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Health risk perception and spatial analysis
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Francesca Bray, abstract, 1 August 2003

"Spatial analysis and the perception of risks associated with genetically modified organisms"

In recent research I have tried to analyse the very different attitudes of the general public in the United States and in other developed economies towards the risks associated with genetically modified crops and foods.

It is notable that in most European Union countries, as well as Japan and New Zealand (to mention just two other rich nations where public opposition to GMOs has been powerfully expressed), the general public have opposed genetically modified foods and crops (though not GM pharmaceuticals) on a number of grounds, ranging from health concerns, through environmental fears, to political principles. But the most effective weapon in the anti-GM coalition's arsenal, in all cases, has been the refusal to consume GM products. Coordinated campaigns to ban GM foods by women's groups, consumer associations, local councils and hospitals, as well as individuals lobbying supermarket chains, were the catalyst in reconfiguring government policies and industry tactics in these nations. While the anti-GM coalitions derive much of their energy and appeal from the fact that they are international and socially diverse, linking Japanese housewives' groups with Karnataka peasant rice-farmers, French cheese-makers and Peruvian microbiologists, it is action at the national level that has so far proved most effective in affecting policy and legislation. (This includes the EU where changes in Union policy towards GMOs were stimulated by a perception that public opposition was intense in a majority of the member nations.)

Whatever the wider reasons (environmental, altermondialiste) the various groups in these loose-strung coalitions may have had for opposing GMOs, the central justification which they offered for these highly effective campaigns was that GMOs have been insufficiently tested for human health risks. Not only does the prospect of health risks unite a much wider spectrum of individuals and organisations than any other dimension of risk associated with GMOs. It is also important that in the current neoliberal orthodoxy, human health risks are the one factor which all parties involved in the GMO wars accept as a legitimate concern, whether it be the World Trade Organisation, the USDA, Monsanto or Greenpeace. Individual nations like Thailand or groupings like the European Union are currently obliged to express all their reservations about approving the cultivation or importation of GMOs in terms of health risks in order to get any kind of serious hearing in US or supranational institutions. Furthermore, in this kind of calculus "health risks" themselves are very narrowly construed, largely in terms of cancer. (If

hunger, poverty and social inequality were treated as health risks, then the Codex Alimentarius would be transformed into a revolutionary weapon.)

One of the principal factors preventing the collapse of the GM industry through its dramatic ups and downs over the last decade has been the lack of any kind of opposition by US consumers. As more and more products on regular sale in US supermarkets incorporate GM ingredients, not only has the US consumer market provided a secure and expanding outlet for GM corporations and for farmers growing GM crops, but the acceptance of GM foods by the US public, and the ostensible absence of any negative impact on their health, serve as an increasingly powerful justification, aggressively pushed by the US administration as well as the GM industry, to argue that there is no basis for opposition to or control of these products.

In the United States, although several polls have shown that a large percentage (over 80%) of respondents would like in principle to see GM food products labelled so that they could make their own choice about whether or not to consume them, the general public is largely unaware of the ubiquity of GM ingredients in their foods, and efforts by organisations like Greenpeace, Cal-PIRG or the Union of Concerned Scientists to organise consumer pressure, for instance for more testing, better controls, or even labelling, have made little headway. One reason for the low level of opposition to the incorporation of GMOs into everyday life in the US appears to be the unusually high degree of trust in government regulatory bodies. Another is undoubtedly the role and structure of the media: unlike in Europe or Japan, in the US most of the information or opinions broadcast or printed on GMOs come directly from press releases given out by, or individuals paid by, the interested industries and institutions. A further factor is probably the technophilia characteristic of American society. Finally, although a couple of scandals (including StarLink) appeared likely at the time to raise the consciousness of the public about possible health risks, it is true that so far no accepted evidence for such risks has been produced.

In spatial terms, I have hitherto thought about GMOs in terms of (1) global networks and concentrations (biotech industries concentrated in the US and Europe; regulatory bodies ditto; opponents scattered through North and South with key figures circulating to mobilise action; the role of the internet in bridging geographical barriers to cooperation ...). (2) The interplay between national and supranational action and reaction (consumer opposition coordinated within a nation; the positions taken by national media; the often ambivalent place of biotechnology in national government policy; questions of the rights of nations or blocs to protect their own populations in the face of regulations imposed by supranational organisations ...).

My question to my colleagues here would be: what new kinds of question about GMO issues would spatial analysis of the kind that you do allow me to ask?