

Where in the world part 3: **Not all hectares are equal**

Palm oil is something of a *bête noire* and the public support for Iceland's re-purposing of Greenpeace's 'Rangtang' film last Christmas is just the latest stage in the long-evolving understanding of the environmental impact of the food system. Palm oil has the highest yield per hectare of any cultivated vegetable oil, but that isn't the full story. Not all of the world's palm oil is grown by large corporations; around 40% of it is grown by smallholder farmers and even where it is the province of big business, it still provides employment.

From our perspective in the privileged West, protection of rainforests and the biodiversity they harbour seems so obvious that we barely give it a second thought. That biodiversity certainly includes many as-yet-undiscovered medicines and other commercially useful materials as well as providing carbon sequestration and the intrinsic value of the organisms themselves. For the local workforce, however, work on an oil palm plantation may be the only way to get an education for their children. With echoes of the plastics conundrum, even Greenpeace acknowledge that palm oil is not the problem in and of itself; the problem is deforestation. It is likely that economic drivers would threaten rainforests with destruction for the growth of other crops even if palm oil had never been discovered. And if we were to choose to protect the equatorial rainforest, where instead would we grow the crops? Is one hectare of rainforest more valuable than 10 hectares of Lincolnshire growing oilseed rape, and who gets to decide?

And food, of course, isn't just about tons; the food system has to provide healthy nutrition. It is more than a little ironic, given that the surge in palm oil production was prompted by concerns over the health impact of hydrogenated liquid vegetable oils, that it is now the subject of health concerns of its own and cold-pressed rapeseed oil has become sought-after due to its high levels of Omega 3 fatty acids and low levels of saturated fats. But even that isn't the end of the story. The levels of nutrients have to be taken in the context of other considerations. Livestock, particularly ruminants, are a famously inefficient way of converting sunlight into humans.

The use of nutrients in rearing a cow and the methane emissions during its life have a significant environmental impact, but arable and horticultural crops are far less nutrient-dense. There is even a piece of work by an American academic which shows that a field of pigs has a lower environmental impact per unit of nutrition than a field of lettuce. There is a very good analysis of these questions in Jay Rayner's uncompromising but highly readable book 'A Greedy Man in a Hungry World', which I thoroughly recommend and on which Tim Benton, mentioned in the first part of this series and pictured below with Jay, provided technical input.



So, what takes priority? As with the compromises around transport, there are also compromises at all the other steps from farm to fork. Readers of my series on the plastics conundrum will remember the UN's Sustainable Development Goals and how they encompass the inter-connected environmental, social and governance issues facing society. Rarely is there a simple and straightforward solution to a problem that doesn't involve the need to make hard choices and that means making concessions somewhere along the way.

Supplying a greater proportion of this or any other country's food and drink from domestic production may not be the most beneficial use of resources at a global scale. Professor Benton talks about the 'sparing vs sharing' dichotomy; do we do some harm everywhere, or concentrate the harm so as to leave some areas untouched? I've also addressed this in a recent blog post which I wrote for the NFU (see <https://www.nfuonline.com/sectors/food-chain/food-chain-news/nfu-hosts-roundtable-meetings-on-future-food-policy/blog-dr-gavin-milligans-moral-maize/>) and the challenge of satisfying both local and global needs will not disappear soon.

Increasing home-grown food at scale is not the same as a focus on specialist or artisanal foodstuffs using provenance as their key feature. Land-use, transport emissions and nutrition all need to be taken into account in any move to changing the balance between domestic and imported food production. That said, the economic and policy fallout of

Brexit may yet be the key drivers of future self-sufficiency in food irrespective of any environmental or social considerations.

[Where in the world part 1: Home-grown](#)

[Where in the world part 2: Not all miles are equal](#)

[Where in the world part 4: What's in a name?](#)

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