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Sugarcane ethanol: a sweet solution for Europe's fuel addiction?

Brazil's agribusiness is lobbying to make the case, but people and the environment are paying the price.

In spite of overwhelming criticism of agrofuels as a 'solution' to climate change, sugarcane ethanol is often seen as the one more positive exception. The Brazilian government is lobbying hard in Brussels in favour of high EU agrofuel targets and for better market access for sugarcane ethanol. However, sugarcane is far from a sustainable source of energy. Certification initiatives such as the 'Better Sugarcane Initiative' are top down approaches that lack support from small producers or affected communities.

In July, responding to high profile concerns, the European Parliament's Environment Committee voted in favour of cutting the proposed 10% target down to 4% by 2015. Many calls are now going out to the Industry, Research and Energy (ITRE) Committee to drop the proposed 10% agrofuel target in their upcoming vote on the issue on 11 September.

That same ITRE Committee however voted on 1st September to significantly dilute proposals for fuel efficiency standards for cars. Car manufacturers will be able to use agrofuels as a 'get out clause' to avoid having to abide by standards. This shows clearly that agrofuels are being promoted in the EU largely to make up for the lack of real measures to reduce emissions from cars and fuels, or to change the transport model. EU decision makers have turned agrofuels into an escape route for the car and the oil industry, who will have to invest less in more efficient cars, or in a clean-up of oil operations.

Brazil's push for EU target

Brazil is the world's largest producer of sugarcane and its government has been at the forefront in pushing sugarcane onto the agrofuel agenda. Backed by the sugarcane industry, Brazil is keen to see the EU introduce higher targets for agrofuels. It claims that Europe can fuel its cars on ethanol made from sugarcane, reducing greenhouse gas emissions without affecting food prices; and without deforestation or damage in rural communities.

The Brazilian government is keen to see EU tariff barriers for ethanol swept aside, and is pushing for this in WTO negotiations, in order to allow ethanol from sugarcane to become a competitive alternative to gasoline. Brazil is also expected to push for EU and US tariff reductions on ethanol from sugarcane at the International Biofuels Forum scheduled to take place in Sao Paulo in November.

Since these attempts to slash tariff barriers have failed so far, Brazil has turned to bilateral accords of various kinds with EU member states like the Netherlands and Germany. And in January this year, the Swedish government applied for EU approval to import Brazilian ethanol at a lower tariff rate than the present tariff. [\[1\]](#)

Ethanol from sugarcane is presented as a climate-friendly source of fuel - but the indirect effects of expanding sugarcane plantations in Brazil are overlooked. And what are the other impacts of this monoculture crop? Can sustainability standards really address the fundamental problems, and are current initiatives in this respect mainly serving business, or communities?

The dark side of sugarcane

Sugarcane is grown as a monocrop, predominantly in southern and central Brazil as well as in parts of Asia and Africa. It relies on heavy quantities of inputs, particularly fertilizer. Harvesting is often done by hand, and working conditions are notoriously harsh.

A number of studies in Brazil have shown that demand for land for sugarcane is leading to the conversion of grasslands and wooded savannah for crops, releasing stored carbon dioxide, and

displacing previous users like cattle farmers who move into tropical forests.

One recent study has estimated that, if of the effect of land conversion was taken into account, it would take sugar cane ethanol sourced from previously wooded Cerrado lands in Central Brazil 17 years to repay its climate debt - that means that for those 17 years, the level of greenhouse gases emitted because of land conversion will be higher than the emissions from burning fossil fuels. Given the rate at which sugarcane depletes the soil, there is no guarantee that converted land will still be supporting sugarcane in 17 years time - this carbon debt may in fact never be paid.[\[2\]](#)

Sugarcane also has devastating effects on biodiversity - with the Cerrado savannah of Central Brazil, where sugarcane is grown, being one of the world's most biodiverse and also most threatened habitats. Sugarcane expansion is also affecting Brazil's Atlantic Forest, and indirectly the Amazon, as cattle farmers move into the forest in the search for new pasture.

Sugarcane expansion is leading to land conflicts, as rural communities are forced off land to make way for the plantations. Small-scale farming has become unviable in the plantation areas and many small farmers feel they have no financial choice but to sell up.[\[3\]](#) Sugar plantations are displacing small farms, food crops and subsistence food systems - leading to food shortages and price rises.[\[4\]](#)

In a report by Maria Luisa Mendonca, farmer Gaudino Correia explains the problems with leasing out the land. "The contracts are for 12 years, and after that the sugarcane has destroyed everything. The mill uses heavy machines to prepare the land, and it causes soil erosion. They burn sugarcane, and the ashes spread throughout the region. I did not want to lease out my land, and now I'm surrounded by sugarcane. Here there is no more land for farming, and therefore food prices have risen a lot. My neighbours have stopped producing corn, beans, coffee, and milk, and leased out their lands. I still plant corn, beans, and produce milk, but for small producers the price did not increase, only for the middleman and for consumers."[\[5\]](#)

Indigenous leaders say that their traditional lands are being taken for plantations, despite a programme to recognise indigenous territories.[\[6\]](#) The Fact Finding Mission of NGOs to Brazil, organised by the organisation FIAN in spring 2008, found that "...the process of expansion of sugar cane plantations has postponed the demarcation of indigenous lands in the state of Mato Grosso do Sul, further worsening the violations of the right to land and food of indigenous peoples, particularly the Guarani Kaiowé, are subjected to."[\[7\]](#)

Working conditions on the plantations are harsh, with poor accommodation and food, little health care and in some remote areas effective imprisonment. There are reports of workers dying because of overwork, of plantations using slave labour and child labour at harvest time.[\[8\]](#)

The heavy reliance on nitrogen fertilisers adds to sugarcane's climate impacts and results in water pollution, leading to eutrophication of coastal waters and estuaries. Pesticides also increase the pollution, building up in rivers and streams. Sugarcane cultivation damages the soil, depleting the nutrients and leading to erosion.

Burning of sugarcane fields is widespread, causing damage to the soil, adding to greenhouse gas emissions as well as causing serious problems for the local population including respiratory diseases related to smoke and ash, fire risk, heat, air pollution.[\[9\]](#)

Furthermore, for every litre of ethanol, 10-13 litres of a residue called vinhoto or stillage are produced. At least 170 billion litres of stillage are deposited in Brazil's sugar growing regions, contaminating rivers and groundwater.[\[10\]](#)

Certifying "Better" Sugarcane ethanol?

Given the problems associated with many sources of agrofuel, certification schemes have been put forward as a way of identifying "sustainable" sources of the fuel. A number of voluntary schemes have been developed by the private sector, sometimes in partnership with some NGOs.

Round tables on Sustainable Palm Oil (RSPO) and Responsible Soy (RTRS) are still being developed, while there are also proposals for a Round Table on Sustainable Biofuels. But such initiatives appear to provide little guarantee that the accredited feedstocks are in fact "sustainable"; they often lack involvement of affected communities or small scale producers.[\[11\]](#) By providing the

new 'sustainable' agrofuel market, as well as the traditional markets (that are often growing too) with green labels, they even facilitate and legitimise the overall monocrop expansion.

The so far little known "Better Sugar Cane initiative" (BSI) - a partnership of a number of producers, retailers, traders and investors, is less active and has a lower profile than the Round Tables. Founded in 2005 by World Wildlife Fund (WWF) and the World Bank's International Finance Corporation (IFC), it appears to have made little progress in defining what constitutes "better sugarcane".

[12] The push for agrofuels has nevertheless provided a new dynamic for the BSI. The Initiative has been put forward by some within the EU as a suitable platform for developing sustainability criteria for sugarcane. It has recently gained three new members from the energy sector, BP, Shell and Greenergy. Another recent member is UNICA, a lobby group that represents the interests of some major sugar cane producers and distributors. [13] As we will see, UNICA is currently undertaking strong lobbying efforts in Brussels to push for the 10% agrofuel target in the EU.

BSI was set up to develop baseline criteria for sourcing and producing sustainable sugar cane, although, like the other Round Tables, it is a voluntary scheme. As yet, however, it has not published any standards or any form of framework for monitoring the chain of custody. Nor do its staff appear to be particularly qualified in issues concerning sustainable agriculture.

BSI's project manager, David Wilders, previously worked as an overseas representative for the South African Sugar Association (SASA), representing the interests of the South African sugar industry. The heads of two of the technical working groups in charge of formulating standards were consultants for SASA.

Most of BSI's members come from industry and the steering committee is dominated by big companies including Cargill, Tate and Lyle, Coca Cola, British Sugar, and the oil giants Shell, and BP, alongside European and American NGO's such as WWF and Ethical Sugar. No trade unions or rural community organisations from sugar-growing areas are involved. Ethical Sugar in the past claimed to be trying to engage with grassroots organisations, but with little sign of success.

Power with a price tag

One reason for this limited involvement could be the considerable cost. Joining the BSI Steering Committee, and therefore having voting rights, costs US\$25,000, and becoming a 'Special Advisor' is US\$10,000. This is extraordinarily undemocratic and unheard of in any of the other Roundtables.

The only Brazilian stakeholder wealthy enough to get involved is UNICA. UNICA's executive board members include Bioenergia, the Brazilian representative of Louis Dreyfus (a global commodity processing and trading company), and two powerful sugar conglomerates in Brazil, the Santa Elisa and Cosan groups.

It is in fact perhaps unlikely that grassroots organisations would chose to sit down with multinational like Cargill, currently vice chair of the steering committee. In 2007, 900 sugar cane workers and peasants lead a protest against Cargill's CEVASA operations in Sao Paulo State, which they said were responsible for the death of 17 women working on the plantations, as well as having destroyed opportunities for subsistence farming in the rural communities. [14] Shell, another member of the steering committee, has a number of lawsuits pending in the US and the UK for its involvement in human rights and environmental violations in Argentina and Nigeria, including torture and murder. [15]

GM 'better' sugarcane?

There is little clear indication of the BSI's position on genetically modified sugarcane. GM sugar cane varieties are currently being tested in Brazil. [16] If the experience of the other Roundtables is anything to go by, industry is unlikely to accept the exclusion of GM crops from 'sustainable' certification, regardless of environmental and social impacts of GM crops.

A number of BSI members, including BP, Shell, and Cargill are involved in collaborations or have investments in the biotech companies such as Monsanto, Du-pont, and Bayer [17] - while SASA has been linked to open field trials of GM sugar cane. [18]

Promoting sugarcane in Brussels

The Brazilian government and the producers' organisation UNICA have been actively lobbying in Brussels ahead of key votes on agrofuels.

UNICA hired the lobby consultancy firm Fleishman-Hillard in May 2008 to help push its call on the EU to stick to the original Commission proposal for a 10% agrofuel target by 2020. In a press release, the newly appointed UNICA representative in Brussels, Emmanuel Desplechin, declared that "Sugarcane ethanol, produced with environmental and social care, will quickly become a global energy commodity. Sugarcane production can boost economies in developing nations and contribute significantly in the search for solutions to the global challenges of energy security and climate change".[\[19\]](#)

With Brazilian interests expanding into African countries (who have privileged access to the EU market), the Brazilian government has also mobilised African farmers and government representatives to help make their case to MEPs.

The Argentinean, Brazilian, Indonesian, Malawian, Malaysian, Mozambican and South African embassies to the EU sent a joint letter to members of the Environment Committee saying that the sustainability criteria "should not disproportionately penalise countries rich in biodiversity with unjustified, wide-ranging restrictions on the sustainable use of their territories". Due to the 'uncertainties', the letter argues that the crucial issue of indirect land use change should be postponed to a 'future stage'. Whereas the European Commission (EC) has always refused to include social impacts, most environmental impacts and indirect land use change in the Renewables Directive, these embassies claim in their letter that the EC has "convincingly demonstrated" that the 10% target can be "reached on a sustainable basis".

One UNICA representative, who gave a presentation at a seminar on agrofuels in the European Parliament, despite not being on the panel, argued that sugarcane ethanol would mean a democratisation of production and access to energy, and denied that it contributed to deforestation and arguing that food production was continuing to increase alongside increasing production of sugarcane in Brazil.

Using full-page advertisements in the Brussels weekly paper European Voice ahead of key votes in July and in September, UNICA supported their claims that a 10% target would "help fight climate change" by arguing that sugarcane captured more carbon than pasture land - overlooking scientific evidence on the quantity of carbon dioxide stored and released from the soil, and not looking at indirect impacts.

The advertisement also claimed that sugarcane production had no impact on the Amazon, despite the strong evidence that it is displacing other types of agriculture and cattle ranching into the Amazon basin. In addition, other agrofuel monocrops that Brazil could export to the EU, in order to meet this agrofuel target, are directly impacting the Amazon, in particular soy expansion. At the same time, sugarcane production is damaging other precious ecosystems, like the Cerrado and the Atlantic Forest - earlier this year Brazil's Environment Minister Carlos Minc fined 24 sugar and ethanol mills in the North East of the country, declaring them an environmental "disaster of disasters" responsible for the loss of 85,000 hectares of Atlantic rain forest.[\[20\]](#)

The Brazilian sugarcane industry is taking various other steps to improve its image, like promoting a privately-run scheme encouraging small farmers to produce "sustainable" ethanol in the state of Sao Paulo - by reducing chemical use, harvesting mechanically and not using child labour. But the scheme, the first to have included small producers, will apply to just 50 suppliers and cover 3,500 hectares [\[21\]](#) - out of a total area of some 7.05 million hectares of sugarcane in Brazil, over half of which is used for ethanol.

Conclusions

The Brazilian government and the Brazilian sugarcane industry have a lot to gain from the EU agrofuel market and they have spared little expense in promoting their case. But the reality of sugarcane ethanol in Brazil reveals a rather grim picture. Climate benefits are assumed often without taking into account indirect land use change.

EU targets will further promote sugarcane monoculture expansion. Sustainability criteria cannot

address indirect impacts resulting from this expansion. However, certification schemes are now used to legitimise EU agrofuel targets. The "Better Sugar Initiative" promotes itself as a credible platform, but is in fact dominated by the interests of the sugar business and does not include small farmers, landless people and labour organisations.

The car and oil industry should not be given an escape route in the form of agrofuels. The European Parliament should not be seduced to support a 10% target by sweet promises of 'sustainable' sugarcane ethanol.

Notes

1. <http://www.sweden.gov.se/sb/d/10165/a/96322>.
2. Land Clearing and Biofuel Carbon Debt, Joseph Fargione et al, Science, February 2008.
3. De-polluting Doubts, p.4, Lucia Ortiz, FoE Brazil.
4. Fact-Finding Mission Report on Impacts of the Agrofuels Expansion on the Enjoyment of Social Rights of Rural Workers, Indigenous Peoples and Peasants in Brazil, May 2008, www.fian.org.
5. Sugarcane plantations destroy the Cerrado in Brazil, Maria Luisa Mendonça, Brasil de Fato, July 2 2008.
6. Fact Finding Mission Report.
7. Fact Finding Mission Report.
8. De-polluting Doubts; Fact Finding Mission report; Martinelli and Filoso .
9. Expansion of sugarcane ethanol production in Brazil: environmental and social challenges, Martinelli and Filoso, 2008; De-polluting Doubts.
10. Human Rights in Brazil 2007, A Report by the Network for Social Justice and Human Rights, www.social.org.br/relatorioingles2007.pdf.
11. Paving the Way for Agrofuels, TNI 2007, www.tni.org.
12. www.bettersugarcane.org.
13. www.bettersugarcane.org/members_supporters.htm.
14. http://www.viacampesina.org/main_en/index2.php?option=com_content&do_pdf=1&id=283.
15. http://findarticles.com/p/articles/mi_qn4159/is_20040411/ai_n12753685.
16. <http://www.financialexpress.com/news/GM-sugarcane-trials-in-Brazil-Australia/290404/>.
17. <http://www.grain.org/seedling/?id=488>.
18. <http://www.biosafetyafrica.net/portal/DOCS/PRSugarCaneSASRI.pdf>.
19. <http://www.investigate.co.uk/Article.aspx?id=20080514202400NR254>.
20. Brazil Environment Minister Fines Cane Mills, Reuters 2 July 2008.
21. <http://uk.reuters.com/article/environmentNews/idUKN2947242720080829>.