

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.

Nuffield Council on Bioethics: Emerging biotechnologies - response form 2

Please feel free to answer as many or as few questions as you wish. There is no limit to the length of each answer.

Emerging technologies

1. How would you define an 'emerging technology' and an 'emerging biotechnology'? How have these terms been used by others?

Emerging technology is new technology which will be considered to be influential to society in near future. In life sciences emerging technologies are such technologies as synthetic biology, regenerative medicine, brain machine interface, human enhancement technology and so on. I am sorry that I have no idea how others use the word.

2. Do you think that there are features that are essential or common to emerging biotechnologies? (If so, please indicate what you think these are.)

Features which are required to answer are not only novelty but also strong influence on our thought or imagination.

3. What currently emerging biotechnologies do you consider have the most important implications ethically, socially and legally?

It is almost impossible to compare a technology with the other one. I understand that each emerging biotechnology mentioned in 1 has its own implications with legal, ethical and social aspects.

Cultural, international and historical context

4. Are there examples where social, cultural and geographical factors have influenced the development of emerging biotechnologies (either in the past or currently)?

Human cloning technology is a good example. I participated in the UN process as a member of the Japanese delegation with respect to the Convention on prohibition of human cloning proposed by France and Germany, which was in fail.

5. Are there examples where social, cultural and geographical factors have influenced public acceptance or rejection of emerging biotechnologies?

Gene modified organisms (GMO) is a good example. In Japan few consumers accept GMO foods, though GMO drugs are accepted. I think that safety should be acquired if you take GMO or non-GMO.

6. Are there examples where internationalisation or globalisation of research, markets and regulation have influenced the development of emerging biotechnologies?

Human embryonic stem cell (h-ES cell) is a good example. Researchers in Japan would like to establish h-ES cells and the guidelines, which are reflected on Japanese society, were formulated. If you tried to compare character of h-ES cells established in Japan with the one in other countries, it was very difficult to do so because the Japanese rule did not allow to send h-ES cells to foreign researchers.

7. How have political traditions (such as liberal democracy) and political conditions (e.g. war) influenced the emergence of biotechnologies?

In Japan, neither political traditions nor political conditions have influenced the emergence of biotechnologies. Both the Liberal Democratic Party (LDP), which had been ruling party for more than 50 years, and the Democratic Party of Japan (DPJ), which took office two years ago, support the development of cutting edge biotechnologies.

Ethical, policy and public engagement issues

8. Are there ethical or policy issues that are common to most or many emerging biotechnologies? Are there ethical or policy issues that are specific to emerging biotechnologies? Which of these, if any, are the most important?

I think that each emerging technology has its own policy or ethical issues and that some of the technologies share the issues. If you use human materials, informed consent and protection of individual information are common.

9. Do you think that some social and ethical themes are commonly overlooked in discussions about emerging biotechnologies? If so, what are they?

I do not think so.

10. What evidence is there that ethical, social and policy issues have affected decisions in (i) setting research priorities, (ii) setting priorities for technological development, and (iii) deploying emerging biotechnologies, in either the public or private sector?

In the public sector emerging biotechnologies such as recombinant technology, human genome and hES cells were discussed and some rules for the technologies were formulated in (i) and (ii). For example GM foods which are the result of deployment of biotechnology was affected by ethical, social and policy issues so that rules of notice of using GMO were made.

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?

Safety is the most important. If you use human materials, informed consent and protection of individual information are the principles. Transparency to public is also important principle.

12. Who should bear responsibility for decision making at each stage of the development of an emerging biotechnology? Is there a clear chain of accountability if a risk of adverse effects is realised?

At policy decision stage, the government should bear responsibility. At setting research priorities stage, researchers should bear the responsibilities.

13. What roles have 'risk' and 'precaution' played in policy decisions concerning emerging biotechnologies?

I think risk is the key concept in policy decision. When you do not have sufficient information on the biotechnology, you may consider the concept of precaution. If you rely on precaution, you would face the possibility that you could not use the technology.

14. To what extent is it possible or desirable to regulate emerging biotechnologies via a single framework as opposed to individually or in small clusters?

I think that it is quite difficult to regulate the technologies with only a single framework because each technology has its own character.

15. What role should public opinion play in the development of policy around emerging biotechnologies?

If the technologies are used in only lab, public opinion is not important. But If the technologies are deployed in society, public opinion could play a key role in the development.

16. What public engagement activities are, or are not, particularly valuable with respect to emerging biotechnologies? How should we evaluate public engagement activities?

For example, "consensus conference" is an interesting tool. But the ways of evaluating the results of the conference and of incorporating them into public policy have not established yet. The way of reflecting the result on policy has not been established yet.

17. Is there something unique about emerging biotechnologies, relative to other complex areas of government policy making, that requires special kinds of public engagement outside the normal democratic channels?

Emerging technologies are not familiar to ordinary people. It means that they face difficulties in discussion on the emerging technologies compared with such issues as social welfare and medical insurance.