

Agrofuels are a Threat to Food Sovereignty
SWISSAID Position and Background Paper 2008



Executive Summary

The world is currently experiencing a new era of hunger. World Bank president Robert Zoelick warned on April 2 of this year that in countries where people spend between 50 and 75 per cent of their budget on food there is little margin for survival¹. In Indonesia an increase on the price of rice by only 10 per cent will push another 2 million people into poverty. Part of the responsibility also goes to the politically guided boom in the demand for biofuels, which competes with food production.

Biofuels from renewable resources such as sugar, maize, soybean, oil palm, wheat, or jatropha are being propagated as the environmentally friendly answer to the threat from climate change and the high energy prices. The industrialized countries, especially the EU and the USA, are hoping to reduce their dependency on oil and their CO2 traffic emissions. With measures like mandatory blending quota, subsidies and tax shelters they are boosting the demand for biofuels. The supply of the cheap raw materials mainly stems from the countries of the south.

But the criticism against agrofuels weighs heavy: forced displacements of indigenous communities, the destruction of the rain forest, slavery-like working conditions, and the poisoning of water and soil through pesticides are being reported on. Several studies have concluded that agrofuels have hardly any beneficial effect on the climate and that their energy efficiency is bad. The illusion of an environmentally friendly fuel is thus less harbored by environmentalists than by the automotive -, oil -, and agroindustry, as can be seen from the massive investments and alliances in those industries. Biofuels seem to allow “business as usual” and open up promising new markets. Organizations of the civil society everywhere in the world are calling for a moratorium for the industrial production and the international trade of biofuels. They are resolutely against the poor countries’ bearing the cost of the climate problems caused mainly by the industrialized countries.

From the perspective of development policy it is the competition to food production that gives rise to serious concerns. With 860 million people suffering from starvation and the most recent dramatic forecasts of “a new era of hunger”², the question of whether valuable farmland should be used for the production of fuel needs to be asked. Some 200 kg of maize are required to fill a 95 l car tank with pure ethanol – enough to feed a person for one year³. This simple comparison raises not only ethical doubts. It also shows that agrofuels indeed threaten the right to food.

Given the worldwide experiences so far and the reports of our partner organizations from Columbia, India, and Tanzania SWISSAID is against the industrial production of agrofuels for the international markets. It worsens many existing problems of small farmers and indigenous populations – also the fight for land and water – and threatens biodiversity. With higher food prices through the boom in agrofuels the poor can no longer adequately feed themselves. It is perfectly clear to SWISSAID: biofuels fuel hunger. Biofuels, whose production consumes oil and destroys ecosystems, offer no sustainable solution for the problem of climate change. SWISSAID proposes to support an ecological form of agriculture for local markets with short routes of transportation and organic methods of production, which consume few fossil resources. SWISSAID demands a clear reversal of trends in energy policy in favor of greatly lower levels of energy consumption and the support of sustainable, renewable energies.

¹ Robert B. Zoellick; President of the World Bank, Center for Global Development, Washington D.C.
2 April 2 2008

² World Food Programme quoted according to Katarina Wahlberg: “Vor einer globalen Nahrungsmittelkrise?”
Letter of information Weltwirtschaft und Entwicklung: Nr. 03-04/2008

³ C. Ford Runge/Benjamin Senauer: How Biofuels Could Starve the Poor. „Foreign Affairs“ April 24 2007.

Food sovereignty and ecological agriculture supporting the right to food

SWISSAID promotes sustainable, healthy nutrition for poor rural and indigenous populations in nine countries in Africa, Asia, and Latin America. SWISSAID is convinced that this can only be achieved by strictly aligning agricultural and trade policies with the principle of food sovereignty.

Food sovereignty comprises the right of all countries and their populations to determine democratically what is planted and consumed. Specifically, this means for SWISSAID to support a diverse ecological form of agriculture run by small farmers for the provision of primarily local and regional markets with ecologically produced food. A main focus is on women, who are instrumental in the production and the preparation of food for the family. Small farmers can thrive only when they can sustainably access and control natural resources like land, water, and seeds.

Monocultural and industrialized forms of biofuel production as seen in the USA, Brazil, Indonesia, Malaysia, Columbia and many other countries in the south are in opposition to the principle of food sovereignty.

Political Support for Biofuels in Switzerland and the EU

Biofuel consumption in Switzerland is currently at a low level: in 2006 its share was 0.2 per cent of the total fuel consumption and it was mainly produced in so-called pilot plants. A far smaller part was imported mainly from Switzerland's European neighbors⁴.

In January 2008 the Federal Council signed off on a law exempting fuels like biogas, bioethanol and biodiesel from mineral oil taxes. "Such a tax shelter should help replace liquid fossil fuels by fuels from renewable raw materials and natural gas"⁵. The Federal Council hopes to reduce the CO₂ traffic emissions with those indirect subsidies for biofuels. Since the national production cannot realistically supply the quantities necessary, also Switzerland is therefore contributing to the booming demand for biofuels on the international markets. During the parliamentary debate about the revision of the law SWISSAID repeatedly commented on the dangers from biofuel production for developing countries and called for the introduction of minimal social requirements alongside ecological ones for the tax exemption. Parliament has heeded the calls from the aid, environmental, and farmers' organizations, but is lagging behind with regard to implementation in the Mineral Oil Tax Ordinance (see p. xy).

The EU has gone a lot further with its mandatory blending quota of 5.75 per cent until 2010⁶. Until 2020 even 10 per cent of the fuel consumed in the EU has to come from biofuel sources. As an accompanying measure the EU allows its member states to exempt all agrofuels from mineral oil taxes. Additionally the EU will pay considerable subsidies: in 2006 the production of ethanol was supported with 1.29 billion Euro from EU coffers, the biodiesel production with even 2.44 billion.⁷ To reach the political blending targets the EU Commission is looking at an import share of a third to three quarters (with today's technologies 70 per cent of the cultivation area would have to be used to produce the required quantities of biofuel crops). The scientific advisory board for agriculture in Germany clearly criticizes such policies: "The support for biofuels is no option from the perspective of climate protection."⁸ Biomass as a source of energy is only a temporary option as it is highly inefficient and highly subsidized. The board also notes that overall the "potential for bioenergy is very low as compared to that of solar energy."⁹

⁴ Figures from: Reply from the Federal Council to the interpellation Teuscher: „Agrotreibstoffe. Mehr Risiken als Chancen?“, 07.3893

⁵ Communication of the EFP from 31.01.2008: „Steuerliche Begünstigung umweltschonender Treibstoffe: Inkraftsetzung Mitte 2008“

⁶ EU directive 2003/30/EG

⁷ Global Subsidies Initiative 2007. Quoted by BMZ Diskurs 011, February 2008.

⁸ Christoph Seidler, „Wissenschaftler warnen vor Biosprit“. Spiegel online, 31.03.08.

⁹ Joachim Müller-Jung, „Antireklame für Biosprit“. F.A.Z., 19.03.2008

Biofuels are not organic'

“Biofuels” is the term used for ethanol produced from sugar crops or starch, such as sugar cane, maize or cereals, or for diesel produced from plants that naturally produce oils, such as soybean, oil palm, rapeseed, or jatropha. They are also referred to as “agrofuels”, since they are a product of the agroindustry. The production of such plants is by no means organic and environmentally compatible. Very much to the contrary: it contributes to the destruction of the rain forest, soil and water poisoning, and the reduction of biodiversity.

In order to optimize the yield and energy efficiency of plants and fuel production processes companies and scientists are searching for “second generation biofuels”. First generation biofuels are produced from plant sugar and oils. Those ingredients make up only a small part of the plant biomass, the largest part being cellulose and lignocellulose. In future ethanol is to be produced from cellulose from plant stems and from wood. The risky process of genetically engineering trees is going to play a special role (see p. xy). Newly developed processes and plants have already been registered for patents, further increasing the control of financially strong corporations over the foundations of agriculture. So far, no second generation biofuels have reached the markets. Their development will take at least 10 years. It remains to be seen whether they meet expectations with regard to yield, energy efficiency and environmental compatibility.

Agro-, Biotech -, Oil, and Automotive Industries are Teaming up

In 2006 the share of agrofuels in the global fuel markets was 1.12 per cent, 4/5 of which from ethanol and 1/5 from agrodiesel. Brazil and the USA are the largest fuel ethanol producers, and both are set to double their production until 2016. Global trading volumes of ethanol increased from 3.2 billion liters in 2002 to 7.81 billion liters in 2006. In agrodiesel from oil palm Indonesia and Malaysia are market leaders, with 80 per cent of the world palm oil production.¹⁰

Apart from many smaller players also the behemoths among transnational groups are active on the biofuel market, investing millions in biofuel refineries and plants. The interests of different industries are converging in entirely novel ways: corn traders and agrogroups are finding a completely new and booming market for their products whilst the automotive and oil industries are primarily interested in maintaining business as usual for as long as possible. The blending of biofuels with gasoline helps prolong the oil reserves – the system is being stretched so to speak. Also the GMO industry is happy about new fields of activity, as it is finding it difficult to make inroads into Europe and Africa (see p. xy). And finally also the financial sector is showing a great interest in new forms of investments, enabling the massive momentum with its funds.

The convergence of interests of the very different industries is reflected in many strategic cooperations and joint ventures. The biotech company Du Pont is developing a new biofuel “biobuthanol”¹¹ together with British Petrol (BP). In January 2008 an even broader and more unusual conglomerate launched a project for cooperation: the corn group Archer Daniels Midland (ADM), the automaker Daimler and the agrochemistry group Bayer CropScience teamed up to support the production of jatropha. ADM is already the world’s greatest ethanol producer and owner of refineries. The companies are specifically looking for cooperations with universities. Thus, Daimler is funding the development of jatropha in India. Apart from the University of Hohenheim, also the deutsche Gesellschaft für technische Zusammenarbeit (GTZ), an international development cooperation enterprise, is involved in this project.

¹⁰ All figures in the box from: BMZ Diskurs 011, Bonn/Berlin, Februar 2008.

¹¹ Martina Backes: “Der nächste Irreweg. Pflanzentreibstoffe schaffen mehr Probleme, als sie lösen.“ Iz3w 305, March/April 2008.

Such novel forms of cooperation concentration of the agromarkets is likely to increase, with agricultural production being even more strongly controlled by multinational groups in line with their interests.

7 Reasons against the Industrial Production of Agrofuels

1. A new Era of Hunger

For the first time in 30 years food prices are rising. As a consequence of the US ethanol program, prices for maize have risen by 60 per cent in the past two years. News about “hunger revolts” in poor countries worldwide are abounding, starting with the so called tortilla revolt in Mexico in February 2007, where the population took their protest against price increases of up to 400 per cent to the streets. In early 2008 bread became a scarcity in Egypt because of the high wheat prices. In South East Asia prices for rice have reached the highest levels in decades: roughly ten million people alone in the Philippines are threatened by hunger¹². In Haiti the president has been deposed by a population enraged by high prices and also in other countries protests are turning increasingly violent. All international institutions such as the World Bank, OECD and FAO agree: the booming demand for biofuels has contributed significantly to the massive food price increases and to the reduction of cereal stocks worldwide, along with the growing consumption of meat in China and India and the speculation on financial markets. According to estimates, 12 per cent of the worldwide corn production and about a quarter of all maize harvests are used for the production of ethanol, and that share is growing.

For many developing countries, which over the last decades have turned from net exporting countries into net importers of food in the context of trade liberalization, this is a dramatic development. Given their dependency on imports of staple foods they are in serious danger of no longer being able to feed their populations.

The price increases force poor consumers to cut down on their daily intake of food: smaller portions, fewer meals and lesser nutrients. For people already bordering the minimum subsistence level this means hunger. The World Food Programme foresees a “new era of hunger” that will also affect the urban middle classes in Indonesia, Yemen, and Mexico.¹³ The WFP will no longer be able to provide endemic regions with sufficient quantities of food – it will have to cut down on the number of recipients and on rations.

“Indeed, the production of biofuel plants has been competing with food production from day one” state the authors of an OECD study.¹⁴ Experiences from two regions in Columbia, where the government has been supporting the cultivation of oil palms for years, exemplify the consequences (see box). Columbia is the currently fourth largest exporter of palm oil. President Uribe is planning to massively expand production.

All over the world women are in charge of feeding their families. Moreover, women bear a large share of the farm work. With rising food prices and less land for the production of staple foods they are hit hardest: as providers they have to invest more time and money in feeding their family; as socially disadvantaged group they eat last; as farm workers they lose land and income when production switches to cash crops like biofuels. Because cash crops are the province of men.

¹² www.tagesschau.de/wirtschaft/reispreis2.html

¹³ Katarina Wahlberg: “Vor einer globalen Nahrungsmittelkrise?” Informationsbrief Weltwirtschaft und Entwicklung: Nr. 03-04/2008

¹⁴ „Biofuels: Is the cure worse than the disease?” Paris 2007. OECD SG/SD/RT(2007)3

2. Small Farming Communities Hardly Benefit

Not only the governments of the agro-exporters but also many farmers hope to benefit from the rising food prices. The question is well justified: Do agrofuels have the potential to lift poor rural regions and farmer's families from poverty and to bring development? For strongly subsidized agrofuel production to become profitable cheap raw materials are needed. The high, politically induced demand additionally requires large quantities for the downstream processing of fuels. Those conditions favor a production model based on plantations. Thus, soybean, sugar cane, and palm oil are produced in extensive monocultures. Soybean and palm oil are not labor intensive, different from sugar cane with its harsh production environment. Their production, however, necessitates high investments upstream. Such investments are beyond the means of a small farmer's family. Production is in the hands of financially strong national and international companies. In order to meet the as yet unsaturated demand the companies are looking to expand their plantations. Land is becoming an object of speculation, even in remote areas, and is being priced out of the means of small farmers. Poor rural populations are reliving experiences they made with the exploitation of fossil energy sources or with the export based production of tropical fruits or animal feeds. The profits stay with a few companies that are players on the world markets. The local population is stuck with the badly paid work on the plantations or will have to migrate. The bottom line looks bad for small farmers. For 5 to 10 million new jobs as wage or seasonal workers 35 million small farmers lose their livelihood.¹⁵

Contrary to that scenario, a decentralized energy and fuel production, mainly from liquid manure or agricultural waste, can provide small farming communities with opportunities. It can improve the energy supply of rural regions, but must not happen at the detriment of food production. This decentralized production is not interlinked with the currently expanding worldwide market for agrofuels that determines the current development of agrofuel production.

The trend to switch to the production of biofuels undermines the food sovereignty of the poorer developing countries. The less food they produce themselves the more they will have to import. The dependency on strongly volatile world market prices soon leads to bottlenecks in the supply.

At the river Magdalena in the Sur de Bolivar Region, Columbia, small farmers are losing their land and staples are becoming scarce¹⁶

Since mid 2007 SWISSAID and the local small farmers' organization ASPROAS have been studying the effects of the palm oil production on the local population of Sur de Bolívar. Palm oil production has come to play an important role in the region. In 2007 it produced 27 per cent of the Columbian palm oil. Oil palms take up 12,500 hectares of land in the municipality of Simití alone – land which used to be in the hands of small farmers. 6,000 hectares have been appropriated by the palm oil companies for beneficial interest of 30 years, the remainder of the land, savanna and common land, has been appropriated with illegal means. Due to the lack of land titles and massive pressure the small farmers have lost all claims on their land.

The surfaces which used to produce the staples necessary for daily life, i.e. rice, maize, and cassava, are now dotted with oil palms. Cassava is hardly cultivated anymore and has therefore become expensive, if at all available. Self-sustenance of farming families has been severely affected. What used to be produced on one's own plot of land must now be purchased. On the other hand, the plantations offer only very few jobs (on average 0.28 workers per hectare), the main work being the preparation of the fields and the planting of young trees. It is exceedingly difficult for small farmers to take up the production of oil palms, whose cultivation only becomes profitable from a cultivation area of at least 7.5 hectares. A long-term loan would have to be obtained from the palm oil company, creating dangerous dependencies, as the producer would have to enter into the obligation to deliver his harvest only to the lending company.

¹⁵ Almut Ernsting, Biofuel Watch, in „Agrofuels Special Issue“, GRAIN Seedling, July 2007.

¹⁶ APROAS and SWISSAID study, first internal report December 2007.

Due to large-scale forest clearings the population lacks firewood to cook and material to build and repair houses. The production of rice has decreased strongly, resulting in reports about the disappearance of local varieties. Young women in particular have left the region in great numbers¹⁷, given the dramatic decrease of quality of life and the lack of perspectives.

Ecuador: Visit of a 4,000 hectare oil palm plantation

In February 2008 a delegation of Swiss farmers visited a 4,000 hectare palm oil plantation in the coastal regions of Ecuador together with SWISSAID. For climate reasons this region offers countrywide the best conditions for agricultural production. Per ten hectares of land one worker is employed on the plantation, which provides his family with the official minimum monthly wage of 200 dollars. To compare: an organically farmed vegetable operation of two hectares in the highlands sustains seven families, as was revealed on a visit the day before.

In early 2007 the Ministry for Agriculture in Ecuador announced plans to plant sugar cane and oil palms on a surface of 100,000 hectares for the production of agrofuels.¹⁸ Oil palm plantations in the North West of the country have already led to a deforestation of the remaining tropical forest, posing a serious threat to the people of the Awá and the Afro-Ecuadorian communities of the region.

3. Conflicts about Land and Water are Getting Worse

In almost all developing and emerging countries of Africa, Latin America, and Asia that can boast large areas for cultivation and a suitable tropical climate plans are being made to expand or enter into the production of agrofuels.

- Brazil produces soybeans for export purposes on a surface area of more than 22 million hectares, half the arable land of the country. Sugar cane is produced on almost seven million hectares, half of which for the production of ethanol. Until 2025 the acreage is to increase to 42 million hectares.¹⁹
- Indonesia currently produces oil palms on 6 million hectares. Until 2020 this area is to expand to 20 million hectares. Already, more than 400 rural communities are involved in conflicts about land due to the production of palm oil. And already, Indonesia is the country with the highest rate of converting forests into oil palm plantations.
- In Mozambique 33 million hectares, i.e. about 40% of the entire land surface, are considered to be suited to the production of agrofuels. Production targets the European market. The Swiss company Green Bio Fuels Switzerland AG for example has announced to process jatropha from Mozambique in the biodiesel plant planned in Bad Zurzach.²⁰

The conflicts about land prevalent in many developing countries already today are going to intensify with the expansion of the production of biofuel crops, as can be seen with an example from Ghana. According to a report from RAINS from Ghana the Norwegian company 'Biofuel Africa' leases land, mainly common land, with dubious methods to create the "world's largest jatropha plantation". Clan leaders and the village population are being misled with false promises of future profits and jobs. Together with the village authorities RAINS has confronted 'Biofuel Africa' and has succeeded in stopping the destruction of the vegetation and in revoking illegal leases in some instances.²¹

¹⁷ In Columbia the ratio between men and women is 97 to 100 ist, it is 125 to 100 in Sur de Bolívar. Figures from 2007.

¹⁸ Acción Ecológica: "Ecuador: biocombustibles o soberanía alimentaria", March 2007

¹⁹ Camila Moreno and Anuradha Mittal: "Food&Energy Sovereignty Now: Brazilian Grassroots Position on Agroenergy", February 2008, www.oaklandinstitute.org

²⁰ In Bad Zurzach Green Bio Fuel Switzerland AG is planning a large biodiesel plant, which is scheduled to take up the production of 130 million liter biodiesel per year as of mid 2009. This amounts to roughly five per cent of the average annual diesel consumption in Switzerland. <http://www.green-bio-fuel.eu>

²¹ Bakari Nyari, Doing Battel with the Biofuel Dragon, Regional Advisory and Information Network Systems RAINS, Ghana.

Multinational companies are propagating the production of biodiesel in Tanzania with false promises

Almost half the national surface area of Tanzania is suitable for the production of agrofuels, according to a study by the German Gesellschaft für technische Zusammenarbeit (GTZ).²² The government of Tanzania thus sees a great potential in the support of agrofuel production and is currently negotiating investments with several international companies.²³ In the face of these plans SWISSAID fears that conflicts about land and violent protests will increase. The rural population – 80 per cent of the Tanzanian people live off agriculture – depends on its access to productive land in order to ensure the supply of food. Peasant agriculture is the basis of the national economy, it makes up about half of the national income and about three fourths of exports.

So far, the “biofuel task force” established in February 2006 has not yet presented a national policy and regulatory framework for the production of biofuels. But international and national companies are on the lookout for arable land for the production of energy crops. Diligent Tanzania Ltd for example has set up a marketing department for social questions to convince the rural population of the blessings of cultivating jatropha. They are promising to improve the national energy safety, to develop new markets for agricultural products, and to create income for small farmers. SWISSAID Tanzania has debunked those false promises that should lure small farmers into giving away their land below price. To provide the necessary acreages local families of farmers are being displaced or resettled. This has happened to 1,000 rice farmers from the Usangu plains, who have not been adequately compensated.²⁴ Moreover, water from the rivers is being diverted to the jatropha plantations. The remaining rice farmers are left dry. A Swedish company wants to plant sugar cane on 400,000 hectares in the Wami basin. The British Sun Biofuels is planning 18,000 hectares of jatropha in the Lindi region. In either case, it is not clear what should happen with the local small farmers.

Conflicts about use of and access to water will also get worse. The International Water Management Institute (IWMI) has sounded the alarm about a dangerous water shortage as a result of mass production of ethanol and other biofuels. By 2050 demand for water for agrarian use is expected to double through biofuel production.²⁵ In a country like India it takes 3,500 liters of water for the irrigation necessary to produce sugar cane for the one liter of ethanol, according to IWMI. Moreover, the planting of energy crops is also planned on so far unirrigated land that has been used as meadow land or in rainfed agriculture. In particular China and India, which are already suffering from water shortages, would face serious dangers were they to implement their biofuel plans.²⁶

Pacific coast of Columbia: violence against the black communities and forced displacements for the cultivation of oil palms

For 35 years palm plantations have been taking up more and more of the Southern coast of Columbia. Where there used to be cacao, bananas, and food crops, palms are now growing as monocultures. The plantations are in the hands of national companies that themselves own the land or have farmers under contract. Many of the small farmers have been

²² „Liquid Biofuels for Transportation in Tanzania: Potential and Implications for sustainable Agriculture and Energy in the 21st century“ GTZ, 2005. S. 61: “For a viable biofuels industry, the land must also be capable of supporting sufficiently high crop yields for production to be economic. A recent assessment by the Food and Agriculture Organisation of the United Nations (FAO) found that Tanzania had 55.2 Mha potential area for rain-fed crop production from the total land area of 93.8 Mha. 10.8 Mha of this area were in use for crop production, leaving 44.4 Mha of land potentially available for (food and non-food) crop production“.

²³ e.g. the British Sun Biofuels and D1 Oils, PROKON from Germany, Diligent Energy Systems from the Netherlands and others.

²⁴ African Biodiversity Network, ABN: Agrofuels in Africa. Case Studies from Benin, Tanzania, Uganda and Zambia. July 2007.

²⁵ Experten fürchten Wassermangel durch Biosprit-Boom, Spiegel online, 13.08.07

²⁶ Adam Cox, China, India face water risk from biofuel, IMWI; August 15, 2007, Reuters UK

pressured into selling their land. “The alternative was silver or lead”, in the description of Afro-Columbian Lidoro Hurtado.²⁷ Simply put, this means that whoever refuses to sell his land will be killed. “It’s easy to negotiate much lower prices with the widow.” The dirty job of violently appropriating land and displacing farmers is carried out by illegal and armed groups. Small farmers have no option but to accept a job as plantation workers or to try and make a living in the near city of Tumaco. The wages earned by plantation workers are not sufficient to feed a family, forcing also the women into the plantations, which is a disaster for the social and cultural cohesion of the black communities. “The more palms, the more violence”, resumes Hurtado. In only three months 101 murders were registered in Tumaco in 2007, the number of unreported deaths is expected to be far higher.

According to a report of the state institute for rural development palm oil companies have illegally taken possession of 21,142 hectares of common land in the Chocó region on the Pacific coast of Columbia by means of forced displacements.²⁸

SWISSAID India supports indigenous communities in the fight for their land

In the state Chattisgad the forestry department is seeking to establish extensive plantings of jatropha on common and private land. The local indigenous communities living off this land have been trying for years to assert the claims to their land vis-à-vis the state government of Chattisgad. The jatropha plans should now create facts on the ground. The local population is threatened with forced displacement. Several local groups, with the help of SWISSAID, have protested against these encroachments and managed to halt the plans. The fight will go on, however, because the government wants to support the cultivation of jatropha at all costs.

India today is under a veritable jatropha spell. Whereas the national government has not yet signed off on a biofuel policy, the states are creating various incentives to attract investments of the many national and international companies. Even though the Indian market itself is becoming increasingly interesting, current projects center around production for export. Jatropha, whose oil-containing seeds are used in the production of biodiesel, takes center stage in the agrofuel plans, along with the production of sugar cane. The poisonous jatropha plant is said not to be in competition with food production and to grow also on dry land without irrigation. Consequently so called “wastelands”, which are not used for agricultural production, are generously handed over to companies. It is the government that decides on the definition of what counts as wasteland. Until 2011 the Indian government plans to switch 11 million hectares of “wasteland” to jatropha plantations. It is overlooked, though, that this land, often common land, provides the sustenance for poor and indigenous populations, as well as for pastoral tribes and stock farmers. The forest offers nutritional and energy resources, such as wood and berries. A large part of those “wastelands” are fields where communities graze their camels, goats and other animals. With their specific and often unique forms of life and production they also make a significant contribution to maintain animal diversity worldwide.

Also the urban population is starting to feel the effects of the jatropha spell: the costs for staples like rice or cooking oils²⁹ have skyrocketed over the past few weeks. Partly to blame for this are the conversion of agrarian land for the cultivation of jatropha.

4. Biofuels Harm the Environment

²⁷ Conversation with Lidoro Hurtado, municipal council member and Diego Cardona Calle, forest engineer of the environmental organization CENSAT; 13. 12. 2007

²⁸ BMZ Diskurs 011, February 2008.

²⁹ Prices for cooking oils have increased by about 100 per cent.

The race for usable land comes at the expense of the natural resources: rain forests are being cut, savannas destroyed and wetlands drained. The destruction of these valuable ecosystems, which play so important a role for the absorption of greenhouse gases, causes biofuels to be even more harmful for the climate than fossil fuels. According to the International Panel on Climate Change roughly a fifth of greenhouse gas emissions is due to wood clearing. Here, Indonesia and Brazil rank first: exactly those countries that are already the most important producers of biofuels.

A study by the Eidgenössischen Materialprüfungsanstalt (materials sciences and technology services center, Empa) from May 2007 has established that biofuels are not necessarily more environmentally friendly than fossil fuels. The life cycle assessments of various biofuels commissioned by the Federal Offices for Energy, Environment and Agriculture showed that the cultivation and processing of resources like maize or soy are a serious burden for the environment. The use of waste and residual products (like used cooking oil), on the other hand, has a much better energy balance. The production of ethanol from Brazilian sugar cane or Swiss sugar beet does reduce greenhouse gas emissions as compared to fossil fuels, but it places a greater burden on the environment.

More and more scientists have also started to question whether biofuels indeed contribute to a reduction of greenhouse gases. Paul Crutzen, Nobel Prize winner in chemistry being the most famous among them. His team has noticed that additional fertilization for energy crops increased the amount of nitrous oxide (N₂O). This gas is up to 300 times more harmful for the climate than carbon dioxide (CO₂). In extreme cases the greenhouse gas emissions of biodiesel can be up to 70 per cent higher than with conventional fuels³⁰.

5. Climate Culprit Industrialized Agriculture

14 per cent of worldwide greenhouse gas emissions are caused by the global agricultural production – including the production of food and all non-food products, like cotton, tobacco or biofuels. Global transport is responsible for 14 per cent of all greenhouse gas emissions, and another 18 per cent is caused by forest clearings. Also indirectly agriculture factors in with transport and forest clearings. Export based agriculture is the basis of global agricultural trade, and clearings are mainly the result of land and plantation economies expanding into global forest areas. The figures make it clear that the industrialized agricultural model is one of the main factors responsible for global warming. And this is the very model which is driven by the demand for biofuels. Wanting to stop climate change with biofuels is to set a fox to keep the geese!

Fertilizer is the single biggest source of greenhouse gas emissions in agriculture.³¹ The International Food Policy Research Institute estimates developing countries to be doubling their chemical fertilizer consumption by 2020. Energy crop plantations will contribute to a great extent. Moreover, industrialized agriculture uses large amounts of water and land. Soil erosion and exhaustion through maize and soybean cultures are well documented. With second generation biofuels the attrition of the soil is going to get worse. With the burning of any biomass waste to produce ethanol there is no organic material left to naturally fertilize the soil after harvests.

6. Biofuels as Door Opener for Genetic Engineering

With maize, rapeseed, and soybean a large part of the crops behind ethanol or diesel are already now genetically engineered.³² Intensive research is being carried out on other plants that are used or planned for the production of biofuels. Genetic engineering is going to play a major role in the so called second generation biofuels, which are said to have a higher energy efficiency compared to current energy crops.

³⁰ NZZ February 13 2008.

³¹ Stern Review on the economics of climate change, zit. n. GRAIN, seedling, Agrofuels special issue, July 2007.

³² 64 per cent of the global soybean production is genetically engineered; with rapeseed the figure is 20 per cent. ISAAA 2007; http://www.transgen.de/anbau/eu_international/531.doku.html.

- In 2008 Syngenta will launch a special maize variety for the production of ethanol in the USA. Through genetic engineering the maize produces the enzyme alpha-Amylase important for the production process.³³ Syngenta has also applied for approval of this maize variety in Switzerland.
- In Canada and the USA Monsanto is planning to market a genetically engineered, herbicide-tolerant sugar beet for the production of ethanol.³⁴
- An application procedure for the approval of genetically modified eucalyptus trees for the production of ethanol is under consideration. The genetic modification of trees is fraught with particularly high risks given the long production cycles of trees. Any ecological impact will only be measurable after decades.

The population in Europe is very critical vis-à-vis any genetic modifications in agriculture. Only very few genetically engineered agricultural crops have been approved for commercial purposes thanks to the unbroken resistance also from producers' side. The GMO industry now hopes to make inroads in agriculture by way of energy crops, which are not cultivated as food. Dr. Scheitza of the German agro group Bayer CropScience has made this clear in his wording of a press release: "Energy crops have the potential to help establish key technologies such as plant biotechnology and nanotechnology."³⁵ In Europe the discussion among farmers centers mainly on the production of rapeseed for the production of biodiesel. Genetically modified rapeseed could prove to be the door opener for GM technologies in European agriculture. The same applies to BASF's Amflora potato. The GM potato was designed with a view to industrial production of starch. The group is still awaiting the EU letter of approval – also as fodder and food plant. The danger of contamination of GM-free food crops through genetically engineered energy crops is very high. In Canada, organic farmers are no longer able to produce GM-free organic rapeseed. Scandals around instances of contamination of GM plants not approved for consumption abound,³⁶ such as the worldwide contamination of GM rice.

7. Certification is no Guarantee

The Swiss Federal Institute of Technology Lausanne coordinates the „Round Table on Sustainable Biofuels“ (RSB). Four working groups develop standards for the sustainability of biofuels. The round table is a multi-stakeholder initiative with participants from the economy, administration, UN organizations, science and environmental NGOs. Of the 22 board members seven alone represent the energy, automotive, and agroindustry (with BP, Shell, Petrobra, Bunge, Toyota amongst others). With only two international NGOs (WWF, FSC) the civil society is underrepresented. Organizations for the respective developing countries have no seat. The round table is heavily criticized by many organizations from the south, since they do not see their interests and perspectives represented.

The Swiss Mineral Oil Tax Ordinance, which will enter into force on July 1 2008, stipulates ecological and social minimum requirements for a tax exemption of biofuels, in line with demands made by an alliance of Swiss NGOs, among them also SWISSAID. The minimum requirements with regard to ecology are not very demanding. The environmental burden, for example, must not be *considerably greater* than for gasoline, and there is a requirement for a relatively slight reduction of greenhouse gases of only 40 per cent as compared to conventional fuels. The ordinance does not deal with genetically modified resources.

The social minimum requirements are even weaker. Compliance with national laws at the place of production or observance of the eight core labor standards of the ILO³⁷ is all there is. The monitoring of these requirements has not yet been clarified. Moreover, most negative

³³ Unternehmen-News: Agrar; Syngenta startet mit neuen Produkten in die Saison, 10.03.2008.

³⁴ Press Release, Canadian Biotechnology Action Network: GE sugar beet for biofuels under fire in Canada; February 27, 2008. <http://www.cban.ca/>

³⁵ Bayer, DaimlerChrysler, econsense: Pressemitteilung vom 8. März 2007.

³⁶ GM Contamination Register Report 2007: http://www.gmcontaminationregister.org/index.php?content=nw_detail1

³⁷ Among them the ban on forced labor, child labor, and discrimination as well as the right to (trade union) organization and to equal pay.

effects of biofuel production, such as the violation of the right to food and the forced displacements, have not been taken into consideration. This in spite of the fact that the displacement of the Brazilian animal husbandry in the Amazon region by the conversion of pasture land to biofuel plantations has become one of the biggest problems of the biofuel boom. Nor do the effects of rising food prices or the pressure on small farmers and indigenous communities find any mention.

From the perspective of development policy SWISSAID raises the general question whether the certification of sustainable production is at all possible and if, in the event that meaningful standards could be found, it can offer a way out of the quagmire. There is a real danger that certification is used as a marketing tool to set the minds of critical consumers at rest, without any tangible improvements for the countries concerned and their population. Friends of the Earth Europe recently published a study about possible impacts of agrofuel sustainability standards in South America.³⁸ It concluded, among other findings, that the most destructive social and ecological problems are caused by the expansion of sugar cane and soy production areas irrespective of the way those plants were produced. All the sustainability standards will not change the market mechanisms according to which it is the price of biofuel resources that determines production. And the prices are set by the political incentives created by the industrialized countries. NASA scientists have been able to establish that the rate of deforestation of the Amazon forest is directly correlated to the world market price for soybean.³⁹

An OECD study⁴⁰ has reached similar conclusions. It sees a basic contradiction between the politically induced increase in demand and draft legislation that should ensure an environmentally sound and sustainable production of biomass. According to its authors there exists a serious risk that biofuel quotas exceed a potentially sustainable offer.

³⁸ Sustainability as a smokescreen: The inadequacy of certifying fuels and feeds. Friends of the Earth Europe, April 2008

³⁹ GRAIN, seedling, Agrofuels special issue, July 2007.

⁴⁰ „Biofuels: Is the cure worse than the disease?“, Paris 2007. OECD SG/SD/RT(2007)3

SWISSAID concludes: Agrofuels are an aberration

- The industrial agrofuel production causes hunger. It does not contribute to reaching climate targets, nor does it create income in rural areas. Subsidies for biofuels strengthen an industrialized form of agriculture which is harmful for the environment, reduces biodiversity and displaces small farmers.
- Blending of biofuels in gasoline does not lessen the dependency on oil. It merely extends the lifeline of the present energy model based on fossil fuel.
- Poverty and hunger are best fought by ecologically sound practices of combining crops, fostering diversity and regionally adapted crops and not through monocultures and genetically modified biofuels. The same conclusions are to be found in the recommendations of the recently published study by IAASTD.⁴¹ Organic farming for local and regional markets also contributes to the reduction of greenhouse gases.

SWISSAID...

... rejects the import of industrially produced biofuels from developing and emerging countries.

... calls upon the players of Swiss public development policy not to invest in biofuel projects which could aggravate the living conditions of local communities and of women in particular.

... is very critical vis-à-vis the planned certification of “sustainably produced biofuels”. Meaningful certification mechanisms can only be developed together with the respective local players. SWISSAID partner organizations from Columbia reject the round table initiatives for ‘sustainable soybean’, ‘sustainable palm oil’, and ‘sustainable biofuels’.

SWISSAID calls upon Switzerland...

... to distance itself from indirect subsidies of imported biofuels through tax shelters in the Mineral Oil Law given the current exacerbation of the hunger crises in order not to violate the right to food. The Mineral Oil Tax Ordinance must be adapted.

... to support an international moratorium on biofuel production, following the demands put forward by Jean Ziegler, former UN Special Rapporteur on the Right to Food.

... to find truly sustainable approaches to fighting global warming and to consistently support organic farming, which produces healthy products for local and regional markets with minimum use of fossil fuels.

... to develop energy policies that actually help reduce greenhouse gas emissions in Switzerland. Greenhouse gas emissions will have to be reduced by 30 per cent by 2020 and by 90 per cent by 2050 as compared to the reference year 1990. It needs to focus on energy efficiency and renewable energies.

... to implement the principles of food sovereignty both in Swiss agricultural policy and in its trade and development policy. Regarding these issues, Switzerland should follow the recommendations of IAASTD.

Tina Goethe, May 2008

⁴¹ International Assessment on Agricultural Science and Technology for Development. www.agassessment.org



Picture front page: Environmental pollution by a palm oil factory in Ecuador.
Picture back side: Harvested palmfruit used as raw material for agrofuels, amongst others.

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