

This response was submitted to the consultation held by the Nuffield Council on Bioethics on Emerging biotechnologies between April 2011 and June 2011. The views expressed are solely those of the respondent(s) and not those of the Council.

Consultation on Emerging Biotechnologies  
Nuffield Council on Bioethics  
Answers to Questions 11 - 17  
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**11.- What ethical principles should be taken into account when considering emerging biotechnologies? Are any of these specific to emerging biotechnologies? Which are the most important?**

In my opinion, the most important ethical principles to consider are the **dignity of the human person and her/his wellbeing, the basic human rights, and sustainability**. Technologies, and biotechnologies as well, should be developed for the good of all human persons (present and future), not just for the benefit of a few who can pay for them. Is this the case with emerging biotechnologies? I do not think so!

The first thing is, obviously, to do good to as many people as possible, not harm. However, all technologies, as far as I can tell, have the capacity to do harm as well as benefit, whether they are emerging biotechnologies or more established ones. I cannot think of a single example that does only good. It is also reasonable that initially applications of biotechnologies may be restricted (probably on the bases of cost), but if proven good for people, governments should do their best to make them available to all who need them. An example may be in vitro fertilization. It was initially available to very few people because of its cost and then, gradually, it has been available to increasingly more people, although still not to everybody who may desire access to it.

The principle of safeguarding the dignity of the individual human person has many different ramifications. For example, research with human embryonic stem cells needs women's unfertilized eggs, how could the situation be managed without exploiting women who may need to sell their eggs because they need the money? Some people consider that xenotransplantation also challenges this principle and wonder if it affects the nature of being human. If a person who receives an organ from a donor, even if it is the face which is perhaps the most distinctive anatomical feature linked to a person's identity, continues being herself or himself, in my opinion the same holds true in the hypothetical case of receiving a pig's organ.

For people to be able to decide by themselves (without having to accept the "truth" given by an expert) about the suitability of any biotechnology in their particular situation, they have to have a reasonable understanding of potential risks AND benefits. Therefore, an important ethical principle is that of **objectivity** in giving information so that people can make their own decisions (**autonomy**). Opposing the

commercialization of Golden Rice in Southeast Asian countries because "it is a Trojan Horse" which will permit the introduction of other GM crops goes against these