Public perception of biofuels in different societies

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• Research, postgraduate studies and technical cooperation
• Tropical agroforestry, forests and biodiversity, watershed management, climate change...

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In Global Bio-Pact
- case study sugarcane ethanol in Costa Rica
- work package coordin. on public perception

WP 7 – Public perception of biofuels in different societies
What is public perception?

- Is defined in contrast with knowledge, absolute truth based on facts
  => important concept to deal with uncertain matters where both scientific knowledge and local knowledge are incomplete
- Refers to beliefs, opinions, attitudes (acceptance, resistance) of lay people
  => central in the dialogue between science and society, and possibly in policy-making
- Results from current experiences and information, and adapts over time
  => ephemeral, influenced by the context and by the values that are the basis of people’s interests and judgements
- Reveals hierarchy setting amongst criteria
  explain the reaction of people beyond what they directly experience

**PP is what people feels about a topic, their expectations and the risks they identify**
How did we analyse public perception?

- Review of a growing literature on PP of innovation with social relevance emphasizing the importance of non expert point of view in policy-decisions on environmental innovations with social relevance, => the role of media framing
- Initial test of the opinion poll type illustrating the difficulty to give a precise picture of PP at the national level => focus on the dynamics of PP
- Elaboration of an original methodological framework, accounting for the diversity of situations, around two fundamental interrogations
  - What are the business prospects with biofuels? <-> bottom-up factors
  - How biofuel coincide with public objectives? <-> top-down factors
- Design of a step-by-step common methodology adapted and applied in each case study

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Case-study realized in each of 8 countries

**Mapping biofuel stakeholders**  
on who is influencing biofuel PP at which level

**External influences and crisis**  
on external factors or sudden events  
influencing biofuel PP

**Media analysis**  
on the frequency and depth with which  
biofuel issues are treated in the media and  
their framing

**Cultural parameters**  
on the possible intervention of religious,  
ethical, moral, socio-historical standpoints

Desk and internet research methods  
+  
questionnaire to 30 lay persons  
+  
interviews to 10 experts  

=> synthesis

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Results of the case studies on PP (1/3)
- lack of specific knowledge on biofuel and quite positive appraisals revealing different national priorities linked with biofuel development

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Hierarchy-setting</th>
<th>Appraisal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina on soy oil and biodiesel</td>
<td>rural growth</td>
<td>(+)</td>
</tr>
<tr>
<td>Brazil on biodiesel and sugarcane ethanol</td>
<td>biofuel price from a consumer perspective</td>
<td>neutral</td>
</tr>
<tr>
<td>Costa Rica on biofuels in general, the Brazilian model</td>
<td>environmental innovation</td>
<td>(+)</td>
</tr>
<tr>
<td>Germany on E10 and biofuels in general</td>
<td>fossil fuel substitution</td>
<td>(-) by media, not so much by consulted people</td>
</tr>
<tr>
<td>Indonesia on palm oil production</td>
<td>energy security, economic development</td>
<td>(+)</td>
</tr>
<tr>
<td>Mali on Jatropha plantation</td>
<td>access to energy, agricultural production</td>
<td>(+)</td>
</tr>
<tr>
<td>Tanzania on Jatropha in different production scheme</td>
<td>rural development and poverty alleviation</td>
<td>(+) when small scale for local use (-) when large scale export oriented</td>
</tr>
</tbody>
</table>

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Results of the case studies on PP (2/3)

- positive PP out of expectations/promises, negative PP out of risks (experienced or foreseen)

<table>
<thead>
<tr>
<th></th>
<th>Expectations</th>
<th>Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Argentina</strong></td>
<td>Agro-industrial development Increased end value of products</td>
<td>Social, environmental in the longer run</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>fuel substitution at lower cost</td>
<td></td>
</tr>
<tr>
<td><strong>Costa Rica</strong></td>
<td>Environmental positive impacts. Added value to existing resources (molasses,</td>
<td>Costs, discontinuities in policy</td>
</tr>
<tr>
<td></td>
<td>degraded land...)</td>
<td></td>
</tr>
<tr>
<td><strong>Germany</strong></td>
<td>Lower dependence on fossil fuel</td>
<td>At world level: food security, deforestation, monoculture</td>
</tr>
<tr>
<td></td>
<td></td>
<td>At national level: damage to motors</td>
</tr>
<tr>
<td><strong>Indonesia</strong></td>
<td>Energy self-sufficiency. Job creation, economic development. Positive</td>
<td>Biofuel project failure for lack of commitment by the government and</td>
</tr>
<tr>
<td></td>
<td>environmental impacts</td>
<td>the industry, social injustice, deforestation</td>
</tr>
<tr>
<td><strong>Mali</strong></td>
<td>Energy independence. Income generating plantation (Jatropha)</td>
<td>Food insecurity. Failure of Jatropha plantation (high costs, low</td>
</tr>
<tr>
<td></td>
<td></td>
<td>yields and low selling prices)</td>
</tr>
<tr>
<td><strong>Tanzania</strong></td>
<td>Rural development through smallholders’ inclusion</td>
<td>Exclusion effects (land, incomes, energy)</td>
</tr>
</tbody>
</table>

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Results of the case studies on PP (3/3)

- PP may evolve rapidly on the basis either of failures to comply or of new risks

<table>
<thead>
<tr>
<th>Country</th>
<th>Main factor of possible change</th>
<th>Corresponding intervention required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>Environmental and social impacts</td>
<td>Research on longer term impacts</td>
</tr>
<tr>
<td>Brazil</td>
<td>Price and availabilities fluctuations</td>
<td>(Existing) incentives to regulate prices and supply levels</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>Direct experiences with biofuel</td>
<td>Information on biofuel main objective, research on how to meet it, incentives for better policy consistency</td>
</tr>
<tr>
<td>Germany</td>
<td>Consumer trust</td>
<td>Information on biofuel performance</td>
</tr>
<tr>
<td>Indonesia</td>
<td>Economics of biodiesel production</td>
<td>Research on how incentive changes will affect biofuel project economic sustainability</td>
</tr>
<tr>
<td>Mali</td>
<td>Market opportunities for Jatropha seeds</td>
<td>Incentives that allow the building of the biofuel from Jatropha value-chain</td>
</tr>
<tr>
<td>Tanzania</td>
<td>Production model that will finally emerge</td>
<td>Research on contribution of biofuels to development</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Incentives to better avoid options that contribute to exclusion</td>
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</tbody>
</table>

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Remaining questions on the dynamics of biofuel PP

• How the PP on one specific biomass or biofuel does affect PP of other biofuels and biomass products?
• Transnational effects
• How strong and how long do critical events modify PP?
• To what extent punctual cases are subject to generalization or extrapolation (negative results more than positive)?
• The importance of country-specific values and cultural parameters (globalization of the diversity of standpoints: techno-economic, nature conservation, livelihoods...)
• ...
How to account for public perception?

- Acknowledge the impossibility to isolate PP of biofuel from PP on wider issues of land use, climate change, energy security, ...
  - identify the interests at stakes in responding these challenges and the alternatives considered
- Remember promises made locally or nationally, and check what biofuel development is associated with (some specific cases? some national priorities?...)
- Understand what are the expectations behind PP and check whether they can realistically be fulfilled
- Communicate on concrete activities and outcomes when PP seems to be based on erroneous assessments
  
  However, more communication is not always the best response, without policy consistency or given the uncertainties on socio-economic impacts and the diversity of standpoints
- ...
Thank you very much!

THE PUBLIC PERCEPTION OF BIOFUEL SUSTAINABILITY

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HOW BIOFUEL DEVELOPMENT COINCIDE WITH PUBLIC OBJECTIVES?

WHAT ARE THE BUSINESS PROSPECTS OF BIOFUELS?

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