

THE AGROFUELS DEBATE IN AFRICA: CHALLENGES AND OPPORTUNITIES

Paper presented by Nnimmo Bassey, Environmental Rights Action/Friends of the Earth Nigeria, at the conference on Ecological Agriculture: Mitigating Climate Change, Providing Food Security and Self-Reliance for Rural Livelihoods in Africa held at the AU Headquarters, Addis Ababa, 26-28 November 2008

Introduction

As I sat watching a news programme on the television the other day I was struck by the news that crude oil price had slid to less than US\$ 50 per barrel. One could not help but think about the implications of this price slump and the economic model that is bringing about so much uncertainty. Just a few months ago, the price of a barrel of crude had hit US\$ 150 and was straining to burst through the roof. US\$50/barrel is the lowest crude has hit in about 3 years. This will signal a relief for energy deficient countries, especially those in Africa, whose resources have been hugely impacted by high crude oil prices. Other questions arise, however. Will this slump mean a slowing down on efforts to develop and promote alternative and renewable energy sources? Will this slump kill off the march towards huge investments in agrofuels and in newer generation bio-fuels?

Agrofuels have been portrayed as the “green” and golden solution to tackle the energy and ecological problems in the world. The European and American governments, International Financial Institutions such as the World Bank and multinational agribusiness, oil and transport companies are promoting agrofuels, as a panacea to world energy needs. Africa looms large in the radar of agrofuels promoters and African governments see in this a potential for energy sovereignty and other benefits.

Why the rush for African land?

The most common and prodigious kinds of crops needed for agrofuels grow best in tropical climates found in Africa, Asia and Latin America. With a persistent picture of Africa as a hopeless continent with a vast land good the continent is often seen through no other filter than those that suggest her exploitation.¹ It is equally well known that the continent is viewed as being over populated with a huge army of hungry folks. One would expect that such a ‘densely populated continent’ would have precious little land to play with. However, energy hungry and importing countries of the North and their agribusiness partners now insist that Africa has so much unused land which they characterize as *marginal lands* that can now be put into better use to save the world from an energy crunch. Without any evidence of rigorous science, we are told that Africa’s *marginal* lands should be turned into jatropha plantations. In fact, the UN estimates that Africa has at least 500

¹ Nnimmo Bassey, “Africa: Agrofuels, Energy and Trade Linkages,” a paper presented at Conference on Agrofuels by Friends of the Earth Africa, held in Abuja, Nigeria 13 August 2008

million hectares of marginal, unused and underused land and that the Democratic Republic of Congo is believed to have around 150m hectares².

Furthermore, agrofuels is presented as a sustainable source of higher income for farmers and that the business is ready avenue for employment opportunities for the youths.

Agrofuels for a Green OPEC?

The president of Senegal inaugurated the so-called *green OPEC* in 2006. The *green OPEC* is made up of countries without crude oil, but who are poised to become exporters of agrofuels possibly by converting cultivatable lands into fuel crops farms.

According to President Wade, "What can be done? Part of the solution must come from Africa itself. This past summer in Dakar, I convened the first meeting of energy ministers from 13 nations to form the Pan-African Non-Petroleum Producers Association (PANPP), with the intention that it serve as a green version of OPEC. The members of PANPP aspire to become leaders in the field of biofuels and alternative energy strategies, following in Brazil's footsteps. But the development of a biofuels industry, particularly cellulosic biofuels made from agricultural wastes and prairie grasses (which President Bush touted in his State of the Union address) could take a decade or more to come to fruition. Africa needs help today."³

A statement by an America commentator provides a good lesson for Africa. He wrote, "the only economical way to make ethanol right now is with corn, which means the burgeoning industry is literally eating America's lunch, not to mention its breakfast and dinner."⁴ We remind us at this point that the obvious downside of the investment in large-scale/commercial production of biofuels has been variously documented. Shifting from fossil fuel to biofuels following the same market paradigm will not increase the poor's access to energy but would aggravate existing problems such as land grabbing, hunger and create peculiar challenges to food supplies due to shift from food cropping to fuel cropping.

African governments have largely accepted the notion that agrofuels are the panacea to a host of challenges facing the continent. It does appear that such a stand is based on the propensity to adopt externally suggested paths and solutions. The example of the devastating impacts of various structural adjustment programmes imposed on the continent by the World Bank and the International Monetary Fund (IMF) are clear for all to see. An analyst noted that many of the African countries that received intensive treatment from structural adjustment had negative or zero growth. In a rather sharp summation of the continent's dilemma, it has been said that almost all recent

² Michael Dynes, *Growing Up*, Africa Investor, Issue 31, March 2008, See http://www.africa-investor.com/article_mag.asp?id=2725&magazineid=23

³ Abdoulaye Wade, *Africa Over A Barrel*, Washington Post, Saturday, October 28, 2006; Page A15. See <http://www.washingtonpost.com/wp-dyn/content/article/2006/10/27/AR2006102701105.html>

⁴ Matt Crenson, *Biofuels Boom Raises Tough Questions at* <http://www.enn.com/energy.html?id=1475>

cases of collapse into anarchy have been preceded by heavy World Bank and IMF involvement.⁵

Why Agrofuels?

The craze for agrofuels has been largely driven in Africa by the global North, purportedly to address three main issues: climate-change mitigation, energy security and agricultural development. The idea of producing energy from a reproducible source is readily appealing. Especially when that energy source is said to have a multiplicity of benefits, for example, being a part solution to a global crisis such as presented by climate change, then you have a best seller on your hand. This is how agrofuels have come in⁶.

However, It is pertinent at this point to say that we do not dispute the use of agrofuels for community use, like in the case of Malian communities where domestic energy needs are met from this source. In such communities they make use of non-edible crops like jatropha and these are grown in hedges around homes or gardens and are not propagated in large-scale. Agrofuels relying on large-scale adoption of intensive monoculture practices which is almost certain to impact negatively on people and livelihoods. Common wisdom instructs that when large-scale enterprises go wrong it is much easier to correct the small mistakes rather than the large ones.

An issue that we must repeatedly state is that seeing the market as the only route to progress and development is actually living on the path of denial. The current economic spirals have eliminated any need for further debate on this. It is also instructive to see that the global commodity market does not depend the overall good of humanity but rather on what goods are cheaper and what goods would bring in more profit to the merchants. If the cheapest commodities are agrofuels crops - like oil palm, cassava, maize, ground nuts, etc – cultivated on cheap African lands, what this means is that we are not only stoking the fires of humanitarian disaster, we are also building an environmental disaster.⁷

In this paper we make a distinction between large-scale cultivation of agrofuel monocultures and small-scale, locally produced and owned agrofuel activities. The former is usually accompanied with environmental externalities associated with intensive use of water, chemicals fertilizers, pesticides, etc. These often result in polluting, depleting and degrading available water resources. This is the type of production model driven by corporate giants and industrial societies. On the other hand, smaller scaled efforts are needs driven and their impacts are on the positive curve as the entire process is intimately connected to the people. For example, where jatropha is used to produce oils for machines or lamps, the residues are used in producing soaps and other products that all add up to economically empower the local women and their families.

⁵ William Easterly, **The White Man's Burden – Why the west's efforts to aid the rest have done so much ill and so little good**, Oxford University Press, Oxford, 2006. Pp58-59

⁶ Nnimmo Bassey, *ibid*

⁷ George Monbiot, **Heat – How to Stop the Planet Burning**, Penguin Books, London, 2007, P159

Land grabs

The fact that agrofuels have triggered a new scramble for Africa is no longer news. Millions of hectares are being grabbed with little being said about the poor who are bound to face displacement and without much being said about the impact that this will have on family farms and other small-scale farms and food production on the continent.

One case in point is an unfolding transaction in Madagascar. There we are told that a South Korean firm Daewoo Logistics plans to buy a 99-year lease on over a million hectares in Madagascar for the production of 5m tonnes of corn a year by 2023, and to use another 120,000 hectares for the production of palm oil.⁸ This deal, estimated to cost the company about \$6bn (£4bn) over 25 years, is acclaimed as the biggest of its kind in the world.⁹ The land to be parcel off to Daewoo Logistics is taking up arable land about half the size of Belgium. For a mostly arid country with three food crisis situations in five years, this is a huge challenge indeed.

The firm claims that thousands of jobs will be created and that it will use mainly a South African workforce, but the produce will be mainly earmarked for South Korea.¹⁰ In other words, that chunk of Africa would simply be a South Korean farm for South Korea. Although the crops are said to be for food, the lesson for land and land rights are the same for agrofuels.

The Guardian article¹¹ from where the Madagascar story was quoted presents us with additional reasons to worry. We are told that in Sudan there are efforts by the state to attract investors for almost 900,000 hectares of its land, while the Ethiopian Prime Minister is reported to have been courting would-be Saudi investors. Commentators believe that these negotiations are lopsided and may weigh against Africa. A number of factors impact on the quality and amount of arable lands available in many African countries. In the case of Ethiopia, the pressure on natural resources has led to the burning of animal dung for fuel instead of utilising it as a resource for soil quality improvement. Over 600,000 tonnes are said to be lost in crop production annually due to these pressures on the land. This loss amounts to double the amount of yearly food aid requests from the country.¹² The additional pressures that use of land for agrofuels would add to food deficits in countries in similar conditions is easy to imagine.

A further downside is that small farmers without official land titles are already on the losing end. Add to this the fact that details of these land deals are hard

⁸ Julian Borger, Rich countries launch great land grab to safeguard food supply, The Guardian, London, Saturday November 22 2008 <http://www.guardian.co.uk/environment/2008/nov/22/food-biofuels-land-grab>

⁹ Billy Head, The Guardian, London, Saturday November 22 2008 <http://www.guardian.co.uk/environment/2008/nov/22/food-biofuels-madagascar>

¹⁰ Julian Borger, op cit

¹¹ Julian Borger, ibid

¹² Hailu Araya and Sue Edwards, The Tigray Experience, A success Story in Sustainable Agriculture, TWN, Penang, 2006, pp 5-6

to come by. With a lack of transparency there is no assurance of safeguards for the poor or even the overall long-range interest of the continent.

While the FAO advises an urgent review of biofuel policies and subsidies in order to preserve the goal of world food security, protect poor farmers, promote broad-based rural development and ensure environmental sustainability,¹³ its head, Jacques Diouf has clearly warned that the controversial rise in land deals could create a form of "neo-colonialism", with poor states producing food for the rich (and their machines) at the expense of their own hungry people.¹⁴

Land, agriculture and nations at risk

One of the key concerns about agrofuels is the massive land uptake needed. Attempts are made to present the use of tropical countries as agrofuels farmlands as something being done with the best intentions for the host. Some of these efforts have manifested as *sustainability criteria* and other manners of *certifications*. A fact to note is that these criteria and formulas are often drawn up in the North but are tested out in the South. They can be said to be little more than attempts to keep clear consciences, in the same vein as monoculture tree plantations are set up in the South to serve as carbon sinks while the North keeps right on polluting. And collects carbon credits to boot.

Analysts have shown that there is simply not enough agricultural land on earth to grow agrofuels crops to meet the huge energy needs driven by our current ways of living. Jumping into the agrofuels boat thus has special implications for Africa. These crops apart from eating up the land to feed machines also require a lot of water and falling water tables can trigger off famines.¹⁵ The wisdom in a rhetorical question asked by the US president, George Bush, on food and security in 2001 is quite telling:

"Can you imagine a country that was unable to grow enough food to feed its people? It would be a nation that would be subject to international pressure. It would be a nation at risk. And so when we're talking about American agriculture, we're really talking about a national security issue."¹⁶

Do agrofuels have a place in the energy mix in Africa? What prospects?

The biggest argument for adoption of agrofuels in Africa comes from the context of energy deficiencies. This is what gave rise to the so-called Green OPEC. With crude oil prices shooting for the ceiling, petroleum importing poor countries found themselves in serious economic stress as energy bills gobbled up their national budgets. In that situation the argument that agrofuels would provide alternative to fossil fuel sounded attractive.

¹³ FAO, Reviewing biofuel policies and subsidies
<http://www.fao.org/newsroom/en/news/2008/1000928/index.html>

¹⁴ Julian Borger, op cit

¹⁵ See George Monbiot's **Heat**, earlier cited, pp 100-169 for more discussions on renewable energy sources as well as land needs

¹⁶ Quoted by Eduardo Galeano in *The Eight Commandment – Lies*, New Internationalist, Issue NI 414, August 2008

Some of these countries believed that they could meet their energy needs through agrofuels and still have more than enough to export. This is the thinking behind the plan to cartelize agrofuels production in Africa. This way of thinking can easily be seen to be a pipedream. Nevertheless, it set the rush for African lands in motion. The trend caught on even in petroleum exporting countries like Nigeria. According to the U.S. Energy Information Administration's 2006 International Energy Outlook, global consumption of marketed energy is projected to rise by 71 percent between 2003 and 2030. The report says three-quarters of the increase will come from developing countries.¹⁷

Given the growing need for energy sources in Africa there is the need to seek viable and sustainable alternatives. We posit that these alternatives should be oriented towards local production and consumption rather than International markets.

Recent research¹⁸ has shown that some countries in African have embarked on the production of agrofuels for an assortment of reasons. We will now review some of these reasons.

Togo has initiated a jatropha production programme with which she hopes to meet the energy needs of the people. Respondents in the FoE A research listed some of the benefits of agrofuels as follows:

- Reduced dependence on imported energy resources
- Higher value for local raw materials.
- Revitalization of agricultural sector due to the transformations in natural resources with added value and creation of wealth.
- Reduction in rural-urban exodus due to the fact that there will be meaningful rural employment.
- Increase in vegetation for countries/territories that hold firmly to good management principles, fighting against environmental menaces.
- Reduction of importation of petrol whose fluctuating price per barrel effects development plans seriously in countries in the South.
- Promotion of technology.
- Sustainable promotion and development of biofuels in consonant with national energy security needs.
- Improved and favourable environment for investment.
- To inspire research in the development of biofuels to meet the basic needs of Africa.

The research also revealed that the governments realise that there are risks associated with agrofuels production and are at the same time seeking other alternatives.

Benin Republic decided to go into agrofuels production to solve the problems associated with climate change and very high prices for petroleum products. Burkina Faso is currently at experimental stages of production of agrofuels from cottonseeds and jatropha. 80% of the population of Burkina Faso work in

¹⁷ The Promises and Challenges of Biofuels for the Poor in Developing Countries
IFPRI 2005-2006 Annual Report Essay. http://www.ifpri.org/pubs/books/ar2005/ar2005_essay.asp

¹⁸ FoE African groups recently conducted a research on the spread of agrofuels in the region. The report is yet to be published.

the agricultural sector, contributing about 32% to her income. The country reportedly pays the highest for petroleum products and is said to pay the highest electricity charges in the whole world.

For some years now jatropha has been used in Mali as source of fuel oil for cooking and lighting. The National Solar Energy and Energy Revamping Centre (CNESOLER) initiated in 1990 catalyzed the development of agrofuels in Mali. There have been some positive outcomes for the rural communities in terms of job creation and social life as well as energy efficiency.

Senegal's effort to escape the clutches of a disconcerting energy crises, including electricity cuts and fuel price hikes, bore fruits in the 1980s when the country decided to go into agrofuels production. Government developed initiatives to produce ethanol from jatropha seeds, and also acquired vehicles that used jatropha oil. The aim was to modernize the energy sector, get respite from high cost petroleum products and also attain energy independence, produce bioelectricity from jatropha oil and reduce poverty and the disparity between rural and urban dwellers.

Assault on the staples

The underlying point to note in the case of Togo, Senegal and Mali is that, food crops are not targeted in these countries, and the production of agrofuels are aimed at local consumption and not for export. It is a different ball game in Nigeria, Ghana, Sierra Leone, Tanzania and other countries, where staple food crops such as cassava, corn, groundnuts, sorghum, sweet potatoes, etc, are being used or are being proposed to be used to produce bio ethanol.

Nigeria provides a good example of a country where staples are under assault for the sake of agrofuels production. Research and monitoring carried out by FoE African groups show that cassava and other staples across the continent are under severe attack by agrofuels giants and their biotech partners. In a newspaper interview, the Vice President of the Alliance for Green Revolution in Africa (AGRA), a Nigerian, declared that Nigeria should "turn cassava into a money-making business" by processing the staple into "ethanol, livestock feed, pellets and so on."¹⁹

The Nigerian National Petroleum Corporation (NNPC) and their foreign partners have acquired large chunks of land, in almost in all the 36 States of the country, for the production of ethanol. The crops of choice are the staples: cassava, sorghum, sugarcane, oil palm, etc. Some of the agrofuels plantations and production plants are already sited in communities with water shortages, leaving the community with an acute water scarcity. Researchers from Friends of the Earth Nigeria on a field visit found that the local people neither had an idea of the actual land uptake nor were they consulted by the State government before community lands were appropriated.

NNPC and their partners are optimistic that the project would impact positively on its host communities, when it becomes fully operational. In one community

¹⁹ Odum, Fabian and Shady, Odum: I Feel Sad We Are Unable To Feed Ourselves, Says Dr. Akinwumi, Vice President, AGRA, The Guardian, Lagos, Sunday, August 10, 2008

in Northern Nigeria, NNPC said, it would produce 75 million litres of ethanol and 116 tonnes of refined sugar per annum from sugar cane. The project is also expected to generate job opportunities for the people. The people are being promised that the agrofuels companies will provide social amenities for the communities, the things that government should routinely provide.

The Environment Ministry had also observed that the large quantities of sugarcane needed for the project requires irrigation farming and may lead to bilharzias disease. There is also the fear that the community will lose its vegetation as a result of operation of the plant apart from other effects on the environment, food and people, caused as a result of the massive use of chemicals and pesticides.²⁰

Chinese companies operating in Sierra Leone have acquired large parcels of land in the country to produce ethanol using sweet potatoes, corn, cassava and fig-nut. Villagers interviewed complained that there is very little land available for them to farm and they can thus barely sustain their families. They also complained that they were being coerced into planting corn not for their local consumption but to sell to the Chinese merchants. All the local people hold on to are promises that they would buy their produce at a good price.²¹

It is obvious that where local farmers are made to use their lands to cultivate crops for export there is a serious threat to food sovereignty of the people. Considering the fact that Sierra Leone is a country just recovering from war and still struggling to produce food to satisfy the needs of her people, this thinly veiled land grabbing will aggravate the food crisis in the country.

In Ghana, The Norwegian firm Biofuel Africa secured 38,000 hectares (93,860 acres), land for "the largest *Jatropha* plantation in the world" and began clear-cutting the land in preparation for cultivation. The major plank on which *jatropha* is pushed across the continent is that it does well on *marginal* lands. In this case the so-called *marginal land* is a forest. The Ghanaian Environmental Protection Agency eventually halted the clear-cutting after 2,600 hectares (6,422 acres) of forest had been destroyed. The story portrays their glittering promises of jobs, rapid deforestation, and their neo-colonial methods. The chief who signed the so-called contract documents could neither read nor write.²² Biofuels companies take land from rural communities with much ease.²³

Fields reports from Cameroon reveal that some of the projects are concentrated at the heart of the forest of the Congo Basin. Large tracts have been deforested. Complaints abound from the people that wildlife and the source of livelihood of the locals are threatened. European companies are in

²⁰ ERA/ FoEN, on the spread of Nigeria. Yet to be published.

²¹ Friends of the Earth Sierra Leone field report, 2008, unpublished

²² Horand Knaup, Africa Becoming a Biofuel Battleground, BusinessWeek, 8 September, 2008
http://www.businessweek.com/globalbiz/content/sep2008/gb2008098_506787_page_2.htm

²³ RAINS/ABN, Biofuel land grabbing in Northern Ghana, cited by GAIA Foundation in *The Myth of Marginal Lands* www.gaiafoundation.org

the top league of those who have grabbed over 600,000 hectares of land for the cultivation of agrofuels crops.²⁴

Sun Biofuels land

Sun Biofuels is at work in Ethiopia where government has reportedly set aside 24 million hectares²⁵ for the production of fuel crops. Other companies are known to try to secure century-long farming rights for nothing but a promise to invest in local roads and schools.

While an Ethiopian minister claims that the land is unusable, officials in Tanzania claim that *it's just marginal land*. "The whole thing is nothing but positive," says the district administrator of Kisarawe, who is responsible for the Sun Biofuels project. **"We have convinced the people."**²⁶ While government officials gush over agrofuels and claim that the lands being sought by agrofuels promoters are marginal lands, others perceive that "the land grabs and forced relocations are stirring ugly memories of colonialist exploitation."²⁷

In Mozambique Sun Biofuels has also acquired large parcels of land from the people. Foreign investors have their eye on 11 million hectares - more than one-seventh of the country's total area - for growing energy plants.²⁸ In April 2006, Sun Biofuels claimed that it had received formal approval for cultivation from 10 of 11 villages whose lands had been allocated to it in Tanzania. At the time they made this claim most of the villages were not even aware of any move to give their lands to Sun Biofuels. According to reports, one village head sent a letter to the district administration complaining that Sun Biofuels had cleared and marked off land without even contacting the village elders.²⁹

Land rights issues in Tanzania also extend to actions in the mining sector. For example, the mining policy states that The Land Act (1999) and The Village Land Act (1999) provide a legal basis on ownership and compensation on land matters. These laws are not evenly applied and multinational mining companies take advantage of the locals who are not aware of compensation processes, their rights and the fact that the "new landowners have a duty to compensate them where the lands are transferred legally. It is said that sometimes the companies use administrative and other corrupt measures to avoid making payments."³⁰

In Swaziland the aggressive agrofuels push has come from the British multinational D1 Oils. The company engaged about 2,000 outgrowers to plant jatropha on over 3,000 hectares in various parts of the country in addition to

²⁴ Centre for Environment and Development/Friends of the Earth Cameroon (CED/FoE C), field report on the spread of agrofuels in the country. Yet to be published.

²⁵ Horand Knaup, op cit

²⁶ Horand Knaup, ibid

²⁸ Ibid

²⁹ ibid

³⁰ Evans Rubara, Tanzania: Mining and Colonial Practices, Pambazuka News 407, 20 November 2008 at <http://www.pambazuka.org/>www.pambazuka.org> and at AfricaFiles at <http://www.africafiles.org/database/www.africafiles.org/article.asp?ID=19451>

over 1000 hectares at D1 Oils operated farms. Following mounting pressure from civil society groups, D1 Oils Swaziland has been ordered to suspend any new planting of jatropha by the Swaziland Environment Authority (SEA) who have also ordered D1 Oils to conduct a strategic environmental assessment.³¹

Agrofuels fuel

From reports from the fields we can give indication of impacts on the ground:

- The population is usually uninformed,
- Cultivation of energy plants usually goes hand-in-hand with forced resettlement.
- Food imports grow even further in food importing nations
- Ethanol production also affects food prices

Any spike in food prices must worry Africa, as the impacts are grave on the population. Two years ago, the International Food Policy Research Institute published sobering estimates of the potential global impact of rising demand for agrofuels. They predicted that given continued high oil prices, the rapid increase in global agrofuels production would push global corn prices up by 20% by 2010 and 41% by 2020. The prices of oilseeds, including soybeans, rapeseeds, and sunflower seeds, are also projected to jump by 26% by 2010 and 76% by 2020 while wheat prices were expected to rise by 11% by 2010 and 30% by 2020. In parts of sub-Saharan Africa, Asia and Latin America, where cassava is a staple, its price is expected to increase by 33% by 2010 and a startling 135% by 2020. The number of people suffering from undernourishment globally could increase by 16 million people for each percentage point increase in the real price of staple food crops. This could mean that 1.2 billion people would be suffering from hunger by 2025.³²

- Land grabbing and rights abuses and displacement from traditional lands
- Deforestation and biodiversity losses
- Agrofuels are not renewable: they depend on finite resources such as land and water
- Contamination with genetically modified crops. There is real fear that this may happen with the cassava plantations being pursued in Nigeria with the backing of GMO promoters, IITA, and with the direct investment of Shell Petroleum Development Company
- Heavy soil quality degradation by jatropha after years of cultivation (to be researched)
- Hardly are inclusive environmental/socio-economic impact analyses carried out.
- Farmers are tied to monopolies

The fears expressed by Ghanaian farmers over being tied to a single industry by producing oils that only they need could have catastrophic impacts if that industry happened to fail. They fear that agrofuels refineries could manipulate them by dictating the price of the produce and where refineries do not

³¹Swaziland: D1 Oils suspends Jatropha growing
<http://in.groups.yahoo.com/group/jatropha/message/649>

³² Rosengrant, M. et al, Bioenergy and Agriculture: Promises and Challenges, International Food Policy Research Institute, December 2006. http://www.ifpri.org/2020/focus/focus14/focus14_03.pdf

promptly pay for their produce, their livelihoods would be severely compromised³³

- Agrofuels are not carbon neutral

Some have argued that one of the advantages of agrofuels over fossil fuels is that they do not emit much greenhouse gases. Agrofuels are sometimes said to be 'carbon neutral' as they are derived from crops that take up atmospheric carbon during their growth and release it when they are burnt. This, however, ignores emissions released during production, as a result of land-use change, fertilizer application and processing.³⁴

Conclusion

The solution to Africa's energy needs is not agrofuels. Africa does not have enough landmass to meet the insatiable needs of the machines of the North. Not even if Africa should be without Africans. But agrofuels have a place in Africa – and this only where grown and used to meet small-scale community energy needs. This is the path of ecologically sound agrofuels and a clear path for the advancement of peoples' energy sovereignty.

Agrofuels feed machines not people. Africa needs food for her people. Food is natural right and agricultural products should not be treated as commodities whose ultimate purpose is the generation of business profits rather than meeting needs of the people.³⁵ Family and small-scale farmers should be encouraged and strengthened in a deliberate push to sustain the populations in urban and rural areas.

³³ Nnimmo Bassey, A Tsunami That Was Never Silent: Africa, the Food Crisis and Food Aid <http://www.erction.org>

³⁴ M. Hagmann, EMPA-study scrutinizes the ecological balance of various biofuels. EMPA Press release., 22 May, 2007 http://www.empa.ch/plugin/template/empa/*/60542/--/l=2.

³⁵ Joao Pedro Stedile, New Geopolitics of World Agriculture, <http://www.deccanherald.com/Content/Nov212008/editpage20081120101859.asp>