

This response was submitted to the consultation held by the Nuffield Council on Bioethics on *New approaches to biofuels* between December 2009 and March 2010. The views expressed are solely those of the respondent(s) and not those of the Council.

Dr Ben Richardson

QUESTIONS ANSWERED:

Question 2

ANSWER:

My major concern is how biofuels will benefit the poor. Much of the hype around biofuels has either explicitly or implicitly assumed that increased production of cash crops for sale into the biofuel market will create more jobs and/or raise prices for farmers. I have found in my research into the sugar cane industry that, in fact, labour demand within the poorer groups in society is weak and the production-model of industrial sugar cane is incompatible with traditional farming methods. This has contributed to an increase in economic inequality and a lack of autonomy on the part of the rural poor. It is important to stress that this trend is not particular to biofuels alone but to the commercial agricultural sector in general. However, since this false reasoning has been applied most volubly in the biofuels sector, I believe it is important to be more realistic about the extent to which biofuels will benefit poor people in developing countries.

Question 3

ANSWER:

My focus has been sugar cane and sugar beet derived biofuels. I have completed a PhD on the political economy of the global sugar industry in 2008 and in 2009 began a post-doctoral fellowship studying the role of sugar processors in shaping economic development. My research has involved interviews with industry actors in the UK, US and Zambia. Although Zambia has not yet entered mainstream biofuel production, it serves as a useful test case. Its biggest mill, the Zambia Sugar mill at Mazabuka (now owned by British Sugar) recently doubled production of sugar cane and is actively looking into the production of ethanol from sugar molasses. Thanks to its abundant land and favourable climate, Zambia and other countries in southern Africa are recognised as ideal locations for the expansion of biofuel production. Alongside my academic research, I am also the UK representative of the non-governmental organisation Ethical Sugar. Working with this organisation has introduced me to a number of researchers who have worked extensively in other countries, most notably Brazil.

Question 4

ANSWER:

I have studied biofuel production in relation to agricultural and economic development, both in the developed world and developing countries. It is my contention that the production of biofuels has contributed little to reducing poverty. There are far more efficient and effective ways of achieving this goal than through the promotion of biofuels. For this reason, I believe that the future development of biofuels should be debated in relation to energy- and climate-related goals.

Question 7

ANSWER:

In developing countries, small-scale, low-input biofuel production that meets local energy needs have proved the most effective approach for reducing poverty (see the 2009 Christian Aid report 'Growing Pains' for examples). However, within the sugar-ethanol industry, the majority of ventures have been large-scale and involved economically and politically powerful companies. The impact of this on economic development is manifold. First, the tendency of sugar cane millers and distiller/refiners to grow cane on company-owned land has meant that there have been limited opportunities for smallholders to benefit from this growing industry. Typically this is less to do with the farm productivity of smallholders than it is the reluctance of the sugar processors to take on co-ordination of a widened supply chain. As a result, very few jobs (which are actually well remunerated relative to the production of staple crops) are created

for poorer rural farmers. Across southern Africa, for example, the amount of cane secured from smallholders rarely rises above 10%. Furthermore, what smallholder schemes there are have frequently relied on international aid to pay for the irrigation extension, equipment and training. A scheme in Zambia that covered 73 smallholders, for instance, received €2.7m from the EU. This money could arguably have benefitted more people by being spent elsewhere. Second, large-scale operations are more capital-intensive than small-scale operations and this reduces the number of jobs available in the field. This is most evident in Brazil, where mechanisation has massively compressed the labour demand of sugar cane harvesting. Between 1993 and 2003, the area of cane harvested grew from 3.4m hectares to 4.6m hectares, while employment on the farm fell from 617,000 to 449,000. While manual cane cutting is unlikely to disappear in the immediate future – at the very least, labour will serve as the low-risk option for harvest expansion and will also continue to work the hillier areas on which cane is still grown – this general trend is expected to continue. According to figures produced by the sugar cane processing union UNICA, between 2010 and 2021 around 114,000 net jobs are expected to be lost in São Paulo alone. Third, the influence held by large investors in the sugar cane industry – especially in relation to governments in poorer developing countries – can be detrimental for national development policy. One example is that of the Procana project in Mozambique. In 2007 the Ministry of Commerce and Industry approved a \$510m project by the British-based Central African Mining and Exploration Company to cultivate 30,000ha of sugar cane in the southern Gaza province. Yet the land allocated to Procana had already been promised to seven villages, comprising some 1,100 households, displaced from their home by the creation of the Limpopo Transfrontier Park. The uncertainty created over the investment led international donors to withhold the €18m Limpopo resettlement fund and created further delays and difficulties for the families who remained living in the park. Another problem relates to the ability of companies to negotiate over-generous investment incentives. In Zambia, for instance, the sugar cane company Illovo managed to secure tax reductions prior to its expansion of the country's biggest estate that resulted in government rebates worth some \$26m. (It is worth adding that the farm and factory employment boon to the UK from biofuels is also low. For instance, the sugar beet for ethanol produced at British Sugar's Wissington plant – a distillery bolted on to an existing beet factory – is provided by existing beet suppliers numbering in their hundreds. A general trend in farm 'rationalisation' has meant that fewer and fewer beet farmers are needed to meet the demand for sugar/ethanol. British Sugar's £200m Vivergo plant in Hull, meanwhile, is slated to employ just 70 people when operational.)

Question 13

ANSWER:

Generally, companies in the sugar cane industry have sought to expand their estates through the formal acquisition of property title. Where problems have emerged is in the fact that this system of property rights is at odds with customary land ownership. For instance, in Zambia, an investing company Illovo tried to evict around 100 people from Kabanje village which it claimed it bought the rights to in 1973. The villagers were not consulted in this sale and refused to be moved on as they had ancestral ties to the land and would not be able to adapt to living in a new environment. An identical problem was recently reported in Malawi, but with the conclusion that the villagers were eventually evicted. Villagers were compensated, but only for their homes and crops and not their land. Many now rent land in neighbouring villages. In Brazil, land expansion linked to biofuel has contributed to increased concentration of land ownership in the country. Between 2002 and 2006 approximately 90% of the new sugar cane area was located in pastures formerly used for milk and beef production. Land prices in São Paulo state have been consistently rising over the last thirteen years tempting many dairy farmers and cattle ranchers to rent out their land. However, since they are unlikely to be able to return to the industry after such a gap many end up selling for good. This entrenches the power of sugar cane processors in federal and state land policy and results in the eviction of peasants who have been able to subsist within the less-intensively farmed dairy/cattle land. Another problem relates to the confinement of peasants and/or migrant groups into smaller territories due to the expanding sugar cane estates, resulting in eruptions of internal violence as has happened amongst the Guaraní people in the Mato Grosso do Sul state. To the extent that family farming has been supported by the Brazilian government, it has been by resettling landless farmers in the Amazonian region and away from the borders of agro-industry. According to the Brazilian civil society group Movimento dos Trabalhadores Rurais Sem Terra (Landless Rural Workers Movement) 65% of new

settlements have taken place here.

Question 17

ANSWER:

The relationship between increased biofuel production and increased food prices has been largely analysed at the global level, with a focus on world prices and trade volumes. In this respect, sugar cane biofuel producers – particularly those in Brazil – have been able to mount a convincing defence of their impact on food security. First, without dismissing the fact that prices have risen, it is noted that, adjusted for inflation, recent price rises are far less severe than those experienced during the mid 1970s ‘commodity crisis’, and lower indeed, than those experienced in the mid 1990s. Second, it is claimed that it is reduced access to staple crops that is the principal reason for hunger and malnutrition; to the extent that sugar is felt to be a necessity, this is typically the case for people on higher incomes, who are less likely to be affected by rising food costs. Finally, it is stated that the indirect impact of sugar cane production on these staples has also been minimal. Ethanol production from sugar has not taken place at the expense of staple crops (as it has in the US) as Brazilian cane planting has mainly moved into pasture areas and, to the extent it has replaced land occupied by soybean, maize and orange growers, the total amount of land dedicated to these crops has grown overall, suggesting that total agricultural production volume has not been ‘squeezed’ downward. President Lula has thus suggested that it is the distribution of food rather than the amount produced that lies at the heart of the food crisis, citing in support Amartya Sen’s argument that “nobody stops eating because of a shortage of food, people stop eating due to a lack of income”. However, biofuels are linked with hunger, but not because the land used to produce sugar cane could otherwise have been grown food for needy mouths, but because the way it is produced – indeed, the way most export commodities are produced in Brazil – has denied people in the country the land or wage labour to feed themselves. Though chronic malnutrition in children has nearly halved from 1996 to 2006, this has been thanks to the ‘Zero Hunger’ state initiative that incorporates such programmes as the ‘Family Fund’, which transfers direct cash payments to families as a reward for attending school or medical clinics, and the national school meals project, which constitutes the second main source of food for poor families. There is an acute dependency of the rural poor on such programmes, which risks ‘pauperisation’ of the poor should these schemes be threatened. Indeed, even now, it is estimated that 20% (2.3 million) of the recipients of the Family Fund hand-outs still go without food once every three days.

Question 19

ANSWER:

Since the role of poor farmers in the sugar cane industry has been distinctly limited, the main problems relate to the rights of workers, particularly seasonal cane cutters. One of the biggest has been the incidence of contemporary slavery, whereby migrant labourers are trapped into working off their indebtedness by moneylenders who work as recruiters for the big cane growers. In Brazil, for instance, migrant cane cutters still number in the tens of thousands and according to Amnesty International, over 2,000 were freed from forced labour during 2007 alone. As an example of the lack of rural jobs for unskilled workers, however, it is notable that many freed workers, desperate for money, later return to the industry. Significant attempts have been made to avert these practices. Since 2003, the federal government has published a ‘dirty list’ of firms that have been cited for the use of slave labour. Firms on the dirty list are punished by losing access to official lines of credit such as that provided by Brazil’s National Development Bank. Taking advantage of the dirty list, the NGO Reporter Brasil carried out a study of supply chains and facilitated the creation of the National Pact to Eradicate Slave Labour. The National Pact was signed by over 80 firms in 2005 committing them to eliminate forced labour from their supply chains. There have been some deficiencies in this approach: it takes around two years from inspection to even place a company on the list, and due to legal challenges over the legality of a public dirty list, companies have been able to forestall this further by obtaining injunctions. Nevertheless, significant progress has been made with a number of companies appearing on the list and federal inspectors continuing to improve the veracity of their investigations. More intractable problems are linked to the arduous nature of manual cane cutting. While wages thereby attained are typically higher than in

other agricultural industries, and even low-paid jobs in the secondary and tertiary sector, the work remains extremely demanding. Due to the higher productivity levels set by mechanisation and the piece-rate system of pay that ties the amount they earn to the amount they cut, cane cutters are estimated to strike a machete up to 12,000 times a day. In 2005 figures produced by São Paulo state's Regional Delegation of Labour registered the deaths of 416 workers in the sugar cane industry, though industry leaders deny excessive labour and exhaustion as the cause in these cases. It can surely be no coincidence, however, that extensive field research has reported the prevalent usage of anti-inflammatory drugs and painkillers among cane cutters, and found that cane cutting shifts have in some cases lasted 70 uninterrupted days. Moreover, there is evidence that cane cutters are underpaid where estate managers use a cane-weighted system and weigh the cane out of sight of the cane cutters or representative, or when they are made to pay excessive fees for food, housing or return transport once they have moved to the sugar cane estate.

Question 20

ANSWER:

One of the most important differences between farmers in the developed world and developing countries relates to their ability to negotiate contracts and their recourse to a strong legal system should any conditions be abrogated. In the UK, for instance, British Sugar has contracted annual sugar beet from farmers for ethanol production and the process has been accepted and adhered to by all concerned. In Brazil, meanwhile, one of the few attempts to integrate small scale farmers into ethanol production ended in acrimony as the sugar mill refused to take the crop and pay the farmers claiming it was of low quality. Yet the peasant farmers were not allowed to access the information concerning the quantity and quality of the crops and the expenses of the cultivation. According to the academic who conducted the field research, the intention of the Alcidia distillery was to co-opt rural resistance to the greater expansion of cane planting and to take advantage of state Pronaf (Program of Strengthening Family Agriculture) loans in order to get dispensation on credit and land ownership. A second point is related to remuneration rather than rights but it is important to stress nonetheless. As mentioned previously, the sugar cane industry is becoming increasingly capital-intensive and 'knowledge-driven' and has shifted its labour demand accordingly. In developing countries the pool of skilled labour is a lot smaller than in developed countries. This has meant that either domestic training for the industry has increased, as has happened in Brazil, or that expatriates are brought into the country, as has happened in Zambia. In either case, it is the more educated workers that can be expected to capture the biggest percentage of wage increases facilitated by the growth in cane production. This has reinforced racial, gender and geographic divisions within the country as those who possess such qualifications tend to be white males of either urban or foreign residency.

Question 21

ANSWER:

The best reasons for promoting biofuel production in developing countries are to reduce poverty and to reduce the expensive oil import bill. However, biofuel production has not, by and large, benefitted the poor in these countries, and it is generally only in the more wealthy developing countries (e.g. Brazil, China, India) that has it been used for domestic consumption rather than export. This is linked to differing state capacities and the difficulty of reconfiguring transport fuel infrastructure and supply chains to accept biofuels. For example, in a recent review across five countries in southern Africa that had general policy statements on biofuels development, only one – South Africa – had any concrete strategies or institutional frameworks for delivering implementation. It is thus misleading to encourage cash-strapped developing country governments to put considerable resources into promoting biofuel production when there are more effective and easier ways of assisting their citizens – namely through the facilitation of small-scale, labour-intensive markets.

Question 23

ANSWER:

b) In the sugar cane industry, one of the major projects being launched to regulate the development of sugar and ethanol is the Better Sugarcane Initiative (BSI). This is a roundtable comprised of private and third sector actors that are developing a voluntary standard for sustainable production. Essentially, it is the same approach undertaken in other roundtable bodies such as the Roundtable on Sustainable Biofuels (RSB) or the Roundtable of Sustainable Palm Oil (RSPO) but applied to the specificities of the sugar cane industry. While the BSI has yet to be implemented, it is worth drawing attention to some of the problems experienced in the RSPO in order to make the point that these roundtables are not magic bullets. There needs to remain a robust, independent representative of the interests of the rural poor – be it a workers union, farm co-operative, civil society organisation or local politician – to negotiate and work with the powerful corporations and landowners that have significant control over the way biofuels are produced. In the RSPO a company is certified according to a particular estate and then the standard has to apply to all estates majority-owned by that company. However, at the outset of certification, one of the largest companies (United Plantations) said that it would certify estates in Malaysia first and Indonesia later. It never got round to certifying the Indonesian plants, where alleged abuses of the RSPO standards were taking place, but it still sold all its palm oil production as 'RSPO-certified'. A further problem relates to the independence of the certification institutions. Essentially, because the major companies are powerful stakeholders and third party certifiers have an interest in giving 'clean bills of health', there is a tendency for the more intractable 'business model' problems to be overlooked and a reluctance to apply sanctions. This was the case in particular with Musim Mas.