



European Commission



SIXTH FRAMEWORK  
PROGRAMME



## **Participatory Science and Scientific Participation**

**The role of Civil Society Organizations  
in decision-making about novel  
developments in biotechnologies**

**FINAL REPORT**

## **PARTICIPATION IN SCIENCE AND SCIENTIFIC PARTICIPATION. COUNTRY REPORT: GERMANY**

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### **1. A very short history of public participation in the field of GMOs**

Germans started debating biotechnology with respect to other European countries relatively early. So did various institutional attempts to involve the public in the debate on GMOs. After a period of optimistic outlook to novel biotechnologies, starting from the late 1980s the debate took a critical turn (Gottweis 1998; Hampel 1998; Marris et al. 2001). CSOs played an important role in this respect by rising awareness of the ecological, social and ethical risks linked to biotechnologies. The parliamentary commission “Chances and Risks of Gene Technology” (1984-86) was accompanied and followed by intense political activities, remarkable media coverage and public debate. Specialised NGOs, in particular Greenpeace, took a leading role in these debates, especially in the campaign against GMO products. Towards the end of the 1990s consumer associations became also more vocal in their opposition to GMOs.

At institutional level, various initiatives were taken with the aim to establish specialised communicative strategies for addressing the controversy on novel biotechnological applications. However, in several cases the interaction between CSOs and both political institutions and scientists has proven difficult.

To give some examples, from 1991 to 1993 the project “Discursive Procedure for the Technology Assessment of Crop Plants with Genetically Engineered Herbicide resistance” was organised by the Wissenschaftszentrum Berlin in cooperation with various universities and research centres, and financed by the Ministry for Research and Technology. In 1995 a Citizen Forum on Biotechnology and Genetic engineering was organised by the Academy of Technological Assessment in Baden-Württemberg, with the aim to assess the potentialities of the new technologies for the German

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industry. Namely, a part of this project gathered representatives of various interest groups in a common forum. Despite the explicit Habermasian inspiration, in both these occasions the outcome in term of participation was rather disappointing, according to most observers (B. Gill, 1993, 1996; Skorupinski and Ott 2000, Bora and Van Daele 1997). The environmental organisations involved withdraw from the project, with the motivation that these projects suffered from a deficit of democratic structure. From the point of view of the institutions, instead of a failure of CSOs the withdrawals showed the “defeat” and inevitability of accepting the rules. In fact, what was contested by CSOs was that stakeholders were invited to discuss risks and benefits of particular technologies but not to call into question those technologies in themselves, asking whether alternative methods and technologies could provide better solutions to the problems that government and industry proposed to address by means of new biotechnological applications (van den Daele, 1994, 1995: 84). CSOs were asking to be able to set the terms of the debate, rather than simply being asked to agree or disagree with scientists (Wynne 2002). Thus the involved CSOs found themselves in a 'participation trap' (Levidow 2001) and only by withdrawing they were able to “devote greater resources to public protest and preserve their credibility with NGO members” (B.Gill, 1993: 81-82).

The perceived need of societal mediation on the issue of biotechnologies motivated the minister for the Environment Renate Künast (Green Party) to invite 30 organisations and associations to a forum on green genetic biotechnologies, the Diskurs Grüne Gentechnik (Dec.2001-Sept.2002). Given the heterogeneity of the invited groups, and their rival claims, setting the agenda in a logically coherent structure and drawing a list of experts to be invited, resulted very difficult (Hammerbacher 2003). Five topics or ‘headings’ for discussion were decided by the steering committee (representing various organisations): maintenance of biodiversity; potential for innovation and future scenarios of green gene technology; benefits and risks for consumers and producers; preconditions, chances and consequences of renunciation of green gene technology; information, public participation and freedom of choice. Following the proposal of GM sceptics (who were mainly interested in breaking what they perceived as the hegemony of mainstream science), the experts were recruited according to a pro/contra proportional principle. Thus, the appointed experts reproduced the polarised positions of the organisations invited. The outcome was that consensual decisions were reached only on some very general and abstract points, whilst on more substantial matters the deep divisions could not be overcome. In their feedbacks, the organisations involved criticised the process, but the judgements on the outcomes were much less enthusiastic. The parties often blamed their opponents for their unwillingness to learn and consider the interests of the public. Thus, in Germany, despite institutional efforts, dialogue and mediation among the parties remains difficult.

## 2. Methodology

The data hereby presented were collected through 8 written questionnaires and 11 telephone interviews with representatives of various CSOs in Germany, plus 3 written questionnaires and 1 interview from representatives of CSOs in Austria and 2 written questionnaire with representatives of CSOs in Switzerland. 68 CSOs were identified and contacted. These included mainly environmentalist organisations, unions, church organisations, organisations working for social justice. The large majority the respondents is engaged in a campaign against GMOs, or consider themselves opponents of GMOs.

Refusals to answer were motivated by various factors. One repeated answer was that CSOs have little personnel and too much work, with no time to spend in compiling questionnaires. There is a strenuous competition for funding, and the complaint that we are paid to do surveys (whilst they are struggling for every hour work) is rather common. Several CSOs are rather cynical about research on CSOs, especially coming from the EC. On the one hand, they appreciate that the EC sponsors the projects conducted by CSOs. On the other hand, they are suspicious of the Commission's aims, fearing that these may run against their interests and damage their reputation.

All CSOs that accepted the interview received the written questionnaire in advance, and were offered the opportunity to revise and amend the interview transcript.

Concerning our questions, several CSOs found the questionnaire quite hard and too theoretical. Some complained that, being open, required too long time; others appreciated that the questionnaire was "open" as too often the replies suggested in closed questionnaire presuppose too much and do not leave space to the respondents to express their actual views. Several of the contacted people criticized the sort of questions included in our list, as they did not match the work and priorities of their organisations. In particular, they criticized that we focussed on GMOs rather than on viable alternatives to these techniques. Others observed that tackling the debate on GMOs as a matter of participation in science is misleading. Since they are interested in the debate insofar it is mainly a political debate (see section 4).

Some of the contacted people promised us an interview, but when they discussed the issues with their organisation they could not find agreement on how to answer (and in some cases on whether to answer at all), so that in the end they declined the invitation to an interview. Note that several experts active in the GMO debate work for several organisations, and seem to have quite a close network. In giving answers (or in their decision not to reply) one important consideration was how their answers would be regarded by the relevant community, how representative their opinion could be from the position of various organisations they work for, the effect on the wider debate that their answers may have. Several respondents decided to remain anonymous. One interviewee refused that quotes from his interview will be used in this report and one conceded to quote just a selection of the interview transcript. All this suggests that among CSO staff and activists, there is a lot of caution in exposing themselves, their ideas and their strategies.

In particular, German CSOs found problematic to respond to question no. 4 and 5 (What methods have been effective in achieving these aims? What methods have been ineffective and why?), which they found too probing into the work of CSOs and aimed at revealing and making public strategies that are better protected.

For this reason, we have chosen to conduct some additional interviews in Switzerland and Austria, on which our in depth study were based. For the purpose of analysis the interviews were transcribed and selected passages were translated into English trying to preserve the colloquial style used in the oral interview. Some quotations are reported below as a mean of example. However, many important insights were collected through the interview and this report cannot do justice to all of them. We have chosen to name the interviewees that did not expressed the wish to remain anonymous using their name and organisation, whilst the others are indicated simply as 'anonymous'.

	AUS	DE	SUI
<b>CSOs contacted</b>	5	59	4
<b>Written questionnaires received</b>	3	8	
<b>Interviews Conducted and transcribed</b>	1	11	2
<b>No answer</b>	1	40	2

### 3. Main Goals and Objectives of CSOs

Since “there is insufficient public awareness of GMOs and the public is underrepresented in institutional arenas (...)”, (Jens Karg, Global 2000), the majority of the respondents named informing the citizens and raising their awareness of GMOs as the main goals of their organisations. To do this they use different methods ranging from simple flyers to public hearings and open discussions with scientists.

Several CSOs also considered the exertion of influence on political decision making as a very important goal. In particular their role as representatives of consumers and farmers gives them the opportunity to interact with the institution whilst representing part of the population. They often have institutional connections: “Actually we talk constantly and at different levels with parliamentarians and deputies. Often we are invited as experts to parliamentary groups, so that we have the opportunity to present our topics there”, (Steffi Ober, NABU). Interviewees stressed the importance of networking, organised citizenship and umbrella organisations in order to exert greater influence in political decision-making. Some remarked that CSOs can have an impact in the decision making before framework legislations are set. For example, in the case of GMOs, before regulations are established it is possible to include certain precautionary measures that very hardly can be taken into account once a more liberal regulation has been passed. For this reason, according to the respondents, organised public should intervene earlier in the political debate, before the legislative and regulative stage.

Another key objective of the organisations is that of proving that there are viable alternatives to GMOs. The CSOs interviewed were mostly critical of GMOs, and their main task is to show that they are dangerous, risky and ultimately unnecessary. They work to raise awareness among farmers, organise seminars and workshops, but also to promote studies on alternative techniques, for example on organic farming: “We have a very important role in the field of knowledge transfer. It is our task to process knowledge coming from applied research in order to offer guidance”, (Mareike<sub>4</sub>

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Jäger, Agridea Lindau). Initiatives such as the “GM free Regions” are regarded as very promising insofar they are based on working in cooperation with farmers themselves “The main point is each single farmer’s commitment, by which he obligates himself in a written contract to abstain from cultivating GM-seeds on his fields”, (anonymous).

A minority of CSOs consider civil disobedience as a mean to breach into the public debate and recall the institutions to their responsibilities. In the description of Jutta Sundermann of Initiative Gendreck weg!: “We decided for civil disobedience against genetic engineering in the field of agriculture as an emergency measure, and because of the escalating conflict in which politics neglects the interests of the citizens and together with conniving groups creates irreversible problems.” Legal work is of course necessary to assist the disobedient in their actions. Several other CSOs regard offering legal assistance in court cases against Biotech companies as an important task.

As we will see in the next section, it is interesting to note that, although many consider transparency a key value, only a minority of interviewed named ‘fostering transparency’ as one of their main goals/tasks as CSOs. This is probably because improving transparency is mainly regarded as a task for institutional actors.

#### **4. CSOs’ Definitions of “Participation in Science”**

Most of the interviewed CSOs do not have a high degree of reflection on the concept of ‘participation in science’. In fact, the reaction of several NGOs is simply that they care about practice, rather than theory. This was sometimes a reason to refuse taking part in our survey.

Others had difficulties to relate to the idea of lay people participating in science, not because they think it is not desirable, but because it is hardly achievable given the present circumstances:

“Participation of the average citizen in research planning is so far from reality that at first I answered all questions in the wrong way!”(Ruth Tippe, Kein Patent auf Leben).

Some others express straightforward cynicism on the idea of participation in science, which they perceive more a lip service to the idea of inclusion rather than the opportunity for meaningful contributions: “As to what is labelled ‘participation’ today, the patterns are already set in most cases. An “open day” organized once does not give you chances for fundamental criticism (...)”, (Jutta Sundermann, Initiative Gendreck weg!).

Transparency seems however to be a core concern, and this does not come as a surprise, being Germany the country where Greenpeace has brought the biotech company Monsanto in court in a battle for transparency concerning the GM maize MON 863 (Ferretti 2007): “As for me, the most important point is to foster transparency as much as possible. Involving the public works only by action and information, meaning by press and media. That is involving the public, in my opinion”, (Mareike Jäger, Agridea Lindau). In particular interviewees often see laboratories as places where many secrets are kept from the people. Always Mareike Jäger tells the story of a Swiss scientific institute: “...a few years ago they released some GMOs and of course came under cross fire and there were demonstrations and crowds in the streets. Nowadays you do no longer hear anything about what they are doing on the GM topic. I think in fact that they are carrying on with their research, but do not make it public because they cannot be bothered to be constantly challenged”

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and constrained in their work.” Instead, most interviewees agree that the public should be informed of what is going on in research:

“Participation would mean, to me, that the process is transparent from the beginning on, that science would not be conducted in an ivory tower, but that the research goals that are considered are publicly stated”, (Hans-Jürgen Wedemeyer, Bundesverband Reformhäuser).

When solicited by the interviewer, the most common comments about participation in science were:

i) participation in science requires informing citizens about the research agenda, and disclosing funding sources; ii) participation in science requires informing public decision with a plurality of expertise that takes into account minority opinions; iii) science behind closed doors (they referred in particular to product development) is always dangerous for the democratic process, and sometimes for public safety.

CSOs are quite divided on the question of where (i.e. at what level) participation in science is needed. Some, especially those whose main goal is information, are rather sceptical on the role that the public should/could play: “The public does not have the ability to gain the necessary expertise to face the industry on equal footing. Often information is publicly available, but not generally understandable”, and continues “From my point of view an involvement of the public only makes sense, if a minimum of expertise is existent. One of the main goals of the EU strategy for life sciences and biotechnology is to improve the information of the European consumer and to foster a science-based dialogue,” (Elisabeth Schulte, Biosicherheit).

Some suggested that the very point is that people should be involved in the political aspects, this is to say political uses of scientific data: “Why do you want to involve the public into the scientific process? It is important that the questions in science correspond to the actual questions in the political process. That is where influence must be exerted. Say, in order to do research on the flight range of pollen, I do not need the public. I need the public in order to discuss the results”, (anonymous) and again: “To sum up, I would challenge participation in science critically. Is the public interested in taking part in the scientific process or in the political one? I noticed that I have difficulties with the topic of science and participation. Of course, it is always important to discuss results afterwards, but in the process?” (anonymous).

“Concerning genetic engineering in the field of agriculture but also concerning other techniques, risk appraisal and engineering results assessment are the job of the scientists. Nobody else can do that, no NGO, nobody beside scientists can do it. But when it is about evaluating those techniques, the population is demanded. Here awareness training is needed”, (Wolfgang Schleicher, Verband katholisches Landvolk).

These actors pointed out that assimilating the discourse on GMOs to a scientific discourse is dangerous as it may assume that lay people can discuss on equal footing with scientist on scientific matter and thereby de-politicise the debate. Instead most CSOs aim at rising political awareness on these topics. They use mainly target campaigns and public demonstrations so as to address directly citizens and/or farmers and through this influence societal attitudes towards GMOs and their alternatives.

A minority of interviewees thought that lay people should be put in condition of better understanding what is going on in scientific research by literally entering in laboratories: “Awareness training, the dialogue with scientists and hands-on [experience] for lay people (i.e.:

being able to isolate DNA out of fruits and vegetables by oneself) makes science more vulnerable and less abstract”, (Brigitte Gschmeidler, Dialog Gentechnik).

Others focus on counter-expertise and suggest that, when given the opportunity, CSOs experts can make meaningful contributions at all stages of the research. They complained that in scientific settings CSOs are normally invited as audience. “I took part in public conferences as a listener only, not as a debater. I am not in demand there. They prefer remaining segregated”, (Ruth Tippe, Kein Patent auf Leben). Additionally the lack of funding is an important limit for CSOs, which have however lots of valuable expertise to offer: “(...) NGOs must be taken seriously and also financed. All these NGOs are living on the lowest level of income. They get involved despite their work is constantly under challenge, and despite being paid a misery. But they have a lot of expertise”, (Ruth Tippe, Kein Patent auf Leben). Some pointed out that public influence can be exercised only before the legislative and regulative framework is set. Another group of answers insist on the possibility of influencing the research agenda: “If there was an independent approach, I mean: without politics, economy and industry banding together, by outsourcing certain segments, the bigger part of the population, then you could speak of a honest participation.” (Inci Sieber, Nahrungskette).

The problem of the relationship of financing bodies and sciences emerges from the interviews as a fundamental issue. In general for CSOs, the main preoccupation is the relationship scientists-industry rather than scientists-government. Some CSOs have pointed out that scientists need money to support their research and the industry can provide this money; therefore it is difficult for the lay public to have an impact on the scientific agenda. The respondents pointed out that despite scientific projects are in part financed through public money, commercial actors are those which have the strongest interest, the resources and the power to influence the directions of scientific research: “Research is also an expression of very concrete material interests, its duty is not to please the citizens, but to assert material interests”, (Carsten Fritsch, BUND). And additionally “The public is not desired. Here the problem is that the one who pays also is the one who decides what will be on the research agenda. Though the public is concerned as a tax payer, it is definitely not called into question. And who has the money? Again, the industry, financing its projects with it. (...) Genetic engineering and its applications are primarily about economy and money. The guarantee for that are patents, and it doesn’t matter whether they are legitimate or not”, (Ruth Tippe, Kein Patent auf Leben). This has important consequences for public participation in science: despite good intentions the question of money impairs the attempts to involve the public in more genuine and critical ways: “The point is that the critical exposure of research techniques and aims always fails because of the question of money”, (anonymous).

Additionally, some have remarked, the interest of scientists are often different from the interest of the people. I.e. what is challenging and interesting from a purely scientific point of view, is not the same to what is interesting to the people that think mainly of science applications. Thus scientists often fail to understand what a problem from the point of view of citizens is:

“If [the citizens] do not have the scientific background, they will lack the basis to approach these questions. In my opinion, they might not be able to realize why it is important to research certain problems. But for a scientist this is not a problem. There is a research questions and that is it”, (Mareike Jäger, Agridea Lindau).

In conclusion, there is no unanimous definition of participation in science. However, the question of who is the relevant public emerges as an important one. The public are specialised CSOs that have a

lot of expertise, lay people, but also farmers and the elected representative of the people: “The public is also the state. The Federal Republic of Germany is a public affair...”, (anonymous).

All these actors can participate in different ways, and for this reason it is difficult to make generalised recommendations, as we’ll see in the next sections.

## 5. Main Factors Encouraging or Hindering Public Participation in Science

Probably the most important point emerging from the interviews - and that from what described in *section 1* seems to be a consequence of the German experience on participation - is that the debate on biotechnologies involves polarised systems of values and actors are rarely willing to accept compromises and mediation. For these reasons dialogue cannot always help: “There are theories concerning genetic engineering (...) which cannot be easily resolved by means of dialogue. These are systems of values. Dialogue can do relatively little about that”, (anonymous). Other interviewees point out that dialogue is normally hindered by the prevalence of material interests, as already noted in the previous section: “We need great public pressure on those who hold responsibility. Pure rational appeals prove very rarely successful, and this is because this conflict is about a lot of money and concrete interests”, (Jutta Sundermann, Initiative Gendreck weg!).

Some more optimistic views consider polling the different parties together in order to find viable solutions a good proposal, but rise doubts about the concrete forms that such settings for exchange could take:

“(…) what is also important is that the actual stakeholders come together. Those who are actually standing in the laboratory, those who conduct this process in practice and those who decide about the findings as well as those who afterwards give or deny authorisation for this or that product, and of course the population, that numerically amounts to the most important part. I think the question how they get together, this is at the moment the concrete obstacle”, (Michael Fleck, Kultursaat).

In general, the interviewees agree that strategies for participation should take into consideration what are the circumstances in which the various parties work. Formal equality cannot by itself guarantee equal access. Questions of time, power, money and expertise make the various parties unequal. In particular the industry is perceived to have the greatest power, tacitly accepted by the institutions, especially at European level, and echoed by the media. Institutionalised strategies for participation often overlook such inequality. See for example this comment: “(…) [I regard] the different public hearings which the different DGs put online as very problematic in term of participation, since they cost a lot of time. You must take your time and fill in questionnaires for hours. And it is not only one questionnaire, but several. We as NGOs do not have the necessary personnel to do it. But those who can make it, are the representatives of the industry. (...) And the result is a relatively distorted image, which depends on the organizations’ resources, and on whether they can claim to represent the public or not,” (Steffi Ober, NABU). To give another example, specialised CSOs may consider participation one of their main tasks, but farmers cannot be expected to be present in workshops, seminars and conferences: “If farmers do not participate in a more active way in research, this is because they cannot find the time,” (Martina Kiel, Regionale Landwirtschaft Münsterland e.V.).

Another important problem the interviewees have mentioned is that of language. Too often scientists talk in a way that is not accessible to lay people and farmers and are not interested in finding strategies for communicating with them, including understanding their perspectives and their demands on research. On the other hand, little institutional effort is put into translating the demand of people into research questions. Thus scientists are either closed in an ivory tower or conniving with the industry. The problem is “that nowadays science is too much in love with itself. Science has lost notice of what is the task assigned to it by the population. Science gets money from the citizens, tax payer’s money, but by now in fact works together with only a very small part of the population, namely with the industry, and fulfils its’ goals (...)”, (Inci Sieber, Nahrungskette).

Many interviewed CSOs regard counter-expertise as the best way to expose the fact that government appointed experts are biased towards the interests of the industry. However there cannot be counter expertise without funding:

“One party claims that everything is scientifically proven and that nothing can happen and the counter-party cannot give prove of the contrary as they cannot make scientific surveys or cannot pay”, (anonymous).

Interviewees regard the financing counter-expertise as a way to gain better objectivity on the problem linked to research objectives and technical applications. The reasons for this opinion may be the following:

„... if politicians would not be so grid-locked in their estimations and were maybe open way to finance also the opposition in order to get a more objective point of view, then the whole thing would look differently”, (anonymous).

Another important point, as already mentioned, is promoting transparency in science policy. According to CSOs, the public should be informed of what the ultimate goals of publicly funded research are, what interests are at stake, the risks that are involved. What generally happens instead is that the research agenda reflects agreements made behind closed doors. Even when the public is invited, it is rarely considered an interlocutor but an observer: “Institutionalised participation processes are not really open for public contributions (...)”, (Ruth Tippe, Kein Patent auf Leben) and more specifically: “The public is only asked to agree or to disagree with what scientists say, but is not really involved in the scientific process”, (Theodora Plate, Verbraucherzentrale Bremen).

In conclusion, if money constitutes an obvious link between the industry and the scientists, a priority task for public institutions should be that of finding channels of communication between scientists and the people. To close with a positive note, one interviewee thinks that a partnership between the European institutions and specialised CSOs could serve well this goal: “Actually this would be a good way to complement each other: EU, NGOs or also other organizations, because NGOs have the contact to the people through membership. Brussels has information and the money. And if you bring these together, I guess, you could do a lot”, (Wolfgang Schleicher, Verband katholisches Landvolk).

## 6. Direct and indirect participation

Our project started with considering both direct and indirect participation (Ferretti & Pavone 2007). By direct participation in science we meant structured participation exercises aimed at bringing

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together citizens, farmers, scientist and policy makers in order to reach dialogue, mutual understanding and possibly joined decision making. Examples of direct participation are public consultations, stakeholder seminars, citizens' juries. The interviewed NGOs appeared to be rather disillusioned with these forms of participation. With rare exceptions, they judged negatively the initiatives so far organised by the authorities in terms of participatory strategies. They tend to regard them more a lip service to the democratic ideal rather than a genuine effort for inclusion. Additionally, the theme of GMOs is so controversial that mediation between the parties cannot be achieved. On the one hand, the respondents tended to present their tasks as an effort to create awareness and mobilise the public against GMOs. On the other hand, they aim to influence the scientific and political agenda, to promote techniques that can be viable alternatives to GMOs.

In other words, the priorities of the interviewed CSOs are building and maintaining opposition to GMOs and at the same time promoting alternatives to GMOs. To this ends, indirect participation (despite this sound like a contradiction of terms) is generally considered a more effective tool than direct participation. Indirect participation aims at exercising levers of influence on the public by addressing directly citizens and farmers through the media and targeted campaigns, but also going in the streets organising acts of protest. Through these channels CSOs aim at establishing a culture of opposition to GMOs and hospitable to alternative agricultural techniques. Though lobby and political activism they try to influence research policies so that their preferences and priorities can become part of research programmes and/or legislative initiatives.

The emerging portrait of participation in science is that of an 'early stage' participation, in which influence can be exercise only by engaging in a societal debate on the general directions of science and technology and on policy making. Conversely, CSOs look with a certain pessimism to participatory exercises in which they are invited (generally by public authorities) to dialogue with the scientists and industry representatives. Who sets the agenda decides who the winners are. A meaningful contribution is indeed possible only by participating in agenda-setting. In other terms, most CSOs are not interested in consultations; they are interested in making the difference.

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