

**The D.B Doran Fund in Population, Resources and Economic Development**  
**The Hebrew University of Jerusalem**  
**“Table or Tank: The Rivalry between Biofuels, Fossil Fuels and Nutrition”**  
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Oil pressed from rapeseed can be used as diesel fuel, and maize or sugar beets can yield ethanol to replace gasoline. The UN and many countries officially share the view that bio-fuel is one option in fighting climate change. The United States generously subsidizes production of ethanol from maize, with output there currently growing 12% annually and almost 10% worldwide. EU countries subsidized bio-fuels production with €3.7 billion in 2006, and intend to cover 8% of their motor fuels from biological sources by 2015 and 20% by 2020. The Kyoto Protocol allows countries to meet their target reductions of CO<sub>2</sub> emissions by substituting bio-fuels for fossil fuels.

But is it really a wise and ethically acceptable strategy to burn food rather than eat it? If we allow food to be used to produce bio-fuels, food prices will be linked to the oil price, as the head of the German farmers association happily announced. Indeed, food prices are currently increasing in Europe, because more and more farmland is being used for bio-fuels instead of for food production.

This is not sustainable. The so-called tortilla crisis, which led to protests in Mexico City in January 2007, foreshadows what we can expect. The price of maize, half of which is imported from the US, more than doubled in a year, primarily because of production of bio-ethanol. Mexico tried to solve the problem by imposing a state-administered price ceiling for maize tortillas, combined with duty-free maize imports.

The problem is that advocates of reducing the greenhouse effect by promoting bio-fuels production have not made clear where the land will come from. In principle, there are only three ways to procure it: by withdrawing it from food or fodder production, from the production of natural materials – particularly wood – or from nature.

The perversity of the first alternative is obvious: there is no surplus food production in the world. Whoever wishes to grow bio-fuels on land that was previously used for food production must recognize that this would increase food prices, harming the poorest of the poor.

Similarly, to cultivate bio-fuels on land that would otherwise be used to produce sustainable construction materials would drive up the prices of these materials and encourage their substitution by non-sustainable materials like concrete and steel. This may be unobjectionable on ethical and social-policy grounds, but it certainly would not help the environment.

Wood stores carbon, owing to photosynthesis. The larger the stocks of wood on earth, in the form of living trees or wooden construction material in buildings, the less CO<sub>2</sub> there is in the atmosphere and the cooler the earth remains. So, taking land for the production of bio-fuels from forests means speeding up global warming, because bio-fuel crops store much less carbon than trees.

To be sure, in addition to the negative storage effect, there might be a positive effect on the world climate insofar as bio-fuels may replace fossil fuels for combustion processes. But this assumes that the oil sheikhs will extract less oil because there is more bio-fuel. If they don't, the positive effect will vanish. World market prices of fossil fuels will simply be lower than they otherwise would be such that total consumption of fossil and bio-fuels rises by the extra production of bio-fuel.

The remaining alternative is to use land that has not previously been used commercially. But such land is usually wooded. The substitution of forests by maize, rape, and other oilseed cultivation reduces the stock of biomass and likewise leads to an increase in the concentration of CO<sub>2</sub> in the atmosphere. Brazil has cleared huge areas of its jungle in order to produce the bio-ethanol that impressed the Secretary General. By doing so, the country has done a great disservice to the cause of fighting climate change.

Indeed, every year, the world loses forest area the size of Ireland. The effect on the atmosphere is equivalent to 18% of annual CO<sub>2</sub> emissions, more than from the world's entire transport sector. Deforestation must be reversed, not accelerated.

It makes no sense to use land in whatever form to produce bio fuels. Only producing bio-fuels without the use of additional land is justifiable in terms of environmental and social policy. This would mean using agricultural and other waste, which would otherwise rot and produce nearly equal amounts of CO<sub>2</sub> and methane, an even more dangerous greenhouse gas.

That option should be supported. But official encouragement of production of bio-fuels on land that would have been used for other purposes must stop.