



## **Report of Seminar**

### **“Biofuels – implications for the South”**

**Wednesday 27<sup>th</sup> June 2007, European Parliament**

#### **Introduction**

The European Commission is expected to come forward with a proposal for a revised Biofuels Directive, including a 10% mandatory target for biofuel (also known as agrofuel) use in all transport by 2020. The possible negative implications of this policy have been widely recognized, with the Spring Council agreeing to the target on the basis that these agrofuels must be sustainably produced.

However, even though concerns have focused on the existing and potential negative impacts of agrofuels on biodiversity and livelihoods in the global South, there has been hardly any consultation with civil society organizations in developing countries about agrofuels. As a result, many of the policy mechanisms proposed to address these negative impacts do not match the socio-economic and legal realities of developing countries. In particular, none of the proposed policy mechanisms is capable of addressing the far reaching indirect impacts of agrofuels production on people and ecosystems in the global South.

For that reason, the Global Forest Coalition and Corporate Europe Observatory organized a series of seminars and workshops in Brussels, the Hague and Paris, to allow representatives of Southern civil society organisations to share their concerns about the direct and indirect impacts of European agrofuel policies and the feasibility of policy mechanisms like certification to address such impacts.

The seminar in the European Parliament was organised by Corporate Europe Observatory, the Global Forest Coalition and Friends of the Earth Europe, with the kind cooperation of the EU Coherency Programme, and the Dutch Socialist Group in the European Parliament, the office of Mr Thijs Berman MEP in particular.

#### **Report of the seminar**

The chairperson of the meeting, **Lucy Mulenkei of the Indigenous Information Network, Kenya and the Indigenous Women’s Biodiversity Network**, welcomed all participants to the meeting and highlighted her concerns about the impact of agrofuels on African countries.

**Thijs Berman, MEP (PSE, NL)** welcomed the participants to the seminar. He lauded the fact that NGOs are working together with the EU Coherency Programme on this issue. In the EU, a lot of attention is being paid to climate change, which touches on many fields, but the focus is on reducing greenhouse gases. There has been a disarming naivety about the impacts of an overly sudden shift to biofuels. The first problem is the pressure on land use resulting from ambitious targets, which will stimulate farmers to produce energy as well as food. On the one hand, this means that farmers can confront the retail sector with new confidence - but they need to unite, otherwise the industry will still continue to squeeze them. However, this should not lead to unbalanced pressure on land use for food production and this is precisely what is happening.

Some crops are more suitable for biofuels than others. For example, jatropha is a suitable one as it can grow on infertile soil and even fertilises it. If the right techniques are used it can work. But oil palm is an environmental disaster. Biofuels can produce even more greenhouse gas

emissions than conventional fuels if transport costs etc are included. The social costs are a third and big problem. Biofuels markets will be monopolised by big companies, so small producers need assistance. EU will need to be careful not to set overly ambitious targets. More should be invested in research in other technologies like 2<sup>nd</sup> and 3<sup>rd</sup> generation biofuels, and solar energy.

He ended by stating that social and environmental criteria should be imposed in coherence with ILO labour criteria. He also called for a certification system.

### **Mina Susana Setra, AMAN, West Kalimantan, Indonesia**

The first presentation was made by Mina Susana Setra from the Indigenous Peoples' Organization AMAN from West Kalimantan. In her powerpoint she showed the faces of the Indigenous People that are about to lose their forest and livelihoods due to oilpalm plantation expansion triggered by agrofuel demand. The Niut mountain area on the Indonesia-Malaysia border is threatened by an ambitious government project to establish 1.8 million hectares of oil palm plantations. This project will destroy biodiversity and cause serious negative impacts on the livelihood of indigenous peoples through creating social problems, poverty, political alienation and cultural disintegration. Numerous people who have tried to protect their land have been tortured and put in jail as a result.



“Is this the way to reduce climate change?”, asked Mina. Agrofuels are not going to reduce the poverty of these communities. In Kalimantan there is little forest left. She urged that the expansion of oilpalm plantations be stopped by reducing the demand for palmoil, and by improving the system and quality of existing plantations. She called for support to solve the land conflicts and human rights abuses related to the agrofuel demand from developed countries.

### **Tatiana Roa, CENSAT/Friends of the Earth-Colombia**

Tatiana Roa points out that agrofuels have been presented as a solution to climate change, but they are just a way to avoid policies that reduce greenhouse gas emissions at source. The Global South is on the frontline of climate change, and at the same time is a victim of social conflicts generated by climate change mitigation strategies that in fact don't address the problem effectively.

Tatiana related that in Colombia, land tenure is a crucial issue and a key cause of social conflicts. Almost 90% of the land is in the hands of 1% of the population. More than 3 million people were displaced in recent years, with forced displacement often affecting entire communities and indigenous peoples.

The second issue is food sovereignty. Currently, 4 million hectares are used for producing food for national consumption in Colombia. But the Colombian government has set a target to expand the acreage of plantations to 6-8 million hectares by 2019. The price of corn, sugar and cooking oil is rising because of agrofuel production. This is undermining the capacity of people to feed themselves and increasing hunger.

Agrofuels are promoted as economically, socially and environmentally beneficial. The forestry sector is getting carbon credits. Tree and oil palm plantations receive subsidies, while the small food producers have lost their subsidies over the last years. In the event that small producers want to produce agrofuels, they often have to mortgage their land and go into debt. Furthermore, the country as a whole is increasing foreign debt to finance agrofuel plantation expansion. So not only is a country like Colombia suffering the adverse impacts of climate change itself, but it also suffers the adverse impacts of agrofuels production *and* it is increasing its foreign debt to finance those agrofuels. All this to fill the tanks of European cars.

Sustainability criteria don't solve the grave problems caused by plantations and generally ignore social and cultural issues. The criteria debate is a smoke screen to justify agrofuel production. It is not bringing *any* rural development, and it is attacking precisely those people who do have sustainable life styles.

If Europe wants to take on the challenge of climate change, it must reduce greenhouse gas emissions at source. The world needs to solve existing inequities, not create new problems that exacerbate these inequities. We need policies that address climate change effectively and at source, including strategies for transforming patterns of over-consumption and production, as well as support for public transportation systems.

Tatiana also asked for a 5-10 year moratorium on agrofuels so that there is time to document and study in depth the tremendous adverse impacts. The EU should not adopt policies that would further increase its ecological debt!

### **Mateus Trevisan, Landless Farmers and Rural Workers Movement (MST), Brazil**

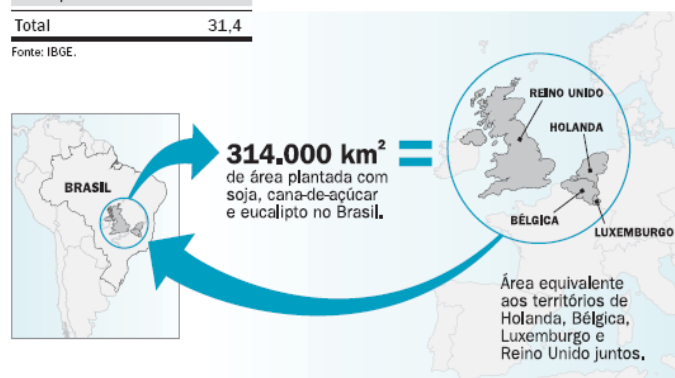
Mateus explained that he is a small farmer like his parents and grandparents. Brazil is a vast country that has developed rapidly in recent years. The green revolution in Brazil has meant mechanisation of agriculture and the use of astronomical amounts of fertilisers, which are produced from petroleum. The majority of Brazilians used to be small farmers, but nowadays only 20% of the population lives in the countryside. Monocultures, highly mechanised agriculture and agrobusiness have caused massive migration.

At this moment a vast part of Brazil is already covered with the three main monocultures used for agrofuel and agro-energy production: In Brazil alone one finds 22.2 million hectares of soy, 6.2 million hectares of sugar cane and 3 million hectares of eucalypt. This adds up to 314,000 km<sup>2</sup> of land, which is more than the land area of the Benelux countries and the UK combined.

Área plantada atual (milhões de hectares)

Soja	22,2
Cana-de-açúcar	6,2
Eucalipto	3,0
<b>Total</b>	<b>31,4</b>

Fonte: IBGE.



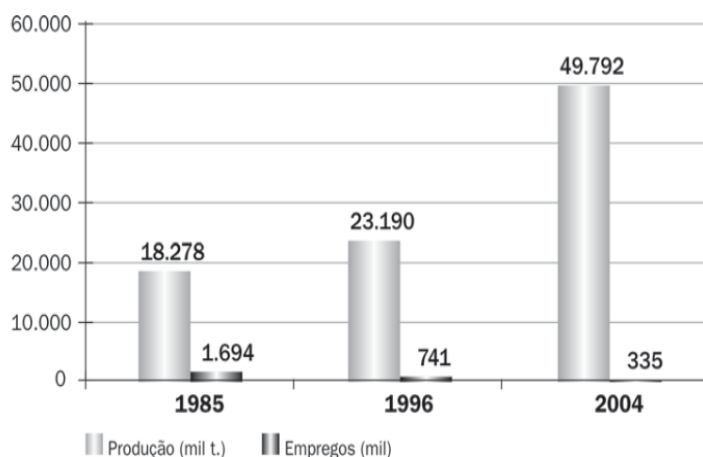
This current rapid expansion triggers illegal logging and land conversion to give space to new plantations of sugar, soy or eucalypt. Of the 204 million hectares of original Brazilian cerrado land, 57% has already been totally destroyed and half of what is left is strongly altered. In the past 5 years, 107,000 km<sup>2</sup> of the Amazon forests were converted into agricultural pastures and soy monocultures.

The expansion of monocultures has also triggered the expulsion of small farmers from their lands, often in a violent manner. From 1960 to 2005, 60% of the rural population has left to go to the cities. In 2006 alone, 10 million persons were involved in land conflicts that related to 25 million hectares of land, and from 1996 to 2006 there were 386 assassinations of farmers' and workers' leaders in Brazil alone. There has been a concentration of lands in the hands of large landholders: 1% of the landowners own 46% of agricultural lands. Meanwhile, large plantations only provide 2.5% of agricultural employment in Brazil and medium farms 10.2%, while small

farms provide 87.3% of all agricultural jobs. The most important crops for agrofuel production provide extremely low levels of employment. In 2000, eucalypt only provided one job per 100 hectares of cultivated land, soy provides an average direct employment of 2 jobs per 100 hectares of land, and sugar cane only 10 jobs per 100 hectares of land. Meanwhile, manioc, a very important food crop, provides 38 jobs per 100 hectares, coffee 49 and tomato production up to 245.

Moreover, employment provided by some of these monocultures has been decreasing instead of increasing. Despite dramatically increased production there has been a continuous loss of jobs in the soy sector. In 1985 the soy production was at 18,278 million tons and provided 1,694 thousand jobs. In 1996 production was up to 23,190 million ton, but provided only 741 thousand jobs; and in 2004 the soy sector produced 49,792 million ton but provided only 335 thousand jobs.

**Brasil – Produção e número de empregos na agricultura da soja**



The result of this rural unemployment, triggered by monoculture expansion, has been both rural and urban poverty, as small farmers are expelled from their lands. Without other options, many farmers have been dislocated to the peripheries of the cities. This has also had a major impact on food sovereignty, as the family farmers that are being expelled from the countryside are responsible for 60% of the food production in the country.

Another major problem associated with the expansion of agrofuel monocultures is the increased use of agrochemicals. This is affecting the health of workers and the populations of neighboring areas, particularly when aerial fumigation is used. Brazil is amongst the main consumers of agrochemicals in the world. Of the 150,000 tons of pesticides that are being consumed annually in Brazil, sugar cane cultivation is responsible for the use of 20,000 tons. Monocultures consume the main richness of the country: freshwater. By buying 18 million tons of soy, China in fact bought 45 km<sup>3</sup> of freshwater, which was used to produce this soy in Brazil. In comparison: the total worldwide domestic consumption of water is estimated at 65km<sup>3</sup>.

The sugar cane industry, which is the main industry targeted for expansion by the agrofuel sector, is known for its degrading labor conditions. The sector provides labor to approximately 1 million persons, of which almost 511,000 work in agricultural production, the majority of whom are cane cutters - about 80% of production in Brazil is manual. It concerns one of the most degrading types of labor of the country. In the Ribeirao Preto region, in the interior of Sao Paulo, the average production per worker is 12 tons per day, which is double the average production that was reported in 1980. Cutters receive only 1 Euro per ton of sugar cane cut, leading to people literally working themselves to death. In 5 years, 1,383 workers died in sugar cane plants and plantations.

The expansion of agrofuels will increase the problems just described. Mateus proposed to decrease their production, develop other alternative forms of energy and change the agricultural system in Brazil. Agricultural production needs to be diversified instead of relying on monoculture production. The possible solutions should offer positive development and be sensitive to cultural needs.

### **Adrian Bebb, Friends of the Earth Europe**

Adrian explained how the EU Heads of State have agreed to a mandatory 10% target for biofuels in transport by 2020, but *only* if produced sustainably and *only* if second generation are commercialised. There have been consultations on what criteria are needed to guarantee sustainability. The European Commission is now proposing a 'light' solution – incentives for good biofuels and none for bad, but it does not plan to prohibit the latter.

What is a "good biofuel" according to the EC? According to the latest EC proposals good agrofuels include all agrofuels with a positive greenhouse gas balance. No target has been set for this criteria, though, so maybe even 1% CO<sub>2</sub>-saving would qualify! The only other criterion relates to the direct impact of the production of specific agrofuels on high biodiversity areas. There are no proposals for criteria dealing with social issues, food security, water or soil issues, displacement and leakage. This system does not encourage anything that would lead to sustainable agriculture either in the EU or developing countries. This is in sharp contrast with a recent UN report that states that biodiversity is under threat because of agrofuel production, and that there are significant social concerns. The people that will suffer are poor people, that don't own land. The entire promotion of agrofuels is nothing more than a smokescreen, a process to allow trade to continue and expand without upsetting trading partners or the World Trade Organization.

### **Dorette Corbey, MEP (PSE NL)**

Ms Corbey was more optimistic about the potential contribution of biofuels to sustainable development. An important principle is that climate change mitigation is important and that the EU has its own responsibility, which it should not pass on to others. She emphasized that European cars should not drive on "scandal fuels", like fuels produced by people that are dying in sugar fields. The EU 10% target in 2020 should not be a *binding* target.

She also highlighted the fuel quality directive, which includes a target to reduce the carbon dioxide content of fuels by 10%. This can be achieved taking various measures, including adding biofuels. However, only those that are more efficient from a CO<sub>2</sub> perspective will be useful here, so the directive might help to encourage the use of only the best biofuels, from a CO<sub>2</sub>-saving perspective.

There is an obligation for governments to ensure that there are no adverse impacts from these biofuels, so the European Parliament will insist on developing sustainability criteria for biodiversity, land use and social issues. Ms Corbey is working on a proposal, and welcomes suggestions. Food prices are one indicator – if they rise that indicates something is wrong. Some argue that higher prices are good for farmers, but they are not good for poor people in cities who have to buy food in the markets. Another important criterion is prior informed consent of the local community. Where agrofuels benefit communities and lead to economic development, they should not be banned. On environmental issues, there should of course be compliance with all relevant standards.

Another issue is: how would a sustainability scheme work? Should it be a full traceability system? Or should we identify some places where "good" biofuels are produced? Second generation technologies should be promoted, but Ms Corbey believes even more in third generation biofuels, like those produced from algae.

### **Alain Lipietz, MEP, (Greens, FR)**

The debate is changing with tremendous rapidity since 15 Jan 2007, when the European Commission presented the 10% target for biofuels. Today, the European Parliament response to such a proposal would be considered as criminal, and the vote would have been different. At the time, the European Parliament accepted without criticism the proposition of the EC, and an amendment tabled by the Greens that biofuels should not pose a threat to food security or biodiversity was rejected. Now the dangers of biofuels appear daily in all the media. All this in five months!

We should have a moratorium on biofuel production, to think before we act. Now, even the 5.75% target by 2010 is being criticised. Biofuels can be a part of the solution – they were our very first type of fuel after all. The problem is the share of the earth that we can dedicate to energy crops – there will be a battle between food, animal feed, fuel for cars, forests and biodiversity. The last FAO report shows that it is possible to feed all human beings by increasing the share of the earth dedicated to food production. So there is already a real battle between food and fuel.

Another problem is the social structure of southern countries. Mr Lipietz mentions an example of a campaign to halt the import of fish flour from Peru into the EU because of the negative impacts of this industry, but after they succeeded to ban it the Peruvian government simply started exporting to China. There is a limit to what the EU can do on its own, when we stop importing, there will be other countries available to buy these biofuels. But it is clear there is a moratorium needed.

#### **Question&Answer:**

Q: Marcial Arias from Panama notes that only biodiversity and social criteria were mentioned, but he thinks there should be attention paid to the impacts of agrofuels on cultural diversity too. Biofuel production will lead to the disappearance of entire indigenous peoples and destroy cultural diversity and traditional knowledge.

A: Thijs Berman responds that this is correct, agrofuel expansion can lead to the destruction of local cultures. But he states that he agrees with Alain Lipietz that this is related to the social structure in developing countries. The problems that are reproduced in relation to biofuels are not new. He fears that a moratorium would not help that much to address this question. Other players on the world market that are totally negligent, like China, will deal with anyone. The EU is influential and therefore social and environmental criteria could also be influential. The example of trade in tropical timber shows that setting criteria has a limited impact, but in what other ways can we curb this development?

A: Alain Lipietz responds that the argument that the others will do what we will not do is true for any question. We are pretending to defend the Kyoto Protocol and for that reason we move to biofuels – this is a unilateral action too. Anyway the EU will reduce greenhouse gas emissions by 20% and even by 30% if the other countries will do the same. So, we will act unilaterally for environmental reasons - why not for social reasons? Asking for a moratorium can at least reorient our choice, even though we may not be able to change the face of world. The EU can change to local use of our own biomass. Lille produces energy for buses with garbage. Sweden runs its trains on kitchen garbage. Of course there are efficiency arguments, the production of ethanol is more efficient in Brazil than it is here. But if we produce in Europe we can control the conditions. "Don't capture the land of the third world to drive cars in Europe, please."

Q: A participant from Spain points out that even if the European Community is not receptive to the problems of people from outside the EU, they will perhaps be more receptive to him as a European citizen. The biofuels target means that for a European citizen to live, go to work, etc, he has to burn food and violate his own moral principles. What happened to the freedom of choice of European citizens? In Spain, the top soil is very shallow, it took 2,000 years to create. But now we are losing this soil within the time frame of a few years, planting eucalyptus for biofuels.

Q: Another participant emphasizes that if EU doesn't ban importation of 'scandal fuels' from the South, others will. The EU should live up to its values, be active and get other countries to do the same.

Q: Peter Bossip from CELCOR, FoE-Papua New Guinea highlights his organization's objections to the Roundtable on Sustainable Palm Oil. This process is not working, it is being used by the sector to legitimize the expansion of oil palm plantations. The compliance with sustainability criteria should be ensured, it should be made sure that agrofuels truly come from



a sustainable source. Try certification out in your own countries first, if it works then maybe you can use it for imports.

Q: Helena Paul of Econexus highlights the importance of the European Parliament hearing on 5 July, and the large industrial conference on biofuels on 5 and 6 July. This demonstrates the industry's influence on this issue.

Q Another participant criticizes the narrow focus of the debate on the supply side. There is a need to address the demand side too, through tough emission limits and strong EU regulations regarding fuel consumption.

A: Alain Lipietz responds that there has indeed been too much emphasis on the supply side, and that this is the result of compromises with industry. He also points out that countries like Colombia sign agreements like the Convention on Biodiversity and the International Labour Organization agreements, but fail to implement them. A unilateral moratorium would be useful to force us to think about social and environmental criteria.

A: Dorette Corbey states that she believes there is no need for a moratorium. There are serious problems with biofuels, but they can be solved or overcome and biofuels can be a positive thing for many regions in the world. Sustainability criteria will need to be very strong, and they should include prior informed consent. Such criteria should include cultural criteria, which could also be linked to the requirement of prior informed consent. She underscores the potential of second generation technologies, which can make use of waste products. Innovations in this sector might include the technologies currently developed by a Dutch company to use enzymes that have been found in elephants' manure to digest wood and produce ethanol. She admits there is a lot of corporate lobbying going on, but some of these corporations, like traditional oil companies, are potential allies for a moratorium. Food companies like Unilever are concerned about biofuels as they are dependent upon imports of palm oil, and they realize that biofuels distort the prices for these products. However, one cannot blame biofuels for all problems related to oil palm. Companies like Shell want to get rid of first generation biofuels and move directly to second generation. Of course, there is a risk these companies will monopolise the global production of second generation biofuels too. She also points out that the emphasis on the demand side is justified as the main target of all these policies is to mitigate climate change and transport produces 25% of greenhouse gas emissions in the EU. There is also a clear need to reduce the amount of fuel needed for transportation by investing in public transport, and alternative technologies like electric cars. She also underscores the opportunities of emissions trading in EU.

Q: A participant working for the EU coherence programme points out that in addition to the threats discussed, there are also opportunities for some developing countries, eg in sub-Saharan Africa, where biofuels could create economic development and employment. She gives the example of jatropha, which grows on land where food cannot grow. A country like Malawi is poor in natural resources, it doesn't really produce anything, so sugar cane production forms a good economic opportunity. We should take development objectives into account and ensure coherence, so that we can create two policies that work together.

Q: Wally Menne from the Timber Watch Coalition in South Africa responds that in his country there is a strong interest in biofuels from products of trees, biomass or fruits. There is a lot of hype around these technologies but as yet these promises are unproven, they are just theories. These myths are promoted by those with an interest in what they claim is "marginal, unused" land. However, in Africa there is no such thing – land is always occupied by biodiversity and/or by people. It is totally unacceptable to classify large parts of Africa as "unused" land that can be used for production of agrofuels for the European market. He recommends that there should be an additional sustainability criterion for any biofuel - that it should be consumed by the producing country until it has eliminated all fossil fuel imports, and only then that country might be in a position to export the surplus.

Q: Nina Holland of Corporate Europe Observatory reports on a meeting a group of NGO and IPO representatives from different parts of the world had with the Head of Cabinet of the Director General for development that morning. She highlights there has been no evidence of

these presumed development gains until now. There might be some positive examples, but filling a 10% target is going to cause problems. The DG stated he wanted to get rid of sustainability criteria, and that in any case he believes that they cannot include social criteria because that would conflict with World Trade Organization agreements. He claimed that the EU cannot deal with problems like displacement and increasing food prices, even though it has been clearly acknowledged by for example the Dutch Cramer Commission on biofuels and the UK government that biofuels can cause major problems regarding these issues. She criticizes the fact that these commissions have not consulted anyone in the South on the proposed criteria. She also emphasizes that the proposal to have mandatory reporting on these indirect impacts until 2011 only will allow bad companies to meet the requirements. There is a need to look at the experiences of existing processes like the Forest Stewardship Council, the Roundtable on Sustainable Palm Oil and the Roundtable on Responsible Soy, which are severely criticized. The roundtable on Responsible Soy, for example, was rejected by almost all large NGO and farmers' coalitions in Paraguay. It is nice to talk about sustainability criteria, but as long as the 10% target is kept there will be many indirect impacts and they will not be dealt with. This is why the moratorium is proposed. Such a moratorium would not necessarily apply to all bioenergy, just to agrofuels, and only from agrofuels produced in large monocultures.

Q: A participant who has been working over 15 years in Mali states that his partners in Mali, who implement small-scale jatropha production schemes, are absolutely *against* any production that is not locally and traditionally produced and locally used. They are against monocultures, large-scale plantations and exports. He points out that in Europe we have so many existing technological alternatives that are hundreds of times better for the environment, like photovoltaics. This entire discussion has been hijacked by the industry, and the results will be worse than the current energy model, as the negative impacts will not just be found in oil fields. Biofuels are located everywhere and the impacts will therefore be worse. Biofuels will be monopolising land use and the producers will pretend this is for a good cause.

A: Alain Lipietz responds that he believes the vote of January would never have happened if the Members of Parliament would have known what they know now about the negative impacts of biofuels. The next time the European Parliament should demand prior *informed* consent before it is forced to accept a proposal like this. The decision completely ignored social and sustainability criteria. He assures that the next vote will be different. His party could accept a target of 30% greenhouse gas emission reductions 2020, but this requires a real transport policy, with more efficient transport models. The target should only be fixed *after* having defined the criteria.

A: Thijs Berman recommends a nuanced approach to different crops. He also points out that social injustice is perpetuated by biofuels, but not created, so these negative impacts are not necessarily an argument against biofuels. He tells about a man he knows who produces rows of jatropha in Tanzania. It fertilises the soil between the rows so that people can produce food between the rows, and he offers employment to many local people. So there is no reason to be against such a project. He does admit that the production in this plantation is too low for export, so it just used for local consumption, which could contribute to the trade balance of Tanzania if it is done in a serious way. Upon request, he offered to share more information on the project (see also <http://www.diligent-tanzania.com/index.php?id=1>)

A: Dorette Corbey states that she is in favour of a moratorium if it gets rid of binding targets (although this might be politically difficult), but if moratorium means getting rid of all exports to the EU then she is against it. She believes the fuel quality target offers more political opportunities. Biofuels are one means of achieving this fuel quality target, but there are much more effective ways of reducing carbon dioxide content of fuels.

### **Hubertus Samangun, ICTI, Indonesia and International Alliance of Indigenous and Tribal Peoples of the Tropical Forest**

Hubertus highlights how biofuels are becoming part of the problem. Indigenous peoples are questioning who will benefit from biofuels. We have to learn from the experiences with logging, Indigenous Peoples in Indonesia suffered a lot from logging. The government said logging would bring money and jobs, but this never happened. It is very doubtful whether it will happen



this time, only big companies will be profiting. He highlights the report from the Special Rapporteurs of UN Permanent Forum on Indigenous Issues on the impacts of biofuels and other monocultures on Indigenous Peoples. An article in the latest issue of the Global Forest Coalition's Forest Cover summarized this report. Indonesia and Malaysia export at least 90% of the biofuel they produce. This has also had a negative impact on food security. Palm oil used to be used as cooking oil, but in his local market there is hardly any palm oil available anymore, and only at a very high price, as the producers are exporting all they produce.

#### **Ana Filippini, World Rainforest Movement, Uruguay**

Ana highlights the problems with monoculture tree plantations, which are promoted as a potential source of second generation biofuels. All the cases of tree plantations her organization has analysed had negative impacts on people and the environment. It should be noted in this respect that many of these plantations were FSC certified. Monoculture tree plantations have particularly severe impacts in countries like Chile and Ecuador. These plantations are destroying natural ecosystems and have many additional negative impacts on local populations. They had severe impacts in countries like Cambodia, where 85% of the rural population consists of subsistence farmers who depend heavily on farmland and forests. In Swaziland vast wood plantations have had a profound negative effect on land ownership and tenure. Tree plantations in Ecuador and Uganda are also financed as carbon sinks. The carbon trade agreements restrict the access of communities to national parks. Many of these impacts are more severe for women. For example, tree plantations cause water scarcities, which means women have to walk longer distances to fetch water, they have to get up earlier, etc. In Uruguay plantations already cover 1 million hectares, they have encroached on grasslands and created green deserts. All these impacts have been documented on the WRM website, <http://www.wrm.org.uy>

Many of the so-called second generation biofuels will be produced from the same type of monoculture tree plantations. The proposal is to produce ethanol from cellulose from fast-growing tree plantations. To enable this trees are being genetically manipulated to grow faster and have lower lignin content. Enzymes are also being manipulated to enable faster degradation. But with genetic engineering and other technologies like nanotechnology, new organisms are being created, which creates major risks. These techniques will result in the expansion of monoculture tree plantations, the destruction of forests and the destruction of productive land in countries where hunger and malnutrition are already major problems.

The decisions that will be taken in the EU are critical for many people in other countries. Western lifestyles are at the root of these problems, these lifestyles are completely unsustainable. Ana ends with an appeal to European people to seek solutions that do not worsen the situation of people in these continents.

#### **Orin Langelle, Global Justice Ecology Project, USA**

Orin argues that climate change has become a priority in the media because large companies now see an opportunity to use public concerns to promote their industries, including nuclear energy and biofuels. British Petrol invested 500 million dollars in the University of Berkeley to develop Genetically Engineered trees. Meanwhile, around the world opposition to biofuels is mounting.

He reiterates Ana Filippini's concerns about genetically engineered trees. If genetically engineered enzymes would escape from field trials the impacts would be devastating. These are genuine 'Frankentree' inventions. One can also see how the biotechnology industry is joining forces with agribusiness and the car industry, to ensure mutual profit.

In closing, **Lucy Mulenkei of the Indigenous Information Network, Kenya**, highlights her concerns about these developments and the negative impacts they will have on her country. She hopes that all participants will have been enriched by the information and testimonies shared and that all will done to avoid further damage to people and their ecosystems in the South.

