

# Seedling

Biodiversity, Rights and Livelihood

July 2007



## Agrofuels special issue





Girona 25, pral., Barcelona E-08010, Spain  
Tel: +34 933 011 381  
Fax: +34 933 011 627  
Email: [seedling@grain.org](mailto:seedling@grain.org)  
Web: [www.grain.org](http://www.grain.org)

GRAIN is an international non-profit organisation which promotes the sustainable management and use of agricultural biodiversity based on people's control over genetic resources and local knowledge. To find out more about GRAIN, visit [www.grain.org](http://www.grain.org).

## Seedling

*Seedling* is GRAIN's quarterly magazine, published in January, April, July and October. It provides background articles, news, interviews and much more on the issues GRAIN is working on. *Seedling* is available free both in paper format and on GRAIN's *Seedling* website ([www.grain.org/seedling](http://www.grain.org/seedling)). To receive *Seedling* in paper format or to inform us of a change of address, please contact GRAIN at the address or email above.

*Seedling* is published as a collective effort of GRAIN staff. If you would like to contribute an article or other information to *Seedling*, please contact us. Outside contributions are attributed to their respective authors.

You are free to reproduce, translate and disseminate all or part of *Seedling* for non-commercial use. We ask only that the original source be acknowledged and that a copy of your reprint be sent to the GRAIN office.

Printed on 80% recycled paper  
Deposito Legal No. B-25.166.92, Spain  
ISSN: 1002-5154

## Contents

### Editorial

- 1 In this special agrofuels issue...**  
GRAIN

### Articles

- 2 Stop the agrofuel craze!**  
GRAIN
- 10 Corporate power: agrofuels and the expansion of agribusiness**  
GRAIN
- 25 Agrofuels in Asia**  
*Almuth Ernsting*
- 34 Jatropha – the agrofuel of the poor?**  
GRAIN
- 36 The new scramble for Africa**  
GRAIN
- 51 Soya nexus in South America**  
GRAIN
- 56 Fear over growing WIPO–FAO links**  
*Geoff Tansey*

### Interviews

- 46 Latin American voices**  
*João Pedro Stedile, Max Thomet,  
Norma Giarraca, Germán Velez*

### Resources

- 53 Ten best resources on agrofuels**

Front cover: *Farmers and activists destroy GM soya crops in Paraguay.*  
(Photo: <http://www.lasojamata.org>)

Back cover: *"Hungry for agrofuels"*  
(Cartoon by Ören Ginzburg, [www.HungryManBooks.com](http://www.HungryManBooks.com))

## In this special agrofuels issue...

We are devoting almost all of this edition to a single topic – the rapid expansion of biofuels across much of the globe. In the process of gathering material from colleagues and social movements around the world, we have discovered that the stampede into biofuels is causing enormous environmental and social damage, much more than we realised earlier. Precious ecosystems are being destroyed and hundreds of thousands of indigenous and peasant communities are being thrown off their land. We believe that the prefix bio, which comes from the Greek word for “life”, is entirely inappropriate for such anti-life devastation. So, following the lead of non-governmental organisations and social movements in Latin America, we shall not be talking about biofuels and green energy. Agrofuels is a much better term, we believe, to express what is really happening: agribusiness producing fuel from plants to sustain a wasteful, destructive and unjust global economy.

We begin with an introductory article that, among other things, looks at the mind-boggling numbers that are being bandied around: the Indian government is talking of planting 14 million hectares of land with jatropha; the Inter-American Development Bank says that Brazil has 120 million hectares that could be cultivated with agrofuel crops; and an agrofuel lobby is speaking of 379 million hectares being available in 15 African countries. We are talking about expropriation on an unprecedented scale.

In the following article, we take a closer look at the way the corporations are using this stampede into agrofuels to extend their takeover of world farming. We are experiencing a veritable frenzy of investment, as companies from different sectors leap on the bandwagon. An unparalleled process of mergers, takeovers and alliances is tightening the grip of a relatively small group of huge interlinked agro-industrial groups. Many analysts believe that the market is heading for a crisis of over-production. Once the bubble has burst, only the most powerful groups will remain, thus furthering the process of concentration.

In the remainder of this Seedling, we then focus on the situation in different parts of the world: Latin America, Asia and Africa. We analyse what is happening and talk to the people involved. The conclusion is pretty much the same across the board: the push for agrofuels amounts to nothing less than the re-introduction and re-enforcement of

the old colonial plantation economy, redesigned to function under the rules of the modern neoliberal, globalised world. Indigenous farming systems, local communities and the biodiversity they manage have to give way to provide for the increased fuel needs of the industrialised world.

The justification for the large-scale cultivation of agrofuels is the need to combat climate change, but the figures make a mockery of this claim. According to the US government, global energy consumption is set to increase 71 per cent between 2003 and 2030, and most of that will come from burning more oil, coal and natural gas. By the end of this period, all renewable energy (including agrofuels) will make up only 9 per cent of global energy consumption. It is a dangerous self-delusion to argue that agrofuels can play a significant role in combating global warming.

As is spelt out in this special edition, the wide-scale cultivation of agrofuels will actually make things worse in many parts of the world, notably South-east Asia and the Amazon basin, where the drying of peat lands and the felling of tropical forest will release far more carbon dioxide into the atmosphere than will be saved by using agrofuels.

One of the main causes of global warming is agro-industrial farming itself, and the global food system associated with it. Although it is scarcely ever mentioned, farming is responsible for 14 per cent of greenhouse gas emissions. Within farming, the largest single cause is the use of chemical fertilisers, which introduce a huge amount of nitrogen into the soil and nitrous oxide into the air. Changing land use (mainly deforestation and thus linked to the expansion of crop monoculture) is responsible for another 18 per cent. And a large part of global transport, which is responsible for a further 14 per cent of emissions, stems from the way in which the agro-industrial complex moves large quantities of food from one continent to another.

It is abundantly clear that we can halt climate change only by challenging the absurdity and the waste of the globalised food system as organised by the transnational corporations. Far from contributing to the solution, agrofuels will only make a bad situation worse. GRAIN believes it is time to declare unambiguously “No to the agrofuels craze!”

*We would like to hear from you. Please do send us an email to [agrofuels@grain.org](mailto:agrofuels@grain.org) with your thoughts and we will publish a selection: see page 56 for more details.*

**The editor**



# Stop the agrofuel craze!

GRAIN

One can hardly open a newspaper today without being exposed to the promise of a new era of plentiful green energy that humanity is about to enter. Although the oil companies will continue to pump oil for a long time to come, a growing consensus is emerging that it is high time to start reducing the amount of oil that we burn, as it is one of the main causes of climate change, air pollution and other environmental disasters. The way to do this, it is claimed, is by using biological material to produce energy for fuel: crops such as maize and sugar cane distilled into ethanol, and crops such as oil palm, soya and canola transformed into biodiesel. And at a later stage, when biotechnology has caught up, we are told that potentially any biomass could be turned into fuel: weeds, trees, the oil we have used for cooking... At first sight the advantages seem truly limitless. It would seem that the emissions of greenhouse gases responsible for global warming will be substantially reduced as the CO<sub>2</sub> emitted by the cars running on the biologically derived fuels has previously been captured by the plants that produced them. Countries will become more self-sufficient in their energy needs as they will be able to grow fuel themselves. Rural economies and communities will benefit as there will be a new

market for their crops. And poor countries will have access to a bountiful new export market.

This rosy picture is painted by those who have an interest in promoting such fuels. But does this new world of green and clean energy, benefiting everyone, really exist? We are receiving reports of the territories of indigenous peoples being occupied and razed to make way for fuel plantations, of further rainforest being felled to plant millions of hectares with oil palm and soya, and of workers living in slave-like conditions in Brazil's ethanol sugar-cane plantations. As we said in the editor's letter, we believe that agrofuels is a better word than biofuels to describe the process behind this destruction: using agriculture to produce fuel to feed cars.

## Bio or Business?

To understand what is really going on, it is important – first and foremost – to emphasise that the agrofuels agenda is not being drafted by policymakers concerned to avert global warming and environmental destruction. The way that agrofuels are going to be developed has already been defined, and that path is now being followed,



by huge transnational corporations and their political allies. Those in control are some of the most powerful corporations on the globe: in the oil and car industries, and among the world's food traders, biotechnology companies, and global investment firms.

The world's food processing companies and traders have already wedged a solid foot in the agrofuels door. Companies such as Cargill and ADM already control agricultural commodity production and trade in many parts of the world, and for them agrofuels represent an opportunity for a major expansion of their business and profits. The biotechnology companies, such as Monsanto, Syngenta and others, are already investing heavily to deliver crops and trees that fit the requirements of the agrofuels processors. They promise everything from crops that produce more energy to trees that produce less woody material and enzymes that more easily break down the material into agrofuels-suitable feedstock. All of this will be achieved, of course, by means of genetic engineering, for the agrofuels revolution comes with GMOs incorporated. For the petroleum companies – BP, Shell, Exxon, and so on – the agrofuels craze is a perfect opportunity to invest their petrodollars in this new energy commodity and keep a finger in both pies. For the car companies, agrofuels are the perfect pretext for escaping the pressure of the regulators and public opinion to produce more efficient cars or perhaps even to make fewer of them! Now all they would have to do is make them bio-compatible. And the investment companies have lots of spare cash to chip in and help finance the make-over.

It is this conglomerate of powerful corporations that is writing the agrofuels agenda. These corporations sometimes compete but much more often form alliances in order to increase their profits. The world's plantation companies are teaming up with the major commodity traders to control the production chain from the crop all the way to the industrial markets. Monsanto and Cargill are working together to produce new, genetically engineered varieties of maize that can supply both the agrofuels and the animal feed markets. British Petroleum has linked up with Dupont to create "biobutanol", mixing agrofuels with petroleum, to the benefit of both companies. The list is endless, and a maze of new, interlinked collaborations is being created between what are already the world's most powerful corporations. The new billionaires and other investors, together with

the world's taxpayers, who contribute through the subsidies that their governments hand out to the sector, are injecting huge amounts of fresh money into these corporate networks. The result is a massive expansion of global industrial agriculture and strengthened corporate control over it.

### Blueprint for green energy?

A lot of the press attention on agrofuels in the past year has focused on George Bush's announcement that he would turn the US into an agrofuels-growing nation and thus shield it from over-dependence on petroleum imports from unreliable countries that are – or might become – dominated by terrorists. But it is plain that agrofuels cannot fulfil this function. Even if the country's entire corn and soya harvests were used to produce agrofuels, they would satisfy only 12 per cent of the country's current thirst for petrol and 6 per cent of its need for diesel.<sup>1</sup> The situation in Europe is even worse: the UK, for example, could not grow enough agrofuels to run all its cars even if it put the whole country under the plough. Economically too, agrofuels are not viable. Most of the US and Europe's agrofuels operations rely heavily on subsidies, and they probably wouldn't survive without them. A report from the Global Subsidies Initiative<sup>2</sup> found that agrofuels subsidies in the US alone currently amount to between US\$5.5 billion and US\$7.3 billion per year, and they are growing fast. Subsidies handed out by the US and the EU to their agrofuels industries and growers are already resulting in direct competition across the world between crops for food and crops for fuel, creating havoc in poor countries through increased food prices, and reducing global food reserves. The FAO recently calculated that, despite bumper harvests in 2007, the poorest countries will see their cereal import bill increase by one quarter in the current season alone, due to agrofuels demand.<sup>3</sup> But this is only the beginning: if agrofuels are to make even a small dent in the oil consumption of industrialised and industrialising countries, there will have to be a massive supply of them from plantations in the South.

In the words of a consultancy firm that carried out a study on the subject for the Inter-American Development Bank: "The growth of biofuels will give the advantage to countries with long growing seasons, tropical climates, high precipitation levels, low labor costs, low land costs ... and the planning, human resources, and technological knowhow to take advantage of them."<sup>4</sup> The study, titled "A Blueprint for Green Energy in the Americas", makes the kind of thinking behind this agrofuels master-



1 See, for example, Brian Tokar, "Running on Hype", *Counterpunch*, November 2006. <http://tinyurl.com/w5swf>

2 Doug Koplow, "Biofuels: at what cost? Government Support for Ethanol and Biodiesel in the United States", *GSI*, October 2006. <http://tinyurl.com/2s5mpw>

3 FAO, "Crop Prospects and Food Situation", Rome, No. 3, May 2007. <http://tinyurl.com/2kswxw>

4 "A Blueprint for Green Energy in the Americas", prepared for the Inter-American Development Bank by Garten Rothkopf (the quote is from a powerpoint presentation about the study). <http://tinyurl.com/39e67b>

plan frighteningly clear. The report's working assumption is that global agrofuels production will have to increase nearly fivefold to keep up with demand and to get agrofuels to supply just 5 per cent of global transport energy consumption by 2020 (today it supplies 1 per cent). The way to do that is through massive "capacity expansion", building new infrastructure and markets, and promoting "technical innovation". Brazil, already a major ethanol producer, is singled out as the place where a large part of this challenge of greatly increased production can be met, as there is so much land available there. Brazil already has some 6 million hectares under agrofuel crops, but the report calculates that there are over 120 million hectares in the country that could efficiently be used in this way. The Brazilian government is now formulating a new vision for the country's economic future, involving a fivefold increase in the land devoted to sugar production – to 30 million hectares.<sup>5</sup>

Another such blueprint report concludes that, together, sub-Saharan Africa, Latin America and East Asia can in the future provide more than half of the all the required agrofuels, but only if "the present inefficient and low-intensive agricultural management systems are replaced by 2050 by the best practice agricultural management systems and technologies".<sup>6</sup> In other words: replace millions of hectares of local agricultural systems, and the rural communities working in them, with large plantations. Substitute monocultures and genetic engineering for biodiversity-based indigenous cropping, grazing and pasture farming systems. And put in control the multinational corporations that manage these kinds of systems best. In addition, you take over the millions of hectares of what the blueprinters euphemistically call "wastelands" or "marginal soils", conveniently forgetting that millions of people in local communities make a living from these fragile ecosystems. And where there are no indigenous farming systems to replace, you just take the forests.

### Millions of hectares, billions of dollars

In fact, even to achieve the current minuscule agrofuels contribution to the world's transport fuel, such destruction is already happening. The figures are simply mind-boggling: the scale is in millions of hectares and billions of dollars. The prime biodiesel crop is oil palm. Colombia, which had hardly any oil palm plantations a few decades ago, had planted 188,000 hectares of this crop by 2003, and is currently planting another 300,000 hectares. The target is to reach one million hectares in a few years time.<sup>7</sup> Indonesia, which had only about half

a million hectares under oil palm cultivation in the mid-1980s, has now over 6 million hectares in production, and plans to plant an additional 20 million hectares in the next two decades, including the world's largest oil palm plantation of 1.8 million hectares in the heart of Borneo.<sup>8</sup> Soya, another crop in the agrofuels race, is now being planted on 21 per cent of Brazil's cultivated land – close to 20 million hectares – and the country is likely to clear an additional 60 million hectares for this crop in the near future in response to the global market pressure for agrofuels.<sup>9</sup> This is in addition to its planned fivefold increase in sugar plantations. The Indian government, not wanting to be left behind, is promoting the rapid expansion of another biodiesel crop, jatropha: by 2012 some 14 million hectares are to be planted on what it has classified as "wasteland",<sup>10</sup> but reports are already coming in of farmers being dispossessed of fertile land by companies wanting to grow jatropha.<sup>11</sup> All of this amounts to nothing less than the re-introduction of the colonial plantation economy, redesigned to function under the rules of the modern neoliberal, globalised world.

Where are the local farmers in this massive scheme? They are simply not there. Despite all the talk of opportunities for local communities to benefit from energy farming and local economies being revitalised by new markets, the agrofuels revolution is firmly heading in precisely the opposite direction. Part of a system of corporate-controlled plantation agriculture, the new agrofuels will destroy local employment rather than create it. By way of example, just ask the rural families of Brazil: the recent growth in sugar-cane, soya and eucalyptus plantations has resulted in the widespread expulsion of small farmers from their lands, often with the use of violence. Between 1985 and 1996, 5.3 million people were forced off the land, with the closure of 941,000 small and medium-sized farms,<sup>12</sup> and the rate of expulsion has intensified greatly over the last decade.

In Brazil, the majority of rural families need only a few hectares each to make a living. Plantations, by contrast, occupying millions of hectares, provide hardly any jobs: for every 100 hectares, a typical eucalyptus plantation provides one job, a soya plantation two jobs, and a sugar-cane plantation ten jobs.<sup>13</sup> The situation is pretty much the same across the world.

### Combat climate change?

All of these crops, and all of this monoculture expansion, are direct causes of deforestation,

5 Miguel Altieri and Elisabeth Bravo, "The ecological and social tragedy of crop-based biofuel production in the Americas", April 2007. <http://tinyurl.com/3dkpto>

6 E. Smeets, A. Faaij, I. Lewandowski, "A quick scan of global bio-energy potentials to 2050: analysis of the regional availability of biomass resources for export in relation to underlying factors", Copernicus Institute, Utrecht University, March 2004. NWS-E-2004-109.

7 World Rainforest Movement Bulletin, Issue 1122, November 2006. <http://tinyurl.com/2nb4y9>

8 Ibid.

9 Miguel Altieri and Elisabeth Bravo, "The ecological and social tragedy of crop based biofuel production in the Americas", April 2007. <http://tinyurl.com/3dkpto>

10 UNCTAD Report, 2006: <http://tinyurl.com/2ap3e3>

11 For a discussion on the problems with jatropha in India, see: <http://tinyurl.com/2ktt3v>

12 *Folha de S. Paulo*, 18 June 1998. <http://tinyurl.com/2sdtjn>

13 Brazilian Forum of NGOs and Social Movements for the Environment and Development (FBOMS): "Agribusinesses and biofuels: an explosive mixture", Rio de Janeiro, 2006, p. 6.



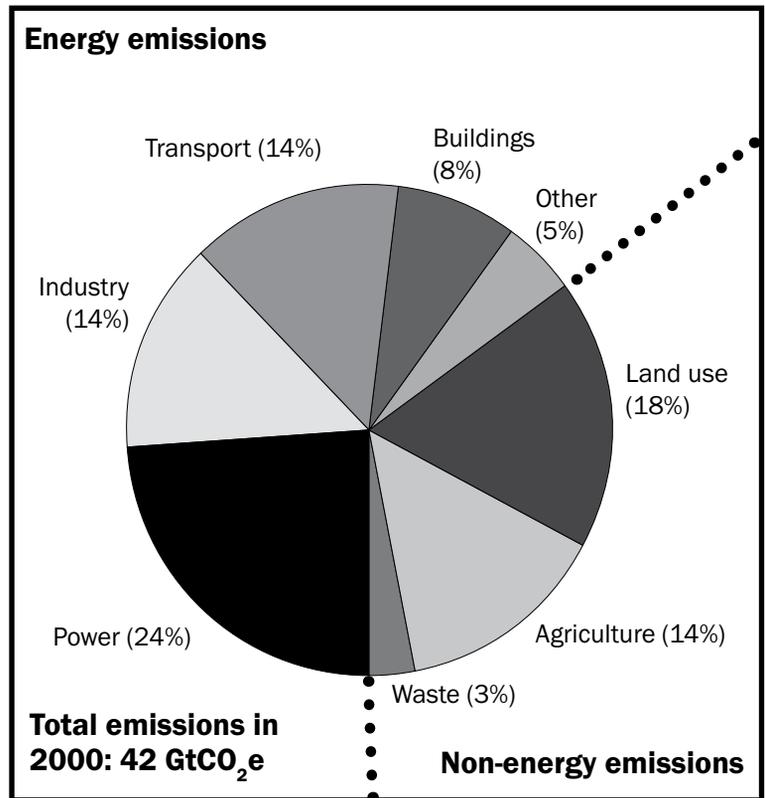


eviction of local communities from their lands, water and air pollution, soil erosion, and destruction of biodiversity. They also lead, paradoxically, to a massive increase of CO<sub>2</sub> emissions, due to the burning of the forests and peat lands to make way for agrofuel plantations. In a country like Brazil, way ahead of everybody else in producing ethanol for transport fuel, it turns out that 80 per cent of the country's greenhouse gases comes not from cars but from deforestation, partly caused by the expanding soya and sugar-cane plantations. Recent studies have shown that the production of one tonne of palm-oil biodiesel from peatlands in South-east Asia creates 2–8 times more CO<sub>2</sub> than is emitted by burning 1 tonne of fossil-fuel diesel.<sup>14</sup> While scientists debate whether the “net energy balance” of crops such as maize, soya, sugar cane and oil palm is positive or negative, the emissions caused by the creation of many of the agrofuels plantations send any potential benefit, literally, up in smoke.

It is important to hammer this point home: far from helping to address the global warming crisis, agrofuels as pushed in the current corporate monoculture plantation model deepen it!

It is amazing that in the entire agrofuels–climate change debate none of the policymakers go back to the question of what the main causes of greenhouse gas emissions are. All attention is focused on growing crops to run cars. Of course, global transport is a major producer of greenhouse gases, accounting for 14 per cent of all emissions but, though this is hardly ever mentioned, agriculture itself is responsible for exactly the same percentage share of greenhouse gas emissions. If you add to that the emissions from changing land use (18 per cent of the total – mostly due to deforestation, which in turn is mostly caused by the encroachment of agriculture and plantations into the world's forests), one can only conclude that agriculture, and especially the industrial agricultural model, is the main factor behind global warming.<sup>15</sup> And this is precisely the type of agriculture that is being promoted by agrofuels.

According to the Stern Review, a major report on the economics of climate change commissioned by the British government, fertilisers are the largest single source of emissions from agriculture (followed by livestock and wetland rice cultivation), as they bring huge amounts of nitrogen into the soil, which is later emitted into the atmosphere as nitrous oxide. The same report calculates that total agriculture emissions are expected to rise by almost 30 per cent in the period to 2020, with around half



### Greenhouse gas emissions in 2000, by source

of the expected increase coming from the increased use of fertilisers on agricultural soils.<sup>16</sup> Developing countries are expected to almost double their use of chemical fertilisers over the same period,<sup>17</sup> with the new energy crop plantations undoubtedly responsible for an important part of this expansion.

Another serious – and often overlooked – problem with agrofuel crops is the soil erosion and depletion they cause. While the soil erosion caused by crops such as maize and soya has been well documented,<sup>18</sup> the problems caused by the slash-and-burn strategies of the plantation companies in the world's forests cause even more serious problems. The FAO has calculated that, if current practices continue, the Third World alone might lose over 500 million hectares of rain-fed cropland because of soil erosion and degradation. This was before the agrofuel craze, and the situation is likely to get even worse with the promised “second generation” of agrofuels. When these are being grown, the companies tell us, it will then be possible to put any agricultural residues and any “biomass waste” into the distiller to increase the production of fuel. But, as farmers and agronomists know, “biomass waste” does not exist; it is the organic matter that you have to put back after harvest in order to

14 Almuth Ernting et al. “Open letter to Al Gore”, March 2007. <http://tinyurl.com/2owref>

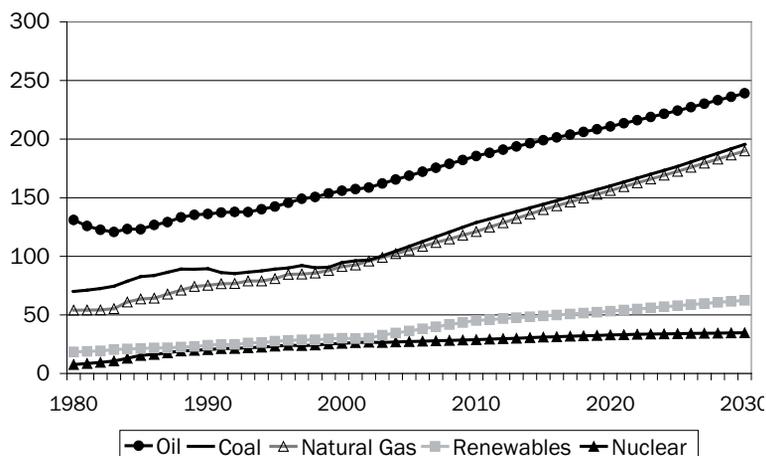
15 Percentages from: “Stern Review on the economics of climate change, Part III: The Economics of Stabilisation”, p. 171. <http://tinyurl.com/ye5to7>

16 “Stern Review on the economics of climate change”, Annex 7.g.

17 IFPRI calculates that developing countries will increase chemical fertiliser use from 62.3 nutrient tonnes in 1990 to 121.6 nutrient tonnes in 2020. B. Bump and C. Baanante, “World Trends in Fertilizer Use and Projections to 2020”, 2020 Vision Brief 38, IFPRI. <http://tinyurl.com/362sbx>

18 See, for example, Miguel Altieri and Elisabeth Bravo, “The ecological and social tragedy of crop based biofuel production in the Americas”, April 2007. <http://tinyurl.com/3dkp0t>

**Global marketed energy use by fuel type, 1980–2030 (quadrillion Btu)**



Sources – History: Energy Information Administration (EIA), International Energy Annual 2003 (May–July 2005); Projections: EIA, System for the Analysis of Global Energy Markets (2006)

maintain the soil's fertility. If you don't, you mine the soil and contribute to its destruction. And that is precisely what will happen if the world's topsoil has to compete with the biodistillers.

Another issue overlooked by their proponents is that many agrofuel crops are heavy consumers of water. We are already in the middle of a serious water crisis, with about a third of the world's population facing water scarcity in one way or another. Irrigation consumes as much as three quarters of the world's fresh water, and agrofuel crops will add a lot to that demand. The International Water Management Institute (IWMI) released a report in March 2006 warning that the rush to biofuels could worsen the water crisis.<sup>19</sup> Another report from the same institute, looking at the situation in India and China, concludes: "it is unlikely that fast growing economies such as China and India will be able to meet future food, feed and biofuel demand without substantially aggravating already existing water scarcity problems."<sup>20</sup> Almost all of India's sugar cane – the country's major ethanol crop – is irrigated, as is about 45 per cent of China's chief agrofuel crop, maize. India and China, countries with scarce water resources, which are already being seriously depleted or polluted, are expected to increase their demand for irrigation water by 13–14 per cent by 2030, just to keep food production at present levels. If these countries move massively into agrofuels, these crops will consume substantially more of the scarce irrigation water: IWMI calculates that, in a country like India, each

litre of sugar-cane ethanol requires 3,500 litres of irrigation water.

In short, agrofuels not only compete with food crops for land, but they will also soon be consuming much of both the organic matter needed to keep the soil healthy and the water that crops need to grow. Or, expressed in a different way, countries joining the agrofuel craze are exporting not just crops to keep cars running, but also invaluable topsoil and irrigation water needed to keep their people fed.

## The energy equation

Of course, the main problem with the agrofuels debate is that it doesn't address the one issue that should be central to this whole discussion: energy consumption. Actually, it is precisely the focus on agrofuels that allows attention to be drawn away from this central question.

According to the US government's "2006 International Energy Outlook", global consumption of marketed energy is projected to rise by 71 per cent between 2003 and 2030. The US government's report is quick to point out that a lot of this growth will come from developing countries, especially those that have most successfully jumped on the trade and industrialisation bandwagon. Where will this additional energy come from? The consumption of oil will increase by some 50 per cent, the consumption of coal, natural gas and renewable energy will each almost double, and nuclear power will grow by one third. By 2030, all renewable energy (including agrofuels) will constitute not more than a meagre 9 per cent of global energy consumption. Virtually all of the rest of the projected increased energy consumption will come from burning more fossil fuels.<sup>21</sup>

Please read the previous paragraph again, study the graph, and memorise the figures. This is the sobering picture that we should be staring at. If anything, renewable energy will make only a tiny – but tiny – dent in the projected increase of marketed energy. All the rest stays the same or gets worse.

There is simply no escape: we have to reduce energy consumption if we are to survive on this planet. There is no point asking the car companies to make their cars a bit more energy-efficient if the number of cars is going to double and if public policies continue to be geared towards making this happen. There is no point asking people to turn off their lights if the entire economic system continues



19 Food, biofuels could worsen water shortage – report. IWMI press coverage. <http://tinyurl.com/2sqsls9>

20 "Biofuels: implications for agricultural water use", Charlotte de Fraiture, et al. International Water Management Institute, P O Box 2075, Colombo, Sri Lanka.

21 EIA, "International Energy Outlook 2006". See especially figures 8 and 10. <http://tinyurl.com/2vxkys>

to be oriented solely towards moving goods around the globe from countries where the corporations producing them can obtain the highest profit margins. This is exactly what is happening with the current agrofuel push.

The global food system's tremendous waste of energy is certainly one of the elements that merits close examination. Looking at agriculture alone, the difference in energy use between industrial and traditional agricultural systems could not be more extreme. There is a lot of talk about how much more efficient and productive industrial agriculture is compared with traditional farming in the global South but, if one takes into consideration energy efficiency, nothing could be further from the truth. The FAO calculates that, on average, farmers in industrialised countries spend five times as much commercial energy to produce one kilo of cereal as do farmers in Africa. Looking at specific crops, the differences are even more spectacular: to produce one kilo of maize, a farmer in the US uses 33 times as much commercial energy as his or her traditional neighbour from Mexico. And to produce one kilo of rice, a farmer in the US uses 80 times the commercial energy used by a traditional farmer in the Philippines!<sup>22</sup> This "commercial energy" that FAO speaks of is, of course, mostly the fossil-fuel oil and gas needed for the production of fertilisers and agrochemicals and used by farm machinery, all of which substantially contribute to the emission of greenhouse gases.

But then, agriculture itself is responsible for only about a quarter of the energy used to get food to our tables. The real waste of energy and the pollution happen in the broader international food system: the processing, packaging, freezing, cooking, and moving of food around the globe. Crops for animal feed may be grown in Thailand, processed in Rotterdam, fed to cattle somewhere else, which are then eaten in a McDonalds in Kentucky. Every day 3,500 pigs travel from different European countries to Spain, while on the same day 3,000 different pigs travel in the opposite direction. Spain imports 220,000 kilos of potatoes every day from the UK,

while it exports 72,000 kilos of potatoes daily ... to the UK. The Wuppertal Institute calculated the distance travelled by the ingredients of a strawberry yogurt sold in Germany (which could easily be produced in Germany itself) to be no fewer than 8,000 kilometres.<sup>23</sup>

This is where the absurdity and the waste of the globalised food system as organised by the transnational corporations become really apparent. In the industrialised food system, no fewer than 10–15 calories are spent to produce and distribute 1 calorie's worth of food. The US food system alone uses 17 per cent of the US's total energy supply.<sup>24</sup> None of this is really needed. The World Energy Council calculates that the total amount of energy required to cover basic human needs is roughly equivalent to a mere 7 per cent of the world's current electricity production.<sup>25</sup>

To address climate change, we don't need agrofuel plantations to produce fuel energy. Instead, we need to turn the industrial food system upside down. We need policies and strategies to reduce the consumption of energy and to prevent waste. Such policies and strategies already exist and are being fought for. In agriculture and food production, they mean orienting production towards local rather than international markets; they mean adopting strategies to keep people on the land, rather than throwing them off; they mean supporting sustained and sustainable approaches for bringing biodiversity back into agriculture; they mean diversifying agricultural production systems, using and expanding on local knowledge; and they mean putting local communities back in the driving seat of rural development. Such policies and strategies imply the use and further development of agro-ecological technologies to maintain and improve soil fertility and organic matter and in the process to sequester carbon dioxide in the soil rather than expelling it into the atmosphere. And they also require a head-on confrontation with the global agro-industrial complex, now stronger than ever, that is driving with its agrofuel agenda in exactly the opposite direction. 

22 FAO, "The energy and agriculture nexus", Rome 2000, tables 2.2 and 2.3. <http://tinyurl.com/2ubntj>

23 Examples from Gustavo Duch Guillot, Director of "Veterinarios sin fronteras", Barcelona 2006. <http://tinyurl.com/2mlprh>

24 John Hendrickson, "Energy Use in the U.S. Food System: a summary of existing research and analysis", Center for Integrated Agricultural Systems, UW-Madison, 2004.

25 World Energy Council. "The challenge of rural energy poverty in developing countries". <http://tinyurl.com/2vcu8v>



***"Grain alcohol? Haven't touched the stuff since college"***

[www.grist.org/news/maindish/2006/12/14/brazil](http://www.grist.org/news/maindish/2006/12/14/brazil)

## Sustainable agrofuels: no thanks!

Some of the concerns about the current and potential destruction caused by the agrofuel craze are slowly trickling down. In response to the mounting evidence that the agrofuels rush will undermine rather than support efforts to stop climate change, we often find suggestions in blueprint reports, investment bank plans and corporate public relations materials that measures should be taken to ensure that these fuels are going to be produced sustainably. These suggestions are usually buried somewhere after page 50.

A place where policy makers do seem a little more pro-active is the European Union, which is currently developing a revised “Biofuels Directive”, which will regulate the decision that biofuels should make up 10 per cent of all transport fuels in the EU by 2020. A public consultation exercise was launched to find out how this can be done in a sustainable way. Ignoring the whole question of whether sustainability is possible at all, the European Commission proposes to establish standards and certification procedures based on three criteria:

- 1 With respect to a reduction in greenhouse gases, the agrofuel in question should score at least a little bit better than petrol. (The Commission suggests 10 per cent – so much for the “major contribution” that agrofuels are claimed to make in the fight against climate change!)
- 2 To avoid the risk of actually adding to greenhouse-gas emissions, the expansion of agrofuel plantations should not happen in ecosystems with “high carbon stocks”.
- 3 The plantations should not encroach on areas of “exceptional biodiversity”.

Unfortunately, as far as agrofuels are concerned, none of this will make much difference. This is for two reasons. First, the most important sustainability questions are left out of the equation. Second, whatever sustainability policy the EU puts in place will have little impact on what is being planted where, for the engines behind the destruction lie elsewhere.

In all the talk of sustainability, the indirect and macro-economic impacts of the agrofuel expansion are not being addressed at all. For example, it is true that in Brazil some soya farms are a direct cause of deforestation, but according to Dr Philip Fearnside, a researcher at INPA (Brazil’s National Institute for Amazon Research), “they have a much greater impact on deforestation by consuming cleared land, savannah and transitional forests, thereby pushing ranchers and slash-and-burn farmers ever deeper into the forest frontier. Soybean farming also provides a key economic and political impetus for new highways and infrastructure projects, which accelerate deforestation by other actors.” As with soya in Brazil, so with oil palm in Indonesia and jatropha in India.

The criteria for sustainability do not include the socio-economic impact on local communities of being thrown off their land to make way for expanding agrofuel plantations. But what about the sustainability of these people’s livelihoods, their food security? What about the inhumane working conditions on many of the plantations, the human rights abuses, including murders, at the hands of plantation companies or paramilitaries, or security forces acting on their behalf? These are real issues, but the European Commission prefers to ignore them, and it explicitly excludes “social criteria” when defining “sustainable biofuels”.

Perhaps most important of all, the EU’s sustainability criteria cannot deal with the fact that the rules of the game of agrofuel production are not set by such policy measures at all, but rather by the price of agrofuel feedstock, which is rising largely



because of the mandatory biofuel targets that the same EU (and other) policy makers want to establish for their car users. NASA scientists have already shown that the rate of Amazon deforestation directly correlates with the world market price of soya; this is likely to be the case with other agrofuel crops.

In addition, and as documented elsewhere in this Seedling, the tremendous expansion of agrofuel business is increasing the financial and political power of the agribusiness transnationals and the local sugar and oil-palm barons that lie behind it. Agrofuel distilleries are being built all over the world at great speed, and the corporations behind them will not allow sustainability considerations to interfere with their supply chains. The decisions on when, where, how much and by whom agrofuel crops are to be planted will be dictated by corporate conglomerates, not by sustainability policy makers in Brussels.

If, despite all this, the EU were able to impose sustainability criteria on the biofuels it imports, other less scrupulous importers would be more than happy to buy up the feedstock that Europe rejected, probably obtaining it at an even lower price. In that context, the first reaction to the EU sustainability plans from Thomas Smitham, an official in the US Mission to the EU in Brussels, was telling. "From the US perspective, we think some of the sustainability criteria ... you're tying yourself in knots over [it]," he said during a panel discussion, adding "I think it's going to be enormously difficult to figure that out." For once, we tend to agree with the US government's point of view.

The sustainability discussion functions as a smokescreen behind which an agenda already defined by the world's most powerful corporations forges ahead. The best way forward with agrofuels is not to try to regulate them, but rather to stop and think whether we want them.

## What are agrofuels?

There are two main types of agrofuel: **ethanol** and **biodiesel**

**Ethanol** can be obtained from three main types of raw material: products rich in saccharose, such as sugar cane, molasses and sweet sorghum; substances rich in starch, such as grain (maize, wheat, barley and so on); and through the hydrolysis of substances rich in cellulose, such as wood and agricultural residues. So far, ethanol has been made commercially only from the first two, though intensive research is being carried out to produce a 'next-generation ethanol' from cellulose. Ethanol can be used on its own as a fuel to replace petrol, but this requires specially adapted engines. More frequently, it is blended with petrol.

**Biodiesel** is derived from vegetable oils (such as palm oil, rapeseed oil and soya oil) or animal fats. It is used to replace hydrocarbon diesel. It can be used pure or in a blend. For instance, B30 diesel indicates that the diesel contains 30 per cent biodiesel.



Corporate interest in agrofuels has gone from a casual trot to a full-on stampede over the last few years. For business and politicians alike, agrofuels are certainly one of the more palatable “renewable” forms of energy because they fit easily into the existing petroleum-based economy. But they also present opportunities for profit that the new order of “green” business has wasted no time in capturing. Big money is now flowing into agrofuel projects across the world – with big consequences.

# Corporate power

## Agrofuels and the expansion of agribusiness

GRAIN

**T**he wave of investment in agrofuels is restructuring agribusiness itself. New, powerful players are converging into the sector. Cosmetics corporations are selling biodiesel. Big oil is buying up plantations. Wall Street speculators are swinging deals with feudal sugar barons. All of this money circulating around the globe is reorganising and intensifying transnational structures, linking the most brutal landowning class of the South with the most powerful corporations of the North.

This article looks at the expanding corporate investment in and control over agrofuels. It provides an overview of who is investing in agrofuels and where the money is going, shedding light on

how the development of this alternative fuel, promoted for its environmental advantages and the economic benefits it brings to farmers, is already being managed by transnational corporations and absorbed into their profit strategies and expansion plans.

### Where the money is coming from

Is it a trend, a bubble or a structural reconfiguration? It is difficult to say at this point. The most appropriate way to describe the investment in agrofuels over the last few years would probably be to call it a flood. Hardly a day goes by without reports of a new multi-million-dollar agrofuel refinery going up somewhere. So who's investing in all this new construction?



**Table 1. Some transnational corporations investing in agrofuels**

<b>Agribusiness</b>	ADM, Cargill, China National Cereals, Oils and Foodstuffs Import & Export Corporation, Noble Group, DuPont, Syngenta, ConAgra, Bunge, Itochu, Marubeni, Louis Dreyfus
<i>sugar</i>	British Sugar, Tate & Lyle, Tereos, Sucden, Cosan, AlcoGroup, EDF & Man, Bajaj Hindusthan, Royal Nedalco
<i>palm oil</i>	IOI, Peter Cremer, Wilmar
<i>forestry</i>	Weyerhaeuser, Tembec
<b>Oil</b>	British Petroleum, Eni, Shell, Mitsui, Mitsubishi, Repsol, Chevron, Titan, Lukoil, Petrobrás, Total, PetroChina, Bharat Petroleum, PT Medco, Gulf Oil
<b>Finance</b>	Rabobank, Barclays, Société Générale, Morgan Stanley, Kleiner Perkins Caufield & Byers, Goldman Sachs, Carlyle Group, Kohsla Ventures, George Soros

As one would expect, big agribusiness is one of the main backers. Agriculture commodity companies like Archer Daniels Midland (ADM), Noble, and Cargill are investing heavily. So too are those companies that specialise in the sugar trade, palm oil, and, to a lesser extent, forestry.

Then there's the money from the energy sector. Big oil companies such as British Petroleum (BP) and Mitsui are making substantial investments. So too are those oil companies more directly linked to their home government's agrofuel agendas, such as Petrobrás of Brazil and PetroChina, and smaller firms such as PT Medco of Indonesia and the Philippine National Oil Company.

Perhaps the most aggressive source of investment in agrofuels, however, comes from the world of finance. A number of the largest and most important houses of globalised capital have stepped into the agrofuels game. Financing is coming from banks such as Rabobank, Barclays and Société Générale, and from equity funds, such as Morgan Stanley and Goldman Sachs, that specialise in buy-outs and can quickly shift billions of dollars from one part of the world to another.

Then there are the billionaires: George Soros, the hedge fund guru, owns ethanol/agribusiness operations in Brazil; Bill Gates owns one of the US's largest ethanol producers; Vinod Khosla,

of Google fame, is a major investor in a range of agrofuel production and technology ventures; and Sir Richard Branson, owner of Virgin Group and now Virgin Fuels, has a growing portfolio of agrofuel investments. These titans of globalisation not only bring their vast fortunes to the agrofuel gold rush, but their heavy political clout as well.

Of course, behind all of this, lessening the risks to the world's great "speculators", are the governments and the international lending agencies, such as the World Bank and the regional development banks. The billions they provide through direct subsidies, tax breaks, publicly built transportation routes, carbon-trading schemes and soft loans are what make agrofuels economically viable.

**Where the money is going**

*"Growing the crop is where the profit will be"*  
Nancy DeVore, Bunge Global Agribusiness.

There is certainly a connection between today's agrofuel binge and the jump in oil prices that began a couple of years ago. But an oil price spike hardly makes for the kind of long-term investments that big players are currently making in agrofuels. The price of oil, even if global reserves are shrinking, is still determined by speculation, which is only loosely correlated to supply and demand. Just as fast as the price of oil can rise, so can it fall, taking



**The Carlyle Group: an agrofuel corporation?**

The Carlyle Group is a US\$55-billion equity fund and notorious Washington insider that has made a number of agrofuels-related acquisitions over the past few years through its renewable energy groups. Today its portfolio includes one of Brazil's largest sugar-cane ethanol groups (see box on the Crystalsev conglomerate on page 20) and numerous agrofuel plants in the US and Europe, which it manages with agribusiness majors like Bunge and ConAgra. In January 2007 it joined Goldman Sachs and Richard Morgan, one of President George Bush's most important financial backers, in taking over the energy distribution corporation Kinder Morgan, which handles roughly 30 per cent of the ethanol sold in the US.

**Table 2. Corporate control of key agrofuel feedstocks**

	Top corporations	Corporate control
Maize merchants (US)	Cargill, ADM	Top 3 control over 80% of US maize exports
Maize seeds (US)	Monsanto, DuPont, Syngenta	Monsanto controls 41% of global market
Sugar trade (Brazil)	Cargill, Louis Dreyfus, Cosan/Tereos/Sucden	Cargill is the largest shipper of raw sugar from Brazil
Palm oil trade (Global)	Wilmar, IOI, Synergy Drive, Cargill	60% of palm oil area in Malaysia is owned by corporations, only 9% is owned by individual landowners.
Soya trade (Global)	Bunge, ADM, Cargill, Dreyfus	3 companies control 80% of European crushing; 5 companies control 60% of Brazilian production
Soya seeds (global)	Monsanto, DuPont	Monsanto controls 25% of global market

Sources: ETC Group, WWF, UK Food Group, Cargill.

down agrofuels producers in the process. This is precisely what happened to the ethanol industry in the 1980s.

The difference in the agrofuels market today is not so much the price of oil but the level of support from government. For an array of political reasons, certainly related to the growing corporate interest in “renewables”, the governments of the major oil-consuming countries have mandated or are in the process of mandating that transport fuel contain minimum percentages of ethanol and biodiesel. Together, the subsidies and this guaranteed demand boil down to a big captive market for agrofuel corporations.

But even so, agrofuels remain on the cusp of viability, with profits still at the mercy of another important variable – the price of feedstock, the plant matter used to produce the agrofuel.

The cost of the feedstock can make or break an agrofuel operation, and it is not easy for an agrofuel producer to control the price. This is because the agrofuel industry is forever in competition with other markets, especially for food, which depend on the same crops or the same lands. Indeed, the very success of agrofuels – manifest in their increasing use – drives up prices for feedstocks and tightens supplies. And a price rise can be lethal because agrofuel companies have few options for passing down costs.

The surest way out of this quandary is for the agrofuel companies to control the production and supply of their own feedstocks. This is why today most agrofuel factories are being built with simultaneous investments in crop production. The clear trend is towards the formation of fully

integrated transnational agrofuel networks, bringing together everything from seeds to shipping.

Here the agribusiness corporations with their already well-developed global agriculture commodity chains have the advantage over their competitors. For the foreseeable future, feedstocks produced in sufficient quantities for large-scale agrofuel operations will be crops – soya, maize, palm oil and sugar – whose production and trade are dominated by a small number of transnational corporations. It is not surprising, then, that much of the investment money pouring into agrofuels is either coming from or being channelled to these corporations. Agrofuels thus bring a double bonus to big agribusiness corporations: they make money not only in the production and sale of agrofuels but also through the global commodities boom that this new source of demand helps to generate. (see “The palm-oil-biodiesel nexus” on page 16)

There are, however, some limits to how deep and fast big agribusiness will go with its investment in agrofuels. Cargill, for instance, has openly stated its preference for selling into food and feed channels when push comes to shove. Why get tied up selling soya to agrofuel producers when you can make more money by turning it into cooking oil? <sup>1</sup> ADM may be the world’s biggest ethanol producer, but its main business still comes from converting maize into animal feed or into high-fructose corn syrup for companies like Coca-Cola and Pepsi, and it wouldn’t want high maize prices to jeopardise those markets. <sup>2</sup> These big agribusiness corporations are happy to sell agrofuels to increase overall business, but only under their careful coordination and control, so as not to lose their cherished flexibility and traditional profit channels. <sup>3</sup>

1 Steve Karnowski, “Cargill, ADM differ in food-duel debate”, AP, 17 May 2006: <http://tinyurl.com/3bxtw7>

2 Alexei Barrionuevo, “Springtime for ethanol”, New York Times, 23 January 2007. <http://tinyurl.com/3y9v9t>

3 Tom Philpott, “ADM, high-fructose corn syrup and ethanol”, Gristmill blog, posted 10 May 2006. <http://tinyurl.com/kxmqq>

## Wall Street on the farm

### George Soros

George Soros bought the Argentine company Pecom Agribusiness in 2002, which gave him over 100,000 hectares of land in Argentina for beef and dairy cattle, soya, maize, wheat, rice, and sunflowers production.<sup>1</sup> Then, in 2004, Soros' company, now called Adenco, expanded into Brazil, buying 27,000 hectares of land in the states of Tocantins and Bahia for the production of cotton and coffee. In 2006, Adenco entered into a partnership with Brazil's Vieira family, a coffee-growing clan from Minas Gerais state, to set up a mill with a productive capacity of one million tonnes of sugar cane per year. The Vieira family are now shareholders in Adenco and manage the group's Brazilian operations. The group continues to expand, and soon its four sugar processing plants in Brazil expect to be milling 12 million tonnes of sugar cane, converting much of it into ethanol. Meanwhile, in the US, Soros announced that his company is constructing a plant for maize-based ethanol, which will process 50 million tonnes of maize, harvested from an area of 50,000 hectares, with similar plants under consideration for Argentina.

### Goldman Sachs

Goldman Sachs, one of the world's largest investment banks, not only handles the financing for many of the major agrofuel ventures, but is also one of the leading investors in "renewable" energy, having invested upwards of US\$1 billion already, with much of it going into agrofuels.<sup>2</sup> It co-owns leading cellulosic ethanol developer Iogen, as well as energy distribution companies Kinder Morgan and Green Earth Fuels, which are working together on an 86-million-gallon biodiesel plant and storage terminal in Texas that can handle 8 million barrels of biodiesel. Moving even more directly into agribusiness, Goldman Sachs became a co-owner in 2006 of China's two largest meat companies, making the investment bank China's largest investor in this sector.<sup>3</sup>

1 Fabiane Stefano and Livia Andrade, "George Soros ataca no campo", Dinheiro rural, October 2006, <http://tinyurl.com/365e4z> (also translated into English by Ethablog), <http://tinyurl.com/2ww5wb>

2 The CEO of British Petroleum, Lord Browne of Madingley, has served on Goldman Sachs Board since 1991. In 2007 he retires from both positions, following a highly publicised trial over allegations made by his former lover. See: <http://tinyurl.com/33jkpc>

3 Dominique Patton, "Foreign equity group wins bid for China's leading meat processor", MeatProcess.com, 16 May 2006. <http://tinyurl.com/2v9zg6>

As a result, the surplus money flowing into agrofuels that is not absorbed by big agribusiness is being diverted to the construction of alternative transnational commodity networks with their own feedstock production and supply chains. This surge in speculative investment is generating a wave of new alliances and business groupings, bringing together financial companies, shippers, traders, and producers. In some cases major investment funds, such as the Carlyle Group, are even setting up their own fully integrated agribusiness/energy networks (see box above: "Wall Street on the farm").

Other companies are sidestepping already-formed commodity chains by launching production in geographic areas where agribusiness is less present and where production costs are low. Several Chinese corporations struck deals in the Philippines and Indonesia in early 2007 to convert 1 million hectares in each country to the production of agrofuel crops for export.<sup>4</sup> Brazilian ethanol producers are expanding sugar-cane production

into neighbouring Paraguay, where costs of production are estimated to be even lower than in Brazil. Similarly, the Maple Corporation, a US energy firm, is setting up a sugar-cane plantation and ethanol plant in Peru to take advantage of the country's low production costs and favourable ethanol export access to the US.<sup>5</sup>

Another way to sidestep supply problems is through the production of feedstocks that are less tightly controlled by big agribusiness. Both BP and ConocoPhillips have struck deals with major meat processors for the supply of animal fats to produce biodiesel.<sup>6</sup> BP, along with several other companies, is also developing jatropha as a feedstock, while Chinese and South Korean corporations are busy making deals in Nigeria and Indonesia for the large-scale production of cassava.

On the research and development side, however, most of the money is focused on cellulosic ethanol, the supposed next generation of agrofuels. Many people within the agrofuel industry believe



4 GRAIN, "Hybrid rice and China's expanding empire", 6 February 2007,

[www.grain.org/hybridrice/?lid=176](http://www.grain.org/hybridrice/?lid=176)

"Indonesia and China sign biofuel deal", AFP, 9 January 2007.

5 "US-based Maple invests in Peru ethanol production", Reuters, 20 March, 2007.

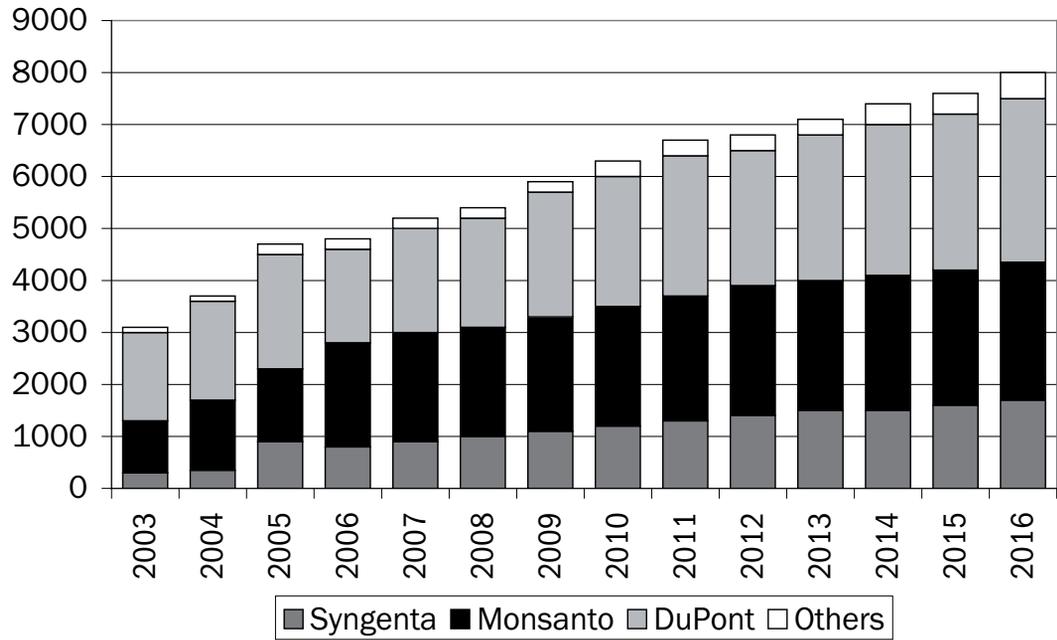
<http://tinyurl.com/39psuj>

6 "BP Brews the fat", Engineer Online, 3 April 2006,

<http://tinyurl.com/2qe2lh>

"Pig fat to be turned into biodiesel", BBC, 19 April 2007. <http://tinyurl.com/2mrfvf>

Maize seed and biotech sales worldwide (US\$ millions)



Source: Cropnosis

that economically viable methods will soon be developed to convert the cellulosic matter of plants into ethanol, opening the way for the large-scale use in agrofuel production of crops such as switchgrass and trees, or the use of the complete plant of existing agrofuel crops such as sugar cane and maize, rather than just the extruded fluid or the corn-cobs, as at present. Those who develop and patent these cellulosic technologies will clearly gain an enormous amount of leverage within the agrofuel commodity chain, so it is no surprise that Big Oil is strategically channelling its investments into this area or that biotechnology companies like Monsanto are already securing monopolies over the seeds and genes of promising next-generation crops, such as jatropha or miscanthus. Already, just a few companies, with large patent portfolios and tight alliances with major agrofuel corporations, dominate the research and development into the enzymes needed to make cellulosic ethanol viable (see “Corporate control, the sequel” on page 18).

**Political winds**

Agrofuels are not, of course, just about business. They are highly political, and the corporations that control their production both shape and follow the shifting political currents. Although there is a general euphoria for agrofuels among most governments, national policies are influenced by the different dynamics among business lobbies, geopolitical concerns and trade politics. Government and corporations in China, South Korea and Japan are looking to other countries for the production and

supply of raw materials. Brazil wants to supply the world with both ethanol fuel and technologies, and has been negotiating packages with countries on every continent to that end. The US and Europe see agrofuels as the answer to everything from climate change to farm crises to problems with oil-rich “rogue” states. As a result, agrofuel deals are being struck all over the place, determining where the agrofuels are being produced, by whom and for whom, and, perhaps most importantly, how they are being traded. Nowhere is this more apparent than in the development of the global market for sugar-cane ethanol (see “The sugar-cane-ethanol nexus” on page 20).

**Green agribusiness? Don’t be fuelled**

There is nothing new about farming for energy. Most farms have always produced the energy that their families and animals use to farm the land. The difference with agrofuels, however, is that they involve the farming of energy as a commodity, which, as such, is completely integrated into the circuits of transnational agribusiness and finance. Agrofuel production, therefore, follows the dictates of the global money managers, the heads of investment banks or agribusiness corporations, who preside over immense concentrations of wealth and who, in this era of neo-liberal globalisation, can shuffle it around to wherever it generates the most profit.

Thanks to the deep, long-term commitment of governments, it is now more certain that agrofuels





*"We are trying to get cars to eat bread and people to eat oil"*

*Source: El Roto, El País, Madrid, 2007*

will be profitable. So the big money is rushing in, urging agribusiness and its agroexport model of production to move more deeply and more quickly than ever before in its takeover of world farming.

One clear pattern to this investment in agrofuels is that the money is increasingly going into the construction of fully integrated agrofuel networks, involving production, shipping, processing and distribution. It is also flowing to a few low-cost centres of production, especially Brazil for sugar cane, the US for maize and Indonesia for palm oil, although substantial sums are also going to countries that sign on to special deals or that have preferential trade access to the US, Japan or the EU. Production and control over the supply of feedstocks are critical, and almost all new agrofuel projects now come with plans for high-tech plantations or contract growing arrangements, often managed by local agribusiness and often on lands used for food production or communal pastures and forests.

Agrofuel projects are thus generating new alliances or expanding existing ones between local producers and suppliers of the feedstock and foreign corporations. Typically, foreign investors

set up joint ventures with companies controlled by large landholding and politically powerful families, getting these families to manage the production side of things. Agrofuels thus deepen the relationships between transnational capital and local landed elites, with profound consequences for struggles over land and local food production.

This evolving web of global production and trade routes for the extraction and export of agrofuels will become ever more tightly controlled by corporations with time. The technology for the next generation of biofuel crops is in the hands of a few companies and their corporate partners, who will use patents and other monopoly rights to shut out competitors and control the market. Moreover, corporations are already starting to turn to brands and standards as a way to consolidate market shares.<sup>7</sup>

None of this has anything to do with preventing climate change or even lessening foreign dependence on oil, as the US government likes to claim. The bottom line is that agrofuels are a new way for corporations, speculators and powerful agro-barons to make more money, sell more commodities, and consolidate their control over the earth. 

<sup>7</sup> The Peter Cremer Gruppe of Germany, for instance, one of the largest global traders of oleochemicals, sells a branded biodiesel in the US, Europe and Australia called Nexsol.



# The palm-oil- K

"Palm oil is like green gold now", said Sukanto Tanoto, Indonesia's richest individual and owner of palm-oil, forestry and energy corporation RGM International.<sup>1</sup> Indeed, the global palm-oil market is booming and this is largely because of the growing production of biodiesel. Palm oil is not only one of the main feedstocks for biodiesel, it's also the primary substitute for rapeseed oil, which is in short supply in Europe because of its conversion into biodiesel.

The rising prices are bad news for biodiesel producers that rely on palm oil for their feedstock, except where the biodiesel producer also happens to be the producer of the palm oil. "For us, [biodiesel] is an additional downstream market", said a director of Malaysia's Golden Hope Plantations. "Big plantation companies may not make much money on biodiesel, but we'll be supported by the group, get our palm oil at a good price and our overall earnings will remain stable."<sup>2</sup>

This is one of the main reasons why investment in palm-oil-based biodiesel refineries is being led by palm-oil producers. In Indonesia, Tanoto's Pt Asianagro company is ploughing its profits into the construction of a 150,000-tonne-per-year biodiesel refinery. Nearby, the Bakrie Group, another Indonesian palm-oil major, is building a new US\$25 million biodiesel factory, and expanding its plantations over thousands of hectares to supply the feedstock. Similarly, Indonesia's Surya Dumai Group is in the midst of constructing its own US\$30-million biodiesel refinery.<sup>3</sup>

In Malaysia and Singapore, home base to some of the world's largest palm-oil producers, biodiesel activity is at frenzied levels. Companies are merging, buying others out and forming all kinds of alliances to take advantage of the new market opportunities. Late in 2006, the three leading Malaysian palm-oil companies controlled by the state investment holding company Permodalan Nasional Bhd (Golden Hope Plantations, Sime Darby, and Kumpulan Guthrie) merged to form Synergy Drive, the world's largest listed oil-palm company. The combined company now controls 526,000 hectares of oil-palm plantations in Malaysia and Indonesia (see article on page 25) and is involved in several planned

biodiesel factories.

For the major producers, a key focus is on expanding and integrating refining capacity both at home and abroad. In early 2007, the Federal Land Development Authority (FELDA), the largest palm-oil manufacturer in the world, purchased US-based Twin Rivers Technologies, which operates the US's largest biodiesel processing facility. Malaysia's IOI Corporation recently took over Unilever's European palm-oil processing operations, bought up two Malaysian palm-oil refinery companies and then publicly acknowledged its intentions to take over Asiatic Development, another major palm-oil producer and refiner. IOI is currently constructing a 200,000-tonne-per-year biodiesel refinery in Johor, Malaysia and Europe's largest palm-oil refinery in Rotterdam, the Netherlands, with a capacity to refine 900,000 tonnes a year into cooking oil or biodiesel. The Kuok Group is in similar expansion mode (see box on page 17).

Cargill, for its part, has been steadily expanding and integrating its palm-oil operations to take advantage of the surge in demand for the commodity. The company operates two refineries in Malaysia and a crushing plant in Indonesia. It has also recently boosted the capacity of its Rotterdam plant to refine tropical oils – an additional 200,000 tonnes per year of coconut oil and 300,000 tonnes per year of palm oil. On the production side, Cargill launched its first palm-oil plantations in Sumatra, Indonesia in 1997. Then, in 2005, Cargill and Temasek Holding, a private investment arm of the Singapore government, acquired the CDC Group's palm plantations in Indonesia and Papua New Guinea. These include a plantation in Kalimantan, Indonesia and a majority shareholding in four other plantations in the region – three in Indonesia and one in Papua New Guinea. Cargill's existing plantations were merged into the new joint venture, registered in Singapore as CTP Holdings, with Cargill, as its majority shareholder, assuming complete managerial and operational responsibilities.

Overall, then, the demand for biodiesel is encouraging consolidation in the palm-oil sector and a shift to a more transnational orientation and structure, with tighter integration between foreign companies and palm-oil producers and suppliers.



1 APRIL-Watch, 11 May 2007.  
<http://aprilwatch.blogspot.com/>

2 Shibu itty Kuttickal, "Palm oil merger may deter some projects", ICIS News, 1 December 2006.  
<http://tinyurl.com/2jg724>

3 For a breakdown of biodiesel production in Asia, see Credit Suisse, "Biofuel Sector: Global comparisons of a fast-growing sector", 30 August 2006, <http://tinyurl.com/2sawse> and Liaw Thong Jung, "Equity Focus: KNM Group Berhad", Aseambankers Malaysia Equity Research, 15 February 2007.  
<http://tinyurl.com/3yh8xl>



# biodiesel nexus

**Table 3. Examples of transnational palm-oil-based biodiesel webs**

Producer/supplier	Foreign partner	Project
Golden Agri-Resources (Singapore/Indonesia, owned by the Sinar Mas Group)	China National Offshore Oil Co. and Hong Kong Energy Ltd.	US\$5.5 billion, eight year project to develop crude palm oil-based biodiesel, and sugarcane- or cassava-based bioethanol on around one million hectares of land in Papua and Kalimantan, Indonesia
PT Mopoli Raya (Indonesia, subsidiary of the Bolloré Group)	Merloni (Italy, owned by Indesit/Fineldo)	Building a 250,000 tonne per year biodiesel plant in Kuala Tanjung, North Sumatra called, Nusantara Bio Fuel.
Kulim (Malaysia, owned by the Johor Corporation)	Peter Cremer Gruppe (Germany)	Launched a joint venture for the construction and operation of two biodiesel plants in Malaysia and Singapore
IOI and Golden Hope Plantation (Synergy Drive)	BioX Group (Netherlands)	In 2006, BioX signed a 10-year supply agreement with IOI and Golden Hope Plantations. Deal with IOI includes the construction of a biofuel powerplant at IOI's refinery in Rotterdam. BioX Group also has joint ventures with Tradewinds Plantations and Sime Darby for carbon trading projects at their oil palm refineries.

## Robert Kuok and the Wilmar web

Early in 2007, Robert Kuok, South-east Asia's richest individual, brought the various palm-oil segments of his empire together under a single entity.<sup>1</sup> The new company, Wilmar International, was formed through a US\$4.3-billion merger between Kuok's PPB Oils and Wilmar, which involves not only the Kuok family, but also ADM and China National Cereals, Oils and Foodstuffs Import & Export Corporation (COFCO), China's largest food company and one of its most aggressive investors in agrofuel production.<sup>2</sup> Through the merger, ADM becomes Wilmar International's second largest shareholder.<sup>3</sup>

The Kuok Group of companies is an important but largely unknown agrofuels player, both in biodiesel and ethanol. Wilmar International holds around 435,000 hectares of oil-palm plantations and 25 refineries in Indonesia, Malaysia and Singapore. Through its alliance with ADM, it has a 300,000-tonne-per-year biodiesel refinery in Singapore, and the two companies have another three refineries set to come into production in Riau, Indonesia, each with a capacity of 350,000 tonnes per year, as well as a refinery in Rotterdam with a capacity of 1 million tonnes per year, making Wilmar easily one of the largest biodiesel producers in the world. The company, through its Malaysian subsidiary Josovina, is also to be the exclusive palm-oil supplier to Global Bio-Diesel, a 500,000-tonne-per-year biodiesel operation being built in Malaysia by the South Korean company Eco Solutions. And when it comes to the important trade link in the biodiesel chain, Kuok owns Singapore-based Pacific Carriers – one of the largest shipping companies in South-east Asia.

The Kuok Group's ethanol activities spring from its large sugar operations. Since he first ventured into the sugar business in the 1950s, Robert Kuok has steadily expanded the global reach of his operations. In the 1970s, together with the Salim Group, an Indonesian palm-oil and food company owned by Kuok's close associate Liem Sioe Liong, he established the country's largest sugar plantation and became the main supplier to the Suharto government's purchasing agency. Then, in 1987, Kuok, through his Singapore-based company Kerry International, purchased a 30 per cent share of the French sugar giant, Sucres et Denrées (Sucden), which controls around 15 per cent of the global sugar trade. More recently, Kuok, through his individual holdings and through Sucden, became the second largest shareholder in Cosan, Brazil's largest sugar processor and ethanol producer.

1 Robert Kuok also owns Hong Kong's influential English daily, the *South China Morning Post*. For more information, see the website of Not The South China Morning Post: <http://www.ntscmp.com/>

2 Wan Zhihong, "COFCO to invest US\$1b in ethanol", *China Daily*, 19 October 2006.

3 "ADM to acquire shares in Wilmar International", FirstCall, 14 December 2006. <http://tinyurl.com/3xdpds>



# Corporate corn

## Alternative energy crops and next

There is no mystery to big biotech's love affair with agrofuels. More agrofuels translates into more soya and more hybrid maize production – meaning more sales of GM seeds and pesticides. Robert Fraley, the Vice-President of Monsanto and co-inventor of its Roundup Ready crops, gleefully told an audience at a recent agribusiness exhibition in Argentina that the growth of agrofuels was “unimaginable in terms of what it's going to mean for corn and soybean surface”.<sup>1</sup>

Not long ago Fraley's main message was about how genetic modification would fill the bellies of the world's poor; now it's about how GM will fuel the world's cars. It's merely a question, it seems, of adapting the message to the latest fashionable concern. Anyway, as Fraley pointed out, Monsanto and Cargill are working on new maize varieties through their joint venture, Renessen, that Cargill can simultaneously process into both ethanol and animal feed, thereby resolving, at least for Cargill, the tension between its markets for fuel and food.

Renessen's maize breeding says a lot about how companies like Monsanto stand to benefit from the agrofuels push. Agrofuels open up new markets for GM crops, be they maize, soya or canola, that have so far been constrained in Europe, Japan and elsewhere by regulatory hurdles based on concern about the effects of GM on human health. But Renessen's GM maize is directed at the two outlets – agrofuels and animal feed – that have the least amount of regulation. It is a perfect arrangement for both companies: Cargill sidesteps trade impediments and Monsanto secures its position within the empire of the world's biggest grain trader.

Similar arrangements are popping up elsewhere. In 2006, DuPont and Bunge announced that they were expanding the scope of their joint venture in soya research and development, known as Solae, to include agrofuels.<sup>2</sup>

Big biotech's interest in agrofuels, however, does not stop with the main GM crops. These companies are also at the centre of the search for alternative feedstocks and the elusive next generation of cellulosic ethanol, where similar scenarios of monopoly control are unfolding (see article on jatropha on page 34).

Monsanto is a leading player in R&D for both miscanthus and switchgrass, two of the most promising feedstocks for the future cellulosic ethanol market. In early 2007, Mendel Biotechnology, which is partly owned by Monsanto, bought the German-based Timplant Biotechnik company, acquiring its hybrid miscanthus cultivars and its entire miscanthus germplasm collection – the largest in the world, with over 1,000 accessions. Mendel also has miscanthus breeding operations in China (a centre of miscanthus diversity) and in the US, where it is working on high-yielding GM varieties, potentially in collaboration with BP's new Energy Biosciences Institute at the University of Berkeley.<sup>3</sup> On 13 June 2007, BP announced that it was funding Mendel to conduct a five-year research programme on agrofuel feedstocks and that it had purchased shares in the company, giving it a seat beside Monsanto on Mendel's Board.<sup>4</sup>

Monsanto's involvement in switchgrass occurs through its partnership with another US biotechnology company, Ceres, which is also connected to BP's Energy Biosciences Institute.<sup>5</sup> Ceres claims to be

### Big oil, big tree plantations

If cellulosic agrofuel systems eventually make it to market, eucalyptus and other tree plantations will be important sources of feedstock. Big oil is already moving to secure its place in this matrix. Chevron, for instance, has a partnership with Weyerhaeuser, one of the world's largest forestry companies, with hundreds of thousands of hectares of eucalyptus plantations in Uruguay and Brazil. Shell Oil is developing cellulosic ethanol from wood chips in partnership with Iogen Corp and Choren Industries of Germany, even though, between 2000 and 2004, it put the brake on its biomass programme and sold off its forestry subsidiaries in Africa and South America.

1 Presentation at the Agro-Expo, Junin, Argentina, 15 March 2007.

2 <http://tinyurl.com/2j4bth>

3 James Zhang, “Feedstock improvement: A biotechnology business opportunity perspective”, 26 April 2007, <http://tinyurl.com/2mm2dl>  
Richard Brenneman, “Corporate academic web entangles UC-BP proposal”, Berkeley Daily Planet, 23 March 2007. <http://tinyurl.com/2vgs6v>

4 Company press release. <http://tinyurl.com/36ff47>

5 Emily Heaton and Frank Dohleman, “Practical experiences with miscanthus and switchgrass in Illinois”, 26 April 2007. <http://tinyurl.com/39z6r>



# Control, the sequel

## Next-generation agrofuels

**Table 4. Companies developing cellulosic agrofuel enzymes and their corporate partners**

Diversa/Celunol	Syngenta, Dupont/Tate&Lyle, Khosla Ventures
logen	Shell, Goldman Sachs
Genencor (Danisco)	Tembec, Mascoma/Kohsla Ventures, Cargill, Dow, Royal Nedalco
Novozymes	DuPont, Broin, COFCO. China Resources Alcohol Corporation
Dyadic	Abengoa, Royal Nedalco

“improving switchgrass as a crop via selection of improved types but, more importantly, is bringing its proprietary genes, tools and procedures to enhance the improvements more rapidly and provide the plant with attributes ideally suited to being farmed on large acreages to produce consistently higher yields”. Ceres claims to have the largest proprietary collection of fully sequenced plant genes, with patents on more than 75,000 genes.

Seed companies are also manoeuvring to ensure that the current agrofuel crops continue to serve as feedstocks as processing systems evolve. CanaVialis, the world’s largest sugar-cane breeding company, and sugar-cane biotech company Allelyx, which are both owned by the Brazilian conglomerate Votorantim, are working on new GM varieties of sugar cane for ethanol companies like Cosan, one of their corporate partners. So is Monsanto. In December 2006, a Monsanto official told the Brazilian newspaper *Valor Econômico* that the company was conducting studies on new transgenic sugar-cane varieties for the Brazilian market in partnership with an unnamed company.<sup>6</sup> A few months later Monsanto revealed that this company was Votorantim and that they intended to commercialise GM Roundup Ready sugar-cane varieties in Brazil by 2009 (see box on the Ometto Conglomerate on page 22).<sup>7</sup> Syngenta, meanwhile, recently secured access to inedible sugar-cane varieties with ultra-high quantities of cellulose, developed by biotech firm Celunol when Celunol was bought by Diversa – an enzyme- and microbe-bioprospecting company controlled by Syngenta.

For its part, DuPont, the world’s second largest seed company, is developing what it calls an “integrated corn-based biorefinery” with funding from the US Department of Energy and in co-operation with Diversa, Tate & Lyle, John Deere and leading US ethanol producer Broin. It will probably utilise high-starch maize varieties developed by DuPont, and a micro-organism that can convert corn stover into ethanol that Diversa isolated from the sugar sap of tropical agave plants. On the downstream side, DuPont’s biorefinery should feed into the biobutanol production and marketing joint venture it has with BP and British Sugars.

Syngenta, which recently merged its North American seed business with DuPont’s, is also working with Diversa to develop maize for cellulosic agrofuel production.<sup>8</sup> In 2008 it expects to launch a GM maize variety that produces an enzyme developed by Diversa that converts starch into sugar for ethanol. The idea behind the GM variety is to bring down the costs of the liquid enzymes used for cellulosic ethanol production—the critical blockage point in making these next generation agrofuels economically viable.<sup>9</sup>

It is precisely there, at the level of the enzymes, where corporate rivalry in the development of next-generation agrofuels is most intense. The research and development into these enzymes is in the hands of just a few biotechnology companies, each already part of larger corporate groupings or “teams” trying to develop fully integrated systems for cellulosic ethanol production.<sup>10</sup>

6 “Monsanto studies entry into Brazil transgenic cane market”, Dow Jones, 7 December 2006. <http://tinyurl.com/2pp6g8>

7 MST, “Brasil: Votorantim e Monsanto produção cana transgênica”, Brasil, 30 May 2007. <http://tinyurl.com/3845hd>

8 In April 2006, Syngenta and DuPont announced the formation of a 50-50 joint venture, GreenLeaf Genetics. See Andrew Pollack, “DuPont and Syngenta join in modified seed venture”, New York Times, 11 April 2006.

9 The African Centre for Biosafety published a critical analysis of this maize variety, which contributed to the variety being rejected by South African regulators. See: <http://tinyurl.com/2u2ehh>

10 <http://tinyurl.com/338mmo>



# The sugar-cane

**T**he US and Brazil are, by far, the dominant centres of global ethanol production. Together they account for about 70 per cent of the ethanol currently produced in the world. Both of these countries also dominate the global export production of the crops from which they produce their ethanol. The US, which makes its ethanol out of maize, produces about 70 per cent of global maize exports. Brazil makes its ethanol from sugar cane, and today it accounts for over half of the raw sugar traded around the world. In these two countries, then, the supply of ethanol feedstocks occurs within global commodity chains, which are tightly controlled by a few transnational corporations and influenced by trade relations.<sup>1v</sup>

Brazil's emergence as a major sugar exporter began at the end of the 1980s when its sugar sector was liberalised. It was then that foreign investment started to flow in, expanding the scale and area of sugar production and orienting the industry towards exports. But it was really only during the past few years that Brazilian sugar started flooding the global market. In 2004, Brazil won a key case at the World Trade Organisation against the EU sugar regime. Brazil's victory undermined long-standing colonial trade and production routes, as well as the EU's heavily subsidised export production. Today, sugar industries in Africa, the Caribbean, the Pacific and other parts of the world, which were sustained by preferential access to the EU, are in steep decline, even as the growing markets for ethanol raise the international price of sugar. Meanwhile, Brazilian sugar production is booming: the country's share of global raw sugar exports surged from 7 per cent in 1994 to 62 per cent in 2006 and, over the past four years, its exports of sugar and ethanol increased by 243 per cent.<sup>2</sup>

In this new context, where sugar corporations are consolidating their operations and expanding into low-cost areas of production, Brazil has become their main target for investment. Bajaj Hindusthan, for instance, India's largest sugar producer, set up a Brazilian subsidiary in 2006 and earmarked US\$500 million for immediate investment in the country. "If I need to grow exponentially, I need to be in Brazil", said Kushagra Nayan Bajaj, the company's CEO. "If an investor expects another tenfold increase out of me in the next five years, or three years, I can't do it in India."<sup>3</sup>

The boom in Brazilian ethanol production is therefore happening alongside a more general boom in the country's sugar production. And, as with the palm-oil nexus, the sugar producers are quickly using this

opportunity to secure control over the international sugar-cane ethanol market, positioning themselves to take advantage of both the rise in global prices for raw sugar and the growing demand for ethanol.

The Brazilian government plays a key role in facilitating this corporate consolidation. President Lula and his cabinet ministers are on a seemingly constant ethanol booster tour, striking deals around the world for the supply of Brazilian ethanol and technology. Much of the government's support to the industry occurs via the state oil company, Petrobrás, which is actively developing the export infrastructure. Its latest project is a US\$750-million ethanol pipeline, stretching 800 miles from Brazil's interior to the Petrobrás refinery in Paulínia and then onward to the port of São Sebastião. The pipeline will have the capacity to transport nearly half of Brazil's present ethanol production.

Petrobrás is also more directly involved in securing long-term export markets for Brazilian ethanol. In 2005, it entered into an agreement with Japan's state oil company Nippon Alcohol Hanbai, to create Brazil-Japan Ethanol, a joint venture that plans to export 1.8 billion litres of ethanol per year to Japan.<sup>4</sup> In March 2007, as part of an US\$8-billion partnership worked out between Japan and Brazil, Petrobrás, Mitsui and Itochu agreed to set up a Brazilian joint venture that would supply ethanol to Japan for at least the next 15 years. The two sides also began negotiations for the construction of a pipeline within Brazil to facilitate these exports.<sup>5</sup>

The big winners in Brazil's emergence as the global sugar and ethanol powerhouse are the transnational corporations and the few families, known in Brazil as the sugar barons, who increasingly control the Brazilian sugar and ethanol industry. With foreign investors knocking on their doors, the sugar barons have been consolidating their holdings and restructuring their companies in order to attract foreign investment. Some have even put their family businesses on to the Brazilian stock exchange. Typically, what happens is that foreign investors buy up controlling interests or minority stakes, leaving the sugar barons, with their expertise in maximising productivity by exploitation, to oversee the agricultural operations.

Brazil's sugar barons have used this flood of finance, from foreign investors and the government, to take over smaller firms and expand production for export. Between 2000 and 2005, 37 mergers and acquisitions took place within the country's sugar and ethanol industry.<sup>6</sup> Today it is possible to discern just a few conglomerates – transnational networks of

1 Corporate control of the US maize ethanol market is discussed in *Grist* magazine's December 2006 special series on biofuels. See: <http://tinyurl.com/2r6k5m>

2 Groupes Sucres et Dérivés website, "Sugar Market": <http://www.sucden.com/> "Brazilian agribusiness exports doubled in four years", Anba, 11 January 2007. <http://tinyurl.com/37tqsq>

3 Pratik Parija and Thomas Kutty Abraham, "Bajaj plans to expand into Brazil", *Bloomberg News*, 22 August 2006. <http://tinyurl.com/2o3g32>

4 <http://tinyurl.com/2tjxu2>

5 <http://tinyurl.com/2lkdwq>

6 <http://tinyurl.com/2l5rz9>



# e-ethanol nexus

## The Crystalsev conglomerate

At the centre of this conglomerate is Brazil's Biagi family, but it also involves the Junqueira family, another group of sugar barons. Both families are the major shareholders in Brazil's second largest sugar and ethanol group, Vale de Rosário. They recently increased their shares in the company when they bought up the majority shareholders to stave off buy-out offers from Cosan and Bunge. After taking control of Vale de Rosário, the owners launched a merger process with another major Brazilian ethanol producer, Santa Elisa, also controlled by the Biagi family. When the merger is complete, the combined company will crush some 20 million tonnes of cane per year. Vale de Rosário executive vice-president, Cícero Junqueira Franco, says that the merged entity will then seek partnerships with foreign players and launch a public offering on the Brazilian stock exchange. But, in truth, the conglomerate's transition to a transnational operation is already quite advanced.

Vale de Rosário and Santa Elisa are the major players within Crystalsev, an alliance formed by nine Brazilian mills to market their sugar and ethanol, and largely under the control of the Biagi family. After the merger of its two biggest mills, Crystalsev is now pursuing a more formal merger of its shareholders, which would turn it into a completely integrated producer and trader. Crystalsev is also rapidly deepening its ties with foreign corporations, Cargill in particular.

Cargill's expansion into Brazilian ethanol is happening largely through the Biagi clan. In June 2006, it purchased Maurílio Biagi Filho's 63 per cent share of the Cevasa ethanol plant in São Paulo, which brought it within the Crystalsev fold. The Cevasa plant, with a capacity to crush 4 million tonnes per year of sugar cane and to produce around 350 million litres of ethanol, will ship ethanol in its hydrous form from the TEAS ethanol terminal in Santos (which is a joint venture between Crystalsev, Cargill and two other major Brazilian ethanol exporters) to Cargill and Crystalsev's joint-venture ethanol plant in El Salvador. There the ethanol will be dehydrated and shipped on to the US, where it can enter duty-free under a preferential trade agreement known as the Caribbean Basin Initiative, to which El Salvador is party.<sup>1</sup>

Cargill is not Crystalsev's only foreign partner. Santa Elisa recently formed a US\$300-million joint venture with the international trading company Golden Holdings, and one of the world's largest private equity firms, the Carlyle Group. The joint venture, called CNAA, intends to have at least four new sugar mills in operation, with the capacity to crush 20 million tonnes of sugar cane per year, by 2008. This would make CNAA one of Brazil's top three sugar producers. Company representatives say that its focus will be on expanding into the "newer" cane growing areas of the Centre-South, with Crystalsev handling domestic distribution and Global Holdings organising international trade.<sup>2</sup>

1 Henrique Oliveira, "Cargill, largest private corporation in US, acquires Cevasa in Brazil", Ethanol Brasil blog, 11 December 2006. <http://tinyurl.com/2nrc6c>

2 <http://tinyurl.com/2mntjj>

TNCs and sugar families – that control the industry. Two of the most important are the Crystalsev and the Ometto conglomerates.

Brazil is attracting more international investments in agrofuels than any other country. In 2006 alone, over US\$9 billion were invested in the Brazilian ethanol industry, with US\$2 billion going into the construction of new ethanol plants.<sup>7</sup> A number of multi-million dollar investment funds have recently been set up on foreign stock exchanges with the

specific objective of investing in Brazilian ethanol (see table 5 on page 23). The new money is pushing sugar production into new areas, particularly on to lands that have long been used for cattle pasture. Eduardo Pereira de Carvalho, the President of São Paulo's Sugar-Cane Manufacturers' Union, predicts that as much as a third of Brazil's current pasture land will be converted to sugar-cane production in the near future. "Over the next 15 years, an extra 100 million hectares could be planted with cane, primarily on pasture land", he said.<sup>8</sup>

7 <http://tinyurl.com/36h9a5>

8 Peter Blackburn, "Brazil could double ethanol output by 2014 – UNICA", Reuters, 4 August 2006. <http://tinyurl.com/ypqqrw>



## The Ometto Conglomerate

The Ometto Group, run by Brazilian billionaire Rubens Ometto Silveira Mello, controls Cosan, Brazil's largest sugar producer. In the 2005–6 financial year, Cosan milled nearly 28 million tonnes of sugar cane and sold over 1 billion litres of ethanol.

In recent years, Cosan has refashioned itself into a transnational corporation. First, in 1999, it sold 10 per cent of its main port operations to global sugar giant Tate & Lyle. Then it set up a joint venture in 2002 with major French sugar companies, Sucden and Tereos, which both have large presences in Brazil's ethanol and sugar trade,<sup>1</sup> and in 2005 struck up a partnership with the Kuok Group from Hong Kong. Sucden, Tereos and Kuok are now major shareholders in Cosan, although Ometto retains a majority stake. Kuok, a leading player in the palm-oil biodiesel story, also has an important stake in Cosan, through its agro-industrial conglomerate, the Kerry Group. More foreign investment came into the company in 2005, when Cosan made an initial public offering on the Brazilian stock exchange, the first major ethanol producer to do so, ceding a further 27 per cent of its shares to foreign stockholders. Ometto is now considering an initial public offering on Wall Street.

Ometto's sugar empire doesn't stop there. Although you won't find this information on the Cosan website, his group also controls São Martinho, which was, at least until recently, Brazil's number two sugar producer (behind Cosan) and the operator of Brazil's largest sugar mill (7 million tonnes per year). In early 2007, São Martinho followed Cosan's lead and launched an initial public offering on the Brazilian stock exchange, bringing in US\$176 million in capital and a substantial foreign ownership presence. Immediately after, it began deepening its relationships with other major players. In March 2007, it signed an agreement with Mitsubishi Corporation, giving the Japanese firm 10 per cent ownership of its Usina Boa Vista – a plant still under construction, with a crushing capacity of 3 million tonnes per year. That factory was financed with US\$250 million from Brazil's National Economic and Social Development Bank (BNDES). The agreement also involved a 30-year contract under which the plant will sell 30 per cent of its production to Mitsubishi for export to Japan. At around the same time, São Martinho joined Cosan to buy out the Santa Luiza ethanol plant in São Paulo, with a capacity to crush 1.8 million tonnes of sugar cane per year.

Another important element of the Ometto empire is its close connection with Votorantim, one of Brazil's largest family-run conglomerates, controlled by Brazilian billionaire Antônio Ermírio de Moraes. Besides the close personal ties between the two families, their companies recently set up a partnership in sugar-cane breeding between Cosan and Votorantim's subsidiaries, CanaVialis, the world's largest sugar-cane breeding company, and Allelyx, the most important sugar-cane biotech company in Brazil.<sup>2</sup> Then, in May 2007, Votorantim and Monsanto formally announced their partnership to develop GM sugar-cane, saying that they would have GM Roundup Ready varieties ready for commercial introduction in Brazil by 2009.

1 Tereos purchased Guaraní Sugar's two sugar mills in 2001, and more recently announced US\$100 million in investments for a third refinery as well as the purchase of a yet-to-be-completed 40-million-litre-per-year ethanol plant in São Paulo. Louis Dreyfus is now Brazil's second largest sugar producer and trader. It first purchased the Cresciunial refinery in São Paulo in 2000, and subsequently took control of Coimbra, and of 5 mills owned by Tavares de Melo.

2 Votorantim also owns 28% of Aracruz Celulose, the largest hardwood producer in the world and Brazil's largest eucalyptus company.

The expansion of Brazilian sugar and ethanol has repercussions beyond Brazil's borders. The glut of money is spilling over into neighbouring countries, which offer even lower costs of production and/or strategic trade access to the US market. The Brazilian government recently signed a US\$100-million agreement with its Ecuadorian counterpart to set up two ethanol plants in Ecuador and to introduce high-yielding varieties of Brazilian sugar cane. Ecuador has two advantages to offer foreign investors: the 10,000-tonnes-per-year quota it has for the US market; and the unlimited access it has been

given to the EU market as part of a diversification programme to encourage farmers to move away from away from illegal crops such as coca. Similar deals have been forged with Caribbean countries that have trade access to the US through the Caribbean Basin Initiative (CBI).<sup>9</sup> The Brazilian trading group Coimex has a joint venture in Jamaica with Petrojam to invest US\$7.3 million in the rehabilitation of a 40-million-gallon ethanol production plant that will import all of its raw material from Brazil and ship all of its output to the US ethanol market.

<sup>9</sup> <http://tinyurl.com/3bcp4r>



**Table 5. Investment funds for Brazilian ethanol**

Infinity Bioenergy	Bermuda-based company listed on London Stock Exchange that was formed by about 50 investors in 2006. One of its principle investors is the American fund Kidd & Company. With over US\$500 million slotted for investments in Brazilian ethanol, the fund has so far spent US\$400 million purchasing controlling interests in three plants with a joint milling capacity of 3.5 million tons of sugar cane, and is investing in the construction of two new plants in the states of Espírito Santo and Bahia. Infinity BioEnergy's focus is on regions with little tradition in sugar cane, where it sees the potential for growth. Infinity BioEnergy also recently announced that it was merging with the Evergreen fund, another British investment fund targeting Brazilian ethanol with a majority interest in the Alacana ethanol plant in Nanuque. Infinity plans to export at least part of this production to the US, and is therefore investing US\$20 million in a dehydration plant in the Caribbean that will provide duty-free access to the US market
Bioenergy Development Fund	Launched in early 2007 by France's third-largest bank, Société Générale, it is incorporated in the Cayman Islands. Although it has yet to make an investment, the fund raised US\$200 million in its first month and, supposedly, is on track to raise a total of US\$1 billion this year. Société Générale is also involved in investments in US ethanol plants.
Brazilian Renewable Energy Company Ltd (Brenco)	Raised US\$200 million in the initial private placement of its shares. It is financed by several big-name investors, such as Sun Microsystems founder Vinod Khosla, supermarket magnate Ron Burkle and the co-founder of AOL, Steve Case. Goldman Sachs is its exclusive placement agent. Other investors include former World Bank President James Wolfensohn, film producer Steven Bing, and Brazilian firms Tarpon All Equities and Grupo Semc. The CEO of Brenco is Philippe Reichstul, former president of Petrobrás. Brenco's goal over the next 10 years is to reach an annual output of 3.8 billion litres, according to market sources. Brenco is incorporated in Bermuda, but has headquarters in São Paulo.
Clean Energy Brazil	Established by Numis, an English investment bank. Partners include Czarnikow Sugar, one of the world's largest sugar brokers and the broker for approximately 30% of the Brazilian sugar/ethanol market, and Agrop, owned by Brazil's Junqueira sugar family. The fund operates on the London Stock Exchange, and raised US\$185 million in its initial public offering. Its first acquisition in 2007 was of a 49% stake of the Usacigá sugar group.

Jamaica is one of a number of small countries whose sugar sectors are in danger of completely collapsing when the EU Sugar Protocol begins to be phased out in 2007. And, like Jamaica, most of these countries are in a process of deep restructuring that they are carrying out with EU support. In these processes, ethanol is often proposed as a way to salvage part of the industry, but typically alongside privatisation plans that put the ethanol production and trade into the hands of foreign corporations.

Mauritius, for instance, which is the largest supplier of sugar to the EU, holding 38 per cent of the quota within the Sugar Protocol, is negotiating an assistance package with the EU to restructure its sugar industry. As it stands, the EU will provide over 300 million euros towards the formation of a sugar-cane "cluster" in the country that will essentially centralise, mechanise and consolidate the country's small-scale sugar production and reorient it towards energy production, primarily ethanol.<sup>10</sup> Much is made of how the cluster will serve local energy needs, but already the bulk of the island's ethanol is exported to Europe. The ethanol business in Mauritius is controlled by Alcodis, a joint

venture company that is part of the Belgian shipping conglomerate AlcoGroup. The group handles about 8 per cent of the ethanol traded in the world, most of its sourced from its Brazilian operations but some also coming from both its subsidiary in South Africa, NCP Alcohols, and its plant in Mauritius. In 2004 Alcodis shipped over 3.5 million litres of ethanol to the EU from Mauritius – tax-free because of its status as an ACP (African, Caribbean or Pacific) country.<sup>11</sup>

Latin America's regional bank, the Inter-American Development Bank (IDB), is another major player shaping and supporting the unfolding ethanol agribusiness web. It works closely with the Interamerican Ethanol Commission to develop the global market for ethanol, through a twin strategy of expanding ethanol production and consumption. IDB President, Luis Alberto Moreno, is one of the chairs of the commission, along with former Florida Governor Jeb Bush and former Brazilian Minister of Agriculture Roberto Rodrigues, who is now president of the Superior Council of Agribusiness of the São Paulo State Federation of Industries.



<sup>10</sup> <http://tinyurl.com/3c8vxs>

<sup>11</sup> <http://tinyurl.com/3x7cq2>

## Guyana: first stop on the ethanol express

Guyana is emerging as a particularly important destination for the spill-over of Brazilian ethanol capital. The country, which is part of the Caribbean Basin Initiative (CBI), provides a key sea-port outlet for sugar and ethanol coming from the north of Brazil. But unlike the Caribbean island countries, which only dehydrate ethanol imported from Brazil, Guyana has the potential for its own low-cost sugar and ethanol production, opening the door to much larger exports to the US than are possible in other CBI countries.<sup>1</sup> The minister of Agriculture, Robert Persaud, says that 202 square kilometres of land have already been identified for new sugar-cane cultivation. "We have identified virgin lands for the cultivation of a new sugar-cane variety different from the one that we currently use for the production of sugar and molasses", he added.<sup>2</sup>

According to Brazil's ambassador to Guyana, Arthur V.C. Meyer, Brazil's second largest producer of biodiesel, Bio-Capital, plans to invest in sugar-cane cultivation and ethanol production in Guyana. He said that the Brazilian company intends to invest US\$300 million in the purchase of some 50,000 hectares of land for cane cultivation and in the construction of an ethanol distillery.<sup>3</sup> Bio-Capital is carrying out a similar investment in the state of Roraima in northern Brazil, which will probably transport dehydrated ethanol to its Guyana facilities for hydration and duty-free export to the US. Although Roraima consists largely of Amazon rainforest, and there are several land disputes between companies and indigenous peoples, the Brazilian government is paving the way for greater agrofuel production in the area by financing the upgrading of a road running from Bomfim in Roraima across the Takutu River to Guyana's ports.

There are also reports of a Spanish-Israeli company negotiating a US\$100-million ethanol investment in Guyana. The group, Tanacama Ltd, began discussions with the Guyana Office for Investment and the Guyana Sugar Corporation in November 2006. It intends to establish a pilot ethanol plant in the Canje river basin and to open around 10,000 hectares of land to sugar-cane production using Israeli agricultural technology. The initial capacity of the factory is expected to be 80 million litres annually, and the investors are hoping to increase that amount 10-fold within a decade.<sup>4</sup>

1 While imports of dehydrated ethanol into the US from CBI countries are subject to quotas, there are no limitations on imports of ethanol derived from locally produced feedstocks.

2 "Guyana ponders ethanol move", BBC, 10 April 2007. <http://tinyurl.com/2ocjwp>

3 Miranda La Rose, "Guyana Brazilian firm set to sign deal for ethanol production here", Stabroek News, 11 April 2007. <http://tinyurl.com/2lo2bm>

4 "Ethanol plant for Guyana", Caribbean Broadcasting Corporation, 16 May 2006. <http://tinyurl.com/37od8r>

Oddly, the bulk of IDB ethanol funds are channelled into the already saturated market for Brazilian ethanol production. The IDB says that in Brazil it is "focusing on leveraging private sector investments to expand production capacity". Its Private Sector Department is currently structuring senior debt financing for three Brazilian ethanol production projects that will have a total cost of US\$570 million and loans for five biofuel projects worth around US\$2 billion are in the pipeline. In March 2007, the World Bank's soft loan department, the International Finance Corporation, announced a US\$35-million package for the construction in Brazil's main sugar producing state, São Paulo, of a sugar mill that will source its cane from land currently devoted to pasture for cattle.

The project in São Paulo says a lot about how the ethanol industry is being shaped in the region. The mill brings together Brazil's Unialco S.A., whose

major trading partner in 2006 was Cargill, with Inversiones Manuelita of Colombia and Pantaleon Sugar Holdings of Guatemala, both of which are run by notorious local sugar barons. The Herrera family controls Pantaleon and more or less all of Guatemala's sugar industry, while Manuelita, the second-largest Colombian-based sugar producing group and one of the main sugar producers in Peru, is part-owned by Colombia's most powerful sugar baron, media mogul and agrofuel booster, Ardila Lülle. Pantaleon and Manuelita are investing in these joint ventures through their Spanish-based joint holding company, Grupo Colgua.<sup>12</sup> The initial announcement for the project talked about serving local ethanol markets, but, with the ink on the deal hardly dry, the three companies made a subsequent announcement for another joint investment - a US\$20-million factory in Guatemala that will hydrate Brazilian ethanol for export to the US.



<sup>12</sup> See Héctor Mondragón, "Los negocios del biocombustible y de la caña de nuestros empresarios y el gobierno nacional", May 2007. <http://tinyurl.com/2vtkfh>

In no other region in the world is the absurdity of the frenzied rush into agrofuels more blatant than in Asia, particularly in Indonesia and Malaysia. Far from helping to reduce global warming, it is leading to a big increase in global carbon emissions. Just as serious, it is cementing the control over large areas of land of industrial groups that are amongst the most ruthless in the world in terms of environmental destruction, labour conditions and human rights abuses.

# Agrofuels in Asia

## Fuelling poverty, conflict, deforestation and climate change

ALMUTH ERNSTING



25

Even before the current stampede into agrofuels, Indonesia was beginning to contribute significantly to the emission of greenhouse gases, not through its lifestyle, but through the drying and burning of peat. Emissions of peat lands are currently not included in official statistics. If they were, Indonesia would rank third among emitters (behind the USA and China), rather than 21st, where it is currently placed.<sup>1</sup> If all the carbon in South-east Asia's peat, possibly as much as 50 billion tonnes, were allowed to enter the atmosphere it would make a highly significant contribution to global warming.<sup>2</sup>

Large-scale peat drainage started in 1996 with Suharto's disastrous Mega Rice Project in central

Kalimantan (the Indonesian part of the island of Borneo) and continued with the expansion of timber and oil-palm plantations. Before the plantations could be created, the area had to be drained and, as this happened, the peat began to oxidise and to emit carbon dioxide into the atmosphere. At the same time, the peat began to desiccate, turning into a tinder box that would ignite during the dry season. In 1997 and 1998 fires raged through 6 per cent of Indonesia, burning 11.7 million hectares of land. During these fires Indonesia's peat released into the atmosphere a huge amount of carbon dioxide, equivalent to 13–40 per cent of global fossil fuel emissions that year. Peter Aldhous, editor of the science journal *Nature*, used quite uncharacteristic language to describe the impact of the burnings in Borneo: "He [Suharto] succeeded only in creating

<sup>1</sup> <http://tinyurl.com/yymeth>

<sup>2</sup> Fred Pearce, *The Last Generation.. Eden Project Books, 2006, p. 99*

a smouldering heap of ash that blights the lives of local people – and threatens to destabilize the global climate by belching vast quantities of carbon dioxide into the atmosphere.”<sup>3</sup>

Since then, peat drainage and annual fires have continued to emit up to 1 billion tonnes of carbon into the atmosphere every year, and peat drainage is now accelerating with the creation of further oil-palm and timber plantations. The destruction to date already gives cause for grave concern yet much worse undoubtedly lies ahead. Palm oil is by far the most energy-efficient feedstock for biodiesel. Yields from palm-oil diesel are five times higher than

It seems scarcely credible, but this suicidal policy is being promoted as part of a global strategy to mitigate global warming. In an extraordinary exercise in blinkered thinking, parties to the Kyoto Protocol can ignore the carbon emissions caused by the destruction of peat and fund South-east Asia’s palm-oil and biomass industry through the Clean Development Mechanism (CDM), which has as one of its key planks the promotion of agrofuels. The agrofuel market is being artificially boosted by government targets, subsidies and other incentives, with little attention being paid to where agrofuel crops are being planted and the environmental damage their cultivation may cause.



*An Indian advertisement for maize-based agrofuel*

those from rapeseed oil and three times higher than those from jatropha. This means that the present agrofuels frenzy is likely to lead to an uncontrolled expansion in palm-oil production in many parts of South-east Asia. Just over half (55 per cent) of the region’s peatlands remain undrained, and it seems almost inevitable that over the next few years almost all of it will be transformed into giant biodiesel plantations, mainly of oil palm. Barring a policy U-turn, this will lead to an additional 42–50 billion tonnes of carbon being belched into the atmosphere in the coming years. This could well make it impossible to stabilise the global climate, even if fossil fuel emissions are cut drastically.<sup>4</sup>

The Kyoto Protocol gives Annex I countries (that is, industrial countries that have signed up to Kyoto) a strong incentive to set agrofuel targets: instead of having to reduce fuel use or force the automobile industry to make only fuel-efficient cars, countries can claim that they have reduced their greenhouse gas emissions by using agrofuels. Even though the true carbon emissions from the deforestation and peat drainage linked to agrofuel production can far exceed those of the mineral oil they replace, they don’t have to be counted because they happen in the global South, where there are no caps on carbon emissions. Agrofuels thus allow rich countries to claim credits for “emission reductions” when they

<sup>3</sup> Peter Aldhous, “Land Remediation: Borneo is burning”, *Nature*, 6 January 2005, p. 13.

<sup>4</sup> For references about plantation expansion and peatland emissions, see <http://tinyurl.com/yqf2lb>

have effectively exported them and, overall, helped to accelerate global warming.

So far, no CDM funding has been granted to manufacture liquid agrofuels, be it ethanol or biodiesel, but discussions are under way about making them eligible for large-scale carbon credits. The issue is controversial and a UN panel of experts (Methodology Panel) is recommending that the first application for carbon credits for palm-oil production for biodiesel in South-east Asia be refused because it could lead to more deforestation.<sup>5</sup> However, political pressures are strong and this recommendation could be ignored.

### **Ambitious expansion plans**

Malaysia expanded oil-palm plantations to 4.17 million hectares in 2006, with the most rapid expansion in Sarawak and Sabah on Borneo. The country is the world's largest producer and exporter of palm oil, with a 45 per cent share in global palm-oil production, compared to Indonesia's 39 per cent. Malaysia's per hectare yields are about twice as high as Indonesia's, and production is more intensive, with a high use of fertilisers and pesticides (including the highly poisonous paraquat – now used legally again after a four-year national ban).

Indonesia, however, intends to overtake Malaysia. Over the next 20 years, it plans to increase palm-oil production 43-fold, with the area under cultivation expanding from 6.4 million hectares in 2006 to 26 million hectares in 2025.<sup>6</sup> Plans for large-scale sugar-cane and jatropha plantations, also for agrofuels, are being drawn up at the same time.<sup>7</sup> But the expansion may not be quite as fast as the government hopes. Some 12 million more hectares have already been deforested, supposedly for oil palms, but have not been planted. This has fed suspicions that some of the companies are primarily interested not in agrofuels but in quick profits from timber sales. Indeed, Indonesia's palm-oil yields continue to be well below the global average, and it is by no means certain that the plantation owners will heed the government's exhortations to invest the money required to achieve large productivity increases. Much will depend on the global biodiesel market, which is the main driver of palm-oil prices. At the moment high palm-oil prices are promoting investment in oil-palm plantations, mills and biodiesel refineries, and the government keeps granting new concessions for large areas of land directly in response to high biodiesel demand and crude palm-oil prices. In 2006, media reports about strategic alliance talks between Indonesia and

Malaysia were published which suggested plans for a crude palm-oil cartel, though no final decisions have been announced so far.<sup>8</sup>

For the moment at least, there is little need for a cartel. Rising palm-oil prices are accelerating expansion in mainland Malaysia, West Papua and Sulawesi, and the agrofuel industry is establishing a foothold elsewhere in South-east Asia. Cargill, for example, is increasing its investment in oil-palm plantations and mills in Papua New Guinea, and the PNG government is drawing up a strategy for turning the country into a major agrofuel producer. Thailand is importing palm oil and expanding its own plantations, and the number of oil-palm plantations in the Philippines is also growing – though Indonesia's expansion plans are by far the most ambitious in South-east Asia. While Malaysia and Indonesia are also looking at other agrofuel feedstocks, such as sugar cane and jatropha, their biofuel strategies rely primarily on palm-oil expansion.

### **Local communities pay the cost**

*"It's as if we were ghosts on our own land. We have been so pierced through by the spines of the oil palm that we are almost dead, left haunting what once was our own land"*<sup>9</sup>

The people of Indonesia and Malaysia will pay twice for this misguided "climate strategy": rapid global warming will threaten the lives of ever larger numbers of Indonesians, with 2,000 islands at risk of being submerged in coming decades; and many communities will lose their livelihoods as millions of hectares of land are turned into agrofuel plantations. Indigenous and local communities will be disproportionately affected, because palm-oil expansion is happening largely at the expense of rainforests, peatlands and lands under "customary rights", i.e. belonging to them. At a meeting of the UN Permanent Forum on Indigenous Issues in May, chairwoman Victoria Tauli-Corpuz warned that 60 million indigenous people worldwide, 5 million of them in West Kalimantan, are likely to be driven off their land in the near future to make way for agrofuel plantations.<sup>10</sup> Many of them have already had their lives severely disrupted by logging, and in some ways the agrofuels boom is no more than the intensification of a model of destruction already under way. Many of the palm-oil and biodiesel companies belong, in fact, to groups which have been profiting from logging and the timber trade for decades.



5 <http://tinyurl.com/ys2u6f>

6 For details of the expansion programme and the main investors in Indonesia, see Marianne Klute, "Green Gold Biodiesel: Players in Indonesia", January 2007. <http://tinyurl.com/33lb7r>

7 Ibid.

8 <http://tinyurl.com/2u43ay>

9 Forest Peoples Programme and Sawit Watch, "Ghosts on our own land", 2006. <http://tinyurl.com/333yog>

10 <http://tinyurl.com/38mf6>

## Indonesia suffers agrofuel fever

**Rukaiyah Rofiq**

Indonesia is living with a paradox: it is a palm-oil producing country yet its people are experiencing a serious shortage of cooking oil. In almost every city in Indonesia, people are having to queue for oil and, when they find it, it is always more expensive than the last time they bought it. The price of cooking oil has increased from 6,500 rupiah per kilo, first to 7,500, then to 9,000 (Rp9,000 = US\$1). It is becoming very difficult for poor people to buy cooking oil. Some local companies, such as potato chip manufacturers, are facing bankruptcy. The government has responded with a so-called "market operation", that is, by selling cheap cooking oil. But so far this tactic is not working: the oil is of inferior quality, and it is not being sold in sufficient quantities to push down the market price.

The government created a wonderful dream for us. They told us that the big oil-palm plantations would bring us prosperity. And people bought into this vision. In the province of Jambi, for instance, 403,467 hectares of land were planted with oil palm. Production reached 4,682,975 tonnes in 2005. So why isn't it working? Why are we getting poorer rather than wealthier?

What is happening is that the Indonesian people are being sacrificed to the export market. The government tells the giant companies, such as the Wilmer Group, PT Perkebunan Nusantara, PT Smart Tbk and PT Musim Mas, that they must provide 150,000 tonnes of palm oil each month for the cooking-oil needs of the population. But the companies get much higher prices on the export market, so they provide only 100,000 tonnes a month. There is an agrofuel fever on the world market. When do big companies think of the needs of the local population when there are big profits to be made abroad?

What we are experiencing now is struggle between those who want the palm oil to be used as food by ordinary people and those who want to send it abroad to be used as fuel for vehicles. And the fight between the human being and the machine is being won by the machine.

Palm oil is being produced to provide a supply of renewable energy for vehicles. The intention is to reduce carbon emissions. Yet the process of setting up these plantations is causing widespread social and environmental damage. Palm-oil feedstock has turned into a curse for millions of people in Indonesia.

So what are our demands?

1. The government must impose restrictions on the export of crude palm oil by the big companies, and these restrictions must be enforced.
2. The government must carry out an in-depth study into the palm-oil market, looking at the capacity of the industry to supply the domestic and external markets.
3. There must be a moratorium on further investment in the oil-palm plantation sector until there has been a proper analysis of the social and environmental impacts of such plantations.

**Rukaiyah Rofiq works for SETARA Jambi, an organisation-based NGO that campaigns on palm-oil issues in Jambi province in Indonesia.**

The agrofuel frenzy is sounding the death knell for most of the region's forests, many of which have already been heavily felled. The United Nations Environment Programme warns that, within 15 years, 98 per cent of Borneo's and Sumatra's rainforests – some of the most biodiverse ecosystems on earth – will have been destroyed. The total number of people living in classified "State Forest Areas" in Indonesia could be as high as 90 million,

and of these, according to Watch Indonesia, some 45 million depend on the rainforests for their food and livelihoods.<sup>11</sup> Indonesia's government hopes that palm-oil expansion for biodiesel will create 5 million jobs, a figure that Watch Indonesia believes could be far higher, perhaps even twice this. Even so, this would leave 35 million people facing destitution. According to Marianne Klute of Watch Indonesia, "Sumatra already resembles a

<sup>11</sup> Forest Peoples Programme, Sawit Watch, HuMA and ICRAF, Bogor, "Promised Land: Palm Oil and Land Acquisition in Indonesia – Implications for Local Communities and Indigenous Peoples", 2006. <http://tinyurl.com/2tjtz>



single mega-plantation. Now Kalimantan is being transformed into a kind of greenhouse where fuel is produced for the energy needs of the industrial countries.<sup>12</sup>

Not surprisingly, the land appropriation is generating conflict. By the end of 2006 there had already been some 350 conflicts in Indonesia. Indonesian NGO Sawit Watch recently warned in an Open Letter to the European Union: "These unresolved conflicts will get worse if the current biofuels policy is put in place. They will deprive further local communities and indigenous peoples of their lands and livelihoods."<sup>13</sup> Thousands of communities, formerly self-sufficient in food from forest ecosystems and traditional agriculture, now have to purchase rice on the domestic market, putting further pressure on Indonesia's rice supply, which is already under strain from global warming and land conversion to non-agricultural developments.

Sawit Watch has shown that most of the concessions for oil-palm cultivation are unconstitutional in that they take no account of the customary rights officially enshrined in Indonesia's constitution. In March 2007 the organisation Save Our Borneo said that the customary rights of 2,000 Dayak communities in central Kalimantan were threatened by palm-oil expansion plans. There are regular reports of human rights abuses – imprisonment as well as murders – against those resisting land takeovers by companies or protesting about poor working conditions. The aggressive expansion of oil palm is likely to exacerbate the human rights situation, particularly in areas, such as Aceh or West Papua, where there are already conflicts over other issues.

About one third of oil-palm plantations in Indonesia are held by smallholders, and the government's expansion plans foresee a scheme by which a large plantation will lie at the centre of each production unit, surrounded by a large number of much smaller plots. Many smallholders have been pressured into accepting land title deeds for less than half the area they were cultivating previously. Moreover, the smallholders are rapidly losing their autonomy, for they incur debts converting their land to oil-palm plantations and then become dependent on the plantation owners for the crushing and sale of their produce. When interviewed by Sawit Watch, many said that palm oil did not offer them a sustainable livelihood.<sup>14</sup>

Malaysia, meanwhile, does not fully recognise customary or indigenous land rights, and land

conflicts are particularly common in West Malaysia and Sarawak, where plantations are being established on land claimed by indigenous Orang Asli and Dayak communities. The government plans to develop one million hectares of oil palms in Sarawak on land under Native Customary Rights.

### Who is behind South-east Asia's agrofuel industry?

South-east Asia's agrofuel industry is barely two years old, yet it has already provoked an extraordinary investment frenzy and attracted billions of dollars of national and international capital investment. Both the Malaysian and Indonesian governments are supporting the expansion of the industry with tax breaks, subsidies, state company investment and domestic agrofuel targets, and both have ring-fenced 40 per cent of crude palm oil for biodiesel. By the end of 2005, Malaysia had 58 licensed agrofuel investors, the largest of which were the Malaysian companies Golden Hope, IOI Corporation, Kulim and Carotino. In Indonesia the largest investment deal was clinched at the beginning of 2005, when PT Smart (Sinar Mas Group) finalised a US\$5.5-billion investment deal with China National Offshore Oil Corporation (CNOOC) and Hong Kong Energy. Another large Indonesian business group, Raja Garuda Mas, announced a US\$4-billion investment deal in May this year, which includes oil-palm plantations and a new biodiesel refinery on Sumatra.

Sinar Mas, Raja Garuda Mas and the Salim Group were amongst Suharto's cronies. Having lost some of their power after Suharto was overthrown, they have now strengthened their position under decentralisation and, according to some reports, operate as a state within a state, dividing up Kalimantan among themselves and ruling with the help of paramilitaries. They have close links with China, and all three groups gained notoriety in the destructive timber trade. APP and APRIL, the companies that bear much of the responsibility for the destruction of Sumatra's rainforests, now form part of groups which are destroying Kalimantan's and West Papua's forests for palm oil (extracting and selling the timber in the process).<sup>15</sup> While the palm-oil biodiesel boom reinforces the power of old elites, new players are also entering the market, sometimes forming close links with older business groups.

Other important investors in palm-oil biodiesel are the older Indonesian Bakrie group, also amongst the Suharto cronies but without links to China,



12 Watch Indonesia, "Fremdwort Nachhaltigkeit", 2007. <http://tinyurl.com/2w8a7n>

13 Sawit Watch, "Open Letter: Palm oil for biofuels increases social conflicts and undermines land reform in Indonesia", January 2007. <http://tinyurl.com/yq5nur>

14 Forest Peoples Programme and Sawit Watch, "Ghosts on our own land", 2006. <http://tinyurl.com/333yog>

15 For details of the expansion programme and the main investors in Indonesia, see Marianne Klute, "Green Gold Biodiesel: Players in Indonesia", January 2007. <http://tinyurl.com/331b7r>

and large Malaysian and Singaporean companies, such as Wilmar International. In May 2007, the Chinese company CNOOC announced plans to build three biodiesel refineries in West Kalimantan, apparently as the sole shareholder. Multinational companies such as Archer Daniels Midland (ADM) and Cargill are also investing directly in South-east Asia, while energy companies such as Shell, Neste Oil, Greenergy International and BioX Group are either entering into partnerships with other palm-oil biodiesel companies or, as is more often the case, importing large quantities of South-east Asian palm oil. The booming sector is attracting large amounts of major venture capital, with fund holders such as the Carlyle Group and Riverside Holdings making multi-billion-dollar investments in biodiesel companies which intend to import crude or refined palm oil for biodiesel. This investment will soon be boosted by international financial organisations: both the World Bank and the Asian Development Bank have said that they will prioritise funding for agrofuel production in developing nations.

The main markets for South-east Asia's palm oil for biodiesel are China and Europe. India continues to be amongst the three main palm-oil importers, though it prefers home-grown jatropha to imported feedstocks for agrofuels. This policy has angered South-east Asian governments yet, even without India importing biodiesel, global demand for palm-oil biodiesel already outstrips the growth in supply. Palm oil is used not just for biodiesel but increasingly for heat and energy production: in Germany most combined heat and power generators run on palm oil,<sup>16</sup> while BioX in the Netherlands is about to open two power plants which will use palm oil. In the US, Imperium Renewables is building the first large biodiesel refinery to handle large amounts of palm oil from Malaysia, while Australia opened its first palm-oil biodiesel refinery in November 2006. This year's ASEAN Conference reaffirmed strong regional support for agrofuels, a position which was warmly welcomed by the European Union.

Despite the heavy investment, the agrofuel industry does not see palm oil as more than a transitional fuel source, which should be replaced by more efficient cellulosic ethanol within 15 years. From their point of view, this is just as well, for soil erosion and fires will ensure that South-east Asia's biodiesel boom is short-lived. Biodiesel plantations are expanding quickly on the 20 million hectares of peat lands and, once peat oxidation is complete, no soil will be left. The white sandy soil in other parts of Borneo will fare little better. According to

US academics Lucas and Tadeus Patzek, soil erodes in mountainous parts of Indonesia 30 times faster than in the US.<sup>17</sup>

### **"Sustainable agrofuels": false promises and solutions**

There are few open defenders of rainforest destruction for the production of agrofuels, and the environmental devastation caused by palm-oil expansion in Indonesia has become an embarrassment for many agrofuel companies and lobbyists. So much so that two leading UK agrofuel companies (D1 Oils and Greenergy Biofuels Ltd) do not mention their use of palm oil on the main pages of their websites. The Malaysian government, under strong influence from the Malaysian Palm Oil Board, tries to deflect criticism to their southern neighbour, Indonesia, and claims that neither deforestation for palm oil nor peat fires are happening in its country, despite satellite evidence to the contrary. In response to the critics, several governments and companies are developing "sustainability standards", so far without any involvement of southern NGOs. Proposals discussed in Europe range from a total import ban on palm oil (rejected by the European Parliament and the European Commission), via mandatory certification with the possibility of selective import bans, proposed by the Dutch Cramer Commission, to the mere self-reporting requirement promoted by the UK's Low Carbon Vehicle Partnership.

At the international level, the Roundtable on Sustainable Biofuels, in consultation with industry, is drawing up 'standards', again without any southern NGO participation. The main proposal seems to be to divert production away from primary forest to "degraded wastelands" – even though those wastelands are very often community or small farmers' lands – or to logged forest, even though this is still rich in biodiversity compared to the green deserts of oil-palm plantations. Even these inadequate standards would rely on the goodwill of corporations like Sinar Mas and Raja Garuda Mas, renowned for having in the past broken every single agreement to protect national parks and so-called "high conservation value forests".

Another idea is that biodiesel should be made from rapeseed, seen as a sustainable alternative to palm oil. Although this is not a satisfactory solution from an environmental point of view – because, according to the European Environment Agency, oilseed-rape monoculture is seriously harming Europe's biodiversity – it is at least true that Europe has no rainforests to destroy. However,

<sup>16</sup> <http://tinyurl.com/3xxros>

<sup>17</sup> Lucas and Tadeus Patzek, "The Disastrous Local and Global Impacts of Tropical Biofuel Production", *Energy Tribune*, 6 March 2007. <http://tinyurl.com/37z6gw>



the underlying argument in favour of rapeseed oil – namely, that it will reduce demand for palm oil – does not appear to be valid. The Food and Agriculture Organisation believes that, on the contrary, the increased use of rapeseed for biodiesel production has become one of the driving forces behind the rise in palm-oil prices worldwide. This is because food and chemical companies are increasingly turning to palm oil now that rapeseed and other alternative vegetable oils are being used for fuel.<sup>18</sup> This means that the expansion in rapeseed-oil biodiesel in Europe is now one of the driving forces for rainforest destruction in South-east Asia.

However unpalatable it may be to the agrofuel lobby, the truth is that there is no known policy mechanism by which it is possible to produce large amounts of agrofuels without devastating forests, farmlands and peatlands in South-east Asia and other regions in the global South. It is a basic law of economics that heavy demand will lead to higher prices, which will lead to greater supply. The only effective long-term solution is for the developed world to reduce its demand for fuels. Because they do not want to accept this basic truth, agrofuel advocates are, somewhat bizarrely, proposing the use of force to override market pressure. The United Nations Environment Programme, which is an enthusiastic supporter of agrofuel expansion, is calling for international funding for paramilitary

“rangers” to patrol national parks and to protect Indonesia’s biodiversity.<sup>19</sup> The only way they can see of protecting species and high-biodiversity areas while promoting large-scale agrofuel expansion is to rely on the same paramilitary forces that until now have operated largely to enforce the rule of the palm-oil and timber companies.

### Conclusion

Within less than two years, a multi-billion-dollar agrofuel industry has developed in Malaysia and Indonesia, using the world’s highest-yielding feedstock – palm oil. Their governments, supported by international investment, importing nations and international institutions, have drawn up a blueprint for converting large areas of their countries into mega-plantations to grow fuel for richer nations’ cars. The ecosystems being consigned to oblivion play a crucial role in regulating the carbon cycle. If we cannot protect them, then we cannot protect the global climate and thus our own future either. However, there is no way of stopping the destruction without reducing the global demand for palm oil. Ideally, this would require a global moratorium on monoculture agrofuels and on international trade in agrofuels, although a unilateral moratorium by Europe or any other large importer would go some way to dampen prices and thus investment.



**Almuth Ernsting is from Biofuels Watch**

18 P. Thoenes, FAO Commodities and Trade Division, “Biofuels and Commodity Markets: Palm Oil Focus”, 2006. <http://tinyurl.com/2kmg5>

19 UNEP, “The Last Stand of the Orangutan”, 2007. <http://tinyurl.com/2m33d7>

## Snapshot of the agrofuel situation in some Asian countries

### Japan

The Japanese government has no mandates for agrofuel blends in gasoline. Its focus is instead on supporting the development of an agrofuels industry through subsidies to its corporations, promotional programmes, and supply deals with major agrofuel-producing countries.

Some Japanese corporations are world leaders in the development of agrofuel technologies and a major source of foreign investment for agrofuels production. However, other corporations, notably Mitsubishi, Toyota, and steel giant NKK are funnelling their R&D in alternative fuels towards di-methyl ether, which is made from natural gas.

### Some major projects

In 2005 Japanese companies agreed to invest up to US\$2 billion in the Brazilian ethanol sector. This was followed by a number of corporate deals and finally a bilateral agrofuels agreement between the two countries. The investments include a joint venture between Petrobrás and state-owned Nippon Alcohol Hanbai for the export of ethanol, a joint venture between Mitsui and Petrobrás for the production, transportation and export of ethanol to Japan, a biodiesel joint venture between Marubeni and Brazil’s largest grain and oilseeds merchant Agrenco, and another Mitsui ethanol joint venture, this time with the Brazilian sugar trader, Coimex.

**continued overleaf**



Beyond Brazil, Mitsui is building a large jatropha biodiesel refinery in South Africa and a coconut biodiesel refinery in the Philippines. Closer to home, Itochu, one of Japan's largest trading companies, plans to build cassava-based ethanol operations in Indonesia, Thailand and Vietnam.

Honda is working with the national Research Institute of Innovative Technology for the Earth on the development of cellulosic ethanol from "soft" biomass, such as rice leaves.

### China

The Chinese government is the world's largest investor in the renewable energy sector. Most spending goes to hydro, solar and wind energy, with less investment in agrofuels because of concerns over impacts on domestic food supplies. Still, the government has set ambitious long-term targets for the use of biofuels and has already mandated a 10% blend of ethanol with gasoline for certain provinces and cities.

State subsidies for agrofuels are mainly channeled to four large ethanol plants: Jilin Fuel Alcohol Company Ltd, Anhui Fengyuan Petrochemical Ltd, Henan Tianguan Group and Heilongjiang Huarun Jinyu Ltd.

Despite public concerns expressed about impacts on domestic food supplies, an estimated 800,000–900,000 tonnes of ethanol were exported from the country in 2006, mostly to the US. PetroChina's Jilin ethanol refinery, the largest in the world, exported all of its production that year, and a growing number of agrofuel operations are sprouting up all over the country with little government restriction, many of them backed by foreign investment and oriented towards exports.

To relieve tensions with food supplies, the government is encouraging the use of imported feedstocks of crops like cassava, and is helping its major companies to secure supply agreements in countries such as Nigeria, Indonesia, Malaysia and the Philippines.

#### Some major projects

China National Cereals, Oils & Foodstuffs (COFCO) is involved in three of China's four major state-subsidised agrofuel refineries. It owns the Heilongjiang ethanol refinery and has a 20 per cent stakes in the Jilin refinery, owned by PetroChina, and the Anhui refinery. It is also building a cassava-based ethanol factory in Guangxi and two maize- and sweet-potato-based ethanol plants in Hebei and Liaoning.

China National Offshore Oil Corp is developing a biodiesel refinery and jatropha plantations covering 33,000 hectares in Sichuan. Outside China, it has a US\$5.5-billion joint venture project for palm-oil biodiesel and sugar-cane or cassava ethanol in Indonesia, and a Malaysian-based joint venture with Bio Sweet (Malaysia) to build a 1.5-million-tonne-per-year palm-oil biodiesel refinery on China's Hainan Island.

### South Korea

In 2006 the government removed tax on biodiesel and mandated that domestic diesel should contain 0.5% biodiesel. However, as gasoline is the fuel most commonly used for transportation in the country, this has had a limited impact. Given that South Korea is a major producer of MTBE, which ethanol commonly replaces, the government has shown little interest in promoting ethanol as an agrofuel. Most investment by South Korean companies in agrofuels is targeted at supply deals outside of the country.

#### Some major projects

Ingen Company plans to build an ethanol plant in Indonesia's Lampung province, that will be supplied by cassava from a 200,000-hectare plantation. In this same part of Indonesia, Samsung plans to invest US\$1 billion in agrofuel projects through a joint venture with palm-oil producer Mapoli Raya and chemical manufacturer Cho Yang Fine Chemical, which will establish an ethanol refinery and large-scale cassava plantations. Samsung also plans to set up a 200,000-tonnes per year jatropha biodiesel plant in the Philippines with the Philippine National Oil Co.

### Philippines

The Biofuels Act of 2005 mandates an ethanol blend of 5% in gasoline with an option to increase to 10% after the first two years, and a 1% blend of coconut-based biodiesel with a similar option to increase to 2%. It also provides the agrofuel industry with a range of tax and financial incentives and funding programmes.



**Some major projects**

State-owned Philippine National Oil Co has a number of joint-venture projects under way with foreign companies, such as Sumitomo and Samsung of Japan. Recently it signed a US\$1-billion biofuel deal with Biogreen Energy (Malaysia) for an agrofuel refinery and 1 million hectare jatropha plantation, as well as a US\$1.3-billion deal with NRG Chemical Engineering Pte (UK), for the construction of a biodiesel refinery and two ethanol distilleries, and a US\$600-million investment in jatropha plantations, which will cover over 1 million hectares, mainly in Palawan and Mindanao.

Saudi Aramco's subsidiary in the Philippines, Petron, the country's largest oil refiner, has an exclusive ethanol supply agreement with San Carlos Bioenergy, a joint venture between UK-based Bronzoak and Zabaleta & Co, which is controlled by the president of the Philippines Sugar Millers' Association.

In January 2007, the Philippines government signed several agrofuel deals with Chinese corporations, including a US\$3.83-billion deal with the Fuhua Group to set aside over 1 million hectares of lands for the production of ethanol feedstocks for export to China.

**Thailand**

In 2003 the government mandated a 5% blend in five states and fixed the price of ethanol below that of gasoline. A nationwide mandate for a biodiesel blend of 2% is to come into effect in 2008. National ethanol production uses sugar cane and cassava, while biodiesel largely uses palm oil. Thai ethanol companies complain that the profit margin is tight, with low ethanol prices and high feedstock prices.

**Some major projects**

Thailand and Brazil have agreed on an ethanol technology transfer deal that involves the import of 300,000 litres of Brazilian ethanol

Khon Kaen Alcohol, Thailand's only publicly traded sugar company and one of its top ethanol producers, recently expanded into Laos, where wages are only a quarter of the level in Thailand, through a joint-venture sugar plantation and ethanol refinery that will export to Thailand.

State-owned gas company PTT is the largest biodiesel producer in the country. It plans to expand its capacity to 1.2 million litres per day through three joint ventures with local palm-oil companies, including a joint venture with agribusiness giant Charoen Pokphand to open new palm-oil lands in the south of the country and to develop a "downstream to upstream" fully integrated biodiesel project, from the planting of seed to the final sales of agrofuels.

**India**

India is Asia's second-largest producer of ethanol. In January 2003, the Ethanol Blending Programme mandated the blending of 5% ethanol in petrol. With limitations to the expansion of sugar-cane production in India, the mandate encouraged Indian sugar companies to expand into Brazil. India has become the world's largest importer of Brazilian ethanol.

Most of the auto fuel consumed in India is diesel. The National Mission on Biodiesel has set the ambitious goal of a 20 per cent biodiesel blend by 2013. The government is looking to jatropha as the main feedstock, with a goal of bringing into production by 2012 13.5 million of the 39 million hectares deemed available for jatropha production in the country.

**Some major projects**

Reliance Industries, India's largest private sector company, is planning to build a large ethanol refinery in Brazil. It also has a US\$500-million jatropha refinery under construction in Andhra Pradesh.

In 2006, both Bajaj Hindusthan, India's largest sugar and ethanol manufacturing company, and Indian oil major Bharat Petroleum announced their plans for multi-million dollar acquisitions and expansions into Brazil's sugar and ethanol sector.



# Jatropha – the agrofuel of the poor?

GRAIN

The plant *Jatropha curcas* is a bush with bright red flowers, indigenous to Central America, which Portuguese traders took to Africa and Asia as a hedge plant. Its oily seeds can be used to produce biodiesel. As it can be cultivated on poor soils, it is being widely promoted in Asia and Africa as the ideal plant for small farmers. Claims like the following, made on a Pakistani website, are typical:

- If the farmer can grow his own diesel, this decentralised energy source will be a major boost to his economic condition
- 1 jatropha plant will give 1 litre of biodiesel per year for 40 years
- 90 per cent of the work can be performed by women, and directly help their revenue-earning potential
- Jatropha is drought-resistant and grows well on bad soil; moreover, it creates a lot of topsoil, so it helps to make land arable

A rosy picture indeed, but unfortunately what is actually happening does not support this optimistic view that jatropha will provide poor farmers with both cheap energy and significant income. In Africa and Asia there are serious concerns about jatropha's environmental and social impacts. Western Australia has even banned it because of its toxicity to humans and animals, and because of its capacity quickly to become a hard-to-control, invasive weed.<sup>1</sup>

Then there is the oft-repeated claim that farmers can grow jatropha without irrigation on poor soils. This is technically the case, but yields are so low in these conditions that the crop's viability becomes questionable. Indian studies show that, without irrigation, the average yield after five years is 1.1–2.75 tonnes per hectare, compared with 5.25–12.5 tonnes per hectare with irrigation.<sup>2</sup> It seems likely that, instead of being grown in marginal areas, jatropha production for agrofuels will compete directly with the production of food crops on the most fertile, irrigated lands.

Who will grow the jatropha? Proponents say that the crop is ideal for small-scale farmers. But, in practice, they are being pushed aside for tightly controlled corporate production, either on large plantations or through stringent contract production systems. In India, where the government is targeting 13.5 million hectares of "wasteland" for jatropha cultivation by 2012, it is reported already that companies are pressing farmers to give up their lands for jatropha production. Farmers near Balangir, Orissa, say that they were cheated out of 138 hectares of land by Taj Gas Limited, a company pursuing jatropha plantations in the area.<sup>3</sup> Also, as local NGOs have pointed out, the government's definition of "wasteland" includes the common lands and forests that many farmers, pastoralists and indigenous peoples depend on for their food and fuel needs.

The reality is that jatropha has already been converted into another plantation-based agribusiness commodity, tightly controlled from seed to fuel by transnational corporate networks.

1 David Smith, "Western Australia bans *Jatropha Curcas*", *Biofuel Review*, 31 May 2006. <http://tinyurl.com/2ya3cm>

2 <http://tinyurl.com/2ajfkq>

3 "Private companies eye fertile lands", *Newindpress*, 12 June 2007. <http://tinyurl.com/2fm85u>



## Some companies investing in jatropha plantations for agrofuels

British Petroleum (UK)	Plans to establish 100,000 hectares of jatropha plantations in Indonesia to feed the 350,000-tonne-per-year biodiesel refinery that it is building in the country.
Van Der Horst Corporation (Singapore)	Building a 200,000-tpy biodiesel plant in Jurong Island in Singapore that will eventually be supplied with jatropha from plantations it operates in Cambodia and China, and possible new plantations in India, Laos and Burma. <sup>1</sup>
Mission Biofuels (Australia)	Hired Agro Diesel of India to manage a 100,000-hectare jatropha plantation and a contract farming network in India to feed its Malaysian and Chinese biodiesel refineries.
D1 Oils	Among its many global jatropha operations, it has a joint venture in the Philippines with the Philippine National Oil Company for the operation of a 1,000-hectare jatropha mega-nursery.
NRG Chemical Engineering Pte (UK)	Signed a US\$1.3 billion deal with state-owned Philippine National Oil Co. in May 2007. NRG Chemical will own a 70% stake in the joint venture which will involve the construction of a biodiesel refinery, two ethanol distilleries and a US\$600-million investment in jatropha plantations that will cover over 1 million hectares, mainly on the islands of Palawan and Mindanao.

1 Burma's military junta is implementing an extensive jatropha planting campaign in the country. It plans to have jatropha planted on 200,000 hectares within three years and eventually on 3.25 million hectares. See: <http://tinyurl.com/2hwroc>

UK-based D1 Oils is the world's leading developer of jatropha biodiesel. Although its biodiesel refinery in England currently relies on soya oil from Brazil, D1 says it will soon switch to jatropha oil, sourced from its own plantations. "As our plantations of primary feedstock, jatropha curcas, begin to produce oil in volume over the next few years, we will increase significantly the import and refining of low-cost feedstocks sustainably produced overseas, particularly in developing countries", said Elliott Mannis, Chief Executive of D1 Oils.<sup>4</sup>

D1's jatropha plantations are located in Saudi Arabia, Cambodia, Ghana, Indonesia, the Philippines, China, India, Zambia, South Africa and Swaziland. In most cases, the plantations or contract growing arrangements are managed by D1's local partners, such as the Williamson Magor Group, India's largest plantation tea company, or the Philippine National Oil Company.

D1 is now working on the development of high-yielding jatropha varieties, with much of its breeding work focusing on India, an important centre of jatropha diversity and research. In 2005, in a storm of controversy, the company hired Dr Sunil Puri, one of India's leading jatropha researchers. Puri had until then been head of the forestry department at the Indira Gandhi Agricultural University in Raipur in central India and, as co-ordinator of jatropha research and development in the Indian National Oil Seeds and Vegetable Oils

Development Board, he had direct access to the University's important collection of local jatropha germplasm. A subsequent investigation by the University found that Puri had at the time illegally passed on 18 varieties from that collection to D1.<sup>5</sup> As jatropha today is no longer a marginal crop but big business, this germplasm was certainly of great use to D1. Indeed, shortly before the Puri scandal broke, D1 had contracted India's Labland Biotech to produce about 100 million high-quality jatropha clones through tissue culture techniques.<sup>6</sup>

In 2006 D1 hired one of the world's most prominent corporate biotech plant breeders, Dr Henk Joos, to lead its jatropha breeding programme. According to Joos, "The challenge lies in identifying and developing the most promising wild varieties of jatropha and producing hybrids with enhanced yield, higher oil content, and drought resistance characteristics."<sup>7</sup> Once they find such varieties, corporations like D1 will surely apply for patents, as they commonly do for other agrofuel crops.

Executives from the US-based company Xenerga Inc. say that they have already patented a Malaysian variety of high-octane jatropha that they will introduce for commercial production in the US in 2007. Xenerga and its associate company, German-based EuroFuelTech, also manage jatropha plantations in Kenya, where they say they have hundreds of thousands of hectares available for production.<sup>8</sup>



4 D1 Oils press release, 20 June 2006. <http://tinyurl.com/2aqpb8>

5 GRAIN, "Jatropha biopiracy debate", BIO-IPR Docserver, 25 January 2006. <http://www.grain.org/bio-ipr/?id=465>

6 Laiq A Khan, "Money grows on jatropha plants for Mysore firm", The Hindu, 24 April 2005. <http://tinyurl.com/2gepn2>

7 <http://tinyurl.com/275df8>

8 Rich McKay, "Farming our fuel", Orlando Sentinel, 17 April 2007. <http://tinyurl.com/yv3av6>  
Company website: <http://tinyurl.com/ywvgr7>



Africa, with its large land area and cheap labour, is an obvious target for agrofuel developers. As one European agrofuel lobby group likes to point out, just 15 African countries – nicknamed the “Green Opec” (see map) – have a combined arable land base larger than India available for agrofuel crop production.<sup>1</sup> And already millions of hectares of the continent’s so-called “fallow” lands have been surveyed and allocated for agrofuels.

# The new scramble for Africa

GRAIN



36

1 A. Wade, “Africa Over a Barrel”, *Washington Post*, 28 October 2006.  
<http://tinyurl.com/ssw8x>

2 “Brazilian Company to build ethanol plant in Africa”, *The Ethanol Producer*.  
<http://tinyurl.com/yuloyt>

3 “Africa Forges Energy Partnership with Europe”  
<http://tinyurl.com/yrzpkf>

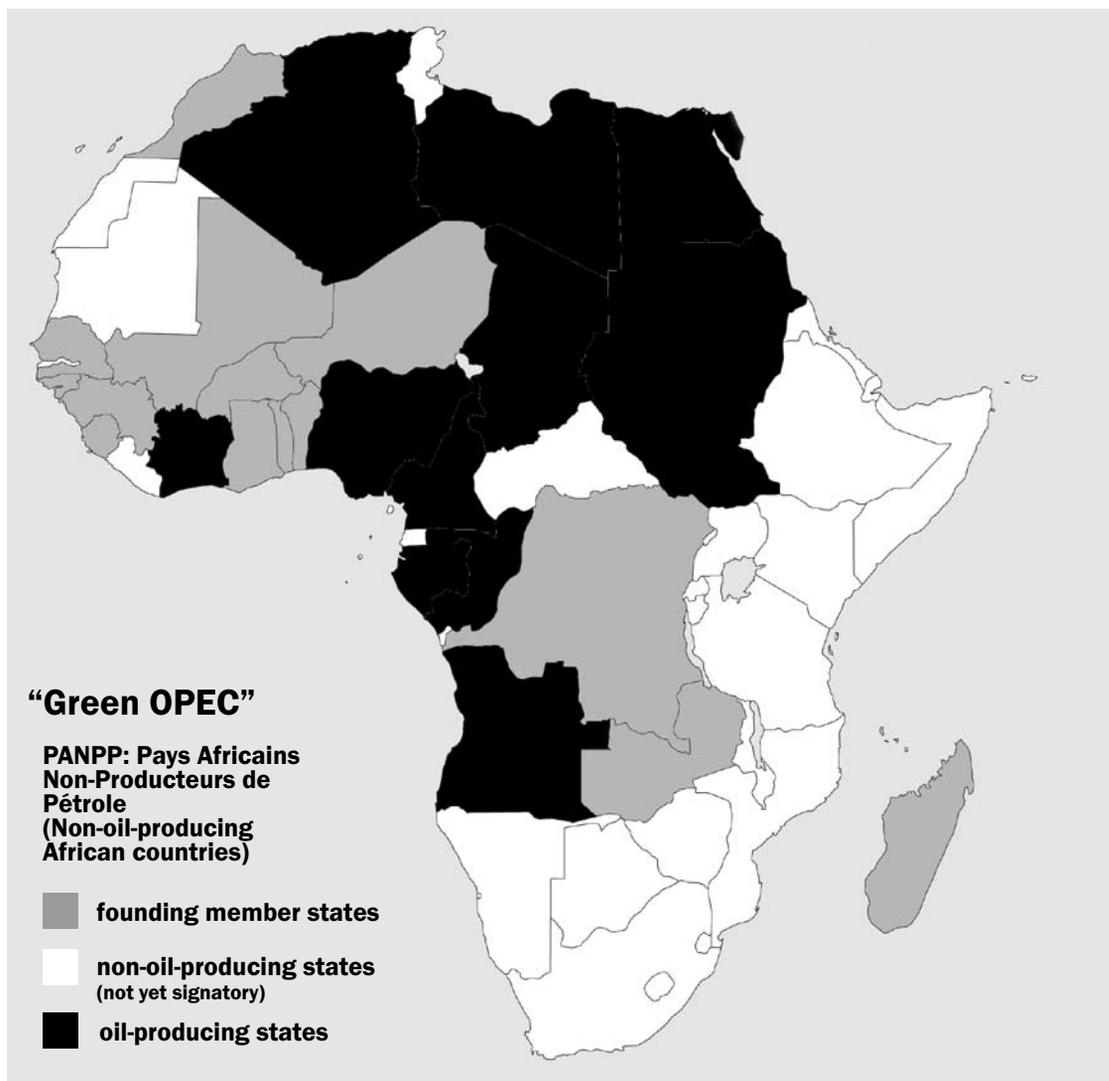
4 See “Cameroon: Oil palm plantations fostered by new biofuel market harm local livelihoods”, *World Rainforest Movement*.  
<http://tinyurl.com/259znh>

Corporations and energy-hungry countries are pouring money into Africa for agrofuel crop production, fuelling a land rush reminiscent of Europe’s initial colonial expansion. Joining the foreign invasion are Africa’s governments and business elites. Pushed to the sidelines, some groups are speaking out about the devastation all this will cause to people’s livelihoods, but it is difficult to hear them over the clatter about Africa’s great opportunity to capitalise on the world’s energy and environmental crises.

When it comes to agrofuels, the road to Africa is paved with diplomats. A daily parade of foreign politicians stalks the continent negotiating agrofuel deals wherever possible. Europe, Japan and the US are, of course, very active, working their agrofuel interests into the various multilateral and bilateral aid, trade or investment agreements they have on the go with African countries. But the so-called emerging global powers are also busy on the

continent: Brazil, largely by way of the state-owned oil company Petrobrás, has cut deals for ethanol imports and technology transfer with a range of African countries, from Senegal to Nigeria, Mozambique to Angola;<sup>2</sup> India has recently pledged US\$250 million to a West African Biofuels Fund; and China has cemented a long-term cassava supply channel from Nigeria for its domestic ethanol distilleries. Add to this some trilateral agreements too, like the partnership that the UK and Brazil have formed with Mozambique.

What all of this handshaking among government people is really about is ensuring access to a steady supply of energy, both oil and agrofuels, which, of course, will be managed by the corporations.<sup>3</sup> And things are moving quickly in this direction. Corporations are already carving out areas for agrofuel feedstock production, and existing agro-industries and plantations are being expanded.<sup>4</sup> Early in 2007, for instance, the Tanzanian government disclosed that they were negotiating



### Examples of corporate investments

Viscount Energy (China)	Memorandum of understanding with the Ebonyi state government to establish a US\$80-million ethanol factory in Nigeria using both cassava and sugar cane.
21st Century Energy (USA)	Plans to invest up to US\$130 million over the next five years in the production of ethanol from sugar cane, maize and sweet sorghum, and later to manufacture biodiesel from cottonseed and cashew nut residues in Cote d'Ivoire. <sup>1</sup>
Bioenergy International (Switzerland)	Plans to set up a 93,000-hectare jatropha plantation with a biodiesel refinery and an electrification plant in Kenya. <sup>2</sup>
Sun Biofuels (UK)	In association with the Tanzania Investment Centre (TIC), has acquired 18,000 hectares of top-quality agricultural land for jatropha production. <sup>3</sup>
AlcoGroup (Belgium)	Bought South Africa's NCP Alcohols, Africa's largest producer of fermentation ethanol, in 2001.
MagIndustries (Canada)	Acquired a 68,000-hectare eucalyptus forestry plantation and is constructing a 500,000-tonnes-per-year wood-chipping plant near the port city of Pointe-Noire in the Republic of Congo. The wood chips will be shipped to Europe for use as biomass.
Aurantia (Spain)	Investing in oil-palm plantations and possibly four biodiesel refineries in the Republic of Congo.
Dagris (France)	Investing in the development of biodiesel production from cottonseed oil in Burkina Faso through its local oil processor, SN Citec.
SOCAPALM and Socfinal (Belgium)	Plans to expand its 30,000-hectare oil-palm plantation in Cameroon, but forest communities are resisting.



1 <http://tinyurl.com/29uolk> 2 <http://tinyurl.com/2dkunz> 3 <http://tinyurl.com/27emzb>

## Nigeria - new commodity, same story

It is not only the global energy companies that are investing heavily in agrofuels. Corporations from many different sectors are jumping in and fashioning the agrofuels boom to further their own interests. Nigeria has gone along uncritically with this approach and has adopted policies that fit in with corporate strategies and do nothing to satisfy the real needs of the country.

If the government were really concerned with the country's energy needs, it would restructure its oil industry. Nigeria is the largest oil producer in Africa, and oil provides 95 per cent of government revenues. But multinational oil companies are in control, so Nigerian refineries do not produce enough refined oil to supply domestic needs, and the country imports 70 per cent of its fuel.<sup>1</sup> Instead of tackling this problem, the government is now moving into agrofuels, under the pretext that this will increase the country's energy security, though there is no indication that this will actually happen.

The country has clinched a deal with Brazil whereby it will import ethanol in exchange for being given technical expertise so that Nigeria can start implementing its 10 per cent ethanol blend policy even before local ethanol manufacturers come on stream. The prime area for expanding sugar cane (estimated to cover an area of some 400,000 hectares) is along the Niger and Benue rivers, where irrigation is possible. Cassava, too, is poised for major industrial development. For years neglected by industry, it has now emerged as a major feedstock, with considerable investment going into the development of genetically engineered varieties more suited for agrofuels production, with, for instance, increased starch content.<sup>2</sup> Rather than improving energy security, biofuels will create a new problem of food insecurity, for the price of the national staples, cassava and palm oil, will almost certainly rise substantially when agrofuel production is under way.

1 G. Rothkopf, "A Blueprint for Green Energy in the Americas", prepared for the Inter-American Development Bank, 2006. <http://www.iadb.org/biofuels/>

2 Researchers from Ohio State University developed transgenic cassava with starch yields up 2.6 times, which makes cassava a "super crop" when it comes to both CO<sub>2</sub> fixation and carbohydrate production, the feedstock for ethanol. See, for example, U. Ihemere et al. "Genetic modification of cassava for enhanced starch production", *Plant Biotechnology Journal* 4 (4), 2006: 453-65. For the recently turned down application to the South African government for cassava field trials, see: [www.biosafetyafrica.net](http://www.biosafetyafrica.net)

5 The companies include Felisa (in Kigoma region); Amma (in Tanga region); Diligent Tanzania Limited (in Arusha); Procon, Diadem (in Rukwa region) and CEPA (in Morogoro). <http://tinyurl.com/ysba4k>

6 For more information about biofuel projects in West Africa, see: Gbosségnon Christophe Gandonou, "Situation des biocarburants en Afrique de l'ouest". [www.grain.org/m/?id=131](http://www.grain.org/m/?id=131)

7 <http://tinyurl.com/2448ow>

8 "Fraud office question Ghana Bio Diesel", Alexander's Gas & Oil Connections, 2 December 2004. <http://tinyurl.com/ywjnvw>

9 <http://tinyurl.com/28t37p>

10 "Wanted - an administrator for Ghana", Hi Ghana, 7 June 2007. <http://tinyurl.com/293cvh>

11 "BOST agrees to buy local biodiesel", Daily Graphic. <http://tinyurl.com/2xbbe4>

with 11 foreign companies for investment in agrofuels crop production in the country.<sup>5</sup>

Amid this flurry of foreign investment, there are losers as well as winners. Several local African entrepreneurs trying to jump on the bandwagon are struggling to make a go of it.<sup>6</sup> The Ghanaian company Biodiesel One recently had to shut down its 12,000-hectare jatropha operation and lay off its workers because it could not find the financial backing to continue.<sup>7</sup> The other local biodiesel company in Ghana, Anuanom Industrial Bio Products, faces similar financial problems, and its early efforts to tie up with foreign investors nearly destroyed the company.<sup>8</sup> So both companies are pushing the government hard to bail them out. In December 2006, the government pledged about US\$2 million to support large-scale jatropha cultivation in the centre of the country, with over US\$300,000 going directly to Anuanom. The

government also announced plans to build a paved road into the area and appealed to local chiefs and landowners to make their lands available for the project.<sup>9</sup> Anuanom's owner, Ghanaian industrialist Onua Amoah, has been acquiring lands for plantations in the area in partnership with 2008 presidential candidate Kwabena Frimpong-Boateng and other local elites.<sup>10</sup>

It has also been reported that the state-owned oil-trading company, BOST, has offered to purchase all the biodiesel produced in Ghana, giving the local companies a much-needed guaranteed market.<sup>11</sup> But the smell of potential profits is drawing foreign investors into the country. UK-based D1 Oils is setting up a fully owned subsidiary, and Israeli investors have been looking into the construction of a biodiesel factory in the central region. Canada-based, A1 Biofuels and its local partner, Sahel Biofuels Development Company, based in Niger,



## Massive protests in Uganda over agrofuel projects

**Timothy Byakola**

In the face of intense opposition within the country, the Ugandan government was forced in late May 2007 to cancel plans to convert thousands of hectares of rainforest on an island in Lake Victoria into an oil-palm plantation. A few days earlier, President Museveni had also suspended negotiations to give a large chunk of one of the country's last protected mainland forests to a sugar-cane company owned by Ugandan Asians. This decision followed massive demonstrations against the proposal in April 2007 in the Ugandan capital, Kampala, which degenerated into an ugly race riot. Several Asian shops were ransacked. Two protesters were killed and an Asian was stoned to death.

These events have brought into the open the simmering conflict over whether or not the country's rapidly diminishing natural resources should be used to generate energy. When Uganda gained independence in 1962, 20 per cent of the country was forested; today the proportion is 7 per cent. President Museveni is a strong defender of agrofuels, arguing that Uganda has "an urgent need to industrialise our very backward but rich country in terms of natural resources and raw materials. Our backwardness is on account of the absence of industries." Nor does the government believe that industrial development causes serious environmental damage. Before the government backtracked, Jessica Eriyo, the environment minister, had said that, through clearing land for farming and gathering firewood, poor Ugandans were destroying each year five times as much forest as would be lost to the sugar project.

But many Ugandans disagree. In a country like Uganda, the environment remains the only asset that poor people in rural areas have. There is, indeed, a very intricate relationship between local livelihoods and the health of key ecological systems – water, forests and wetlands. But private investors (most of whom are supported by extensive political patronage) are busy eating into this asset base under the pretext of helping the country to industrialise. Citizens feel let down by their own government and have now risen up to defend their livelihoods.

Take the two forest areas in question. The Mabira forest, where the sugar-cane plantation was to be located, covers 32,000 hectares and is home to hundreds of tree species, rare monkeys and the prized Tit-hyllia bird. Moreover, the forest is located on the watershed of two tributaries of the River Nile. Felling such a large area could disrupt local rainfall. Bugula Island in Lake Victoria, where the oil-palm plantation is planned, is also home to rare species of plants, monkeys and birds. In November 2006 five senior directors at the national Forest Authority resigned in protest over the sale of the island's reserve to an Asian-owned oil company, Bidco. Bidco has already planted 4,000 hectares on Bugula, but it needs another 2,500 hectares.

Investors have persuaded the Ugandan government that the development of a big agrofuel industry would solve the country's crippling energy problems, which have brought many companies close to bankruptcy because of severe fluctuations in energy supply. But there is little or no evidence that the planned agrofuels would be used in this way. Local people lack the technology to make use of this energy, and the government and the investors themselves are making little effort to develop the local market for these new fuels. We believe that the domestic market is simply not important to the investors. The draft bio-energy strategy paper talks a lot about the need for government support to increase production but falls strangely silent on how to develop the local market. Our suspicion is therefore that this fuel is for export.

There is something else that leads us to believe that agrofuels may, in part, be a smokescreen for the investors' real agenda, which is to obtain land. The agrofuels sector, which is only a few years old, is almost entirely unregulated. In the confusion investors are obtaining large chunks of land for nominal fees. One ministry of energy official confided in an off-the-record briefing: "It is possible that the whole thing is being abused by night-flyers, since the right hand doesn't know what the left is doing." By the time the government wakes up to what is happening, many more of the country's precious natural resources will have been destroyed.

**Timothy Byakola works for the Ugandan NGO Climate and Development Initiatives. E-mail: [acs@starcom.co.ug](mailto:acs@starcom.co.ug), [timbyakola@yahoo.com](mailto:timbyakola@yahoo.com)**



## Wake-up call for South Africa

Both the fledgling agrofuel industry and the South African government had a rude awakening this year, when their dream of instant success proved to be clearly just that: a dream. Agrofuels manufacturers have realised that they cannot depend on a market surplus of maize for their supply of feedstock, and will have to contract farmers to grow exclusively for the industry. It is to be hoped that the government has also discovered that, despite its earlier protestations to the contrary, agrofuels do indeed affect local food security.

On paper, the South African initiative seemed to make sense. The country had surplus maize and sugar, so it appeared that these crops could become the main feedstocks for ethanol production without affecting food security.<sup>1</sup> Moreover, it seemed that the initiative would benefit the local economy, with the creation of 55,000 new jobs. So agrofuels became one of the priorities of the government's Accelerated Growth Initiative (ASGI-SA). The Industrial Development Corporation and the Central Energy Fund announced plans to invest US\$437 million in five agrofuels projects, and South African commercial maize farmers invested in a new company, Ethanol Africa, which announced to loud fanfare that they would be emulating the success of US farmers and building eight ethanol plants in the main maize-producing area.

Some analysts, however, were sceptical from the beginning about this venture's chances of success. They pointed out that:

- South Africa does not have a large in-built surplus of yellow maize to be used for ethanol<sup>2</sup>
- Maize prices depend on the global market and are linked to the oil market; both these markets have been volatile
- In the US both the farmers and the ethanol refineries are subsidised
- Prospects for obtaining a positive energy balance from ethanol production were not good. (They pointed out that, on average, South Africa obtains a yield of around 4 tonnes per hectare from its dry-land maize, while in the USA the yield is at least double this. If US farmers obtained only the modest energy-to-output gain of 1:1.3, it seemed unlikely that the South African farmers, with their much lower yields, could produce any positive energy gain at all).

Even sooner than they expected, the sceptics were proved right. This year South Africa is running a deficit in its maize production, instead of the expected surplus. In only the last six months the "ethanol effect" (that is, the extra demand from the ethanol producers), combined with a drought in Southern Africa, have caused maize prices to skyrocket, with a percentage increase four times the level predicted in the Biofuels Strategy. As maize is the country's staple food, the poor are suffering most. As always in these crises, there are winners: some commercial farmers have benefited, as the very high prices have compensated for their low yields.<sup>3</sup>

This case clearly illustrates that, even if African governments say that agrofuels must not be allowed to compromise food security, in deregulated markets competition between food and fuel is inevitable. Corporations can ensure supply by either owning the land or contracting farmers to grow exclusively for them, but it is far harder for governments to prevent the agrofuels industry from affecting food security.

In the meantime the first ethanol plant, which is to be built at Bothaville in the northern Free State, has not progressed, apparently because the necessary R1-billion investment has not yet been raised (R7.1 = US\$1). Ethanol Africa's justification is that investors are waiting to see whether the government will subsidise the industry. The obvious question to put to the government is why the agrofuel industry should be given a competitive advantage when farmers are not subsidised and the social and environmental impacts will certainly be negative.<sup>4</sup> Even the farmers who invested the initial R14 million must be having second thoughts. They are learning that the price of ethanol is directly related to the price of crude oil, which is not always low enough to make ethanol viable.<sup>5</sup>

Far more serious in its social impact is the drive by the Eastern Cape government to make



3 million hectares of “underutilised” and fertile communal land available for agrofuel investments. One such project involves the planting of 70,000 hectares of canola for export by German investors. Rural communities use this land in several ways, including grazing, and it makes a considerable contribution to their livelihood. South Africa has a long history of expropriating rural communities or restructuring land use in a way that impoverishes them. This new scheme for taking land away and using it to plant crops for export is, unfortunately, just more of the same.

- 1 Government strategy predicts a 5% average rise in food prices; the predicted rise in maize prices is only 7.6% between 2006 and 2015, as quoted in Draft Biofuels Strategy and Engineering News, 20 October 2006. [www.engineeringnews.co.za](http://www.engineeringnews.co.za)
- 2 The ethanol industry has been told to use only yellow maize, to ensure that there is no competition with white maize, a staple food, but nothing prevents farmers from switching from food to fuel varieties.
- 3 “Biofuel Production and the threat to South Africa’s Food Security”, Wahenga Brief, No. 11, April 2007. <http://tinyurl.com/2okcgx>
- 4 Ibid.
- 5 Vic de Klerk, “Who’s fuelling who? Mealies are not a viable fuel source”, Finweek, 9 March 2006. <http://tinyurl.com/2klp33>

who are preparing sites for large-scale jatropha plantations across the Sahel region of West Africa, say they plan to construct a biodiesel refinery in Ghana too, with a capacity of 25 million litres per year.

#### Land for fuel, not for farmers

There are a number of NGO-led, small-scale biofuel projects in Africa, some of them going back quite some time, that typically produce both oil for local use and soap. Agrofuel advocates like to talk

about these feel-good initiatives, but the current agrofuels boom has little to do with small-scale agriculture.

“Southern Africa has the potential to be the Middle East of biofuels”, said Andrew Owens, CEO of the UK’s Greenergy at an agrofuels meeting in Cape Town.<sup>12</sup> But to achieve this, he added, governments needed to standardise agrofuels policies across the region and work together to achieve economies of scale so that the industry would become competitive.<sup>13</sup> At the same meeting the managing

<sup>12</sup> Biofuels Markets in Africa Conference proceedings. <http://tinyurl.com/28h825>

<sup>13</sup> Ibid.



*Oil-palm trees, Benin*



director of SA Biodiesel rejected the “backyard production” of agrofuels and argued for tax breaks and large-scale production.

As a result, the money being invested in agrofuels in Africa is focused around large-scale plantation agriculture, tightly integrated into transnational corporate networks.<sup>14</sup> And, as in any other sector of agribusiness, corporate profit with agrofuel crops is best assured when these plantations are on the most fertile lands, close to major transportation routes.<sup>15</sup> Millions of small farmers still occupy these lands, however, and they have become the main obstacle in the path of the agrofuel rush. It is becoming clear that, whenever agrofuels are on the agenda, the pressure on farmers to leave their land intensifies.

In Tanzania, the prime minister is fast-tracking agrofuels to accommodate a Swedish investor looking for 400,000 hectares in the Wami Basin, one of the country’s major wetlands, to plant sugar cane for ethanol. The project will inevitably displace local small-scale rice farmers.<sup>16</sup> In Liberia, a UK company, Equatorial Biofuels, acquired Liberian Forest Products (LFP), which holds management agreements and permits covering over 700,000 hectares of land for the cultivation of oil palm. In Ethiopia, where land pressure is high, over 1 million hectares are being granted to

agrofuel corporations to grow mainly jatropha, a potentially invasive species that is being introduced on a large scale without proper environmental impact assessments (*see* Ethiopia box).

A Southern African Development Community (SADC) agrofuel feasibility study warns against small-scale projects, claiming that they will affect standards. In addition, it also recommends that agrofuel legislation and seed regulations be standardised throughout the region, and calls for the provision of soft loans and measures to accelerate free trade in order to “open up new land”.<sup>17</sup> It seems that agribusiness and biotechnology companies are taking advantage of the agrofuels craze to push through a wide range of changes in the trade and farming regulatory set-up that will favour their interests.

It is often argued that, even if corporations come to dominate the agrofuels market, there will still be space for poor farmers to reap some benefits. It is claimed, in particular, that jatropha will grow in marginal conditions and thus be a suitable crop for poor families. But even this seems very unlikely (*see* article on jatropha on page 34). The truth is that the agrofuels boom in Africa is not about rural development and improving the living standards of poor farmers. On the contrary, it is about foreign companies taking over the land: by striking

14 “Combustion or Consumption? Balancing food and bio-fuel production”, IRIN, 25 April 2007.  
<http://tinyurl.com/2xewqx>

15 L Strydom, “Biofuels 2006: How is the global value chain shaping up?” *Eco world*, 30 December 2006.  
<http://tinyurl.com/2qyb3v>

16 Abdallah Mkindi, *Enviro-care*, Tanzania, personal communication.

17 Namibian Agronomic Board, “National Bio-oil Energy Roadmap”, August 2006.



## Ethiopia – setting the scene for fuel-induced famine.

The agrofuel industry is very active in Ethiopia, and the government is doing all it can to attract foreign investment. The most popular crop is jatropha, followed by castor beans and some palm oil in the coffee-growing regions, all of which are to be used to produce biodiesel. There are also moves afoot to establish an ethanol industry and to introduce new, specially bred varieties of sorghum, maize and sunflower. These would, the companies claim, reduce the country’s dependence on foreign food aid and strengthen the food security of rural communities.<sup>1</sup> Pressure on land is intense, as the population is growing and 85 per cent of the country’s inhabitants still depend on the land for their livelihoods. Few families have secure land titles, which is one reason why it is fairly easy for foreign companies to acquire land.

The German company Flora Ecopower is investing 671 million birr (US\$77 million) in the Oromia Regional State, and has negotiated the purchase of over 13,000 hectares of land in the Fadis and Miks woredas (districts) of the East Hararghe zone for the production of biodiesel. Key to its strategy is control over the full production chain, and it has signed an agreement with the regional farmers’ association by which 700 farmers are each ceding two hectares of land for a period of five years.<sup>2</sup> According to press reports, the farmers do not mind relinquishing their land, as they welcome the investment in their region.<sup>3</sup> After production had started and forest land had been cleared, however, it was realised that

12,000 hectares (87 per cent) of the land granted fell within the boundary of the Babile Elephant Sanctuary. Environmental organisations have protested and also pointed out that the land allocation was unlawful and that no environmental impact assessment was done.<sup>4</sup> A subsequent investigation into the incident has confirmed this, and also revealed that the communities in the area are unhappy with both the development and the negative impact that the forest clearing is having on the elephants.<sup>5</sup> The situation has become increasingly politicised, and it seems that neither the Federal nor the Oromia regional government plan any immediate steps to undo the damage done to this vital ecosystem, which is home to rare, endangered elephants.

Another company, Sun Biofuels, has signed a lease agreement with the Benshangul Gumuz Regional State government for 80,000 hectares of land. It has also purchased 80 per cent of the National Biodiesel Corporation of Ethiopia as part of its programme to strengthen its presence in Ethiopia prior to investing in the whole of East Africa. It is reported to have helped to draft the Ethiopian Biofuels Strategy, which establishes the country's overall agrofuels programme.<sup>6</sup> The company is carrying out land surveys, and planning with the government which areas should be devoted to agrofuels.

There are now a number of foreign agrofuel companies operating in Ethiopia. Officially 196,000 hectares of land have been granted but, if one counts land under negotiation, the total increases to 1.15 million hectares. Ethiopia has identified 17.2 million hectares as suitable for *jatropha*, of which 1.7 million, located in the Borena, Bale and Arsi zones, are regarded as highly suitable. These areas have annual rainfall of 900–1300 mm.

Company	Ownership	Land granted and under negotiation (in hectares)
Sun BioFuel	UK	80,000 in Benishangul-Gumuz, 5,000 in SNNP with plans for 200,000 in Tigray and 40,000 in Amhara
Becco Biofuels	US	35,000 in Amaro Kelo
Hovev Agriculture Ltd	Israel	40,000 granted, expanding to 400,000
Flora Ecopower	Germany	13,700 in East Hararghe, expanding to 200,000
The National Biodiesel Corporation (NBC)	Germany & US	90,000
LHB	Israel	100,000 in Oromiya

The Ethiopian government's strategy clearly recognises that the local population depends on areas in the lowlands that are not permanently settled, for grazing, crop-growing and the collection of forest products, and urges that the local population should not be denied their traditional land use rights.<sup>7</sup> It stresses the importance of food security, recognising that more than 4 million people suffer from food insecurity, and says that their welfare must not be compromised by the agrofuel industry. But in reality, this is already happening: although there is growing population pressure on the land and farmers are struggling to make ends meet, vast tracts of land are now being granted to foreign companies to produce energy for export to Europe.

1 [www.floraecopower.com](http://www.floraecopower.com)

2 Ibid.

3 W. Zenenbe, "German Co Invests Half Bln Birr Plus on Bio-Fuel", Addis Fortune, 9 April 2007. <http://tinyurl.com/2lp7mt>

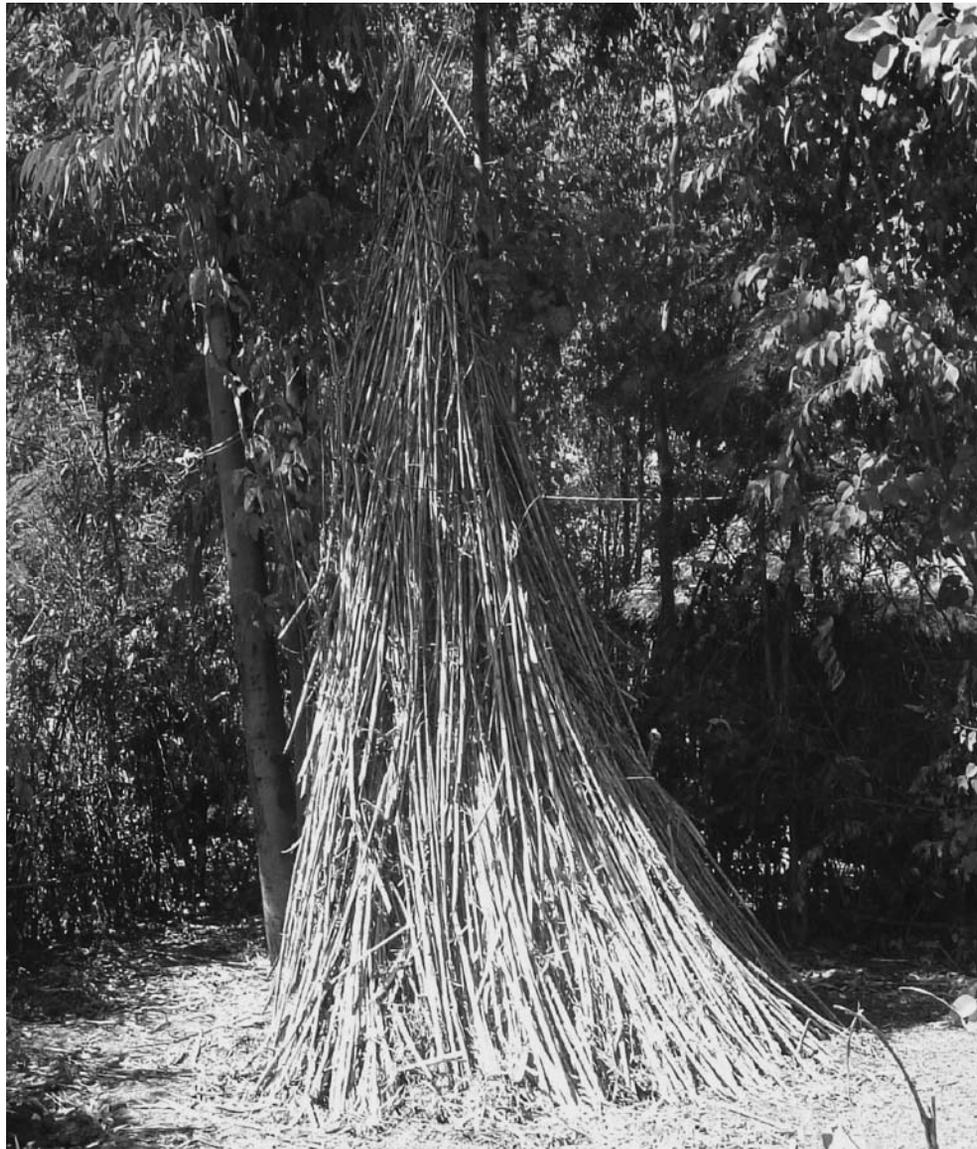
4 W. Zenebe, "Bio-diesel Project Encroaching on Elephant Sanctuary", Addis Fortune, 27 May 2007. <http://tinyurl.com/2oa3w3>

5 Gebremedhine Birega, personal communication, 18 June 2007.

6 <http://tinyurl.com/27emzb>

7 Ethiopian Government, strategy documents.





*Sorghum stalks, used by rural communities as fuel for fire*

deals with government officials and lobbying for legal protection, subsidies and tax breaks; by acquiring scarce fertile land and water rights; by coercing farmers into becoming cheap labour on their own land; by introducing new crops in large-scale plantations; by introducing GM crops through this backdoor; by displacing people and biodiversity-based systems; and by enslaving Africa even more to the global market. Land grabbing on an unprecedented scale is on the march in Africa.

#### **Agrofuels to improve energy security?**

If the supposed benefits of agrofuels for Africa's small farmers are already proving illusory, what about their contribution to the continent's energy security? Is it not the case that agrofuel production

will help the economies of African countries by reducing their reliance on costly fossil fuels?

The problem is that agrofuels are already being defined as a global commodity, to be traded on the world market, and such commodities are controlled by the local elites in alliance with multinational companies, and access to them is limited to those that can afford them. Oil is a case in point. It is now widely recognised that the large oil reserves found in some parts of Africa did not provide the countries involved with energy security nor bring benefits to the mass of their populations.<sup>18</sup> Take the case of Nigeria. It is a leading oil exporter, but biomass, mainly firewood, still meets the energy needs of up to 91 per cent of the country's households. It is still a poor country, with 71 per

18 Up to 50 million metric tons of refined product – or 78% of the annual consumption of the 48 sub-Saharan countries in Africa – is expected to be added to the world market by 2010. See: <http://tinyurl.com/2w8vdk>

cent of the population living on less than US\$1 dollar a day, and the people in the Niger delta, the oil-producing region, are the poorest of all.<sup>19</sup> Nigeria is now planning a huge expansion of large cassava plantations for agrofuel production. But, just as in the case of oil, it is extremely unlikely that agrofuels will improve either the country's energy security or the welfare of its people. The agrofuels boom is being driven by the government's desire to increase export earnings, mainly through the export of cassava and sugar cane for agrofuels (see box on Nigeria on page 38).

It will almost certainly be a similar story with Africa's non-oil-producing countries, which are now talking so enthusiastically about the potential of agrofuels to solve their energy needs. In these countries, oil imports are a crippling expense, consuming up to 50 per cent of export earnings. A rise in world oil prices has a huge impact on their growth rates. These countries are now assuming that by growing agrofuels they will have their own fuel and so lessen their exposure to fluctuating oil prices. But this will not be the case. The reality is that, just as in the case of oil and all other global commodities, the market will fix the price of agrofuels. The country of origin will have little control, especially if ownership of the whole value chain is in the hands of international companies. The production of agrofuels will not guarantee cheap fuel to the local population.

In principle, there is a great deal of scope in Africa for renewable energies, but the local governments are not drawing up adequate policies for the sector, and are doing little to attract investment into it. Biomass already accounts, on average, for 59 per cent of energy consumption (with a much higher percentage in most sub-Saharan countries), most of it from firewood, but also from cow dung and other locally available resources.<sup>20</sup> A lot of these activities are currently not sustainable, and pressure on biomass will increase with population growth, so national investment to improve these practices and provide alternatives would seem to be of the highest priority. However, the reality is that government expenditure on renewable energy in Africa has consistently declined. Ethiopia, for example, quadrupled its investment in oil exploration and tripled its investment in electricity in the 1990s, but expenditure on alternative energy decreased from about 1 per cent to 0.1 per cent of total investment.<sup>21</sup>

It is the same story for most of Africa, and the situation is likely to get worse. One venture to

export biomass in the form of processed woodchips is already under way and, with the second generation of agrofuel crops, the region will start producing wood-based cellulosic biofuels. These initiatives will drive up the price of wood and charcoal, limit people's access to the forests, and lead to the further depletion of Africa's poor soils.

Africa is also the continent that will most seriously be hurt by another development caused by the agrofuel hype: increased food prices. Prices of several of the world's staple foods are already on the rise as countries are diverting their land from food crops to fuel crops. The FAO estimates that the cereal import bill of low income, food-deficit countries – many of them in Africa – will increase by about one quarter this year as a direct result of the "ethanol effect".<sup>22</sup>

### Resistance is growing

People are starting to realise what the agrofuels boom is doing to their livelihoods, and resistance is growing. Farmers in northern Ghana have rejected jatropha as an agrofuel, mainly because they fear being tied down by fickle markets, and because of its toxicity, which limits its use.<sup>23</sup> In South Africa, civil society has rejected the government's proposal to use tribal and communally owned land in the Eastern Cape for agrofuels.<sup>24</sup> Analysts are warning that maize for ethanol is not viable and that the shortage of arable land is a critical issue for South Africa.<sup>25</sup> In Uganda, civil unrest erupted after the government granted a permit to a company owned by East African Indians to exploit the Mabira forest to plant sugar cane for agrofuels, and the government has now backed down (see Uganda box on page 39). The African Biodiversity Network has severely criticised the UK for setting targets for biofuels that will sacrifice Africa's land, forests and food to satisfy the UK's vast energy requirements.<sup>26</sup>

To sum up, agrofuels will not improve the lot of the mass of African people for various reasons. First, the poor simply cannot afford them because they do not have money to buy energy, but rely on wood, charcoal and dung. Secondly, it makes no sense for rural families to replace their sustainable and food-secure agricultural systems and forests with foreign-owned industrial plantations and in the process become cheap and dispensable labour. Thirdly, the privatisation of the land that is the source of Africa's wealth will undermine any chance that African countries have of determining their own future.



19 <http://tinyurl.com/2vrw3>

20 S. Karekezi et al., *Renewables in Africa*, AFREPREN, February 2007. [www.afrepren.org](http://www.afrepren.org)

21 Ibid.

22 FAO, "Crop Prospects and Food Situation" No. 3, May 2007. <http://tinyurl.com/2kswxw>

23 <http://tinyurl.com/2on3ou>

24 "Rural communities express dismay: land grabs fuelled by biofuels strategy", Report of Civil Society Workshop on SA Biofuels Strategy, Durban, 5 March 2007, p. 2. <http://tinyurl.com/3cetb5>

25 G. Morris, "Strong land use policy is key to developing South African biofuels", *Biofuel Review*, 10 April 2007. <http://tinyurl.com/36futn>

26 <http://tinyurl.com/2kfjwz>



South America is becoming a key area for agrofuels, both ethanol made from sugar cane (see page 20) and biodiesel produced from soya oil and, to a lesser extent, palm oil (see page 51). Latin American activists, who were the first to come up with the term *agrocombustible* (agrofuels), have also been among the first to denounce what is going on. Here are they explain in their own words how the agrofuel craze is affecting their continent.

# Latin American voices

*João Pedro Stedile is one of the leaders of the Movimento dos Trabalhadores Rurais Sem Terra (MST), Brazil's Landless Movement. In its recent conference in Brasilia, attended by 18,000 activists, the MST spoke out strongly against the damage being caused by agrofuel monoculture (www.mst.org.br).*



## P João Pedro Stedile

**A** Farida Akhtar

**B** Benny Haerlin

**C** Carlos Correa

**D** David Quist

**E** Johnson Kpere

**F** Francisca Rodriguez

**G** German Velez

**H** Hope Shand

You were involved in the decision to start using the term “agrofuel”, rather than “biofuel”, weren’t you?

At the World Forum on Food Sovereignty, recently held in Mali in Africa, we and other delegates discussed how capital has manipulated terminology by adding the prefix “bio”, which signifies life, to renewable plant-based fuels. This is ridiculous, because all living things are “bio”. We could call ourselves bio-people, bio-John Smith, bio-soya, etc. Companies use the prefix “bio” to encourage the public to see their products as a good thing, as politically correct. So, at the international level, Vía Campesina has agreed to use more accurate terminology. These fuels and energy are produced from agricultural crops and so the correct terms are agrofuels and agro-energy.

What is the impact of the agrofuels craze in Brazil?

We are very worried. What we are seeing is a major alliance between three sectors of transnational capital: the oil companies, which want to reduce their dependence on oil; the car companies, which want to continue profiting from the current individual transport model; and agribusiness companies such as Bunge, Cargill and Monsanto, which want to continue monopolising the world agricultural market. International capital now wants an alliance with the big landowners in the

South, especially in Brazil, to use large areas of land to produce agrofuels. They want to do this only to maintain their profit margins and standard of living. Unlike us, they are not the least bit concerned about the environment, global warming or anything else. Capital has one objective – profit – and now it is single-mindedly trying to use agriculture to produce fuel for vehicles.

What impact is this having on agriculture and food production?

The rules of economics operate for all capitalist agricultural production and are based on the average rate of profit. If it is more profitable to produce ethanol or other agrofuels than corn, cotton, wheat or beans, the farmer will, of course, replace food crops, which generally have a lower profit margin (because consumers have low incomes) with crops suitable for the production of agrofuels. This is a rule of capitalism. It is not something that needs predicting or planning. This is what is happening in Brazil. The area with sugar cane is increasing, because it is more profitable, and the area with beans, corn and dairy cattle is falling.

Another effect is that agrofuels are leading to an expansion of monoculture. Large areas of fertile land are being taken over by sugar-cane or soya monoculture to produce feedstocks for ethanol



or biodiesel. Monoculture is harmful to the environment, because it destroys other plants and reduces biodiversity. Research into soya and sugar-cane production in Brazil shows that monoculture changes the pattern of rainfall, which becomes more concentrated at a particular period of the year and more torrential. As there is less vegetation to soak up the rainfall, it flows more quickly into the rivers or underground aquifers. Other studies show that the average temperature has been increasing and droughts are becoming more frequent in regions where monoculture prevails. In the case of sugar cane, the problem is made worse by the use of fire to clear the land, which releases more carbon dioxide into the atmosphere. Very bad working conditions are also a feature of sugar-cane production. Workers are brought in from distant regions to make it more difficult for them to organise and stand up for themselves.

**What is happening to land ownership?**

Agrofuels are having an enormous impact on the concentration of land ownership. They encourage big companies to expand the area under monoculture and, in alliance with finance and international capital, to buy large areas of land. For example, in recent months, Cargill bought the biggest alcohol distillery in São Paulo, along with its 36,000-hectare sugar-cane plantation. This is the country's biggest sugar-cane plantation. Other multinationals are doing similar things. Last year sugar-cane cultivation increased to a record 4 million hectares in São Paulo state alone. Many factories are planning to expand. The idea is to increase the area to 7 million hectares in only three years. Neighbouring states Goiás, south-east Minas Gerais and Mato Grosso do Sul are also increasing sugar-cane production, and will build no fewer than 77 new distilleries during the next five years. Petrobrás has already begun to lay alcohol pipelines from Cuiabá (the capital of Mato Grosso, in the centre-west of the country) to the port of Paranaguá, in the state of Paraná on the south-east coast, and another from near Goiânia (the capital of Goiás) to São Paulo's port, Santos. The whole region will be taken over by large sugar-cane plantations. This is an extraordinary concentration of land ownership, strengthening the presence of international capital, in the form of companies such as Cargill. Many foreign investment funds, including those controlled by George Soros, are buying shares in Brazilian alcohol companies.

**How would you sum up Brazil's experience after more than 30 years producing alcohol from sugar cane?**

The production of alcohol from sugar cane for use as a fuel in vehicles had a positive impact on Brazil's

trade balance. It reduced the country's dependence on oil and kept the price of fuel down. However, it also caused many environmental problems. Many scientists argued in favour of production in small units, integrated into peasant agriculture, for local consumption, with a view to promoting energy sovereignty. However, the dictatorship of that time chose monoculture and large factories. Many rural districts became immense sugar-cane plantations, completely dependent on other parts of Brazil for food. And there hasn't been a reduction in pollution. First, because the production of sugar cane itself requires diesel, and fertilisers are made from petroleum products. So, in fact, there was a 25 per cent increase in oil consumption in these regions. Second, vehicles using a mixture of petrol and alcohol still contribute to global warming, because of the high number of vehicles and people in big cities. So the use of alcohol didn't resolve any environmental problems or stop the release of carbon dioxide into the atmosphere. Very much to the contrary, in fact. In addition, it aggravated social problems by promoting the concentration of land ownership, reducing employment in rural areas and promoting the rural exodus. The sugar-cane regions in Brazil are the areas with the greatest concentration of wealth and the greatest incidence of poverty. I always use the example of Ribeirão Preto, a town in the centre of São Paulo state, considered by the bourgeoisie to be a kind of Brazilian California because of its high technological expertise in sugar-cane production. Thirty years ago, this was a rich area that produced all its own food and had a thriving peasant agriculture and an equitable distribution of income. It is now an immense sugar-cane plantation, and about 30 distilleries own all the land. About 100,000 people live in shanty towns and 3,813 people are in prison, more than the number of people working in agriculture, which is only 2,412 including children. This is the sugar-cane monoculture model of society: more people in prison than working on the land!

**How do you think we should deal with the energy and fossil-fuels crisis?**

There should be a major public debate to discuss the problem at various levels. First, and most important, we have to change the transport system. We must end our dependence on vehicles that transport individuals and consume a lot of petrol and alcohol. We must promote public transport, which can use gas, electricity and other less polluting forms of energy. Second, we need to change energy sources throughout society and encourage small-scale alternatives that have less impact on the environment, such as small and medium-sized hydroelectricity plants, agrofuels, wind power,

**Ibrahim Ouedraogo**

**Jack Kloppenburg**

**Joseph Eve**



**Laxmanma 47**

**Lorenzo Gulas Hurtado**

**Diego Fall**

**Sherif Mar**

**João Pedro Stedile**

and so on. Third, we need to promote the idea of energy sovereignty. Each community, each district, should seek its own local solutions so that it does not depend on imported energy. Obviously, large cities are not going to achieve this completely, but they can greatly reduce their dependence on outside sources. It is possible to find non-polluting forms of energy that preserve the environment. We hope that the negative consequences of global warming and climate change, which the urban population is already becoming aware of, will educate the public and encourage it to put pressure on governments for change. We can expect nothing from companies and capitalists, who have no commitment to people, only to their own profit margins.

What does the MST propose to do to change the government's policy on agrofuels?

The MST and *Vía Campesina* are continuously discussing these issues. The first step is to halt the expansion of sugar-cane and soya monoculture and stop the advance of transnational capital. The second is to increase public debate about alternatives and to promote the idea that trade in energy, including agro-energy, should be controlled by a public sector company that can develop policies that are in the interests of the people and not in the interests of capital. This will be a long and difficult battle. But that battle has already begun and it will decide the future of humanity.



*Max Thomet is a member of the collective CET SUR, which has its headquarters in the south of Chile. Its mission is to contribute to the mobilisation for social and cultural transformation led by social movements, which are trying to build sustainable societies through the reinvigoration of traditional values and the territorial empowerment of people at local level (www.cetsur.org).*

**B**iofuels has become a big issue in Chile, just as in other countries in the region. We have the feeling that the importance given to it responds to another agenda, not Chile's real needs. The peasant world has been largely destroyed. Land today is largely in the hands of businessmen, who are interested in the export of agricultural and cellulose products. So when people speak about agrofuels as an option for farmers, what they are really talking about is an activity that will further concentrate economic control in the hands of a very specific economic group.

called the Bio Bio Biotechnology Centre, has been formed and is working to "improve" the productive capacity of eucalyptus and pine species (resistance to disease, suitability for pulping, and resistance to cold). New varieties are being developed that will make it possible to push back the present ecological constraints so that a larger area can be turned into forest monoculture.

Moreover, Chile has a relatively small farming area compared with the rest of Latin America, just 5.1 million hectares, compared with 25 million hectares of native forest and forest plantations. What may well happen is that in the longer term forestry products will be used in Chile to produce agrofuels. Way back in 1974 a law was passed to encourage forest plantations. This law made it possible to change the use of land from arable farming to forestry. This led to a concentration of land and of production into the hands of two of the country's most important economic groups: the Angellini group, which has invested through Forestal Arauco, Celulosa Arauco and the COPEC group; and the Matte group, which has invested through Forestal Mininco and Celulosa CMPC.

Even before the development of agrofuels from cellulose, forest plantations are advancing strongly into agricultural land, destroying large areas belonging to Mapuche and peasant communities. Cases like Lumaco, where 70 per cent of the population is Mapuche but the communities occupy only 15 per cent of the land, with the rest covered with forest plantations, are becoming more and more common.

The social movements and popular organisations in Chile are not well informed. They know very little about agrofuels, and what they have learnt has given them a rather idealised view of them. To give one example: the growing demand for grain from neighbouring countries has led to a 73 per cent increase in maize prices this year, which has led many small farmers to see agrofuels as part of the solution to the country's environmental and agricultural crisis.

Although the Angellini group believes that it is too early to invest in agrofuels, it is watching developments closely through its agrofuels subsidiary, Empresas Copec. A public-private consortium,

We predict that the agrofuels craze will have a severe impact on our country. To mention just a few of the consequences we foresee: once agrofuels are being produced from cellulose, the new distilleries will demand a larger and larger forested area and,

- A** Ferida Akhtar
- B** Benny Haerlin
- C** Carlos Correa
- D** David Quist
- E** Johnson Kpere
- F** Francisca Rodriguez
- G** German Velez
- H** Hope Shand



once land is forested, it can never again be used for arable farming; even though the forested areas will appear green, they will in fact become green deserts, for local ecosystems and water cycles will be severely affected and, with acute water shortages, local communities and peasant families

will first be corralled into smaller and smaller areas and then evicted from the land; and with the surge in demand from the distilleries for wood and wood residues, firewood prices will increase, causing great hardship for families in the south of Chile, as firewood is their basic source of energy. 

*Norma Giarraca is a lecturer in sociology at the Instituto Gino Germani in Buenos Aires, Argentina. She specialises in the study of social protest.*

**T**he social structure of our agrarian sector went through a profound transformation in the early 1990s under President Meném. The whole institutional apparatus that had allowed the coexistence of big landowners, medium-sized farmers, peasant families and indigenous communities (which were already fairly disintegrated but were still on their land in the north and in some areas in the south) was abolished. Agriculture was opened up to the world market at a time when world commodity prices were dropping. This created a huge crisis and the government didn't provide assistance. Many farmers didn't recover. What emerged from this was what we call the *modelo sojero* (the soya model). This doesn't refer just to the dominance of one crop, soya, but to the logic of agricultural expansion that lies behind this crop. This logic – the logic of agribusiness – is almost exclusively oriented towards the foreign market.

It is different from the logic of the earlier phase of agro-industry, which was also geared towards domestic prices and the production of food for the country. It is true that there had always been a certain tension these two things – production for the foreign market and production for the domestic market – but they had coexisted. Indeed, industrialists required the country to provide food for workers. But with the new model this coexistence was destroyed and everything was geared towards the export market. This had serious consequences – the disappearance of other crops, a reduction in the number of *tambos* (dairy farms) and the advance of soya towards the cattle lands of the pampas, land which is not suited to arable farming.

What I want to stress is that relations between the landowners (*terratenientes*), the middle-sized farmers and the peasant families faced a real crisis, a total crisis. It was not just a case of the landowners gaining dominance. Some of the traditional landowning class was, in fact, also opposed to the new model. But there was a part of the landowning class that formed an association

with the new investors, the so-called “pool” of outside investors, who were putting money into soya, and with the agronomists who worked with them and introduced GM crops. This group began to take over the land of medium-sized farmers in the pampas. They used the very same mechanism which has been used in many parts of the world, including the USA and Canada, to take away land from medium-sized farmers – abundant loans and then a debt crisis. Ridiculous amounts of money were lent to the farmers, more than their land was worth, and then the loans were foreclosed and the farmers were forced to sell.

There was resistance. An important movement called the *Movimiento de Mujeres Agropecuarias de Lucha* (Movement of Farming Women in Struggle) managed to stop more than 500–600 families losing their land, but this was only a drop in the ocean: thousands of expulsions occurred. The people who lost their land were the descendants of migrants who had arrived in Argentina at the beginning of the 20th century. The president of the women's movement farmed land that she and her husband had inherited from her French father-in-law, who had arrived at the beginning of the century and acquired 90 hectares of land.

But the soya farmers weren't satisfied by taking over this land. The price of soya continued to rise and they moved north on to marginal land, beyond the rich lands of the pampas. And who lived in the north? Peasants who had been living there for more than 20 years, cultivating food crops and growing a few agro-industrial crops, such as cotton, sugar cane and *erva mate* (herbal tea). Who else? Indigenous communities, who were demanding definitive rights to their land. This land had a high level of biodiversity, perhaps the highest in the country. But with the expansion of the model everything was destroyed. And for the first time there was institutionalised violence against the peasant families. As most of them didn't have official land rights, the provincial government decided that the land didn't belong to them but to the state, so the government could sell it to the outsiders. The new

- I**brahim Ouedraogo
- J**ack Kloppenburg
- K** Joseph Eve 
- L**axmanma 49
- M** Lorenzo Gulas Hurtado
- N** diego Fall
- O** Sharif mar
- P** João Pedro Stedile

investors arrived and contracted private security guard to expel the peasants. The same mechanism was used with the indigenous movement. The soya farmers arrived with security guards, the provincial police and even justice officials (the justice system is a disgrace in Argentina, above all in Salto and Santiago del Estero). They wreaked havoc with the communities, destroying their sacred land and their cemeteries and their schools. Argentinian anthropologists are considering whether or not they should use the word *ethnocide* to describe

what happened, above all to the unorganised communities like the Wuichis and Guaranis, small groups with perhaps 40 families.

Once again, there was resistance. Some very strong peasant and indigenous movements have emerged, such as the *Movimiento Campesino y Indígena de la Argentina* (the Peasant and Indigenous Movement of Argentina) and the *Movimiento Campesino de Santiago del Estero – MOCASE* (the Peasant Movement of Santiago del Estero). 

*Germán Velez is an activist from the Grupo Semillas (Seeds Group), a Colombian non-governmental organisation that works on environmental issues with local communities (www.semillas.org.co).*

**T**he Colombian government has decided to promote *agrofuels* on two fronts. One is by replacing part of petrol consumption with *agrofuels* made mainly from sugar cane. It's turning into a highly profitable business for the sugar barons. Their activity is concentrated in the Cauca river valley in south-west Colombia. It suits the government well, for Colombia has a problem of sugar overproduction. It produces more than 1.5 million tonnes of sugar and exports at present no more than 200,000 tonnes. So the government has passed new legislation that requires fuel to have 10 per cent ethanol by 2009. This means that the sugar barons will be able to sell a large part of their produce to the ethanol manufacturers.

At the moment, the sugar plantations are concentrated in the Cauca river valley, but the idea is for them to spread to other regions. This is all happening at the expense of *panela* (a kind of sugarloaf), a staple peasant food, which was largely made by small farmers. In fact, sugar production by smaller farmers is disappearing altogether. The government is also planning the large-scale production of *agrofuel* from cassava. This will be on the Caribbean coast. And they're looking at other crops, like maize. One of the arguments that they use for the introduction of GM maize in Colombia is that they need it for *agrofuels*.

The other big *agrofuels* front – on which the government is putting even greater emphasis – is the introduction of oil palms for biodiesel. Oil-palm plantations will be planted in the tropical area of Chocó along the Pacific coastline, along the Caribbean coastline and in the central-eastern area of Llanos. Colombia already has 300,000 hectares of oil palm and we expect another 2 million hectares to be planted over the next five years. To achieve all this, the government has introduced

two big changes. One is a new forest law, which was approved recently. It promotes investment in the extraction of tropical timber, forestry projects and oil-palm plantations. It's a closed project that goes from the destruction of forest land to the planting of oil palms to the sale of environmental services because of the carbon sink function of the oil palms.

With our country in the midst of a civil war, these projects play another important political function. Paramilitaries and drug-trafficking groups have taken over six million hectares of land through the violent eviction of peasant families and indigenous groups. It is on this land that they are setting up these forestry projects. The government now wants to pass another law – the law of agrarian development – that will enable the invaders to get titles to the land that they illegally occupied. Really, it should be called the law of counter-agrarian reform. Many groups are opposed to it.

This law will pave the way for the investment of huge amounts of capital. The idea is that Colombia should put an end to peasant agriculture, which is inefficient and uncompetitive, which does not bring in foreign exchange and is not creating progress in the country. The objective is to hand over all the land to efficient and competitive producers. The government is also providing the new owners with a support system of incentives, tax breaks, subsidised credit and so on. They say that Colombia is a country with a vocation for forestry and perennial crops and that it can't compete abroad with food crops. Last year we imported eight million tonnes of basic foodstuffs. It's a national disgrace, but that's not how the government sees it. They want us to export tropical crops – coffee, fruit and so on. The biggest star of all will be palm oil. So we will import basic foods from the USA and export *agrofuels*. That's the future they plan for us. 

- A Ferida Akhtar
- B Benny Haerlin
- C Carlos Correa
- D David Quist
- E Johnson Kpere
- F Francisca Rodriguez
- G Germán Velez
- H Hope Shand



Along with the rapid expansion of ethanol production, largely manufactured from sugar cane (see page 20), South America is also beginning to play a key role as a producer of biodiesel. The main feedstock is soya and, for the soya farmers and the multinational grain companies, who were facing problems of overproduction, the new market outlet is a godsend. It gives them the perfect pretext for continuing their take-over of the continent.

# Soya nexus in South America

## GRAIN

“We have 80 million hectares of land in the Amazon that is going to turn us into the Saudi Arabia of biodiesel”, said Expedito Parente, a Brazilian chemical engineer who took out the first patent for the manufacture of biodiesel on an industrial scale.<sup>1</sup> Brazil’s President Lula is similarly enthusiastic. “In the next 10–15 years, we will see Brazil become the leading producer of biodiesel”, he said recently.<sup>2</sup> “Few countries can compete with Brazil, because God gave us sun, land and hard-working people.”

Apart from actively promoting ethanol and biodiesel within Brazil, Lula has been seeking out investment possibilities in neighbouring countries. After a visit to Asunción in May 2007, Lula commented enthusiastically: “I’m leaving Paraguay with great optimism because the country’s potential in ethanol and biodiesel is extraordinary.” Not to be outdone, President Nicanor Duarte, of Paraguay, added: “If Brazil is to become the Saudi Arabia of biofuels, why can’t Paraguay become the Kuwait of the 21st century?”<sup>3</sup> Lula’s desire to turn Brazil into a regional agro-energy power has the full support of Washington, which is keen to reduce South America’s dependence on oil and thus to weaken the political influence of the fiercely anti-American Venezuelan president, Hugo Chávez, who has been using his petrodollars to strengthen his influence in the region.

Biodiesel made from soya oil is the latest chapter in the conquest of South America by soya, a crop that enshrines a new form of agricultural exploitation in which the giant agro-industrial corporations

play a dominant role (see testimony of Norma Giarraca on page 49). Over the last four decades soya has spread like wildfire across vast areas of South America. In Brazil it began in Rio Grande do Sul, the country’s southernmost state, and has since expanded north, taking over huge areas of farming land, savannah and forest. Today it has crossed the Amazon river and is being planted in Roraima, 4,000 kilometres north of Rio Grande do Sul. The harvest, which was 1.5m tonnes in 1970, reached 57 million tonnes in 2006–7.<sup>4</sup>

In Argentina, the crop spread just as rapidly, moving north and west and gobbling up large areas of arable land, pampas and forest. This year the harvest totalled 43 million tonnes, compared with just 27,000 tonnes in 1970. In the early 1990s Brazilian farmers from Mato Grosso do Sul took the crop to Paraguay, where now it covers 2.5 million hectares and has become the country’s main export.

Soya means monoculture and huge mechanised farms. As a result, soya has done enormous environmental damage, causing the destruction of 21 million hectares of forest in Brazil, 14 million in Argentina and 2 million in Paraguay.<sup>5</sup> At the same time, soya has pushed out food crops. From 1991 to 2005 the area in Brazil planted with rice, beans, maize and wheat decreased, while the area going to soya more than tripled. In Argentina it is the same story: production of many staples, including milk, rice, maize, potatoes and lentils, has fallen sharply.<sup>6</sup>



1 <http://tinyurl.com/33gauk>

2 “Brazil to be world’s leading biodiesel producer”, *People’s Daily*, 19 November 2005. <http://tinyurl.com/392h3g>

3 “Imperial and Exploiter: Wave of Criticism Welcomes Brazil’s Lula in Paraguay”, *Brazil magazine*, 22 May 2007. <http://tinyurl.com/2q3yyh>

4 <http://tinyurl.com/37mfzh>

5 Miguel Altieri and Elisabeth Bravo, “The ecological and social tragedy of crop-based biofuel production in the Americas”, April 2007. <http://tinyurl.com/3dkpto>

6 “Argentina’s Bitter Harvest”, *New Scientist*, 17 April 2004, p. 40.

As most staple foods are cultivated by family farmers, this means that the very fabric of rural life has been destroyed. As the soya front advanced north in Brazil, some 300,000 people were displaced from Rio Grande do Sul and another 2.5 million people from Paraná.<sup>7</sup> About 150,000 families were thrown off their land in Argentina<sup>8</sup> and another 90,000 families in Paraguay.<sup>9</sup>

There has been strong resistance from social movements all over the region, yet the march of soya is proving very difficult to stop. It has the support of some of the most powerful groups in agribusiness – ADM (the world's largest soya processor), Cargill (the world's largest grain trader), CentralSoya, Bunge, Mitsubishi and others. Over the last 30 years both ADM and Cargill have relocated their soya export base to Brazil and Argentina. Throughout this process they have lobbied hard and got the local governments to invest heavily in transport infrastructure. Roads have been built and paved, and rivers dredged, all at domestic taxpayers' expense, though very few local inhabitants benefit. More recently, some of these companies have taken the repositioning a step further. Cargill and the US-based Smithfield, both giant meat processors, have set up pig- and chicken-packing houses in the south of the Amazon basin.<sup>10</sup> They are now exporting pork and poultry from animals fed on soya meal.

Pressure on land will intensify as a result of the biodiesel craze. Most market experts expect global demand to grow explosively over the next few years.<sup>11</sup> This is partly because Europe, which is currently the world's largest biodiesel market, has set itself ambitious targets for biodiesel consumption. Its target of achieving a 20 per cent mix of biodiesel in petroleum diesel by 2020 will require 20 billion gallons of biodiesel a year. This is more than 20 times Europe's current consumption. As Europe simply doesn't have any more land on which to plant its own biodiesel feedstock (canola), it will have to increase greatly its imports of both palm oil and soya oil.<sup>12</sup>

Many Latin American governments are leaping on the bandwagon. Repsol YPF, a Spanish–Argentinian petroleum company, is investing US\$30 million in a new refinery that will start production later this year, making it Argentina's first major producer of biodiesel.<sup>13</sup> The Uribe government in Colombia is strongly promoting both sugar and oil-palm plantations (*see* testimony of German Vélez on page 50). In Peru, California-based Pure Biofuels, itself owned by Metasun Enterprises, recently acquired the country's largest biodiesel refinery

and plans to become a leading regional player, once it has completed its new refinery in the port of Callao.<sup>14</sup> Yet the scope for expansion in most South American countries is limited. Even Argentina, Latin America's second-largest country, has little land still available for soya. According to one US energy analyst, "Argentina can increase plantings of soya by 3 per cent or less because of limited land availability."<sup>15</sup>

Brazil, however, is in a different position. Despite the rapid expansion in recent years, Brazil still has a huge area, generally estimated at about 80 million hectares, that could be planted with soya (though this figure includes part of the Amazon basin). As a result, most analysts expect Brazil to overtake the USA as the world's leading soya exporter next year and by 2015 to be exporting twice as much (*see* graph). By then, a large part of Brazil's soya exports may consist of biodiesel.

The biodiesel boom has arisen at a very convenient moment for Brazilian soya farmers, who had begun to produce at a loss, squeezed between the low world price of soya and unsustainable costs because of the huge distances the soya had to be transported by lorries fuelled with expensive diesel. Today their problems are disappearing: export prices have risen because of the agrofuels boom and transport costs are falling because of cheap biodiesel, produced locally with vast government subsidy.

Not surprisingly, ADM is cashing in on the new opportunities. It has chosen Brazil as the centre of its South American biodiesel operations, and within Brazil it has selected Rondonópolis in the state of Mato Grosso do Sul for its biggest investment. ADM's new biodiesel refinery, the biggest in Brazil, will shortly come on stream, and its clients will include Blairo Maggi, the state governor, who is also one of the world's largest soya farmers and has long had a close association with ADM. Maggi will be selling part of his soya harvest to ADM at market price and buying back the cheap biodiesel. Pig rearers and cattle farmers will be able to buy the leftover from the biodiesel production to feed to their animals. This will also mean that it will become possible to rear cattle more intensively, thus freeing land for more soya production.

Along with ADM, a host of other corporations are investing in the sector. Italian companies are spending US\$480m to build four biodiesel refineries.<sup>16</sup> Marubeni Corporation, Japan's fifth-largest corporation, is investing US\$40m in a joint venture with the Grupo Agrenco, a large Brazilian trading company, to produce biodiesel and soya

7 Ibid.

8 Ibid.

9 "Urgent Solidarity with Paraguayan Campesinos", *Upside Down World*, 24 May 2007. <http://tinyurl.com/2gdtz4>

10 Marcia Merry Baker, "Soy Monoculture in the Americas: Globalisation Ruins Food Economy". <http://tinyurl.com/2aw8f3>

11 William Thurmond, "Biodiesel 2020: The Emerging Markets", *Swiss Derivatives Review* 32, Autumn 2006.

12 "Biodiesel: Boom or Bust?", *ICIS News*, 5 February 2007. <http://tinyurl.com/2yyxex>

13 <http://tinyurl.com/ys5nbe>

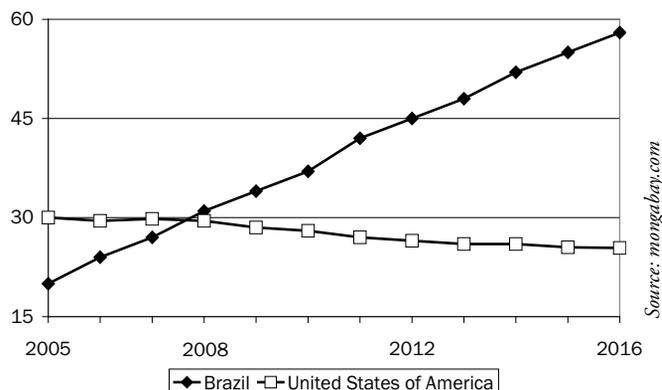
14 <http://tinyurl.com/28swwd>

15 John Baize, "The Global Biodiesel Industry: A Road to Riches or an Impending Train Wreck?" <http://tinyurl.com/2apqxt>

16 "Italian Firms to Invest in Brazil Biodiesel Plants", *Planetark*, 27 March 2007. <http://tinyurl.com/ypzwt9>



**Projected soya exports, US and Brazil, 2004–2016**  
(million tonnes)



meal. José Honório Accarini, a leading government analyst, said that the government expected investment in biodiesel to reach US\$1.5bn by 2013, by which time Brazil should be producing 2 billion litres of the fuel.<sup>17</sup>

President Lula's original plan was for most biodiesel to be produced from castor beans cultivated by impoverished small farmers in the north-east of the country. Unlike ethanol, which in Brazil is produced on big sugar plantations, he expected biodiesel to play an important role in alleviating poverty. "As it [biodiesel] can easily be produced by small farmers in some of the poorest regions of the country, the project combines environmental protection with rural development, and reduces social inequality", he enthused in an article specially written for the European press.<sup>18</sup> Indeed, President Lula introduced tax breaks for refineries purchasing from small-holders, and confidently predicted that by the end of 2007 some 350,000 people would be working in the biodiesel industry.

However, even though some small farmers have enrolled in the programme, it is already clear that they will not be the dominant producers. "If this project is to succeed, it will likely need the scale that only the soya industry can bring", said Carlo Lovatelli, head of Abiove (the Brazilian Oilseed Processors' Association), in 2005.<sup>19</sup> Since then, the grip of the soya farmers on the industry has become ever tighter. Several global analysts expect Brazil to become the dominant exporter by 2020, with China the leading consumer.<sup>20</sup>

This means that, unless the Brazilian government takes decisive action to prevent it, soya is likely to take over most of the Amazon basin over the next decade. Within just a few years the relentless advance of the agricultural frontier into the Amazon basin is likely to push the tropical forest over the

critical "tipping point" so that it starts to dry out and turn into savannah. Then, indeed, there will be no stopping the farmers, who will see no reason at all for not making economic use of the moribund forest. As the forest dies, hundreds of thousands of river dwellers, peasant families and indigenous people will be disinherited, and the world will lose an extraordinary biomass, which plays a key role in regulating the global climate. Just as serious, the destruction of the Amazon forest will release some 90 billion tonnes of carbon into the atmosphere, enough by itself to increase the rate of global warming by 50 per cent.<sup>21</sup>

What makes the biodiesel craze particularly senseless is that very little at all will be achieved in return for this colossal damage to the planet and its people. Despite the current investment boom, biodiesel will never be able to satisfy more than a fraction of global diesel demand. At the moment, the USA consumes each year some 60 billion gallons of diesel fuel. Even with all the investment, global biodiesel production will only reach one fifth of this – 12 billion gallons – by 2010, and much of this will not be available to the USA.<sup>22</sup> One analyst put it very bluntly: "the impact on global diesel supply will be minimal".<sup>23</sup>

Moreover, the small contribution that biodiesel will make towards solving the global energy crisis will be short-lived. The present stampede will very quickly exhaust the supply of land, with the destruction of many of the planet's remaining ecosystems (including tropical forests). William Thurmond, author of "Biodiesel 2020: a Global Market View", put it clearly: By 2015, "energy demands for soybeans, canola and jatropha oil [will] surpass the available land to plant these energy-rich crops."<sup>24</sup> Leaving a wake of destruction behind it, the global energy industry will then seek another "technical fix", and another source of profits.

17 "Brazil's fledgling biodiesel industry takes off", Environment News Service, 29 April 2005. <http://tinyurl.com/yv3bt7>

18 Luiz Inácio Lula da Silva, "Join Brazil in Planting Oil", Guardian, 7 March 2006. <http://tinyurl.com/25rrnu>

19 "Brazil's biodiesel rush", Biodiesel, August–September 2005. <http://tinyurl.com/2tr9rk>

20 "Watch Brazil and China, says new biodiesel study", Inside Greentech, 30 January 2007. <http://tinyurl.com/3dbzlg>

21 "Amazon Forest 'could become a desert'", Independent, 23 July 2006. <http://tinyurl.com/rbo3c>

22 Online Business Intelligence for the BioPharma Industry, "Biofuel Market Worldwide (2006)". <http://tinyurl.com/2o5nm6>

23 John Baize, "Biodiesel: The Solution or a Disaster?" <http://tinyurl.com/28szqw>

24 William Thurmond, "Biodiesel 2020: The Emerging Markets", Swiss Derivatives Review 32, Autumn 2006.



# Further reading: good materials on agrofuels

The volume of recent articles, papers and other materials on agrofuels can be overwhelming. Below we list some that we found particularly useful when preparing this Seedling.

**1)** Worldwatch Institute, "Biofuels for Transportation: Global Potential and Implications for Sustainable Agriculture and Energy in the 21st Century", 2007.

<http://tinyurl.com/27fdjz>

The first part of this paper, compiled by the Worldwatch Institute for the German government, gives a good overview of the current situation with agrofuels. It lists the countries that produce them, the different feedstocks, the different technologies and so on. It highlights what we see as the right economic, social and environmental issues, but its policy recommendations fall short of its own analysis.

**2)** Corporate Europe Observatory (CEO), "The EU's agrofuel folly: policy capture by corporate interests", Briefing paper, June 2007.

<http://tinyurl.com/2decyx>

An interesting piece analysing how the corporations set the agenda for agrofuel policy-making in the European Union, explaining who is who, and what the different corporate sectors are up to in Europe, highlighting their direct linkages with the European Commission and their lobbying capacity.

**3)** Biofuelwatch et al. "Agrofuels – towards a reality check in nine key areas", April 2007.

<http://tinyurl.com/ypzxwu>

A good paper highlighting agrofuel impacts in nine key areas, including discussions on climate change, GMOs, biodiversity, food security and rural development. Credibly backed up by scientific evidence.

**4)** C. Ford Runge and Benjamin Senauer, "How Biofuels Could Starve the Poor", Foreign Affairs, May–June 2007.

<http://tinyurl.com/3c6dlt>

Discusses the impact of agrofuels on food security, with a special focus on the role and impact of US policies.

**5)** FBOMS, "Agribusinesses and biofuels: an explosive mixture", Rio de Janeiro, 2006.

<http://tinyurl.com/2fd3ds>

A good publication from the Brazilian Forum of NGOs and Social Movements for the Environment and Development, zooming in on the devastating impact of agrofuel plantations in Brazil.

**6)** World Rainforest Movement (WRM) Bulletin, 112, November 2006, special issue on biofuels.

<http://tinyurl.com/2nb4y9>

A compilation of different articles on the impact of agrofuel plantations, focusing on different issues in different parts of the world, with cases from Cameroon, Colombia, Indonesia and Malaysia.

**7)** Garten Rothkopf, "A Blueprint for Green Energy in the Americas", Inter-American Development Bank, 2007.

<http://www.iadb.org/biofuels/>

A massive blueprint study from the perspective of the Inter-American Development Bank. Highly positive about agrofuels, but with good information about the investment situation in different countries in the Americas, Europe, Asia and Africa.

**8)** Miguel Altieri and Elisabeth Bravo, "The ecological and social tragedy of crop-based biofuel production in the Americas", April 2007.

<http://www.foodfirst.org/node/1662>

A good piece, analysing the impact of agrofuels in North and South America. Good data on pollution and soil erosion for the main agrofuel crops.

**9)** David Noble, "The Corporate Climate Coup," ZNet, 8 May 2007:

<http://tinyurl.com/yrs8jv>

Excellent analysis of the corporate campaign that he says has "safely channelled fears over global warming into corporate-friendly agendas at the expense of any serious confrontations with corporate power". Noble, however, also claims, like Alexander Cockburn, that this corporate campaign has exaggerated the threat of man-made global warming, a claim that is challenged by George Monbiot and others in a lively debate on the ZNet website. <http://www.zmag.org/debatesglobalwarming.html>

**10)** Grist Magazine, "Fill'er Up", 4 December 2006.

<http://tinyurl.com/2r6k5m>

A special web-based issue of the magazine edited by blogger Tom Philpott. While somewhat focused on the US, it provides excellent insight into the corporate lobby behind the agrofuel push and a good general background into the ethanol debate as well.

## Websites:

<http://www.biofuelwatch.org.uk>

Biofuelwatch is currently one of the most active sites bringing together information on the problems with agrofuels. Their "sources" section provides a good list of further reading materials. They also run a list server that you can subscribe to.

<http://ethablog.blogspot.com/>

English language blog that provides news and analysis of the Brazilian ethanol industry from a business perspective. Also provides useful translations of local information.

Are you subscribed to

# Seedling?

Get good analysis, reviews,  
interviews and opinion in Seedling,  
every three months

Subscribe to Seedling - delivered free to your door

Visit <http://www.grain.org/go/subseed> to subscribe online

or if you do not have access to our website, please fill in this form and:

**Post to:** Seedling, GRAIN, Girona 25 pral, Barcelona, E-08010, SPAIN

**Fax to:** +34 933 011 627

**Email to:** [seedling@grain.org](mailto:seedling@grain.org)

**Name:** \_\_\_\_\_

**Organisation :** \_\_\_\_\_

**Address:** \_\_\_\_\_

**Postcode / Zip:** \_\_\_\_\_

**Country:** \_\_\_\_\_

**Email:** \_\_\_\_\_

**Are you subscribed to Seedling already** (please tick): Yes  No

**More than 1 copy required? Please send me** \_\_\_\_\_ **copies of Seedling**  
*(insert number of copies required - if left blank, we will send one copy. Feel free to distribute Seedling magazines to others)*

**Would you be interested in receiving a CD of the GRAIN website?\*** Yes   
*(\* This is a survey question. If there is enough interest we may consider sending a CD with Seedling in future)*

**I'd like to receive Seedling because:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



Farmers' and peasants' lives are increasingly affected by international rules made by governments at remote international meetings. For some time transnational corporations have been using intergovernmental forums to extend their influence over food and farming policies in the developing world. For example, the introduction of rules on intellectual property (e.g. patents and plant variety protection) in the World Trade Organisation (WTO) and, via WTO, into agriculture was very much a corporate-driven project. But sometimes smaller, stealthier steps can have an equally disturbing impact. We look at what is going on in two international organisations.

# Fear over growing WIPO-FAO links

GEOFF TANSEY



56

At the next meeting of the Coordination Committee of the World Intellectual Property Organisation (WIPO) in September 2007, an important but little-known agreement between WIPO and the United Nations' Food and Agriculture Organisation (FAO) will be up for discussion – again. The agreement aims to “establish a mutually supportive relationship” between FAO and WIPO and to establish “appropriate arrangements for cooperation between them”.<sup>1</sup>

So what is the problem? This is where one gets into the often tedious and obscure way in which agreements are negotiated in different forums by negotiators with different areas of expertise, and where texts can be changed in ways that can undermine key public interests such as access to food. The Agreement as originally developed by an FAO committee in April 2005 included a preamble 13 paragraphs long. This framed

the draft agreement under the general premise that access to food may be more important than the protection of intellectual property per se.<sup>2</sup> Paragraph 3 of the preamble, for example, declares the parties to the agreement to be: “Aware of the growing use of intellectual property rights in the food and agriculture sector and the importance of taking into account the specific nature and needs of agriculture, including fisheries and forestry, in the development and implementation of relevant intellectual property policies”. The hope from the FAO side was that such connection would help to expand understanding in WIPO of agriculture's needs. However, between April and November 2005, when the final text was approved at FAO, the preamble was deleted.

When the bare text was presented to last year's Coordination Committee meeting in WIPO, the Brazilian delegation raised the alarm.<sup>3</sup> Brazil, which is a leading proponent of a more development-

<sup>1</sup> The final text is available at: <http://tinyurl.com/2lhnya>

<sup>2</sup> For the draft text with preamble agreed by the Committee on Constitutional and Legal Matters (CCLM) at FAO in April 2005, see Appendix II of the CL 128/5, at: <http://tinyurl.com/2tutd3>

<sup>3</sup> See William New, “Questions raised over proposed WIPO secretariat deals with FAO, IDB”, IP Watch, Geneva, 1 October 2006. <http://tinyurl.com/2ur294>

centred WIPO, was concerned that the agreement would give the WIPO Secretariat, through its Director General, a blank cheque to exert excessive and biased influence on a wide range of food and agricultural issues. A Brazilian official was quoted as saying that, “we don’t want the [FAO] to be contaminated with the non-development-friendly view WIPO tends to take on intellectual property.” There were also concerns that under the proposed agreement, WIPO member states are waiving the right to be consulted on each specific issue brought to the attention of the organisation, and are leaving it to the Secretariat.<sup>4</sup>

The Geneva-based officials that deal with IP were concerned that there is a tension between FAO’s official mission, which is to help countries in the South to develop their agriculture and to improve people’s access to food, and WIPO’s mandate, which is to promote the expansion and use of intellectual property rights (patents, copyrights, trademarks, etc). Moreover, the objectors, which also included Bolivia and South Africa, do not see the preamble as the only problem in the draft agreement. They also want extensive fine-tuning and overall revision to make it balanced and respectful of the competencies of Member States of both the FAO and WIPO.

It seems obvious that the FAO and other international organisations dealing with health and environment need their own legal and technical expertise to approach intellectual property from the point of view of their core mandates. Rather than accepting uncritically WIPO’s pro-industry line and function, FAO should do the opposite and make the case for changes in the intellectual property regime as and when necessary in the interest of small farmers and other local communities. There are no indications, however, that any changes have been – or will be – made to the agreement. It seems likely that the unaltered draft will once more be put up for adoption and further action will be needed by developing countries to get the changes they want.

*Geoff Tansey is a consultant with the Quaker International Affairs Programme (QIAP) in Ottawa. He and Tasmin Rajotte are currently editing a new guide, due out later this year, titled **The future control of food – An essential guide to international negotiations and rules on intellectual property, biodiversity and food security**, (Earthscan, London, with International Development Research Centre, Ottawa, and QIAP, 2007). Geoff can be contacted at [geoff.tansey@jrct.org.uk](mailto:geoff.tansey@jrct.org.uk), QIAP at [qiap@quaker.ca](mailto:qiap@quaker.ca)*

4 The only opportunity for member states to have a say on agreements that the Director General of WIPO wishes to sign is an annual meeting of the Coordination Committee, which lasts no more than a morning. Moreover, the Director General is under no obligation to negotiate with the members on the specific language and provisions of the draft texts.

### **GRAIN would like to hear from you!**

- What did you think about this special edition of *Seedling* and has it been useful to you?
- What has been your experience with agrofuels?
- Do you agree or disagree with anything that has been written in this issue of *Seedling*?

**Please send an email to: [agrofuels@grain.org](mailto:agrofuels@grain.org) and we will put a selection of your responses on our website.**

You can also write to us by sending a letter to:

Seedling, GRAIN, Girona 25 pral, Barcelona, E-08010, Spain

Or you can fax us at: +34 933 011 627



