# **BIOENERGY AND LAND TENURE**

## THE IMPLICATIONS OF BIOFUELS FOR LAND TENURE AND LAND POLICY



Lorenzo Cotula, Nat Dyer and Sonja Vermeulen International Institute for Environment and Development (IIED)

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Cover photograph by Michael Taylor

The views expressed in this publication are those of the authors and do not necessarily reflect the views of the Food and Agriculture Organization of the United Nations (FAO).

## List of abbreviations

ABN	African Biodiversity Network	
APIX	Agence Nationale Chargée de la Promotion de l'investissement et des Grands Travaux (Senegal)	
ATI	Appropriate Technology International	
BP	British Petroleum	
CAMEC	Central African Mining and Exploration Company	
CDM	Clean Development Mechanism of the Kyoto Protocol	
CER	Certified Emissions Reductions	
CPI	Centro de Promoção de Investimentos (Mozambique)	
DED	German Development Service	
DFID	Department for International Development	
EPFL	École Polytechnique Fédérale de Lausanne (Switzerland)	
EU	European Union	
FAO	Food and Agriculture Organization of the United Nations	
IDB	Inter-American Development Bank	
IEA	International Energy Agency	
IFPRI	International Food Policy Research Institute	
IIED	International Institute for Environment and Development	
INCRA	National Institute of Colonisation and Agrarian Reform (Brazil)	
INTERPI	Land Institute of Piauí (Brazil)	
NGO	Non-governmental organisation	
MFC Nyetaa	Mali Folkecenter Nyetaa (Mali)	
Mtoe	Million tonnes of oil equivalent (a unit of energy). One toe (tonne of oil equivalent) is the amount of energy released by burning one tonne of crude oil, approximately 42 gigajoules.	
MST	Movimento dos Trabalhadore Rurais Sem Terra, Brazilian Landless Rural Workers' Movement	
OECD	Organisation for Economic Co-operation and Development	
ORAM	<i>Organizacao Rural de Ajuda Mutua</i> , Rural Organisation for Mutual Help (Mozambique)	
PNPB	National Programme for the Production and Use of Biodiesel (Brazil)	
PNVEP	Programme National de Valorisation Energétique de la Plante Pourghère (Mali)	
PROALCOOL	Programa Nacional do Álcool (Brazil)	
RSPO	Roundtable on Sustainable Palm Oil	
RTRS	Roundtable on Responsible Soy	
STF	Smallholder Task Force	
TIC	Tanzania Investment Centre (Tanzania)	
UN	United Nations	
UNDP	United Nations Development Programme	
WTO	World Trade Organization	

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#### **Summary**

Recent years have witnessed a rapid and accelerating expansion of bioethanol and biodiesel production. This expansion is driven by government targets for biofuel substitution in energy budgets for transport, driven in turn by concerns about high oil prices, prospects for rural development, export opportunities and means to mitigate climate change. Projections suggest that biofuel production is likely to continue expanding in the coming years.

Parallel to these developments, the policy debate about the merits and demerits of biofuels is growing and changing rapidly. Important concerns such as the abilityof biofuels to mitigate climate change effectively, the role of biofuels in the recent food price hikes, and the social and environmental impacts of biofuels have been voiced in policy circles as well as in the media and in public opinion at large.

This study contributes to these debates through examining the current and likely future impacts of the increasing spread of biofuels on access to land in producer countries, particularly for poorer rural people. The study draws on a literature review, and on intelligence and information provided by key informants by email or telephone. It aims to pave the way for future empirical research on the links between the spread of biofuels and access to land, through developing a conceptual framework for such research and through taking stock of data available in the literature.

The study finds that biofuels can be instrumental in bringing an agricultural renaissance that revitalises land use and livelihoods in rural areas. Price signals to small-scale farmers could significantly increase both yields and incomes, securing real, long-term poverty reduction in countries that have a high dependence on agricultural commodities. Large-scale biofuels cultivation could also provide benefits in the form of employment, skills development and secondary industry.

However, these possibilities depend on security of land tenure. Where competing resource claims exist among local resource users, governments and incoming biofuel producers, and where appropriate conditions are not in place, the rapid spread of commercial biofuel production may result - and is resulting - in poorer groups losing access to the land on which they depend. In these contexts, the spread of commercial biofuel crop cultivation can have major negative effects on local food security and on the economic, social and cultural dimensions of land use. These processes are increasingly documented by a growing body of evidence on the negative impacts of large-scale commercial biofuel production for access to land, drawing on contexts as diverse as Africa (e.g. Tanzania, Mozambique), Latin America (e.g. Colombia, Brazil), and Asia (e.g. India, Indonesia, Papua New Guinea).

Promising approaches also exist, but they have so far received less attention. In some contexts, smallholders have been able to use and even consolidate their land access through seizing the opportunities offered by biofuel feedstock cultivation, whether for income generation or for local energy self-sufficiency. Large-scale and small-scale biofuels production can co-exist and even work together in synergy to maximise positive outcomes for rural development – and secure land rights for smallholders can provide an asset in their negotiations with larger players.

Documenting this "successful" experience, and analysing the conditions that made it possible, the spread of costs and benefits among local land users, investors and government, and the extent to which such experience can be replicated elsewhere, can help build and disseminate better practice.

Preliminary experience provides pointers for policy and practice by governments and the private sector at local, national and international levels:

- Governments must develop robust safeguards in procedures to allocate land to large-scale biofuel feedstock production where they are lacking and even more importantly to implement these effectively. Safeguards include clear procedures and standards for local consultation and attainment of prior informed consent, mechanisms for appeal and arbitration, and periodic review.
- Large-scale privately owned plantations are not the only economically viable model for biofuels feedstock production. Producers' associations, governments and investors may want to explore alternative business models such as joint equity in production and processing. Policy instruments based on financial incentives can help provide for inclusion of small-scale producers in the biofuels industry.
- Clearer definitions of concepts of idle, under-utilised, barren, unproductive, degraded, abandoned and marginal lands (depending on the country context) are required to avoid allocation of lands on which local user groups depend for livelihoods. Similarly, productive use requirements in countries in which security of land tenure depends on active use (mise en valeur) need to be clarified so as to minimise abuse. Land access for rural people requires policy attention not only to land tenure but also to the broader circumstances that determine land use and agricultural economics. Relevant policy areas include taxation and subsidies, regional and international trade, and standards for environment and labour.
- International policy arenas are also influential on the impacts of biofuels expansion on land access. Certification criteria, such as those under development by the EU, should incorporate free prior and informed consent, based on secure land tenure of local residents, as a fundamental requirement, disallowing production on contested land. Attention may need to be given to eligibility rules regarding land use change under the Clean Development Mechanism of the Kyoto Protocol and its successor. International governance of trade and investment will continue to be a major determinant of the economic potential of different forms of land use in producer countries.
- Policies, laws and institutions matter but in contexts characterised by strong power asymmetries they are likely to achieve little if they are not accompanied by sustained investment in building people's capacities to claim and secure their rights.
- Local, national and international NGOs and civil society organisations have a continued role to play in holding governments and industry to account regarding their promises on protection of land access and food security to specific communities and more generally.

Finally, "biofuels" is a catch-all term for a set of very different crops and cropping systems, end-products, policy goals (e.g. commercial production versus energy self-sufficiency), business models (different combinations of ownership and benefit-sharing among large-scale and small-scale operations) and local contexts - all of which significantly affect land access outcomes. A better understanding of this diversity will promote a more balanced and evidence-based debate.