

# Malaysian Palm Oil: A Reality Check

Sensible approach to climate change



Anyone who follows the news would have heard of the alleged connection being made between the production of palm oil and global warming. Slash and burn agriculture, the destruction of peatlands and vast monoculture plantations are said to emit unprecedented amounts of greenhouse gases (GHG) into the atmosphere, effectively killing the planet.

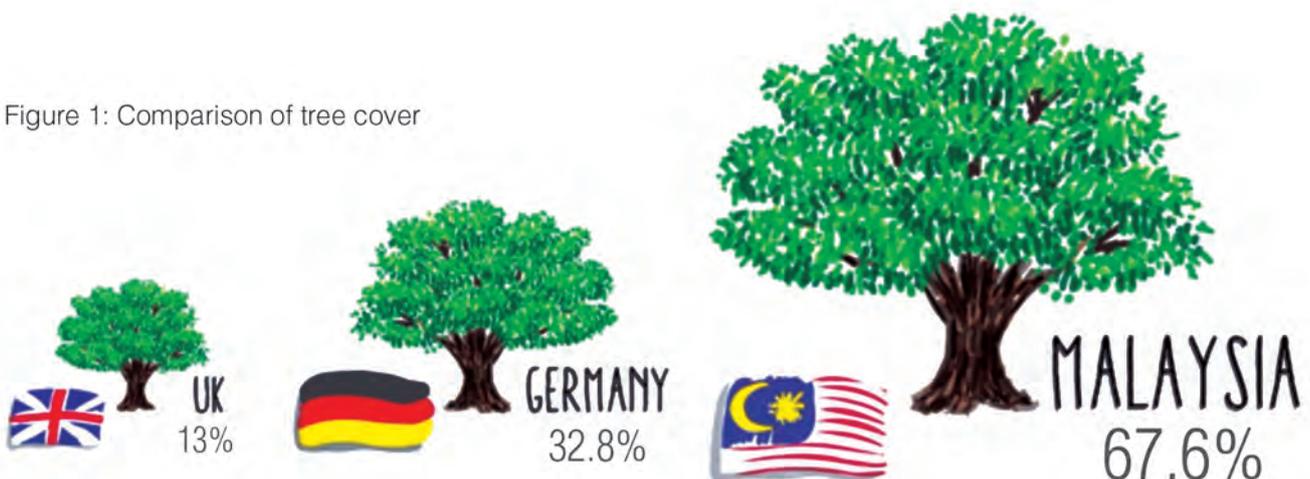
Without denying that problems exist, it is time for a more balanced look at these issues. In particular, the reality on the ground in Malaysia, a palm oil-producing country, is often quite different.

The traditional argument from environmental groups basically runs like this: large areas of the rainforest are destroyed and turned into oil palm plantations. Massive amounts of carbon stocked in the forests are released, contributing to global warming.

On the issue of deforestation, it may come as a surprise to many that Malaysia, after decades of brisk economic growth, still ranks in the top 20 of countries in terms of tree cover.

Excluding land under production, a whopping 67.6% of the land is covered with trees, according to the UN Food and Agriculture

Figure 1: Comparison of tree cover



Source: FAO 2015

Organisation. As Figure 1 shows, this compares very favourably with Western European countries.

Also noteworthy is the fact that Malaysia has dedicated more than 15% of its territory to protected forest, which exceeds 5 million ha. The World Bank further notes that Malaysia's forest cover has increased over the past few years, albeit not by much.

In truth, this should not even be such a big surprise. After all, Malaysia had committed almost 25 years ago at the 1992 Rio Earth Summit to maintaining a minimum forest cover of 50%. That goal was reiterated at the United Nations Framework Convention on Climate Change (UNFCCC) in Copenhagen in 2009. So, Malaysia has 'over-delivered' on that promise.

Does this mean that there is no issue with GHG emissions in palm oil production? No, such a claim would of course be a little outlandish. Just like every other economic activity, the production of palm oil too produces emissions. This is a subject that has to be dealt with responsibly.

### **Controlling POME**

The problem arises not primarily with deforestation or land conversion, as most believe. According to a study by the Roundtable on Sustainable Palm Oil (RSPO), the biggest issue is with palm oil mill effluent (POME).

In the production of crude palm oil, fresh fruit bunches are ground to extract the oil. POME is a by-product of the milling process and contains a high concentration of biodegradable organic material. This makes it necessary to treat POME before it can be discharged.

Usually, the POME is collected in ponds or lagoons and the naturally available oxygen takes care of the disintegration of the organic material. One outcome is that the decomposition releases biogas, mainly methane – considered a potent GHG. From the POME ponds, it finds its way into the atmosphere.

But here is the good news: the technology to control this exists and is already at work in Malaysia. The key is to capture the biogas during the production process.

The Malaysian government has recognised this solution as an opportunity. In its national Economic Transformation Plan, 12 National Key Economic Areas have been established, with palm oil being one of these. For this sector, eight key measures or Entry Point Projects (EPP) are defined.

EPP No. 5 is: 'Build biogas facilities at mills across Malaysia'. According to the official document, the declared goal of the programme is to:

- Encourage palm oil mills in Malaysia to implement biogas trapping and utilisation; and
- Inform palm oil millers about the benefits of biogas trapping and provide the relevant information to facilitate planning and implementation.

If the biogas is captured in the process of producing CPO, a win-win situation emerges, mainly for two reasons.



Firstly, the benefits to the producers themselves are twofold. They can save costs by using the biogas as fuel in the mills, replacing diesel. And plantations may earn emissions savings certificates under the Clean Development Mechanism of the Kyoto Protocol (the part of the UNFCCC that commits the participating countries to GHG emissions savings targets). Those certificates are potential money earners because they are internationally tradeable.

Secondly, the climate stands to benefit. Not only is the methane not released into the atmosphere, but the replacement of diesel also means the production of less GHG. The overall effect on the climate can be so significant that the RSPO even concludes: 'If new production areas are developed in areas which are not high in carbon stocks, palm oil production may lead to net carbon sequestration.'

Many will find this conclusion to be counter-intuitive. Consumers are so used to thinking about the environmental damage allegedly caused by palm oil that they forget one simple, but vital fact: the oil palm tree is a plant. And as everybody knows, trees store carbon dioxide. Palm oil is not an artificial product but made by Nature.

Add to that the potential of palm-based biofuels to replace the limited resources of fossil fuels like petroleum, and the environmental picture painted by palm oil looks decidedly sunnier.

### **Climate footprint**

It is important to recognise that blanket statements like 'palm oil destroys the climate' are fallacious. These lump diverse aspects of a complex topic together, blinding the observer from seeing relationships that matter.

Just like every other economic activity, the production of palm oil releases GHG. But it is crucial to take a closer look at the source. Diesel engines powering trucks and mills are one source. But they are not very significant. And the much bigger problem of POME can be controlled.

If done right, palm oil production may save the environment. When it comes to the effects on climate change, the comparison should not be 'palm oil production versus no palm oil production'. It should be 'palm oil production versus other vegetable oil production'. The reason is that – of all the vegetable



oils that can be produced in sufficient quantity – palm oil is by far the most productive crop in terms of yield per hectare of land.

Some studies show that, in terms of impact on the climate, palm oil is equal to the other big oil crop – soybean. But given its much better productivity, palm oil easily outperforms soybean overall.

At the end of the day the reality is this: a large and growing global demand exists for vegetable oil. On purely technical grounds, it is unlikely that any crop other than oil palm can satisfy this need. So what is needed is a responsible, environmentally sustainable supply chain.

Malaysia has come a long way in making its palm oil greener: So the conclusion is inescapable: when it comes to being sensible about climate change, Malaysian palm oil is second to none.

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