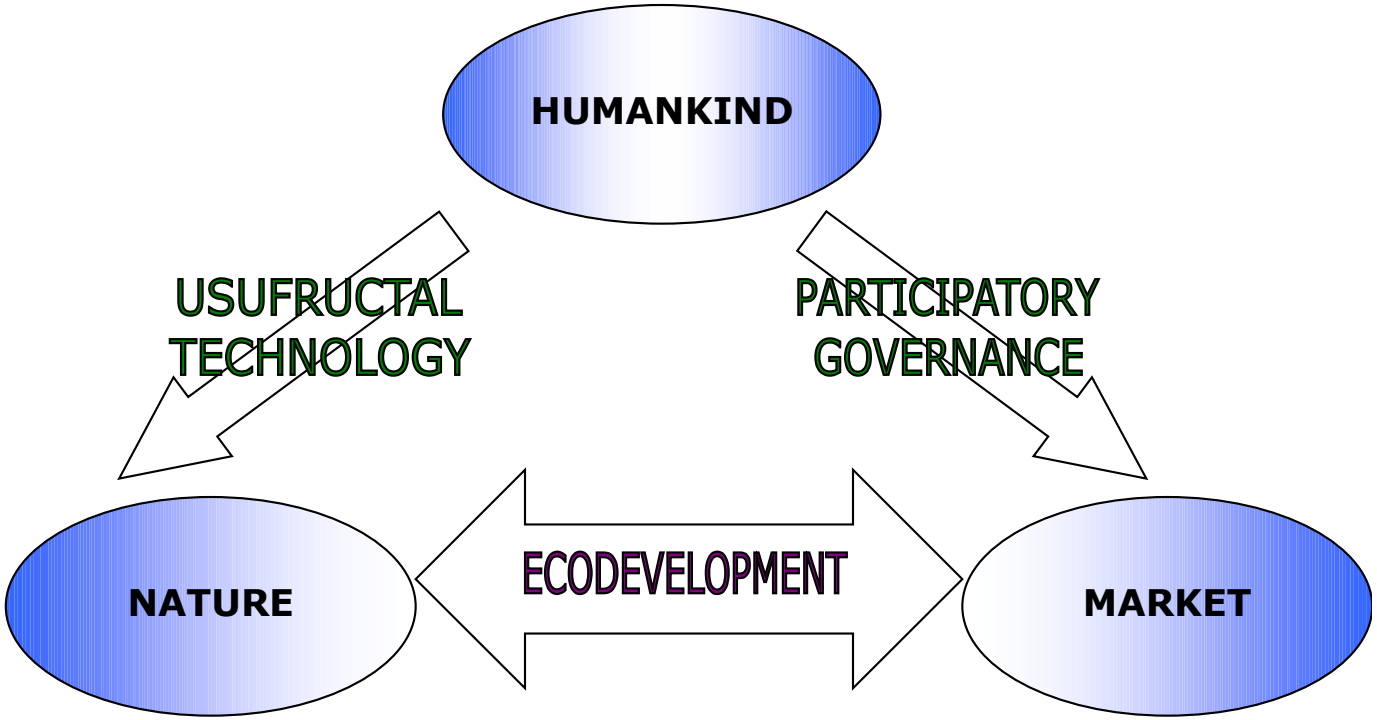
Underlying Principle: Ecodevelopment



Humans, utilising usufructal technologies use natural resources; through participatory governance, markets are controlled and regulated. It is through these processes and interactions that ecodevelopment is achieved.
(Source: HELIO International)

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Indicators 1-7

Environment	Indicators	Parameters
Indicator 1	Greenhouse gas emissions (CO_2)	Greenhouse gas emission (CO_2) from the energy sector
Indicator 2	Major local energy pollutant	Concentration or emission level of a significant energy-related local pollutant (CO, NO_x, or SO_x particulates) per capita
Indicator 3	Deforestation	Number of hectares of deforestation or loss of forest vegetation (biodiversity) used for energy purposes
Social		
Indicator 4	Electricity access	Number of households that are electrified
Indicator 5	Household energy burden	Proportion of household income spent on energy services
Economy		
Indicator 6	Non-renewable energy imports	External energy dependence
Indicator 7	Non-renewable energy reserves	Number of days of stock of non-renewable energy supplies

Indicators 8 - 14

Technology		
Indicator 8	Renewable energy	Deployment of modern, local renewable energy
Indicator 9	Energy efficiency	Energy intensity of industry; GHG emissions per unit of production; or energy intensity of the economy
Indicator 10	Quality of electricity supply	Length and recurrence of power cuts and variations in voltage
Governance		
Indicator 11	Income control	Reduction in the share of energy revenues that escape taxation
Indicator 12	Informed consultation	Public hearings and consultations on the impact assessments of proposed energy projects
Indicator 13	Citizen participation	Active participation of civil society (particularly women) in the energy sector
Indicator 14	Balanced governance	Balanced representation of energy demand and supply stakeholders as well as transparency in the decision-making process

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Indicators 15 - 24

Vulnerability		
Indicator 15	Vulnerability of thermal power supply	Vulnerability of power plants (and refineries if applicable) to flooding
Indicator 16	Vulnerability of renewable power systems	Vulnerability of renewable energy systems to climatic variations
Indicator 17	Vulnerability of transmission lines	Length of transmission lines/distribution networks threatened by extreme weather events
Resilience		
Indicator 18	Investment assets	Rate of domestic savings/GDP
Indicator 19	Mobilisation of renewable energy potential	Proportion of national investment earmarked for renewable energy and energy efficiency
Indicator 20	Local technical capacity	Annual number of science and engineering graduates per total population
Indicator 21	Scientific information	Availability of risk maps (flooding, desertification, contamination)
Indicator 22	Siting guidelines	Climate-proofing guidelines for power plant siting and building
Indicator 23	Crisis management	Emergency plans for power plants
Indicator 24	Insurance	Availability of domestic insurance policies that account for climate change-related damages

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Application of TIPEE

- Two countries – sub-Saharan Africa
  - Cameroon
  - Togo
- Composition of national teams
  - Systèmes d'information énergétique (SIE)
  - Stakeholders: public, private, civil society
  - Replication of TIPEE in other countries

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Implementation

- Consultation et support
  - Government support
- Workshops
  - Regional
  - National
- Report writing and fine-tuning
- Meeting with decision-makers

ORGANISATION INTERNATIONALE DE la francophonie

Institut de l'énergie et de l'environnement de la Francophonie IEPF

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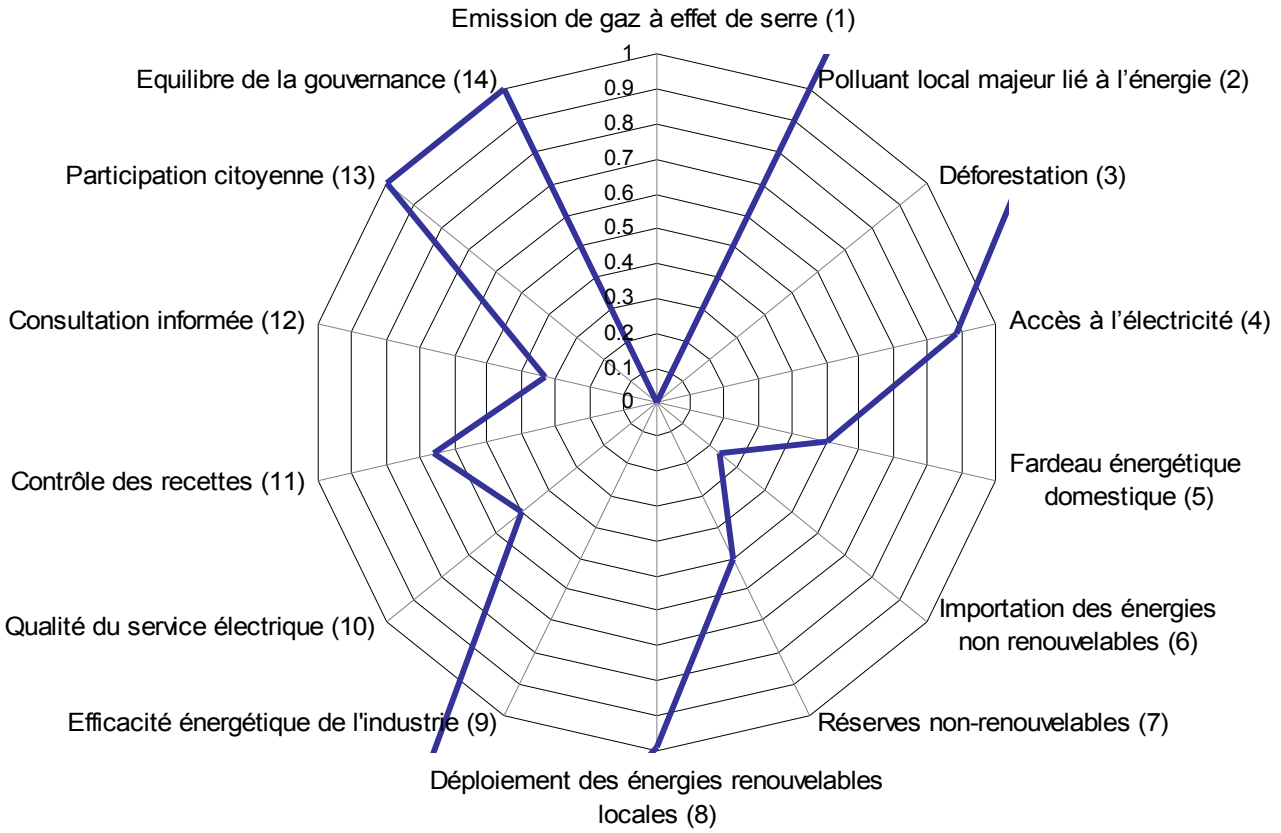
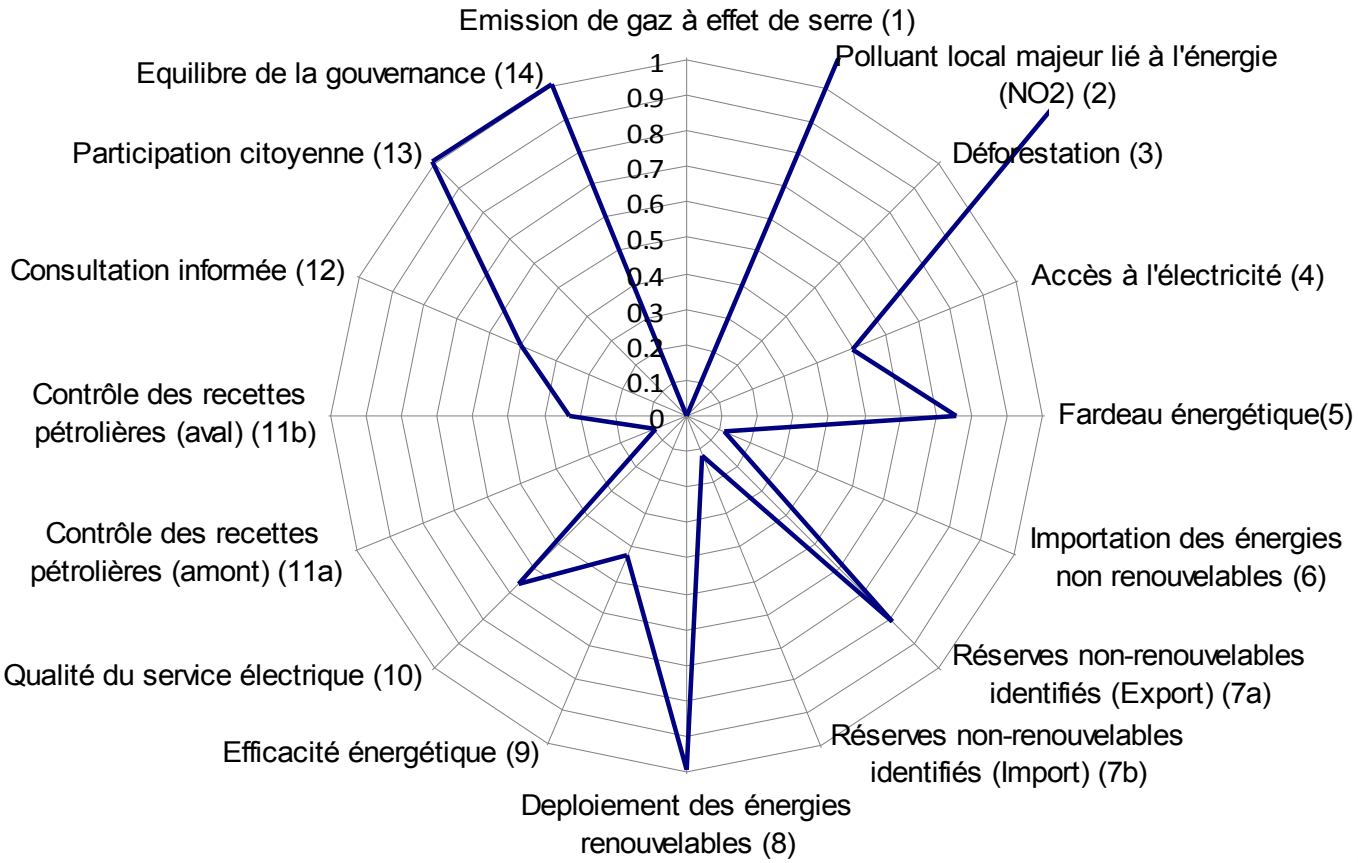
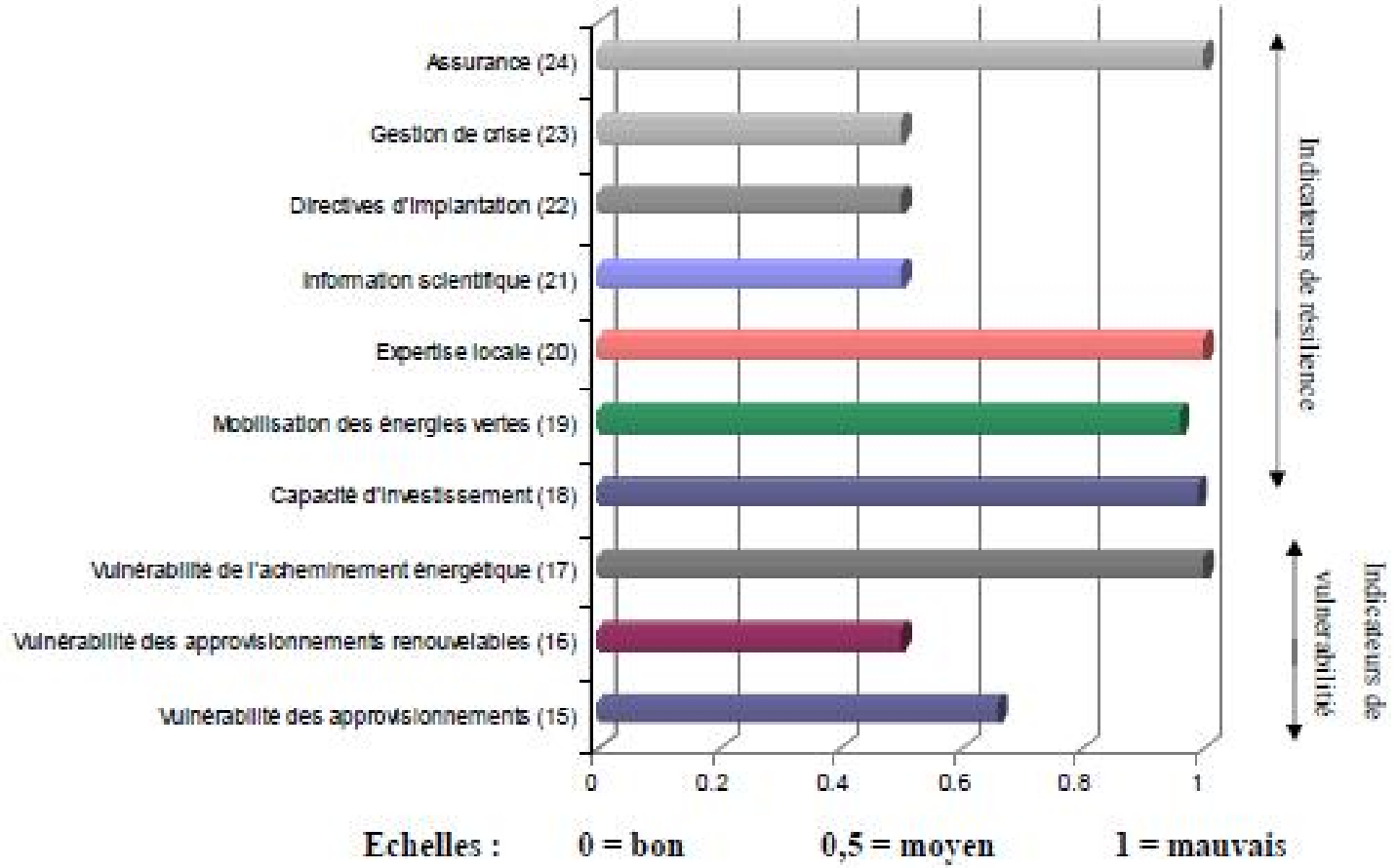
Togo Indicators: 1-14



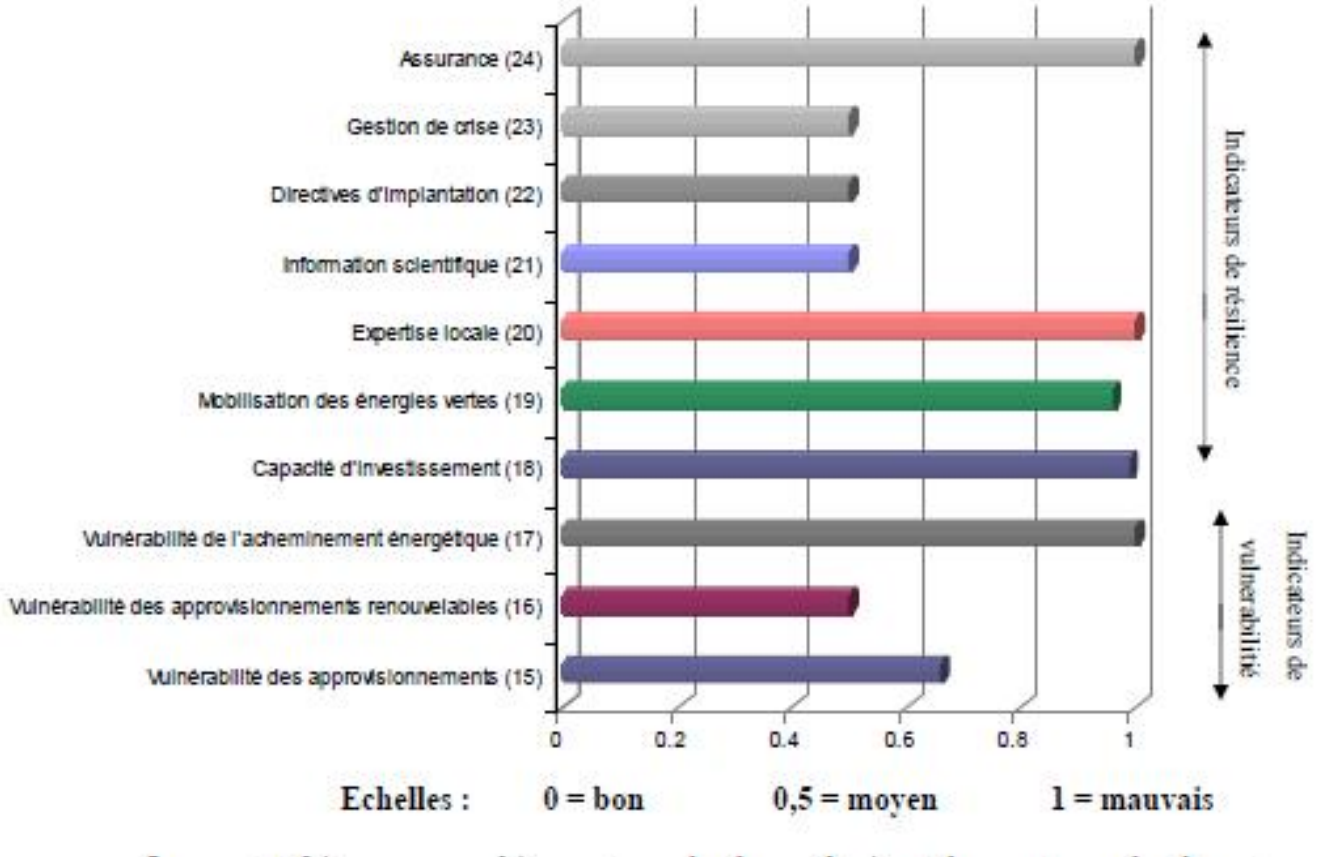
Cameroon Indicators:1-14



Togo Indicators: 14-24



Cameroon Indicators 15-24



Conclusions

- Report is just a start. Need to carry out good calculations **BUT …**
  - Indicator results are not the most important:
    - What is the history **BEHIND** the numbers?
    - What is the **EVOLUTION** from one year to the next?
  - Use available country data – complete the gaps with institutional knowledge.

It is better to approximately right than precisely wrong…

- Replication of TIPEE in other countries

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Use of TIPEE to ensure that Energy supply is Sufficient, Sure, Secure and Supportive

- Like air and water, **energy access is a fundamental right**. It is an essential service
- The role of the decision maker is to ensure that every person has access to clean, safe, energy services
- This can be done by:
  - Ensuring that energy is part of **national ecodevelopment strategy**
  - Making decision in cooperation with beneficiaries
  - Using equipment that is resilient, efficient and well–maintained.
  - Installing equipment in low risk areas
  - Having an emergency crisis management process in place
  - Ensuring diversified and decentralised energy supply
    - Avoid transmission issues
  - Ensuring affordable price for all

- **Apply the TIPEE indicators to any new proposed energy installation…**

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TIPEE:

Traitement de l'information pour les politiques énergétiques et l'écodéveloppement

Processing Information for Energy Policies Conducive to Ecodevelopment

Check how well governments are providing their citizens with accessible, clean, and affordable energy services!

What it is...

TIPEE is a tool that helps decision-makers make use of available information to make better energy decisions.

It is a methodology and a series of indicators that allows decision makers to check how well national energy policies are contributing to ecodevelopment under fluctuating weather conditions.

TIPEE stands for: Traitement de l'information pour les politiques énergétiques et l'écodéveloppement / Processing Information for Energy Policy and Ecodevelopment)

Why this approach...

Energy is central to our existence; however energy's ubiquitous nature means that it is too often "ignored" when it comes to developing adaptation activities. However, without a good supply of energy we as *humans would find it extremely difficult to survive, let alone prosper.*

Given the importance of energy—both from social and economic development perspectives—**identifying, understanding and reducing**

Join us at COP 17 to hear about the TIPEE work!

COP17/CMP7 UNITED NATIONS CLIMATE CHANGE CONFERENCE 2011 DURBAN, SOUTH AFRICA

Nov. 28, 10:30 EU Pavilion, Room: Warsaw

Dec. 1, 11:30 Hex River

Dec. 2, 16:45 Indwe River

National Reports available for consultation...

- Cameroon
- Togo

TIPEE Manual... is now available for download. In FR only.

Click here for a **short summary in English**.

For more information about this publication **email us** at: helio(at)helio-international.org

www.helio-international.org/projects/TIPEE.cfm

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