



**Green Economy and Sustainable Development:
Bringing Back the Social Dimension
CONFERENCE**

**An Institutional Analysis of Biofuel Policies and
their Social Implications in Developing
Countries: Lessons from Brazil, India and
Indonesia**

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A “green economy” of biofuels – *in whose benefit?*

- An alternative *liquid* energy at hand
- The rationale for developing countries: biofuel production to meet social goals
- But what determines the outcomes?



Brazil The long experience of ethanol

- Blending mandates since the 1930s and a major ethanol program since the 1970s.
 - **Currently:** E18-25, fiscal incentives, public credit, infrastructure, supportive diplomacy, etc.
- Accumulated knowledge, technology and institutional capacity
- A “green energy economy” for the country, meeting 19% of its total energy demands.



Brazil The long experience of ethanol

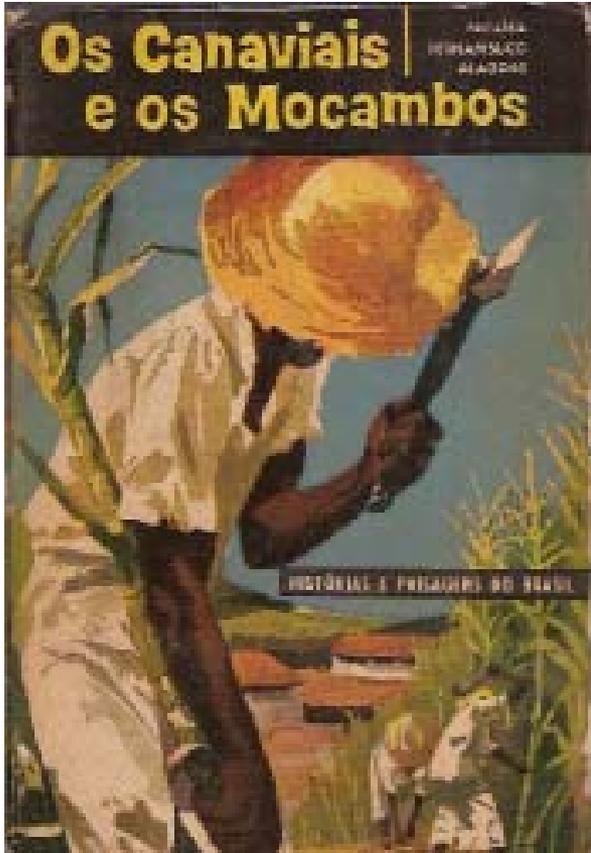
- Blending mandates since the 1930s and a major ethanol program since the 1970s.
 - **Currently:** E18-25, fiscal incentives, public credit, infrastructure, supportive diplomacy, etc.
- Accumulated knowledge, technology and institutional capacity – *but also (historical) ownership concentration and social exclusion*
- A “green energy economy” for the country, meeting 19% of its total energy demands.



Rural development through the creation of jobs?



Case I Brazil The long experience of ethanol



Social inclusion through biodiesel policy

- The National Program for Production and Use of Biodiesel (2004).
 - The Social Fuel Seal and contract farming schemes
- Challenges encountered and initial failures:
 - Poor technical assistance, low-quality seeds, and overestimation of castor yields under suboptimal cultivation conditions;
 - Attempt to convert traditional farming into non-food cash-crop monocultures;
 - Little organizational capacity of poor smallholders;
 - Below-market purchasing prices, uneven bargaining power, and monopsony.
- Results:
 - » Disappointing yields;
 - » Breached contracts,
 - » Bankrupted companies;
 - » Abandoned smallholders.



Social Fuel Seal

Social inclusion through biodiesel policy

- Significant policy changes in face of the imminent failure of the program:
 - Entrance of *Petrobrás Biofuels*;
 - Consociated food-and-feedstock cultivation;
 - Improved technical assistance and organizational support;
 - Mandatory participation of a representative social movement;
 - Higher feedstock-purchasing prices and flexible terms.



Social Fuel Seal

More than 100,000 households integrated by 2010 (4x since 2008); US\$ 630 million spent on feedstock-purchasing from smallholders in 2010, 5x more than in 2008.

Petrobrás has not been using castor oil for biodiesel but rather for more profitable markets (e.g. the oleochemical industry). Still, rural development outcomes have significantly improved. Biofuel policy?

Case II India Ethanol from sugar molasses and smallholders

- The world's 2nd largest sugarcane producer (after Brazil) and 4th of ethanol.
 - 5% blending mandate;
 - Economics incentives to the sugarcane industry;
 - New regulations facilitating inter-state ethanol trade;
 - Utilization of sugar molasses only.
- Five million smallholders supply the chain under contract terms
- No structural change envisaged.

“Policies that keep the poor poor”



The large-scale *Jatropha* experiment

- 13.4Mha of “marginal lands”, avoiding competition with food.
 - Target: 20% of biodiesel by 2012, reducing expenses on oil.
 - Rural employment and jatropha contract farming – *economic incentives to the industry, persuasive words to the farmers*
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■ Outcomes:

- Land conflicts: “marginal lands” under traditional uses crucial for rural livelihoods;
- Poor yields; uneconomical biodiesel production;
- Smallholders (once again) abandoned, bearing negative social, economic, and food security consequences.



Unwilling sugarcane producers

- Initial target of 5% ethanol blending by 2010; reduced to 3%. Fiscal incentives and subsidies for sugarcane mills to convert molasses into fuel-ethanol...
... with no success. No fuel-ethanol production in Indonesia at the moment.
- Again, the government's expectation is to create jobs in sugarcane plantations



Mixed social outcomes from oil palm

- Subsidies for conversion of palm oil into biodiesel, plus 2.5% blending mandate.
- *Nucleus-Plasma Schemes* of contract farming:
 - > A private company acquires 70% of the land (nucleus) and makes feedstock-purchasing contracts with smallholders on the rest (plasma).
- Smallholder incomes improve, but inequality structures remain.
- Transfer of land resources from smallholders to the private sector and later to the central government.



...and yet another (failed) *Jatropha* experiment

- Plan of planting 1.5Mha of jatropha by 2010 and 3Mha by 2015.
Distribution of jatropha seeds. Once more, incentives to the industry and words to the smallholders.
- Low yields;
- Uneconomical as a feedstock, compared to cheap palm oil;
- Smallholders once again abandoned without a buyer



Conclusions

- Rural development outcomes are inextricably linked to the types and designs of biofuel policy and production strategies adopted.
- There is a mismatch between the policy discourse and the policy instruments utilized. Blending mandates and economic incentives to biofuel industries will not, in themselves, lead to rural development.
- Eagerness to quickly build (renewable) energy supplies, without sufficient attention to the interests and needs of the rural poor, will lead to very limited social development results and easily to cases of “adverse incorporation”, where the poor are left worse off.
- Even the most successful contract farming experiences still do not envision structural changes on the value-chain. Smallholders forever remain raw-material suppliers, and inequality structures stay in place.

Key recommendations

- Biofuel policy-making should match its rural development discourse and address the needs for livelihood security, empowerment of the rural poor, and reduction of poverty and inequality.
 - The consociation of feedstock and food production can safeguard food security, reduce smallholder vulnerability, and strengthen existing livelihoods rather than replace them.
 - The inclusion of social movements at contract farming negotiations can increase smallholder bargaining power, ensure better representation of their interests, and secure fairer terms.
 - Capacity for locally-owned value-addition (e.g. seed-oil extraction) ensures better incomes, develops organizational ability, and can start to tackle the inequality structures that maintain poverty.