

Towards A Global Code of Ethics for Modern Foods and Agricultural Biotechnology

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Abstract

The paper introduces a ‘Global Code of Ethics for Modern Food and Agricultural Biotechnology’, where the implementation of such a code is timely.

A global, rather than a local or national, a specific, rather than a generic or industry-based code of ethics is a new concept that arises from a realization that conflicts emanating from divergent values, interests and capacities cannot be resolved on the basis of scientific and economic power and reasoning alone. They need to be addressed holistically by embedding the economic and scientific contributions within a strong socio-ethical framework that provides space for fair and open dialogue between partners.

Building on ethical objectives proposed by the Food and Agriculture Organization of the United Nations (FAO) and by others and observing internationally agreed CODEX Alimentarius safety principles and guidelines for foods derived from modern biotechnology, the socio-ethical framework rests on four mutually supportive ethical principles that are universal and transcend national and individual boundaries. The ethical principles reflect the expectations of an emergent civic society that increasingly insists on accurate and accessible information that is transparent and open to scrutiny, is based on broad stakeholder participation and societal dialogue, and provides effective mechanisms for safe-guarding choice and self-determination.

Abiding by a small number of strong ethical principles is seen as crucial for unlocking the long-term future potentials of a modern food biotechnology industry, whose goal it is to contribute to world food security, an increased level of human nutrition and a well-managed, healthy global environment.

Keywords

Genetically Modified Foods, World Food Security, Code of Ethics, Ethical Principles, Public Trust

Introduction

In the eyes of the public, biotechnology companies operating in the genetically modified foods sector are often not perceived as socially responsible and ethical organizations. They are not seen as businesses that determine what is right or wrong or that make ethical decisions and engage in ethical business activities. At best they are identified as being prepared to willingly comply with relevant laws, rules and regulations. At worst they are perceived as trying to use the law or the absence of it to their advantage.

This assumption has contributed to a sharp loss in public trust and endangers efforts to increase global food security. It has resulted in the current situation where consumer attitudes towards GM crops in relation to foods vary widely, from more positive in the United States, Asia and in developing countries (Hoban 2004), and more negative in Europe and Australia, and where public scepticism and concerns regarding the safety of GM crops for agro-ecosystems, other biota, and the environment remain high.

Initially, the United States markets thought that robust scientific risk assessment and risk management procedures together with educative measures would sway the public towards considering GM crops and foods, but this was not the case. Instead, discussions about scientific risks moved towards highlighting scientific uncertainties and possible unintended effects. This resulted in the latter's inclusion in the international food safety standard framework for foods derived from modern biotechnology of the CODEX Alimentarius Commission (Codex), a joint body of the Food and Agriculture Organization of the United Nations (FAO) and the World Health Organization (WHO) (FAO/WHO 2003). Currently, a further initiative is under way that seeks to improve the tradability of GM foods between countries by developing globally uniform, comparable and acceptable safety standards, measurements and procedures.

Yet despite these improvements in risk analysis, convincing a reluctant public of the safety of GM foods for human and environment health remains an uphill battle for biotechnology businesses and governments alike. Scientific risk assessments, regulatory oversight, and education campaigns are clearly not enough.

Moving towards a 'global code of ethics for modern food biotechnology'

One possible major reason for continued public unease regarding GM foods is that current assessments primarily focus on science and economics. This is understandable, because both can readily be observed, tested, measured, compared and evaluated. However, GM foods are more than their chemical composition, their physiological effects, or their economic impact. Food, in general, also has profound cultural, social, moral, and historical meanings, and these meanings are crucial to individual and social identity and well-being. Apart from being essential for health, food connects humans with each other and ties families and friends through generations. It bonds humans to nature. Food is an expression of nature and embeds itself in nature. Food for humans can be a natural resource, a product, a commodity, or an income. The many aspects of food create a multitude of needs and desires, concerns and anxieties, dependencies and interconnections, which all have the potential to sow the seeds for discontent and conflict when change threatens the status quo.

There is a second recurring theme underlying social and ethical concerns: the enormous power differential between the public, governments, and the biotechnology industry. In the past, societies and governments were able to develop measures that minimised negative consequences for individuals and societies and kept them more or less in control of developments. Until recently, the linkage and severe monetary dependency of public research and development on private funding by biotechnology organizations, the globalisation of biotechnology markets, the many unpredictabilities and uncertainties of a nascent, but fast moving technology, seem to have created a climate of inevitability, a sense that social and cultural controls regarding the future of biotechnological developments are slipping. This is slowly changing, because an emergent vocal civic society increasingly demands greater transparency, accountability, and, most of all, public participation in decision making.

The aforementioned concerns are not scientific, but are primarily ethical and social issues.

Their increasing importance has been recognised by international organizations, such as the World Health Organization (WHO) and the Food and Agriculture Organization of the United Nations (FAO), which have begun to include ethical and social issues in their deliberations about modern food

biotechnologies. In support of their efforts, we here propose a further mechanism that could contribute to a more mature interaction between biotechnology organizations, governments and the public.

We believe that in complex situations such as the above, a strong and transparent ethical framework can guide the interactions and activities of stakeholders, especially in situations, where past experiences, current norms and legislation are inadequate in dealing with evolving issues, where controversy and opposing views are common, and where a large power or capacity differential between stakeholders exists. Working under the guidance of a 'Global Code of Ethics for Modern Food Biotechnology', which takes its relevance from a small set of overarching universal ethical principles, could create a milieu that counteracts harm resulting from an imbalance of knowledge and capacity, and therefore power, and that could act as a compelling bulwark against unethical practices.

For the Code we propose the following four ethical principles: *the principle of beneficence, the principle of non-maleficence, the principle of justice and fairness, and the principle of choice and self-determination.*

Ethical principles as basis for a globally acceptable ethical framework

A feature of Western ethical and political thought has been the emphasis given to universal principles in guiding human conduct. The most obvious example is the Declaration of Universal Human Rights of the United Nations (1948), but more practice-specific examples are the adoption of ethical principles governing medical research and clinical practice, which rose to renewed prominence in the late 1970s with the writings of Beauchamp & Childress (1979/2001). Today, ethical principles are providing an analytical framework for making considered moral decisions according to expressed general values. While some theoreticians highlight their philosophical and, at times, practical shortcomings (Clouser 1995; DeGrazia 2003), they are rational, consistent, and practical. There is no reason to believe that they could not apply to the modern biotechnology foods area as well. Although principlism has a Western origin, we believe that the principles chosen here are applicable globally.

Is it worthwhile to consider each of the principles briefly in turn. Potential benefits can be discussed under the *principle of beneficence*, meaning producing benefits or good consequences, and to balance benefits against possible risks or cost. In contrast, the *principle of non-maleficence* signals an obligation not to knowingly and intentionally inflict harm on others or the environment, to avoid producing bad consequences, and not to be negligent. Both principles would be central to modern food biotechnologies, where one of the basic aims is to contribute to global food security and to human and environmental health, but where there is also potential for harm, for example, through gene flow and introgression into other non-crop plants, or through changes that go beyond agro-ecosystems (FAO 2003).

In the context of modern food biotechnology, the principles of beneficence and non-maleficence, although inherently different (Beauchamp & Childress, 2001:113-224), ought to be discussed together and in conjunction with scientific risk analysis. This arrangement would ensure that closely related issues are examined *together* and that important linkages are unlikely to be missed.

Ethically sound, interactive and explorative discussions and reviews regarding potential risks and benefits should happen from the early research stages onwards and should remain active long after post-planting and after products have reached their markets. So should scientific risk and safety discussions. Kapuscinski et al. (2003:599) suggest that the impetus for biosafety should preferably come from the genetic engineering industry itself. The burden should not fall on government or consumers to demonstrate risk or safety. They believe that waiting until government regulators address safety and risk increases the vulnerability of companies to regulatory approval.

Considering ethical benefits and harms does not comprehensively capture the complexity and richness of moral life. Having regard to justice and fairness in decision-making is deemed to be equally important and necessary.

The principle of justice and fairness asserts that it is not enough for people to provide benefits and to avoid harm. It is also important to share the good and the bad on a fair and just basis. The principle has its greatest impact on matters involving policy. The principle of justice and fairness counter-balances purely economic capacity or other cost-benefit calculations, which are frequently the sole determining factor in decisions. Furthermore, the principle asks of stakeholders not to discriminate against or for participants on the basis of their economic power, knowledge, race, or beliefs. Thus, *the principle of justice and fairness* intends to create a milieu in which equity and opportunity, empowerment and advancement shape the discourse. This is particularly important for capacity-poor countries.

In Sub-Saharan Africa, thirty-five percent of the population or 198.4 million people are undernourished and lack access to regular, secure food supplies (FAO 2004), the worst affected countries being Angola, Chad, Mozambique and Somalia. Yet crops and traits of specific importance to small farmers, such as legumes, vegetables and fodder remain generally underrepresented in national or international global research programmes. Genetic improvement of staple crops, such as cassava, sweet potato, yam and plantain, and of cash crops, such as tea, coffee and cocoa, remain economically unattractive for biotechnology companies and large industrial-style growers. The principle of justice and fairness would demand that capacity strong biotechnology companies support the development of technology and share expertise with capacity poor nations (see also Fresco, 2003). A recent positive sign of this is the establishment of the African Agricultural Technology Foundation (AATF). The AATF has secured support from Monsanto, DuPont, Syngenta and Dow Agro Sciences, which have agreed to share patent rights and expertise with African farmers (The African Agricultural Technology Foundation, 2004).

The expression of such or similar commitments could not only raise capacity and good will, but could also enhance choice and self-determination, the last ethical principle suggested here.

The principle of *choice and self-determination* are important, because so many decisions central to the well-being of a population are made in negotiations, where unequal power relationship may make it difficult to retain independence in the face of hunger and, particularly, capacity.

In order to be able to make informed decisions, agents need to provide factually accurate, impartial, unbiased, truthful, specific, relevant, full and comprehensive information with good data and documentation. It also asks for a consideration of alternatives, where they exist.

Capacity poor countries are rarely able to independently and fully assess and evaluate the direct and indirect, short-term and long-term risks of biotechnology products and activities for their local conditions. Ethically speaking, capacity-poor nations are disempowered, disadvantaged, and unequal partners in discussions and negotiations with global biotechnology organisations. In addition, a basic capacity for self-determination can easily be disrupted or overridden in situations of monetary or other dependency.

This leads to the question to what extent the lived reality of peoples constrains their choices (FAO 2001). Is it possible that current realities and practices might force them into a direction where they would, for instance, consider modern food biotechnology irrespective of whether they are appropriate for their circumstances? Without an explicit understanding to work under the principle of choice and co-determination in negotiations, capacity poorer nations might find it more difficult to postpone, even reject biotechnologies, when, on balance, and including particular situations, they determine that either their overall risks or/and costs outweigh potential benefits, or viable alternatives, such as sustainable agricultural practices, seem to be more appropriate for their present situation. According to Pretty *et al.* (2003), research analysing 208 projects in 52 developing countries and involving 8.98 million farmers adopting sustainable farming practices has shown that food production could be improved by an average of 93% per hectare. Thus, modern food biotechnologies are but one of several possibilities to improve world food security.

The aforementioned principles would need to be operationalised. For example, the notion of acting justly and fairly as described in the example above could lead to the following (or similar) statement:

We will endeavour to assist capacity poor countries that seek to improve their biotechnology capacity by sharing expertise, by providing training opportunities, and by supporting technology transfer and extension.

Recognising that many non-Western and developing countries have particular and multiple needs, we will seek to provide appropriate financial or other assistance for developing and implementing regulatory and food safety frameworks. We will assist in marketing and distributing biotechnology products and by supporting the securing of intellectual property rights.

Codes of ethics with their statements of intentions are aspirational in nature, they have no legal force. How then could the current proposed 'Global Code of Ethics for Modern Foods and Agricultural Biotechnology' be made effective?

Improving the effectiveness of the Code

The Code is a voluntary instrument. Its effectiveness very much depends on whether all stakeholders support it and are committed to it. There needs to be feedback, measurement, ongoing dialog, and regular reviews of the Code to keep abreast with developments and to allow for improvement through learning and experience. The Code ought to include provisions that ask subscribers to devise procedures for identifying, reporting, disclosing and rectifying any breaches. It should allow for any person, including the public, to file a complaint, which should be reviewed by an independent body of experts. Since a code of ethics is not a legislative instrument, it should be strengthened by cross-referencing it with appropriate legislative controls that currently or in the future will apply to activities related to modern food biotechnologies.

Submitting to the principles enshrined in a *Global Code of Ethics for Modern Food Biotechnologies* could also have a secondary function, in that it could become an effective public relations instrument for the much embattled and maligned GM foods biotechnology industry, by demonstrating a commitment to progressing in a scientifically, socially, and ethically responsible manner that is international in scope, but which is cognisant of regional conditions, needs and wants and responsive to the demands of an emergent civic society.

The GM food biotechnology industry could further strengthen its commitment to ethical practices by making its performance transparent, accountable, and 'measurable', perhaps in form of a grading scale relative to each principle, similarly to the Sullivan Principles (1976) and the CERES Principles (1989) as described by Massie (2000: 280-291).

Conclusion

Public commitment to ethical conduct is paramount for a modern food biotechnology that has global ambitions, but which can easily be fractured by local or social incompatibilities. Working within the boundaries of a global code of ethics might avert such fracturing. Integrating the scientific and economic with the ethical and social could be the crucial step necessary to build credibility and regain public trust.

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