Governing Food: Science, Safety and Trade

Introduction

The conference brochure provided the following setting for the discussions:

"Food safety is a dramatic example of the regulatory difficulties states face in reconciling science, health, culture and trade in the era of globalization. Technological change creates new products faster that our collective ability to assess their implications; new forms of transportation and expanding markets allow these products, and new pathogens, to move rapidly around the world because of the ever increasing exchanges of goods and services in the global economy. Information can be disseminated rapidly, but consensual knowledge does not keep up. Some regulatory decisions are effectively taken within gigantic multinational firms, or within such diverse international organizations as the FAO, the WHO, the ISO or the WTO, and other decisions are effectively preempted by civil society organizations, some of which are big multinationals in their own right.

"International cooperation is affected by questions of whether UNCED or the WTO should take precedence – is trade more important than the environment, or health? Other linked issues include intellectual property rights in seeds, and the approvals process for new pharmaceuticals. Labelling requirements for food have implications for eco-labelling schemes (e.g. certifying that wood came from sustainably managed forests) while agreements on food inspection may set precedents for general principles under the Technical Barriers to Trade agreement (e.g. mutual recognition of testing for conformity to product standards) … .

"Countries have very different traditions and infrastructures for application of food regulatory regimes. Some countries used a market-based approach while others have had an interventionist approach to food inspection and consumer protection generally. Now increased trade flows are exposing the problems with purely national approaches to regulation."

Overview of the Predominant Themes in the Discussions

The predominant themes in the seven discussion sessions as a whole may be represented as follows:

1. "Science-based Regulation" *versus* "Consumer Sovereignty"

2. "Risk Assessment" *versus* "Other Factors in Decision-making"

These two representations are thematically similar, although they do not have exactly the same connotations, as will be seen in the remarks below.

The tension inherent in the first of the two primarily plays out largely in the marketplace of public opinion, and the second, largely in the risk management decision-making that is made both at national government levels and in the international organizations concerned with both food safety and with trade rules.

Section 1: "Science-Based Regulation" versus "Consumer Sovereignty"

"Science-based regulation" refers to the underlying framework for assuring food safety, agreed to between governments and industry in Western nations over the last fifty years and increasingly used as the basis of all international trade in food products. "Science" here refers to the processes of hazard identification and hazard characterization: in plain language, it is scientific research which will tell us, definitively, *what* potentially harmful things (hazards) we should primarily worry about in the matter of food safety, and what we can worry about less, or at all. The concept of "science-based regulation," therefore, contains the notion that formal regulatory schemes, through which governments accountable to the public can assure their citizens that they are taking the right steps to protect health and the environment, will be based on the findings of science. This orientation also refers implicitly to "peer-reviewed" science, that is, scientific research findings that have been published in respected journals and affirmed on occasion in further peer reviews, such as those conducted by expert panels appointed by national academies.

In the last twenty years or so governments have routinely referred to "scientific findings" in their communications to the public on food safety, explicitly encouraging the public to rely upon this standard when forming their own judgements about the safety of the food supply. However, experience has shown that consumers do not necessarily find these communications to be wholly persuasive. The conference presentation by Patricia Mann (former Vice-President International, J Walter Thompson), reporting on a major recent study on public perceptions in Great Britain carried out by the new UK Food Standards Agency, pointed to widespread unease among the public about food safety in general, and in particular a huge increase in public concern about genetically-modified (GM) ingredients in foods in the 1998-99 period. All major food retailing chains in the UK have removed foods with GM ingredients from their shelves, and have been assiduously tracing back product lines in their supply chains to ensure that they can advertise their wares as "GM-free." This, despite

over ten years of consistent messages from industry and governments to the public, to the effect that GM crops for food products have been carefully assessed as to safety, using science-based approaches, and have passed all of the relevant tests. These recent experiences have, in the words of Patricia Mann, clearly shown that factors other than science are important to consumers.

What factors? In the opening presentation Charles Cockbill, Chairman of the European Food Law Association of the UK, called attention to a basic truth: consumers have an approach to food and food safety very different from that which they have with respect to all other consumer products. Why this is so is not exactly clear, he added. However, in response to this truth, in many countries government food policies have switched from what might be called a "production orientation" to a "consumer orientation." This is reflected, for example, in governments taking steps to transfer responsibility for oversight of food safety from agriculture ministries, where they have been based for up to a hundred years, to health ministries. Some governments have taken the further step of transferring those responsibilities to stand-alone agencies which are to have a very high degree of independence from traditional "line" departments.

It is as yet unclear whether these steps will restore public confidence. Among other things, this is because science-based evidence does not seem to resonate well with many consumers, at least so far, because it does not seem to necessarily respond well to the diffuse and half-articulated consumer fears, especially when there are significant uncertainties in the scientific assessment. Messages from anti-government activists, for example, seem to be able to find a more sympathetic hearing, among at least some consumers. Lorne Hepworth, President of the Crop Protection Institute of Canada, reinforced this diagnosis, remarking generally that the "new global activism," which has been especially vocal in the series of anti-globalization demonstrations (Seattle to Prague), is simply not well understood, either by governments or industry, in terms of its origins or potential appeal to a wider range of citizens. He also conceded that citizens often get mixed messages from industry, for example, when a large multinational corporation with different business units sells GM seeds to farmers through its agricultural unit, and at the same time bans GM ingredients in the food products sold through another one of its affiliates.

A pointed illustration about the limited impact of science-based regulation was provided in the talk by Rob McNabb, Assistant Manager of the Canadian Cattlemen's Association, who reviewed the long history of the battle between Europe and Canada over hormones in beef, which began in the early 1980s and is still not concluded. (McNabb reported the estimated economic losses to the Canadian beef industry at $75 million in 1999 and $1billion for the entire period.) In the 1990s there was a transition to science-based dispute resolution mechanisms for international disputes, including those over food, especially under the WTO. The decisions taken in these contexts have supported the Canadian

position in general, and in the latest round, a deadline of compliance for the EU was set for May 1999; however, the EU has taken no steps so far to comply with this decision.[1]

Discussion at the Colloquium provided interesting insights on the reality of, and some of the reasons for, the existence of the tension between science-based regulation and consumer sovereignty. Questions were raised about whether consumers *should* have at least a choice in the marketplace, when something as "sensitive" as hormones is at issue. Giving consumers a choice would require, for example, the labelling of North American beef, with wording something like "this meat contains hormones administered as growth regulators," which the industry has not wished to do – precisely because, *on scientific grounds*, there is no reason to do so, because hormone residues in North American beef are no higher than in beef raised without such treatments. However, some of those at the Colloquium maintained that the "consumer right to know" could override a rationale based on this scientific reasoning, without necessarily offending established trade rules.[2] Perhaps there would be no market for hormone-administered beef in Europe, if full disclosure were to be required. To say that such a consumer-driven rationale must necessarily be overridden by the science-based rationale would be to admit to a "scientization of politics," in the words of one discussant, a development that would be unacceptable.

A general consensus emerged from these discussions, to the effect that all risk-management decisions by governments do occur – and will continue to occur– in a broad "political" context. This reinforced the theme in the earlier presentation by George Khachatourians, University of Saskatchewan: scientific work is increasingly thrown into an arena where the non-scientific dimensions of decision-making have equal or greater weight. Another presentation, by Spencer Henson of Reading University, gave some guidance as to what those

[1]A detailed discussion of the EC-Hormones case under WTO can be found in the publication, WTO, Committee on Sanitary and Phytosanitary Measures, "Summary Report on the SPS Risk Analysis Workshop, 19-20 June 2000," 3 November 2000, pp. 26-29. (G/SPS/GEN/209).

[2]There is, in fact, support for this position in the decision of the WTO Appellate Body in the EC-Hormones case. The panel which first looked at the matter, having found that the EC actions constitute the imposition of different levels of health protection, were required to give an opinion as to whether these differences were "arbitrary or unjustifiable," and they found that they indeed were so. However: "The Appellate Body disagreed. It stated that there was 'a fundamental distinction between added hormones (whether natural or synthetic) and naturally-occurred hormones in meat and other foods.' It therefore reversed the Panel's finding on this first comparison." WTO, "Summary Report," p. 37.

other dimensions are, when he remarked that a transparent process of decision-making is perhaps the single most important ingredient of public confidence in any regulatory system. Thus in the end governments, no matter what regulatory structures (science-based or otherwise) they have established, will respond to the concerns of their citizens as expressed in their role as consumers of, for example, food products.

At present the consumer-sovereignty thrust is shown best in the demand for labelling of foods containing GM ingredients. Anne MacKenzie, of the Canadian Food Inspection Agency, speaking on "Labelling of Foods derived through Biotechnology," reviewed the recent labelling initiatives in Switzerland, Japan, Brazil, Australia/New Zealand, and other countries. Demands for increasingly comprehensive labelling of food products, in many different areas, was the focus of a presentation by Catherine Humphries of the Co-operative Wholesale Society. Whereas this demand has been strongly resisted by both industry and governments in North America, it is by now taken for granted in Europe that such labelling is appropriate. Some speculated that a "trade war" could emerge over the issue of labelling of products containing GM ingredients.

Finally, it seemed clear to some participants at the Colloquium that one source of this tension between science-based regulation and consumer sovereignty was to be found in the fact that, increasingly, primary manufacturers of food system inputs (seeds, etc.) have strong relations with primary producers (i.e., farmers), but that these relationships stop at the farm gate. This is especially true with GM crops; the processors and retailers of food products, on the other hand, clearly do not want to have anything to do with the emergent consumer issues about GM foods. They have moved quickly to forbid the use of GM crops, such as BT Corn and BT Potatoes, in their consumer products, as well as the sale of products containing them in their stores. However, Douglas Powell of the University of Guelph had a different story to tell. Powell conceded that a "stigma" (negative connotation) easily could be attached to food products as a result of consumer worries, but argued that consumers will respond favourably to those who seek to provide detailed, balanced, and clearly-communicated information to consumers about different types of food technologies. He reported on an experiment undertaken in the Guelph area this past summer, in which consumers were offered two different types of corn, one of which was genetically-modified, the other produced with conventional pesticides; consumers chose the former by a two-to-one margin.

Conclusion to Section 1

A series of questions, emerging from the Colloquium discussions on these issues, could be posed for further reflection:

- Is there a risk of "reifying" science in what may be the excessive dependence of regulators on science-based decision-making?

- Are different *constructions* of science legitimate? (The "North American" approach identifies science with certainty, whereas others might emphasize that science is always provisional.)

- Do we expect too much of science in the North American approach?

- Is the emergence of the "precautionary principle," as a new element in the decision-making [DM] mix,

  - "anti-science" or a different way of using science in DM?

  - An alternative to established risk-management DM, or the expression of different underlying *social values* in different societies or regions?

  - As expressed in the BioSafety Protocol, for example, a decisive new element that will have real impacts on trade-related disputes involving approaches to risks?

Section 2: "Risk Assessment" versus "Other Factors in Decision-Making"

Risk analysis is the general name for the process of risk-based decision-making now widely used for food safety oversight. The *Codex Alimentarius* defines risk analysis as: "A process consisting of three components: risk assessment, risk management and risk communication:

(a) Risk Assessment: A scientifically based process consisting of the following steps: (i) hazard identification; (ii) hazard characterization; (iii) exposure assessment; and (iv) risk characterization;

(b) Risk Management: The process, distinct from risk assessment, of weighing policy alternatives, in consultation with all interested parties, considering risk assessment and other factors relevant for the health protection of consumers and for the promotion of fair trade practices, and, if needed, selecting appropriate prevention and control options;

(c) Risk Communication: The interactive exchange of information and opinions throughout the risk analysis process concerning hazards and risks, risk-related factors and risk perceptions, among risk assessors, risk managers, consumers, industry, the academic community and other interested parties, including the explanation of risk assessment findings and the basis of risk management decisions."[3]

[3]Cited in WTO, "Summary Report," p. 45.

The notion that there are "other relevant factors" is, as shown above, included in the Codex definitions. During the discussions at the Colloquium reference was made to the following (incomplete) list of such factors: environmental risks (as opposed to human health risks), such as biodiversity, use of pesticides and other chemicals; "national security" in food supply; the activities of global multinational corporations in food production and distribution; special circumstances of less-developed countries; the place of the farmer in society; farm subsidies; trade principles; nutrition and healthy diets; animal welfare; the international transmission of plant and animal diseases.

A number of intervenors, in the discussions on the tension between risk assessment and other factors, pointed to one core issue: How is it possible, in a policy context, to "synthesize" the risk-based approach with these other, very different types of factors? Although by its very nature this is not a question that admits of an easy answer, or any answer at all, an interesting observation was made during these discussions: it sometimes seems that recently, at least in Europe, the "precautionary principle" or "precautionary approach" (hereafter PP) is serving as a surrogate or placeholder for an entire set of "other factors." The reason for this might be that the risk-based approach by definition can handle only well-characterized hazards, ideally ones that are suited to quantitative representation; and many items on the list of other factors do not fit this mold.[4] In this context invoking the PP has the effect of saying, "Slow down while we consider other factors." (This observation does not imply at all that only "well-characterized hazards" are appropriate entrants to the decision arena; quite the contrary.)

J. M. Scudamore, from the UK's Ministry of Agriculture, Fisheries and Food, showed how a risk-management approach was being used in the design and mandate for the new Food Standards Agency (FSA), which has been given sole responsibility for food safety. The new agency, which is independent of line ministries, has the mandate to restore public confidence in food, and among other things, reflects the separation of food safety from promotion of agriculture. A similar, but not identical, design is being used for the proposed new European Food Authority (EFA), which like the FSA will rely upon independent science and will conduct an intensive dialogue with consumers on food issues. The EFA will have risk assessment and communication within its mandate, but risk management will remain the responsibility of the European Commission, a "politically accountable" body.

[4]It is also the case that, under science-based regulatory regimes, applicants for approvals of products will appear before the regulators with a completed risk assessment (based on known hazards) already in hand, asking for a quick decision to be made. It is only later, in the risk-management phase, that the "other factors" are likely to be raised – which often, in the applicants' eyes, have the effect of "delaying" a decision.

Neville Craddock, the Group Regulatory Affairs Manager of Nestlé UK, reinforced the view that a specific set of values lay behind the new European initiatives and agencies: namely, independence of science, transparency and openness in decision-making, and full public dialogue. He also seconded the importance of the precautionary principle, which had first been introduced into the discussion in a food safety context in the remarks by Spencer Henson, who had referred to the decision by European Union's Court of Justice in upholding the ban on British beef due to concerns over BSE. The issue of BSE returned many times during these discussions, as something that has had a defining impact on the attitudes of Europeans toward food safety. As Craddock remarked, "assessments based on science" and "acceptable risk" are not now, and can never be in the post-BSE era, as straightforward or unproblematic as some would like them to be.[5]

Peter Phillips, University of Saskatchewan, supported these notions in a more systematic way, by pointing out that there appears to be emerging a multilayered context for food safety issues, with a large number of influential players, no one of which is in a position to dominate the playing field. There are three main layers: a science-based one, such as IPPC (International Plant Protection Convention), OIE (*Office internationale des épizooties)*, and Codex; a trade-based one (using risk-based approaches), principally WTO; and another set, with inherently broad mandates (OECD, Biodiversity Convention and BioSafety Protocol, and regional groups). In addition, the private sector is taking its own initiatives, on safety (use of HACCP and ISO) and through such acts as segregating GM and non-GM food products. This "portfolio" of responses includes, generally, both science- and risk-based ones and "consensual" ones.

Beatrice Olivastri from Friends of the Earth had intervened a number of times during the discussions over two days, urging the participants not to frame food safety issues too narrowly within the confines of current regulatory practices, especially those in North America. Food issues, she maintained, should always be framed as part of an environmental philosophy, which she called "a covenant with Nature," where specific matters such as biodiversity protection, sustainable agriculture, and the interests of small farmers are always on the table in trade-related discussions. Rob Falkner, from the University of Kent, summed up a good deal of the thematic unity under Section 2 when he referred

[5]Perhaps it is too early to refer to the "post-BSE era": Charles Bremner (*The London Times*), "France falls victim to mad cow panic," *The Ottawa Citizen*, 10 November 2000, p. A7.

to the accusation, leveled against Europeans by the United States, that the "so-called" precautionary principle was simply an excuse for the Europeans' disregard of "appropriate" risk-management decision-making. Falkner observed that the current opposition between Europe and North America on food issues reflects the fact that, in the EU, a multidimensional stakeholder-based political culture stands in sharp contrast to the top-down, risk-based, joint corporate/government consensus operative in North America. In this context, the various "takes" on the PP have *strategic* meaning in policy circles.

Conclusions to Section 2

- There is an ongoing, structural problem in Western countries about how to "integrate" science-based regulatory processes with public perceptions and consumer sovereignty.

- The increasing attention to labelling of GM foods and ingredients is one of the best illustrations of the gap between the North American risk managers, who have never accepted the rationale for any labelling, and most of the rest of the world, which is now trying to figure out how to do labelling in a way that actually assists consumers in expressing their preferences.

- The proposed European Food Authority appears to be heading in the direction of separating responsibilities for *risk assessment and risk communication* from those for *risk management.*

- Risk Assessment and Risk Communication: independent, credible science and assessment protocols; independent public dialogue resources for engaging citizens and raising the level of understanding.

  Should be divided from

  Risk Management
  Incorporating risk assessment and public confidence within the context of other factors.

General Conclusion to the Discussions

Our inherited regulatory structures do not permit us to achieve a unified perspective on the overall environmental and other consequences of different technologies in agriculture, because they evaluate risk/benefit trade-offs only within each technology, and not across different technologies. (Legal and other constraints are relevant here.) This is a good reason for also looking to independent assessment bodies for comparative risk-benefit assessments.