Module III—Improving Quality of Life

Q&A

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Alan Wildeman (University of Gueph, Guelph, ON): A question for Dr. Chadwick. Is the matrix you talked about equally applicable in Africa and the United States or the United Kingdom or Canada for example? Or does the matrix need to be prioritized in different situations?

Ruth Chadwick: Ben Mepham, who developed the matrix, recognizes that it has drawbacks. However, it can be a useful way of structuring a discussion and looking at the different ethical dimensions of a problem. However, I think that it is true that the three principles, well-being, autonomy and justice, are principles of western ethical traditions and so it may very well be the case that it omits a lot of important considerations. Well, I mentioned one important consideration that it does omit and that's the perspective of feminist ethics, for example. And so yes it may very well need to be adjusted. If you think that that type of approach is useful it may very well need to be adjusted for different cultural contexts.

John McDermott (International Livestock Research Center, Nairobi, Kenya): I want to raise some issues regarding public and private goods—how they are developed and disseminated. First of all, in the general area of biotechnology most of the work we do in public research institutions doesn't lead to GM crops, for example. It leads to conventional breeding solutions sometimes or to other solutions. The second thing is: the nature of the goods. They are usually a mixture of public and private. For example, a new vaccine for animals could have important implications as a public good in terms of control or even eradication of disease for a whole country. It could have important social equity aspects. But it could also be used by individual farmers as a private good for safeguarding the health of their

animals. Another issue we struggle with is—as a public research institute—we are not very good at the final stages of vaccine release. A lot of proprietary technology expertise with regulatory mechanisms is held in the private sector. So, my issues are how do we mix these public/private-good goals? One of our approaches has been to safeguard, as much as possible, the intellectual property in the public sector. But, my biggest problem as a research director is not that we safeguard intellectual property, but that we don't get products to farmers in a way that helps them; the research actually doesn't produce anything at the end of the day. We actually need some kind of private-sector collaboration.

Chadwick: Yes, that is very interesting. Certainly the distinction between public and private is much more complicated than it might appear. But, I was trying to outline the position of the Food Ethics Council, which is very concerned about proposals—what needs to happen in this area is more public/private partnerships. They see the way forward as encouraging more public-good projects. Not just in terms of thinking about products, but in thinking about genomics itself as a public good in terms of knowledge and development of infrastructure to enable people in developing countries to take advantage of that knowledge and develop their own projects. It's important to find ownership arrangements that do make that possible. That's the main point: ownership- and benefit-sharing arrangements are needed to facilitate that kind of development.

Joel Cohen: John, let me add that I didn't have the opportunity to present data on partnerships that we also collected in this sampling of public research. Over 60% of these institutions are working without any partnerships. Another 23% are working public to public and less than 10% are working with some kind of collaboration with the private sector, as follows:

PUBLIC-SECTOR PARTNER	NUMBER OF EVENTS	%
No partner	129	62
Foundation/Private	1	0.5
Private	13	6.2
Private/Public	5	2.4
Foundation	1	0.5
Foundation/Public	8	3.8
IARC	3	1.4
Public	49	23

It's a real indication that while that need is there—it's argued for, it may exist—there is virtually no experience with it now in the developing world. Institutions working alone are at a great disadvantage because they don't get the global expertise and knowledge that could help with their research.

Allan Eaglesham (NABC, Ithaca, NY): Dr. Remington may have an inside track on this. I'm referring to a situation that prevailed in Zambia recently. Although there was hunger—possibly even starvation—aid from the United States in the form of corn was declined because it was genetically modified.

Tom Remington: Fortunately I don't cover Zambia. But, it's a very interesting point. CRS was caught between a rock and a hard place. In particular, the Zambian Catholic Conference of Bishops came down very strongly in opposition to GMOs. There is a Social Peace and Justice Commission in Zambia that is very strong and very active and doing excellent work, headed by Peter Henriot. He has taken Catholic Social Teaching farther than anybody. However, I think he made a mistake in not focusing on the social justice issues. In trying to address the health issues—the issues of compromising exports to Europe, *etc*.—they, CRS, came down behind the Zambian Bishops on this one. I think that was a mistake. I think there was an undercurrent that Europeans were making suggestions that this could compromise exports to Europe. I never could figure out where the beef exports from Zambia to Europe were coming from; clearly they are not smallholders. So what's the big deal? Are these large South African farmers? I never figured that one out. So, it's a complex issue. We, CRS, are the largest mover of US-food aid. The US government refuses to label whether it is genetically modified or not. Why not? They don't want to because essentially all the maize and soy is GM. So the assumption is it's all genetically modified. It's a big issue and it's an issue that we don't know how to deal with. One last point: I heard the Minister of Agriculture being confronted by the BBC on how he could do this and put his people at risk. The point was made that Americans eat GM corn all the time with no health affects. The Minister said, "Look—they eat a bowl of corn flakes once a week, we eat meali-meal three times a day." I thought that was compelling logic from his point of view, so I don't have an answer. But, based in part on that experience, I try to concentrate on where I think NGOs—and CRS in particular—should be focusing and leave the health and environmental issues to those people who are better placed.

Audience Member: We've heard a lot about the precautionary principle. That doesn't sit very well in Canada as a useful standard. Certainly we support a precautionary approach. We look at Europe and it seems to be a bureaucratic quagmire where things get lost for years and years intentionally. Good scientists say that biotechnology is safe; we've done the testing, other countries have done the testing. But there doesn't seem to be any harmonization globally—that point has been made today. How do you respond to the comment that this is just a bureaucratic way of protecting the domestic market that it's basically a trade issue in a lot of ways—a non-tariff trade barrier?

Chadwick: I am involved in the regulatory system in the United Kingdom—at least I sit on the Advisory Committee on Novel Foods and Processes, which looks at safety and assesses the applications to put novel foods on the market. Yes, we do apply the precautionary principle. We also have the risk-assessment process that is based on purely scientific evidence. As a participant in that process, I don't have any sense of it being as you described. But then, I suppose you could argue that since I'm implicated in the system I would say that. Wouldn't I?

Audience Member: Especially in the UK there is a great deal of bias to protect the organic industry and this seems to be sacrosanct, from what I've read or observed. Organic is regarded as the ideal; everything has somehow to meet that standard. That seems to be politically motivated, perhaps because of Prince Charles. But not everybody worships organic food—there's a great deal of risk there as well.

Chadwick: Well, yes. You may be right that Prince Charles does have some influence, but he's not as great an influence as you might think. In my opinion, the present government is very pro-GM. I don't see it as supporting the organic movement in particular.

Kanayo Nwanze (Africa Rice Center, Abidjan, Ivory Coast): My question is for Tom Remington. If I heard you correctly, you indicated that the task of biosafety risk assessment will fall on the NGOs who have only a weak capacity to analyze data. Why does this responsibility fall on the NGOs and not on national systems in the countries that you referred to?

Remington: I wonder why also. It's just that there is a creative tension between those sorts of research and, in this case, the NGOs who are doing the extension work. I'll give you an example. The research institutions came up with a wonderful paradigm called "mother and baby" trials. I must admit that they took me in. It sounded really nifty: an on-farm multi-location trial involving hundreds of babies, fully replicated and statistically analyzable. Well, we were tasked to do this, to collect all the data. We failed miserably, to the great consternation and disappointment of our research partners. I said, "What we need to learn from this is that we don't have the quantitative capacity." If we want to do mother and baby trials—conventional varietal work—you need to come a lot farther down to our level and help us with it. Partnership yes, but you need to get closer to the field. We discovered the limit of our capacity and of our partner's capacity. Speaking of biosafety I must admit I'm a bit ignorant: how long does biosafety monitoring continue at the farm level? Does it continue? Or once a GM variety is released, once it's in the hands of the farmer, is there need for continued monitoring? If that's the case, then my concern is less.

Nwanze: Okay. The last part of your answer pacifies me. I was worried when you said that NGOs would take responsibility for risk assessment. How would GM plants come into a country if the national system does not officially provide clearance? This emphasizes what you said regarding the weak capacity for NGOs to do that. We need to be very cautious. If I may say so, the issue at stake here is that we should assist national programs or systems to increase capability, to assume the necessary responsibility to do the job. Otherwise, it will fall to institutions such NGOs, albeit of weak capacity, to do what national systems themselves should be doing.

Remington: In their recent paper, the FAO actually suggested that NGOs should actively support the GM process and should actively advocate for increased funding for GM crops, which got me wondering and worrying about what else NGOs would be tasked with doing. But, again, we won't be bringing GM plants into the country. It would be at the point when it reaches the farmer. At that stage, the farmer is usually involved in participatory evaluation. As Joel mentioned, that's the point at which farmers are coming over and grabbing hold of the product and saying thank you very much, I think this is good stuff. I don't see how you can have an on-farm pre-release without that being a *de facto* release, if the stuff is good.

Marc Saner (Institute on Governance, Ottawa, ON): I feel compelled to clarify the use of the precautionary principle in Canada. In a previous question it was said that few people in Canada are interested in it. Historically Canada was quite important in the design of the Convention on Biological Diversity and previous Prime Minister Brian Mulroney was the first one to sign it. So Principle 15 was endorsed by Canada. It entered legislation in Canada. It's in the Canadian Environmental Protection Act and also in the Oceans Act under two different names. In one case as "precautionary principle" and in other case as "precautionary approach." And I also believe it's in the newest version of the Pest Control Products Act. And finally our Privy Council Office, which is the central agency that ensures consistency of decision-making and policy-making has written up a guideline on how to use the precautionary principle after a very lengthy interdepartmental exercise. So, there is plenty of usage in Canada of the precautionary principle.

John Radin (USDA, Washington, DC): Dr. Cohen, I'd like to commend you for identifying some things that could be done and should be done fairly quickly regarding regulatory aspects in the less-developed countries. Are you aware of movement to try to initiate collaboration to simplify the highly segmented process?

Cohen: That is something that we are doing now. We are trying to reengage that process. Unfortunately, there have been scattered attempts before that have not come to fruition. It's difficult because the initiative comes from the agricultural sector through regional bodies that do not include regulators. So, we are trying to build regional and national consortia to look at that. Our entry points are modest—it's a long-term hope.

Ann Oaks [University of Guelph (retired), Guelph, ON]: In Canada, the Wheat Board tests the quality of wheat that comes from different farmers. It's a public enterprise, and it's something that industry south of the border complains about constantly. Is this the way we should be thinking, regarding the issue of testing being done by NGOs? There is distrust of industry because of its track record—the tobacco industry, for example. And there is secrecy because of patents. I think that testing and setting standards have to be at the public level, but sufficiently organized and sophisticated so that people can believe in it.

Remington: Obviously, quality assurance is very important. In East Africa, seed certification—originally intended to protect consumers—has been perverted; it's used really to protect commercial seed companies. It's now a barrier to entry by farmer seed entrepreneurs and small seed companies. So, I would agree with you in principle, but in practice quality assurance can be perverted and fail to serve the intended purpose. I can see I didn't answer your question.

Oaks: It seems to me that there needs to be a central place where the testing can be done, whether it's for quality or safety or whatever.

Tony Shelton (Cornell University, Geneva, NY): I'd like to get a point of clarification from Dr. Chadwick. The council of which you are a member, that makes these decisions: you said that you use the precautionary principle and then also a risk/benefit analysis. Can you clarify that? As Dr. Cohen explained it, there was really much more of a separation between the two.

Chadwick: Well, in making decisions about whether to allow something onto the market, the only thing we are allowed to look at is safety, really. It's based on a scientific assessment of whether there are any concerns about safety. It's not a risk/benefit analysis in that sense because we're not really looking at benefits. It's not within our remit to look, for example, at whether a functional food that claims health benefits has any benefits or whether it's likely to be effective.

Shelton: Or a crop that is insect resistant, whether that really has any benefit, your council focuses on the risk but not the benefit?

Chadwick: That's right.

Shelton: Okay. I just wanted that clarified. Although the principles that you outlined would be the same, or should be the same, throughout the world, in a developing country would you find that you would emphasize some of the principles more than others? That is to say, would you be more inclined to look at risk/benefit analysis in a developing country versus the United Kingdom or Europe where hunger is not a major concern?

Chadwick: We need to be clear about different spheres of operation here. The Advisory Committee of Novel Foods and Processes is purely part of the regulatory process in the United Kingdom and there are clear lines within which we can operate. When I'm talking about the principles in the ethical matrix, then that is within the sphere of general ethics. Although the Food Ethics Council has used that matrix, it doesn't have any regulatory status; it's an independent body that thinks about ethical issues in foods and agriculture. It was asked earlier whether the principles in that have global application, well this is a discussion in theoretical ethics because some people argue that they do have global application because everyone everywhere ascribes to the importance of well-being, choice and justice although they might interpret them differently. So, I'm not sure that one could say that any particular principle has greater priority in a particular part of the world. There is an ongoing debate about the priority of liberty as opposed to equality, and liberty and well-being, so I guess in certain conditions it would be more important to put an emphasis on basic needs rather than, say, on liberty.

Shelton: Right. I wonder if cultural aspects would profoundly influence the principles that you have listed there though? I don't know the answer to that, but I wonder if that would occur and what the ramifications would be for putting GM crops into developing countries that way.

Chadwick: Well, discussions I have had with bioethicists in China, for example, have led to the idea that although there might be pragmatic agreement on some of these principles, the underlying reasons that people might have for agreeing with them might be rather different because of different traditions. So, yes, I think there are important cultural differences to take into account.