Report of the Focus Workshops:

Who should communicate with the public and how?

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EUROPEAN FEDERATION OF
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TASK GROUP ON PUBLIC PERCEPTIONS

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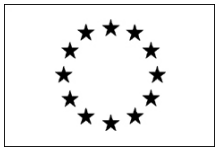

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The European Federation of Biotechnology Task Group on Public Perceptions of Biotechnology was established in 1991. Its objectives are to increase public awareness and understanding of biotechnology and the life sciences throughout Europe and to facilitate dialogue between interested parties. (www.efbpublic.org)

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1. Introduction

This report summarises the key findings and suggestions from four focus workshops on 'Who should communicate with the public and how?' held in Warsaw, Brussels, Copenhagen and Madrid respectively from Autumn 2002 to Spring 2003. Participants comprised leading scientists, industrialists, government officials, ethicists and social scientists, public interest (consumer and environmental) organisations and the media.

The workshops aimed to distil from the experience of the participants who have been centrally involved during the last fifteen years or so of the debate their views on biotechnology communication, the effectiveness of activities thus far, and novel and innovative methods to be explored. The workshops have been held in the four main regions of Europe as the salience of the various concerns and issues about biotechnology differs considerably between EU countries. The ways in which religion and cuisine are held vary vastly, with considerable consequences for biotechnology-related issues. Journalism and the media work differently and have different impacts in different European countries. Differences in scientific cultures between countries lead to variations in the preparedness of scientists to be active in public communication and engagement.

This report will first examine the concept of communication in further detail: it will be seen that the '*deficit model*' of communication, which directly relates public attitudes towards biotechnology to the availability of objective information, cannot be successful. The particular nature, subjects and circumstances of the biotechnology debate require a broad dialogue, which opens up the parameters for objections which fall outside the scope of scientific rationality.

In a similar vein, practical answers to the questions of *who* should communicate and *how* are partly determined by the motivation and interests of the actors for engaging in the debate. This draws attention to the questions of *why* and *what* we should communicate. There can be different and often conflicting aims and motives for communicating, and corresponding differences in the strategies and subject material used to achieve desired ends.

Following from the discussions during the four workshops, a model for communication will be recommended in which the creation of an open platform for discussion is central (see fig. 1 on page 10). To assess the desirability of developments in biotechnology and the life sciences, open-ended discussion between the various stakeholders is required, as well as a common ground on which objections can be formulated and their legitimacy evaluated.

For reasons of clarity and brevity the many other interesting issues that have been discussed during the workshops will not be treated here. A more detailed report will be available on request in November 2003. The presentations held during the workshops are available on CD-rom; to obtain a copy, please contact the Task Group secretariat.

The workshops have been organised by the European Federation of Biotechnology Task Group on Public Perceptions of Biotechnology. Funding was provided by the Research Directorate of the European Commission.

2. Biotechnology and communication

From a scientific and commercial point of view, research into the agricultural, medical and industrial applications of biotechnology holds many promises. In the plants area, genetic modification has led to pest and herbicide resistant crops, increasing productivity, reducing the use of pesticides and diminishing soil erosion. In the medical field, genomics offers insights into the causes of hereditary diseases and provides a real perspective on the treatment of these diseases through the development of better medicines and new methods for treatment. Industrial applications help increase productivity and efficiency through the use of industrial enzymes, and diminish environmental pollution through bioremediation and biodegradable plastics. These are but a few examples, and with these benefits in mind it would seem to be hard to resist the technology.

However, the advent of biotechnology has led to concerns. Questions have been raised concerning the risks as opposed to the benefits, as for example the safety of GM foodstuffs for consumers and the possible introgression of GM plants into the environment. There are doubts on the effectiveness of regulatory procedures where biosafety and risk handling are concerned. Broader moral concerns also play a role, about our relation to nature, freedom of choice, intellectual property and 'patenting life', and the role and standing of science in society in general.

This discrepancy between the benefits perceived and the concerns raised has resulted in numerous communication activities. During the last fifteen years or so, a wealth of information on biotechnology has become available to the general public through conferences, workshops, flyers, folders, books and booklets, websites and countless other means. Nevertheless, the general attitude towards biotechnology has not changed greatly. For example in the food area, the Eurobarometer survey 58.0 *"Europeans and Biotechnology in 2002"*[1] states that: *'...it can be seen that a majority of people disagree that genetically modified foods are useful, agree that they are risky, find them morally unacceptable and are not prepared to support them'*[2]. Furthermore, understanding of the processes is alarmingly low. The Eurobarometer cites a remarkable example. To the statement: *'ordinary tomatoes do not contain genes, while genetically modified tomatoes do'*, 35% gave the correct answer in 1996. In 2002, despite the many efforts, this percentage rose by one percent to 36%.[3]

2.1. The deficit model of communication vs. dialogue

The observations above show that there must be more to concerns about biotechnology than a lack of information from the side of the general public. Two assumptions prevail in what has been called the '*deficit model*' of communication. First, it assumes that acceptance of biotechnology is determined by the availability of information on the nature of biotechnological processes and the benefits that biotechnology may bring. Second, communication has been set up as a one-way process, where the aim of communicating is to '*get the message across*'. The manifest lack of success of this approach necessitates another mode of communication. This involves the following parameters:

- Communication implies *dialogue*. That is to say, communicating with the public about biotechnology cannot be equated with providing scientific information. Dissemination of research results and communicating possible benefits and prospects are certainly part of the process, but it must also involve listening to and taking seriously competing interpretations of what is at stake according to different groups within society.
- The validity of an argument depends on the context in which it is discussed. In the case of biotechnology, what appears from a scientific point of view as a valid and justifiable line of

[1] Eurobarometer 58.0, 2nd Edition: March 21st 2003, by George Gaskell, Nick Allum and Sally Stares
[2] p. 12
[3] p. 21

reasoning might be differently construed from another perspective. That is to say, the debate is not solely based on scientific grounds. A complex system of scientific, moral, cultural, political, religious and economic values and considerations forms the background against which an opinion about biotechnology (or any other subject for that matter) is formed. Scientific rationality cannot therefore be expected to be decisive, and the parameters have to be opened up for legitimate objections which fall outside its scope.

- The aim of communication then, is to reach mutual understanding of the arguments that lie behind the different judgements. To make sense out of competing interpretations a common forum for discussion is necessary, through which these interpretations at least can be understood and mediated if not agreed.
- There is also a motivational dimension; people cannot be forced to communicate, they have to want to do so for specific reasons. Motivation is reduced if people perceive their interests being violated, their arguments are not taken seriously, or when communication appears only to be trying to change the attitudes of the communication partners.

2.2. Why should we communicate?

In addition to these observations concerning the communication process in general, it should also be recognised that the practical answers to the questions of *who* should communicate and *how* are partly determined by our motivation and interests for engaging in the debate, drawing attention to the questions of *why* and *what* we should communicate. There can be different and often conflicting aims and motives for embarking on communication activities, and corresponding differences in strategies and materials used to achieve desired ends. This leads to the following observations:

- There is a shared *belief* that biotechnology communication is both necessary and beneficial for the parties involved. Dialogue is needed to increase mutual understanding of the issues and viewpoints, to balance the opinions, and to bridge the gulf between experts in the different areas and society
- Biotechnology does not exist in a vacuum; its desirability and development are linked to the interests and development of society. The applications of biotechnology will have a deep impact on society, having consequences that reach into the domains of health and food, and touching on deep personal values. Democracy implies citizen's rights to take part in such influential decisions, and similarly points to a moral duty from the side of the scientists to inform those interested in what they are doing, and to address possible concerns.
- When considering this desirability of technologies in the context of societal interests, an important and often overlooked point concerns the consequences of *not* doing something which it is possible to do. From this perspective, the evaluation of the techniques extends beyond European boundaries. The possibilities for alleviating hunger and combating diseases that biotechnology can offer also concerns those nations that do not have the research possibilities but will have great benefits from its application. There is a global ethical responsibility to evaluate biotechnology in the light of cultures where the availability of food and healthcare are problematic.[4]

2.3. What should we communicate?

- First of all, a sensible dialogue requires sound foundations. In order to engage in meaningful dialogue, and to be able to rationally evaluate any technological advance, all parties should have an awareness of the following:
  - basic knowledge of the biological processes underlying the technologies;
  - the main results from research done in the field;

[4] Please see also: "The use of genetically modified crops in developing countries", the Nuffield council on Bioethics, June 2003.

  - realistic future research and technology prospects;
  - possible benefits that the technology might bring, also in a wider context of for example job and trade opportunities and global competitiveness;
  - the risks that might be involved and practical concerns raised about biodiversity and food safety;
  - wider ethical, legal and social concerns, about interfering with Nature, freedom of choice, the role of technology in society, and globalisation issues;
  - knowledge of the functional requirements for biotechnological applications;
  - the interests that various stakeholders may have: academics for their research, industrialists for economic reasons, NGOs for their members, politicians for their votes, etc.
- Attitudes towards different applications of biotechnology vary widely. This is reflected in for example the strong feelings of concern about food and agricultural developments as opposed to the perception of benefits from medical research, as is apparent from Eurobarometer surveys. It is imperative therefore to discuss and evaluate different applications, specifically in what way the points above apply to these, on a case-by-case basis.
- The willingness, or need, to acquire specific information depends on a person's proximity to a situation. Interest is a crucial point: public engagement activities therefore need to situate biotechnology developments within the scope of personal experience. Questions which need to be addressed are such as: Why is the research done? What are its benefits? Whose interests are involved? What are the intended consequences and possible unintended consequences? What does this research mean for society as a whole? How reliable are the results? Are there alternative interpretations? Are there controls for scientific research and do they work? Who decides that research should be done? What measures can be taken in case things do not work in the way they were intended?

3. Who should communicate and how?

Having considered the parameters for communication and the aims and motives for engaging in the debate, the question remains how practically to proceed: which groups are in effect involved and what form should the communication process take?

3.1. Stakeholders

Identifying the relevant stakeholders is important. These are the main groups:

- scientists from industry and academia
- biotechnology companies
- ethicists and social scientists
- politicians
- media
- non-governmental organisations:
  - environmental organisations
  - consumer organisations
  - patients' organisations
- professionals:
  - doctors and nurses
  - legal specialists
  - farmers
  - communicators
  - religious leaders
- groups within society, differentiated by:
  - age
  - culture
  - religion
  - education

3.2. A model for communication

As an answer to who should communicate and how a model for communication is proposed that centres on a forum for discussion between the various professional groups involved, and at the same time serves as a means to intensify relations with society.

The objective is to create, in effect, a form of independent advisory body that constitutes a focal point for the debate (please see fig. 1 on page 10 of this report). To consistently address the requirements outlined above, the board's activities should be coordinated by an advisory forum with equal representation from the different stakeholders involved. Members of this forum should be independent, experienced, scientifically educated and communicatively skilled professionals. They should be aware of the range of issues at stake, generally accepted as mediators between the forum and the group they represent, and be able to accept and interpret different viewpoints. Strategic decisions on specific issues could be taken on the basis of advice from expert panels that report to the board, as for example a scientific panel with responsibility for informing on the state of the art of the science and scientific risk assessments, a communication panel to advise on communication strategies and activities, or a risk analysis panel to inform on the interrelated processes of scientific risk assessment, risk communication, and risk management. The day-to-day coordination, management and monitoring of the activities would be the responsibility of a secretariat, which will especially have an important role in the organisation of public engagement activities, and as a resource and information archive.

The advisory body should have the following specific functions with respect to the professional groups:

- to keep up to date, evaluate and make available relevant information on research, applications, risks and benefits, and public opinion;
- to debate the various interpretations of this information and find ways to balance concerns and interests;
- to make explicit the rules and common goals for the communication process;
- to advise governmental institutions;
- to create resource archives:
  - for publications, materials and tools used in communication;
  - databases of relevant experts and directories of scientific communicators, such as journalists with a scientific background or scientists with excellent communicative skills.

It will have the following functions with respect to engaging society:

- to provide well-timed and high quality information on scientific research, risks and benefits, ethical codes, and legal matters;
- to safeguard the transparency of research, regulatory procedures and policy decisions;
- to secure the involvement of society through citizens conferences, value workshops, and national dialogues. The *responsiveness* of research and policy to the results of these activities is key;
- to find challenging and innovative ways for communication, engaging people to think about biotechnology and addressing peoples' personal interests.

There is a need for this kind of structure on both the national and European levels. On a national level, advisory boards are important to provide specific answers to issues, stakeholder relations and concerns of the public within the national political and cultural environment. Most European countries have a well defined structure of bioethics committees, technology assessment institutes, and biotechnology advisory boards. It is important to build on these existing structures, ensuring convergence to the ideals of independence, central public involvement and representation from all the relevant stakeholders.

To attain a coherent approach on the European level, a European advisory board with strong links to the national advisory boards and working together with existing European institutions could serve to coordinate national efforts and to bring together the expertise in the different areas of interest.

3.3. Regional differences

Although this report has focused on the general requirements for communication, regional specificity ought to be kept well in mind. The exact form that an advisory body should take varies depending on the social and political culture of the region, and on the approach and scope of existing institutions. Furthermore, the values, beliefs and concerns vary from country to country, as well as the specific relations between and salience of stakeholders. During the workshop the following regional characteristics were expressed.

The Nordic Countries
The long standing tradition of democratic decision making in the Nordic countries and their comparatively small populations have made public consultation an established part of the political process which generally works more effectively than in the rest of Europe. Most of these countries have independent biotechnology advisory boards with representation from experts in different fields. They bring the relevant groups together, organise public information and consultation activities, and advise national ministries on this basis.

In Norway for example, issues surrounding biotechnology are dealt with by two independent advisory bodies: the National Committee for Research Ethics in Science and Technology (NENT), and the Norwegian Biotechnology Advisory Board (NBAB), working together on a number of occasions. The members of the committees are politically independent and scientifically competent and representation from the fields of ethics and law is included, as well as a number of lay members; none function as representatives of interest groups. The committees' work involves among other things the ethics of science and issues of scientific responsibility for larger social concerns.

Western Europe
The biotechnology debate in the Western European countries has from the start been embedded in a range of wider concerns about food safety, the effectiveness of regulatory procedures, and trustworthiness of the actors. Food contamination crises and consecutive outbreaks of cattle pests such as mad cow disease and swine fever have shocked consumers and put these concerns high on the agenda. The media frequently reported on the mass slaughtering of livestock, and criticised governments' attempts to provide an effective answer to the situation. The images have stuck in peoples' minds, and were linked with a series of (not necessarily related) events in a relatively short period of time. Environmental activists with white suits and gasmasks were destroying fields with genetically modified crops, Dolly appeared on television, and a mouse was reported which seemingly had grown a human ear. This has led to a generally negative, in some cases hostile approach to applications of technology in food production processes.

During the workshop, the discrepancy between scientific expectations and public opinion was therefore the central issue, and criticism on the 'deficit model' of communication was more or less at the heart of the debate.

Southern Europe
It is only in recent years that the public concerns and debate about biotechnology have risen in Spain, Italy, Portugal and Greece. These countries share the common characteristic of a rich cultural heritage in which their cuisines, albeit different and proudly so, play a central role. Other important factors are the relatively recent growth of the biotechnology industry and of interaction between academic

research and companies. Less groups and organisations have a direct professional and commercial involvement in biotechnology.

These countries differ from Northern Europe in that traditionally, the focus has not been on *democratic* decision making, and hence public consultation and involvement. Science is traditionally regarded as a purely academic discipline, and its merits evaluated independently of its relation to society. Furthermore, networking between the various stakeholders cannot rely on an historical basis. Workshop participants proposed to set up a permanent science communication office, staffed by people experienced in science communication, to enhance interactions between the different groups. One of its tasks would be the creation of a directory of scientific journalists. As a means to engage society, a proactive role was suggested, exploring new methods and focusing on personal interests and emotions.

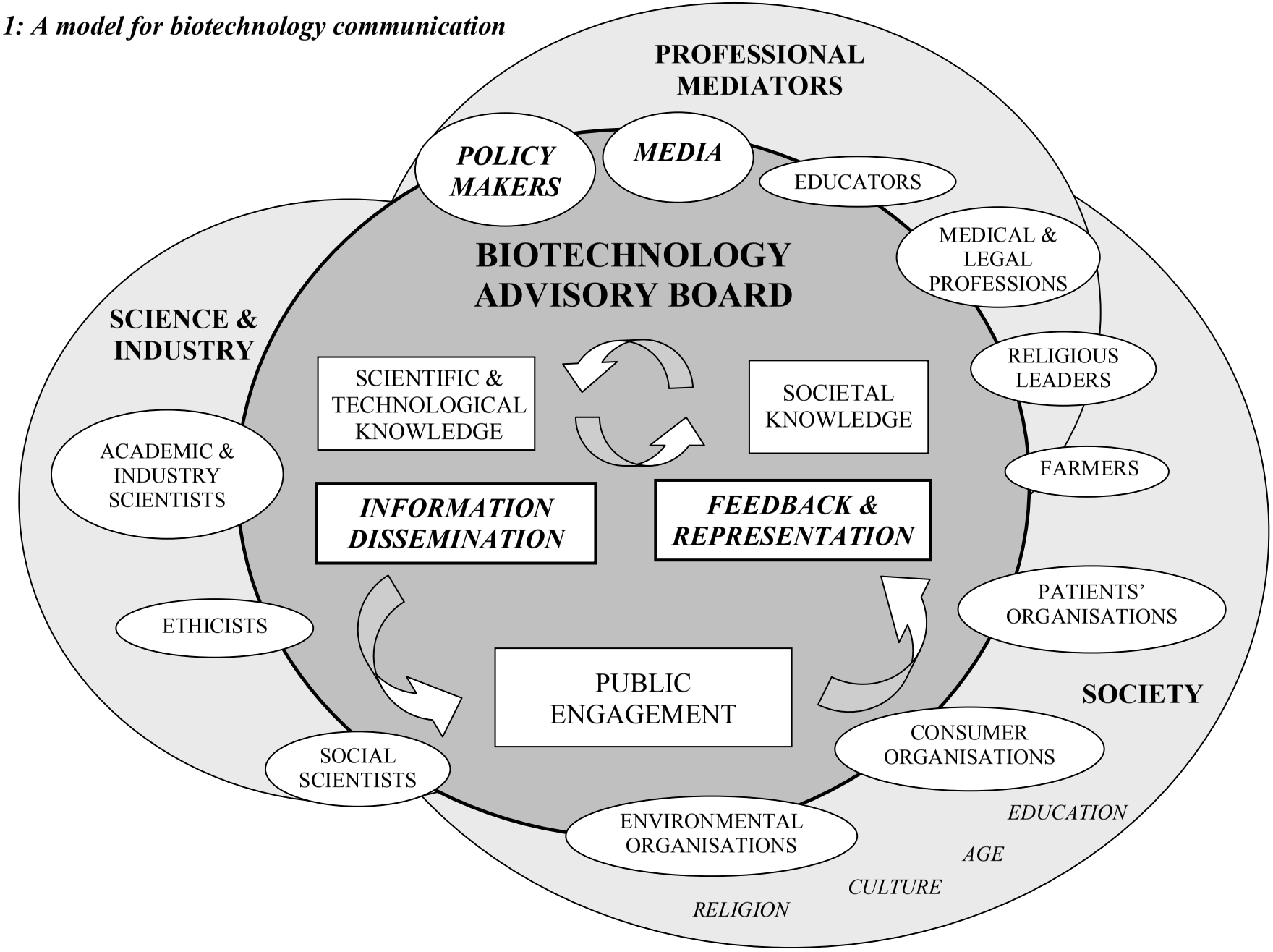
Eastern Europe
The situation in the Eastern European countries again differs from the other regions of Europe. The transformation from a communist block to countries that are determined to join the European Community needs to be considered. Before 1980, it was only the scientific society that was very interested in legislation related to biotechnology. After 1990, membership in the EU became the priority of national policies. The tendency has been to implement new national laws, dedicated to genetic engineering (the so-called 'gene law') that would be a 'national copy' of the EU's directives.

Analysis of public perception in Poland shows that a percentage of the population much higher than in most EU member states is ready to accept new biotechnologies and products. The emphasis here is on economic development, trade, employment, standards of living and the related issues. A very high trust in the functioning of the law and in government supervision of technical and scientific improvement of life was observed. A majority of those who accept novel foods expect government supervision and labelling. In addition, almost 90% say that production and distribution should be under strict supervision by law. However, they expect patterning of national law on international standards and significant influence of international bodies and experts.

3.4. Conclusion

After examining the research results, one might be tempted to say that biotechnology and the life sciences provide a wealth of exciting new opportunities, and its potential to improve the quality of life is unparalleled. This report suggests that doubts about the truth of that statement will not be resolved merely by bringing out the facts and figures. In the biotechnology debate, the facts do not speak for themselves; there is a range of interpretations as to what the facts *are*. In order to shed light on these interpretations, a new mode of communication is required. Communicating about biotechnology is to be conceived as an act of balancing different opinions in the light of the information available. The model proposed in this report sets out the general requirements needed to involve the relevant stakeholders that play a role in the debate. Most importantly, the involvement of society at large is required; for science and society to progress, a decision making model is needed that is in line with democratic principles.

Fig. 1: A model for biotechnology communication



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