

Blood scandal and *E. coli* raise questions in Japan

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REASONS

All at sea? Brent Spar pointed up differences over policy based on 'hard' science alone.

argue that government policy on topics such as climate change should be based only on proven scientific 'fact'.

But others, such as Brian Wynne, an expert on risk at the University of Lancaster, argue that attempts to require standard risk management techniques across all sectors of government can ignore important differences in the social and political contexts in which risks arise. If the BSE crisis and other events of 1996 have revealed how not to do things, 1997 will be watched closely to see how widely the lessons have been learnt.

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more, problems tend to be addressed in a traditional consensus-seeking manner, whereby agreement is sought through discussions and compromise. Attempts to use this approach with genetic engineering have met little success.

One example is an exercise in 'participatory risk assessment' on the genetic engineering of plants carried out from 1991 to 1993 and involving 50 individuals from environmental groups, industry, regulatory authorities and the scientific community. The meetings were organized by Wolfgang van den Daele, a sociologist at Berlin's Science Centre for Social Research.

But groups critical of genetic engineering withdrew before the last meeting because they were unhappy with the direction of the discussions, which meant that no consensus conclusions could be agreed. The talks had been leading to the conclusion that the central issue of the controversy was the political one of democratic control of new technologies rather than real risks. Critics did not want to see their objections on safety grounds being reduced to a political goal.

The failure of the consensus approach has put strain on attempts to bring public participation into risk-related decision-

making. Indeed, at a meeting in Bavaria early last year organized by Dechema, a group that supports the chemical industries, many supporters of genetic engineering argued that, with the 1990 regulations in place, they no longer needed to take account of the views of critics.

In 1993, the Bundestag, the German parliament, asked its technological assessment group, TAB (Büro für Technikfolgen-Abschätzung), to commission a full risk assessment of genetic technologies. TAB officials say that they are surprised that parliament has not called for a similar study on genetically-engineered foods, given the fierce level of public debate on the topic.

Last month, on its own initiative, it therefore commissioned a small study, coordinated by Gert Spelberg of the consumers' organization, Verbraucher Initiative.

Spelberg says that, perhaps as a result of van den Daele's exercise, the consumers' voice is now being heard. He points out that Germany led the controversial move to require detailed labelling of foods containing genetically modified products in European Union legislation that will come into effect this year (see *Nature* 384, 301; 1996).

Alison Abbott

his arrest on charges of wilful negligence resulting in death (see *Nature* 383, 6; 1996).

More bad light was thrown on medical science by the role of other scientists on the ministry's advisory committee. For example, it was reported that Yuichi Shiokawa, who headed the AIDS advisory committee after Abe, had rejected recognition of one of Abe's patients as Japan's first haemophilic AIDS victim in 1983. Two years later, he proposed a homosexual patient from his own hospital as Japan's first AIDS patient despite minimal evidence.

Exposure of the ways in which such decisions were made has led to an increase in the public's distrust of science. But the public still sees Abe and Shiokawa as exceptions. In contrast, others used the activities of these two to argue that there are serious defects in Japan's whole medical system.

The public row over the contaminated blood scandal was closely followed by the food poisoning of thousands of children by the O157 strain of *E. coli*. In this case, the public turned with concern to the government, scientists and the medical world for guidance and solutions. But no clear-cut answers emerged.

Preliminary DNA analysis suggested many possible sources of infection. But the public demanded more precise explanation. And Kan came under pressure to provide one. His ministry — using only circumstantial evidence — announced that radish sprouts (*kaiware daikon*) in school lunches were the likely source of *E. coli* contamination (see *Nature* 382, 567; 1996).

The announcement brought radish farmers throughout Japan close to the brink of financial ruin. But it was never established that the radish sprouts were indeed a source of the mass infection. And Kan was subsequently forced to eat radish sprouts in public to restore confidence.

To many, the blood scandal and the *E. coli* food poisoning have underlined a basic lack of understanding among the Japanese public of the limitations of science. Some feel that the experience of the Kobe earthquake disaster of 1995 — which the experts failed to predict — should have altered this attitude. But the Japanese still look to science for black-and-white answers.

Some popular politicians such as Kan are making moves towards greater public involvement in decision-making on issues such as health and nuclear power.

But many Japanese scientists feel that, as long as public awareness and understanding of science remains limited, such moves are unlikely on their own to lead to better management of science-related risks.

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