



BRAZILIAN INTERNATIONAL COOPERATION AND INVESTMENTS

The internationalization of ethanol and biodiesel

Sergio Schlesinger





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The same landscape?



African Savanna



Brazilian Cerrado

"Savanna vegetation is similar to the Brazilian Cerrado. Alcohol Ethanol is certainly an opportunity".

Eduardo Leão de Sousa, Executive Director of
União da Indústria de Cana-de-açúcar (Unica)

Presentation

The increasing role of Brazilian international cooperation and investments in Southern countries, especially in Latin America and Africa, have been raising a broad debate on Brazilian trends, motivations, contradictions and strategies. At the same time Brazil celebrates several international cooperation agreements and also searches for the internationalization of its corporations, and this has been a strong case for the agrofuels sector.

The social and environmental problems resulting from the monocultures system of agrofuels production– ethanol and soy especially – are widely known in large Brazilian land properties, and this system is now being reproduced in other countries. Having these issues in focus this text presents a brief mapping of initiatives, projects, countries and the actors involved. This mapping aims at contributing to the analysis of trends and contradictions in this process, and to indicate potential paths for the continuation of both critics and possibilities of incidences and advocacy regarding the future of Brazilian cooperation and investments.

Sugarcane Straw Burning



Decree of the São Paulo State Government establishes the banishment of sugarcane straw burning until 2017. The burning is closely linked to the manual cutting, which is hampered by presence of straw.

For African countries, feasibility studies of GVAgro only point advantages (more jobs) and disadvantages (damage to the environment and health) of manual cutting linked to the straw burning.

Introduction

Brazil has been carrying out two large agrofuels production programs aiming at substituting oil derivatives. The first program consists of ethanol production, as an alternative to gasoline, with sugarcane as the raw material. The second program is biodiesel production, aiming at taking the place of diesel oil which as of now is predominantly produced from soybean oil.

The country is the world's largest sugarcane producer and the second largest producer of soybean. Its climate conditions and availability of land for expansion make both government and businesses invest in accelerated production and expansion for more than the internal market supply with the goal of absolute leadership in the agrofuels global market during the next decades. The high prices of oil and the fossil fuels substitution programs in emerging and in developed countries feed this ambition as most of them lack the required natural resources for large scale production.

Different from ethanol, which requires incorporation of new lands in order to increase production, biodiesel production can be expanded for many years without the need to occupy additional land for growing. Its main raw materials are soybean oil and animal fat, which account for around 90% of biodiesel production. As beef production is the rationale to raise bovine, the soybean meal – the main product of the soybean crushing – is intended to feed these same animals. Soybean oil, in this case, can be considered a byproduct of this process. Besides this, two thirds of Brazil's exported soy comes in the form of soybeans. Therefore there is an enormous potential for the expansion of soy oil production, even keeping the soybean current produced amount.

The strategy of the Brazilian government has been to stimulate ethanol and biodiesel production in other countries and regions. With this strategy Brazil intends to assure importing countries of alternatives to the Brazilian products, dissolving the hypothesis of the potential creation of a new cartel formed by agrofuels producer countries and thus enabling acknowledgment of ethanol and biodiesel as international commodities.

Brazilian Petrobras Biocombustíveis actively participates in this process. BNDES (National Bank for Social and Economic Development), the government's financial branch, includes agrofuels among the priority sectors in the internationalization of the Brazilian corporations process. Embrapa (Brazilian Agricultural Research Corporation .) already holds several offices in other countries, inserting Brazilian farming techniques in the package offered to countries targeted in this partnership for production. Some initiatives in this direction are already in progress, involving international agreements, and funding projects and land purchase in countries with potential for production.

Federal Government's role

The Brazilian President's frequent personal participation in negotiations regarding agrofuels production and trade indicates the priority given by the government towards this agenda since the first Lula administration. With President Dilma's administration, the Strategic Dialogue on Energy is part of the agenda with President Obama, and ethanol production and trade are highlighted items in this dialogue.

The Foreign Affairs Ministry (MRE, acronym in Portuguese) leads international negotiations of this agenda. For this purpose the Division on New and Renewable Energy Resources was created at the MRE, which is in charge of proposing external policy guidelines and coordinating the Brazilian government's participation at a bilateral, regional and international institutional negotiation. The Brazilian Cooperation Agency (ABC, acronym in Portuguese) is a department of the Foreign Affairs Ministry and is in charge of coordinating Brazilian programs and projects on international technical cooperation through the General Coordination of Cooperation on Agriculture, Livestock, Energy, Agrofuels and the Environment (CGMA, acronym in Portuguese).

Under the coordination of the MRE, other ministries take part in cooperation negotiations and activities. The Department on Renewable Fuels, a part of the Ministry of Mines and Energy (MME, acronym in Portuguese), is in charge of supervising the use of resources for promotion of renewable fuels, and for monitoring, stimulating and supporting activities of technological research and development of the sector. In the Ministry of Agriculture you have the General Coordination of Agroenergy and Embrapa, through its International Relations

Division and Embrapa Agroenergy.

In 2011, the National Congress approved a Provisional Measure from the Executive branch, turned into law, which grants Embrapa autonomy to operate outside the country. The new law aims at facilitating international cooperation and tropical agricultural technology transfer to other countries, especially in Africa and Latin America. Embrapa already holds offices in Ghana (Embrapa Africa), in Panama (Embrapa Americas) and Venezuela. The main international funders of Embrapa's international projects are the Inter-American Development Bank (IADB), The World Bank and the UN International Fund for Agricultural Development (IFAD) (Embrapa, 2009).

Through its international area, Embrapa, as a disseminator of technology for sugarcane and ethanol production and trade, coordinates Embrapa Coastal Boards and Embrapa Agroenergy. Embrapa Coastal Boards is in charge of projects focused on the production system of sugarcane and ethanol – soil fertility, irrigation, agroecological zoning, biological control and many other projects. In this area, African technicians and agronomists receive capacity building during courses on sugarcane and ethanol production promoted by the Brazilian government. Embrapa Agroenergy is in charge of technology transfer of bioenergy from sugarcane and other raw materials, and also of projects of common interest to partner countries¹.

The Chief of Staff (in Portuguese called Casa Civil) as well as the Ministry of Science and Technology (General Coordination of Sectorial Technologies) and the Ministry of Development, Industry and Foreign Trade (Innovation Secretary) also take part in these activities.

BNDES plays an essential role in the implementation of international agreements resulting from these negotiation processes. The Bank funds the internationalization of Brazilian corporations through the Foreign Direct Investment Line created in June 2005. The Agrofuels sector is considered a priority in this internationalization policy, and for

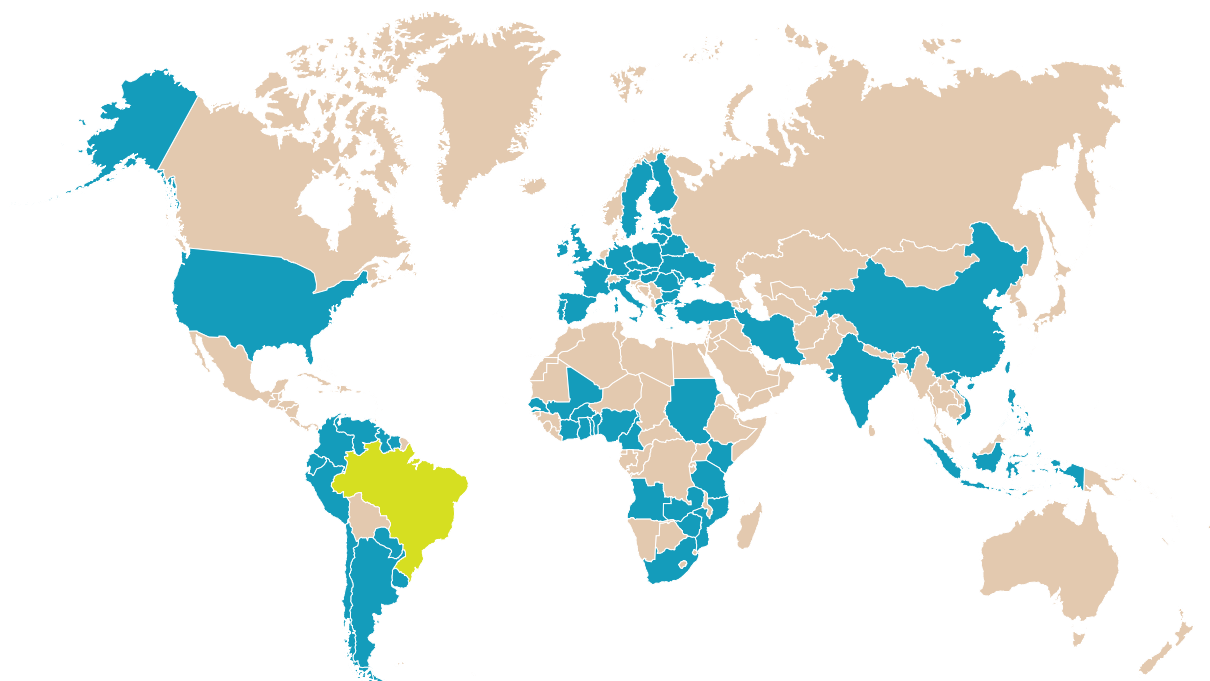
BNDES president Luciano Coutinho, Africa is a preferred continent for these investments². BNDES is also currently funding research and study on the feasibility of agrofuels production in other countries under orientation of its Research and Operations Department.

When contacted by Brazilian ONG Repórter Brasil the Foreign Affairs Ministry highlighted through its press office that it also works to assure sustainability patterns in the ethanol production. The Ministry informs that “the country operates in multilateral forums on this issue such as Global Bioenergy Partnership (GBEP) which aims at creating a set of environmental, social and economic indicators” for agrofuels. The recently agreed indicators aims to serve as a reference base for bioenergy public policies in countries which as of now have no legal framework for the sector (or that wish to reform their existing one) (Repórter Brasil, 2011).

1 Bunge no Campo. Ano 5, nº45, November/December 2010.

2 BNDES apoiará companhias que querem atuar na África. Agência Estado, 16/11/11.

Brazil: international cooperation agreements on agrofuels



Source: Ministry of Foreign Affairs, 2011.

The set of initiatives of several Federal Administration institutions resulted in agreements with 78 countries regarding agrofuels production and trade by the end of 2011 according to the Ministry of Mines and Energy (Gomide, 2011). Hereafter we describe briefly some of these agreements highlighting those which, beyond declarations of intentions, already bring forward concrete deployments.

Memorandum of Understanding between the US and Brazil to Advance Cooperation on Biofuels

In 2006, Brazil and the US, in partnership with the Inter-American Bank, formed an Interamerican Ethanol Commission which aims at disseminating the use of this fuel, and also defining policies for creating a global market for this product. The Memorandum of Understanding on Agrofuels, signed in 2007, was a follow up of those actions and, despite mentioning biodiesel, it focuses mainly on ethanol-related issues.

At the bilateral level the focus is on research and technological development for next generation agrofuels, and sustainability of ethanol and production patterns.

At the global level the Memorandum has a desire to expand the biofuels market through establishing uniform standards and codes. To achieve this goal common action was defined at the International Forum on Biofuels, a Brazilian initiative launched in March 2007 at the UN. The Forum gathered, in addition to Brazil, South Africa, China, the US, India and the European Commission, and its main objective was to transform ethanol and biodiesel into commodities. (Schutte & Barros, 2010)

Finally, regarding third countries, Brazil and the US declare the intention to work jointly “to bring the benefits of biofuels to select third countries through feasibility studies and technical assistance aimed at stimulating private sector investment in biofuels. The Participants intend to begin work in Central America and the Caribbean to encourage local production and consumption of biofuels, with a view to continue joint work in key regions

across the globe". Regarding third countries several actions were already accomplished to materialize foreseen goals. In Brazil studies were requested to Getúlio Vargas Foundation (FGV, acronym in Portuguese), with funding and collaboration of several institutions, about the productive feasibility of agrofuels in seven Latin-American countries. (Marinho, 2011)

According to the Ministry of Foreign Affairs, technical and economic feasibility studies on the ethanol production were or are being carried out in the following countries: El Salvador, Haiti, Dominican Republic, Saint Kitts and Nevis and Senegal. These studies are submitted to the government of each country, along with concrete proposals for implantation of ethanol production projects, including funding alternatives. In a second phase, feasibility studies will be performed in Guatemala, Jamaica and Honduras". (Rebuá, M., 2011).

Other agricultural products used as raw materials for agrofuels production included in feasibility studies are cotton, soybean, corn, eucalyptus and Jatropha, sunflower and palm.

Regarding sugarcane cut, the document clearly establishes:

"Regarding sugarcane cultivation the production system is subdivided into manual and mechanized harvest, aiming at creating subsidies for future decisions on the type of adopted crop system. Thus there is a need to ponder the adoption of an intense workforce system with environmental restrictions (manual harvest) or a high technology system with low level of demand for workforce and environmentally friendly (mechanized harvest)" (FGV, 2009).

Trilateral Cooperation in Africa (Brazil-European Union)

In 2009 a joint initiative between Brazil and the European Union was formalized regarding trilateral cooperation with African countries in renewable energies. This initiative is clearly included at the Joint Declaration of the Third EU-Brazil Summit dated October 2009 in Stockholm.

There are two main lines of action: elaboration of feasibility studies for agrofuels production and projects implementation based on studies conclusions. Kenya and Mozambique were the first participant countries and the FGV was contracted to carry out studies on Mozambique in 2011.

Memorandum of Understanding between Brazil and UEMOA

In 2007, Brazil celebrated a Memorandum of Understanding on Agrofuels with the West African Economic and Monetary Union (UEMOA), a regional organization integrated by eight West African countries (Benin, Burkina Faso, Côte d'Ivoire, Guinea-Bissau, Mali, Niger, Senegal and Togo). The Memorandum foresees the elaboration of feasibility studies on the agrofuels production and use in the member countries of the West Africa economic bloc. In 2012 the execution of the first studies was agreed to be done by Brazilian institutions.

In February 2011 MRE and BNDES signed a technical agreement to enable the execution of studies aiming at identifying favorable areas for the cultivation of the main raw materials used in agrofuels production. Studies encompass several aspects such as regulatory framework, labor, land, tax and intellectual property related legislation. Suggestions of Brazilian providers in the areas of services and equipment technology may also be a result. (BNDES, 2011)

Memorandum of Understanding between Brazil and the Netherlands

In April 2008, Brazil signed a Memorandum of Understanding with the Netherlands on Bioenergy Cooperation, including Biofuels, where the creation of a biofuels international market is emphasized. The high priority items are: "a) sustainable production and use of biofuels and related areas of interest; b) deployment of bioenergy technologies, including biofuels; c) establishment of a world

market for biofuels and related technologies; d) development of international standards and codes for biofuels in relevant fora; e) sustainable use of biomass for production of electricity; f) establishment of an international biofuel market as an instrument for a sustainable pro-poor development strategy, with a special attention to the rural areas; g) sustainable use of biomass for industrial products (e.g. chemicals, pharmaceuticals, construction materials, etc.); h) opportunities for carbon credits trading in projects regarding generation and use of bioenergy; i) investment, including joint ventures opportunities, in the area of bioenergy production to strengthen technological, industrial and trade integration; and j) energy-efficiency in the transportation sector”. (MRE, 2008).

One of the memorandum’s deployments is the involvement of União da Indústria da Cana-de-açúcar (Unicaacronym in Portuguese) in the search for broadening cooperation between both countries aiming at developing new products extracted from sugarcane. Another one is a similar memorandum regarding the engagement between the Brazilian Ministry of Science and Technology and the Netherland’s Ministry of Agriculture and International Trade on initiatives of scientific and technological cooperation and innovation.

Pro-Renova - Structured Support Program to other Developing Countries in the Renewable Energies Area

Launched in 2009, Pro-Renova can be understood as a “way to organize Brazilian initiatives towards developing countries due to the plenty of agrofuels bilateral agreements being signed over the last years” (Marinho, 2011). In the definition of the Foreign Affairs Ministry the program has the objective of “creating long lasting bases to the broad set of Brazilian actions on Research and Development in renewable energies, especially in Africa, rationalizing use of material and human resources available in the country and allowing it to fulfill international commitments

engaged in this area”. The program also aims at disseminating the benefits of agrofuels production and use and to provide technical assistance to interested countries (MRE, 2011).

Until 2010, thematic seminars were promoted in 17 countries in African encompassing the issues of agroecological zoning, public policies for agrofuels and industrial innovations.

India-Brazil-South Africa Dialogue (IBSA)

Established in June 2003, when the first document of the Group was produced – The Brasilia Declaration – IBSA is a coordination mechanism among South Africa, India and Brazil, also known as G3. Some of its main objectives are: formulation of common positions on international negotiations; the promotion of trade and investments among the three countries and among its respective regions; and the promotion of cooperation in several public policy areas such as: agriculture, social development, education, culture, health, defense, science and technology, energy, climate change, tourism, and many more.

Since 2004 IBSA has been approving projects on cooperation in family farming and cattle raising in Guinea-Bissau and on solid waste gathering in Haiti. Implementation of new projects in Burundi, Laos, Cape Verde, Palestine and other countries was also approved.

So far there are few concrete results regarding agrofuels. In 2008 IBSA members signed a Memorandum of Understanding to Establish a Trilateral Task Force on Agrofuels; in 2010 Brazil held in Brasilia the VI meeting of the IBSA Working Group on Energy and a “Technical Workshop on Agrofuels Use in Vehicular Motors” in Sao Paulo. South Africa also held in 2010 a “Workshop on Technical Patterns and Specifications for Biofuels” in Pretoria where was agreed the creation of a working group to translate specification related to agrofuels and to harmonize standard measures to the three countries.

Other agreements

The Ministry of Foreign Affairs in its 2003/2010 External Policy Assessment informs that more than 40 memorandums of understanding on the issue were signed during the last years. In addition to those mentioned above it highlights memorandums signed with Sweden, Mozambique, Germany and China and also mentions that at Mercosur “harmonization of ongoing patterns and technical norms at the Ad Hoc Group on Biofuels registered significant progress, which will result in a report similar to the one published together by Brazil, the US and the European Union”. (MRE, 2011)

In the African continent the Ministry of Foreign Affairs also points out feasibility studies for agrofuels production in Guinea-Conakry, Liberia and Zambia, initiated in early 2011; dialogue with the Botswana government aiming at increasing cooperation mainly in the development of a regulatory framework for the sector; and the beginning of cooperation with Tanzania where local production is already in place and there are estimates of about one million hectares which could be mobilized for production.

Petrobras Biofuels shares

The Brazilian federal administration is worried about the denationalization of the sugar and alcohol sector and thus counts on Petrobras to stop or even reverse this trend. Petrobras Biofuels (PBio), its subsidiary, intends to increase its ethanol production by 273% between 2011 and 2015, with investments reaching US\$ 2.5 billion during the period. The goal is to reach 12% of participation in the national market, possibly taking the lead in the internal market.³

The PBio expansion process involves not only the construction of new plants but also the total or partial purchase of existing enterprises. The company currently has participation at Nova Fronteira Bioenergia (Goias state), at Guarani (Sao Paulo state) and at Total Agroindustria Canavieira (Minas Gerais state). But it's through Tereos that PBio will expand its ethanol production to Africa.

3 Nielmar de Oliveira. Petrobras Biocombustível planeja liderar produção de etanol em 2015. Agência Brasil, 11/08/11.

Production units Biodiesel and ethanol

15 plants in operation



Source: Gonçalves, 2011.

Petrobras, a company which already operates internationally on oil exploitation and production, through PBio also internationalizes its agrofuels production. By doing so it collaborates with governments plans to promote production of these fuels in other countries.

PBio has also been looking to increase its participation in biodiesel production. In 2011, it announced that it intends to hold, within the next coming years, 25% of the shares in the domestic market. Its performance in the sector aims not only at increasing participation in production but also decentralizing this production, by including the poorest Brazilian states and by broadening family farming participation in order to make these small producers become the main providers of raw materials to the sector. According to the President of the company Miguel Rosseto “the biodiesel productive sector needs fiscal and tax incentive to keep on investing”, and incentives to exports would also be an instrument to consolidate this segment.⁴

By the end of 2011 the company owned five biodiesel plants in operation: three units at Candeias (Bahia state), Quixada (Ceara state) and Montes Claros (Minas Gerais state) and two in partnership in Marialva (Parana state) and Passo Fundo (Rio Grande do Sul state). There are two others under implementation: one biodiesel plant called the Biodiesel Para project, and a biodiesel production project in Portugal in partnership with Galp Energia called Belem project, both using palm oil as raw material.

4 Petrobras investirá USD 600 milhões em biodiesel. NN, Mídia do petróleo. Available at <http://euleionn.com.br/noticias/energia-alternativa/petrobras-investira-usd-600-milhoes-em-biodiesel>,

accessed 06/03/11.



Interested companies

Brazilian federal administration considers the creation of opportunities for the national productive sector as an additional advantage of this internationalization process, indicating as main beneficiaries' machinery producers and heavy equipments, engineering companies, consulting firms, contractors, technology suppliers of agricultural and industrial processes. (BNDES, 2011)

The Centro de Agronegócio da Fundação Getúlio Vargas (Getulio Vargas Foundation Agribusiness Center - GVAgro), coordinated by former agriculture minister Roberto Rodrigues (2003-2006), seems to have been the first beneficiary of this process. Through its Project Area, FGV launched the Tropical Belt Project, whose objective is to create an agrofuels and food production belt in tropical countries. For this purpose the institution already executed, up to the end of 2011, agrofuels production feasibility studies in 13 countries in Africa and Central America (Guarany, 2011). Also included in the biodiesel and ethanol studies were charcoal production from eucalyptus. In Brazil firewood and charcoal represent around 35% of consumption of wood produced in artificial forests.

Resources are supplied by APEX-Brazil, Inter-American Development Bank, Organization of American States, FINEP (Studies and Projects Funder) and Ministry of Foreign Affairs. The Tropical Belt Project results from technical cooperation agreements among Brazil, the US and the European Commission.

In addition to these studies FGV is getting ready to raise US\$ 1 billion through a fund coordinated by DWS Investments, a manager belonging to the Deutsche Bank, to finance the

first enterprises⁵. Ongoing projects are detailed below.

In the industrial sector, companies dedicated to the production of machinery, equipment and agricultural inputs will certainly benefit from this geographical expansion movement of agrofuels production. It must be observed that the vast majority of these companies are under control of foreign capital.

The main producers of agricultural machinery are North-American John Deere and the Italian Case New-Holland. In January 2012, the North-American multinational AGCO announced the acquisition of 60% of shares of Brazilian Santal Equipamentos, who produces harvesters and equipment for the sugar-alcohol sector. AGCO leads the Brazilian tractor market with more than 50% participation. In South America the company gains nearly R\$ 3.2 billion⁶.

Soybean plantations are responsible for around 45% of pesticide consumption in Brazil, and sugarcane for nearly 10% of the total value. At the pesticides and fertilizers segment the three major companies are also foreign: Bunge Fertilizantes (North-American), Bayer and Basf (German). Among the ten largest, only two (Heringer and Ultrafertil) are Brazilian.

Regarding seeds provision multinationals participation is also increasing. In the soybean case North-America's Monsanto and DuPont, Swiss Syngenta and German Basf dominate the market. Embrapa maintains partnerships with Monsanto and Basf. In 2010 Syngenta earmarked US\$ 100 million to the development of four GMO sugarcane plants to the Brazilian market. Monsanto has similar investments. In the case of Embrapa it distributes its R\$ 4 million budget in research along three years among five cultivations (sugarcane, soybean, corn, cotton and eucalyptus). The first Brazilian variety of GMO sugarcane, launched in 2011 by Embrapa is under assessment. The Brazilian government, worried about monopolization of

the sugarcane seeds market by multinational companies, intends to strengthen Embrapa's budget in order to broaden research in this area⁷.

Ethanol companies

While the Brazilian government pursues the internationalization of the agrofuels production, the sugar-alcohol sector is going through an unprecedented period of denationalization. In 2004 foreign capital represented barely 5% of the sector's production⁸. By the end of 2011 the share reached 40%. The Centro Brasileiro de Infraestrutura (Infrastructure Brazilian Centre - CBIE) estimates this percentage may reach 60% by 2016⁹.

Large foreign companies operating internationally are investing in this area in Brazil. According to the *Jornal da Bionergia* (Journal of Bioenergy), a Dextron Management Consulting study published in late 2010 showed that that four of five major industry groups already operating in Brazil have 50% of their operations controlled by foreigners.

The most prominent operation is the merger of Cosan with Shell, the acquisition of 14 Brazilian plants by Louis Dreyfus, which bought Santelisa Vale, the second largest company in this sector, and Bunge which has incorporated Grupo Moema.

Before its association with Shell, Cosan was the world's largest sugarcane and ethanol company. The company resulting from this association, called Raízen, announces it will be one of the five major companies in the country in terms of billing. In addition to producing 2.2 billion liters of ethanol the company will also operate in commercializing to consumers through 4,500 service stations.

5 FGV vai captar US\$ 1 bi para financiar projetos agrícolas na África. Agência Estado, 30/11/11.marketing

6 AGCO quer acelerar entrada em colheitadeiras de cana. Valor Econômico, 09/01/12.

7 Empresas investem em cana-de-açúcar transgênica. Agência Estado, 05/09/11.

8 Mônica Scaramuzzo. Estrangeiros avançam nos canaviais. Valor Econômico, 30/06/09.

9 Gabriela Yamada e Tatiana Freitas. Participação de estrangeiro no setor sucroalcooleiro deve crescer. Folha de São Paulo, 24/12/11.

The major example of merger in this period began in April 2010, between ETH Bionergia (controlled by Odebrecht) and Brenco. The new company, which kept the ETH Bionergia name, ambitions to lead the ethanol production and the cogeneration of energy from biomass, producing 3 billion liters of ethanol and 2,700 Gwh of electric energy per year by 2012. At the agreement Odebrecht in association with Japan's Sojitz Corporation will hold 65% of the ETH Bionergia capital and other shareholders will have 35% of the shares.

In the same period Guarani, a traditional sugarcane producer, was incorporated by Tereos from France. Petrobras Biocombustíveis also acquired shareholder participation in Guarani, holding 31.4% of its capital. The India Shree Renuka Sugars group negotiated the purchase of the Cooperativa Agroindustrial Corol sugarcane plant, located at Rolândia (Parana state) in early 2011.

All this movement has Unica foreseeing that by 2015 foreign companies will account for 40% of ethanol produced in Brazil.

British Petroleum (BP) also intends to be included among the sector's major companies. Recently it performed several transactions such as the Usina Tropical acquisition (Goias state), of which it already had a 50% control. The same was done in the case of two plants belonging to Companhia Nacional de Açúcar e Alcool (CNAA), located in the state of Minas Gerais. The oil company thus has inserted itself among the 20 largest companies in this sector¹⁰.

Besides large plants other segments linked to the sugar and ethanol production chain would certainly benefit from the opening of new markets for its products.

The Brazilian Dedini, sixth largest manufacturer of capital goods in Brazil in 2011, is the largest provider of sugarcane plants in the country. It has been selling sugarcane production units to African countries since the 90's. In 2007 it began to receive requests from industries willing to expand their ethanol production¹¹. Dedini already sold plants to Venezuela and Sudan and negotiated contracts with several other African countries.

Regarding Brazilian research and technology institutions participating in the sugarcane market the Centro de Tecnologia Canavieira (CTC), former Centro de Tecnologia Copersucar, is underlined in the private sector. Up to August 2009 CTC has launched more than 60 sugarcane varieties, which occupied around 50% of the country's cultivation area. In 1997 the Centre led the constitution of the Consórcio Internacional de Biotecnologia de Cana-de-Açúcar (ICSB) which nowadays encompasses 17 institutions from 12 sugarcane producer countries (Furtado et. al., 2008).

Highlights among public institutions are Instituto Agrônômico de Campinas (IAC), Instituto de Pesquisas Tecnológicas (IPT), Instituto de Tecnologia de Alimentos (ITAL), Companhia de Tecnologia de Saneamento

GIANTS IN THE SECTOR

The largest producers of sugar and ethanol in Brazil

Company	Volume*	Control origin
Cosan/Shell	54.2	France/Netherlands
Louls Dreyfus	34.1	France
Guarani/Tereos	19.6	France
São Martino	13.0	Brazil
Carlos Lyra	11.7	Brazil
Grupo Tércio Wanderley	10.8	Brazil
Zilor	10.8	Brazil
Renuka (SP e Paraná)	10.2	India
Cerradinho	9.5	China
Pedra Agroindustrial	9.2	Brazil

Source: Anuário da Cana 2011

*In million tons of processed cane, referring to period between 1/4/2010 and 31/3/2011.

10 Érica Polo. O etanol é deles. Revista Isto É Dinheiro, nº 730, 30/09/11.

11 A nova fronteira do etanol. Exame, 20/09/07.

Ambiental (Cetesb), Instituto Biológico, Embrapa, Fundação de Amparo à Pesquisa do Estado de São Paulo (Fapesp) and three São Paulo universities - São Paulo University (USP), where the Escola de Agronomia Luiz de Queiroz (ESALQ) is located, Campinas State University (Unicamp) and the Julio de Mesquita Filho São Paulo University (Unesp), with their several courses and research groups on sugarcane bioenergy (BNDES, 2008).

Soy companies

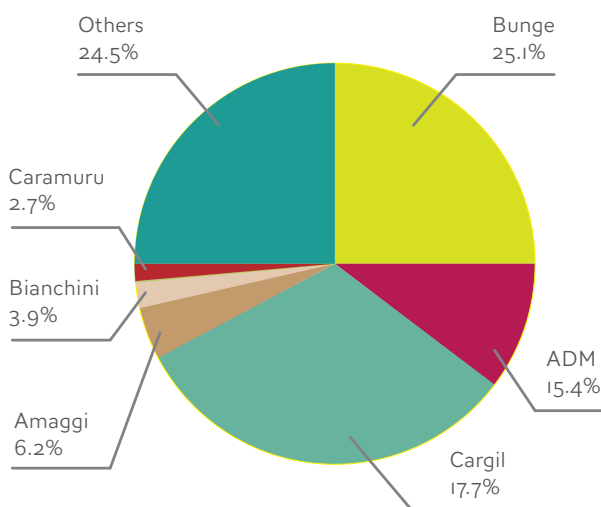
Four large multinationals are the main companies in the production chain of soy, and which trade grains acquired from farmers: Bunge, Cargill and ADM (North-American) and Dreyfus (French). Together they purchase nearly two thirds of the soybean produced in Brazil. In 2010 Bunge, Cargill and ADM were responsible for almost 60% of Brazilian soy complex exports. National companies have reduced participation, especially Amaggi, Coamo and Caramuru. The participation of the four multinationals is increasing in biodiesel production made from soy oil. Of which Bunge and Cargill are the two largest producers.¹² They are also present in all soy exporting countries and will certainly be the main beneficiaries of the expansion of production in new areas. The US, Brazil and Argentina represent 90% of worldwide soybean exports.

Regarding provision of industrial plants producing biodiesel only two companies, Somar and Tecbio, work with national technology. Two other national companies work in association with foreigners which are in charge of technology: Tecnial with the North-American CIW, and Dedini with French Desmet Balestra. Conneman (North-American), Lurgi (German) and BDI (Austrian) are also highlighted¹³.

¹² Exame edição especial, Melhores e Maiores, julho de 2011.

¹³ Cantele, M. PowerPoint presentation at

Participation of trading companies in Brazilian soy exports - 2010



Source: Bradesco, 2012, from Secex data.

Soybean is the predominant raw material in biodiesel production. The January 2012 National Petroleum Agency (ANP, acronym in Portuguese) newsletter demonstrates, through the graphic below, that soybean (71.13%) and bovine fat (18.66%) represent around 90% of the amount of raw materials used for biodiesel production in the country (ANP, 2012).

The Ministry of Agrarian Development and Petrobras Biocombustíveis have been making efforts to broaden participation of raw materials produced by family farming production, aiming at reaching objectives of job creation and income generation foreseen at the Programa Nacional de Produção de Biocombustíveis (National Program of Biofuels Production), such as castor beans, palm and jatropha. However the use of these oilseeds crops so far have not exceed 4 to 5% of the total.

Petrobras Biocombustíveis also invests in technological research on biodiesel production. It built a biodiesel experimental unit at Rio Grande do Norte state, develops research with several oleaginous at its research center (CENPES) and also with agricultural

“Conferência Internacional do Biodiesel”, 18/11/11.

technologies aiming at increasing oleaginous production and productivity. The company also promotes the creation of research networks formed by several universities and Brazilian research centers with this same objective.

Embrapa Soja states as one of its goals to consolidate the institution as an international reference center on the generation of knowledge, technologies and innovations for soybean cultivation in tropical regions (Embrapa Soja, 2009). Embrapa Soja's interest in international cooperation initiatives focuses in soy and sunflower research related aspects, with the objective of developing knowledge, technologies and environmentally and economically sustainable products. Some examples are cultivars adapted to several producing regions with high productivity and resistance to major diseases; climate risks zoning; nitrogen biological fixation; integrated management of plagues, diseases and weed; biological control of plagues, soil and cultivation management; and Agriculture-Livestock-Forest Integration.

abroad. Some examples of international consulting already rendered by Embrapa Soja are research company planning, agri-climate risk zoning, the planning of processing structures and of seed storage and feasibility assessments for soybean production.

In partnership with public and private companies, national and international, Embrapa Soja has been developing knowledge, technologies and products. Some examples of these international partnerships are:

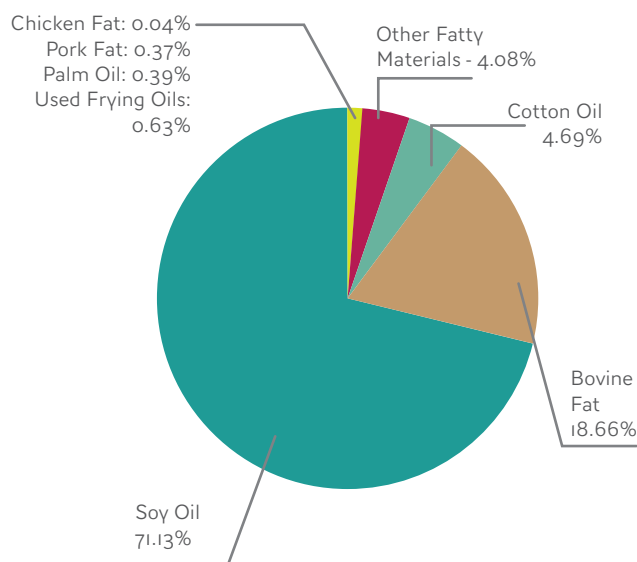
Development of soybean cultivars with tolerance to drought - JIRCAS/Japan;

Development of soybean with resistance genes to herbicides - BASF/Germany;

Development of soybean with tolerance genes to Glifosato herbicide - Monsanto/US;

Development of soybean cultivars with resistance genes to insects - Monsanto/US. (Embrapa Soja, 2009)

Raw materials used in biodiesel production – December 2011



Source: ANP.

Through Embrapa Soja it is also possible, along with Embrapa Transferência de Tecnologia (Embrapa Technology Transfer), for the licensing of Embrapa cultivars seeds for export, production and commercialization

Corte manual da cana: tecnologia brasileira?



An extremely painful hard job which harms health and reduces labor capacity to around twelve years, manual cut is being replaced over the last years by mechanized harvest, in the case of Brazil.

Feasibility studies produced by GVAgro include the alternative of the manual cutting of sugarcane, a practice introduced in Brazil during the 1550's by Portugal using a slave workforce brought precisely from Africa.

Ongoing international projects

Ethanol

Angola

Odebrecht, a company traditionally dedicated to engineering work, is present in Angola since 1984. The company informs that currently Odebrecht Angola operates in the segments of infrastructure, real state, bioenergy, mining, agribusiness, energy and especial projects, with more than ongoing 25 contracts in the country and 16,000 workers.

In 2006, the BNDES created a US\$ 1.5 billion credit line to Angola, which resulted in a strategic partnership agreement between Angola and Brazil at the new African sector of ethanol (Ipea, 2011).

Odebrecht Angola invests in bioenergy through Biocom. Besides Odebrecht (40%) the company counts on shareholders participation of Sonangol oil company (Sociedade Nacional de Combustíveis de Angola, state owned, with 20%) and of Damer group (Angolan private group, with 40%), and will produce sugarcane for internal market provision as of 2012 at the Unidade Agro Industrial de Cacuso, located at the Malanje province. Funding for its construction comes from BNDES (Ipea, 2011).

In the future the project can also attend the external market, especially Europe which imports sugar from Africa with differentiated

tariffs¹⁴. African exports will be free of the 192 per one thousand liters tariff applied over the Brazilian product. Angola is one of the African countries benefited by the (EBA – Everything But Arms) agreement, a European Union initiative which provides preferential access to the European market for several products such as sugar.

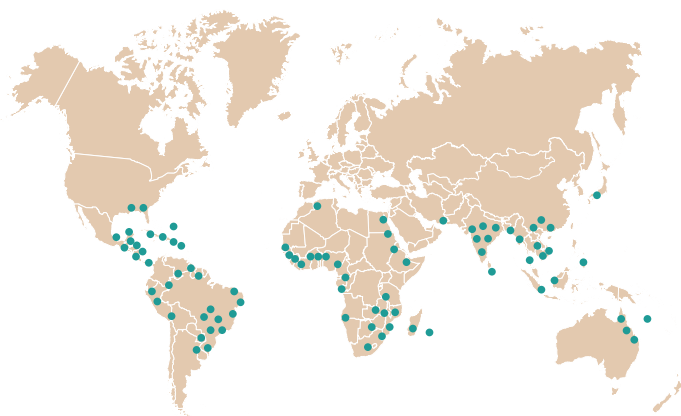
Sugarcane cultivation will begin in 2012 in a terrain granted by local government. Anhydrous ethanol production capacity at this unit will be 30 million liters and the electricity will be 200 thousand Megawatts/hour (MWh). The total investment in this plant is estimated at US\$ 400 million. Depending on the success of this project and on the maturation of the Angolan market a new unit can be constructed, according to ETH president José Carlos Grubisich. Petrobras Biocombustível. President Miguel Rosseto also says he is analyzing investment opportunities to attend Mozambique demand, which regulated ethanol use as of 2012¹⁵.

In 2012 Odebrecht should transfer its stock participation at Biocom to ETH, its company dedicated to agroenergy production. ETH keeps nine operating units in Brazil. Besides Africa it holds projects in Latin America. The company analyses the economy feasibility of building plants in Mexico and Colombia. In those cases the intention is to attend local market and to export to the United States¹⁶.

Participation of foreign companies at the sugar and ethanol sector in Angola is not restricted to Brazil. In February 2012 Japanese multinational Marubeni announced the subscription of a contract with the Angolan government to build a plant in the country to produce sugar and ethanol from sugarcane with a US\$ 650 million investment. The unit will be located at the Cunene province in Southern Angola and will have the annual capacity to produce 400 thousand tons of sugar and 40

million liters of ethanol, with commercial operations to begin by the end of 2015¹⁷.

Map of World Sugarcane Production



Source: Oliveira Filho, 2010.

Mozambique

In 2010, BNDES opened a credit line to Brazilian companies operating in Ghana and Mozambique with a US\$ 3.5 billion budget. Mozambique has a large interest for substituting gasoline because it imports 100% of the oil consumed. The country's government studies the introduction of a mandatory mixture of 10% ethanol with gasoline¹⁸.

Guarani, whose capital is divided between Tereos and Petrobras Biocombustíveis, already holds a sugar production plant in Mozambique, Companhia de Sena, with annual milling capacity of 1.2 million tons of sugarcane. In December 2011 Guarani announced the beginning of studies to produce ethanol in the country in partnership with

14 Fabiana Batista. ETH fará troca de ações para assumir Biocom. Valor Econômico, 16/12/11.

15 Fernanda Nunes. Projetos na área de etanol têm bom potencial. Valor Econômico, 21/11/11.

16 O próximo desafio da ETH. Estadão.com.br, 07/11/11.

17 Gabriela Mello. Marubeni montará usina de bioetanol em Angola. Agência Estado, 07/02/12.

18 Eduardo Magossi. Petrobras Biocombustível e Guarani vão produzir etanol em Moçambique. O Estado de S. Paulo, 15/12/11.

Petróleos de Moçambique (Petro Moc). The new plant will be built next to the existing plant, utilizing the molasses currently sold for animal food production. The strategy is to produce the agrofuel without affecting the growth of the supply of sugar, a product of which Mozambique is also import dependent.

Ghana

In 2008, Brazil and Ghana signed an agreement foreseeing the development of the Bases para o Estabelecimento da Agricultura de Energia em Gana (Bases for the Establishment of Energy Agriculture in Ghana). At the occasion it was estimated that the Ghanaian company Northern Sugar Resources would receive BNDES funding to build an ethanol plant, with sugarcane cultivated with Embrapa technology, and that Constran, a Brazilian engineering company, would be hired to carry out the works¹⁹.

There is no information regarding actual hiring of Constran. There was however a tripartite agreement involving Brazil, Ghana and Sweden, where BNDES granted US\$ 260 million to Odebrecht, which initiated the construction of the plant in 2010. The agreement indicates that Northern Sugar Resources will cultivate 30 thousand hectares of sugarcane in the country's Northern region. Sweden government committed itself to purchase through AB Svensk Etanolkemi (Sekab) all the ethanol produced for a 10 year period (Ipea, 2011).

Zimbabwe

In 2009, Boabab Energy group acquired the Diamante ethanol plant, in the state of Minas Gerais, which was deactivated and transported to Zimbabwe. Counting on a US\$ 220 million investment, the foreseen production is 1 billion liters of ethanol per year. Also part of the project is the adequacy of Brazilian technology to local

needs which sets the first large sale of Brazilian equipment and technology to produce ethanol in an African country.

According to the Boabab group Zimbabwe intends to become an African leader in agrofuels. The targeted market is the Southern African development Community (SADC) member countries, South Africa among them. Due to the introduction of legislation determining the mixture of 8% ethanol with gasoline, the forecast is that South Africa will consume 760 million ethanol liters per year²⁰.

Cuba

In January 2012, Odebrecht announced it will sign with State-owned Grupo de Administración Empresarial del Azúcar (Azcuba) a management contract for the production of one its plants. According to Odebrecht the ten year duration agreement aims at increasing production and milling capacity.

According to a Brazilian sugarcane industry executive who is informed about the project, Odebrecht will also produce ethanol and energy from biomass in Cuba. The Brazilian Ministry of Foreign Affairs informed in this regard that this can be possibly sometime broadened to the ethanol industry²¹.

Sudan

In 2009, an ethanol plant was opened in Sudan by the Brazilian group Dedini. The Kenana group, which belongs to the Sudanese government and to Arabic funds, already produces sugar from sugarcane and also uses Fiat's CNH harvesters made in Brazil. In 2010 Kenana announced negotiations regarding the purchase of two additional Dedini plants²².

19 Gana se lança no setor dos biocombustíveis com financiamento do BNDES. AFP, 03/05/08.

20 Usina brasileira é vendida para empresa do Zimbabwe. África 21 Digital, 22/10/09.

21 Cuba abre setor de açúcar a investimento da Odebrecht. Folha de São Paulo, 30/01/12.

22 Luiz Silveira. Kenana, do Sudão, vem ao país buscar máquina para cana. Brasil Econômico, 24/09/10.

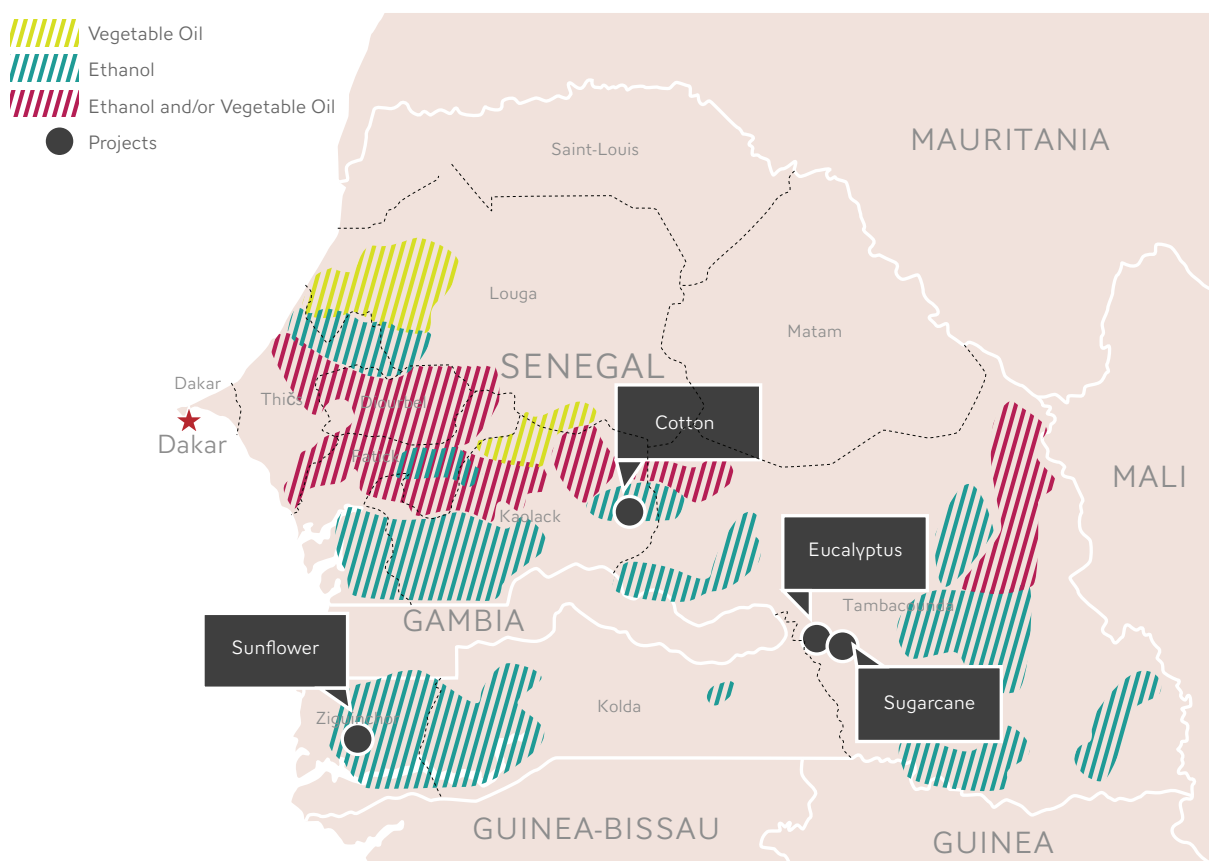
Besides the Sudanese government the company has Saudi Arabia, United Arab Emirates, Kuwait and Japan as associates. In 2010 Kenana operated the first foreign ethanol shipment. Five million liters were exported to the Netherlands. According to the Arabic-Brazilian Chamber of Commerce secretary-general Michel Alaby production resulting from this first phase will be totally destined to the European Union. He added that there are currently 10 projects to build new sugar and ethanol plants, and they will count on Brazilian companies' participation²³.

Senegal

In 2007, Brazil and Senegal signed the Complementary Adjustment to the Technical Cooperation Agreement between Brazil and Senegal on the implementation of the Human Resources Formation and Technology Transfer for Supporting the Senegal National Program on Biofuels project.

In 2010, Fundação Getúlio Vargas concluded a feasibility study on sugarcane, eucalyptus, acacia, soybean and sunflower cultivation for agrofuels production, identifying respective areas and potential for production. Also identified were the areas where pilot projects should be installed (FGV, 2010). In 2011 Embrapa and the Brazilian Cooperation Agency presented an initial proposal to the Senegal government (Ipea, 2011).

Senegal: recommended localization and potential areas of new project



Source: FGV, 2010.

23 Sudão terá mais 10 usinas de açúcar e álcool.
Canal Executivo, 12/06/09.

Soybean

Mozambique

African savannah is perceived as the “new Cerrado” for the UN Food and Agriculture Organization (FAO, the United Nations branch for food and agriculture). According to the organization the region can become a world center for grains and other food production as barely 10% of its arable area is utilized.

In 2009, the Programa de Desenvolvimento da Agricultura nas Savanas Tropicais de Moçambique (ProSavana, Tropical Savannah Agricultural Development Program) was launched. It is a triangular cooperation program among the Mozambique government, represented by its Agriculture Ministry, Brazil by Embrapa and the Brazilian Cooperation Agency, and Japan by the Japan International Cooperation Agency (JICA).

ProSavannah was inspired by the experience gained through Brazilian livestock and agricultural programs implemented in partnership with JICA, especially the experiences and results of the Programa de Cooperação Japão-Brasil para o Desenvolvimento dos Cerrados (Prodec, Japan Brazil Cooperation for the Development of the Cerrado), developed since 1973 whose main objective was the soybean expansion in the Brazilian Cerrado.

Embrapa is testing cotton, soybean, corn, sorghum and bean seeds from the Brazilian Cerrado in order to adapt them in Northern Mozambique. Six million hectares were identified for project implementation. According to the Chief of the Embrapa's International Relations Secretary Francisco Basílio “In that region half of the area is populated by small farmers but the other half is depopulated as was the case in Western Bahia state and in Mato Grosso state in the 80s”²⁴.

According to Mozambique Vice-Minister of Agriculture Antônio Limbau: “Looking at the benefits soybean can provide us such as

the poultry chain or nutrients such as soy oil, soy meal, livestock feed, which is one of the important elements, we need all of this. We defined in our strategic plan that we must be self-sufficient in chicken and for this purpose we must develop the chain and one of its components is soybean. We must potentiate that zone to produce soy. In producing it we will have chicken for the food security chain and to export²⁵.”

Mozambique land is State-owned property and can be used in concessional regime which is open to foreigners. Concession is given for 50 years, renewable for another 50 years, for 37,50 meticals (R\$ 21) per hectare per year.

In September 2011, the first group of 40 farmers was announced to depart from Mato Grosso state towards Mozambique, organized by the Associação Mato-Grossense dos Produtores de Algodão (Mato Grosso State Cotton Producers Association - AMPA). The mission happened upon invitation from the Mozambique Agriculture Minister José Pacheco who affirms: “Brazilian farmers have accumulated experience which is welcomed. We wish to repeat in Mozambique what they have done in Cerrado 30 years ago. The main condition for farmers is to have willingness to invest in Mozambique lands. Hiring 90% of Mozambique workforce is required”.

In 2012, the Brazilian company SLC which has one of the largest grain crop areas in Brazil, announced that it also intends to plant soybean in Mozambique, starting production on a commercial scale from the season of 2015/2016. The company currently keeps talks with Embrapa in order to define which cultivars can better adapt to Mozambique lands, which will basically be the same seeds as the ones used in the Brazilian Cerrado²⁶.

Sudan

The Brazilian group Pinesso which owns more than 100,000 hectares of soybean, corn

24 Patrícia Campos Mello. Moçambique oferece terra à soja brasileira. Folha de S. Paulo, 14/08/11.

25 Agricultura com melhores resultados nos próximos anos. Moçambique para todos, 02/10/11.

26 SLC quer triplicar de tamanho até 2020. Valor Econômico, 09/02/12.

and cotton farms in the states of Mato Grosso, Mato Grosso do Sul and Piauí initiated, in 2010, an experiment of soybean cultivation in Sudan. In Brazil the group also produces and commercializes soybean seeds, provides logistical services and operates as a retailer of machinery and agricultural equipment. In December 2010 it executed its first soybean crop in Sudan.

In 2011, Pinesso intended to grow 20,000 hectares of cotton, 10,000 hectares of soy and 10,000 hectares of corn but after a one year test period only 400 hectares of cotton and 100 hectares of soy were cultivated. Nearly US\$ 80 million of investments are foreseen for the purchase of machinery, fertilizers and seeds. This amount does not include the cost of land because there is no need to buy land, as they are public and given for free by the government for those willing to produce, according to the company's director Gilson Pinesso²⁷.

The project also includes sending machines and agricultural equipment made in Brazil. In the Brazilian Midwest the group is the exclusive retailer of Agrale tractors to the region and commercializes Jacto pulverization equipment, planters and equipment from Tatú and Semeato.

27 Neri Kaspary. Produtor cultivará 40 mil hectares de algodão, soja e milho no Sudão. Correio do Estado, 27/12/10.



Some indicated trends

“Africa has a great potential for ethanol due to their climate and vegetation being similar to those of the Brazilian Northeast, mainly in Sub-Saharan Africa (South of the Sahara desert). Savanna vegetation is similar to the Brazilian Cerrado. Ethanol is certainly an opportunity”²⁸.

Eduardo Leão de Sousa, Executive Director of União da Indústria de Cana-de-açúcar (Unica)

Information presented here clearly demonstrates that as of now the African continent occupies the center of attention regarding the Brazilian government's policy of investing in agrofuels production in third countries.

It is also evident that Brazilian initiatives in Africa are part of a broader Brazilian foreign policy strategy. The goal of placing Brazil as the global leader of agrofuels production – using African countries as partners in this leverage which requires turning ethanol and biodiesel into commodities – is part of the Brazilian government strategy of positioning itself as a central player in the ongoing dispute for a new protagonism in an international system under transition. Brazil seeks credentials as a relevant player in keys issues of the global agenda, energy included, and builds alliances to achieve its objectives.

²⁸ Fernanda Nunes. Projetos na área de etanol têm bom potencial. Valor Econômico, 21/11/11.

The number of Brazilian companies who may benefit from these initiatives is small, with emphasis on GV Agro activities through consulting, Dedini in the provision of plants, and Odebrecht-ETH for ethanol production. The main companies interested in this expansion process are therefore multinationals which also operate in Brazil, dominating the trade of agricultural products, inputs, machines and equipment provisions for industrial and agricultural production, besides having increasing presence in the sugar and ethanol sector.

It is important to note that these transnational's participation will not be necessarily done through its branches in Brazil. These operations will be done under criteria established by the companies in accordance with their headquarters. The same can be said about the flex-fuel automobile market, also produced in Brazil by foreign companies. Only in the beginning, while the market for these vehicles has limited dimensions, they will certainly be made and exported by subsidiaries in Brazil. Exporting an agribusiness model with high technological content by a country such as Brazil cannot present different outcomes than that, because the country has low investment in technology and is under an ongoing deindustrialization process.

This explains the strong presence of the North-American government in the majority of agreements. North-American capital is predominant at global companies related to agribusiness. European countries and Japanese presence, besides expressing interests of these countries industries linked to agribusiness, also attend their plans to acquire agrofuels in other countries in order to reduce dependence on oil in the short and medium term.

Brazilian government is aware of the fact that potential agrofuels buyers would not admit the possibility of depending on a monopoly or an oligopoly of producer countries, repeating the same patterns as Organization of the Petroleum Exporting Countries (OPEC). Brazil also knows that these importing countries can stimulate production in other regions such as Africa and Latin America in order to feed their future consumption needs, broadening the world production and therefore assuring imports with convenient prices.

The reasons for preferences in African countries are present in several government leaders and agribusiness executive testimonies. Emphasis is on references to availability of free lands or rented for symbolic prices, as well as the low level of social organization, expressed on the lack of adequate legislation to face the occupation of lands by monocultures in those countries, with social and environmental consequences well known in Brazil.

In the sugarcane case it is important to stress that feasibility studies produced by FGV include the alternative of the manual cutting of sugarcane, a practice introduced in Brazil during the 1550's by Portugal using a slave workforce brought precisely from Africa. An extremely hard job which harms health and reduces labor capacity to around twelve years, manual cut is being replaced over the last years by mechanized harvest in Brazil. This also allows the reduction of sugarcane straw burning, which manual cut harvest is cheap but is at the same time a source of large environmental damage, also jeopardizing inhabitants' health living nearby cultivation regions.

Therefore Brazil begins to export a productive model which is not originally Brazilian. Soybean monoculture in Brazil follows the North-American pattern, uses the same inputs and equipment and its trade is also mainly controlled by American companies. The sugar and ethanol sector, traditionally controlled by Brazilian companies, is currently under an accelerated denationalization process due to the entry of energy, oil and food multinationals. For this reason it would be more appropriate to envisage this movement as part of a Brazilian adherence process to the increasing global expansion of multinationals in this sector, now as an active agent.

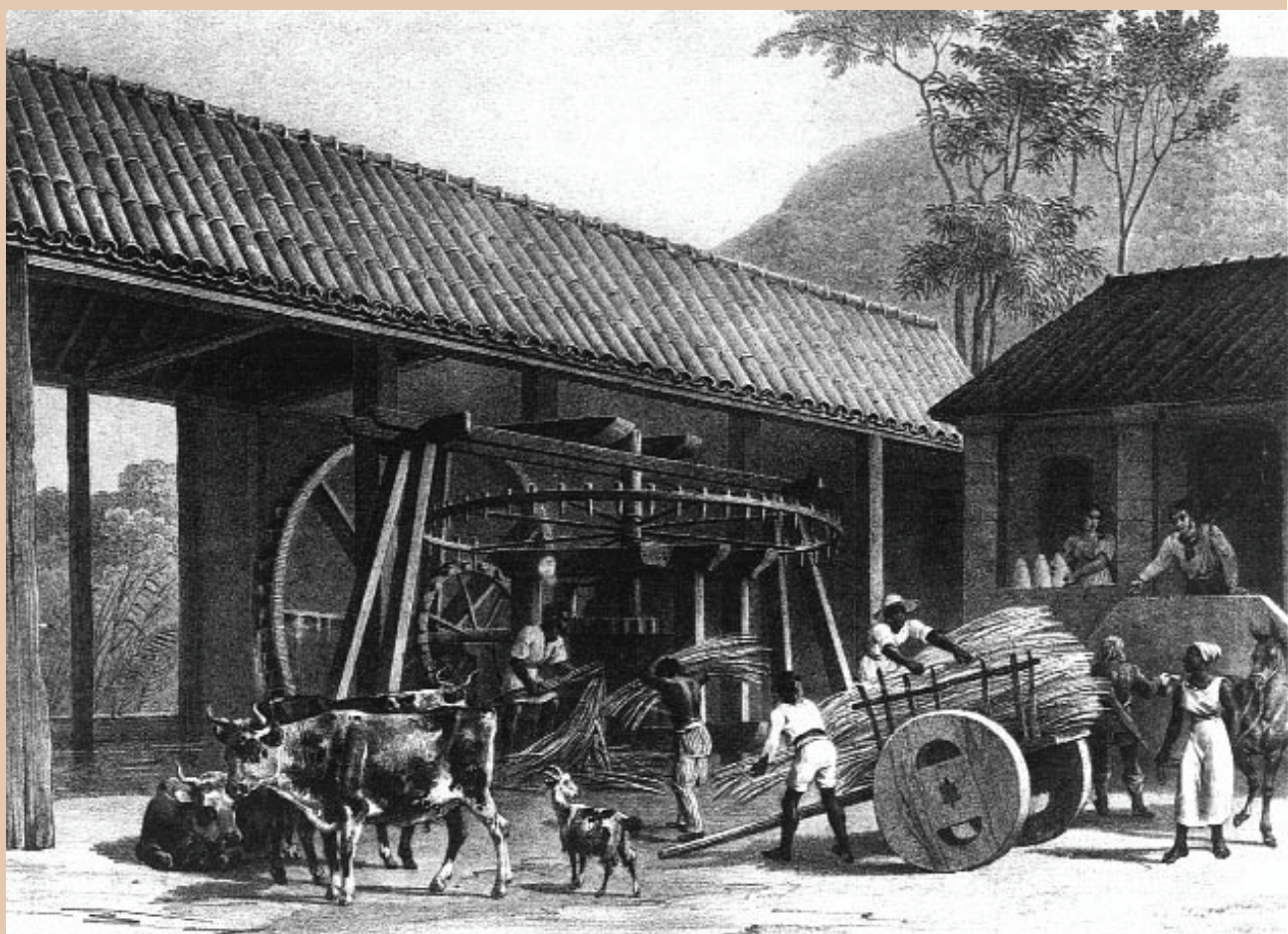
Also emphasis should be given to the fact that the regions where this expansion will be done have similar characteristics to those of Cerrado, such as the African Savanna. The Brazilian Cerrado is currently the biome most affected by the soybean expansion and where most of the country's production is carried out. Cerrado is also where most of the sugarcane expansion is foreseen and the Sugarcane Zoning indicates that most of the areas suitable

for this cultivation are located inside this biome.

In the Brazilian case the agribusiness sector argues that production can be expanded without additional deforestation. Regarding the African Savanna this concern seems to be absent:

“Mozambique is like Mato Grosso state in the middle of Africa, with free land, without environmental obstacles and with shipping to China much cheaper”.

Carlos Ernesto Augustin, President of Mato Grosso State Cotton Producers Association (Ampa)



Conclusions

Along with exporting the large scale monocultures model for agrofuels production Brazil has also been exporting food security and food production public policies, resulting in contradictions in its external operations and reproducing abroad the historical conflicts existing in Brazilian society between family farmed agriculture and industrial agriculture guided towards the external market.

Information gathered by this mapping point out that Brazilian cooperation programs are being articulated with international public institutions and banks operations, which drive their investments towards the internationalization of Brazilian companies. Therefore at this moment, the Brazilian cooperation is reproducing the North-South cooperation mistakes and tends to operate South-South cooperation as a subsidiary line and a support to the expansion of corporate interests of big national corporations.

These national corporations are articulating themselves to an intense and accelerated internationalization process inside and outside the country, where Brazil becomes a proactive agent in carrying transnational companies' interests into Africa through Brazilian cooperation. Examples of these dynamics are the memorandums of understanding for cooperation in Africa involving Brazil, the US and the European Union, the investments in ethanol in Angola aiming at exporting to Europe with lower tariffs, and projects such as Tropical Belt (cooperation among Brazil, the US and the European Commission).

The mapping clearly indicates Mozambique as the country that intensely receive both the large scale monocultures model for agrofuels production; and public policies and programs on food security, hunger reduction and support

for family farming. For this reason Mozambique is an emblematic case of the existing contradictions of Brazilian cooperation and investments. Therefore this mapping should serve as a guide to continue the development of a more detailed research on the bilateral and trilateral memorandums of understanding, agreements, programs and initiatives of public and private institutions in Mozambique.

The analysis of Brazilian cooperation and investments in Mozambique aims at both criticizing and denouncing violations of territorial rights and socio-environmental conflicts resulting from Brazilian agrofuels companies presence and also advocate and influence the course that the Brazilian role should play in Mozambique society. One example is the Programa de Cooperação Japão-Brasil para o Desenvolvimento dos Cerrados (Prodecer) case, devoted for four decades to soybean expansion in the Brazilian Cerrado and which serves as reference for the implementation of ProSavannah, having the potential to reproduce the serious socio-environmental conflicts known in the Cerrado region. Being at the beginning of its implementation, our objective is to try to criticize and challenge ProSavannah based on the Brazilian Cerrado experience and to advocate for programs which do not repeat in Mozambique the disasters which occurred in Brazil.

The critique, advocacy and incidence on the decision making process regarding Brazilian cooperation and investments require initiatives both of information gathering and analysis in Brazil, and also articulation and common action among civil society organizations in Brazil and in Africa. Next steps should include: to demand in Brazil the creation of transparency and information disclosure mechanisms which allow monitoring and critical analysis; to demand in Brazil the creation of consulting and participation mechanisms at the agencies in charge of formulating international cooperation and investment guidelines, policies and programs; to map existing diagnosis and studies; to perform comparative studies between the context of monocultures expansion for agrofuels production in Brazil and in Africa; specifically to establish connections between information on agrofuels expansion

in Mato Grosso state and in Mozambique; to carry out similar actions regarding food production and food security policies and programs in both countries; to contribute for strengthening linkages and relations between social organizations and movements in both countries, as it is the case for initiatives among food security networks and among groups affected by big corporations interventions in both sides of the Atlantic Ocean.

Brazilian cooperation and investments are far from becoming public policies based on transparency and on society's democratic control. This study and its continuity aim at contributing to the constitution of these public policies, and that they express the proposals on cooperation and investments desired by those social forces who defend rights and socio and environmental justice in Brazil and worldwide.

(*) With contributions from FASE's Environmental Justice and Rights team.

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