

Unsustainable Palm Oil

The Masarang Point of View

We at Masarang feel compelled to write this position paper because of the recent dramatic shift by many groups and institutions that call themselves “environmental” towards accepting oil palms and palm oil as somehow being okay as long as it has been certified by the RSPO (Roundtable on Sustainable Palm Oil).

We tend to differ. Certification is simply not the Panacea many believe it to be. Not in countries where corruption is still so prevalent. Oil Palms are in no way the great solution that they are presented to be by skillful lobbyists. So what’s wrong? Allow us to explain.

Productivity

Oil Palms are considered the highest producing crop for biodiesel in the world, but there are far better alternatives such as the sugar palm, an entirely different type of palm that does *not* require huge amounts of fertilizer to achieve a much higher productivity. Unlike oil palms, sugar palms also do not require herbicides and pesticides, some of which have been outlawed in the West and have the potential to make soil water undrinkable for centuries, yet continue to be used freely in Indonesia.

Experts may say that there is a difference between sugar and sugar based ethanol that is derived from the sugar palms, and the lipids derived from the oil palm that are used to produce bio fuel along with all the products that fill supermarket shelves. But there are now new technologies, such as those pioneered by various companies such as Martek, which use microbial fermentation to go from sugar to lipids (C6 to C18). From there one can easily go to biodiesel, jet fuel or many different kinds of lipid-based products for food, cosmetics, etc.

Oil Palms may produce a lot, but sugar palms-- even without fertilization and in a mixed forest-- still outperform oil palms not just by small percentages, but by a factor of at least *twice* the productivity.

There are also other trees, like the local Southeast Asian Illipe nut trees (several species of *Shorea* in the family of the *Dipterocarpaceae*) that can also produce high quality fats and oils while growing in natural forests or traditional mixed village forests in Kalimantan (Indonesian Borneo). Those oils used to be the main source for the local people that now have to buy increasingly expensive palm oil based cooking oil.

Biodiversity

Some interesting publications have been brought out by groups associated with the oil palm lobby indicating that there may be as many as 200 different organisms per hectare living in oil palm plantations, and that oil palm plantations should, amongst others for that reason, be regarded as forests and receive the financial forestry related incentives that are presently under negotiation, such as carbon credits, REDD based credits, etc. A casual observer from the

temperate zones, where nature is low in biodiversity, and who is accustomed to crop and forest monocultures and impoverished ecosystems, may think that the people making this claim have a point... but this is not the case. It is an illusion.

One has to look at the baseline to make an accurate judgment. In other words, they need to ask themselves: What was there before and what is there after replacement with oil palms?

Not much unfortunately-- not only in terms of number of species, but even less so in terms of what those species actually are. They are almost the same everywhere and are for the most part common weed species. In practice this means that oil palm plantations are indeed monocultures that, because of their heavy fertilization and use of herbicides and pesticides, are in actuality *destroying the natural biodiversity*.

The situation is further complicated by illegal hunting and killing of animals such as orangutans and wild boar that not only may damage or destroy individual oil palms and then are killed contributing to loss of animal biodiversity. But they also contribute significantly to the dispersal and germination of seeds of other forest plant species and maintain the species diversity in the forests they roam, and from where they are lost.



Oil Palm biodiversity mostly consists of a relatively small number of associated weed species such as the ferns and liana's seen here that vary hardly with different locations. To claim this as biodiversity in comparison with the original vegetation is twisting the facts.

Long term soil fertility

Oil palms need the undulating low-lying lands that are of relatively good quality, at least physically, in order to prosper. But in order to achieve a good productivity, an average of 1,760 kilograms of fertilizer is applied per hectare every year! Much of this is nitrogen fertilizer that is made from natural gas, a fossil fuel, which is already a scarce commodity. After approximately 20-25 years the oil palms are no longer productive and for many more years no new oil palms can be planted in the same location so that the soil can recover.

The basic issue here is that with the palm oil bunches many macro- and micronutrients are removed from the soil. Macronutrients, although not environmentally friendly, can for the major

part be replaced, but micronutrients are much more complicated to restore. Imbalances in their supply can cause serious long-term side effects that will increase the risk of diseases and instability. In the future there will be fertilizer shortfalls. For now the huge amounts of these nutrients being flushed out of the oil palm plantations into river systems affect not only local ecosystems, but they also disturb downstream ecosystems, including coral reefs in the sea.

Food security

Cooking oil is very important for local people. For many years they made the oil themselves from the *Illipe* nuts or from coconuts or other local sources. Now they depend upon the commercially produced palm oil, and with prices of palm oil rising globally, local people have to pay hugely more for their local cooking oil— directly impacting their income. This has already led to large-scale protests in Malaysia and Indonesia.

Orangutans and other wildlife entering oil palm plantations— desperate and starving— are viewed as pests and are killed because they eat the oil palm fruits and shoots. But there are also several places where humans have had to force themselves to eating the fruits. Try it yourself! It is initially good tasting, but then the dry mouth begins and your throat starts hurting and your breathing becomes difficult from the astringent aftertaste. Still, orangutans and humans too often have no other choice but to eat these undesirable fruits lest they and their families are to starve. For orangutans to be killed and local people prosecuted for such behavior cannot and should be tolerated. So palm oil is not just taking away land for food production, but it also has a direct effect on the local cost of living.



Transport of oil palm bunches to the mill. On the right many poisoned and diseased oil palms. The risk of pests and diseases becomes bigger the longer the plantations are in place and more micro nutrients are removed from the soil.

Pollution

Oil palm processing causes huge amounts of stinking effluents that pollute the local waters. Now much of these pollutants can be dealt with in practice, for instance through biodigestors, but it



will still take a long time before this will be common practice. The use of long lasting pesticides, some of them outlawed in the West because of their long term poisonous effects, is still very prevalent in oil palm plantations. Again, regulations and strict

law enforcement could change this, but this will not happen very quickly. In countries like Indonesia where law enforcement for environmental crimes is extremely weak to say the least, we cannot realistically expect that things will change for the better any time soon. In addition rodenticides, herbicides, fungicides, etc. are used with numerous serious impacts upon the natural condition. The

reality on oil palm plantations is horrific. Orangutans that have been slaughtered by plantation staff are often cut in pieces and the meat poisoned with rat poison, such as arsenic, spread amongst the palms to efficiently bait and kill wild boar again. All of these effluents also reach rivers that local people use to bathe, get drinking water from, and that flow to the coastal regions where the coastal ecosystems are also impacted.



Helping local people?

This is one of the main arguments brought up by the oil palm supporters, but a closer inspection of the issue reveals quite a different picture. Oil palm plantations only generate around 0.11 jobs per hectare, which, like sugar cane, is extremely low and in the latter case even only seasonal. Moreover the jobs created for local people are the lowest paid only and often involve the heavy and more dangerous work such as land clearing with chainsaws without the use of any protection as well as working with pesticides. Most of the time the people have had to give up their land rights in order to get those few jobs and there are numerous widely publicized reports of abuse of local people's rights by oil palm companies. Still, if one looks at some of the surveys it is possible to find many places where people actually state that they



Only low paid manual jobs are provided locally. For how long?...

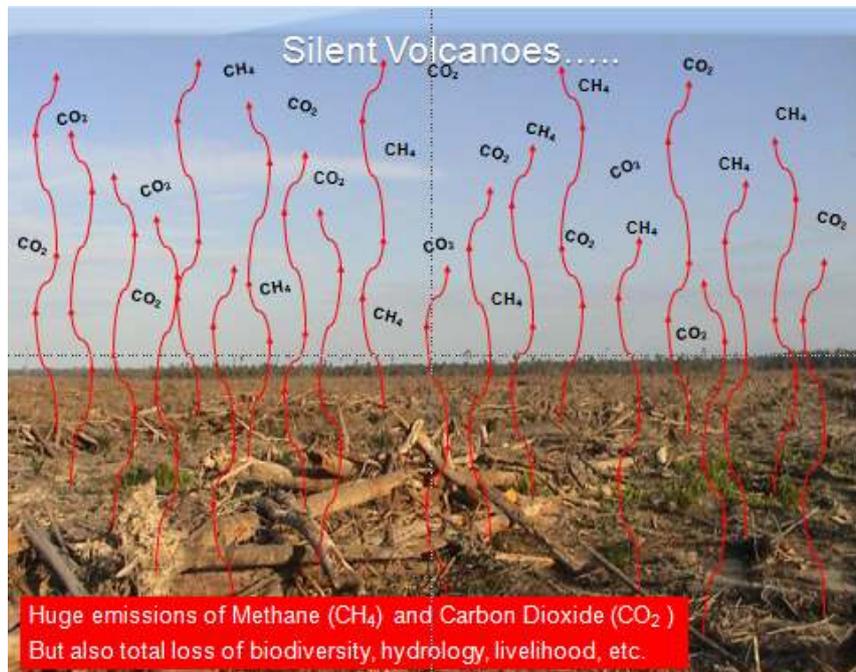
are happy with the oil palm development because of the jobs, despite the low incomes. There are also some basic facilities for local people that the companies sometimes bring to the region, such as schools, mosques and small clinics. But how long will it last?

Technology has already begun to move in, and tools have already been developed to mechanize harvesting of the oil palm fruit bunches. And is it really possible that when mechanization makes the profit for the companies even higher that they will prefer to keep the jobs of the local people at a slightly higher expense? Competition and ruthless business principles will ensure that as quickly as possible those few poor jobs will be lost for the sake of “efficiency” and sound “business principles”. And what will those people do then, when they have lost their recently acquired somewhat higher income and just got used to a slightly better life including often the buying of motor bikes on credit? Naturally they will do the only thing left—they will return to low input slash-and-burn agriculture. This will quickly lead to the destruction of the remaining forests. And this may make it even easier for the oil palm companies to obtain more freshly created “critical” land for their aggressive expansion when those lands that were once locked up in the tropical forest vegetation have lost their fertility. We are looking at a vicious cycle.

Carbon

Many countries have set standards for mixing fossil fuels with biofuels. By now there are many schemes in place that promote biofuels and we already have vast areas of biofuel producing crops such as oil palms, sugar cane, corn and others. But those biofuels that are actually intended to reduce the use of fossil fuels and as such to contribute to lessening the impact of carbon

emissions upon the global climate, are in fact not environmentally friendly. Especially when we look at the oil palms and carbon issues on Borneo we see a very disturbing situation. About half the oil palm plantations are established on land that is not the most suitable (Sar Vision Indonesia, WWF Netherlands commissioned report). And much of the oil palm plantations have replaced forest that held great amounts of carbon stored in the vegetation. But especially worrisome



is the planting of oil palms on peat. After planting oil palms on thick layers of peat, up to 12 cm a year of peat literally vanish into thin air in the form of CO₂ and methane emissions due to the opening up of the forest and the application of fertilizers and the disturbance of the hydrology.

With a density of 11% organic material of which 50% consists of C that releases 3.67 times the amount of CO₂, that 12 cm represents an emission of 220 tons of CO₂ per hectare per year! This is to say that even relatively small percentages of oil palms on peat, the last vestiges of the orangutans' habitat, in fact make the total effect of palm oil for biofuels a net carbon emitter.

In addition the conversion of peat swamp forests causes serious downstream problems for local people, increasing the flooding frequency and severity and reducing the buffering of water during the dry period because of the lost sponge function of the peat swamps. This has a measurable impact on the downstream agricultural productivity and welfare of the local people. Opening up of the peat swamps for oil palms also increases fire risks and these huge fires cause great amounts of smoke that have an impact as far away as the ice caps and glaciers. They also cause health problems and lead to immense economic losses regionally. The deposition of the brown smog from these peat fires contribute much to the deposition of the darker particles on snow and ice, leading to increased melting with all the known negative consequences.

RSPO

Having been involved in the first three years of the RSPO, the results until now have been extremely disappointing. More and more studies are done, more concepts presented to committees, but the real issue at hand is not the *standard*, it is *law enforcement*. Satellite images can look back many years in time and every big company can afford to check out whether the plantations providing their so called CPO (Crude Palm Oil) were established on land that was cleared for the purpose of planting oil palm or not. There are already simple navigation and tracking devices such as those used globally by UPS and by Zoll Kollekt in Germany that enable one to track transports of trucks with extremely high accuracy and relate them to what is happening on the ground in the form of land use change as seen from satellite images. We at Masarang feel that too little is done to bring such systems into practice—despite the relatively low cost. The issue, then, is not that we do not have the technology. Rather, it is very much like that with the climate debates in general: there is simply no political will to implement and commit. So why wait again till 2015?

Some people argue that we need time to educate the local companies on what is right. But take the case of the orangutans; they have been protected with the highest possible conservation status in Indonesia since the Wildordonnantie of 1924. The issue is not one that we need to teach oil palm plantation workers the best practices to deal with orangutans when there is really no safe place left for them to go anyway. The issue is that we need law enforcement. Nothing teaches better as feeling the economic impact of trespassing laws. And saying that local people do not know that orangutans are legally protected is simply not true. Only in some very remote villages, far away from oil palm plantations, there might be people who may not know yet. We find that anyone we talk to has heard of orangutans and knows that it is not allowed to keep them as pets. But as long as high officials or members of the army and police can get away with trespassing these conservation laws local people will not feel enticed to take the issue of keeping illegal wildlife very serious.

The Indonesian and Malaysian governments are avid supporters of the RSPO. In fact, special funds have even been set up to counter the so-called “misinformation spread by NGOs that do not understand the issues”. Skillfully made documentaries were produced by both the palm oil lobby and many corporate-supported NGOs. In Indonesia it was even announced with great fanfare that all the orangutan rehabilitation centers will be closed by 2015, which also happens to be the year by which most international companies, of those that have agreed to sustainable palm oil, promise to achieve this goal of only sourcing from sustainably produced palm oil. At the same time there are efforts from the government to make it harder for orangutans to be rescued and released, while law enforcement is the only tool that can save them. There are also efforts on the part of the governments of Indonesia and Malaysia to stop the making of international documentaries about oil palms and orangutans.

So the tools, technologically as well as judicial, are here now to take action, but it is simply not being done. Additional rules and regulations can be legislated—and broken. The present depressing state of the orangutan forests is evidence of the failure to take action in the field where it is most desperately needed. Every month new orangutan victims coming from palm oil plantations are rescued, so the problem is factual and real and needs to be dealt with now. By 2015, the year in which many companies are claiming they will meet their target for complying with the RSPO guidelines, it will already be too late for many more orangutans and the ecosystems they inhabit. We need to act NOW-- not in 2015-- and the technology is there to achieve success!

Conclusion

Even with many improvements in the present day unsustainable practices of the oil palm sector, the long term sustainability of oil palms is fundamentally fraught with incompatibilities. Ecologically, socially and climate wise it simply does not make sense to promote oil palms the way it is being done now. When NGOs who are claiming to rescue orangutans and support orangutan conservation in the field choose to side with the RSPO, they are creating a false sense of belief that by doing so they are somehow helping the orangutans. This is simply not the case. It is completely contrary to the truth. Orangutans need our help NOW, and anything that detracts from this immediate need cannot be positive for orangutans. To this effect, scientifically unschooled people going around trying to convince zookeepers-- those individuals in daily contact with the member of the larger public who are interested in orangutan conservation and environmental protection-- to support the RSPO are not doing the orangutans a favor. They are in fact betraying them. The pressure needs to be kept up to force those in charge and the RSPO to take the lawful actions needed. There is no time to sit back and let our efforts slow down to save our majestic and altruistic orangutans. We are their last hope...

Masarang, May 2011