

## Green Fuels for Development?

### *Improving Policy Coherence in West Africa*

#### *Key Ideas:*

- ▶ **Ensure consistency between energy, food and development policies;**
- ▶ **Promote “win-win” partnerships** between bio-fuel companies, governments, farmers, consumers and local actors;
- ▶ **Support the adoption of a Code of Good Conduct** for a “**Green fuel for Development**” label.

This paper addresses the opportunities, challenges and risks related to the development of bio-fuels in the Sahel and West Africa where problems of food security and purchasing power are most keenly felt. After covering the facts and debate surrounding green fuel, this paper presents the national and regional policies and strategies regarding food and land issues. A Code of Good Conduct setting out the conditions for a “**Green Fuel for Development**” label could reconcile West Africa’s trade, energy and food goals while allowing the region to find a place in the new world energy market.

### Sahel and West Africa Club/OECD

Le Seine Saint-Germain, 4 Boulevard des Isles  
92130 Issy-les-Moulineaux

*Postal address:*

2 rue André Pascal  
75775 Paris cedex 16

Tel: +33 (0)1 45 24 89 87

Fax: +33 (0)1 45 24 90 31

[www.westafricaclub.org](http://www.westafricaclub.org)



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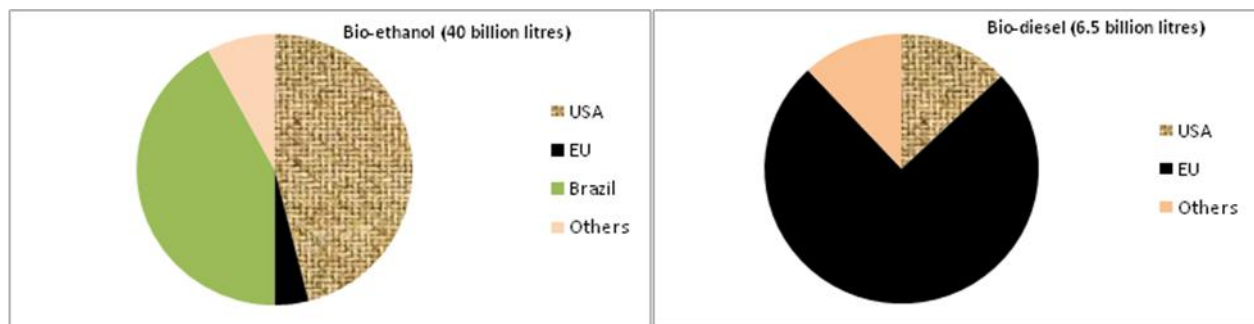
# I. The Bio-fuel Boom: Facts and Debate

## 1.1. The World Market

Confronted with rocketing oil prices, and in the name of environmental protection, developed and emerging countries are implementing policies encouraging biofuel production. At this time, the majority of production is based on technologies known as ‘first generation’<sup>1</sup>, using agricultural food produce to manufacture "green" fuels.

These fuels are mainly:

- ▶ **Ethanol**, used in petrol engines, produced from plants containing starch (primarily corn but to a lesser extent wheat) and sugar (primarily sugar cane, marginally sugar beet). Ethanol is mainly produced and used in the United States and Brazil.
- ▶ **Vegetable oil methyl esters (VME)** used in diesel engines, commonly known as “**biodiesels**”, produced from vegetable oils (rapeseed, sunflower, soya, palm, etc.). Use of biodiesels is currently confined to Europe.



**Figure 1:** World bio-fuel production in 2006 (Source: Naylor *et al.*, 2007; World Bank, 2008)

Brazil led the way in the mid-1970s, initially with some success, then with more difficulties owing to the fall in oil prices in the 1990s. The continuous rise in oil prices which began some years ago triggered a real boom, this time worldwide.

**Table 1. World Bio-fuel Production in 2007**

	2007 production (million litres)	
	Ethanol	Biodiesel
USA	26,500	1,688
Canada	1,000	97
European Union	2,253	6,109
Brazil	19,000	227
China	1,840	114
India	400	45
Indonesia	0	409
Malaysia	0	330
Others	1,017	1,186
<b>World total</b>	<b>52,009</b>	<b>10,204</b>

Source: OECD/TAD (2008)

<sup>1</sup> Intense research is being undertaken to develop second-generation biofuels from agricultural and timber waste, fast-growing trees and even from micro-algae, animal fats, etc.

In 2007, worldwide bio-fuel production was 62.213 billion litres (Table 1). The United States, the EU and Brazil are the three leading producers (Figure 1). World ethanol production has risen from 17.5 billion litres in 2000 to 52 billion in 2007, a 200% increase. As for bio-diesel, output has risen from some 0.8 billion litres in 2000 to 10.2 billion litres in 2007. The OECD and the FAO believe that these volumes could be multiplied by 1.6 for ethanol and by 2 for biodiesel between 2008 and 2017.

Brazil is the main exporter of bio-ethanol, followed by China, with 3.4 billion litres and 1 billion litres respectively in 2006. Despite significant, and rapidly rising, domestic output, the United States is the largest importer with 2.75 billion litres in 2006.

The EU is the leading import market for bio-diesel, with 1.12 billion litres in 2007. The main exporters are the US, Indonesia and Malaysia with 0.45, 0.45 and 0.35 billion litres respectively in 2007.

## *1.2. Policy Incentives*

The main consumer countries have ambitious targets. China is hoping to use 6.3 billion litres of bio-ethanol in 2012, compared with 3.8 billion in 2006. The United States is hoping to reach 29 billion litres in 2012 compared with 18.5 in 2006, with a target of attaining 10% bio-fuel within its total fuel consumption by 2020. The European Union's objective is to reach a biofuel inclusion rate of 5.75% by 2010 and 10% by 2010. Brazil has set itself a target of a 5% bio-diesel inclusion rate by 2013. Similarly, it plans to export approximately 20% of its bioethanol output by 2011.

Production is benefiting from a particularly encouraging environment (Box 1) through the establishment of a great deal of legislation and regulation. This mainly involves tax reductions, loan guarantees and direct subsidies. For example, the US government is supporting over 200 measures at a total estimated cost of between 5.7 and 7.3 billion dollars annually. This support equates to between \$0.38 and \$0.48 per litre of biofuel. American producers also benefit from protective measures, notably high duties imposed on imports.

### **Box 1: Ethanol Boom in the USA**

Between 2001 and 2007, U.S. fuel ethanol production capacity increased 220% from 1.9 billion to 6.1 billion gallons. Much of this growth was made possible by government regulation and legislation that actively supports the ethanol industry by creating mandatory ethanol demand and financially attractive investment opportunities in ethanol production capacity. The market is becoming mature with an increasing number of IPO's, M&A activity and large R&D investment. Although the U.S. has become the largest fuel ethanol producer in the world, specific market characteristics such as the geographic distribution of production versus consumption, the lack of infrastructural development for fuel ethanol distribution and transportation, types of ownership and the limited production capacity of corn, will all have a significant impact on future development.

**Source:** <http://www.ethanolstatistics.com>

### 1.3. The Debate: For and Against

Are biofuels a threat to food for people or animals? Do they explain the worldwide rise in food prices? Views differ:

**“The rise in the price of food produce is partly explained by the rapid growth in biofuel production and by international speculation surrounding the agricultural produce market.”**

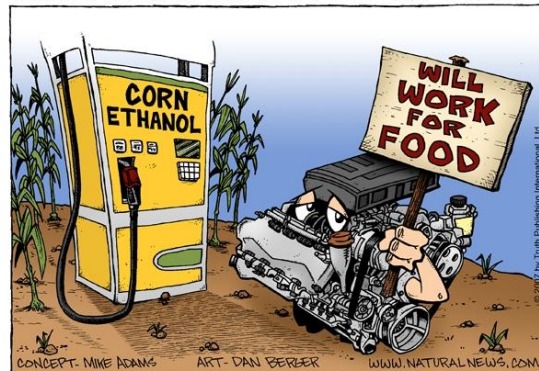
To produce one litre of bioethanol requires 14.3 kg of sugar cane, 2.5 kg of corn, 2.9 kg of wheat, 16.7 kg of sorghum or 5.6 kg of cassava.

The portion of worldwide cereal output put to this use is still marginal. It is, however, rising rapidly. The impact on world prices, for certain produce at least, is unquestionable. It is probably – and also to a large extent – linked to the development of international speculation. Between February 2005 and February 2008, the number of corn contracts entered into rose from 660 million to almost one and a half billion. The domino effect on the price of livestock feed and on the prices of other cereals is undeniable (Box 3).

In 2007/08, the United States used approximately 80 million tonnes of corn to produce bioethanol, or 32 million more than in 2006/07 and 60 million more than in 2000. The price of corn in the US increased 60% between 2005 and 2007. The *OECD/FAO Agricultural Outlook 2008-2017* report forecasts a 40 to 60% rise in the price of corn by 2017.

As the United States is the world's leading corn exporter (60% of total exports), what are the future consequences - direct and indirect - on the world market, even if there has been no reduction in American exports as yet?

### COUNTERTHINK: FUEL VS. FOOD



Other analyses, conversely, suggest that a rise in world prices means a structural change in the world economy, stressing that bio-fuels may be a stroke of good fortune for the global agricultural sector.

#### **Box 2: Bio-fuels are no threat to food security: An expert's view**

“If the assessment is wrong, the measures put in place are wrong,” fumes Bernard Bachelier, director of the FARM Foundation for World Agriculture and Rural Life, as part of a presentation organised by biofuel producers. Population and economic growth (with the changes in food habits that go with them), new agriculture strategies, climatic disasters, production peaks, and decreasing investment in agriculture are, Bernard Bachelier believes, the basic reasons behind this rise.

By way of proof, rice prices tripled while not a litre of ethanol was produced from this crop. American corn exports have remained stable while domestic use of corn for ethanol has risen. In other words, increased American corn output for ethanol is in no way responsible for the rise in world prices. “From 1961 to 1999, cereal yields increased by 2.5% annually in developing countries. Since the early 1990s, the rise has fallen back to 1.1% annually,” added Bernard Bachelier. Biofuels could even be used to improve farmers' income.

**Source:** Le Figaro, 29 May 2008

### Box 3: Higher Food Prices in the USA

The word on the street is that corn futures prices have risen because of the soaring demand for corn to produce corn ethanol. (...) Corn for July 2007 delivery, was \$3.82 per bushel. That's about a 60 percent increase over the average price for a bushel of corn from 1988 to 2006. But the net increase in the price of food is less than 60%. When processed into corn ethanol, a 56 pound bushel of corn can yield about 16 pounds of distillers grain, gluten meal, and corn oil, thus replacing some of the corn products lost to corn ethanol production. The inflationary impact of higher corn prices is also mitigated by the percentage of corn used in each item of food. The greater the percentage of corn used in the ingredients, the higher the final price paid by a consumer. Final consumer prices will also be driven by the impact of export demand, the efficiency of cultivation (including the use of fertilizers, herbicides, and insecticides), the increasing use of lower yield marginal land for corn production, corn ripening time, consumer demand, and the greed (or fear) of Futures Market speculators.

***Corn prices do not evolve in an isolated environment.*** As the price of corn increases, there is a corresponding upward pressure on the price paid for other grains, such as rice and wheat. Poor growing conditions in Europe, the United States, the Ukraine, and Australia; along with low stocks of stored wheat; and an increase in production of bio-fuels; have combined to push international wheat prices up to levels not seen in 10 years. We can expect the price of bread, pasta, and cereals to increase in 2007.

**Source:** Ronald R. Cooke - *The Cultural Economist* – 2 February 2007

### ❖ *Bio-fuels and the Issue of Agricultural Land*

There is also some debate on the land issue, in particular on the possible diversion of agricultural land intended for food crop production towards production of green fuels.

Between 2004 and 2007, 18 million additional hectares were cultivated worldwide, including 4.4 million (24%) for bio-fuels. Some experts estimate that 8.4 million hectares worldwide were used for bio-fuel production in 2007, or 1.3% of the total area devoted to cereals, cotton and oil-bearing crops. Other estimates indicate that if world targets are maintained (increasing from 38.7 billion litres in 2005 to 141.2 billion litres in 2030), the land requirement would be 42.2 million hectares, or 3% of the total area under cultivation.

Some experts are demonstrating that incentive bio-fuel production measures will inevitably lead to new methods of allocating land and deciding on land use:

- ▶ Increase in demand for cultivable land;
- ▶ Increase in land market value;
- ▶ Redistribution of land ownership to those with large investment capital such as companies, rich producers, etc.;
- ▶ Difficulties in accessing and using land for pasture.

China is already facing this type of issue. Latin America and Africa still have considerable reserves of agricultural land. Within these continents, problems arise in different ways depending on specific national and local factors.

### ❖ *New Issues Linked to the New World Energy Economy*

Over and above their differences, all opinion and analysis converge on one key point, namely the interdependence of issues (energy, environment, food) and scales (local, national, regional and international). The new world energy economy is developing at great speed. There are probably both pleasant and unpleasant surprises in store.

*What can be done so that all the positive impacts are not limited to developed and emerging countries and the negative consequences in the developing areas of Asia, Latin American and Africa?* North America, the European Union, China and India cannot ignore the global impact of their energy policies. More than ever, the question of “**policy coherence**” must be placed at the core of both strategic thinking and action.

## II. Bio-fuels in West Africa: Opportunities, Challenges and Risks

Although West Africa’s production may be insignificant at this time relative to the world market and difficult to quantify, the region's countries seem determined to benefit from the godsend of a market that is as new as it is promising.

### 2.1. *Private Sector Investment*

In almost all West African countries, large bio-fuel production schemes are being negotiated with multinational companies<sup>2</sup>. Because it has vast swathes of unused agricultural land<sup>3</sup>, and because high-potential vegetable raw materials can be grown there, the region is highly sought-after.

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<sup>2</sup> See: [www.africa-environment.org](http://www.africa-environment.org)

<sup>3</sup> West Africa has a large area of arable land. Currently, some two thirds is not used, including in particular 9 million hectares of irrigable land. However, the potential varies widely from one place to another.

## Some West African Examples of Private Investment in Bio-fuels

- ▶ **Burkina Faso:** The French companies Agro Énergie Développement (known as AgroEd) and DAGRIS are operating in the bio-fuel production sector. AgroEd, which also operates in Benin, Guinea, Senegal and Togo, has signed an agreement with Burkina Faso's government involving 200,000 ha of *Jatropha curcas* (Box 4).
- ▶ **Côte d'Ivoire:** The American company 21<sup>st</sup> Century Energy is targeting output of 3.5 billion litres of ethanol per year for the African and international markets, from corn, sugar cane, sweet sorghum, cotton seed and cashew nut waste. Investment amounts to US\$130 million and is likely to lead to the creation of 10,000 jobs. Other foreign companies, such as Green Oil (a subsidiary of the Canadian oil company, Independence Oil and Gas) and Jatroc, are also operating.
- ▶ **Ghana:** The Brazilian company Constran S.A. in partnership with Northern Sugar Resources Ltd. from Ghana is aiming to grow 30,000 ha of sugar cane to produce ethanol primarily intended for the Swedish market. Production forecasts are 75,000 m<sup>3</sup> in 2010 and 150,000 m<sup>3</sup> in the project's third year. The Swedish company Svensk Etanol kemi AB (Sekab) has committed to purchasing total production. Investment amounts to US\$306 million including 206 million in a loan from the state-owned Brazilian Development Bank (BNDES) to Northern Sugar Resources Ltd.
- ▶ **Guinea:** AgroEd signed a 150 million euros agreement with the authorities in December 2007. Likewise, Spain's International Ingermas has also committed 150 million euros to plant 100,000 ha of *Jatropha curcas*.
- ▶ **Mali:** The agreement between the authorities and AgroEd initially provides for farming 30,000 ha in the *Office du Niger* area.
- ▶ **Niger:** IBS Agro Industries is interested in producing biodiesel from *Jatropha curcas* oil and is planning to plant 4,000 ha in Gaya (on the border with Benin) and to build a 25,000 litres per day plant.
- ▶ **Nigeria:** Viscount Energy, a Chinese company, has entered into a memorandum of understanding with the Ebonyi government to establish an ethanol plant using sugar cane and cassava (US\$80 million).

The vigour displayed by international private operators in the region, and the significant capital injection, bring about opportunity, and the creation of wealth and jobs, but they also carry risk. *How can the former be grasped while guarding against the latter?*



**Box 4: *Jatropha curcas* L.**  
or “green gold of the desert”

Also known as pourghère, Barbados nut or physic nut, this shrub (in the [Euphorbiaceae](#) family) of Brazilian origin, which may live for up to forty years, has an oil yield which can be three or four times higher than that from rapeseed or soya. While it grows in a relatively wide range of environments (from 0 to 1,000 metres in altitude, with rainfall ranging up to 1,200 mm/year) it really thrives in arid areas. Very abstemious (it can survive several months without water), it requires neither fertilizer nor any special care and does not compete with food crops. It is traditionally used in farming systems as a defensive hedge to protect crops, in particular for market gardens. The plant is rarely if ever attacked by animals – and is known as “Wanbe bang ma” in the Mooré vernacular spoken in Burkina Faso, which means “Eat me and you’ll get to know me” – or “bagani” in Bambara, which means poison.



The West African countries are thus facing four challenges:

- ▶ Ensuring that land competition with agriculture for food purposes is avoided, and that natural capital is preserved;
- ▶ Bringing about the emergence of sectors focussed primarily on the West African market in order to loosen “oil's vice-like grip”;
- ▶ Guarding against purely profit-driven use of their resources. In other words, to negotiate “win-win” agreements with multinationals, involving three parties: the public and private sectors as well as representatives from local communities. This would allow the best possible benefit to be obtained from the economic and social effects of producing green fuels: to ensure that sufficient income is earned, the largest possible number of local jobs is created and that the development of cooperative distilleries and/or local investment is encouraged<sup>4</sup>;
- ▶ Positioning them on a highly competitive world market. Investors will naturally gravitate to where conditions are most favourable or where constraints (regulatory, environmental or even ethical) are least onerous.

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<sup>4</sup> In the Unites States, distillery ownership has quickly switched from the hands of cooperatives (which owned 100% of production capacity in 1999) to the hands of oil companies, which now own 90% of capacity.

## 2.2. Bio-fuel Policies and Strategies

Four countries – Ghana, Nigeria, Mali and Senegal – have established national strategies (table 2). These policies determine production targets (320,000 hectares of *Jatropha curcas* in Senegal in 2012, a million hectares in Ghana in the medium term, 25 million litres of ethanol annually in Mali between 2008 and 2023), provide tax breaks, sometimes systems guaranteeing prices to producers, and establish para-public regulatory structures.

In some cases, the desire for a fair distribution of production over the country is a stated aim (Côte d’Ivoire, Senegal). The “development” dimension is also highlighted by international NGOs which are increasingly investing in the sector. The international Earth Rights Institute (ERI) is implementing a sub-regional project for a total of 700,000 ha of *Jatropha curcas* of which 400,000 ha is in Côte d’Ivoire and 100,000 ha in each of Burkina Faso, Mali and Niger. Under this scheme, producers are obliged to include food production within the system.

**Table 2.** Examples of National Bio-fuel Development Policies

Country	Target product	Raw material	Objectives and incentives
<b>Senegal</b>	Bio-diesel	<i>Jatropha curcas</i>	<p><b>Quantified objectives for period 2007 – 2012:</b></p> <p>(a). 1.190 million litres of oil            (b). 1.134 million litres of refined oil or bio-diesel for total bio-diesel demand estimated at 1,095.5 million litres in 2007            (c). 321,000 hectares to be sown at a rate of 1,000 ha per rural community.</p> <p><b>Incentives:</b></p> <p>(a). Establishment of a limited company for bio-diesel sector operations with 40% of the equity owned by foreign companies            (b). Guaranteed price to producer of a sufficient level financially to arouse farmers’ interest            (c). Supervision and support as regards agricultural additives and techniques provided to producers by promoters.</p>
<b>Nigeria</b>	Bio-ethanol Bio-diesel	Sugar cane, sorghum and cassava <i>Jatropha curcas</i>	<p><b>Incentives:</b></p> <p>(a). Approval of an inclusion rate of 10% for ethanol and 20% for bio-diesel, with a view to creating national demand            (b). Official designation/classification of bio-fuel as an agriculture-related industrial sector            (c). Tax measures: reductions and exemptions from duties and VAT for 10 years            (d). Establishment of the Bio-fuel Energy Commission, responsible for managing the industry in conjunction with ministries and agencies            (e). Regulation of imports, which must be done through the Commission            (f). Establishment of a bio-fuel research agency.</p>
<b>Mali</b>	Bio-diesel Ethanol	<i>Jatropha curcas</i> Sugar cane	<p><b>Quantified objectives for period 2008 – 2023:</b></p> <p>(a). Rate at which diesel oil or DDO is to be replaced by <i>Jatropha curcas</i> oil            2008 – 2013: 10%            2014 – 2018: 15%            2018 – 2023: 20%            (b). 25 million litres of ethanol annually over the period</p> <p><b>Incentives:</b></p> <p>(a). Establishment of a bio-fuel development agency.</p>

**Sources:** NNPC/Nigeria (2007); Mali (2008); MDRA/Senegal (2007)

At the regional level, ECOWAS and UEMOA are working on putting strategies in place aimed at facilitating urban and peri-urban populations' access to energy services to reduce poverty and achieve the Millennium Development Goals (MDG). UEMOA is leading deliberations with its member states to facilitate the implementation of a regional development strategy for the ethanol/bio-fuel sector under its Regional Biomass Energy Programme (RBEP). A framework agreement between UEMOA and Brazil was signed in October 2007 to support the development of the bio-fuel component in the RBEP.

During a visit by the Senegalese President to Brazil from 15 to 17 May 2007, the Brazilian President mentioned the idea of a "Green OPEC" in which West African countries would be actively involved: *"Brazil leads the field in the green fuels sector and – under Senegal's leadership – we want to extend this initiative to other non-oil producing African countries."* Likewise, within the context of strategic thinking instigated by UEMOA, an African association of bio-fuel producers (AABP) emerged in 2006.

### **2.3. A Difficult Challenge**

*"Would Africa be able to ensure its energy security through bio-fuels without undermining its food security, its environment and its biodiversity? With the establishment of international standards on bio-fuels, will African countries, which appear to be tempted by the conquest of a new international market, comply with sustainable planting and production standards? And over and above the development of bio-fuel strategies, will African countries be able to achieve their objectives and be competitive on international markets? The oil crises of the 1970s brought about a similar craze for renewable energy (solar and wind in particular), but the fact is that over two decades later, Africa has not managed to leverage these energy sources as a driver for energy security, poverty reduction or sustainable development. Having already lived the experience with renewable energy technology, is there a not a danger of the same delusion repeating itself for bio-fuels?"*

This extract from ENDA's position paper on bio-fuels in Africa properly conveys the scepticism of many observers. The sudden emergence of the world bio-fuel market in West Africa is a great deal quicker and more powerful than the pace at which national policies and regional initiatives are being implemented.

This raises the following questions:

- ▶ ***Will policies and strategies focussed on increasing local bio-fuel consumption be able to regulate the rapidly growing involvement of major international investors*** anxious to meet the explosion in worldwide demand?
- ▶ ***What will be the impact of the industrial and technological partnerships currently negotiated?*** How far are they compatible with the stated objectives as regards reduction in energy dependency and improved food security and environmental protection?
- ▶ ***Where is the policy coherence*** between tax incentives to produce and use bio-fuels, the desire to attract investors and the desire to encourage family farming, the promising prospects of oil fields in a large number of countries, the fear of the social and political fallout from rising consumer prices, etc.?
- ▶ ***Has the regional dimension of the food market been properly assessed?*** The price of produce in Kano (north Nigeria, the largest food market in Africa) is determined by the growing number of factors combining actual and forecast levels of production and private stocks in West Africa, the anticipated rebuilding of state-controlled food security stocks, demand from the food processing industry, world cotton and corn prices, Chinese demand for sorghum, etc. The rapid expansion in the bio-ethanol and bio-diesel industry adds a factor to this complex and shifting equation that determines prices. West Africa's "*common market*" already exists. Its drivers – information, anticipation and speculation – are the same as those for the *Chicago Board of Trade*. While the development in bio-fuels is merely an additional further element, it confirms the need for a regional regulatory system. ***How can such a regional level regulatory mechanism be achieved?***

## III. The Way Forward

### 3.1. West Africa and the World Green Fuel Business

#### ❖ *Global Trends*

Pending the arrival of second-generation bio-fuels, products derived from cellulosic matter (agricultural or timber industry waste), the developing world – and particularly Africa – finds itself facing more questions than definite answers.

It is probable that the pressure exerted by the wave of first-generation bio-fuels will not slacken in the medium term. The possible effects on production levels and prices for all agricultural food produce, vegetable or animal, international trade and the allocation of agricultural land depend on the complicated combinations of a very large number of factors. These need to be analysed urgently from the viewpoint of developing countries so that they can determine policies to mitigate risk and evaluate opportunities.

It is certain (as the phenomenon has already started) that developed or emerging countries will hugely increase their imports to meet their own bio-fuel needs. China, for instance, is facing a shortage of suitable land and has already established contacts with some south-east Asian countries (Cambodia, Indonesia, Laos, Malaysia, Philippines, etc.) regarding production of cassava<sup>5</sup>, palm oil, etc. Some countries are establishing strategies to conquer the world market:

- ▶ Malaysia and Indonesia, which account for 80% of the world's palm oil output, are hoping to hold a 20% share of the European bio-fuel market by 2009
- ▶ Brazil, which accounts for around half of international bio-ethanol exports, is hoping to increase its sugar cane output by 55% in the next six years, as a strategy anticipating demand for bio-fuel from the USA and EU.

#### ❖ *Main Issues*

West African countries are also confronted with the issue of reducing energy dependency. This supplementary issue is in addition to, and complicates, the issue of food and poverty reduction.

Development objectives could be hampered through integration into the new global energy economy:

- ▶ Diversion of a portion of food production towards the ethanol and bio-diesel industries - price rises on local markets - impact on food security.
- ▶ Impacts on the allocation of arable land.
- ▶ Competition with local, job-creating, commercial and craft-based trading.

There are genuine prospects for Africa in general and West Africa in particular to make the most of the situation, provided that the opportunity of this new market is grasped along with its positive impacts on growth, employment and development, while managing the risks associated with these new opportunities.

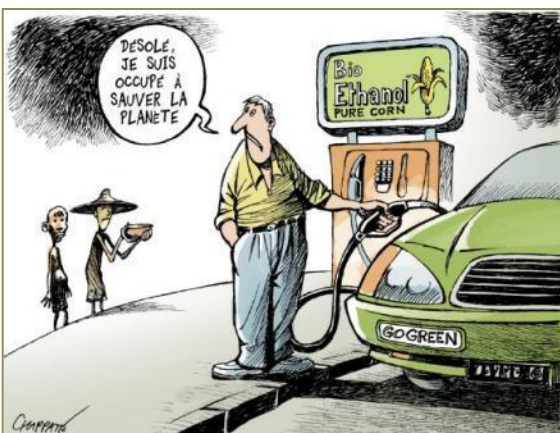
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<sup>5</sup> Currently, China's cassava imports account for nearly two thirds of rapidly increasing world trade (12.5 million tons traded globally vs. 2 million in 2000), i.e. 8 to 10% of world production.

### 3.2. Towards a “Green Fuel for Development” Label

Consumers in developed countries are more aware than ever of the issues surrounding environmental protection. While industry experts very well know that the development of bio-fuels is driven more by rising oil prices than by ecological concerns, the “green fuel” image is a first-rate sales pitch. This argument is increasingly misused by media campaigns connecting the North’s energy policies with the South’s famine.

#### Seeing past caricatures to the necessary policy consistency



Viewed as “green fuels”, could bio-ethanol and bio-diesel also become “**sustainable development products**”? Could the “North” and “South” find “win-win” common ground, such as reaching agreement on a “code of good conduct” or better yet defining a schedule of conditions for a new “green fuel/sustainable development” label?

Such a new label should guarantee that:

- ▶ The vegetable oil is sourced solely from new planting, and any form of competition with agricultural, forestry or grazing land will be avoided;
- ▶ The raw material production or purchasing schemes used in no way reduce the local population’s access to the products in question;
- ▶ Incentives are carefully examined so as to not divert food producers to growing raw materials for bio-fuel manufacture;
- ▶ Environmental protection is upheld or improved;
- ▶ A portion of the bio-fuel produced is intended for the local market.

In the 1990s, a code of good conduct regarding food aid (the Food Aid Charter) was negotiated between donors and recipients, facilitated by the SWAC. West Africa could again pursue this type of exercise, the new challenge being that the major international bio-fuel companies should be involved in order to agree on rules guaranteeing sustainable development.

>> **Contact:** Sibiri Jean Zoundi : [sibirijean.zoundi@oecd.org](mailto:sibirijean.zoundi@oecd.org)

#### Sahel and West Africa Club/OECD

Postal Address: 2 rue André Pascal, 75775 Paris Cedex 16 - France  
Office: Le Seine Saint-Germain, 4 bd des Iles, 92130 Issy-les-Moulineaux  
Phone: +33 (0)1 45 24 89 87 - Fax: +33 (0)1 45 24 90 31  
E-mail : [swac.contact@oecd.org](mailto:swac.contact@oecd.org) / [www.westafricaclub.org](http://www.westafricaclub.org)

