

Biofuels, land access and rural livelihoods in Tanzania



Emmanuel Sulle and Fred Nelson



Biofuels, land access and rural livelihoods in Tanzania

Emmanuel Sulle and Fred Nelson

Series editor: Lorenzo Cotula



Biofuels, land access and rural livelihoods in Tanzania

Emmanuel Sulle and Fred Nelson

© IIED, 2009

For copies of this publication, contact IIED. Email: newbooks@iied.org

IIED Order No: 12560IIED

Citation: Sulle, E. and Nelson, F., 2009, BIOFUELS, LAND ACCESS AND RURAL LIVELIHOODS IN TANZANIA, IIED, London.

ISBN: 978-1-84369-749-7

All photos by Emmanuel Sulle, 2008 and 2009.

Cover photo: Boiling palm oil in the local processing mill in Kigoma Rural District, Tanzania.

Design: Smith+Bell (www.smithplusbell.com)

Printing: Russell Press (www.russellpress.com)

Printed on: Greencoat Velvet 200 gsm and Greencoat Velvet 100 gsm

The research findings presented in the report are updated to June 2009.

The views expressed herein are those of the authors and do not necessarily represent those of IIED.

ACKNOWLEDGEMENTS

This research report was commissioned by Tanzania Natural Resource Forum's Forestry Working Group (TFWG) and the International Institute for Environment and Development (IIED). Funding for the research and for this publication was provided by IIED's Multidonor Framework Agreement, generously supported by Danida (Denmark), DFID (UK), DGIS (the Netherlands), Irish Aid (Ireland), Norad (Norway), SDC (Switzerland) and Sida (Sweden). Additional funding for the research was kindly provided by IUCN Tanzania as part of its support to the TFWG.

We were warmly welcomed by the villagers we visited and many of them had insightful thoughts and observations to share. Thank you to community leaders who generously provided key information on biofuel developments in their villages.

Many government officials kindly provided a lot of useful information and advice that enabled the completion of the study. In particular, we thank the Tanzania Investment Centre (TIC) staff, officials at the Ministry of Energy and Minerals and staff members of the National Environmental Management Council. Mrs Anna Maembe shared her extensive knowledge on environmental impact assessment practices and biodiversity conservation issues. At TIC, Mr Kivinge provided comprehensive information on the land acquisition process for investors. Mama Hadija Ramadhani, Assistant Director of Forestry, gave important details on the forest sector in relation to the biofuel projects. We are grateful to the Regional Executive Secretaries of all regions visited for their permission to carry out field work in their jurisdictions.

We especially thank the biofuel companies working in Tanzania in particular Diligent Tanzania Ltd, SEKAB BT and FELISA for their kind cooperation and support.

The useful insights and strong cooperation of Tanzania's NGO community are gratefully and warmly acknowledged, particularly WWF-Tanzania and Hakiardhi. We also thank members of the research community at Dar es Salaam, Ardhi and Sokoine Universities for their support. Mr Rommert Schram of FAO kindly provided useful information and helpful comments on an earlier draft of this report were provided by Pol Knops, Amanda Mitchell, Pär Oscarsson, Carol Sorensen, and Ruud van Eck.

Mr Cassian Sianga, the TFWG Coordinator and Mrs Nike Doggart of the Tanzania Forest Conservation Group are warmly thanked for their kind and dedicated support. Andrew Williams, in his capacity as the Coordinator of the Tanzania Natural Resource Forum, helped initiate and finalise the study. Sonja Vermeulen of IIED provided extensive reading materials on the global and Tanzanian context in relation to the biofuel industry.

Lastly, we sincerely thank district staff of Babati, Kigoma, Bagamoyo, Rufiji and Kisarawe Districts for their kind support in sharing information and data.

ACRONYMS

CSO	Civil Society Organisation
EIA	Environmental Impact Assessment
FAO	Food and Agriculture Organization of the United Nations
FELISA	Farming for Energy for Better Livelihoods in Southern Africa
GTZ	German Technical Cooperation
IIED	International Institute for Environment and Development
IUCN	International Union for Conservation of Nature
MEM	Ministry of Energy and Minerals
MoU	Memorandum of Understanding
NBTF	National Biofuels Task Force
NGO	Non-Governmental Organisation
RAZABA	Zanzibar People's Ranch
SUSO	Sugarcane Smallholder and Outgrower Scheme
TFWG	Tanzania Forestry Working Group
TIC	Tanzania Investment Centre
TNRF	Tanzania Natural Resource Forum
WWF	World Wide Fund for Nature

CONTENTS

EXECUTIVE SUMMARY	1
I. INTRODUCTION	5
1.1. Expanding biofuel production in Africa: threats and opportunities	7
1.2. Rationale and research methods	9
II. BIOFUEL PRODUCTION IN TANZANIA: TRENDS, PROSPECTS AND POLICIES	13
2.1. Level of activity.....	15
2.2. Main crops.....	18
2.3. Emerging production models.....	24
2.4. Risks and opportunities	29
2.5. Biofuel policy development	32
III. BIOFUEL PRODUCTION AND LAND ACCESS IN RURAL TANZANIA: LAWS, POLICIES AND PROCEDURES	33
3.1. Rural livelihoods and land rights in Tanzania.....	35
3.2. The legal framework regulating land tenure in rural Tanzania	36
3.3. Official procedures for land acquisition	39
IV. IMPACTS OF BIOFUEL INVESTMENTS ON LAND ACCESS	43
4.1. General impacts on livelihoods.....	46
4.2. Land acquisition practices	48
4.3. Compensation practices.....	51
4.4. Evolving policy response	55
V. SUMMARY OF KEY FINDINGS AND IMPLICATIONS FOR POLICY AND PRACTICE	57
REFERENCES	65
ANNEX: List of people interviewed during the study	71



EXECUTIVE SUMMARY



In recent years, biofuels have rapidly emerged as a major issue for agricultural development, energy policy, and natural resource management. Growing demand for biofuels is being driven by recent high oil prices, energy security concerns, and global climate change. In Africa, there is growing interest from foreign private investors in establishing biofuel projects. For Tanzania, biofuel production has the potential to provide a substitute for costly oil imports (currently US\$ 1.3-1.6 billion per year, 25% of total foreign exchange earnings). Biofuels also have the potential to provide a new source of agricultural income and economic growth in rural areas, and a source of improvements in local infrastructure and broader development. Although many biofuel investments involve large plantations, biofuel production can also be carried out by smallholder farmers as well as through 'outgrower' or local contracted farmer arrangements.

But the spread of biofuels in Tanzania has also raised concerns from civil society organisations, local communities and other parties. The environmental impact of biofuel plantations could involve water scarcity and deforestation, particularly in coastal areas. The potential impact of biofuel production on the price of food crops in Tanzania is already a major concern. Most important for local communities, however, is a loss of rights over customary lands, and the way this could negatively impact local villagers' livelihoods. Tanzania already has tensions between private, local, and governmental actors over rights to use and allocate land. There are specific concerns around whether the land laws can provide adequate protection against land alienation for biofuel production, and whether compensation payments provided for in the Village Land Act (1999) are sufficient to promote alternative livelihood opportunities.

This report investigates and describes patterns of biofuel development in Tanzania. It looks at the spread and scale, crop use and different models of biofuel production through several case studies. It also outlines the challenges and opportunities provided by this relatively new source of investment. The report finds that over 4 million hectares of land have been requested for biofuel investments, particularly for jatropha, sugar cane and oil palm, although only 640,000 ha have so far been allocated and of these, only around 100,000 ha have been granted formal rights of occupancy. Some companies are proposing biofuel projects involving initial investments of up to US\$ 1 billion, or several billion US\$ over the next 10-20 years. Both the Tanzanian and foreign governments have been promoting this surge in

biofuel investments, although Tanzania's government has also delayed some projects while the National Biofuels Task Force works to complete formal guidelines for biofuel investments.

The report also finds that some land acquisitions for biofuels are targeting land that is used for forest-based economic activities that villagers depend heavily on. Large-scale biofuel investments that require such land are likely to create the most frequent negative local impacts and grievances. The compensation process is fraught with problems. Local people do not understand the process, or their rights and opportunities; land valuations are carried out using inadequate criteria and benefits are promised by companies but not incorporated into a written contract. Of most concern is the high level of risk taken by communities where the proposed investment relies on the transferred land to be used as collateral for bank loans, prior to compensation being paid.

The report shows that biofuel companies using outgrower and other contracted smallholder arrangements have little direct negative impacts on land access and represent the most positive model for local livelihoods and the environment – while recognising that the suitability of different models depends on local contexts, including with regard to population densities and levels of local capacity for agricultural production. Crops such as jatropha can provide new opportunities for local farmers to improve income from unproductive or infertile lands and forming farmers' cooperatives can improve access to markets. Alternative land holding structures such as village land trusts or equity-based joint ventures hold promise for future ways to stimulate private investment and allow for greater collaboration between investors and local communities. As experiences from other sectors in Tanzania have shown, communities should be supported to increase their ability to negotiate with biofuel investors on their own behalf.

The latest National Biofuels Guidelines show a willingness on the part of government to adapt policy provisions based on field experiences. At this early stage of biofuel development in Tanzania, it is important to develop measures that encourage sustainable and beneficial biofuel investments and that provide safeguards against negative impacts in terms of land access, environmental conservation, and food security. It is hoped that these findings will help spread important information and contribute to this process.

I. INTRODUCTION



1.1. EXPANDING BIOFUEL PRODUCTION IN AFRICA: THREATS AND OPPORTUNITIES

In recent years, biofuels have come to be regarded as an important option for reducing the consumption of petroleum as a result of the recent high oil prices, and concerns about energy security and global climate change. The use and development of alternative sources of energy is increasingly encouraged in Western countries, with private and public sources of financial support for biofuel development expanding substantially.

For African countries, this is leading to growing interest from Western and Asian private investors in biofuel projects, as well as growing support from bilateral and multilateral donors for incorporating biofuels into government policies and development plans. For countries in Africa which are non-oil producers, biofuel production has the potential to provide at least a partial substitute for costly oil imports, which are one of the major uses of foreign exchange and sources of inflation in African economies. Biofuels may also provide a new source of agricultural income in rural areas, and a source of improvements in local infrastructure and broader development. Biofuel production is not necessarily done only by large farms or foreign investors, but can be carried out by smallholder farmers as well. Biofuel crops such as oils (palm, coconut, jatropha, sunflower) may provide important new opportunities for improving the returns from agriculture, including on relatively unproductive or infertile lands.

BOX 1. DEFINITION OF BIOFUELS

Biofuels are broadly defined as liquid, solid or gaseous fuels that are predominantly or exclusively produced from biomass. The main types of biofuels include biodiesel, ethanol, or purified biogas derived from crops, plant residues or wastes. All of these can be used as a substitute or supplement for the traditional fossil fuels used for transportation, domestic, and industrial uses.

External interest in biofuel production in African countries is driven largely by the low cost of land and labour in rural Africa (Cotula *et al.*, 2008). Investors are targeting many areas of land which are perceived as being ‘unused’ or ‘marginal’ in terms of their productivity and agricultural potential. With interest in allocating such areas for biofuel increasing, the security of land

tenure and access or use rights on the part of local resident communities across rural African landscapes is potentially at risk. Land tenure in rural Africa is often characterised by a high level of insecurity, as a result of the colonial legacy of centralised ownership of land by the state, coupled with weak mechanisms for accountability and enforcement of land rights (Alden Wily, 2008). As the commercial potential of marginally productive rural lands increases across Africa due to growing interest in biofuels, the risk of large-scale dispossession of customary lands belonging to farmers and pastoralists may increase. In addition, expansion of biofuel production may lead to other negative impacts such as environmental damage, for example due to deforestation or industrial pollution, and indirect impacts from rising food prices where food crops are cultivated for biofuel production (Cotula *et al.*, 2008). As a result of these manifold factors, there is widespread concern about the adverse impacts of commercial biofuel production in rural Africa.

The concerns by civil society organisations (CSOs) about the adverse impacts of biofuel projects, as well as continuing private interest in biofuel investments, have led to a substantive dialogue between CSOs and government in Tanzania about the development of policy guidelines for biofuels. There have also been a flurry of applied research reports produced by CSOs on biofuel development in Tanzania, some of which focus on land tenure concerns (Kamanga, 2008) and others which provide broad overviews of the full spectrum of social, ecological, financial, and policy issues surrounding biofuel development (Songela and Maclean, 2008; Gordon-Maclean *et al.*, 2008).

This report contributes to the growing body of evidence on biofuel development in Tanzania, focusing on the way biofuel investments are impacting on access to land for local people. The aim is to investigate existing patterns of biofuel development in Tanzania, and discuss ways to take advantage of the opportunities and mitigate the risks created by the spread of biofuels.

Although an increasing number of biofuel investments have been allocated land, very few have completed the process of obtaining derivative title or formal rights of occupancy over land (Gordon-Maclean *et al.*, 2008). Some land allocations remain subject to legal disputes over the properties in question. Investors highlight the time-consuming and costly nature of acquiring land for biofuel investment in Tanzania (SEKAB BT, 2008), while

some Tanzanian organisations, media, and government agencies are raising concerns about adherence to legal procedures and the processes used for local consultations and compensation (Kamanga, 2008). Biofuel investments are occurring in an institutional context characterised by long-term tensions between private, local, and governmental actors over rights to use and allocate lands (Shivji, 1998; Sundet, 1997; 2005). These tensions are compounded by conflicting definitions of ‘general land’ and ‘village land’, among other areas of apparent ambiguity in the nation’s land legislation (Oxfam Ireland *et al.*, 2005). The scale and pace of recent biofuel investments when juxtaposed with these long-standing tensions and contradictions in the land laws and land administration framework has led to acute concerns about local rights. While all parties involved are likely to encounter varying levels of uncertainty or confusion over land procedures, rights, and administration, it is rural people who are likely to be most adversely affected.

The report examines the impacts of different production models at the local level. It includes detailed treatment of a number of case study sites in different parts of the country, where different biofuel crops are grown using different business or production models. Importantly, biofuel production models in Tanzania vary enormously, from those relying solely on local smallholder outgrowers, with no land directly farmed by the biofuel producer/investor, to large-scale plantation models aiming to directly cultivate several hundred thousand hectares of land. The varying land access impacts of such different models are commensurately divergent. In order for the potential benefits of biofuels for rural people to be maximised and the potential costs appropriately mitigated, the emerging public debate on biofuels would benefit from a greater recognition of the differences in these production models and their respective advantages and disadvantages.

1.2. RATIONALE AND RESEARCH METHODS

The report draws on research carried out from October 2008 to March 2009, as a joint undertaking between the Tanzania Natural Resource Forum’s Forestry Working Group (TFWG) and the International Institute for Environment and Development (IIED). The TFWG is a collaborative working group of civil society organisations that are involved in efforts to improve the governance of forests and other natural resources in Tanzania. The expansion of biofuels in coastal

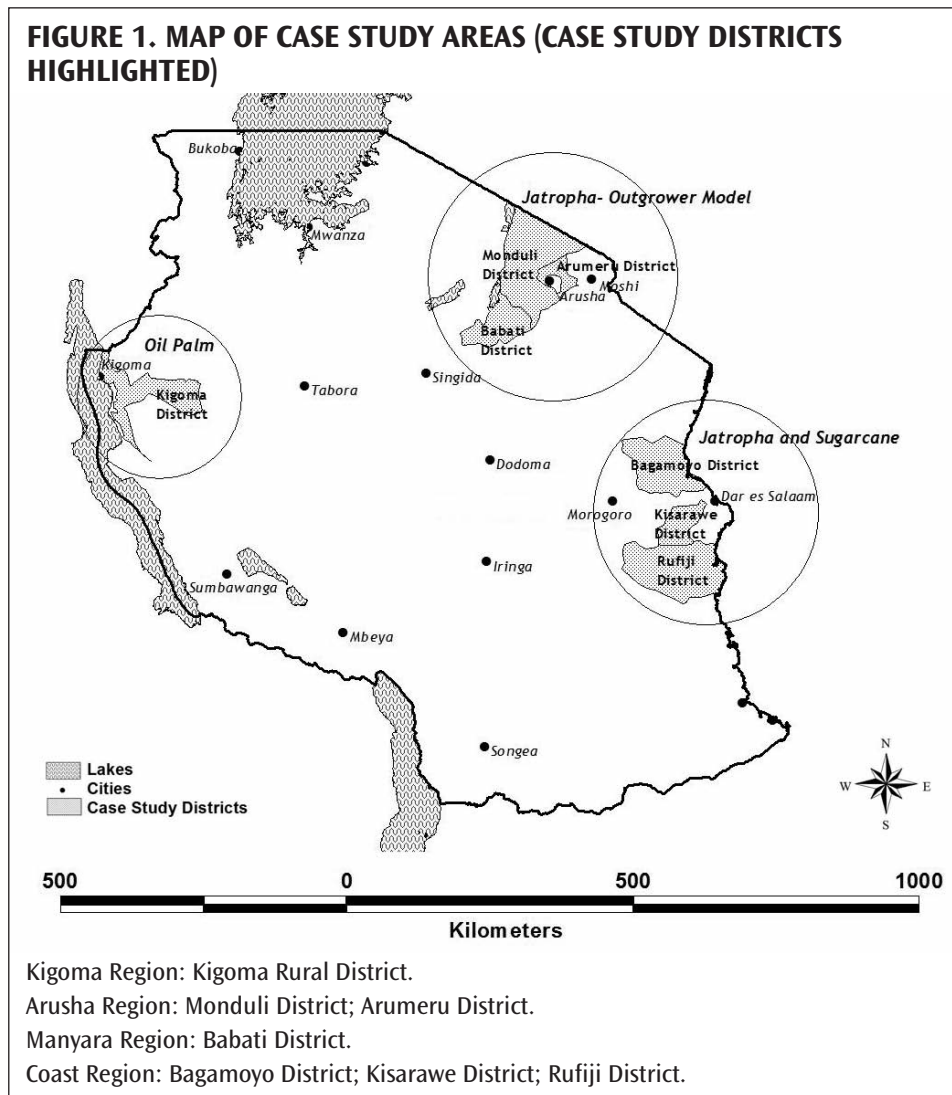
areas of Tanzania, including areas with high levels of biodiversity and high forest economic values, has prompted the TFWG's interest in promoting strategies which reconcile biofuel development with other socially and environmentally responsible objectives and policies. The TFWG is also centrally concerned with supporting local rights to forest land and other natural resources, and promoting transparent and accountable governance of these resources at all levels.

Data collection involved both primary and secondary sources. First, existing literature and media reports were reviewed. Particular emphasis was placed on reviewing recent studies by other organisations based in Tanzania, such as WWF and Hakiardhi, which examine the social and environmental dimensions of biofuel development trends (see Kamanga, 2008; Songela and Maclean, 2008; Gordon-Maclean *et al.*, 2008). Additional insights were gained through participating in a range of workshops and seminars on biofuels held in Tanzania during the study period. Second, primary data collection involved interviews with officials from relevant government agencies, private sector companies, non-governmental organisations (NGOs) and local government bodies. Field visits were undertaken to rural communities in four case study sites located in different parts of the country (Kigoma, Manyara and Coast Regions). The selection of study sites was based on a combination of factors including the type of production model adopted by the investor, the stage of project development, the location (in relation to previous biofuel studies) and the type of biofuel crop grown.

In Kigoma Rural District (Kigoma Region), interviews and group discussions were held at the community level in the villages of Mwandiga, Bigabiro, Ilagala, and Mahembe. In Babati District (Manyara Region), interviews were held with community members in the villages of Gedamar and Riroda. Field visits and local interviews were also carried out in Bagamoyo, Kisarawe and Rufiji Districts, which are all in Coast Region. Villages visited in Bagamoyo District were Kiromo and Makurunge. In Kisarawe District, villages were not visited physically but it was possible to meet villagers from Mtamba village in Dar es Salaam and later carry out a phone interview with the Village Chairman. In addition, District Land Officers and the District Executive Director were interviewed at the district offices. In Rufiji District, interviews were carried out with the village leaders of Nyamwage, Utunge and Nyandakitundu Villages. Besides interviews with villagers, all field visits involved interviews

with regional and district officials. Detailed interviews with representatives of the private sector included those with FELISA in Kigoma, SEKAB BT based in Dar es Salaam and Diligent based in Arusha. Some of the other companies' representatives were met during various workshops and meetings in Arusha and Dar es Salaam, and these encounters were used as opportunities for informal discussions.

In total, 78 people were formally interviewed in both central and local government offices, NGOs, private companies, and residents of selected villages (see Annex).



Field research focused on four biofuel projects run by four different companies, though data on additional projects was also collected:

- FELISA – a Tanzanian-Belgian start-up company that is promoting cultivation of hybrid oil palm in Kigoma Region, and which is targeting production of 10,000 ha of oil palm in the region. Roughly half of this is expected to come from local smallholder outgrowers and half from a plantation, with a property of nearly 5,000 ha already acquired.
- Diligent Tanzania Ltd – a Dutch company based in Arusha, which is processing jatropha produced by more than 5,000 contracted local farmers from across northern Tanzania. Contracted farmers have planted about 3,500 ha so far, and the land area is expected to reach 10,000 ha by 2010. Diligent is one of the few biofuel companies in Tanzania already producing and selling fuel, and also one of the few companies which is not directly producing, or intending to directly produce, its own fuel crops, instead relying entirely on contracted smallholder production.
- SEKAB Bioenergy Tanzania Ltd – a major Swedish bioethanol producer which is pursuing the development of large-scale sugarcane production models for bioethanol in Tanzania. SEKAB BT is in the process of acquiring roughly 22,000 ha in Bagamoyo District and up to several hundred thousand hectares of village land planned for acquisition in Rufiji District.
- Sun Biofuels Tanzania Ltd – a local affiliate of a UK-based company which is widely investing in developing countries including several other nations in East and Southern Africa. Sun Biofuels has acquired 8,211 ha in Kisarawe District, in a case that directly or indirectly affected over 10,000 villagers resident in 12 villages that allocated land to the company. This case has received much local and international media attention and contributed to concerns about the land access impacts of ongoing biofuel investments in Tanzania.

II. BIOFUEL PRODUCTION IN TANZANIA: TRENDS, PROSPECTS AND POLICIES



2.1. LEVEL OF ACTIVITY

Tanzania has been experiencing a rapid increase in biofuel investment proposals and production in recent years. As a country without developed petroleum reserves, Tanzania imports oil at a cost of an estimated US\$ 1.3-1.6 billion per year, accounting for up to 25% of total foreign exchange earnings (Kamanga, 2008). Apart from oil imports, the consumption of charcoal in Dar es Salaam alone is estimated at 20,000 tonnes per annum (Kamanga, 2008). Recent high levels of macro-economic growth have resulted in increasing levels of energy consumption, and rising prices of existing energy sources.

Evidence suggests that biofuel development is technically feasible in Tanzania. The Tanzania Investment Centre estimates that, at present, Tanzania has about 44 million ha of arable land, yet only 10.2 million ha is currently under cultivation (see Table 1). It was not possible to corroborate or challenge these estimates as part of this research. Tanzania has extensive areas of land with low levels of rainfall and/or poor soil fertility, which consequently support relatively low human population densities and low-intensity land uses such as transhumant pastoralism and shifting cultivation.

Land use (millions of hectares)	
Total usable land	94.5
Arable land	44.0
Land under cultivation	10.2
Area suitable for irrigation	29.4

Source: Tanzania Investment Centre

Official government figures indicate that about 20 companies had requested land for commercial biofuel production by March 2009.¹ The area of land which each commercial biofuel investor in Tanzania has requested has varied from 30,000 ha to two million hectares of land at a time. Kamanga (2008), however, cites 37 companies having sought land in Tanzania for biofuel production.

1. Speech by Permanent Secretary Ministry of Energy and Minerals at the Biofuels Workshop, 1st December 2008, at Blue Pearl Hotel, Dar es Salaam.

TABLE 2. SUMMARY OF EXISTING AND PROPOSED BIOFUEL INVESTMENTS IN TANZANIA

Investor	Crop	Location	Land area acquired (ha)	Land area originally requested (ha)	Project status
FELISA	Oil Palm	Kigoma	4,258	5,000	Land dispute in court for extra 350 ha obtained from 2 villages. No EIA done
BioShape	Jatropha	Kilwa	34,000	82,000	400 ha pilot farm planted. Integrity of first EIA questioned, following which a second EIA was commissioned
Sun Biofuel	Jatropha	Kisarawe	8,211	50,000	8,211 ha of land formerly belonging to 12 villages transferred to general land; derivative title being finalised
SEKAB BT	Sugarcane	Bagamoyo	22,500	24,500	Seed cane planted and irrigation reservoir constructed
SEKAB BT	Sugarcane	Rufiji	0	400,000	In land acquisition process
Diligent Tanzania Ltd	Jatropha	Arusha Babati Handeni Singida Monduli	n/a	n/a	Contracted over 4,000 farmers
	<i>Croton megalocarpus</i>		n/a	n/a	Collecting seeds from natural and planted forests
Donesta Ltd & Savannah Biofuels Ltd	Jatropha	Dodoma	2,000	n/a	200 ha planted
Trinity Consultants/ Bioenergy TZ Ltd	Jatropha	Bagamoyo	16,000	30,000	Surveying land to be granted
Shanta Estates Ltd	Jatropha	Bagamoyo	14,500	n/a	Agreement with villagers signed
Tanzania Biodiesel Plant Ltd	Oil palm	Bagamoyo	16,000	25,000	Land not surveyed; land granted by district but not by TIC
Clean Power TZ Ltd	Oil palm	Bagamoyo	3,500	n/a	Project abandoned after realised high cost of doing land use plans

TABLE 2. Continued					
Investor	Crop	Location	Land area acquired (ha)	Land area originally requested (ha)	Project status
CMC Agriculture Bio-energy Tanzania	White sorghum	Bagamoyo	25,000	n/a	Land request approved but asked to do land use plans
ZAGA	Jatropha	Kisarawe	n/a	n/a	Applied for land
African Green Oils	Oil palm	Rufiji	860	n/a	Planted 360 ha and financing land use plans in 7 villages
InfEnergy Co. Ltd	Oil palm	Kilombero	5,818	n/a	Land lease pending. Cultivating rice while growing oil palm
Bio Massive	Jatropha & Pangamia	Lindi Region	50,000	n/a	
JCJ Co. Ltd	Jatropha	Mwanza Mara Shinyanga Tabora	n/a	n/a	Aimed to sensitise local communities but project abandoned due to alleged lack of government support
African Biofuel and Emission Reduction Co. TZ. Ltd	<i>Croton megalocarpus</i>	Biharamulo	20,000	n/a	No operational progress due to lack of funds
Prokon BV	Jatropha	Mpanda	10,000	n/a	Contract farming with 2000 smallholders; does not own any plantation land
Mitsubishi Corporation	Jatropha	Arusha, Dar es Salaam, Coast	n/a	n/a	Looking for land in these regions
Kapunga Rice Project	Jatropha	Mbarali District	50,000	n/a	Planned to replant rice with jatropha; President recently ordered that rice cultivation patterns not be changed
DI Oils Tanzania Ltd	Jatropha	Kilimanjaro	n/a	n/a	Abandoned plans for Tanzania
Kikuletwa Farm	Jatropha & Aloe vera		400	n/a	Growing jatropha

Sources: study fieldwork; Kamanga, 2008; Kulindwa, 2008; Songela and Maclean, 2008.

In fact, the number of companies constantly fluctuates and some of the companies seeking land have already abandoned their investment plans (see Table 2), and doubtless others will do likewise as market and fiscal conditions around the world and in Tanzania continue to change. At present, the biofuel industry is underdeveloped and highly speculative, with potentially high profits and equally high risks, and continued volatility in investment patterns is to be expected. Currently, projects are calling for capital outlays of up to US\$ 1.5 billion, thus attracting considerable attention from Tanzanian policy-makers (Kamanga, 2008).

Total requests of land are far more than has been actually allocated. Over 4 million hectares of land have been requested for biofuel investments, particularly for jatropha, sugar cane and oil palm.² But only 640,000 ha have so far been allocated – and of these, only 100,000 ha have been granted formal rights of occupancy.³ The discrepancy between requests and allocations is partly due to the moratorium recently announced by the government until its policy on biofuel projects is finalised. In addition, the recent genesis of most of these projects means that most investors have not yet completed the full process of securing rights of occupancy to the land. Industry officials working in Tanzania have also suggested that the global financial crisis has caused problems for several biofuel companies, and that changes in world oil prices have slowed down enthusiasm for biofuel projects.

2.2. MAIN CROPS

At present, oil palm and jatropha are the main crops used for producing biofuels in Tanzania. Oil palm has been cultivated for decades in parts of Tanzania as a food crop, whereas jatropha has been used in certain areas for hedges or grave markers though not for commercial or other uses. Sugarcane is widely cultivated in Tanzania to produce sugar, and many proposals have been developed to diversify and expand the use of sugarcane for biofuel production. There is the potential to produce biofuels from other existing oil food crops such as coconut, sunflower, and even avocado, but no biofuel projects using these crops are currently operational in Tanzania.

2. Interview with the Principal Land Officer at the Tanzania Investment Centre.

3. Speech by the Permanent Secretary Ministry of Energy and Minerals at the Biofuels Workshop, 1st December 2008, at Blue Pearl Hotel, Dar es Salaam.



Women boiling palm oil ready for milling locally in Kigoma Rural District.

Palm oil. Historically, Tanzanian farmers have cultivated various biofuel crops for food. For example, palm oil has been used as edible oil in Kigoma District since the early 1920s. More recently, additional uses for these oil crops have developed, such as local soap production using palm oil.

Oil palm production in Tanzania is carried out primarily by smallholder farmers living in Kigoma Region (Kigoma Rural District), Mbeya Region (mostly Kyela District) and some parts of Tanga Region. The FAO (2007) indicates that Tanzania has about 1.2 million hectares suitable for oil palm cultivation, although in 2004 only 4,500 ha of land was actually harvested, with a yield of 6.8 million litres of palm oil (Songela and Maclean, 2008).

At present Tanzania does not produce enough palm oil to meet domestic industrial demand for the production of edible oil. Production per unit of land area in Kigoma Region is very low, with national average yields at around 1,500 litres per hectare (Songela and Maclean, 2008). The local cooperative in Kigoma collects about 150,000 litres of palm oil annually and sells this to local refineries and soap producers in Dar es Salaam.⁴

4. Interview with Mr. Debenge, the Chairman of WABANGO cooperative in Kigoma District.



Local palm oil production in Kigoma Region.

Despite the domestic demand for palm oil not being met, there has been little investment in oil palm cultivation in Kigoma Region. Instead, local refineries and soap manufacturers import raw palm oil from Indonesia and Malaysia to meet their supply needs. In addition, the small amounts of palm oil that are processed domestically do not meet international quality standards due to unhygienic production processes.

Current local processing practices result in a great deal of loss and wastage. For instance, FELISA estimates 60% of oil content is not extracted from the seeds as a result of poor quality grinding machines.⁵ This would suggest that investment in improved post-harvesting technology in Tanzania may result in significant production gains because modern machines enable extracting more than 80% of oil content from the seeds. Thus, the adoption of improved technologies that increase the efficiency of palm oil production is a potentially important step for improving overall production and meeting demand for local domestic consumption, industrial soap manufacture and biofuel production.

5. Interview with Dr. Hamim Hongo, FELISA Managing Director.



Women selling palm oil products (oil, soap) in Kigoma.

The cultivation of oil palm requires large capital investments for the development of large plantations, but it is possible for outgrowers to intercrop hybrid palm trees with other crops, or plant palms in a small portion of their land while using their other land for food crops. Many companies seeking to establish estates are also willing to work with outgrowers. The hybrid palm oil trees take at least five years to produce their first crop while local varieties take up to nine or ten years to produce theirs.

Jatropha. In different parts of the world, a species central to the increasing interest in commercial biofuel production is *Jatropha curcas* – ‘Jatropha’. This species is a member of the Euphorbia family and is originally from Latin America. It has long been planted in Africa and Asia as a protective hedge around homesteads, gardens and fields, since it is poisonous and not browsed by animals (Kempf, 2007). It is a common crop but was not used for farming in large plantations until the advent of commercial biofuel production. Jatropha’s oil yields are lower than other oil crops. However, its advantages are that it is a resilient plant able to grow in difficult conditions including arid and otherwise non-arable areas, leaving prime areas available for food crop production. Each jatropha seed can yield 30-40% of its mass in oil.



Jatropha nursery in Likamba Village.

Currently jatropha is being widely promoted throughout Tanzania for small and large scale biofuel production. Several companies (Diligent Tanzania Ltd and Prokon BV) and several Tanzanian NGOs are encouraging communities to grow jatropha on marginal lands. For example, TaTEDO⁶ and KAKUTE⁷ have educated local communities in different parts of the country about the importance of developing simple technologies for energy production in their areas using either local or adopted technologies. These include the use of solar energy, cooking stoves and the farming of jatropha to produce fuels for local consumption. The two NGOs have successfully piloted rural electrification in Engaruka village, Monduli District, where communities use jatropha oil for domestic lighting and milling machines. However, the viability of domestic energy solutions using jatropha remains questionable. Anecdotal evidence suggests that jatropha may not be competitive at household or community level when economies of scale and transaction costs are taken into account. Nevertheless, in Monduli District, jatropha has become an alternative source

6. Tanzania Traditional Energy and Environment Development Organization, founded in 1990 and based in Dar es Salaam.

7. 'Kampuni ya Kusambaza Teknolojia' (The Technology Extension Company) Ltd.

of income for women in Mto wa Mbu village through seed collection, oil extraction and soap making as well as jatropha seedling production and sales to processing companies and NGOs.

An oft-quoted advantage of jatropha is its capacity to grow on marginal lands and thus not to compete with food crops. But, as any other plant, jatropha does flourish better in more fertile soils, and a number of large-scale investors have acquired land for jatropha cultivation in relatively fertile areas. Examples include the Kapunga Rice Project replacing rice farms with jatropha in Mbeya Region. Prokon Ltd is developing jatropha production in Mpanda District, Rukwa Region. Rukwa Region is in the Southwest of the country, and is a significant producer of maize, the main staple food crop in Tanzania.

A historic occasion was marked on December 30, 2008 for the Tanzanian biofuel industry as the first Air New Zealand plane powered by a 50-50 blend of oil from jatropha plants from Tanzania and India and standard A1 jet fuel took to the sky. The company hopes that by 2013, 10% of its flights will be powered, at least in part, by biofuels. According to Air New Zealand it might take this long before the company can secure reliable access to sufficiently large quantities of jatropha-derived biofuel (ENS, 2008). It should be realised however that the jatropha-based biofuel blend was made from seeds from plantations in East Africa and India with a total area of 125,000 ha.

Sugarcane. Tanzania has three big sugar companies formerly run by the government which are now privatised. The primary goal of these companies is to produce sugar for human consumption. However, due to the high demand for electricity and the availability of bio-wastes in the sugar production process, the companies now generate electricity through co-generation which they sell to TANESCO,⁸ the national power utility.

Sugarcane cultivation is mainly carried out by large-scale irrigated plantations, as in the Kilombero Valley, and by smallholders under contract farming arrangements using rain-fed production. Sugarcane production in Tanzania was 192,535 tonnes in 2006/07. This was only about 64% of national demand estimated at 300,000 tonnes, resulting in a considerable shortfall and need to import sugar (Songela and Maclean, 2008).

8. The Tanzania National Electricity Supply Company.

Small farmers need approximately one million Tanzania Shillings (TShs) (US\$ 778)⁹ worth of inputs to grow a hectare of sugarcane and produce a good harvest.¹⁰ Companies such as Mtibwa Sugar, Kilombero Sugar, and Kagera Sugar are anticipating that they will soon produce surplus sugar to be used for ethanol production to run factory machinery and vehicles, reducing the cost of buying fossil fuels. A number of large sugarcane plantations are currently in the planning and developmental stages that will produce sugar expressly for biofuel (bioethanol). These projects are mostly located in coastal areas such as Bagamoyo and Rufiji (see Table 2).

2.3. EMERGING PRODUCTION MODELS

Biofuel production, as with any form of agriculture, can be carried out under a range of different production models. Smallholders can engage in biofuel production and can organise as cooperatives, or participate in outgrower schemes organised by factories or plantation estates. At the other extreme, biofuel production can be entirely carried out by large-scale commercial plantations; it is the spread of these large-scale operations which is driving many of the social and environmental concerns about biofuel production in Tanzania at present. This section provides a brief analysis of three existing and emerging production models in Tanzania:

1. Large scale plantations – whereby biofuel companies control all aspects of production and processing.
2. Contract farmers and independent suppliers – whereby biofuel companies enter into contracts with local farmers.
3. Hybrid models – which combine production from large plantations and small-scale farmers.

Different types of crops and projects in different agro-climatic areas have different land requirements. Many of the largest requests and allocations of land have been for jatropha cultivation and sugarcane production in coastal areas to the north and south of Dar es Salaam. For example, SEKAB is aiming to put up to 400,000 ha of sugarcane plantation into production (Songela and

9. US\$ 1=Tsh 1285.

10. Interview with sugarcane outgrowers in Kilombero valley.

Maclean, 2008). By contrast, at least two companies investing in jatropha, Diligent and Prokon, are developing production models that do not involve any plantation-based production. Instead, they source seeds solely from contracted local farmers and outgrowers. To date Diligent is also one of a few biofuel investors actually producing oil for biofuels in Tanzania, with a monthly jatropha oil output of about 600-800 litres out of a total installed capacity of 1,500 litres/month (Songela and Maclean, 2008).

The production models adopted may be influenced by the type of the crop selected, its agronomy and the options available for post-harvest processing. However, all the main biofuel crops in Tanzania can be cultivated by smallholders, or in large plantation arrangements, or as a combination of both. For example, oil palm cultivation in Kigoma involves some large landholdings; but it is also widely grown by smallholders. Jatropha is widely cultivated under outgrower schemes, some of which have been promoted by NGOs that see jatropha as an alternative income-earning crop in semi-arid or marginal lands (Mitchell, 2008). However, jatropha is also the biofuel crop currently responsible for some of the largest land allocations to foreign-driven plantation schemes. Sugarcane is typically grown in large plantations for commercial sugar production, but these plantation companies also have developed outgrower schemes in places such as the Kilombero Valley.

Plantation model. Most of the companies investing in biofuels in Tanzania have already acquired large areas of land for establishing plantations. The leading companies (in terms of project advancement) are SEKAB BT, Bioshape, FELISA, and Sun Biofuels. These companies have chosen to establish plantations for several reasons:

- Financial security – a plantation estate may play a key role as collateral for securing bank loans – not only at project start up, but also as the business expands. Further investment through bank loans or new shareholders may be secured against ongoing plantation crop and estate infrastructure development.
- Reliability of feedstock supply can be critical for the viability of the business. Plantations may allow an investor to maximise their chances, within reason, of securing a reliable supply of biofuel feedstock, without having to rely on third party suppliers and possible adverse fluctuations in feedstock prices.

- Quality may be a more critical issue for some crops than others. Quality may be most easily controlled and guaranteed through a plantation approach – as systematic and uniform agronomic practices can be rigorously applied and controlled, and remedial actions – e.g. against disease – quickly taken.
- Local conditions – low population densities and lack of established local capacity for agricultural production may make it difficult to pursue contract farming models.
- Marketing – ensuring that the product meets or exceeds market requirements may be easiest by having control over the entire biofuel production chain – from feedstock growing to biofuel cracking. Also, it may be easier to market a biofuel product when it comes from a known source with more easily certified standards as required by the end consumer – for example, the aviation industry.
- Depending on the specific crop, costs of production may be most easily controlled through large scale uniform production and the resulting economies of scale.

Contract farmers and independent suppliers. Smallholder farmers comprise the bulk of Tanzania’s population and are the principal residents of most areas where biofuel investments are occurring. In most areas, smallholder farmers are able to participate in biofuel production through outgrower schemes, which involve commercial relationships between estates or factories and individual or groups of smallholders. Outgrower schemes are a normal production model for existing energy crops such as palm oil, sugarcane and sunflowers. For some years now, smallholder farmers have grown these crops on their farms and sold their produce to processing companies. In Kigoma Region, for example, farmers have grown palm oil for many years and are selling it to processors, while in Kilombero Valley, Morogoro District, farmers cultivate sugarcane to sell to the main sugar processing company (Kilombero Sugar Company).

In Kigoma Region, FELISA has taken positive steps to promote collaborations with smallholders. The company works with 36 registered groups of farmers. These groups operate according to written constitutions, with membership ranging from 20 to 40 people in each group. The groups’ major objectives are to improve oil palm production in their areas and to develop more stable



Jatropha planted on road fence in Riroda village, Babati District.

markets for their produce. Currently they are cultivating new improved palm seed varieties produced by FELISA, and improving yields through better plant spacing and other agronomic practices developed by FELISA.

Diligent is the leading biofuel company in Tanzania which bases its production model primarily around contract farmers. The company works with approximately 4,000 contract farmers as of 2008, most of whom plant jatropha as farm hedges, and on contours and degraded land. Very few have shown interest in planting jatropha on their farms in areas already used to grow food crops. Jatropha oil seeds earn lower prices than other cash and food crops, and this is a major factor considered by farmers in prioritising field crops.

Hybrid models: balancing trade-offs. As contrasting possible business models, biofuel companies investing or expecting to invest in Tanzania will likely choose between producing biofuels from large estates or contracting production to outgrowers. Both models can work and have advantages and

disadvantages. Many companies are looking to secure their own farms in order to address concerns about the reliability of levels of production and supply, quality assurance, and price stabilisation. A challenge for companies relying only on outgrower schemes is that smallholder producers aware of their control over supply can potentially collude to increase prices or disrupt supply. For smallholders, estates are disadvantageous due to the potential loss of lands and natural resources as well as challenges of safeguarding labour wages and rights, and the potential of plantation employees being replaced by mechanised production – as is occurring in Brazil.

Interviewees from the two different approaches (plantation and outgrower) suggest that hybrid production models can be an effective option for balancing trade-offs between the interests of rural smallholders, investors, and national economic development. As rural communities increasingly grow energy crops, they will have sufficient powers to own their land which will then enable them to use it as collateral to obtain bank loans. The use of a hybrid model may be necessary for some energy crops, such as sugar cane, that require substantial investment in processing machinery and technology, making it difficult for smallholders to secure finance for these plants. However, it is possible for smallholders to produce and process their biofuels from other energy crops such as jatropha, sunflower, soy beans and wheat.

An example of a hybrid model is provided by SEKAB's proposed project to develop 500,000 ha of sugarcane at Rufiji-Kilwa, as agreed in an MoU with the Tanzanian government, in addition to 20,000 ha at Bagamoyo, already under development. The company aims to complement production from these two large plantation areas with a "Sugarcane Smallholder and Outgrower Scheme" (SUSO; CSDI, 2008). The vision for this scheme is that rather than individual farmers growing sugarcane separately on dispersed small farms, interested participants will come together to manage block farms, each of around 25 ha with five participating farmers. Up to 6,000 ha in Bagamoyo might be eligible, with a similar or higher area in Rufiji-Kilwa.

Each block farm will be under the custodianship of a local Land Trust. As per the Tanzanian Land Act, eligible villages would arrange for their own village land to be surveyed, followed by development of land use plans, boundary demarcation and securing of formal village land title. This would provide the basis for issuing title to the Land Trust. The Land Trust would then map out

block farms and issue sub-leases to registered farmers. The total set of block farms would form an extended enterprise, a single legal entity (Block Farm Management Company) owned by the farmers' association and party to an overall supply contract with SEKAB.

This extended enterprise would run along a franchise model. Individual sub-leasing farmers would each be a franchisee. In formal terms a franchisee is an independent operator that pays a royalty fee in return for the right to use the franchisor's business techniques and brand trademarks. The SUSO model instead envisages the franchisee as a networked business partner, but in essence the arrangement is a classic outgrower scheme in which farmers receive technical and financial support to grow produce on their own land in return for guaranteed purchase under a pre-agreed pricing formula. The difference from a typical outgrower scheme is the block arrangement of the farming areas, which allows for efficiencies of scale in extension advice, production and harvesting.

2.4. RISKS AND OPPORTUNITIES

A number of biofuel projects have been initiated in recent years that involve highly capitalised foreign investments affecting large numbers (e.g. 5,000-10,000) of people locally through the alienation of their rights over customary lands (Gordon-Maclean *et al.*, 2008; Kamanga, 2008). Some of these investments, such as the Sun Biofuels project at Kisarawe, outside Dar es Salaam, have attracted a great deal of local and international media coverage and led to growing concern by the general public and civil society about the environmental and social impacts of expanding biofuel investments (e.g. Oxfam International, 2008). Writing about plantation-based investments, Kamanga (2008) warns that “one of the biggest and real threats of bio-energy is land grabbing and the resultant displacement of village communities along with shattered livelihoods” (see also GTZ, 2005; and Gordon-Maclean *et al.*, 2008).

These concerns are compounded by the limited planning, inter-sectoral coordination, and policy provisions governing biofuel investments in Tanzania. There has been little awareness of the growing biofuel industry even across different Tanzanian government sectors – such as Energy, Natural

Resources, Land, and Water – which all have an interest in how biofuel developments are crafted and their impacts managed. The limited understanding of government, and its capacity and/or commitment to carry out cost-benefit analysis or environmental and social impact assessments prior to the development of commercial biofuel projects, is also a potential challenge (Kamanga, 2008).

Biofuel development in Tanzania also needs to be viewed within the context of the overall Tanzanian economy and policy debates surrounding it. The scale of biofuel projects in Tanzania varies widely, from small-scale projects to huge plantation schemes. The potential economic impacts are still speculative but could be substantial. SEKAB BT (2008) suggests that the development of two million hectares of land for bioethanol in Tanzania would, over a 20-25 year period, generate US\$ 7 billion in revenue and one million new direct and indirect jobs. There have been generally poor linkages, however, between national macro-economic growth and rural incomes during the past 20 years of overall national economic expansion and increasing foreign direct investment (URT, 2005). For example, the mining sector in Tanzania has grown tremendously during the past 20 years but, according to some analyses, has largely failed to contribute significant income to either the national treasury or to communities surrounding mines, and has led to some communities suffering eviction from their settlements (Curtis and Lissu, 2008). Land use conflicts between private investors, state agencies, and local communities related to wildlife conservation and tourism investments have also been widespread, particularly in the northern part of the country where much tourism is carried out (Igoe and Croucher, 2007; Sachedina, 2008). If considerable caution is not taken in implementing biofuel projects in Tanzania, then it is possible that more communities in prospective parts of the country, such as coastal areas, will suffer long-lasting environmental, social, economic and cultural impacts.

Considerable concern has been expressed about the impacts of biofuel development in terms of environment and biodiversity outcomes, food security locally and nationally, and local access and rights over land (Kamanga, 2008; Oxfam International, 2008; Gordon-Maclean *et al.*, 2008). These concerns have been discussed in a growing body of media and NGO reports. Some of the actual and potential agronomic and ecological threats include:

- a lack of specific studies on the agronomic impact of different biofuel crops on the soil, environment and other food crops in various regions of Tanzania;
- biofuel plantations that involve the clearing of areas with high levels of biodiversity, or that replace natural habitats such as *Miombo* woodlands;¹¹
- large biofuel plantations that can block wildlife migratory routes in parts of the country, especially in areas surrounding or near to wildlife conservation areas.

As shown in Table 2 above, many biofuel developments are occurring in Tanzania's coastal districts such as Kilwa, Rufiji, and Bagamoyo. Biofuel production is particularly favourable along the coast for several reasons. First, proximity to the coast can facilitate exporting of produce. Second, coastal areas tend to have relatively high levels of rainfall and water for irrigation from rivers flowing to the sea. Third, coastal areas tend to have soils composed of eroded basement rocks, sediments, or coral rag, which are all very low in fertility and tend not to support intensive agricultural production. For this reason much of the land in coastal areas appears to be relatively unused as local people depend on shifting cultivation, harvesting marine and forest resources, and a limited amount of livestock production for their livelihoods. This creates the impression of there being ample land available for commercial agricultural investments.

One of the major resources used by certain biofuel crops is water. In all areas where there are companies investing in palm oil and sugarcane production one of the first issues these companies consider is the availability of water for irrigation. Water may be acquired from both flowing sources (from rivers) and underground aquifers. The extraction of water by these companies may cause competition over the use of this scarce resource – for example, with local domestic consumption as well as for ecosystem functions. For instance, SEKAB BT's investment projects are in Bagamoyo and Rufiji Districts where there are big rivers. The area proposed for its Bagamoyo plantation will likely depend on the Wami River for irrigation. Decreases in water flow in the Wami River may result in a decline of water supply for Dar es Salaam and for the coastal region, both of which depend entirely on the Wami and Ruvu rivers for all industrial and domestic uses. However, SEKAB BT officials believe that using

11. *Miombo* is the Swahili word for the dominant tree genus, *Brachystegia*.

the deep irrigation technology they have imported from Israel will mitigate the potential problem of water shortages brought on by increasing biofuel production in the Coast Region.¹²

Although much of the public discussion on biofuel investments has expressed concern over adverse social and environmental impacts, there is also evidence of local farming communities and individuals benefiting from income opportunities provided by crops such as palm oil and sugarcane. As discussed in the previous section, parts of Tanzania have experienced biofuel production models that enable smallholders to profit through outgrower schemes and other business relationships with commercial farms or processing factories. For example, 1,600 smallholder members of the Kilombero Cane Growers Association (KCGA) produce about 28% of the total raw sugarcane production of the Kilombero Sugar Company.

2.5. BIOFUEL POLICY DEVELOPMENT

While other African countries like Malawi have already developed sustainability principles for the biofuel sector, the Government of Tanzania has no policies, strategies or regulations to guide biofuel investments in the country. However, in April 2006, the government, through the Ministry of Energy and Minerals (MEM), established a National Biofuels Task Force (NBTF) with the responsibility of promoting the development of policy on biofuels. The NBTF comprises 11 government agencies, ministries and executive offices, as well as two private sector representatives.

NBTF produced an initial draft of guidelines on biofuel production in August 2008. This draft was discussed by various stakeholders, including NGOs. Some NGOs criticised sections of the guidelines and made alternative suggestions. WWF-Tanzania commissioned a report to lay out guidelines on biofuel projects in Tanzania (ESD, 2008). The government subsequently included some of these suggestions in a revised draft of the biofuel guidelines, which was released in November 2008. The guidelines are currently awaiting the Cabinet's approval.

The policy framework regulating access to land is discussed in the next section.

12. Interviews with SEKAB BT company officials.

III. BIOFUEL PRODUCTION AND LAND ACCESS IN RURAL TANZANIA: LAWS, POLICIES AND PROCEDURES



3.1. RURAL LIVELIHOODS AND LAND RIGHTS IN TANZANIA

Tanzania remains an overwhelmingly agrarian country, with more than 70% of Tanzanians residing in rural villages and over 80% deriving their livelihoods from agriculture and pastoralism. Economic development policy prioritises supporting smallholder agriculture and increasing the linkages between rural livelihoods and macroeconomic growth (URT, 2005):

“Agriculture is the leading economic sector in Tanzania, providing a livelihood to 80% of the population subsisting on less than two hectares. It is the primary source of food and raw materials accounting for not quite half of the GDP and a leading export sector. It remains critical for achieving sustained growth, poverty reduction and rural development.”
(URT, 2008)

Securing rights to land is therefore a central issue in rural parts of Tanzania, with respect to livelihoods, food security, economic growth, and human rights. Land tenure insecurity in rural parts of Tanzania remains a widespread social problem and source of political tension. For example, Tanzanian pastoralists occupying semi-arid areas are often subject to efforts to alienate their customary pastures and land holdings, for purposes of commercial investments or establishment of wildlife conservation areas (Mattee and Shem, 2006). There is a widespread and enduring perception that pastoralists do not utilise lands in ways that are economically efficient or productive (Hesse and MacGregor, 2006). This leads to efforts by government policy-makers to re-distribute pastoral lands to state agencies or directly to commercial investors in the belief that this is an economically rational policy. Likewise, although some government policies emphasise supporting smallholder production, there is an equal or greater priority placed on expanding mechanised large-scale farming. As Table 1 above demonstrates, the majority of land classified as arable in Tanzania is not currently cultivated or irrigated, which suggests to policy-makers that there is ample unused land available for allocation to large-scale commercial investment.

A perception among policy-makers that rural people are inefficient also affects the development and implementation of agricultural and investment policies. The government's draft biofuel guidelines state:

“Smallholder farmers responsible for 90% of all farm produce underutilize arable land, as production systems remain archaic in tillage, storage and processing.” (URT, 2008)

This statement is indicative of the long-established narrative in Tanzanian development policy that smallholder pastoralists and farmers are inefficient, do not contribute sufficiently to the development of the nation, and are in need of ‘transformation’ by more modernised economic systems. This rationalises the appropriation of land from rural communities and redistribution to private investors.

Growing commercial pressures on rural lands, such as agrifood, tourism, and now biofuels, may potentially create economic interests for government agencies to allocate more lands to large-scale investments. Balancing the national interests in promoting investment, as well as the private interests of government policy-makers who may themselves be involved in such businesses, and the land access interests of smallholder farmers and pastoralists has been one of the most contentious aspects of land tenure debates in Tanzania for the past 20 years.

3.2. THE LEGAL FRAMEWORK REGULATING LAND TENURE IN RURAL TANZANIA

Like many countries in sub-Saharan Africa, Tanzania's land tenure framework is characterised by a historic centralisation of state control over rural lands, which is subject to contemporary reforms designed to improve local communities' land tenure security in line with broader political and macroeconomic reforms. For most of its history, Tanzanian land matters were governed by the Land Ordinance of 1923, passed shortly after the onset of British colonial administration. The Land Ordinance effectively centralised land administration under the British Crown and made the exercise of customary rights in land subject to the authority of the colonial Governor. A chief outcome of this legislative framework was the evolution of a dualistic system of land governance, whereby rights deemed or granted by the state were functionally superior to customary rights in land (Shivji, 1998).

Following independence, socialist and modernisation policies adopted in Tanzania in the 1960s and 1970s facilitated greater central authority over land. Private rights to land were in some cases nationalised, while customary land institutions and practices were greatly weakened by the villagisation campaigns of the mid-1970s. During this period, millions of rural Tanzanians were relocated without formally reconciling their forced movements with existing patterns of land rights and tenure (Shivji, 1998).

In the 1980s, the shift to liberalised economic policies promoting foreign investment led to a rapid increase in land acquisitions by local, national and foreign elites. The paradigm shift towards neoliberalism occurred in a context where the administration of land had been centralised progressively in an increasingly inefficient state bureaucracy and past administrative measures had led to widespread confusion with regards to land tenure patterns. This, in turn, fuelled widespread rural discontent with land tenure policy and administration, ultimately resulting in the convening of a Presidential Commission of Enquiry into Land Matters in 1991.

The Commission of Enquiry organised a highly participatory and exhaustive process of reviewing land tenure policy, law, and administration in Tanzania, publishing its findings in 1994. A new National Land Policy (1995/1997) and new legislation (Land Act No. 4 of 1999 and Village Land Act No. 5 of 1999) followed on from the Commission's report, although many of the more substantive recommendations regarding land tenure decentralisation and democratisation gave way to vested interests and neo-liberal interpretations (Sundet, 1997; Shivji, 1998).

The Land Act and Village Land Act, which came into force on 1st May 2001, provide the overall framework for land rights to be exercised and administered. The laws represent a substantial reform on the prior tenure framework that had been in existence since 1923. The acts retain ownership ('radical title') in the hands of the President as a trustee for all Tanzanians, making land tenure a matter of usufruct rights as defined by various leasehold periods and conditions. An important reform in the Land Act makes 'customary rights of occupancy' legally equivalent to any 'deemed' or 'granted rights of occupancy'. This measure was designed to remove the 'dualistic' character of land rights that had prevailed since the colonial era.

The acts establish three basic categories of land: 'General', 'Reserved' and 'Village' Land. Reserved Land is land set aside by sectoral legislation as national parks, game reserves, forest reserves, marine reserves, and so forth, and makes up around 30-40% of Tanzania's total land area. Village Land is defined as the land within the demarcated or agreed boundaries of any of Tanzania's 10,000+ villages, which are in turn defined by local government legislation passed in the 1970s and early 1980s. The Village Land Act provides the legal framework for management and administration of Village Land, which is by definition held under customary rights of occupancy held in perpetuity (see Alden Wily, 2003). Village Land is under the managerial authority of the Village Councils, which are answerable for land management decisions to the Village Assembly. General Land is any land which is not reserved or village land, and may somewhat confusingly include village land which is 'unoccupied or unused' (Alden Wily, 2003). General land is under the authority of the Commissioner of Lands in the Ministry of Lands, Housing and Human Settlements Development.

The Land Act explicitly aims to create a land administration framework which will facilitate making land available for private or foreign investment. It is primarily General Land, which is under central government control, which is envisioned as being used for allocation to commercial investors. The Tanzania Investment Centre (TIC) plays a key role in identifying land which is available for investment, which it has organised into a so-called 'land bank' comprising over 2.5 million ha to which investors may apply.

Much of the land identified as suitable for investment in different parts of the country is, however, Village Land and is used or occupied by local communities in various ways. Even seemingly unoccupied lands traditionally may be important areas for seasonal livestock grazing, extraction of forest products, or other important livelihood uses (Mattee and Shem, 2006). Village Land may not be allocated to foreigners or foreign-owned companies; foreigners may only obtain land for purposes of investment from the holder of a granted right of occupancy, which may be a private individual or entity, or the government (Ministry of Lands or TIC). Village Land may be allocated to a Tanzanian individual or company, although allocations in excess of 250 acres of land require approval of the Commissioner of Lands. Amendments to the Land Act passed in 2004 also provide for joint ventures to be established between private companies and villages, whereby land is used for commercial purposes but villages retain their rights over the land subject to certain agreed limitations.

BOX 2. WHAT IS ‘VILLAGE LAND’?

Any analysis of the impacts of biofuel development on land access in the rural areas of Tanzania must start with a clear understanding of the way local communities’ rights over land are defined and adjudicated. Such an understanding is itself challenging because the Land Act and the Village Land Act contain a number of conflicting or confusing provisions in relation to defining Village Land. While the Village Land Act makes it clear that General Land is a “residual category”, meaning simply any land which is not defined otherwise as Village Land or Reserved Land, the Land Act includes “unoccupied or unused village land” in its definition of General Land (as noted by Alden Wily, 2003). The Village Land Act purposefully provides wide scope for defining village lands, and the customary rights of occupancy that are automatically held in such village lands:

- a) any land within the boundaries of a registered village, including that land which was originally described as the village area or has been so demarcated through any procedure since then;
- b) land agreed to be the land of a given village according to agreement between that village and its neighbours;
- c) any land which villagers have been using or occupying for the past 12 years.

Customary rights of occupancy are based on these definitions and are formalised through the village obtaining a Certificate of Village Land. However, even villages which do not have this certificate possess customary rights over land which falls within the above definitions of Village Land.

3.3. OFFICIAL PROCEDURES FOR LAND ACQUISITION

Foreign investors can only hold a granted right of occupancy on General Land. In order to obtain Village Land for investment, this land must be first transferred to General Land. Land can only be transferred from Village to General Land by the President, after the affected villagers and the Commissioner of Lands have agreed on the amount of compensation to be paid. If villagers are not satisfied by the compensation determined by the Ministry of Lands they can appeal to the High Court for adjudication on the matter (Alden Wily, 2003). Alternatively, investors may obtain land which is already General Land and is allocated to them by the TIC. In practice, both procedural paths – starting at the TIC and starting at the village level – are being used to obtain lands for biofuel investments in Tanzania.

Land acquisition through the Tanzania Investment Centre. Investors need to fulfil several requirements to acquire land at the Tanzania Investment Centre (TIC). First, a certificate of incentives is prepared after meeting the TIC requirement of investing at least US\$ 100,000 for projects which are wholly owned by Tanzanian citizens and US\$ 300,000 for projects which are wholly owned by foreign investors or a joint venture. Then they are required to go to the respective government Ministries responsible for liaising with their particular projects. Currently most companies follow these steps:

1. The investor introduces the business idea to the TIC; after fulfilling all the requirements at the TIC, such as business registration and verification of investment capital, the investor is given a 'Certificate of Incentives'.
2. The investor then goes to a district where there is an appropriate quantity and type of land in order to carry out a formal land survey.
3. The surveyed land is registered at the Ministry of Lands, Housing and Human Settlements Development.
4. The investor's agricultural project is registered and approved by the Ministry of Agriculture.
5. The investor applies for a derivative right of occupancy from the TIC.

Land acquisition through the village. Village land is under the authority of Village Councils and Village Assemblies, with the latter comprising all the residents of a village who are over the age of 18. Procedures for investors to obtain village land are substantially different from those used to acquire land directly from the TIC, because projects must undertake the transfer of land from Village Land to General Land as well as additional procedures. In contrast to obtaining land from the TIC 'land bank', where the investor does not negotiate with local communities, investors have to start negotiations from the village level. They then proceed upwards to the Ministry of Land until the final transfer of land from Village Land to General Land is approved by the President. The process is as follows:

1. The investor identifies the village where there is potential land that he / she wishes to acquire.
2. The investor meets the Village Council to seek approval of the request for land.
3. The Village Council and the investor forward the proposed investment to the District Council Land Committee, which approves the land for the investment purpose in the village.¹³
4. The Village Assembly approves the allocation of the piece of land to the investor.
5. The President transfers the land from Village Land to General Land. Compensation is paid to the affected village based on agreement between the village and the Commissioner of Lands.
6. The investor obtains a 'granted right of occupancy' (derivative right) to the land from the Commissioner of Lands at the Ministry of Lands, Housing and Human Settlements Development.

13. This procedure is only followed if the village land requested is more than 250 acres. For smaller areas the Village Assembly can simply provide the land to the investor.

**IV. IMPACTS OF BIOFUEL
INVESTMENTS ON LAND
ACCESS**



In order to analyse the impacts of commercial enterprises such as biofuel projects on rural land access, several questions need to be considered:

- First, how are rights over land being affected as a result of biofuel investments? In other words, are customary rights to village land being extinguished, and land transferred from village-based tenure to centralised government administration, as a result of such investments?
- Second, where local customary rights are being extinguished, is the process of consultation and compensation being followed transparently and adequately?
- Third, where local rights have been extinguished and compensation paid, what is the ultimate impact on the livelihoods of the dispossessed people?

There has been widespread concern on the part of the public and many Tanzanian analysts that biofuels are contributing to loss of local land rights and livelihoods (Gordon-Maclean *et al.*, 2008). Kamanga (2008) contends that “the pattern of acquisition of land by investors can barely be described as transparent, coherent, or entirely consistent with applicable laws and policy directives”. By contrast, writing about Bioshape’s acquisition of approximately 30,000 ha in a sparsely populated area of Kilwa District, Gordon-Maclean *et al.* (2008) report that local communities “... are satisfied with the company’s approach to them”.

Few details are provided on the specifics of local consultations, compensation procedures, and impacts on local livelihoods in these cases. At the same time, many of the concerns expressed thus far have arisen as much from a lack of information about land acquisition processes at the local level in relation to biofuel development, as about any clearly documented malpractices. The following sections summarise what is known about the impacts of biofuel development on local land access, based on other studies recently carried out and on primary data collected as part of the field research for this report.

4.1. GENERAL IMPACTS ON LIVELIHOODS

As noted earlier, about 640,000 ha, out of a total of 4 million ha requested by companies, has been allocated for biofuel production. Only a few companies, representing less than 100,000 ha, have finalised the process of obtaining derivative title or ‘granted rights occupancy’ to the acquired land. As a result, in most instances compensation is yet to be paid, as it is contingent on companies obtaining formal title to land first, although this deviates from the legal procedures for compensation as previously described. Only a few land allocations, such as those of Bioshape in Kilwa District and Sun Biofuels in Kisarawe District, have been finalised through the transfer of land from Village to General Land. Thus, most of the impacts on local land access from biofuel development are yet to come as further deals are negotiated and finalised.

Land targeted for biofuel production: unoccupied but not unused. Most of the land obtained or in the process of being obtained by biofuel companies is Village Land that is not permanently settled but is used for various economic activities. Much of the land lies in coastal areas (Bagamoyo, Rufiji, Kilwa, Kisarawe Districts). Most of this land is *Miombo* woodland, with patches of coastal forest and thicket (Gordon-Maclean *et al.*, 2008). The land is generally used for forest-based economic activities, including commercial charcoal production and harvesting products such as traditional medicines, mushrooms, fuelwood and building materials. Such uses are a major part of local and national economies. The World Bank (2008) estimates that informal and non-industrial uses of forests in Tanzania add a generally unaccounted-for US\$ 35-50 to national annual per capita income,¹⁴ given that forests provide 75% of all building materials, 95% of household energy supplies, and 100% of traditional medicines in Tanzania.

Such land, to paraphrase from the Land Act’s definition of General Land vis-à-vis Village Land, is ‘unoccupied’ but definitely not ‘unused’. In some areas targeted for biofuel development, such as Utunge village in Rufiji and Mtamba village in Kisarawe, the boundaries of villages have been demarcated and land is unambiguously Village Land. In other instances the land is Village Land by virtue of customary patterns of resource use. This is a point of some confusion, with for example Gordon-Maclean *et al.* (2008) stating that most lands being allocated to various biofuel investors are General Lands even though “... nearby villagers do have customary rights as a result of long-

14. Gross National Income per capita (Atlas method) was US\$ 400 in 2007 (World Bank, February 2009).

standing occupation or use of the land”. Such appraisals confuse definitions of General and Village Land; land where customary use and occupancy occur is implicitly defined as Village Land according to the Village Land Act.

Where biofuel investors are attempting to secure large areas of land for crop production, they seek a right of occupancy. Where this eventuates, it effectively extinguishes customary rights in land. Where biofuel companies, such as Diligent and Prokon, are not seeking to secure large areas of land, but are using production models based entirely on contract farming or independent smallholder suppliers, there is no direct negative impact on local land access and tenure. It is recognised, however, that in the longer term, changes in land access may still occur within the community, for instance along gender, age, income, status or other lines, as a result of the growing commercialisation of agriculture and the increasing land values, and as more successful farmers are better able to exploit the economic opportunities created by biofuel production.

Company	Location (District)	Crop	Land acquired (ha)	Land targeted (ha)	Previous land status	Current land status	Business model
SEKAB BT	Bagamoyo	Sugarcane	22,200	24,200	Zanzibar government ranch/TIC land	Granted by TIC to SEKAB BT; derivative right being processed	90% estate; 10% outgrowers or block farming
	Rufiji	Sugarcane	0	250,000-500,000	Village land	Land acquisition in negotiation	
FELISA	Kigoma 1	Oil palm	4,258	10,000	TIC land bank	Derivative right in process	Hybrid (5,000 ha estate & 5,000 ha outgrowers)
	Kigoma 2		350		Village land	Subject to dispute with village, district, and another investor	
Sun Biofuels	Kisarawe	Jatropha	8,211	50,000	Village land (12 villages)	Transferred from village to general land Feb 2009	Estate & outgrowers in future
Diligent	Arusha	Jatropha	None	None	n/a	n/a	Contracted farmers only

4.2. LAND ACQUISITION PRACTICES

Through TIC or village authorities. In general, companies have found it simpler to obtain land through the TIC than attempting to acquire village lands which have not yet been surveyed and which require the ‘bottom-up’ set of procedures described above. SEKAB BT has acquired the former Zanzibar People’s Ranch (RAZABA) in Bagamoyo District, a 22,000 ha property that will be its main sugarcane plantation for bioethanol production in the Bagamoyo area, through the TIC. The RAZABA ranch had not been used for many years since it was given by President Julius Nyerere to Zanzibar so the government made it available for acquisition and use by foreign investors. The property had no villages established within its demarcated boundaries, although Songela and Maclean (2008) state that 14 households and some pastoralists were compensated for being displaced. However, in the Rufiji basin, SEKAB BT is also negotiating directly with villages in its efforts to obtain very large areas – up to several hundred thousand hectares – for sugarcane production.

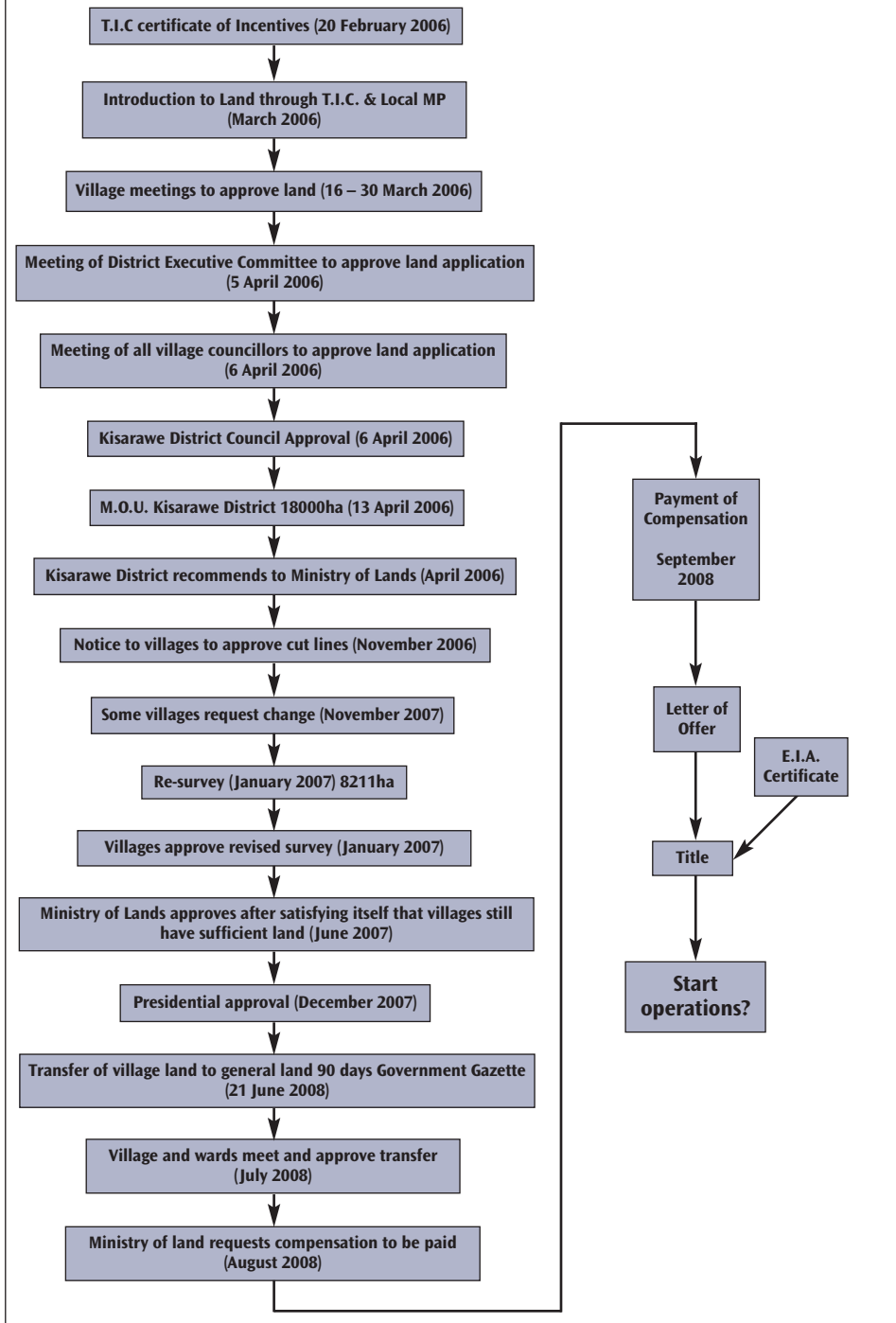
Villagers lack understanding of the process. In Kisarawe District, Sun Biofuels approached villages directly, reportedly with the support of the local Member of Parliament who was a strong advocate of the project.¹⁵ Figure 3 illustrates the land acquisition process as described and pursued by Sun Biofuels. According to district officials, 12 villages in five wards have given part of their land to the company, with a total area of 8,211 ha granted and transferred from Village to General Land.¹⁶ The land allocation process involved Village Council and Village Assembly meetings in which the villages agreed to grant land to the company. The area of land given to the company and the number of people paid compensation varies from village to village. But by virtue of a Government Notice published in the official gazette in February 2009, the land has now been transferred from Village Land to General Land. Interviews with villagers from Mtamba village suggest that they do not know how much of their land has been given to the company.¹⁷

15. Interviews with Kisarawe District officials.

16. Interviews with Kisarawe District officials.

17. Interviews with residents of Mtamba village.

FIGURE 3. FULL LAND ACQUISITION PROCESS AS DESCRIBED AND PURSUED BY SUN BIOFUELS IN KISARAWA DISTRICT



In Rufiji District, both district and village officials expressed concerns over the SEKAB BT land negotiation process. For example, the Rufiji District Land Use Committee found some villages¹⁸ had given almost all of their village land area to the investor. This led district officials to query the area of village lands designated to be given to SEKAB BT, and to investigate what the impacts and implications of these allocations would be. They found that, for some villages, the proposed land allocations would represent the loss of most of the villages' land and natural assets. For example, Utunge village proposed to give to SEKAB BT 72% of its Village Land (19,363 ha out of a total of 26,865.5 ha).

Promises, not written contracts. Villagers in Rufiji also commented that many promises had been made regarding benefits for them, such as social services and employment, but none of this had been documented in written contracts with the investor. Villagers commented, “we give out village meeting minutes but nothing ever comes back to us in writing”.¹⁹ In the Sun Biofuels acquisition in Kisarawe, a similar story emerged; many promises were made to the villages regarding social service provision, employment and other forms of benefits but, to our knowledge, these promises have never been put into a written contract based on a formal partnership between the villages and the investor.

Many villages in northern Tanzania are increasingly aware of their land rights and more confident about interacting with private companies in the tourism and agricultural industries. In contrast, many of the villages that SEKAB BT is seeking to obtain land from in Rufiji are very much at a loss as to what their rights and opportunities are, independent of what they have been told by private investors and some government officials. Villagers are, for example, not used to demanding that ‘promises’ be put in a formal contractual format, or what kinds of contractual provisions are most important for safeguarding their rights and interests.

Conflicts. FELISA acquired land in Kigoma Rural District after contacting district officials who later introduced them to the villages where this land was located. The company was given 350 ha of land in the villages of Ilagala and Karago after both Village Assemblies approved the agreements negotiated between the company, Village Councils and the District authorities. Village

18. For example, the villages of Nyandakatundu, Nyamwage and Utunge.

19. Interview with village leaders in Nyamwage village.

leaders were then requested to provide village meeting minutes to approve the transfer of their land. However, at the last minute, Karago village sent the district a different agreement showing that the land in question had already been allocated to a second investor and not FELISA. The investor, who is a resident of Kigoma Rural District, allegedly was given land under dubious circumstances. Many villagers in the neighbouring village of Ilagala consider the Karago village leaders as likely to have been involved in a corrupt deal to allow the second investor to acquire the land without following the stipulated legal procedures. According to the Ilagala Village Executive Officer, the land should belong to FELISA as the company followed all the legal procedures necessary for acquiring the land. The company promised to contribute to various village infrastructure projects for social services in the community. FELISA further agreed to assist the village to obtain a high-yielding variety of oil palm seeds freely from its company gardens. After deliberating the benefits promised by the company, the villagers accepted the company's acquisition of part of their land. However, there is no written document to bind the company to provide what it has promised to the villagers.

4.3. COMPENSATION PRACTICES

In Tanzania, as in many other countries, the central government retains the legal right to appropriate local villages' or private individuals' land. However, the Village Land Act provides important safeguards to the process of appropriation through its detailed requirements regarding the payment of compensation (Alden Wily, 2003). Prior to transferring land from Village to General Land and extinguishing communities' customary land rights, the villages and the Commissioner of Lands must agree on a fair level of compensation which the communities must be paid.

Procedures not followed, confusion over process. In several cases where villages' land rights have been extinguished as a result of biofuel investments, the process for compensation has not followed the established procedures. Nor is it clear if communities are being compensated at appropriate levels in relation to the value of their lands. In Kilwa District, Bioshape is one of the few companies already to have paid compensation to villages. Gordon-Maclean *et al.* (2008) report that Bioshape paid TShs 405,109,600 (US\$ 315,211) to compensate four affected villages for the 34,000 ha acquired

thus far. A problem that has emerged in relation to this scheme relates to the distribution of compensation amounts paid by the company among different local authorities and groups – an aspect of the compensation scheme that is largely outside the control of the company itself. Apparently, 60% of the compensation paid went to Kilwa District Council and only 40% to the villagers (Songela and Maclean, 2008). Villages attempted to secure a higher proportion but were reportedly rebuffed by the District, which will now use the funds to support service provision to the rest of Kilwa District’s population. This occurrence is highly unusual, as villages, not district governments, are the legally appointed land managers of Village Lands held under customary rights of occupancy. District Councils are not legally responsible for direct management of village lands and do not exercise customary rights in land on behalf of villagers. Thus there is little rationale for compensating district government, except perhaps for political expediency. Paying 60% of compensation to district government does not accurately reflect the opportunity costs incurred by the land transfer, which will fall almost entirely on the affected villages rather than the district population as a whole. In addition, Gordon-Maclean *et al.* (2008) note that, as of late 2008, the district had been paid but the villages “... are not aware when they will actually receive [compensation]”; though this circumstance is denied by company officials who personally attended meetings with local groups.

In Kisarawe District, compensation has been paid by Sun Biofuels to the 12 affected villages that lost land transferred from Village to General Land in February 2009. There is considerable confusion at the local level with regards to the compensation process. For instance, according to one member of Mtamba village, 11 compensation forms were brought to the village but only one villager was actually compensated.²⁰ Most villagers do not understand the criteria that were used to assess the compensation applicable. However, according to the Kisarawe District Land Officer, most of the village lands taken by the company were bush/woodlands which the government could have just taken without compensating villagers – but it did so in order to follow legal procedures.²¹

20. Interview with village resident, Mtamba village.

21. Interview with Kisarawe District Land Officer.

Inadequate land valuation criteria. In Kigoma Rural District, villagers were promised compensation payment only for the palm trees found on their land. Likewise, in Kisarawe District, the land valuation was carried out by experts from Ardhi University, but Kamanga (2008) reports that this was based on planted trees and not on the commercial value of the land being taken. Even these estimates, excluding any value attached to land itself, do not appear to take any account of the opportunity costs villages face in divesting their rights over *Miombo* woodlands used for various economic activities. Informal local forest uses can amount to US\$ 35-50 per capita annually, and may make up as much as 10-15% of total GDP in Tanzania (World Bank, 2008). In addition, villagers with forests and woodlands have substantial economic opportunities, potentially, to develop income streams from sustainable timber production (Blomley *et al.*, 2008). A conservative estimate of the commercial value of sustainably harvested timber from *Miombo* woodlands is around TShs 35,000 (US\$ 28) per hectare per year (Nelson and Blomley, 2007). For the 8,211 ha granted to Sun Biofuels at Kisarawe, this level of harvesting would amount to about TShs 287 million (US\$ 223,312) for only one year's worth of production, assuming the presence of harvestable timber trees in the area. This figure is already higher than the entire compensation package – presumably representing the lost value of the land *in perpetuity* – paid by Sun Biofuels to the 12 villages. Clearly, villages incur opportunity costs in granting large areas of land to investors which are not being factored into existing assessments of land values and compensation payments.

BOX 3. LAND VALUE: BEYOND PIECES OF SILVER?

Different people value and perceive land and resources in different ways. An appropriate monetary offer made by a company to a community may reflect the company's calculation of worth relating to a particular commercial use of the land. This may entirely overlook the social, spiritual or political significance of land for rural people. Many stakeholders fail to consider that resources lost in the process of large-scale biofuel development cannot be adequately compensated by financial means. Even where financial compensation is adequate, rural people are often constrained in how they can use this money, within a relatively undeveloped rural economy which relies on wild foods, building materials and fuelwood. There is evidence that land transactions may occur without in-depth consultation with local communities and, even where consultations do happen, very poor households may not be adequately represented.

High level of risk carried by communities. An interesting pattern is emerging of compensation being negotiated and paid principally between the investor and the local communities, rather than between the central government and local communities, as the procedures described by the Village Land Act lay out. Some investors view this approach as being necessary as they say that District Council staff often do not understand or respect the law, and are not accountable to villagers. Although they would prefer the Districts and TIC to facilitate land transactions with the communities, these investors see themselves as having to take matters into their own hands to ensure an efficient and equitable process.

But investors do not usually pay compensation until *after* the land has been transferred to General Land, and the company has received a granted or derivative title to the land from the TIC. One company commented in an interview that they will only pay compensation after they have received derivative title, because they need this as collateral to secure bank loans required to finance their investment (including, presumably, the compensation to be paid to the villagers).²² In such cases, communities are effectively shouldering a great deal of risk, in that they are transferring land from Village Land to General Land, and from Village Council to TIC authority, on the basis of an investor's presumptive ability to use the land title to secure bank loans.

BOX 4. A RISKY BUSINESS

The risks of land acquisitions are apparent in the recent shrinking of global capital and credit availability due to the financial crisis. For example, SEKAB has recently been reported as seeking SEK 100 million (approx. US\$ 12.5 million) from the Swedish government for its “cash-strapped” operations (Development Today, 2009). This is the same company that is attempting to obtain granted rights of occupancy over transferred village lands in order to obtain the credit required to finance its operations. Should those operations be terminated due to a lack of financial resources, villages in Rufiji or elsewhere might end up in a position of having transferred large areas of village lands without receiving, in the end, any compensation or other benefits. Villagers in Rufiji have already experienced such a scenario with one Turkish company that was allocated 5,000 ha of land for an agricultural project that never materialised.

22. Interview with SEKAB BT.

4.4. EVOLVING POLICY RESPONSE

In response to suggestions made by stakeholders to the August 2008 draft of the “National Biofuels Guidelines of Tanzania”, the government produced a revised draft in November 2008. To date, this draft has not been formally adopted. The revised draft includes the following provisions on land acquisition:

- *The land acquisition process should be more transparent and needs to be coordinated more effectively on a national level.* The TIC’s database of potential land available for biofuel investors should be made public and easily accessible.
- *Investors should not directly approach communities to negotiate the acquisition of land.* Procedures and protocols governing how companies can approach communities need to be established and monitored in order to safeguard against local failures in land administration and governance.
- *Adequate compensation for land is required. One-off payments for land compensation are unlikely to be satisfactory in the long term.* Other payment schemes should be considered such as communities becoming minority shareholders in the investing company and receiving regular dividends.
- *Communities affected by biofuel investments should know their rights and obligations.* No project should work against the rights of individual land owners or pastoral groups nor should it pay poor wages, engage child labour and fail to provide housing where necessary. The rights of the community to access and use resources to produce adequate food should be protected.
- *Investors acquiring land from the TIC are given a derivative right for a specified period of time. The government should lease land for biofuel investments for a maximum period of 25 years while also taking into consideration the continued need for the expansion and development of settlements and infrastructure. Land should not be sold to investors (i.e. the Land Acts should be complied with).*
- *An investor or developer wishing to acquire land from another company or individual shall, other things aside, apply for the approval of land from the Commissioner for Lands by presenting the required documents plus the*

endorsement letter for the biofuel project from the Biofuels Steering Committee through a 'Biofuels One Stop Centre' at the TIC.

- Village Councils shall be guided by the Biofuels One Stop Centre on the procedures and restrictions of giving land to investors once the biofuel project is approved in their area by the Biofuels Steering Committee.
- No forced displacement of people should be allowed for biofuel development. Resettlement is a sensitive issue which should be handled with care. *Investors are therefore encouraged to use an outgrowers model or a hybrid model i.e. plantation and outgrowers to avoid the displacement of people from their land.*
- *The government will encourage outgrowers to form associations and cooperatives* that can enter into contract agreements which also encourage outgrowers to invest in value adding. There should be a win-win situation between local outgrowers and farming and industrial investors. Incentives are needed that allow feedstock producers to have a share in biofuel processing and value-adding:
 - i. Investors should outline how outgrowers will be engaged in their projects.
 - ii. Where appropriate, local land holders should become co-investors, using land as their equity.

**V. SUMMARY OF KEY
FINDINGS AND
IMPLICATIONS FOR
POLICY AND PRACTICE**



It must be stressed that any findings with regards to the impacts of biofuel developments in Tanzania are, at this point in time, preliminary and subject to a wide range of rapidly changing variables and trends. The majority of the proposed land acquisitions by biofuel projects remain in the pipeline, and both private sector actions and government policies are subject to ongoing dialogue and debate. This provides an opportunity for civil society organisations and local communities to continue working to influence both corporate practice and government policy in positive ways. Despite the limited evidence base from which to draw conclusions on the impacts of biofuel developments on local land access in Tanzania, a number of key issues emerge from experiences to date.

Production models and their impacts on local land access. There are fundamental differences amongst biofuel companies and their business models, and their impacts on local land access. Companies such as Diligent which are engaged entirely in contracted and independent smallholder production of biofuel crops appear to have no direct negative impacts on local land access – though more subtle changes in land access within the community may still occur in the longer term. This model is the most promising one from a local livelihoods and land access perspective. In effect, companies such as Diligent are offering opportunities for agricultural diversification to rural communities, including those in relatively marginal lands. As project implementation moves into more mature stages, more in-depth analysis is needed to compare the economic benefits of different production models in a more rigorous way. It is also recognised that the suitability of different models depends on local contexts, and that implementing contracted and independent smallholder production may be difficult in contexts with very low population densities and low levels of local capacity for agricultural production.

Amongst the companies seeking to acquire large areas of land, which are indeed the majority of active and prospective biofuel investors, there are also important distinctions to be drawn in relation to the type and size of land allocations. For example, FELISA's acquisition in Kigoma of land of less than 5,000 ha that was already allocated to TIC has limited impact on overall patterns of access to land in surrounding communities. FELISA is also pursuing a hybrid production model, aiming to match its plantation-based production of improved palm oil with outgrower schemes, and it has already made

significant progress in organising local farmers. Where investors acquire land that was already classified as General Land, held under a granted or derivative right of occupancy, and not used extensively by local communities, the impacts on those local people may be minimal. Given that biofuel investments may have positive impacts locally in terms of new agricultural production opportunities as well as employment opportunities, such investments may well provide overall aggregate benefits locally as well as nationally.

Where companies are seeking to acquire large areas of village land, however, scepticism about the relative costs and benefits of biofuel investments to the local population are most warranted. Several fundamental problems are evident from experiences thus far, and these may be difficult to avoid in business models that require such transfers of large areas of land currently under village jurisdiction. The next few pages discuss the land access implications of this production model.

Risks of land alienation – long-term impacts. In most cases, land that is being targeted for biofuel production is land that is generally used for forest-based economic activities on which local communities heavily depend. The transfer of land from Village to General land has the effect of extinguishing customary rights over that land, and removes natural resources from the village domain on a permanent basis. This forecloses future development options for local communities, and can have major short and long-term adverse impacts on local livelihoods. The implications of these land transfers will often not be fully understood by policy-makers, investors, or the communities themselves at the time of the land transfer. This is particularly problematic as informal resource use is often poorly documented or understood by outsiders (World Bank, 2008). In general, the removal of access to community-based natural resources or livestock grazing land will have most impact on the livelihoods of vulnerable groups.

Limitations of compensation. The requirement for negotiated compensation is the main safeguard provided by the Village Land Act. This is meant to ensure that transfers of village land provide counterbalancing local economic benefits. However, the compensation process is fraught with problems. Some investors have observed that the capacity of local district councils and the TIC to facilitate the efficient, fair and lawful allocation of land to investors is low.

This low capacity is further compounded by questions over the level of accountability between district council officials and villagers.

First, procedures for determining compensation seem to vary and generally use criteria based on particular resource values (e.g. planted trees) or land improvements (e.g. houses) rather than on the land's actual market and economic value. 'Market value' itself is difficult to accurately calculate in rural Tanzania because, while informal market transactions in land may be widespread, pricing can vary greatly and transactions are often not officially documented. These markets are therefore fairly inefficient in a formal economic sense, due to the lack of availability of key information. The lack of information further extends to insufficient knowledge about the existing or future economic potential of the lands in question, and villagers being able to correctly ascertain the opportunity cost involved in losing their land. The 'market value' of land, like much of Tanzania's rural natural-resource based economy (World Bank, 2008), is therefore 'hidden' and difficult to capture in a formal economic or financial sense. In such a context, compensation payments are likely to be inherently inadequate or inaccurate, and widely subject to the manipulations of those interested in minimising compensation paid out to local communities.

According to the Village Land Act, communities are entitled to appeal against any compensation levels determined by the government to the High Court; but villagers are generally unaware of such rights and are often under external political pressures to agree to initial compensation offers. Villages may not fully understand the implications of relinquishing customary rights over large areas of village land, and marginalised members of the community may have limited opportunity to influence decisions. Where communities are offering over half their land to investors without any clear assurance of what they will receive in return, as in some Rufiji District villages, it would appear that local resource-allocation decisions have not been fully considered in terms of their implications on villagers' own livelihoods. It is evident that even with villages that have relinquished land to biofuel investors, as in some of the Kisarawe District villages, community members may not know how much land has been given, and receive only verbal promises of benefits.

Where investors are not paying compensation until securing bank loans, the risks that villages bear for the acquisition of their rights over land and natural resources are not being given adequate consideration. The sequencing of compensation payments is an aspect of the ongoing biofuel development process that requires much greater scrutiny by governmental and non-governmental parties in order to safeguard local rights.

Use of third-party mediators? Some analysts (e.g. Kamanga, 2008) have recently highlighted the importance of third-party mediation of any negotiations between villagers and investors. The biofuel guidelines recently proposed by WWF (ESD, 2008) advise that investors should rely on district officials for land allocations, rather than negotiating directly with villagers. While impartial third-party facilitation, particularly in terms of advising villages of their legal rights with respect to land and resources and of ensuring proper legal documentation, would aid the process in some cases, care should be taken with regards to the role of different institutional actors. As discussed above, the outcome of compensation negotiations in Kilwa District appears to be that four villages have transferred large areas of their village land to the investor, Bioshape, but the majority of compensation payment has gone to the district rather than the villages. While it is understandable for district governments to seek direct revenue streams from large-scale foreign investments, such income should not serve to displace village-level compensation payments since it is the villages which have lost their rights to the land. Districts are not landholding bodies or land managers according to the Village Land Act, and paying districts directly may do little to mitigate the negative impacts of lost land access at village level.

While certain actions, such as training villages with regards to their land rights and the economic implications of land transfers, may improve the compensation process, the transfer of large areas of land from village authority to the TIC to foreign investors will inherently be subject to conflicts of interest and information asymmetries between the various parties. Compensation, in these cases, will often be inequitable or questionable, and it will be difficult to fully evaluate the impacts of these transfers until many years have passed.

Large-scale transfers of land for biofuels are most problematic. Large-scale biofuel investments that require transfer of village lands to general lands are therefore inherently subject to problems of equity, transparency, and difficulty in evaluating the distribution of costs and benefits. These types of biofuel investments are likely to create the most frequent negative local impacts and grievances. Such investments should therefore be approached by government officials, NGOs, and investors with considerable caution. This is particularly so given that there are numerous market uncertainties surrounding biofuels at present, and since alternative production models exist. Most worrying are proposed investments which are seeking to obtain large areas of village lands which can be used as collateral for obtaining loans after those lands have been transferred from villages to the investor, particularly where compensation for land takings is to be financed through these loans. In these investments, villages carry most of the risk in the case of project financing proving unobtainable; in such a scenario the company will terminate the investment project but the villages will have already permanently lost their customary lands and resources without compensation.

Linking policy with practice. The Government of Tanzania and foreign donors have identified biofuels as a priority sector, and are providing extensive support for investments. There are numerous examples of how the Tanzanian government is supporting biofuel development. Personal efforts have been made by the Tanzanian President to promote the biofuel industry in Tanzania, by inviting investors from Scandinavian countries to invest in biofuels in the country. The latest draft National Biofuels Guidelines, released in November 2008, include some of the inputs given by NGOs such as WWF-Tanzania and Hakiardhi, and recommendations from numerous workshops, consultations, and stakeholder discussions. As such, they represent an apparent willingness to adapt policy provisions to input generated through local experiences and stakeholder perspectives. Continued commitment by different organisations to verifying these field experiences and linking policy with practice is essential at this early stage of biofuel development in the country.

Shortcomings of biofuel guidelines. The latest guidelines do give attention to the issue of land acquisition and tenure. As discussed, they recommend that investors do not directly approach local communities for negotiating access to village lands. They also propose limiting the land rights transferred to biofuel

projects to a maximum land lease of 25 years, and restricting land use of acquired areas to biofuel production only. Despite these efforts to include key land tenure concerns, the provisions do not really address the main shortcomings involved with:

- calculating compensation for village lands;
- transferring Village Land to General Land, and thereby permanently removing the land from the domain of local communities' customary rights.

Provisions such as shorter leases cannot address these problems: once leases expire, lands will revert to the Ministry of Lands or TIC rather than the villages, as the transfer from Village to General Land is permanent. In addition, attempting to insulate villages from negotiation with investors will not help local communities best devise ways of benefiting from their lands and resources. Rather than taking communities offstage, ways need to be found to increase their capacity and ability to negotiate agreements with investors on their own behalf.

Alternative land holding structures and production models. Some biofuel companies, such as SEKAB BT, are now considering alternative land holding structures such as village land trusts or equity-based joint ventures. Such developments are promising, creating collective innovation between private, public, local and civil society groups on ways to stimulate private investment in biofuels. Experiences in other sectors in Tanzania demonstrate that such synergies are possible – for instance, the private sector-village joint ventures that have been established for nearly 20 years to govern some tourism companies' access to village lands in parts of northern Tanzania (Nelson, 2004). These ventures also demonstrate that villages can be the most effective negotiators on their own behalf, provided they are given access to information on key legal and market issues. However, these alternative models may not be widely understood or sufficiently recognised as credible alternatives, particularly when it comes to investors seeking financial credit against their newly acquired land as collateral. Making these more promising models work requires innovative thinking and collaboration between villagers, district councils, investors and civil society organisations, as well as flexibility from central government and financial institutions.

REFERENCES



- Alden Wily, L. 2003. *Community-based land tenure management: Questions and answers about Tanzania's new Village Land Act, 1999*. Drylands Issue Paper No. 120. IIED, London, UK.
- Alden Wily, L. 2008. Custom and commonage in Africa: rethinking the orthodoxies. *Land Use Policy* 25: 43-52.
- Blomley, T., Ramadhani, H., Mkwizu, Y. & Böhringer, A. 2008. Hidden Harvest: Unlocking The Economic Potential Of Community Based Forest Management In Tanzania. Paper presented at CIFOR Conference on Forest Governance and Decentralisation in Africa. Durban, 8-11 April 2008.
- Cotula, L., Dyer, N. and Vermeulen, S. 2008. *Fuelling Exclusion? The Biofuels Boom and Poor People's Access to Land*. FAO and IIED, London.
- CSDI (Centre for Sustainable Development Initiatives). 2008. "The Sugarcane Smallholder / Outgrower Scheme (SUSO) in Tanzania: A concept for inclusion of potential small and large-scale farmers in a sugarcane production scheme in Tanzania", Unpublished report prepared by the Centre for Sustainable Development Initiatives (CSDI), the Tanzania Sugarcane Growers Association (TASGA) and Katani Ltd for SEKAB Bio-Energy Tanzania Ltd, November 2008.
- Curtis, M. and Lissu, T. 2008. *A Golden Opportunity? How Tanzania is Failing to Benefit from Gold Mining*. CCT/BAKWATA/TEC, Dar es Salaam.
- Development Today. 2009. SEKAB seeks Sida support to save Tanzania biofuel project. 23 March 2009. Available at www.development-today.com Accessed 25 March 2009.
- ENS (Environment News Service). 2008. Air New Zealand jet flies on jatropho biofuel. 30 December 2008. Available at: <http://www.ens-newswire.com/ens/dec2008/2008-12-30-02.asp> Accessed 24 March 2009.
- ESD (Energy for Sustainable Development). 2008. *Proposed Guidelines and Criteria for Biofuels Investment in Tanzania*. WWF Tanzania Programme Office, Dar es Salaam.
- FAO (Food and Agriculture Organization of the United Nations). 2007. A Review of the Current State of Bioenergy Development in G8+ 5 Other Countries.
- Gordon-Maclean, A., Laizer, J., Harrison, P.J. and Shemdoe, R. 2008. *Biofuel Industry Study, Tanzania*. World Wide Fund for Nature (WWF), Tanzania and Sweden.
- GTZ. 2005. *Liquid Biofuels for Transportation in Tanzania*. German Technical Cooperation.

- Hesse, C. and MacGregor, J. 2006. *Pastoralism: Drylands' invisible asset?* IIED Drylands Issue Paper No. 142. IIED, London, UK.
- IEA, 2006. *World Energy Outlook 2006*, International Energy Agency, Paris.
- Igoe, J. and Croucher, B. 2007. Conservation, commerce, and communities: The story of community-based wildlife management in Tanzania's northern tourist circuit. *Conservation and Society* 5(4): 534-561.
- Kamanga, K.C. 2008. *The Agrofuel Industry in Tanzania: A Critical Enquiry into Challenges and Opportunities*. A research report. Hakiardhi and Oxfam Livelihoods Initiative for Tanzania (JOLIT), Dar es Salaam.
- Kempf, M. 2007. *Jatropha Production in Semi-Arid Areas of Tanzania. A Feasibility Study*. Rural Livelihood Development Company, Dodoma. http://www.tnrf.org/files/E-INFO-RLDC_Jatropha_Production_in_Semi-Arid_Areas_of_Tanzania_2007.pdf
- Kulindwa, K. 2008. Feasibility of large-scale biofuel production in Tanzania: Introduction. Presentation at the biofuels conference organised by the universities of Dar es salaam, Ardhi and Sokoine. Held on 1st of December, 2008 in Dar es Salaam.
- Mattee, A.Z. and Shem, M. 2006. *Ambivalence and Contradiction: A Review of the Policy Environment in Tanzania in Relation to Pastoralism*. Drylands Issue Paper No. 140. IIED, London, UK.
- Mitchell, A. 2008. *The Implications of Smallholder Cultivation of the Biofuel Crop, Jatropha curcas, for Local Food Security and Socio-economic Development in Northern Tanzania*. MSc Thesis, University of London, UK.
- Nelson, F. 2004. *The evolution and impacts of community-based ecotourism in Northern Tanzania*. Drylands Issue Paper No. 131. IIED, London, UK.
- Nelson, F. and Blomley, T. 2007. Eating from the same plate: integrating community-based wildlife and forest management. *The Arc Journal* 21: 11-13.
- Oxfam International. 2008. *Another Inconvenient Truth*. Available at: http://www.oxfam.org.uk/resources/policy/climate_change/downloads/bp114_inconvenient_truth.pdf
- Oxfam Ireland, Trocaire and Concern. 2005. *Proceedings of the Symposium on the Implementation of the 1999 Land Acts*. Held at the Courtyard Hotel, Dar es Salaam, 1-2 March 2005.
- Sachedina, H. 2008. *Wildlife is Our Oil: Conservation, Livelihoods and NGOs in the Tarangire Ecosystem, Tanzania*. PhD Thesis, University of Oxford, UK.
- SEKAB BT (SEKAB BioEnergy Tanzania). 2008. *Bioenergy Investment in Tanzania*. Cluster Concept Paper.

- Shivji, I.G. 1998. *Not Yet Democracy: Reforming Land Tenure in Tanzania*. IIED/ HAKIARDHI/ Faculty of Law, University of Dar es Salaam, Dar es Salaam and London, Tanzania and UK.
- Songela, F. and Maclean, A. 2008. *Scoping Exercise (Situation Analysis) on the Biofuels Industry Within and Outside Tanzania*. Energy for Sustainable Development report for the WWF Tanzania Programme Office.
- Sundet, G. 1997. *The Politics of Land in Tanzania*. PhD Thesis, University of Oxford, UK.
- Sundet, G. 2005. *The 1999 Land Act and Village Land Act: a technical analysis of the practical implications of the Acts*. Paper presented to the Symposium on Implementation of the 1999 Land Acts held at the Courtyard Hotel, Dar es Salaam, 1-2 March 2005.
- URT (United Republic of Tanzania). 2005. *National Strategy for Growth and Reduction of Poverty*. Dar es Salaam: Vice President's Office.
- URT (United Republic of Tanzania). 2008. *Guidelines for Sustainable Liquid Biofuels Investments and Development in Tanzania (draft)*. Ministry of Energy and Minerals.
- World Bank. 2008. *Putting Tanzania's Hidden Economy to Work: Reform, Management and Protection of its Natural Resource Sector*. The World Bank: Washington, D.C.

**ANNEX: LIST OF PEOPLE
INTERVIEWED DURING THE
STUDY**



Name	Position	Organisation
1 Anna T. Maembe (MSc)	Director for Environmental Information, Communication and Outreach	National Environment Management Council (NEMC)
2 Dr. Kassim Kulindwa	Ag. Dean Faculty of Humanities & Member Economic Research Bureau UDSM	Dar es Salaam Education college
3 Dr. Hamim Hongo	Director	FELISA Company Ltd- Kigoma
4 Mr. Jacob Mayalla	Senior Geologist	Ministry of Energy and Minerals
5 Mr. Mkoma Masanyiwa	Forest Officer	Ministry of Energy and Minerals
6 Mr. Magnus Varva	Agricultural Officer	Jeshi la Kujenga Taifa-Makao Makuu
7 Ms. Loyce Lema	Executive Director	ENVIROCARE
8 Ms. Hadija Ramadhan	Assistant Director of Forest Utilization	Ministry of Natural Resource and Tourism
9 Mr. Ivori Kayumba	Villager/outgrower	Bigabiro village
10 Mr. John V.K. Mongela	District Commissioner	Kigoma
11 Mr.Rommert Schram	Irrigation, water resources Management & Bioenergy Specialist	FAO Tanzania
12 Ms. Nazia Habib-Mintz	Bioenergy Policy Specialist	FAO Tanzania
13 Mr. Mudith B. Cheyo	Economist: Poverty Eradication & Economic Empowerment	Ministry of Finance & Economic Affairs
14 Mr. Tibenda J. Njoki	Research & Statistics	Tanzania Investment Center
15 Mr. Simbangulile L. Kivinge	Principal Land Officer	Tanzania Investment Center
16 Mr. Zabadih L. Kiwelu	Principal Bank Officer	Bank of Tanzania
17 Mr. Thomas N. Nchimani	Principal Economist/Founder JCJ Co Ltd	Bank of Tanzania/ Biofuels Co. JCJ
18 Janske van Eijck	General Manager	Diligent Tanzania Ltd
19 Appa T. Mandari	Project Manager	Tanzania Coastal Management Partnership (TCMP)
20 Jeremeah Daffa	TCMP Manager	Tanzania Coastal Management Partnership (TCMP)
21 Mr. Sharif	Manager	SAVANNAH-Biofuels
22 Dr. Hussein Sosovele	Policy Department	WWF-Tanzania

Name	Position	Organisation
23 Mr. James Michael	Chemical Process Engineer / Factory Manager	Diligent Tanzania
24 Ms. Chihiyo Misaeli	Head teacher	Riroda Primary School-Babati district
25 Mr. Joseph Saboku	Chairman	Likamba village
26 Mr. Boaz Zephania	Farmer	Likamba village
27 Mr. Adam Makusanya	Village Executive Officer	Ilagala village
28 Mr. Lutamba Leonard	Head teacher	Tanganyika Primary School
29 Mr. Debenge	Chairman	WABANGO General Enterprises- Kigoma
30 Baha Bernard	Research Officer	HAKIARDHI
31 Yefred E. Myenzi	Director	HAKIARDHI
32 Mr. Carter Coleman	Director	InfEnergy UK Ltd
33 Mr. Msandeka Bwagaja	Ordinary citizen	Ilagala village
34 Mr. Teveli Noah	Speaker	Burunge WMA-Minjingu village
35 Ms. Florida Kimambo	District Lawyer	Babati
36 Mr. Hamisi Mirimba	Accountant	FELISA Company Ltd
37 Mr. Nsajigwa Lambwe	Expert	SIDO- Kigoma
38 Mr. Mzee Kamole	Chairman	Kigoma district council
39 Mr. Simkoko	Information Officer	Ministry of Agriculture & Cooperatives
40 Mr. Chris	Energy	TaTEDO
41 Mr. Emmanuel Qamara	Second Master	Qash Secondary School
42 Mr. Stephan Bikwakwanya	Contracted farmer	Bigabiro village
43 Fr. Esperius Haminyande	Diocesan Priest	Kigoma Diocese
44 Mr. Ndaikije Steven	Land Officer	Kigoma District
45 Mumba Mahalu	Agricultural Officer	Kigoma District
46 Mr. Dongwe Adam Bahingaye	District Planning Officer	Kigoma District
47 Mr. Lukas Daslo	Secretary CCM Youth SACCOS/contracted farmer	Riroda village-Babati District
48 Mr. Mesiah Moses	Field Officer	Diligent Tanzania Ltd
49 Ms. Manzi Shora	District Agricultural Extension Officer	Galapo Ward

Name	Position	Organisation
50 Ms. Zaibu Bukhay	District Agricultural Officer	Babati District
51 Mr. Nicolas Gidemay	Chairman	Gedmar Village-Babati
52 Mr. Yahaya Loya	Ag. Village Executive Officer	Gedmar Village- Babati
53 Mr. Zakayo Fumbile	Outgrower	Bigabiro Village- Babati
54 Ms. Josline Samson Rhomvola	Primary school teacher/outgrower	Mwandiga village
55 Mr. Musa Kakozi	Sub-village Chairman	Mwandiga village
56 Lena Oscarsson	Social Coordinator	SEKAB Bioenergy (T) Ltd
57 Par Oscarsson	Land/Agriculture Manager	SEKAB Bioenergy (T) Ltd
58 Ulla Maj Jern	Capacity Building Manager	SEKAB Bioenergy (T) Ltd
59 Aloyce L.Masanja	Ag. Director General	Rufiji Basin Development Authority
60 Emmanuel K. Maziku	Planning Officer	Rufiji Basin Development Authority
61 Ipyana Mwangakala	Staff	Rufiji Basin Development Authority
62 Leo Rwegasira	District Land Officer	Rufiji District
63 Chamzimu Mohamed	Agricultural Extension Officer	Bagamoyo District
64 Pori Mohamed	Crops Officer	Bagamoyo District
65 Jumanne Kivuma	Resident	Mtamba Village
66 Nasor Mzeru	Chairman	Mtamba Village
67 Ibrahim Said Mboweto	Chairman	Nyamwage Village
68 Kassimu Mdaba Chilumba	Village Executive Officer	Nyamwage Village
69 Mbonde Rajabu Omari	Chairman	Utunge Village
70 Ally Yusuph	Primary School Teacher	Utunge Village
71 Mhala Mgamba	Agricultural Officer	Rufiji District
72 Yakub Omar Maguru	Ag. Chairmain	Nyandakitundu
73 Said Kijiji	Land Officer	Kisarawe District
74 Mr. Hangi	District Natural Resources Officer	Kisarawe District
75 Mr. Ayubu Isere	Agricultural Extension Officer	Kisarawe District
76 Omari Jumanne	Chairman	Kiromo village- Bagamoyo



Biofuels, land access and rural livelihoods in Tanzania

Emmanuel Sulle and Fred Nelson

In recent years, global demand for biofuels has increased as a result of changing oil prices coupled with concerns over energy security and climate change. In Tanzania, private investors have expressed growing interest in biofuel production. While this trend may create new livelihood opportunities, it may also undermine access to land and natural resources for rural people.

This report explores the early impacts of the biofuels boom on access to land and on local livelihoods in Tanzania. It draws on fieldwork on four biofuel projects representing different business models for agricultural production – from large-scale plantations through to collaborative arrangements between investors and local farmers.

ISBN: 978-1-84369-749-7



International Institute for
Environment and Development
3 Endsleigh Street
London WC1H 0DD, UK
Tel: +44 20 7388 2117
Fax: +44 20 7388 2826
Email: info@iied.org
Website: www.iied.org



Tanzania Natural Resource Forum
PO Box 15605
Arusha
Tanzania
Tel: +255 755 022267
Internet fax: +1 815 550 2312
Website: www.tnrf.org