

This response was submitted to the consultation held by the Nuffield Council on Bioethics on *New approaches to biofuels* between December 2009 and March 2010. The views expressed are solely those of the respondent(s) and not those of the Council.

QUESTIONS ANSWERED:

Question 1

ANSWER:

The only way to address the issue of poverty, fuel requirements and climate change

Question 2

ANSWER:

How to make the most efficient use of land in a sustainable way and how to have the rural population in poorer countries participate in the value creation through biofuels

Question 3

ANSWER:

I am very well informed. I am part of the industry with access to all types of government, academia, NGO, etc

Question 4

ANSWER:

The issue of additional income to rural population should gain a much higher importance. Through biofuels people will be able to afford food, therefore biofuels will help to diminish hunger and not to add to it.

Question 5

ANSWER:

First generation biofuels have been largely underestimated. They actually have a much higher impact on GHG emission reductions than often reported. Using sound science for evaluation is absolutely necessary. Next generation biofuels so far are only a promise, which has not been proven neither ecologically nor economically.

Question 5

ANSWER:

Question 6

ANSWER:

All new approaches to biofuels help in this regards. They should all be encouraged, as on the long run a mix of technologies will be necessary to secure the energy needs of the world without a huge dependancy on countries with sometimes questionable political ethics.

Question 7

ANSWER:

First generation biofuels are the only option to really allow rural people in poor countries to participate in this economy. Next generation biofuels will require vast amounts of investment money, restricting their

use basically to huge industry like big oil.

Question 8

ANSWER:

On short term, only lignocellulosic ethanol is promising. In biodiesel, all next generation products will take very long time to develop.

Question 9

ANSWER:

All of them are appropriate and should be followed up. If we can get higher yield plant through whatever method, not generating any danger for human health, it would be stupid not to pursue it.

Question 10

ANSWER:

Question 11

ANSWER:

Finding the right feedstock for the next generation biofuels (e.g. jatropha, algae)

Question 12

ANSWER:

Question 13

ANSWER:

Land use change is a big myth invented by opposers to biofuels. It simply has to be assured that the feedstock for biofuels is grown in a sustainable way. This is generally the case, only few exceptions exist. It is wrong to concentrate on the few bad exceptions (which of course are not tolerable and have to be avoided).

Question 14

ANSWER:

Biofuels especially in developing countries offer a very significant chance of reducing poverty.

Question 15

ANSWER:

Yes, but not as a general default value. It has to be made sure that no theoretical but a real time value is used for each specific biofuel producer. Furthermore, it can not be assumed in general that in order to produce biofuels land has been changed in use. This is mostly not the case and therefore a false assumption.

Question 16

ANSWER:

Question 17**ANSWER:**

Again, food security with first generation biofuel is a myth spread by interested parties. The earth has enough resources to supply food for 14 billion people. The problem is not the availability of food, but the availability of money to buy it. First generation biofuels provide additional income to rural population in developing countries, thereby helping to solve hunger problem. Anyhow, non food feedstocks need to be developed, but it will take a lot of time until success happens.

Question 18**ANSWER:**

First generation biofuels will help especially developing countries. Next generation fuels will have minor effects in developing countries, as the required investment will be prohibitive.

Question 19**ANSWER:**

This problem is not a problem of biofuels, but much more general in agriculture and other areas. Therefore the issue has to be addressed in a very broad way and not limited to biofuels.

Question 20**ANSWER:****Question 21****ANSWER:****Question 22****ANSWER:****Question 23****ANSWER:****Question 24****ANSWER:**