Ways to Address Stakeholder and Energy Power in Rural Development

Olivier Dubois, FAO

UN-ESCWA EGM Meeting, Beirut, April 2016
Outline

- The ‘4Rs’ approach to address stakeholders’ power in rural development
- The ‘Water-Energy-Food’ Nexus approach to develop rural energy in a sustainable way
1. Addressing stakeholders’ power & relationships is key to rural development

Rural development often entails multi-stakeholder processes – hence negotiation

Need to address stakeholders’ power & relationships
Why is the assessment of local stakeholders’ power important?

- Because the local *power situation greatly influences the quality of agreements*

<table>
<thead>
<tr>
<th>Active Participation</th>
<th>Passive Participation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power disparity</td>
<td>Power parity</td>
</tr>
<tr>
<td>Likely unstable agreements</td>
<td>Likely stable agreements</td>
</tr>
</tbody>
</table>
Links between power, stakes & relationships in multi-stakeholder negotiations

(Source: Vodoz, 1994)
Defining/negotiating roles via the ‘4Rs’ addresses stakeholders’ power & relationships

Stakeholders’ roles is an indirect way of addressing power issues. ‘4Rs’ help define roles to that effect

Strengthening of Institutional & organisational development is most effective once power, relationships and roles are addressed
What are the ‘4Rs’ all about?

➢ The ‘4Rs’ framework *clarifies local stakeholders’ roles* via
  - The *balance* of *Rights, Responsibilities and Returns/Revenues*, both within and between stakeholder groups
  - The status of stakeholders’ mutual *Relationships*:
    - quality (good/medium/fair)
    - type (financial, social, technical, etc)
    - informal/formal
3 Types of ‘4Rs’ can be defined

- ‘4Rs’ *according to documents* (policies, regulations, projects)
- ‘4Rs’ *according to the reality*
- *Future* ‘4Rs’ (desired and/or to be negotiated)
How has the ‘4Rs’ framework been used?

- Has been used since 1997 by Practitioners in 7 African countries, Indonesia and Brazil.
- I use it in my field work all the time!
- Watch out if your kids want to negotiate their ‘4Rs’!
Using the ‘4Rs’ tool

<table>
<thead>
<tr>
<th>Stakeholders’ 3Rs</th>
<th>Stakeholder 1</th>
<th>Stakeholder 2</th>
<th>Stakeholder 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rights</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Responsibilities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Returns</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stakeholders’ Relationships</th>
<th>Stakeholder 1</th>
<th>Stakeholder 2</th>
<th>Stakeholder 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stakeholder 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stakeholder 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stakeholder 3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
How has the ‘4Rs’ framework been used?

Ex 1: To assess the real ‘4Rs’ - in Lukolongo, Zambia (1997)

- Status of stakeholders’ relationships

<table>
<thead>
<tr>
<th>Between and</th>
<th>Farmers</th>
<th>Private sector</th>
<th>Forestry Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private sector (charcoal &amp; curio)</td>
<td>a) medium/fair</td>
<td>b) financial</td>
<td>c) informal</td>
</tr>
<tr>
<td>Forestry Service</td>
<td>a) medium/fair</td>
<td>b) technical/reg.</td>
<td>c) infor/formal</td>
</tr>
</tbody>
</table>
Ex 2: To *compare policies/regulations* – in Zambia (1997)

<table>
<thead>
<tr>
<th></th>
<th>Rights</th>
<th>Resp.</th>
<th>Revenues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forest Act</td>
<td>Gov</td>
<td>Gov.</td>
<td>Gov. &amp; local people</td>
</tr>
<tr>
<td>NEAP</td>
<td>Gov.</td>
<td>Gov. &amp; local people</td>
<td>Gov. &amp; local people</td>
</tr>
<tr>
<td>Land Act</td>
<td>Gov. &amp; trad chiefs</td>
<td>Gov. &amp; trad. chiefs</td>
<td>Gov. &amp; local people</td>
</tr>
</tbody>
</table>
Ex 3: In the *Project Cycle*: Baseline – Monitoring - Evaluation - Projects in Niger 1997)

- Compare project objectives and results

<table>
<thead>
<tr>
<th>'4Rs'</th>
<th>Project objectives</th>
<th>Project results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rights</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respons.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Returns</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relations</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
How has the ‘4Rs’ framework been used?


A Strengths, Weaknesses, Opportunities and Threats (SWOT) Analysis of the ‘4Rs’ in projects

<table>
<thead>
<tr>
<th>'4Rs'</th>
<th>Strengths</th>
<th>Weak.</th>
<th>Opport.</th>
<th>Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rights</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resps.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Returns</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Why use the ‘4Rs’?

- Important to clarify and agree on local stakeholders’ roles before assessing capacity needs and programmes.

- Clarifying roles as way into institutional capacities in addition to technical capacities (adequacy of resources).

- An indirect way for assessing local stakeholders’ power.
2. Current Nexus Challenges – Already Huge

- 0.87 billion people are undernourished
- 1.3 billion people lack access to electricity
- 0.9 billion people lack access to safe drinking water and 2.6 billion to adequate sanitation

Exacerbating Factors

Climate Change  Population growth  Consumption patterns
Huge Nexus Challenge in the Future

- Water-Energy-Food Nexus: 60% more food by 2050 – mostly from yield increase – hence a lot more energy, 40% more water and 40% more energy in 2030
- Stressed Natural Resources
- Climate Change

Need to “Do More with less” / “Save and Grow” and Be Innovative
Some Issues on the Water-Energy-Food Nexus

- Trade offs between water use efficiency and energy use efficiency (e.g. gravity versus drip irrigation)?

- Trade offs between water for agriculture and water for energy

- How can “free energy” influence the use of water and land in agriculture?
The FAO Approach to the Water-Energy-Food Nexus
The Nexus Assessment is

A structured way to undertake a WEF nexus assessment in to:

1. **Raise awareness** on nexus tradeoffs and **synergies** understanding the key interactions between WEF systems in a specific context

2. Evaluate nexus **sustainability** (bio-economic pressure) **of a context**

3. Evaluate the **performance** of a (technical or policy) **intervention**

4. **Compare interventions** and derive informed **response options**
Raising awareness on nexus tradeoffs and synergies

<table>
<thead>
<tr>
<th>Synergies</th>
<th>Access to modern energy services</th>
<th>Efficient use of energy</th>
<th>The energy produced and consumed is clean/renewable</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Tradeoffs</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Food availability</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
</table>
| Yield increase and income | Access to modern energy leads to higher yields, therefore an increased food availability | Efficient use of energy | Energy bill

- **Agricultural productivity**: There is the risk that energy efficiency is achieved at the expense of agricultural productivity (e.g. reduced use of fertiliser)

- **Energy efficiency and economic return**: Reduced use of fossil fuel in agri-food systems has usually a positive effect on economic returns of food production in the long run

- **Bioenergy**: Food crops used for bioenergy can compete for food availability (although they can increase food availability through yield increase that leads to both food and bioenergy production)

- **Livestock production**: The use of animal waste and manure for biogas production increases the overall energy efficiency.
Assessing the Nexus Status of the Context

- **Green**: Positive/abundance
- **Orange**: Neutral/no scarcity, no abundance
- **Red**: Negative/Scarcity

W: Water; E: Energy; F: Food; C: Capital; L: Labour
Nexus Performance of Intervention per se and compared to Nexus Status of the Context

Performance per se

Not enough!!

Performance versus context status
Comparing different interventions in the same context

- Solar irrigation in region A
- Hybrid diesel solar irrigation in region A
- Mini hydro in region A
Responses: Examples of Nexus applications

Solar pumps – many places

Wind energy for water desalination for agriculture – Spain

Bioenergy from degraded soils + treated discard water for irrigation – South Africa

Spain
Nexus Example: Electricity for irrigation, India

- Often “free” power to irrigation
- This policy is **not sustainable** due to:
  - over-exploitation of groundwater
  - inefficient use of electricity
  - financial problems for energy utilities

**Energy sector only solution** - one-size-fits-all

Metering also **has problems**:
- improves energy efficiency but
- reduces access to energy for poorer farmers
Nexus-type solutions work better

- **Smart subsidies**: Minimum to each farmer – subsidy in KWh not $ and amount based on land size
- **Reduce leakages** in irrigation systems: reduced energy costs
- **Guaranteed energy when needed**: Synchronization of energy supply with irrigation needs
- **Adapt**: use less water intensive varieties
- **Diversify**: use crops that provide higher return per m³
Thank you for your attention

Olivier.Dubois@fao.org