RISK MANAGEMENT AND EXPERTISE: Germany: "Elite precaution" alongside continued public opposition

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Summary: Germany is the EU member state with the most difficult situation (besides Austria) for marketing genetically modified (GM) crops and food. At the same time, it shows the least administrative effort to respond to the reasons for this situation - public suspicion and protest. Regulators advocate specific precaution-related measures, including market-stage monitoring; these measures, however, do not relate to the primary demands of critics and opponents. The administration's claim to prioritize scientific evidence over politics constructs the administration and the public as two separate worlds without real mediation. This conflicts with the ever-growing demands for public participation. Participation in a broader sense, however, is not dependent on formal opportunities. In this conflict, NGOs bring up issues of democracy, transparency and precaution through public mobilization. This strategy results in an anticipated consumer boycott and thereby a commercial blockage of GM products. These dynamics can be analysed as "reflexive modernization", which implies greater public aversion to externally imposed risks. The politico-administrative system responds with a legalistic-scientistic approach in order to increase safety but without participatory measures to overcome predictive uncertainty and value conflicts. Environmental and consumer protest has led the technology providers to revise their political strategies in the biotechnology conflict. Thus, in Germany reflexive modernization takes place without reflexive politics.

Keywords: reflexive modernization, precaution, GM crops and food, commercialisation, anticipated consumer boycott.

ARTICLE

The German political debate about modern biotechnology, more than a decade old, is still characterized by its intensity and polarization. The recession after German reunification, and the growing prominence of economic affairs in the early 1990s, detracted attention somewhat from the biotechnology issue, at least in official circles. Outside the formal political arena, however, modern biotechnology has remained a prominent issue. Widespread protests by NGOs and local groups about field trials continued.

This essay analyses the new stage that the biotechnology conflict has reached with the commercial stage of GM crops in the latter 1990s. First, the essay describes the tensions between public opposition and the promotional policy of official politics. It then describes how regulators resort to a legalistic-scientistic approach. Then, the essay analyses NGOs' effects on commercialisation and the

political strategy of the technology providers, the agro-chemical industry. Finally, it discusses the conflicts in terms of reflexive modernization.

NGOs and public opinion *vs* official politics

As in other EU member states, commercialisation became a public issue in Germany when GM food approached the consumer markets. Public debate erupted with the imports from the USA of GM soyabean in autumn 1996. Above all, the refusal of the US agro-food system to segregate conventional and GM soyabean provoked massive criticism and attracted broad media attention. Since then, the biotechnology industry has faced a manifestly unfavorable climate: intensified NGO protest with Greenpeace Germany entering the scene; increase of mass-media coverage dominated by conflictual risk/benefit reporting [9]; and a continuing highly sceptical public stance, as displayed by opinion surveys on GM crops and food [5, 9].

The main agents of public controversy are environmental organizations which have high trust rates in the German public [10]. While they continue attempts to delay or obstruct field trials of GM crops, the focus has shifted to the food market. Germany's Federation for Environment and Nature Conservation (BUND) and Greenpeace Germany engage in information campaigns and publicity-oriented, confrontational protest activities. Concerns about environmental issues and food safety build the basis of protest and underlie the "minimum-demand" for comprehensive labelling, a prerequisite for informed consumer choice and a market for non-GM foods.

This consumer-related strategy, designed to keep the GM food market as restricted as possible, may be understood as a "rational" response to a politico-administrative system which is (at the federal level) relatively closed to environmental pressure groups and increasingly shows a political bias in favor of commercialisation.

Through opinion surveys and protest activities, the public expresses continued scepticism about modern biotechnology, yet both big political parties have increasingly expressed their general support for the new technology on the grounds of its allegedly high economic potential. The economic linkage is typically designed as a "rhetorical upgrading" of the technology in general, not as an endorsement of specific applications such as GM crops and food. Indeed, it would be difficult to make a link, for example, between GM oilseed rape and national competitiveness.

The Christian Democratic Union and the Social Democratic Party see modern biotechnology as a key technology comparable to microelectronics and information and communication technologies. In the face of the competitive pressures of a globalizing economy, and ever-growing unemployment, the economic framing of modern biotechnology is directed at presenting a *Hoffnungsträger* - *i.e.*, a promising tool for innovation, a stable job market and international competitiveness. The portrayal of modern biotechnology as a powerful weapon in the global struggle over jobs and markets is basically wishful thinking [4]. Nevertheless this approach has continued under the new government coalition, formed by the Social Democratic Party and the Green Party (from 1982 to 1998, the German government was a coalition between the Christian Democrats and the Liberals). It forms part of the long-standing prominent debate about Germany as a business location - an imperative fostered throughout the 1990s by German re-unification, economic recession, and growing unemployment.

The regulatory approach of the Health Ministry and the Genetics/Genetic Engineering Department of the Robert Koch-Institut (RKI), which is assigned the role of the national Competent Authority (CA) for the approval of GMO releases, has to be seen against the background of this mainly positive attitude of official politics towards commercial biotechnology. (As regards GM food, responsibility is shared between RKI and the food safety agency of the Health Ministry, BgVV, but so far, Germany lacks any practical experience in acting as an EU-level rapporteur for GM food products.)

Elite precaution

RKI's official policy is to keep out of, and remain uninfluenced by, public debate. This attitude of political independence typifies the German administration in environmental conflicts, at least at the Federal level. Administrative decisions are officially justified as being based on the law and supposedly "objective" scientific expertise, not on political influence, mediation and compromise [6].

In the RKI's basic approach, though not necessarily its decision making, political bias is indicated by its participation in the Gesprächskreis Grüne Gentechnik ("talks circle on Green Genetic Engineering"). This is a broad-based lobby group including mainly actors with a vested interest in commercial crop and food biotechnology (see below).

The Federal Environmental Agency (UBA), which devotes more attention to ecological issues and has less influence than the RKI in the approval procedure, does not form part of the GGG initiative; nor are environmental, consumer and other NGOs members. The institutional tensions between the RKI and UBA over environmental precaution, which could open up opportunities for influence of environmental pressure groups, are not aired publicly but occur internally, behind closed doors. Although the UBA is less reluctant than the RKI to become involved in public debate, it avoids open criticism of RKI's position or that of other administrative bodies involved in the approval procedures.

Generally, inter-ministerial communication and co-operation appears to work well. The question of whether and how to organize a combined evaluation of herbicide-tolerant crops and complementary herbicides, for example, has been settled by an inter-ministerial agreement among the RKI, UBA, BgVV, the Federal Biological Research Centre for Agriculture and Forestry (BBA), and the Federal Office for Plant Varieties (BSA). It seems reasonable to assume that internal understanding among the administrative bodies involved in the approval procedures restricts rather than opens possibilities for public influence. Inter-ministerial communication and co-operation closes regulatory gaps which otherwise could give NGOs the opportunity to intervene. The administrative debate is internal, beyond public scrutiny.

While it is difficult to judge whether protest really has no influence at all on the RKI's market approval statements and decisions, there is no obvious accommodation. The CA interprets the Deliberate Release Directive as requiring assessment only of narrowly-defined "adverse effects". It regards present agricultural practices as a normative baseline for evaluating environmental effects of GM crops. In the RKI's view, the products already approved have no plausible effects which would worsen the present situation. For example, the CA judged that it would be acceptable if glufosinate became ineffective for controlling weeds in oilseed rape, through the inadvertent spread of glufosinate-tolerance genes. The CA regards the development of resistance as a classic agronomic-

economic problem, not as environmental harm under the law. By contrast to the CA, NGOs request evidence that a GM crop would provide an environmental improvement over the present situation and would not preclude any potential options for sustainable agriculture.

The RKI's "precautionary approach" thus basically differs from that of its critics by its rather narrow interpretation of the relevant Directive, which excludes the broader environmental concerns underlying the concepts of sustainable agriculture and biodiversity. At the same time, it advocates specific precaution-related measures. These measures are not based on the Deliberate Release Directive but rather take the form of general, optional advice.

They include, first, the establishment of a gene register. (On the initiative of RKI, the possibility to establish such a register was included in EC Decision 97/35, amending Directive 90/220 and requiring labelling of all GM seeds as genetically modified.) The register is planned as a collection of information on transgenes released into the general "gene pool". As one rationale, unintended and unpredictable interactions between different genetic modifications could cause the loss of the special use of a GM product or could even reproduce hazards which the original genetic modification was to remove (for example, by re-activation of the production of an unwanted substance such as an allergen). The information provided by the gene register is meant to provide the basis for a technology use which takes these possible interactions into account (interview, RKI, 16.10.98).

The same idea of risk precaution and preservation of product use underlies the RKI's second measure, advising applicants to restrict gene inserts to "genes of interest" (interview, RKI, 15.04.98). The general idea behind this measure is that limiting inserted genes to those which are essential to the intended transformation reduces the probability of interactions, which will increase with the number of genes introduced into the general gene pool. More specifically, the RKI advises that GM crops should not contain marker genes inducing resistances to therapeutically important classes of antibiotics or to herbicides, in order to prevent inadvertent spread of antibiotic- and herbicide resistance in cultivating GM crops.

A third measure is market-stage monitoring. In the RKI's view, the knowledge gained from this measure could serve as a basis for future risk assessments and more complex approval decisions. For this reason, the RKI advocates market-stage monitoring for herbicide-tolerant oilseed rape. The crop's hybridization capacity provides a special opportunity to detect readily measurable effects of a single-gene trait and thus facilitates "learning for the future" [3]. While NGOs cite inadvertent hyridization as a risk, the German CA welcomes such an effect as beneficial for advancing scientific knowledge.

These three precaution-related measures may be responses to to domestic pressures. However, they do not relate to the primary demands of critics and opponents. Labelling, for example, is not a special concern of the RKI. It considers comprehensive labelling to be an EU measure that is not scientifically grounded but "merely" responds to political constraints. Perhaps the measures are more closely linked to precaution-related debates at EU level than to domestic debates. The interviews with the RKI suggest that the Article 21 committee, which provides the forum of national representation in the EU approval procedure, is used by the CA as an opportunity to gain a reputation for science-based precaution, whether related to safety or economic advantage.

Blockage of GM food market

Apparently the retail sector and food processing industry expect that negative public attitudes - repeatedly displayed in opinion surveys and NGO mobilization - will translate into a widespread consumer refusal to buy GM products. Moreover, consumers may even boycott the products of any retailers selling such products. For this reason, the retail sector, which is closest to the individual consumer and thus more directly confronted with consumer demands, seeks supplies of non-GM products.

Six of the seven leading German companies in the food retail sector have publicly undertaken to not use genetically modified material for their own-brand products (these are Tengelmann, Spar, Lidl, Rewe, Edeka and Aldi [11]). Even before the EC labelling Regulation 1139/98 for GM soya and maize came into force in September 1998, no "GM"-labelled products could be found on supermarket shelves. Spot-checks by Greenpeace, as well as spot-checks carried out by the responsible Länder control agencies, have shown that products containing GM soya have been marginal on the German market.

These pressures from the retail sector has induced the food industry, itself vulnerable to stigmatization and boycott, to avoid the use of GM material as far as possible. To avoid GM soya, it has used conventional soya still in stock, supply contracts for non-GM raw material, and substitutions (for example, rape or sunflower oil intsead of soyabean oil). Food industry circles fear that the first to market GM products will have to pay the price of lower sales and negative public attention: consequently, "nobody wants to be the first". Nestlé Germany took the risk of the "first-mover-disadvantage" but after one year withdrew its first such product - "Butterfinger", a chocolate bar labelled as produced from "genetically modified maize"; according to company information, the product did not sell well.

In sum, given the anticipated consumer refusal and the defensive attitude of food retailers, who act, so to speak, as the "final gate" to the consumer market, GM food faces a "quasi blockage" in Germany [2].

Industry alliances and public accommodation

In response to this blockage, the technology providers have increased efforts at public relations. As more indirect way to improve the commercial climate, they have strictly complied with regulatory demands and administrative advice. This "policy of accommodation" contrasts with the deregulatory pressures of the mid-1990s [6]. Such pressures still exist, but they have lost in importance.

The agro-chemical industry now acknowledges a greater dependence on regulatory procedures as a means to gain public acceptance. Apparently, it puts considerable effort into comprehensive compliance with regulatory demands as well as into accommodation of administrative advice which goes beyond obligatory requirements. On request of the Consumer Affairs Directorate-General of the European Commission, AgrEvo complemented its application documents for GM oilseed rape with a proposal for a monitoring programme. As an AgrEvo representative puts it: "As an applicant, one clutches at every straw" (interview, AgrEvo, 20.04.98).

Furthermore, commercialization problems have induced the technology providers to join forces with the other economic sectors involved. to share information and co-ordinate lobbying activity. On the initiative of Novartis, the Gesprächskreis Grüne Gentechnik (GGG) was founded in February 1997. The "talks circle" sees itself as a confidential expert group (interview, GGG, 08.04.98), yet it is really a broad-based lobby group supported by the German CA.

The RKI is one participant of the co-operative endeavour - which includes major associations of the crop/feed/food marketing chain, one of the biggest food enterprises, and the major technology providers. While Monsanto initially did not participate, the company now takes an active part in the group (interview, GGG, 08.04.98). Presumably, its participation has been used as an opportunity to bring the company into line with the more sensitive European/German approach to commercialization.

The GGG discusses issues of introducing, processing and selling genetically modified crops; it also aims to exchange information, experience and opinions (especially about commercial practices and supply sources) and so to reach joint lobbying positions. Extensive public relations, the policy of regulatory accommodation, and the co-operative endeavour in lobbying indicate that the new NGO strategies have brought great pressure to bear on the technology providers.

Discussion

According to the theory of reflexive modernization [1], modern societies face new kinds of hazards which are not perceptible to the human senses, not clearly definable and not insurable. In response, regulations have been established in the field of modern biotechnology since the 1970s in order to elaborate the Precautionary Principle - *i.e*. to take action before a certain kind of damage has ever happened. This effort aims to foresee and avoid negative effects which have still to be defined within the process of regulation itself [7, 8]. Indeed, by elaborating Precautionary Principle, cognitive uncertainty and normative ambiguity necessarily increase [7].

As in other EU countries, such regulation was also implemented in Germany, but through an elite precaution, within a traditional administrative setting which follows a science-based legalistic approach. Within this *Rechtsstaat*-model the Precautionary Principle is seen exclusively as a problem of knowledge, thus ignoring the socio-political dimension of private interest and normative bias. Consistent with this (mis-) conception, the administration views and portrays industry officers as *experts*, rather than as representatives of an interest group. By contrast, it regards contacts with the public or NGOs as unnecessary because no new (scientific) knowledge is gained from these (allegedly) *lay persons*. Thus by claiming to prioritize scientific evidence and legal guidance over politics, the administration constructs the decision-making process and public debate as two separate worlds without real mediation.

This *elite precaution* neglects that perceptions of "risk" and "safety" depend on agency, participation and trust - that people accept uncertainty and risk only if they feel actively involved and treated with respect [12]. As a price for this paternalism, the administration must portray decisions as "safe", as if the absence of risks could be positively shown [6]. Consequently, Germany appears as the EU member state with the most difficult marketing situation (besides Austria) and the least

administrative effort to respond to the reasons for this situation - public suspicion and protest. The selectivity of elite precaution conflicts with the ever-growing demands for participation from NGOs, local groups, and citizens, who want to have a say in political decisions about a contested technology.

Their protest activity has some effect. Given the low consumer acceptance, it has led to an "anticipated" consumer boycott and commercial blockage of GM food. This in turn has led the technology providers, the agrochemical industry, to revise their political strategies in the biotechnology conflict. They increasingly have sought compliance with administrative demands and have even undertaken voluntary measures as a means to gain public trust and acceptance.

In conclusion, in Germany reflexive modernization takes place without reflexive politics. The need for precaution is strongly accepted within society, through a more far-reaching cognitive anticipation of long-term effects and complex cause-effect pathways. But none of the opposed parties publicly acknowledges the necessarily linked uncertainties and ambiguities of the Precautionary Principle.

Additionally, economic and environmental discourses seldom meet. Economic and environmental interests are mostly seen as incompatible. Consequently, the conflict is manifest as contradictory certainties (of "no risk" *versus* "risk") and non-negotiable values ("growth" *versus* "nature"). In this situation, the administration invokes "science" and "law" to portray its decisions as apolitical and neutral. It avoids openly defending its political discretion and mediating between the conflicting positions.

This situation contrasts especially with countries like Denmark and the Netherlands. where the conflict features rhetorics of contradictory uncertainties. These allow for more participation and compromise, based on the insight that negative consequences of present decisions will and can be accepted only when they are discussed openly and under broad public representation. This does not mean that reflexive politics are necessarily more critical of biotechnology. Instead, it means that the decisions are more responsive to the real fears and wishes of the people.

In Germany, the new coalition government has not much changed the previous approach. The coalition agreement aims to change the administrative structure of the Competent Authority, and within the Health Ministry a Green head of department seeks to implement more political accountability for this main regulatory body. But these efforts are countered by the dominant mood of the Social Democrats. Both "Traditionalists" and "Neo-Liberals" resort to conventional modernization in seeing genetic engineering as a "key technology" to provide national wealth and jobs. They see "Green romance" as a typical German manifestation of a cultural lag behind allegedly more modern societies.

The present turmoils in biotechnology policy in France and the United Kingdom, however, seem to show that this critical stance is not a peculiarity of German-speaking countries. According to the theory of reflexive modernization, late modernity has to be interpreted as a more complex and ambivalent process; high technology and conventional modernization coexist, as well as conflict, with post-industrial culturalisation. In this perspective, backwardness exists if there are *no* public controversies over the introduction of new technologies.

REFERENCES

1. BECK U (1986). *Risikogesellschaft - Auf dem Weg in eine andere Moderne*. Frankfurt/M.: Suhrkamp.

2. BEHRENS M, MEYER-STUMBORG S, SIMONIS G (1997). *Gen food. Einführung und Verbreitung, Konflikte und Gestaltungsmöglichkeiten*. Berlin: Sigma.

3. BUHK H-J (1997). Künftige Anforderungen an die landwirtschaftliche Praxis und der erforderliche Regelungsbedarf zur Nutzung der Gentechnik und zur Risikovorsorge. In: F.D.P.-Fraktion im Schleswig-Holsteinischen Landtag (ed), *Gentechnik in der Landwirtschaft. Chancen und Nutzen* (Dokumentation der Anhörung der F.D.P.-Fraktion im Schleswig-Holsteinischen Landtag), pp. 8-13. Kiel: F.D.P.

4. DOLATA U (1997). Rekombinante Geschäfte. *Gen-Ethischer Informationsdienst*, 13(118): 14-7.

5. EUROPEAN COMMISSION (1997). *Europeans and Modern Opinions about Biotechnology: Eurobarometer 46.1*. Brussels, Directorate General XII, Science, Research and Development.

6. GILL B (1996). Germany: splicing genes, splitting society. *Science & Public Policy*, 23(3): 175-82.

7. GILL B (1998). Ungewißheit, administrative Entscheidung und Demokratie - die neuen Anforderungen durch die Gentechnik. *Oesterreichische Zeitschrift für Politikwissenschaft*, 27: 29-45.

8. GILL B (1999). Reflexive Modernisierung und technisch-industriell erzeugte Umweltprobleme. Ein Rekonstruktionsversuch in präzisierender Absicht. *Zeitschrift für Soziologie*, 28(3): 182-96.

9. HAMPEL J, RENN O (eds) (1998). *Kurzfassung der Ergebnisse des Verbundprojekts "Chancen und Risiken der Gentechnik aus Sicht der Öffentlichkeit"*. Stuttgart: Akademie für Technikfolgenabschätzung in Baden-Württemberg.

10. HAMPEL J, RUHRMANN G, KOHRING M, GOERKE A (1998). Germany. In: DURANT J *et al*. (eds). *Biotechnology in the Public Sphere. A European Sourcebook*. London: Science Museum: 63-76.

11. RIEWENHERM S (1999). Diese Suppe ess ich nicht... *Gen-ethischer Informationsdienst*, 135/136: 30-1.

12. WYNNE B (1994). Public Understanding of Science. In: JASANOFF S, MARKLE GE, PETERSEN JC, PINCH T (eds). *Handbook of Science and Technology Studies*, Thousand Oaks, CA: Sage: 361-88.