

# Africa: up for grabs

The scale and impact of land grabbing for agrofuels

REPORT | FRIENDS OF THE EARTH EUROPE



**Friends of  
the Earth  
Europe**

for the people | for the planet | for the future



**Friends of  
the Earth  
Europe**

**Friends of the Earth Europe** campaigns for sustainable and just societies and for the protection of the environment, unites more than 30 national organisations with thousands of local groups and is part of the world's largest grassroots environmental network, Friends of the Earth International.



This publication, translated into multiple European languages, has been produced as part of the project Feeding and Fuelling Europe, with the financial assistance of the European Commission, MISERIOR, Rausing and Isvara. The contents of this publication are the sole responsibility of Friends of the Earth Europe and Friends of the Earth Hungary and can under no circumstances be regarded as reflecting the position of the European Union.

**Research** carried out by Friends of the Earth Europe, Center for Environmental Development/Friends of the Earth Cameroon (CED/FoEC), Friends of the Earth Sierra Leone, Friends of the Earth Ghana, Environmental Rights Action/ Friends of the Earth Nigeria, Friends of the Earth Togo, Yonge Nawe – FoE Swaziland, FoE Mauritius – MAUDESCO, Citizens for Justice (CFJ) Malawi, Community Training and Development Trust Zimbabwe and the NRDC/ZEGA Training Trust Zambia.

**Publisher:**  
Friends of the Earth Europe

**Editorial team:**  
Helen Burley, Adrian Bebb

**Coordination:** Mariann Bassey (ERA/FoE Nigeria) and Adrian Bebb (FoE Europe)

We also appreciate the research support from GRAIN ([www.farmlandgrab.org](http://www.farmlandgrab.org)), MISEREOR, Netzwerk Africa-Deutschland, Markus Bier (geographer, University of Aachen).

With thanks also to Greenpeace: [www.greenpeace.org/africa/campaigns/forests](http://www.greenpeace.org/africa/campaigns/forests)

**Publishing date:**  
June 2010

**Design:**  
onehemisphere, Sweden  
[our@onehemisphere.se](mailto:our@onehemisphere.se)  
[www.onehemisphere.se](http://www.onehemisphere.se)

**Map design:**  
Frank Pennycook

**Printing:**  
[www.beelzepub.com](http://www.beelzepub.com)

**Cover image:** Women farmers are walking through their dry, barren fields past remnants of their failed crops, Malawi.  
© Greenpeace / Clive Shirley

**Available for download at:**  
[www.foeeurope.org](http://www.foeeurope.org).

**for the people | for the planet | for the future**

**Friends of the Earth Europe**

Mundo-b building, Rue d-Edimbourg 26,  
1050 Brussels, Belgium

tel: +32 2 893 1000 fax: +32 2 893 1035

e: [info@foeeurope.org](mailto:info@foeeurope.org) [www.foeeurope.org](http://www.foeeurope.org)

# Africa: up for grabs

The scale and impact of land grabbing for agrofuels

<b>Foreword</b>	<b>3</b>
<b>Executive Summary and Recommendations</b>	<b>4</b>
<b>Map showing examples of land grabbing</b>	<b>6</b>
<b>1. Introduction</b>	<b>7</b>
<b>2. What is really happening?</b>	<b>9</b>
<b>3. Who is involved and why?</b>	<b>11</b>
<b>4. The Crops</b>	<b>15</b>
<b>5. Impacts</b>	<b>17</b>
<b>6. Conclusions</b>	<b>26</b>
<b>Appendix: examples of land grabbing</b>	<b>28</b>

## Foreword

**The African continent is increasingly being seen as a source of agricultural land and natural resources for the rest of the world. National governments and private companies are obtaining access to land across the continent to grow crops for food and fuel to meet growing demand from mainly overseas countries. Agrofuels - the large scale production of crops used to produce liquid fuels - are being hailed by some as Africa's silver bullet.**

Proponents of agrofuels generally argue that agrofuel production will address the economic crisis facing many developing countries; they will create wealth and jobs and alleviate poverty.

These arguments overlook the other side of the story and leave many questions unanswered. Is the push for agrofuel production in the interest of the developing countries or are the real beneficiaries Northern industrialised countries? Will the production of agrofuels actually provide more jobs and enhance economic development at the community level? Will it address the issue of food insecurity plaguing the developing world? What are the social and environmental costs of agrofuel production to host communities? Who stands to benefit from the entire process?

These issues need to be assessed objectively. We should not accept these arguments without subjecting them to empirical analysis. The rationale behind this research is anchored on this premise. It looks at the spread of agrofuel production across Africa and highlights the social, economic, health and environmental concerns found.



*BIDCO palm oil plantation in Kalangala Islands, Lake Victoria, Uganda.*

# Executive summary and recommendations

**The African continent is increasingly being targeted as a source of agricultural land and natural resources for the rest of the world. National governments, private companies and investment funds are buying up access to land across the continent to grow crops for food and fuel.**

Access to land provides food and livelihoods for billions of people around the world, but as the availability of fertile land and water is threatened by climate change, mismanagement and consumption patterns, demand for land has been increasing.

“Land grabs” – where land traditionally used by local communities is leased or sold to outside investors (from corporations and from governments) are becoming increasingly common across Africa. Whilst many of these deals are for food cultivation, there is a growing interest in growing crops for fuel – agrofuels – particularly to supply the growing EU market.

These land grabs have been taking place against a backdrop of rising food prices which led to the food crisis in 2008. There were food riots in some developing countries and in Haiti and Madagascar the governments were overthrown as a result of the crisis. Crops being used for agrofuels was a major factor in the rising price of food.

This report looks at the extent of these deals for agrofuels and questions the impacts on local communities and the environment. It finds that although information is limited, there is growing evidence that significant levels of farmland are being acquired for fuel crops, in some cases without the consent of local communities and often without a full assessment of the impact on the local environment.

## Extent of the problem

Studies suggest that a third of the land sold or acquired in Africa is intended for fuel crops - some 5 million hectares. Friends of the Earth has looked at cases of land grabbing in 11 countries across Africa, from Ethiopia to Mozambique (see appendix).

While some of this land is sold outright – to private companies, state companies or investment funds – most is leased and some is obtained through contracting with the farmer to grow specific crops (known as “out growing”).

A number of, often small, EU companies are involved, sometimes with support or involvement from their national government. Many are keen to vaunt the social and environmental benefits of their business, offering employment and the promise of development to rural areas.

## Green OPEC

Many of the host countries have encouraged this investment, keen to develop a potentially lucrative

export crop. Fifteen African nations joined forces to set up what has been described as a “Green OPEC” and a number of national governments have also introduced domestic targets and strategies for agrofuel use at home.

But there is also a growing awareness of the downsides of this agrofuel boom. As scientists and international institutions challenge the climate benefits of this alternative fuel source, local communities and in some cases national governments are waking up to the impact of land grabs on the environment and on local livelihoods.

## Local protest

In Tanzania, Madagascar and Ghana there have been protests following land grabs by foreign companies. Companies have been accused of providing misleading information to local farmers, of obtaining land from fraudulent community land owners and of bypassing environmental protection laws.

Agrofuels are competing with food crops for farmland, and agrofuel development companies are competing with farmers for access to that land. And this appears to be as much the case for jatropha, as for other crops, despite the claim that it grows on non-agricultural land. When losing their access to traditional land, local communities face growing food insecurity and hunger – their human right to food is threatened.

## Environmental damage

Pressure on farmland has led to forest being cleared to make way for agrofuel plantations, destroying valuable natural resources and increasing greenhouse gas emissions. In Ethiopia, land inside an elephant sanctuary was cleared to make way for agrofuels.

Farmers have found that the much vaunted wonder crop jatropha, rather than bringing a guaranteed income, in fact takes valuable water resources and needs expensive pesticides. In some cases, food crops have been cleared to plant jatropha, leaving farmers with no income and no source of food.

## Threat from genetically modified crops

What is more, there are concerns that biotech companies, keen to find new outlets for their products, will see agrofuels as a way into the African market. Research is on-going into genetically modified (GM) varieties which might be suitable for agrofuels, and biotech companies are eager to claim that their products can help tackle climate change.

## Resource exploitation

Growing European and international demand for agrofuels as a transport fuel is creating market demand for agrofuels. While African politicians may promise that agrofuels will bring locally sourced energy supplies to their countries, the reality is that most of the foreign companies are developing agrofuels to sell on the international market. The EU's mandatory target for increasing agrofuels is a clear driver to the land grabbing in Africa.

## Is the tide turning?

Concerns about the social and environmental impacts have caused a backlash in a number of countries such as in Tanzania and Swaziland. Some companies have also withdrawn their investments. But elsewhere the enthusiasm for agrofuels continues unchecked.

Just as African countries have seen fossil fuels and other natural resources exploited for the benefit of richer countries, there is a risk that agrofuels, and with them, Africa's agricultural land and natural resources, will be exported abroad with minimal benefit for local communities and national economies.

## Recommendations for action

### 1. Put a brake on land grabbing

- > Stopping the drivers – political targets that increase demand for agrofuels should be scrapped, in particular the EU's mandatory target.
- > African states should immediately suspend further land acquisitions and investments in agrofuels.

### 2. The real political priorities

**Farming revolution** – Investments and priorities given to develop food sovereignty– the right of people to adequate, healthy, locally produced and controlled food.

**Energy revolution** – the reduction of energy use in transport through the rapid development of more efficient vehicles and investment in sustainable societies through the use of public transport, walking and cycling.

### 3. Dealing with land grabbers

Full **environmental and social impact assessments** of land use changes before any land sale or lease takes place must be carried out with the participation of local communities. These need to take into account

the impacts on biodiversity, natural resources, genetic erosion, food sovereignty, gender, access to productive resources of the local communities (including pastoralists or itinerant farmers) and impacts of new technologies and investments in infrastructure.

**Full legal liability of companies and investors:** Any land deals should include clear, legally-binding and enforceable obligations on the investor. Investors should pay into an obligatory liability fund to cover for cases of non-compliance. Independent and participatory ex post impact assessments should be made at pre-defined intervals.

**Full agreement of communities and the protection of indigenous people:** Any land sales or leases can only take place with the free, prior and informed consent of the local communities concerned. The customary rights of communities and the protection of indigenous people are fundamental.

**Farmer and environment friendly farming:** Priority also needs to be given to investing and developing farming in Africa that supports small farmers and small-scale ecological agriculture. The farming system developed shall respect ecological limits, not lead to climate changing emissions, depletion of the soil and prevent the exhaustion of water supplies. Such systems naturally forbid the use of genetically modified crops or trees.

**Farming for the local community:** Due to the historic negative impacts created by instable international markets, and to reduce reliance on food aid, any new uses of land should be focused on supplying the local market. One suggestion put forward recently is to ensure that all land deals include a legal obligation that a certain minimum percentage of crops produced should be sold on the local market.

Food is a natural right and agricultural products should not be treated as commodities whose ultimate purpose is the generation of business profits rather than meeting needs of the people. Family and small-scale farmers should be encouraged and strengthened in a deliberate push to sustain the populations in urban and rural areas.

**Protection of farm workers:** Agricultural waged workers should be provided with adequate protection and their fundamental human and labour rights should be stipulated in legislation and enforced in practice, consistent with the applicable ILO instruments. Increasing protection would contribute to enhancing their ability and that of their families to procure access to sufficient and adequate food.



Spare-Kupto traditional farm land-Gombe, Nigeria.

# Map showing examples of land grabbing

# 0

**Figure 1. Reported cases of land grabbing and agrofuel developments across Africa**



# Introduction

# 1

© Clive Shirley / Greenpeace



Farmers show their destroyed maize crop following drought throughout the Southern Cone of Africa in Nkana Khoti Village.

# Introduction

# 1

Land grabbing is hitting the headlines. Across the world governments, private companies and investment funds are investing in land overseas. The situation has been described as a form of “neo-colonialism” with the rich buying up land to secure access to food and fuel.

Land grabs have been reported across the developing world, from Pakistan to Indonesia to the Ukraine. An area equivalent to the size of France has been targeted in developing countries since 2006<sup>1</sup>. The largest reported number of cases is in Africa - where land is comparatively cheap and in some places easily available.

*“In a rush to secure food supplies, investors from around the world are snapping up agricultural land at soaring prices, especially in Africa.”<sup>2</sup>*

Access to land has always been a crucial issue - providing food and livelihoods for billions of people. In Africa, some 60% of the population relies on farming for survival<sup>3</sup>. But as the world wakes up to what has been described as the “perfect storm” of climate change, falling oil reserves and rising demand, land use has become ever more controversial.

## The significance of land in Africa

*“To the vast majority of societies in Africa land is regarded not simply as an economic or environmental asset, but as a social, cultural and ontological resource. Land remains an important factor in the construction of social identity, the organisation of religious life and the production and reproduction of culture. The link across generations is ultimately defined by the complement of land resources which families, lineages and communities share and control. Indeed land is fully embodied in the very spirituality of society.”<sup>4</sup>*

Many of the land grabs are linked to concerns about food supply - with food importing countries including Saudi Arabia and South Korea keen to secure access to grain. In 2008 sharp increases in the price of foods, particularly grains, resulted in a food crisis situation in more than 30 developing countries. Riots were reported in a number of places and in Haiti and Madagascar the governments were overthrown<sup>5</sup>.

But up to a third of the deals for land are reported to be for land to grow agrofuel crops (sometimes referred to as biofuels - see box) - to supply overseas markets, most notably in the European Union (EU) and China.<sup>6</sup> This is a cause for particular concern given that the growing use of food crops for agrofuels was found to be a major cause of the increase in food prices.<sup>7</sup>

Crops for fuel have been promoted as a measure to tackle climate change, despite widespread concerns about how this will affect food production and questions about the real climate benefits. The EU has set a mandatory target of 10 per cent of road transport fuel to come from “renewable sources” by 2020, a target likely to be met largely by agrofuels, creating a guaranteed market for producers.

## Agrofuels or biofuels?

The term “agrofuels” describes the liquid fuels derived from food and oil crops produced in large-scale plantation-style industrial production systems. These agrofuels are blended with petrol and diesel for use primarily as transport fuel. Biofuels on the other hand, refer to the small-scale use of local biomass for fuel.

The rising price of petroleum and a desire for energy security are also spurring other countries to look at the potential for domestic use.

This report looks at the reality of land grabs for agrofuel in Africa and examines the extent of the practice and the impacts on the ground. It raises fundamental questions about the impacts of Europe’s agrofuel policy and the willingness of African countries to allocate large areas of land.

In doing so, it draws on a number of studies, press reports and local research. There is however a lack of detailed public information about land deals and ownership in most parts of Africa and providing a full picture of the situation is close to impossible. The political situation in a number of Africa countries also makes it very difficult for civil society and members of the public to obtain official information or to speak openly. This report is therefore only a snapshot based on what information is publicly available. Increased transparency and more research are urgently required.



Palm oil plantations in Kalangala Islands, Lake Victoria, Uganda

- 1 What's yours is mine, New Statesman, 15 October 2009 <http://www.newstatesman.com/economy/2009/10/congo-africa-ecological>.
- 2 <http://www.independent.co.uk/news/business/analysis-and-features/land-grab-the-race-for-the-worlds-farmland-1677852.html>.
- 3 <http://www.gltn.net/en/newspage/african-union-endorses-framework-and-guidelines-on-land-policy-in-africa.html>.
- 4 <http://www.gltn.net/en/newspage/african-union-endorses-framework-and-guidelines-on-land-policy-in-africa.html>.
- 5 <http://www.uni-kassel.de/fb5/frieden/themen/Globalisierung/hunger.html>.
- 6 The World Bank in the hot seat, GRAIN, 4 May 2010 <http://farmlandgrab.org/12717>
- 7 Mitchell, Donald, Lead Economist, A Note on Rising Food Prices Development Prospects Group, World Bank, Washington, April 2008.



# What is really happening?

# 2

© daniel ribeiro



# What is really happening?

# 2

While assessing the full extent of land grabs across Africa is impossible, given the limited available public information, there are countless reports of land grabs across the continent, particularly in sub-Saharan Africa.

A UN FAO study in 2009 looked at land allocations in five sub-Saharan countries: Ethiopia, Ghana, Madagascar, Mali and Sudan. It found documented evidence that 2.4 million hectares of land had been transferred in land deals (of more than 1,000 ha) since 2004<sup>8</sup>. This land was destined for food and fuel production, with considerable areas designated for fuel crops in Ethiopia, Madagascar and Ghana.

A separate study by the International Food Policy Research Institute estimated that 20 million hectares of land have been sold since 2006 in land deals, with 9 million hectares acquired in Africa<sup>9</sup>.

Of this, almost 5 million hectares - an area bigger than the Netherlands - are reportedly intended for agrofuel, including jatropha, oil palm and sweet sorghum<sup>10</sup>.

In Mozambique, government officials report that biofuel investors had applied for the rights to use some 12 million acres of land (4.8 million ha) - nearly one-seventh the country's available arable land<sup>11</sup>.

In Congo-Brazzaville, President Sassou-Nguesso has ceded 10 million hectares of fertile land to South-African farmers to grow staple food crops for export without any percentage to remain in Congo, alongside 70,000 hectares granted to the Italian oil company ENI to plant oil palm monoculture plantations for agrofuel production, threatening Africa's last precious tropical primary forest<sup>12</sup>.

A comprehensive list of examples of land grabs for agrofuels is found in the appendix.



Land cleared for palm oil plantations in Kalangala Islands, Lake Victoria, Uganda.

- 8 Cotula, L., Vermeulen, S., Leonard, R. and Keeley, J., 2009, Land Grab or Development Opportunity? Agricultural Investment and International Land Deals in Africa, IIED/FAO/IFAD, London/Rome.
- 9 Headey, D., Malaiyandi, S. and Shenggen, F., August 2009, Navigating the Perfect Storm: Reflections on the Food, Energy, and Financial Crises, IFPRI, see: <http://www.ifpri.org/publication/navigating-perfect-storm>
- 10 von Braun, J. and Meinzen-Dick, R., April 2009, "Land Grabbing" by Foreign Investors in Developing Countries: Risks and Opportunities, IFPRI.
- 11 WELZ, A. (2009). Ethanol's African Land Grab. Available in <http://www.motherjones.com/environment/2009/03/ethanol-african-landgrab#com>.
- 12 [http://www.taz.de/taz/nf/etc/2009\\_04\\_18\\_S13-aus2-01.pdf](http://www.taz.de/taz/nf/etc/2009_04_18_S13-aus2-01.pdf).

# Who's involved and why?

# 3

© Greenpeace / Jennifer Heislop



Mrs Ouso showing organic maize in the Suba District, Kenya.

# Who's involved and why?

# 3

Evidence suggests that while private companies are behind most of the land deals in Africa, land is also being acquired by national governments, often via state-owned companies and by private investment companies.

These land grabs take a number of forms, depending on the local situation and law. Although some land has been purchased outright, more often it is leased, with long-term leases, in some cases up to 99 years. There are also cases of “out growing” - where local farmers are contracted to grow a particular crop, such as jatropha.

### 3.1. Food security

The sudden interest in land appears to be driven by a combination of factors, but concerns about food security and fuel supplies dominate. The sharp rise in food prices in 2007 and 2008 and the volatile oil price appear to have led a number of countries to question the security of supply, with fears exacerbated by expectations of how climate change will affect agriculture in years to come.

Saudi Arabia, for example, is moving away from water-intensive wheat cultivation because of concerns over future water supplies - having been self sufficient in wheat until 2007<sup>13</sup>. Instead, the Saudi government is leasing land<sup>14</sup> and, for example, a Saudi agricultural consortium has announced plans to invest in food production in Ethiopia, Sudan and Egypt<sup>15</sup>.

### 3.2. Energy supply

Concerns about energy supply appear to be a key driver behind the demand for agrofuel crops - with the EU aiming for 10% of transport fuel to come from “renewable” sources by 2010. These EU targets have established a clear market - which given land prices and the lack of available land within the EU will inevitably be met by imports.

*“Production of liquid biofuels is a key driver of much recent land acquisition. Internationally, government consumption targets have been the key driver of the biofuels boom, as they create guaranteed markets for decades to come.”*

IIED, FAO and IFAD, 2009<sup>16</sup>

While national governments and state-owned companies are behind some of the investment in land for food, most of the “land grabs” for agrofuels appear to be dominated by private companies, with many of these coming from the EU.

China is the exception to this rule, with state-owned companies securing more than 2.8 million ha of land in the Democratic Republic of Congo to grow palm plantations.<sup>17</sup>

### 3.3. European companies

As outlined in the appendix, European companies appear to dominate the land acquisitions for agrofuels in Africa. UK company Sun Biofuels has acquired land in Ethiopia (80,000ha)<sup>18</sup>, Tanzania (8,000 ha) and Mozambique (5,000 ha) to grow jatropha<sup>19</sup>, while the UK-based CAMS Group bought 45,000 ha in Tanzania to produce ethanol from sweet sorghum<sup>20</sup>.

*“West Africa can be extremely competitive in future global agriculture markets due to very low cost of land and production and the very high biomass growth rate in arable tropical regions.”*

Bionic Palm Limited<sup>21</sup>



Sun Biofuels jatropha plantation.



Examples of Jatropha projects in Mozambique. SunBiofuels – Manica.

German company Flora Eco Power has spent \$77 million in land purchases in Ethiopia for biofuel production using contract farming<sup>22</sup>. Other companies are seeking out market opportunities at each stage of the chain, grabbing land, contracting out to farmers, selling seeds and selling the oil.

*“We are in a position to organize large patches of land for Jatropha cultivation in various African Countries on long lease at very attractive terms. Minimum land area should be about 2000 Ha and can go up to 50,000 Ha or more, depending on the country and availability.”*

**Greenfueltech<sup>23</sup>**

Most of the companies involved are small and medium sized businesses, often start-up companies that have identified a business opportunity in agrofuels.

*“Gold Star is a company that has a very strong commitment with the social responsibility, ecological standards and its full commitment with the concept of sustainable and renewable energy.”*

**Gold Star Biofuels<sup>24</sup>**

Most are keen to emphasise the environmental and social benefits of their business, working with the local community, creating employment and helping to develop the local economy. Agroils, an Italian company planting jatropha in Ghana has the rights to 105,000 ha and promises to “eradicate poverty completely” by helping its out-growers increase food production by limiting the proportion of jatropha to food and providing organic compost and farm machinery<sup>25</sup>.

### 3.4. Genetically modified (GM) Crops

Biotech companies have also been keen to push agrofuels in Africa, opening up new markets to potential GM varieties<sup>26</sup>. The Bill & Melinda Gates Foundation is spending \$120 million on crop development in Africa, including grants specifically for developing GM crops<sup>27</sup>.

Companies wanting to invest in local agriculture and specifically in agrofuel crops are often welcomed by the host country governments because they are seen as welcome foreign investment which will create jobs and potentially improve infrastructure.

Hedge funds and other investment funds are also looking to invest in land, with Africa promising some of the highest levels of return<sup>28</sup>. Agriculture-specific hedge funds have been established, as some investors see the potential for significant returns<sup>29</sup>.

### Company focus - Lion Bridge Ventures

Lion Bridge Ventures was a UK start-up company, set up in 2003 by Richard Ossei, an entrepreneur with a background in marketing<sup>30</sup>. The chief executive was Clive Coke<sup>31</sup>, an advisor on start-up companies and with a MBA in creative management<sup>32</sup>. Lion Bridge Ventures was the parent company of Jatropha Africa, based in Ghana.

In Ghana, Jatropha Africa has jatropha plant nurseries where it grows seedlings for farmers who grow jatropha under profit-sharing lease agreements with the company. The company has agreements covering 120,000 ha of land. The company markets an improved seed which it says will provide a harvest within seven months of planting<sup>33</sup>.

Jatropha Africa describes jatropha as a “wonder plant” which is easy to establish, drought resistant which grows well in poor soil and provides a good crop with minimal effort<sup>34</sup>.

The company claims to be committed “to working in partnership with rural African communities, assisting people in their efforts to improve their own lives” and runs a project to provide “capacity building” to tiger nut farmers in one area of Ghana.

The company’s website claims that jatropha oil is CO<sub>2</sub> neutral and that “We only plant Jatropha on land which has never been used for food production, or on land where food production has not been successful [sic].”

Lion Bridge Ventures went into voluntary liquidation in June 2009.

### 3.5. Export crop or energy security?

Senegal has introduced a National Biofuel Programme and Nigeria has set a national target for using up to 10% home-grown agrofuel in transport fuel by 2020. A number of other countries including Mozambique and Ghana also appear to have embraced agrofuels with enthusiasm. Mozambique is not unusual in seeing agrofuels, particularly jatropha, as a way of reducing dependence on fuel imports<sup>35</sup>.



Energem Plantation, Dezeve community, Bilene District in Mozambique.

# Who's involved and why?

# 3

Access to energy is crucial to Africa's development. Many households in rural areas of Africa do not have access to electricity, cooking or transport fuel. In Ethiopia, for example, 93% of households use polluting open fire stoves for cooking, burning firewood, charcoal, crop residues or animal dung. Smoke from the stoves is a source of health problems, while collecting fuel takes time and depletes natural resources<sup>36</sup>.

*“Energy development often involves the relocation of human settlements to create buffer zones resulting in significant loss of land to and social dislocation of agricultural communities. These outcomes have raised serious concerns about the capacity of many countries to meet their internal agriculture food production requirements as land is taken out and the ecological trade-offs involved in the scramble by foreign investors for land for such activities.”<sup>37</sup>*

Foreign investment in agriculture is also often welcomed by host countries on the premise that it will lead to jobs in rural areas and the promise of economic development. Investment in a potential export crop is seen as beneficial for the rural economy<sup>38</sup>.

But national governments are also alert to the export potential of these crops. Fifteen African countries including Benin, Ghana, Senegal and Mali signed a Treaty in July 2006 establishing the Pan African Non-Petroleum Producers Association (PANPP) to promote biofuels production. The organisation has been described as the “green OPEC”<sup>39</sup>.

The FAO five-country study however found that none of the land destined for agrofuels in Ethiopia, Ghana, Madagascar or Mali was intended to produce agrofuels for domestic consumption. All the crops grown would be sold for export<sup>40</sup>.

The same analysis also found that developers were paying comparatively little to acquire land for agrofuel production, with investment in agrofuel land totalling just 11% of overall investment in land, but agrofuel crops accounted for more than 44% of the overall output<sup>41</sup>.

## 3.6. Cheap land

Land prices in Africa are in many places “very cheap” compared with the international market and land values are rising, suggesting the potential for investment<sup>42</sup>. Where the host country is supportive, land can also be acquired on favourable terms.

With a guaranteed market, cheap access to land and cheap labour, agrofuel development can be seen as a good business opportunity for European companies, and this can explain the sudden rush of “land grabs” taking place.

- 13 Cotula, L., Vermeulen, S., Leonard, R. and Keeley, J., 2009, Land Grab or Development Opportunity? Agricultural Investment and International Land Deals in Africa, IIED/FAO/IFAD, London/Rome.
- 14 [http://www.gulfinthedia.com/index.php?id=486101&news\\_type=Economy&lang=en](http://www.gulfinthedia.com/index.php?id=486101&news_type=Economy&lang=en)
- 15 Cotula, L., Vermeulen, S., Leonard, R. and Keeley, J., 2009, Land Grab or Development Opportunity? Agricultural Investment and International Land Deals in Africa, IIED/FAO/IFAD, London/Rome. (p. 38).
- 16 Cotula, L., Vermeulen, S., Leonard, R. and Keeley, J., 2009, Land Grab or Development Opportunity? Agricultural Investment and International Land Deals in Africa, IIED/FAO/IFAD, London/Rome.
- 17 “Land grabbing” by foreign investors in developing countries, IFPRI, 2009, <http://www.ifpri.org/publication/land-grabbing-foreign-investors-developing-countries>
- 18 Rapid Assessment of Biofuels Development Status in Ethiopia, MELCA Mahiber, September 2008.
- 19 <http://www.sunbiofuels.com/projects.html>.
- 20 <http://www.planetark.com/dailynewsstory.cfm/newsid/50310/story.htm>.
- 21 <http://www.slideshare.net/ulev/bionic-palm-plantations-ghana-presentation>
- 22 <http://www.reuters.com/article/marketsNews/idUSLK10422520090320?sp=true>.
- 23 [http://www.greenfueltech.net/land\\_availability.htm](http://www.greenfueltech.net/land_availability.htm).
- 24 <http://www.24-7pressrelease.com/press-release/jatropha-plantings-to-produce-biodiesel-ms-diana-holden-visits-tordzinu-tribe-village-farms-83612.php>.
- 25 [http://www.agroils.com/images/downloads/agroils\\_presentation\\_nov\\_08.pdf](http://www.agroils.com/images/downloads/agroils_presentation_nov_08.pdf).
- 26 <http://www.zmag.org/znet/viewArticle/22549>.
- 27 <http://www.eweekurope.co.uk/news/bill-gates-pushes-gm-crops-as-cure-for-world-hunger-2109>.
- 28 Seized, The 2008 land grab for food and financial security, GRAIN Briefing, October 2008
- 29 The Great Land Grab: Rush for the World's Farmland Threatens Food Security for the Poor, The Oakland Institute, October 2009, [www.oaklandinstitute.org/pdfs/LandGrab\\_final\\_web.pdf](http://www.oaklandinstitute.org/pdfs/LandGrab_final_web.pdf).
- 30 [http://younoodle.com/people/richard\\_ossei](http://younoodle.com/people/richard_ossei).
- 31 [http://younoodle.com/people/clive\\_coker](http://younoodle.com/people/clive_coker).
- 32 [http://younoodle.com/groups/imperial\\_entrepreneurs/newsletters/meet\\_your\\_mentor](http://younoodle.com/groups/imperial_entrepreneurs/newsletters/meet_your_mentor).
- 33 <http://www.jatrophaafrica.com/sales.html>.
- 34 <http://www.jatrophaafrica.com/investment.html>.
- 35 Swiss Aid report.
- 36 Hassen, Ephrem, 2008, Key Energy Issues in Ethiopia: Challenges, Opportunities and the Way Forward. In: Agrofuel Development in Ethiopia: Rhetoric, Reality and Recommendations, Forum for Environment (2008), p. 1-25.
- 37 <http://www.gltm.net/en/newspage/african-union-endorses-framework-and-guidelines-on-land-policy-in-africa.html>.
- 38 Cotula, L., Vermeulen, S., Leonard, R. and Keeley, J., 2009, Land Grab or Development Opportunity? Agricultural Investment and International Land Deals in Africa, IIED/FAO/IFAD, London/Rome (p. 54).
- 39 <http://www.washingtonpost.com/wp-dyn/content/article/2006/10/27/AR2006102701105.html>.
- 40 Sudan was not included in the calculations because of lack of sufficient data. See Table 2.3. Cotula, L., Vermeulen, S., Leonard, R. and Keeley, J., 2009, Land Grab or Development Opportunity? Agricultural Investment and International Land Deals in Africa, IIED/FAO/IFAD, London/Rome.
- 41 See Figure 2.10, Cotula, L., Vermeulen, S., Leonard, R. and Keeley, J., 2009, Land Grab or Development Opportunity? Agricultural Investment and International Land Deals in Africa, IIED/FAO/IFAD, London/Rome.
- 42 Cotula, L., Vermeulen, S., Leonard, R. and Keeley, J., 2009, Land Grab or Development Opportunity? Agricultural Investment and International Land Deals in Africa, IIED/FAO/IFAD, London/Rome (p. 57).

# The crops

# 4



© Elena Kaliszakova/Dreamstime

Sugar cane.

**About the crops**

Sugar cane, sweet sorghum, maize and cassava are grown as food crops in Africa but are also considered as feedstock for ethanol production.

Oil palm, soy, groundnuts and jatropha are being promoted for biodiesel.

**Sugar Cane** has been grown traditionally in parts of Africa as an export crop, with substantial industries in South Africa, Mozambique and Malawi<sup>43</sup>. Originating in Asia, it grows well in tropical and sub tropical climates with considerable rainfall (60cm/year). It is grown in plantations and fields are burnt before harvesting, often by hand. Brazil is the world leader in terms of sugar cane cultivation and has also led the way in processing sugar cane for ethanol.

**Sweet Sorghum** is native to Africa, and is grown for food. The grain and the sugary syrup found in its stems can be eaten. It likes dry warm conditions and can survive without irrigation. The high sugar content in the stems can be used for ethanol<sup>44</sup>.

**Maize** is one of the most important staple food crops in Nigeria, and the crop covers some 60% of the country's agricultural land<sup>45</sup>. It is traditionally grown alongside other crops in a mixed cropping system. The grain is used for food and animal fodder. Maize is used as a feedstock for ethanol in the US and Latin America and is being considered as a feedstock in parts of Nigeria<sup>46</sup>.

**Castor** The castor oil plant is native to Eastern Africa and is found throughout tropical regions. It is widely grown in Ethiopia. The plants seeds, called beans, contain oil, protected by a toxic ricin coat. The oil is used medicinally around the world, but can also be refined to produce biodiesel<sup>47</sup>.

**Cassava** is a starchy root crop that is eaten across Africa, Asia and Latin America, providing the staple diet for some 600 million people. It grows well even in poor soil, and its high starch content makes it a suitable feedstock for ethanol. Research is on-going into genetically modified forms of cassava and the Nigerian government and Shell are investing in research<sup>48</sup>.

**Oil palm** trees are native to West Africa, producing fruit and seeds which can be crushed to extract edible oil which is also suitable for biodiesel. Palm oil is the most widely used form of cooking oil worldwide and is found in a wide range of processed foods, as well as soap and animal feed.

**Jatropha** is seen as a particularly suitable crop for agrofuel production because unlike other feedstocks, it is not a food source. Promoters argue that it does not therefore compete with food or contribute to food shortages. It can also grow on marginal land in relatively dry areas, making it suitable for drought-prone regions. Studies have however found that jatropha plants do require water in the early stages and plants grown on more fertile land have higher yields<sup>49</sup>.

Soy beans, sweet potatoes, peanuts, wheat, maize, sorghum and copra are also used as energy crops in African countries.



*Jatropha curcas.*

43 [http://www.oxfam.org.uk/resources/policy/trade/downloads/bp27\\_sugar.pdf](http://www.oxfam.org.uk/resources/policy/trade/downloads/bp27_sugar.pdf).

44 [http://www.enr.com/top\\_stories/article/36161](http://www.enr.com/top_stories/article/36161).

45 <http://www.agr.hr/jcea/issues/jcea7-3/pdf/jcea73-9.pdf>.

46 See proposals for Kaduna State.

47 [http://www.castoroil.in/uses/fuel/castor\\_oil\\_fuel.html](http://www.castoroil.in/uses/fuel/castor_oil_fuel.html).

48 Genetically Engineered Cassava, A threat to Africa's Food Sovereignty, Friends of the Earth Africa factsheet, August 2006.

49 Jatropha: Wonder Crop? Experience from Swaziland, Friends of the Earth, May 2009.



© Greenpeace / Ian Joseph Stock



A worker shovels fruit from the oil palm tree at a plantation in the Democratic Republic of Congo.

# Impacts

## 5.1. Can agrofuels deliver?

The companies and governments promoting agrofuels in Africa promise locally grown fuel supplies, jobs and economic development, but is this the reality?

Fundamental questions have been posed about the benefits of using agrofuel crops for fuel. Do agrofuels actually result in reduced emissions, once the full life cycle has been taken into account? Do agrofuel crops deliver the kinds of yields promised? Are agrofuels a good use of land? And do they help rural communities develop in a sustainable way?

*“What happens over the long term when you grant control over your country’s farmland to foreign nations and investors?”*

GRAIN 2008<sup>50</sup>

Aside from these fundamental questions, the rapid spread of intensive agrofuel crops raises other issues, including the impacts on local communities who often rely on access to the land to survive, the impacts on the environment, including water supplies and the impacts on jobs and the local economy

## 5.2. No real greenhouse gas savings

The level of greenhouse gas (GHG) savings offered by agrofuel crops varies according to the nature of the crop, the yield per hectare, the amount of energy needed to transport and process the fuel, and whether their production has displaced agriculture elsewhere and whether that has caused GHG emissions.

Studies have shown that for some agrofuel crops growing and processing the fuel produces more greenhouse gas emissions than would be produced by the equivalent amount of fossil fuel<sup>51</sup>.

The effects of land use change – when land is cleared of forest, when peat land is drained or when pasture is planted with crops – is even greater. Some studies have estimated that where forest is cleared to make way for palm oil, it takes up to 150 years for the carbon savings from the palm oil harvest to replace the carbon lost from the forest<sup>52</sup>.

## 5.3. Loss of access to land and water

There is a common perception that African countries have vast areas of available land. Studies estimate that there are some 807 million ha of cultivable land across Africa, of which less than a quarter appears to be in use. But as it is common for farmers in Africa to rotate pasture and cropland, leaving land fallow, it is likely that a far greater area of the land is actually in use<sup>53</sup>. In addition land that may appear “idle” to the outsider often serves a vital function for communities, providing common grazing land or land to collect firewood – functions that often allow communities to survive.

Indeed the FAO country studies suggest that in many rural areas, most land is used or claimed by somebody, regardless of how it may be labelled officially.

*“While there is a perception that land is abundant in certain countries, these claims need to be treated with caution. In many cases land is already being used or claimed – yet existing land uses and claims go unrecognised because land users are marginalised from formal land rights and access to the law and institutions.”*

IIED, FAO and IFAD, 2009<sup>54</sup> (Their emphasis)

Even more key is the availability of fertile land with available water supplies. Although there are claims that agrofuel crops such as jatropha and sweet sorghum grow well on marginal land, many of the “land grabs” for agrofuel crops involve land previously used for agriculture.



Bioshape jatropha farm in Kilwa, Tanzania.

*“Jatropha Africa utilises marginal land. We do not displace agriculture for the production of food. We have long term profit sharing agreements with the people of the villages where we are expanding our Jatropha cultivation activities.”*

[www.jatrophaafrica.com](http://www.jatrophaafrica.com)

In Ghana, development agencies have reported that the spread of jatropha is pushing small farmers, and particularly women farmers off their land. Valuable food sources such as shea nut and dawadawa trees have been cleared to make way for plantations. Some 50 per cent of the Ghanaian population work on the land, mostly growing food for local consumption<sup>55</sup>.

*“Land allocations that look small in relation to the overall national territory can still be very significant where they concentrate on the possibly much more limited areas of higher-value land (more fertile land, land with greater irrigation potential or easier access to markets).”*

IIED, FAO and IFAD, 2009<sup>56</sup>

In Nigeria, communities are facing a resettlement programme after the Nigerian National Petroleum Corporation (NNPC) requisitioned a 200 km sq area to grow sugar cane for ethanol. The land is currently used by small farmers to grow food crops<sup>57</sup>. Land in Nigeria is officially held by the state government, and local communities have no say in its allocation.

In Tanzania, thousands of rice and maize farmers were forced off their land in 2009 or have been threatened with eviction to make way for sugarcane plantations in several parts of the country. More than 1,000 rice farmers had to leave their land on the Usangu plains in 2009, leading to widespread disputes. A similar number faced eviction from the Wami Basin to make way for a planned plantation<sup>58</sup>. European companies, backed by the EU Energy Initiative and UK and US aid money are behind a number of the developments<sup>59</sup>. Jatropha and sunflower plantations have also been proposed. Protests from the farmers have led the Tanzanian government to rethink its approach to agrofuels<sup>60</sup>.



Congolese villagers living near M'Boundi.

### The myth of marginal land

One of the supposed advantages of the jatropha plant is that it will grow on “marginal land” and so does not compete with food crops. This implies that there are acres of low-quality land available, ready to be cultivated with jatropha or other potential agrofuel feedstocks. But in reality, land is often officially classified as “marginal” because it is not privately owned. It may be communal land, often used for grazing, food crops, and also for collecting medicinal plants, but can also refer to, wetlands, swamps or mountainous terrain<sup>61</sup>. Because communities rarely hold the land titles to communally used land, it can be difficult to prevent it from being sold.

### 5.4. Proof of ownership?

Who owns the land can be a complex and contentious issue, especially in countries where there is no formal means of land registration. In some countries, for example Mozambique, land is owned by the state and can only be leased by foreign developers and in most countries negotiations with different government agencies are required before any land deal is done.

In some countries community elders are consulted on land acquisitions, but these consultations can be corrupted with reports of elders granting permission unwittingly or in exchange for money, without any involvement of the wider community<sup>62</sup>.

In other cases, the local community may agree to the land transfer in exchange for promises from the company to improve facilities in the area. But such promises are not always fulfilled, leading to resentment from the community<sup>63</sup>.

There are reports of land being given to more than one person as a result of confusion over who actually has the right to allocate land use<sup>64</sup>.

# Impacts

## Farmers say land taken for jatropha in Ghana

In northern Ghana, Norwegian company BioFuel Africa claims to have produced the first commercial biodiesel harvest from jatropha<sup>65</sup>. The company acquired 38,000 ha of land in 2008<sup>66</sup> and aims to create “the largest jatropha plantation in the world”<sup>67</sup>.

But some of the land acquired by BioFuel Africa was previously used by farmers from seven villages who rented it from the local chief to grow crops such as maize and rice. One farmer told reporters that the first he knew of the change of ownership was when he went to his plot and discovered other people there<sup>68</sup>.

The land had been signed away by the local chief – who is illiterate and who reportedly had to sign with his thumbprint<sup>69</sup>. The procedure was later ruled to be legally invalid.

Other areas of the proposed plantation which were forested were cleared before local campaigners intervened. Some 2,600 ha were stripped using heavy machinery, devastating the local environment, to make way for jatropha<sup>70</sup>.

BioFuel Africa says “We operate under the principle that production can only be sustainable if it is low cost, provides a solid return, and enhances and enriches the lives of its workers and surrounding communities”<sup>71</sup>.

The key issue is not who officially owns the land, but who depends on that land for their livelihood. And the rights of individuals who depend on land involved in “land grabs” are often overlooked.

*“Land allocations on the scale documented in this study do have the potential to result in loss of land for large numbers of people. As much of the rural population in Africa crucially depend on land for their livelihoods and food security, loss of land is likely to have major negative impacts on local people.”*

IIED, FAO and IFAD, 2009<sup>72</sup>

## 5.5. Increase in food prices

The competition for land and the competition for staple food crops such as cassava and sweet sorghum for agrofuels is likely to push up food and land prices. Small farmers in Ghana have expressed fears that they will not be able to afford to farm the land - or buy food for their families<sup>73</sup>.

A study for the World Bank found that crops being used for agrofuels was a major factor in the rising price of food<sup>74</sup>.

This competition for agricultural land raises fundamental questions about food sovereignty and government priorities. Should a country that is dependent on food aid (such as Kenya or Ethiopia) be selling fertile land to developers to grow fuel?

## Food insecurity and hunger in Africa

According to the UN FAO there are 307 million hungry people in Africa, with most of these living in Sub-Saharan Africa (265 million)<sup>75</sup>.

Twenty-one African countries are classified as being “in crisis” and four of these countries – Kenya, Lesotho, Swaziland and Zimbabwe – are described as having an “exceptional shortfall” in food production or supplies<sup>76</sup>.

Ethiopia is one of the countries currently “in crisis” with some 46% of the population classified as “undernourished”. According to the World Food Programme, 5.2 million people in Ethiopia are currently affected by drought<sup>77</sup>. In some areas this is the fifth year in which there have been crop failures as a result of the drought<sup>78</sup>.

## 5.6. Limited employment opportunities

The promise of jobs, particularly in rural areas, is attractive to governments and to local communities, especially in areas where most of the population rely on subsistence agriculture to survive. Jobs bring money to an area, allowing local economies to develop.

*“We believe sustainable development of large scale agricultural projects in Ghana will lead to development of vibrant rural economies and eradicate rural urban migration.”*

Smart Oil Ghana<sup>79</sup>

But the promise of jobs is not always fulfilled. In reality, most agrofuel crops require little labour. There may be short-term work clearing the land to make way for the plantation and some work at harvest time, but there are few long-term jobs for local communities<sup>80</sup>.

Some studies estimate that one permanent job is created for every 100 ha of agrofuel planted – with greater potential for job creation in the processing and production industry<sup>81</sup>. Where mechanised farming methods are used, employment levels are even lower. In the sugarcane industry, a harvesting machine can replace 100 jobs<sup>82</sup>.

*“Farmers are attracted by the short-term advantage of earning money by clearing land for biofuel feedstock plantations. However, if the job is not sustainable in the long term, the farmers can end up poorer than before.”*

Forum for Environment, 2008<sup>83</sup>

Even where jobs are created, there is some evidence that levels of pay are so low that those employed are not actually any better off. In Mozambique, the UK-listed company Energem Biofuels has been allocated the rights to 60,000 ha of what was previously community farming and grazing land to grow jatropha and employs more than 250 people<sup>84</sup>. Employees are paid the minimum wage but have seen little improvement in their standard of living – indeed many are earning less than they could during a good farming year<sup>85</sup>.

In some cases, foreign companies are reported to be abusing local laws intended to protect workers rights. Sun Biofuels, also in Mozambique, employs 430 workers on jatropha plantations, with workers reportedly employed to work a 45 hour week, with longer days than the law permits<sup>86</sup>.



Energem laborers, Dzeve community, Bilene District in Mozambique.

*“A key issue is the extent to which commitments on investment, jobs and infrastructure are legally enforceable in the same way as government commitments to provide and maintain access to land.”*

IIED, FAO and IFAD, 2009<sup>87</sup>

### 5.7. False expectations: outgrower schemes and contract farming

A number of European companies rely on outgrowing schemes to deliver supplies of agrofuel feedstock, particularly in the case of jatropha. Farmers sign contracts entitling the company to the harvest and may receive seeds and advice on how to grow the crop.

Farmers who sign up to grow jatropha can face years of investment before they can harvest the seeds, depending on the quality of the original seed. Without a harvest to sell to the company, they have no income from their land. Where farmers have replaced food crops with jatropha, this can leave them with no source of food and no means of buying food elsewhere.

*“Jatropha the wonder plant produces seeds with an oil content of 37%. The oil is a fuel which burns with a clear smoke-free flame. This oil once processed (through esterification) into bio-diesel is increasingly being used as a fuel by transport and energy companies.”*

Jatropha Africa<sup>88</sup>

Farmers from the União Nacional de Camponeses (UNAC) in Mozambique who have been growing jatropha report slow growth rates, low yields and problems with pests<sup>89</sup>.



Jatropha with pests, Moamba district in Mozambique.

# Impacts

A study by the Mozambique Government found that many of the subsistence farmers who had planted jatropha gave up after the first year because of difficulties with growing the plant, in some cases because they did not have enough time to tend both the jatropha and their food crops. Many had planted jatropha in good quality fertile soil. Mozambique is one of the world's poorest countries with a third of households facing perpetual hunger<sup>90</sup>.

Farmers in Swaziland complained that they were told that jatropha would grow well without water, but in reality they discovered the seedlings needed to be watered regularly. Water resources are limited in Swaziland and many farmers struggle to get enough water to meet all their needs<sup>91</sup>.

They have also reported problems with pests and because the crop has only recently started to be used for agriculture, the government department has no expertise on how the farms can best eradicate the pests. Buying pesticides adds to the costs for farmers – and some have been forced to leave the crop to be destroyed. The harvested seeds need to be processed quickly to make the most of the oil content, but many farmers do not have processing facilities near by. Many farmers in the Mozambique study said there was no real market for the seeds and most had not realised how quickly the quality of the oil would deteriorate<sup>92</sup>.

Indeed experts suggest that jatropha will only provide optimal yields if grown under precise conditions<sup>93</sup>.

*“This jatropha reminds me of cotton. Many years ago when Dunavant came here, they promised that if we grew cotton, we would be paid lots of money. We stopped growing our maize to make more money from cotton. But when the time to sell it came we were paid very little. We went hungry because we had neglected growing our traditional crop maize.”*

**Josam Ndaabona, Small Scale Farmer, Zambia.**<sup>94</sup>

## 5.8. Environmental degradation

The use of large areas of land for agrofuel production results in a range of detrimental environmental impacts, which can include deforestation and loss of habitat, soil degradation as a result of inappropriate farming methods, water pollution from pesticide and fertiliser use, and the depletion of water resources (see below).

*“Introducing intensive agricultural production can threaten biodiversity, carbon stocks, and land and water resources. Converting forests or rangelands to monocropping reduces diversity in flora, fauna, and agrobiodiversity, as well as aboveground and subsurface carbon stocks.”*

IFPRI April 2009<sup>95</sup>

In Cameroon, expanding oil palm plantations are replacing native forest in the Congo Basin, exacerbating deforestation levels in the country<sup>96</sup>. The Cameroon government has supported palm oil development since the 1960s through state-owned companies including SOCAPALM and CDC. SOCAPALM, which has since been partially privatised, announced a major expansion programme in January 2009<sup>97</sup>.

The forest of the Congo Basin is the second largest in the world after the Amazon and is a major carbon store. A number of communities depend on the forest for their livelihoods, hunting and relying on products from the forest for their daily lives.

The Government of Benin proposes converting 300,000 - 400,000 ha of wetlands for oil palm in the south of the country. Oil palm is a native species in the wetlands, but oil palm plantations will mean the lands are drained and the rich biodiversity is destroyed<sup>98</sup>.

In Nigeria, plans for large sugar-cane plantations in Gombe State have raised concerns over pesticide use and the impact on surrounding farmland<sup>99</sup>.



Desertification: former eastern low level crop land, Swaziland.

### Case study 1: Elephants under threat in Ethiopia

The Babile Elephant Sanctuary in Ethiopia is home to one of the most important African elephant populations in the Horn of Africa. The African elephant is an endangered species. Black-maned lions (the national symbol of Ethiopia), leopards, baboons and black and white colobus monkey are also found in the Sanctuary and the area is recognised as a “Globally Important Bird Area”.

There are thought to be more than 300 elephants living in the Sanctuary, ranging over a vast area. In recent years, the growing local population has encroached on the Sanctuary seeking out new farmland.

The Ethiopian Government sees improved energy supplies as crucial to the country’s development and is a keen supporter of biofuels both as a source of fuel and as a source of export revenue. It has published a biofuel strategy, which earmarks 700,000 ha of land for sugar cane cultivation and 23 million ha of land are suitable for jatropha and castor bean plantations<sup>100</sup>.

In March 2007 a new “farmer” arrived in the Babile Sanctuary. The German agrofuel producer Flora Eco-power had been granted access to 10,000ha of land to grow castor beans. Almost all of the land fell within the Sanctuary boundaries and included feeding grounds used by the elephants. The wildlife authorities were not aware that this land had been given to the company. Flora Ecopower started clearing the land using tractors and work continued for three days before the Ethiopian Wildlife Conservation Authority intervened. After discussions Flora Ecopower said they would not expand further into the Sanctuary<sup>101</sup>.

An environmental impact assessment carried out after work had started showed that castor bean plantation infringed the elephants’ habitat. It also highlighted that the plantation had reduced the amount of grazing land available to local farmers, creating a risk that they were now likely to graze their animals inside the Sanctuary.

Following the intervention of the Government, extra land also used by the elephants has been given to the Sanctuary as compensation.

### 5.9. Water scarcity and depletion

Some of the crops being grown for agrofuels, such as sugar cane, require irrigation and can only be grown in areas where there is a suitable water supply. Other crops such as jatropha, which is said to grow in arid conditions, still require water, especially in the early stages of growth.

Indeed, biofuels have been described as “one of the most thirsty products on the planet” because of the amount of water need to produce the fuel. To grow the soya needed to produce one litre of biodiesel requires 9,100 litres of water. A litre of bioethanol produced from corn takes 4,000 litres<sup>102</sup> and a litre of bioethanol produced from sugarcane can also use as much as 4,000 l of water<sup>103</sup>.

*“Irrigating the landholdings of foreign investors may take water away from other users in the area or from environmental flows, and intensive use of agrochemicals contributes to water-quality problems in groundwater and runoff.”*

IFPRI, April 2009<sup>104</sup>

In some parts of Africa water supplies are already over-stretched. Recurrent drought has left one in 10 Kenyans in need of food aid<sup>105</sup>. Many cattle herders have been forced to abandon their herds and seek alternative livelihoods<sup>106</sup>. Yet the Kenyan Government has struck a deal with Qatar to grow food in the Tana River delta region - an area which is home to pastoralists who use the land for communal grazing<sup>107</sup>. Previous plans to grow sugarcane in the region were blocked by the courts<sup>108</sup>.

The Intergovernmental Panel on Climate Change has predicted that parts of Africa are likely to become drier, with less reliable rainfall as a result of climate change. The area of African land classified as “dry” could increase by up to 90 million ha. The lack of water will affect crop yields and make livestock farming impossible in some areas<sup>109</sup>.



MoçamGalp plantation in Mozambique.

# Impacts

*“Africa’s most precious resources, its biodiversity, land and people are being exploited to export fuel to energy hungry countries – including the EU, US, China, India.”*

**African Biodiversity Network<sup>100</sup>**

## 5.10. Genetically modified agrofuels?

The pressure to increase yields, particularly in difficult growing conditions has been seized by the biotech industry as an opportunity to introduce genetically modified (GM) varieties of crops, including for agrofuels.

Africa has resisted attempts to introduce GM food crops – they can be grown commercially only in three African countries<sup>111</sup> but biotech companies see agrofuel crops as a potential new market and a number of companies are pumping money into research.

Researchers at Pennsylvania State University in US are looking at improved strains of jatropha, including GM jatropha<sup>112</sup> and the Gates Foundation is also promoting biotech solutions for African agriculture<sup>113</sup>. Shell is involved in research in GM cassava.

The biotech industry is keen to be seen as part of the solution to tackling climate change and sees a massive potential market in Africa.

## 5.11. A damning assessment?

These wide-ranging concerns about the impact of agrofuel production have led many to sound a cautionary note about their development.

A study by the United Nations Environment Programme warned of the risks to “high value natural ecosystems” of cropland expansion.

It concluded that “Global resources do not allow simply shifting from fossil resources to biomass while maintaining the current patterns of consumption”<sup>114</sup>.

## 5.12. Failing dreams?

Indeed there are signs that the harsh realities of the agrofuel boom may be starting to hit home. Some of the companies who arrived with grand promises have since withdrawn.

The Swedish company Skebab, which was described as one of Europe’s biggest biofuel producers<sup>115</sup>, has pulled out of Africa. The decision followed controversy over their operations in Tanzania<sup>116</sup>. The company also had acquired land in Mozambique.

The company had said in 2008: “We are working to help Tanzania and Mozambique within 20 years become free of their dependence on oil, significantly increase their production of electric power and at the same time export several billion litres of ethanol from the factories we are planning”<sup>117</sup>. However in February 2009, they announced they were selling or terminating their operations in Africa to “adapt to the current market situation”<sup>118</sup>.

D1 Oils, a prominent UK-based company which has promoted jatropha in Africa and India, was forced to suspend its operations in Swaziland when the Government ordered that a strategic environmental impact assessment be carried out<sup>119</sup>. D1 Oils had taken an evangelical approach to promoting jatropha, persuading rockstar Bob Geldof to claim that the crop had “life changing” potential<sup>120</sup>.

D1 Oils’ joint venture with oil giant BP also came to an end when BP pulled out in 2009<sup>121</sup>.



Example of Jatropha project in Mozambique. D1 Oils – Maputo.

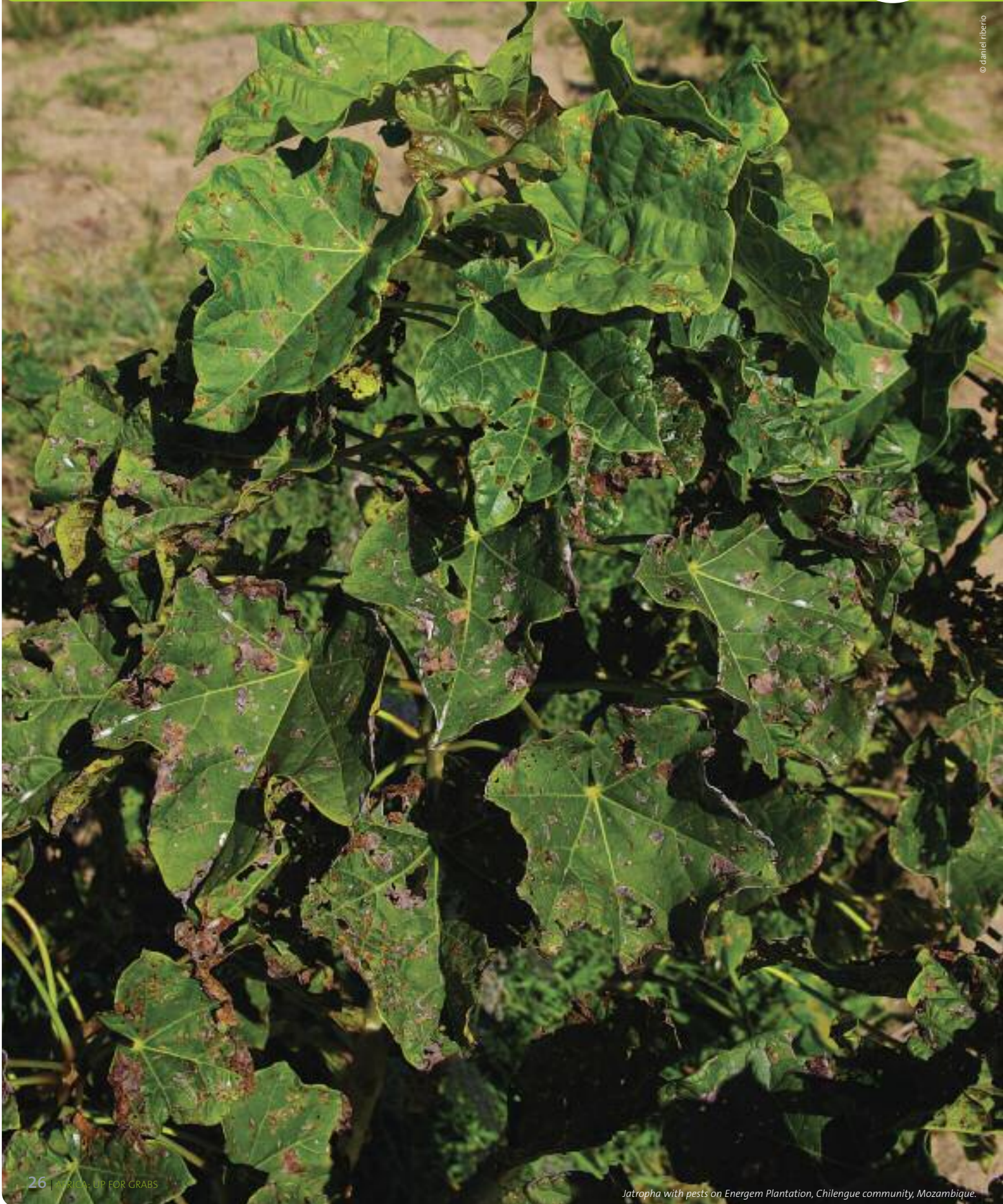
Plans to produce ethanol from maize in South Africa have also floundered on account of the government’s refusal to provide the large subsidies/ tax exemptions requested by the agrofuels industry companies/ cooperatives.

According to one investment analysis: “The future prospects for biofuels remain uncertain. While there are currently strong policy drivers for the development of the first generation of these fuels, the sustainability challenges – economic, social and environmental – discussed above threaten to erode this support, particularly in Europe”<sup>122</sup>.

In March 2009, the African Union produced a new draft framework and guidelines on land policy in Africa, aimed at strengthening land rights, enhancing productivity and securing livelihoods. This sets out how African countries can develop policies to support better use of land, including through acknowledging indigenous land rights, the land rights of women, as well as local and community-based systems. It recommends a more holistic approach to policy and measures to ensure that market-driven policies do not expose vulnerable groups to further marginalisation. “Equally distributed and effectively managed, land can be instrumental in eradicating poverty”, the report says<sup>123</sup>.



- 50 Seized, The 2008 land grab for food and financial security, GRAIN Briefing, October 2008
- 51 [http://www.biofuelwatch.org.uk/docs/ca\\_assessments.pdf](http://www.biofuelwatch.org.uk/docs/ca_assessments.pdf).
- 52 Gibbs, H et al, Carbon payback times for crop-based biofuel expansion in the tropics: the effects of changing yield and technology, *Environ. Res. Lett.* 3 (2008) 034001 (pp. 10).
- 53 Cotula, L., Vermeulen, S., Leonard, R. and Keeley, J., 2009, Land Grab or Development Opportunity? Agricultural Investment and International Land Deals in Africa, IIED/FAO/IFAD, London/Rome (p. 59).
- 54 Cotula, L., Vermeulen, S., Leonard, R. and Keeley, J., 2009, Land Grab or Development Opportunity? Agricultural Investment and International Land Deals in Africa, IIED/FAO/IFAD, London/Rome (p. 6).
- 55 [http://www.actionaidusa.org/news/related/food\\_rights/women\\_lose\\_farms\\_to\\_biofuel\\_production/](http://www.actionaidusa.org/news/related/food_rights/women_lose_farms_to_biofuel_production/).
- 56 Cotula, L., Vermeulen, S., Leonard, R. and Keeley, J., 2009, Land Grab or Development Opportunity? Agricultural Investment and International Land Deals in Africa, IIED/FAO/IFAD, London/Rome (p. 43).
- 57 Research by Environmental Rights Action (ERA) / Friends of the Earth Nigeria.
- 58 <http://www.theeastafrican.co.ke/news/-/2558/663988/-/qyclh8z/-/index.html>
- 59 *Agrofuels In Africa – The Impacts On Land, Food And Forests*, African Biodiversity Network, July 2007.
- 60 [http://www.africanbiodiversity.org/abn\\_old/documents\\_SSL\\_items/ABN\\_Agrofuels\\_Africa.pdf](http://www.africanbiodiversity.org/abn_old/documents_SSL_items/ABN_Agrofuels_Africa.pdf)
- 61 <http://www.theeastafrican.co.ke/news/-/2558/667648/-/qy9vngz/-/>.
- 62 *Agrofuels and Myth of the Marginal Lands*, September 2008.
- 63 [http://www.econexus.info/pdf/Agrofuels\\_&\\_Marginal-Land-Myth.pdf](http://www.econexus.info/pdf/Agrofuels_&_Marginal-Land-Myth.pdf).
- 64 SwissAid report 2009.
- 65 SwissAid report, 2009.
- 66 Eg Communal grazing land in the district of Chokwe in Mozambique was allocated for a 30,000 ha sugarcane project and also given to communities had been relocated from a wildlife park. SwissAid report.
- 67 <http://ghanabusinessnews.com/2009/10/22/biofuel-africa-produces-first-50-barrels-of-biodiesel-from-jatropha-in-ghana/>.
- 68 <http://ghanabusinessnews.com/2009/07/16/biofuel-africa-says-actionaid-is-wrong-about-biofuels-in-ghana/>.
- 69 <http://www.independent.co.uk/environment/nature/wish-you-werent-here-the-devastating-effects-of-the-new-colonialists-1767725.html>.
- 70 <http://ghanabusinessnews.com/2009/09/08/ghanaian-farmers-say-lands-taken-for-jatropha-cultivation/>.
- 71 [http://www.wrm.org.uy/subjects/agrofuels/Biofuel\\_Northern\\_Ghana.pdf](http://www.wrm.org.uy/subjects/agrofuels/Biofuel_Northern_Ghana.pdf).
- 72 [http://www.wrm.org.uy/subjects/agrofuels/Biofuel\\_Northern\\_Ghana.pdf](http://www.wrm.org.uy/subjects/agrofuels/Biofuel_Northern_Ghana.pdf).
- 73 <http://www.biofuel.no/index.php?txt=about-us>.
- 74 Cotula, L., Vermeulen, S., Leonard, R. and Keeley, J., 2009, Land Grab or Development Opportunity? Agricultural Investment and International Land Deals in Africa, IIED/FAO/IFAD, London/Rome.
- 75 Interviews carried out in Ghana's Volta Region for Friends of the Earth Ghana (2008)
- 76 Mitchell, Donald, Lead Economist, A Note on Rising Food Prices. Development Prospects Group, World Bank, Washington, April 2008.
- 77 <http://www.fao.org/hunger/en/>.
- 78 Crop prospects and food situation, FAO, February 2010
- 79 <http://www.fao.org/docrep/012/ak343e/ak343e00.pdf>
- 80 <http://www.wfp.org/countries/ethiopia>.
- 81 <http://af.reuters.com/article/topNews/idAFJOE59S0L320091029>.
- 82 <http://www.smartoil.net/fp.html>.
- 83 von Braun, J and Meinzen-Dick, R, April 2009, "Land Grabbing" by Foreign Investors in Developing Countries: Risks and Opportunities, IFPRI.
- 84 <http://allafrica.com/stories/200803270146.html>.
- 85 Ustulin, E. J. & Severo, J. R. (2001): Cana-de-Açúcar : Proteger o ambiente e continuar gerando empregos. Available at: [www.cna.org.br/Gleba99N/Set01/cana01.htm](http://www.cna.org.br/Gleba99N/Set01/cana01.htm).
- 86 Gebremeskel, L. and Tesfaye, M, A Preliminary Assessment Of Socioeconomic And Environmental Issues Pertaining To Liquid Biofuel Development In Ethiopia, in *Agrofuel Development in Ethiopia: Rhetoric, Reality and Recommendations*, Forum for Environment, August 2008.
- 87 [http://www.energem.com/energem\\_biofuels.asp](http://www.energem.com/energem_biofuels.asp).
- 88 SwissAid report.
- 89 SwissAid report.
- 90 <http://www.wfp.org/countries/mozambique>.
- 91 *Jatropha Wonder Crop? Experience from Swaziland*, Friends of the Earth, May 2009.
- 92 SwissAid report.
- 93 Plant Research International, October 2007, Claims and facts on *jatropha curcas* L, REE Jongshaap et al, Wageningen UR.
- 94 *Agrofuels In Africa – The Impacts On Land, Food And Forests*, African Biodiversity Network, July 2007.
- 95 von Braun, J and Meinzen-Dick, R, April 2009, "Land Grabbing" by Foreign Investors in Developing Countries: Risks and Opportunities, IFPRI.
- 96 Center for Environmental Development/Friends of the Earth Cameroon (CED/FoEC). See also <http://www.wrm.org.uy/plantations/material/oilpalm2.html#Cameroon>.
- 97 <http://allafrica.com/stories/200901150719.html>.
- 98 <http://www.africanbiodiversity.org/media/1210585739.pdf>
- 99 Saliu, Abdullahi. NNPC's ethanol Project And the Fate of Gombe Communities : Daily Independent , Tuesday May 20, 2008. Also available at <http://www.punchontheweb.com/Article.aspx?theartic=Art200805151433562>.
- 100 Gebremeskel, L. and Tesfaye, M, A Preliminary Assessment Of Socioeconomic And Environmental Issues Pertaining To Liquid Biofuel Development In Ethiopia, in *Agrofuel Development in Ethiopia: Rhetoric, Reality and Recommendations*, Forum for Environment, August 2008.
- 101 Demeke, Y and Aklilu, N, Alarm Bell For Biofuel Development In Ethiopia: The Case Of Babille Elephant Sanctuary, in *Agrofuel Development in Ethiopia: Rhetoric, Reality and Recommendations*, Forum for Environment, August 2008 and <http://www.reuters.com/article/environmentNews/idUSL3163571720070601>.
- 102 Independent, Wish you weren't here, Independent on Sunday, 9 August 2009, <http://www.independent.co.uk/environment/nature/wish-you-werent-here-the-devastating-effects-of-the-new-colonialists-1767725.htm>.
- 103 <http://www.google.com/hostednews/afp/article/ALeqM5gZ2X0kbwm0tPj18t5K7D13qxWw>
- 104 [http://www.wm.cgiar.org/News\\_Room/pdf/Subir%20Roy%20-%20Where%27s%20the%20water%20to%20grow%20biofuels.pdf](http://www.wm.cgiar.org/News_Room/pdf/Subir%20Roy%20-%20Where%27s%20the%20water%20to%20grow%20biofuels.pdf).
- 105 von Braun, J and Meinzen-Dick, R, April 2009, "Land Grabbing" by Foreign Investors in Developing Countries: Risks and Opportunities, IFPRI.
- 106 <http://www.wfp.org/countries/kenya>.
- 107 <http://www.guardian.co.uk/world/2009/sep/13/drought-kenya-nomads>.
- 108 <http://www.thenational.ae/article/20090606/FOREIGN/706059888/1135>.
- 109 <http://news.bbc.co.uk/1/hi/world/africa/7513444.stm>.
- 110 Boko, M., I. Niang, A. Nyong, C. Vogel, A. Githeko, M. Medany, B. Osman-Elasha, R. Tabo and P. Yanda, 2007: Africa. Climate Change, 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson, Eds., Cambridge University Press, Cambridge UK, 433-467.
- 111 *Agrofuels In Africa – The Impacts On Land, Food And Forests*, African Biodiversity Network, July 2007.
- 112 <http://www.zmag.org/znet/viewArticle/22549/>
- 113 [http://www.biosafetyafrica.net/index.html/images/stories/dmdocuments/AU\\_Biosafety-brief.pdf](http://www.biosafetyafrica.net/index.html/images/stories/dmdocuments/AU_Biosafety-brief.pdf)
- 114 <http://www.reeis.usda.gov/web/crisprojectpages/213440.html>.
- 115 <http://www.zmag.org/znet/viewArticle/22549>.
- 116 [http://www.unep.fr/scp/rpanel/pdf/Assessing\\_Biofuels\\_Full\\_Report.pdf](http://www.unep.fr/scp/rpanel/pdf/Assessing_Biofuels_Full_Report.pdf).
- 117 <http://www.reuters.com/article/marketsNews/idUSL10422520090320?sp=true>.
- 118 <http://www.lars.intanzania.org/debates-sekab-worlds-apart/>.
- 119 [http://www.sekab.com/Eng2/Information%20pages/Information%20PDF/080312-%20Pressinformation\\_Ethanol\\_in\\_Africa.pdf](http://www.sekab.com/Eng2/Information%20pages/Information%20PDF/080312-%20Pressinformation_Ethanol_in_Africa.pdf).
- 120 <http://www.sekab.com/Eng2/Information%20pages/Information%20PDF/090220%20-%20Structural%20reorganisation%20of%20SEKAB.pdf>.
- 121 [http://www.foe.co.uk/resource/reports/jatropha\\_wonder\\_crop.pdf](http://www.foe.co.uk/resource/reports/jatropha_wonder_crop.pdf).
- 122 <http://www.newstatesman.com/society/2007/10/jatropha-india-biofuels>.
- 123 <http://www.d1plc.com/news.php?article=197>.
- 124 <http://www.insightinvestment.com/global/documents/riiliterature/821056/Biofuels.pdf>.
- 125 <http://www.glt.net/en/newspage/african-union-endorses-framework-and-guidelines-on-land-policy-in-africa.html>.



© Daniel Ribeiro

Hunger for foreign investment and economic development is driving a number of African countries to welcome agrofuel developers onto their land. Most of these developers are European companies, looking to grow agrofuel crops to meet EU targets for agrofuel use in transport fuel.

Demand for agrofuels threatens food supplies away from consumers for fuel in the case of crops such as cassava, peanuts, sweet sorghum and maize.

Non-edible agrofuel crops such as jatropha are competing directly with food crops for fertile land. The result threatens food supplies in poor communities and pushes up the cost of available food. Farmers who switch to agrofuel crops run the risk of being unable to feed their families.

While foreign companies pay lip service to the need for “sustainable development”, agrofuel production and demand for land is resulting in the loss of pasture and forests, destroying natural habitat and probably causing an increase in greenhouse gas emissions.

Agrofuel production is also draining water from parts of the continent where drought is already a problem.

While politicians promise that agrofuels will bring locally sourced energy supplies to their countries, the reality is that most of the foreign companies are developing agrofuels to sell on the international market.

Just as African economies have seen fossil fuels and other natural resources exploited for the benefit of other countries, there is a risk that agrofuels will be exported abroad with minimal benefit for local communities and national economies. Countries will be left with depleted soils, rivers that have been drained and forests that have been destroyed.



*BIDCO palm oil plantation in Kalangala Islands, Lake Victoria, Uganda.*



*Palm oil fruit.*

# Appendix

## Examples for landgrabbing for agrofuels in Africa

Please note: due to the limited official information available to the public this list is not comprehensive but indicates the scale of land grabbing taking place. In addition, the situation is changing rapidly with companies going bankrupt, being bought out or new ones starting. This is therefore only a snapshot to show the scale of land grabbing.

Other countries not specifically mentioned but known to be targets of land grabbers are Kenya, Uganda, Zambia, and Sudan.

### Angola

The Government announced plans to designate 500,000 ha of land to produce agrofuels<sup>1</sup>. This is in addition to other massive expansions for rice and bananas by Chiquita, Lonrho and China.

Biocom started planting a 30,000 ha site in 2009 with sugarcane. Biocom is a partnership between Brazil's Odebrecht, Angola's Damer, and Sonangol, the Angolan state oil company. This is reportedly the first biofuel project to get off the ground in Angola where the government is trying to revive farming after decades of war. Portuguese firm Quifel Natural Resources also plans to plant sunflowers, soy and jatropha in the southern province of Cunene. The company plans to harvest locally but export the crop to Europe for processing.<sup>2</sup>

Portuguese company Gleinol has also allegedly started production on 700 hectares for biodiesel, which reportedly increased to 13,000 hectares in 2009.<sup>3</sup>

Sonangol, the Angolan State Oil Company, and Italian oil consortium ENI have plans to expand existing palm oil plantations for production of biofuels in Angola's Kwanza Niorte province.<sup>4</sup>

### Cameroon

The former state-owned company SOCAPALM, now partially owned by the French group Bolloré, announced plans to increase production of oil palm. SOCAPALM has plantations in the Littoral, South and Centre Regions of Cameroon and signed a 60-year lease on 58,000 ha of land in 2000<sup>5</sup>. Bolloré directly owns the Safacam plantation of 8,800 ha.<sup>6</sup>

### Congo

The Democratic Republic of Congo is seeing some of the biggest agrofuels developments. In July 2009, the ZTE Agribusiness Company Ltd, a Chinese firm, announced plans to establish a one million hectare oil palm plantation in the country for agrofuel production. ZTE announced earlier in 2007 that it would invest \$1 billion in a 3 million hectare plantation.<sup>7</sup> Italian energy corporation ENI has also announced a major palm oil plantation of 70,000 ha as part of its "Food and Biodiesel" project.<sup>8</sup>

### Ethiopia

Ethiopia has marked out about 1.6 million hectares of land for investors willing to develop commercial farms and by July 2009, 8,420 foreign and local investors were reported to have received licenses for commercial farms.<sup>9</sup> The Government has given away over 300,000 ha for energy crops but negotiations are ongoing to massively increase this. 1.39 million ha have been identified as irrigable suitable areas and river basins for sugarcane plantation and circa 23 million hectares of land has been identified as suitable for Jatropha.<sup>10</sup>

**Table 1. Examples of land allocated reportedly for biofuel investments in Ethiopia**

Company	Country	Land acquired (ha)	Crop type	Source
National Biodiesel Corporation	Ethiopia (80% owned by UK Sun Biofuels)	80,000	Jatropha	Rapid Assessment of Biofuels Development Status in Ethiopia, MELCA Mahiber, September 2008
Sun Biofuels	UK	5,000, of which only 1,000 planted	Jatropha	<a href="http://www.sunbiofuels.com/projects.html?projectId=4">www.sunbiofuels.com/projects.html?projectId=4</a>
Amabasel Jatropha project	Ethiopia	20,000	Jatropha	Rapid Assessment of Biofuels Development Status in Ethiopia, MELCA Mahiber, September 2008
Jatropha Biofuels Agro Industry	Ethiopia	100,000	Jatropha	Rapid Assessment of Biofuels Development Status in Ethiopia, MELCA Mahiber, September 2008
IDC Investment	Denmark/Ethiopia	15,000	Jatropha	Rapid Assessment of Biofuels Development Status in Ethiopia, MELCA Mahiber, September 2008
Jemal Ibrahim	Ethiopia	7.8	Castor bean	Rapid Assessment of Biofuels Development Status in Ethiopia, MELCA Mahiber, September 2008
BDFC	Brazil	18,000, securing an additional 13,000 <sup>11</sup> 30,000 through out-growers	Sugarcane/sugar beet	Rapid Assessment of Biofuels Development Status in Ethiopia, MELCA Mahiber, September 2008
Flora EcoPower	De/Lux	56,000 ha, concessions for another 200,000	Castor/Jatropha	Flora EcoPower website <a href="http://www.floraecopower.com/products.html">www.floraecopower.com/products.html</a>
Petro Palm Corporation	Austria/USA	50,000	Castor/Jatropha	Rapid Assessment of Biofuels Development Status in Ethiopia, MELCA Mahiber, September 2008
VATIC International Business	India/Ethiopia	20,000	NA	Rapid Assessment of Biofuels Development Status in Ethiopia, MELCA Mahiber, September 2008
Global Energy	Israel	2,700 7,500 through out-growers	Castor bean	Rapid Assessment of Biofuels Development Status in Ethiopia, MELCA Mahiber, September 2008

# Appendix

## Ghana

With its relatively stable political situation and suitable climate, Ghana is an apparent hotspot for acquiring land to grow jatropha.

**Table 2. Examples of land allocated reportedly for biofuel investments in Ghana**

Company	Country	Land acquired (ha)	Crop type	Source
Agroils	Italy	10,000 currently grown. Rights obtained for 105,000	jatropha	Agroils website: <a href="http://www.smartoil.net/fp.html">www.smartoil.net/fp.html</a>
Galten Global Alternative Energy	Israel	Leased 100,000 ha, planted 1,000 ha	Jatropha	Galten website: <a href="http://www.galtengroup.com/company.html">www.galtengroup.com/company.html</a>
Gold Star Farms	Ghana	ca 14,000 ha	jatropha	Goldstar Farms website: <a href="http://goldstarfarms.com/ghana_farms.html">http://goldstarfarms.com/ghana_farms.html</a>
Jatropha Africa	UK/Ghana	Rights to cultivate 120,000 ha	Jatropha	<a href="http://www.worldbioenergy.org/pdf/WBM_no2_2008_small.pdf">www.worldbioenergy.org/pdf/WBM_no2_2008_small.pdf</a> (note: parent company Lion Bridge Ventures applied for liquidation in June 2009)
Biofuel Africa	Norway	Environmental approval for over 27,000 ha, currently 660 ha under commercial production	Jatropha and other crops	Biofuel Africa press statements, <a href="http://www.biofuel.no">www.biofuel.no</a> , 28 February 2008 and 14 October 2009.
ScanFuel	Norway	400,000 ha (60% for agrofuels)	Jatropha	Reuters news agency, 21 November 2008 <a href="http://in.reuters.com/article/oilRpt/idINLK55111220081121">http://in.reuters.com/article/oilRpt/idINLK55111220081121</a> Ghana Business News, 23 February 2010 <a href="http://www.ghanabusinessnews.com/2010/02/23/scanfuel%E2%80%99s-ghana-jatropha-plantation-wipes-out-settlements-farms/">www.ghanabusinessnews.com/2010/02/23/scanfuel%E2%80%99s-ghana-jatropha-plantation-wipes-out-settlements-farms/</a>
Kimminic Corporation	Canada	13,000 ha	Jatropha	Kimminic website: <a href="http://www.kimminic.com/index.htm">www.kimminic.com/index.htm</a>

## Kenya

Japanese company Biwako Bio-Laboratory announced in 2007 plans to establish 30,000 ha of *Jatropha curcas* trees, expanding them to 100,000 ha within 10 years.<sup>12</sup>

Belgium company HG Consulting has taken over the financing of the Ngima-Project to use sugarcane from outgrowers representing 42,000 hectares.<sup>13</sup>

Canadian company Bedford Biofuels has obtained 160,000 ha for Jatropha with another 200,000 additional hectares being secured.<sup>14</sup>

## Madagascar

In Madagascar, UK GEM BioFuels has secured over 490,000 ha of land<sup>15</sup> – about 20% of the country's arable land – for jatropha production and has so far planted 55,700 ha with jatropha (January 2010).<sup>16</sup>

## Mozambique

It has been estimated that by the end of 2007 agrofuel investors had applied for rights to as much as 5 million hectares of arable land and there are unverified reports that government received

over 3000 agrofuel-related proposals during 2007 alone.<sup>17</sup> There are presently over 183 000 ha of arable land allocated to jatropha production.

**Table 3. Examples of land allocated reportedly for biofuel investments in Mozambique**

Company	Country	Land acquired (ha)	Crop type	Source
D1 Oils	UK	5348 ha	Jatropha	Data from CEPAGRI (Centro de Promoção Agrícola), Ministry of Agriculture
Energem Resources	Canada	Rights to 60,000 ha, in discussion over further 60,000 in other provinces; 2,000 ha planted	Jatropha	Interview done during the study, Jatropha! A socio-economic pitfall for Mozambique Company website: <a href="http://www.energem.com/energem_biofuels.asp">www.energem.com/energem_biofuels.asp</a>
SGC Energia	Portugal	20,000 ha	Jatropha	Data from CEPAGRI (Centro de Promoção Agrícola), Ministry of Agriculture
Elaion Ag	Germany	1000 ha	Jatropha	Elaion Web Page <a href="http://www.elaion-ag.de">www.elaion-ag.de</a>
Galp Energia	Portugal	5000 ha	Jatropha	Interview done during the study, Jatropha! A socio-economic pitfall for Mozambique
Sun Biofuels	UK	6000 ha, expected to expand to 15,000 ha	Jatropha	Company website: <a href="http://www.sunbiofuels.com/projects.html?projectId=2&amp;page=0">www.sunbiofuels.com/projects.html?projectId=2&amp;page=0</a>
Aviam	Italy	10,000 ha	Jatropha	Public Source – Jornal Notícias ( <a href="http://www.jornalnoticias.co.mz/pls/notimz2/getxml/pt/contentx/725250">www.jornalnoticias.co.mz/pls/notimz2/getxml/pt/contentx/725250</a> ) company website: <a href="http://www.aviam.it/eng/progetto.html">www.aviam.it/eng/progetto.html</a>
Viridesco	UK	10,000 ha	Jatropha	Viridesco Web Page ( <a href="http://www.viridesco.com">www.viridesco.com</a> )



Sun Biofuels – Manica, Mozambique.

# Appendix

## Nigeria

Land acquisitions are mainly by the state owned Nigerian National Petroleum Corporation (NNPC) with foreign capital and expertise.

**Table 4. Examples of land allocated reportedly for biofuel investments in Nigeria**

Company	Country	Land acquired	Crop type	Source
NNPC	Nigeria	200 square kilometres	Sugarcane	Local information
NNPC	Nigeria	20,000 ha	Sugarcane	<a href="http://www.tribune.com.ng/18072008/tue/eog.html">www.tribune.com.ng/18072008/tue/eog.html</a> : Gombe Alternative source of energy Biofuel blazes the trail- Fadare, Sola. July 15, 2008
NNPC	Nigeria	20,000 ha	cassava and sugarcane	Daily Trust (18 July 2006) Can Nigeria Develop Ethanol As alternative Fuel? – News Analysis. Abuja
Kwara Casplex Limited	Nigeria	15,000 ha	cassava	<a href="http://www.tradeinvestnigeria.com/news/621995.htm">www.tradeinvestnigeria.com/news/621995.htm</a> : Case Study: Innovative agriculture project set to take off in Kwara - Maritz, Jaco, June 18, 2008
NNPC	Nigeria	30,000 ha	cassava	Inyang, Bassey, Cross River and NNPC Partner On Biofuel Plants Daily Independent, (6 February 2008)
Global Biofuels Limited	Nigeria	11,000 ha	sweet sorghum	Jakpor, Francis Biofuel Company unveils renewable source of energy, Lagos, BusinessDay, 13 July 2008 <a href="http://www.businessdayonline.com/energy/12883.html">www.businessdayonline.com/energy/12883.html</a>
NNPC	Nigeria	10,000 ha	cassava	<a href="http://www.guardiannewsngr.com/news/article19/010606">www.guardiannewsngr.com/news/article19/010606</a>
Global Biofuels Limited	Nigeria	30,000 ha	Sweet Sorghum Farm	<a href="http://www.globalbiofuelsltd.com/news/chairmans_peech.html">www.globalbiofuelsltd.com/news/chairmans_peech.html</a>



## Sierra Leone

Table 5. Examples of land allocated reportedly for biofuel investments in Sierra Leone

Company	Country	Land acquired (ha)	Crop type	Source
name unknown	Chinese	5,000	sugarcane	local information, collected by FoE Sierra Leone
name unknown	Chinese	2,000	maize	local information, collected by FoE Sierra Leone
name unknown	Chinese	1,500	sweet potatoes and cassava	local information, collected by FoE Sierra Leone
name unknown	Chinese	2,000	fig-nut and cassava	local information, collected by FoE Sierra Leone
Addax Bioenergy	Swiss	26,000	sugarcane	Turay, Andrew. 12 June 2008. Africa's potential of biomass and production of biofuels under EU sustainability criteria. European Parliament, Workshop: Sustainable biofuel production in tropical and sub-tropical countries. <a href="http://www.europarl.europa.eu/activities/committees/studies.do?language=EN">www.europarl.europa.eu/activities/committees/studies.do?language=EN</a> p 17.

## Tanzania

Some 40 foreign-owned companies including UK Sun Biofuels (obtaining 8,000 ha of “degraded” forest to grow jatropha)<sup>18</sup> and D1 Oils had invested in agrofuel developments in Tanzania, within a context of support from international development agencies, such as the EU Energy Initiative (EUEI), the World Bank, USAID and DFID.

Sugar cane plantations were planned in the Wami basin, Ruipa, Kilosa and on the Usangu Plains. A palm oil project involving out-growers was proposed for Kigoma and D1 Oils planned out-grower schemes for jatropha and sunflower<sup>19</sup>.

Following local and international protests, the Tanzanian government has reportedly suspended investments in biofuel projects until clear procedures and policies have been put in place<sup>20</sup>. There is however no hard evidence to show that this is happening.

- 1 Angolan deputy minister of Urbanisation and Environment, Mota Liz, addressing the 16th session of the UN Commission for Sustainable Development. <http://www.iisd.ca/download/pdf/enb05264e.pdf>
- 2 AFP, <http://www.google.com/hostednews/afp/article/ALeqM5gZ2X0kbwm0tcP7J18t5K7D13qxWw>
- 3 <http://www.macauhub.com.mo/en/news.php?ID=6672>
- 4 [http://www.ipim.gov.mo/group\\_detail.php?tid=12976&type\\_id=20](http://www.ipim.gov.mo/group_detail.php?tid=12976&type_id=20)
- 5 <http://allafrica.com/stories/200901150719.html>
- 6 <http://www.jeuneafrique.com/Article/ARTJAJA2547p081-084.xml0/france-interview-vincent-bollorebollore-contre-attaque.html>
- 7 [http://news.mongabay.com/2009/0710-drc\\_china\\_palm\\_oil.html](http://news.mongabay.com/2009/0710-drc_china_palm_oil.html)
- 8 <http://www.eni.it/attachments/media/press-release/2008/05/congo-19may-08-eng/ProgettoFoodPlusBiodieselENG.pdf>
- 9 Ethiopia sets aside land for foreign investors, Reuters, July 29, 2009, <http://in.reuters.com/article/domesticNews/idINLT58431220090729>
- 10 Rezene Fessehaie National Coordinator, Ethiopian Institute of Agricultural Research, IUCN Regional Workshop on Bio-fuel Production and Invasive Species 20- 22 April 2009, Nairobi Kenya
- 11 <http://www.addisfortune.com/Hiber%20Sugar%20Joins%20Forces%20for%20Convenience%20Sake.html>
- 12 <http://allafrica.com/stories/200711190217.html>
- 13 <http://www.hgconsulting.eu/Ngima-Project-at-Homa-Bay.html>
- 14 <http://www.bedfordbiofuels.com/company/plantations/>
- 15 <http://www.gembiofuels.com/>
- 16 [http://www.gembiofuels.com/images/stories/docs/Operational\\_Update\\_0110.pdf](http://www.gembiofuels.com/images/stories/docs/Operational_Update_0110.pdf)
- 17 WELZ, A.(2009). Ethanol's African Land Grab. Available in <http://www.motherjones.com/environment/2009/03/ethanols-african-landgrab#com>
- 18 <http://www.sunbiofuels.com/projects.html?projectId=1&page=1>
- 19 [http://www.africanbiodiversity.org/abn\\_old/documents\\_SSL\\_items/ABN\\_Agrofuels\\_Africa.pdf](http://www.africanbiodiversity.org/abn_old/documents_SSL_items/ABN_Agrofuels_Africa.pdf)
- 20 <http://www.theeastafrican.co.ke/news/-/2558/667648/-/ay9vngz/-/>



© Yonge Nawe

D1 Oils plantation in Swaziland.





**Friends of  
the Earth  
Europe**



**for the people | for the planet | for the future**

#### **Friends of the Earth Europe member groups**

**Austria** Global 2000  
**Belgium** Les Amis de la Terre  
**Belgium (Flanders)** Voor Moeder Aarde  
**Bulgaria** Ecoglasnost  
**Croatia** Zelena Akcija  
**Cyprus** Friends of the Earth  
**Czech Republic** Hnutí Duha  
**Denmark** NOAH  
**England, Wales and Northern Ireland** Friends of the Earth  
**Estonia** Eesti Roheline Liikumine  
**Finland** Maan Ystävät Ry  
**France** Les Amis de la Terre  
**Georgia** Sakhartvelos Mtsvaneta Modzraoba  
**Germany** Bund für Umwelt und Naturschutz Deutschland (BUND)  
**Hungary** Magyar Természetvédok Szövetsége  
**Ireland** Friends of the Earth  
**Italy** Amici della Terra  
**Latvia** Latvian - Vides Aizsardzibas Klubs  
**Lithuania** Lietuvos Zaliuju Judėjimas  
**Luxembourg** Mouvement Ecologique  
**Macedonia** Dvizhenje na Ekologistite na Makedonija  
**Malta** Moviment għall-Ambjent  
**The Netherlands** Vereniging Milieudefensie  
**Norway** Norges Naturvernforbund  
**Poland** Polski Klub Ekologiczny  
**Scotland** Friends of the Earth Scotland  
**Slovakia** Priatel'ia Zeme - Slovensko  
**Spain** Amigos de la Tierra  
**Sweden** Miljöförbundet Jordens Vänner  
**Switzerland** Pro Natura  
**Ukraine** Zelenyi Svit

#### ***Friends of the Earth Europe***

Mundo-b building, Rue d-Edimbourg 26,  
1050 Brussels, Belgium  
tel: +32 2 893 1000 fax: +32 2 893 1035  
e: info@foeeurope.org [www.foeeurope.org](http://www.foeeurope.org)