Imperial College London

WP3 Sustainability Analysis of Biofuels Production

Brussels, Belgium
November 24-25, 2009

Rocio Diaz-Chavez and Jeremy Woods
E-mail: r.diaz-chavez@imperial.ac.uk

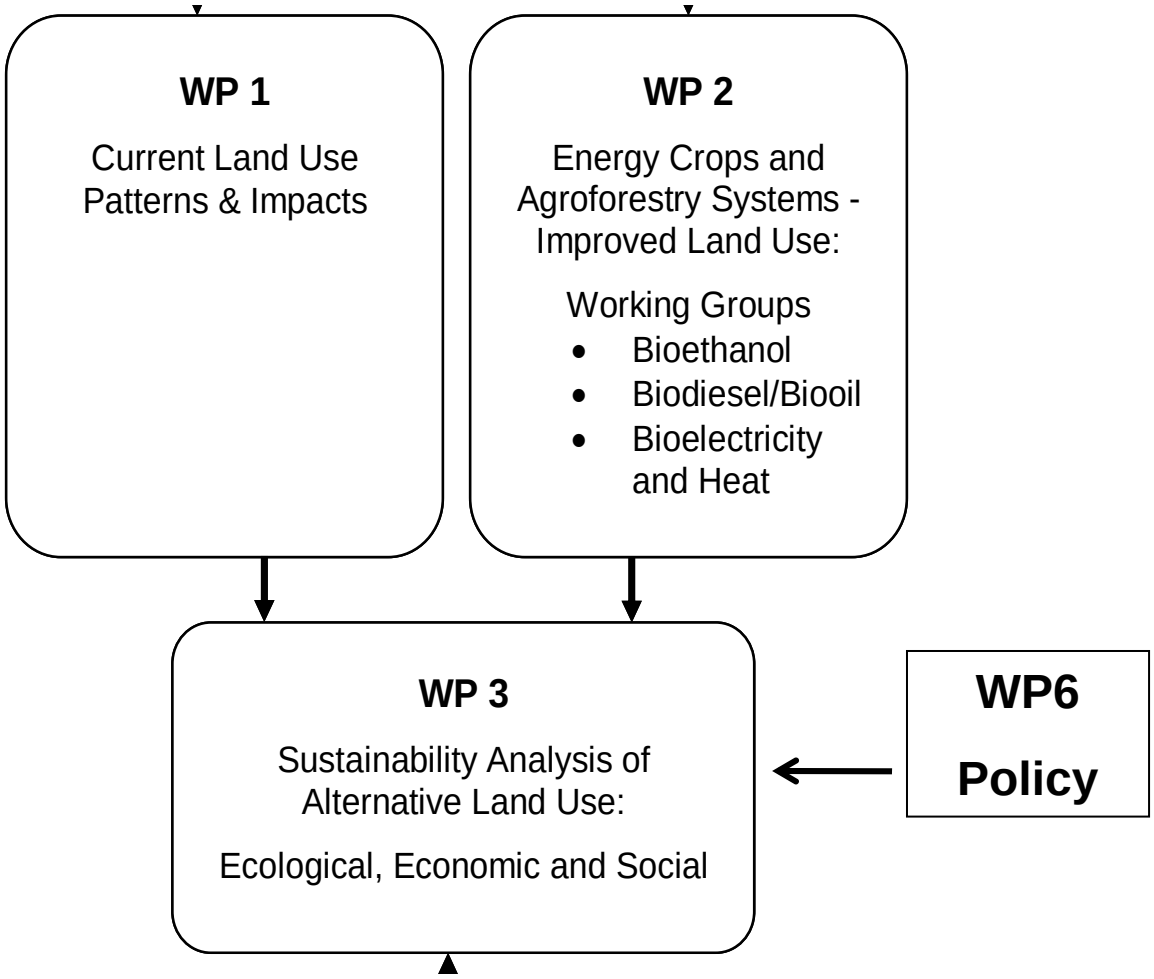
Imperial College London

WP 3 Objective

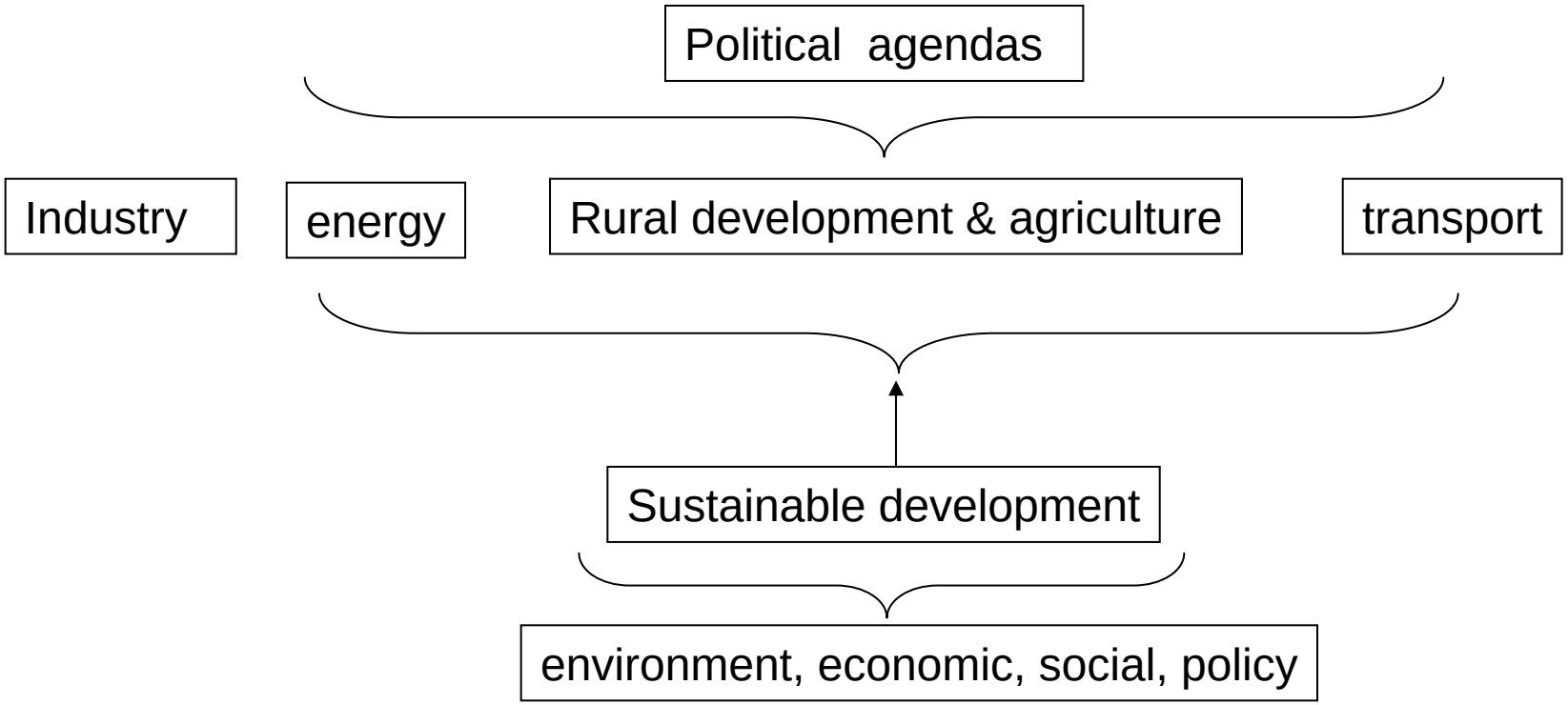
- To integrate the most recent understanding of the social and environmental management sciences to ensure sustainable use of resources while providing optimum economic and community benefits.

  - to ensure ecological, economic and social sustainability of alternative energy crop and agroforestry schemes.
  - Practical mechanisms for defining, monitoring and rewarding good sustainability practice

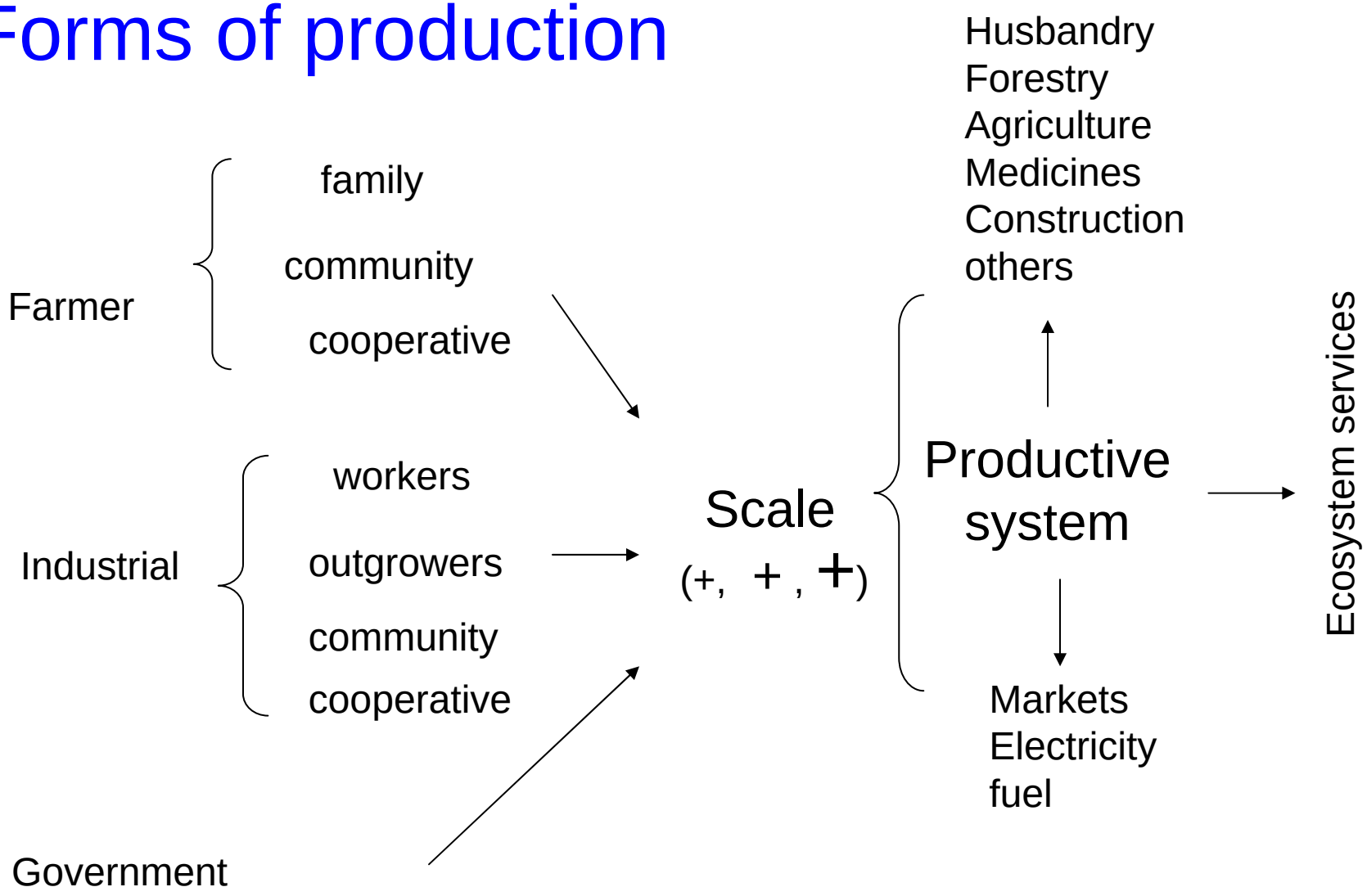
Links between WP1-3



Links of policies

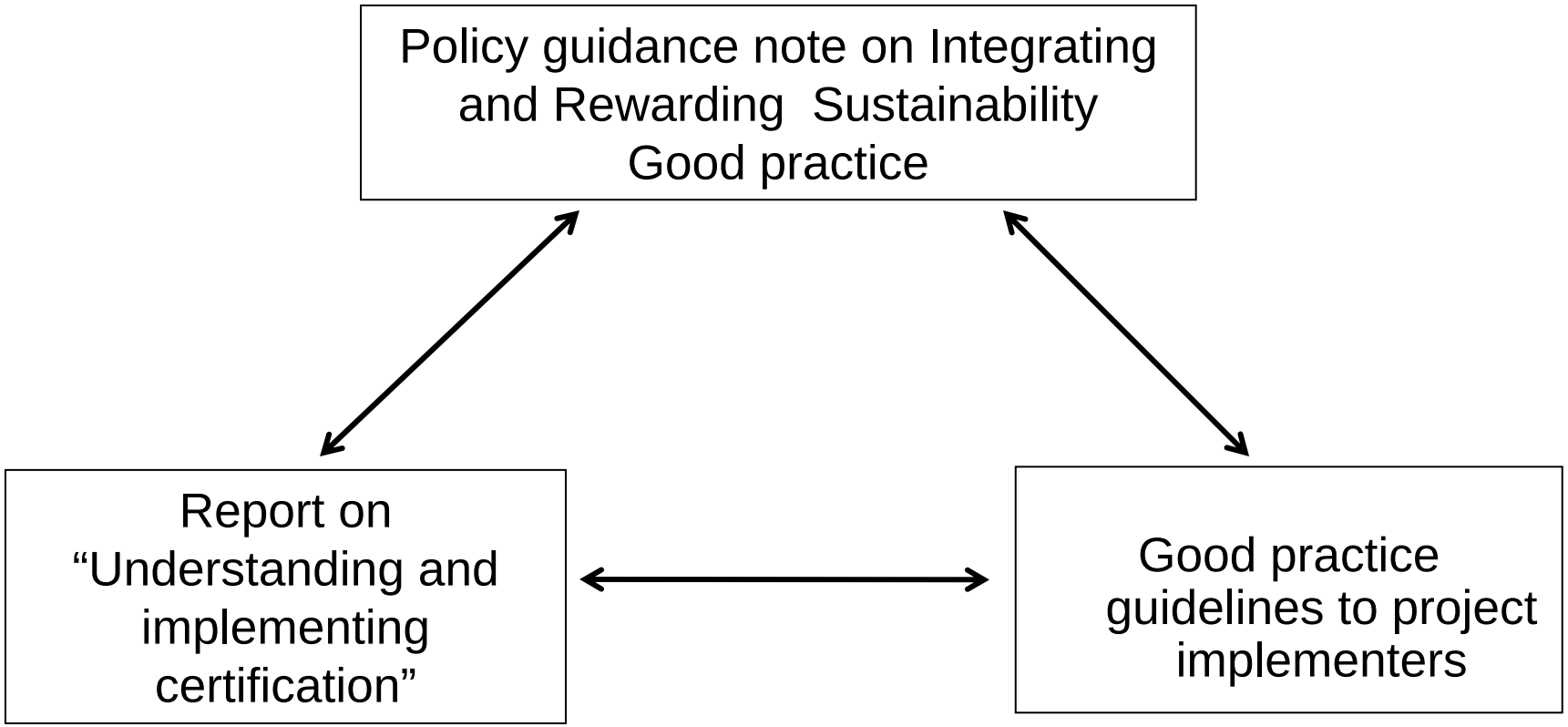


Forms of production



(Dalal-Clayton, & Daler, 2005)

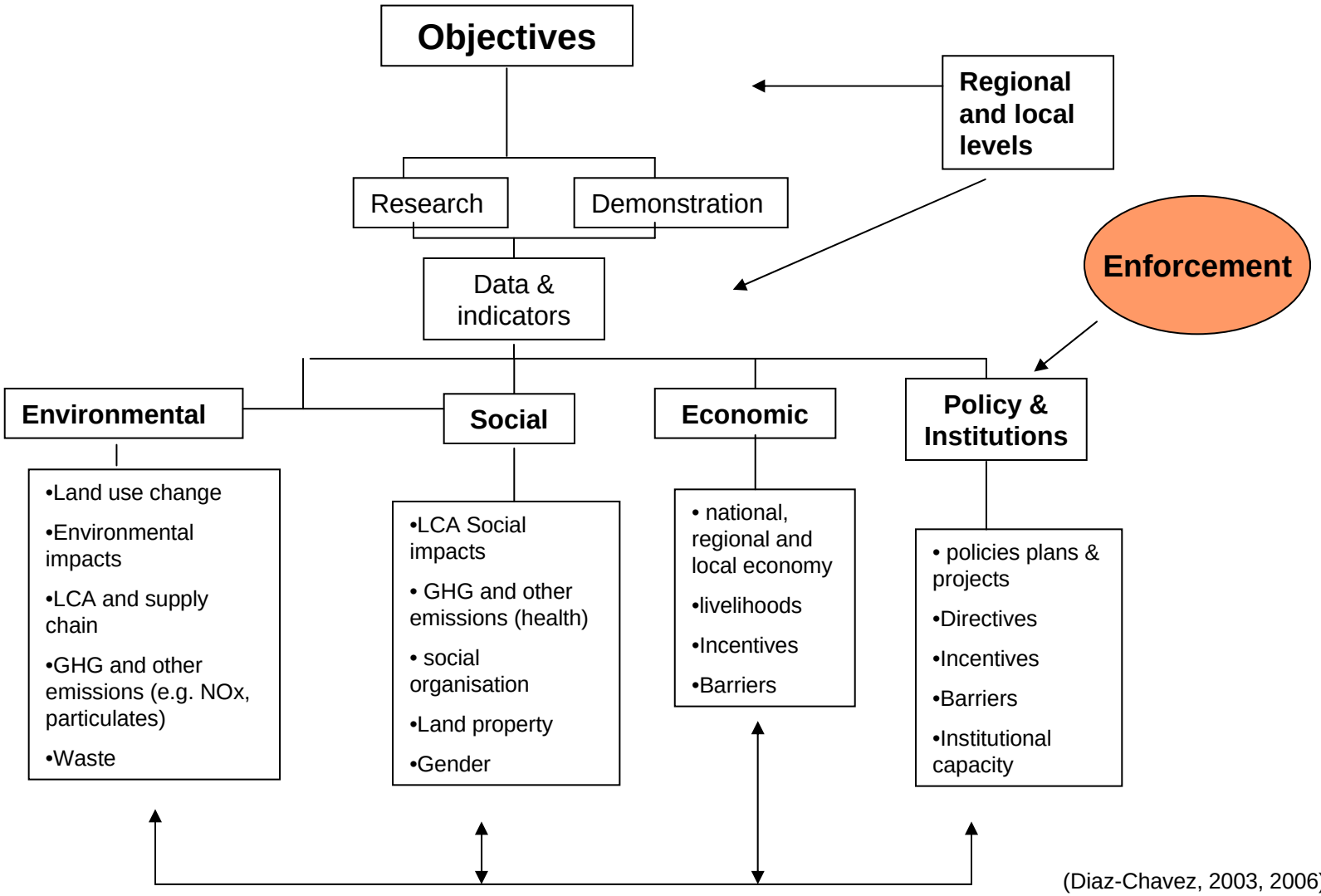
Main products



'Biofuel Sustainability Schemes - An African Perspective,
Arusha, Tanzania 2008

Imperial College London

FRAMEWORK



(Diaz-Chavez, 2003, 2006)

Understanding

- Climate change impacts and adaptations for feedstocks
- Scale differences
- Land use change impacts (WP1 and WP2)
- Differences in feedstocks
- Differences in regions
- LCA

Initiatives standards

- RFA UK
- The Netherlands (Cramer report)
- WWF Germany (pilots)
- RSB
- EU (considerations)
- USA
- Brazil (Green Fuel)

- Fairtrade and organic initiatives

Imperial College London

Standards

- According to the International Organisation for Standardisation (ISO, 2007) the definition of a standard is:
- *“A normative document, developed according to consensus procedures”*

Good Practice Methodology

- Sustainability assessment framework
- Meetings UNIDO, COMPETE, others
- Interviews policy-makers
- Round tables
- Expert meetings
- Field visits
- Surveys farmers
- Focus groups
- Ethiopia, Burkina Faso, Senegal, Mali, Zambia, Tanzania,
- South Africa, Ghana, Malawi, Botswana, Kenya, Nigeria
- MSc student’s work from Africa and Europe


International Conference and Policy Debate on
"Bio energy Policies for Sustainable Development in Africa"
25-26-27 November 2008 - Hotél Olympe International Bamako MALI


BIOCOMBUSTIBLES
BIOCOMBUSTIBLES COMO VECTOR
DEL DESAROLLO SOSTENIBLE

Imperial College
London

D 3.4 Sustainability considerations (Good practices)

	Principle	**En**	**S**	**Ec**	**P**
1.	Good agro-ecological and forestry practices (biodiversity, soil)	✓			
2.	Not affecting water supply and quality	✓			
3.	No land use change that detrimentally affects food security	✓			
4.	Community participation (from planning)		✓		
5.	Women's participation (from planning)		✓		
6.	Skills transfer (management, business, agriculture)		✓		
7.	Community inclusion in business or economic model (Contract with investor or NGO)			✓	
8.	Added value in the community (individual, money, assets, land, co-products)			✓	
9.	Improvement in services and infrastructure (energy supply, health) reinvestment of revenue within the community			✓	
10.	Compliance with National and/or guidelines for bioenergy policy in place				✓
11.	Compliance with Local programmes, regulations and/or plans in place				✓
12.	Respect Land rights and avoid displacement				✓

Good Practice Assessments

- 3 cases of Jatropha curcas L.
  - 1 India (NGO)
  - 3 Africa (NGO + 2 Private)
  - Different scales
- 2 cases sugar cane
  - Africa
  - 2 Private, 1 National, 1 Foreign

Good Practice Assessment for Bioenergy Projects

General data

1. Name of Assessor _____

2. Institution _____

3. Date of Assessment

4. Name of Project _____

5. Contact name at project _____

6. Place of Project _____

7. Characteristics of Project

Tick if project is a inititative from :

private		community		government		NGO		other	

8. State how do you know the project

a) information in annex		b) field trip		a) and b)		other	

specify other _____

9. After reading the characteristics of the project (in Annex) please assess the following principles according to the scale:

1	The project does not consider this principle (0%)
2	The project covers this principle partially <30%
3	The project covers partially this principle in 30-70%
4	The project covers partially this principle in <70%
5	The project fully covers the principle (100%)

7	Community inclusion in business or economic model (Contract with investor or NGO)	
Comments		
8	Added value in the community (individual, money, assets, land, co-products)	
Comments		
9	Improvement in services and infrastructure (energy supply, health) reinvestment of revenue within the community	
Comments		
10	Compliance with National policies and/or guidelines for bioenergy projects in place	
Comments		
11	Compliance with Local programmes, regulations and/or plans in place	
Comments		
12	Respect Land rights and avoid displacement	
Comments		
Overall assessment		
Additional comments on the project		

What matters

- Livelihoods
- Land tenure
- Resources: forest, water, land
- Economic or assets benefits
- Improvement in services
- Investment
- Being recognised

Lessons learnt:

- Will to consider and apply sustainability measures
- Social and economic issues must be considered in the production and use of biomass
- A standard assurance or certification system is useful but has a different meaning in developing countries
- Environmental concerns related to livelihoods effects are more important

Cont.

- Biomass production could contribute to reduce poverty in developing countries
- Problems with certification or standard assurance lay within implementation, additional costs, audit and compliance.
- National interpretations are needed
- Sustainability matters in its own form and own views in developing countries

Key Recommendations

- Research for local feedstocks and technology ransformation
- Organisation that acts as depositary of information in Africa
- Support for local studies (e.g. MSc Students)
- Policy links and sustainability in practice

Thank you

WIP	WIP – Renewable Energies, Germany
UU	Faculty of Chemistry, Utrecht University, Copernicus Institute for Sustainable Development, The Netherlands
ABI	Austrian Biofuels Institute, Austria
CNR-ISE	Instituto per lo Studio degli Ecosistemi CNR-ISE, Italy
ISUSI	Institute for Sustainable Solutions and Innovation, Germany
BUN	Biomass Users Network, Zimbabwe
CEEEZ	Center for Energy, Environment and Engineering Zambia
MU	MOI University, Kenya
UKZN	University of KwaZulu Natal, South Africa
CST	Centre for Sustainable Technologies, India
UNICAMP	State University of Campinas, Brazil
CIRPS	Centro Interuniversitario di Ricerca Per lo Sviluppo Sostenibile - Università degli studi di Roma "La Sapienza", Italy
UiO	University of Oslo, Norway
UNIVBRIS	University of Bristol, United Kingdom
UB	University of Botswana
UFH	University of Fort Hare, South Africa
TWIN	TWIN (Int.)
FAO	Food and Agriculture Organisation of the United Nations (not funded)