

The Activities of UNESCO in the Area of Ethics

ABSTRACT. The member states of the United Nations Educational, Scientific and Cultural Organization (UNESCO) decided in 2002 that ethics is one of the five priority areas of the organization. This article describes three categories of past and current activities in the ethics of science and technology, in particular bioethics. The first category is the global setting with the Universal Declaration on Bioethics and Human Rights as the most recently adopted normative instrument. The second category focuses on capacity building in order to enable member states to apply the provisions of the declarations, through, for example, the establishment of national bioethics committees, the introduction of ethics teaching programs, and drafting of legislation and guidelines. The final category of activities is awareness raising through publications, events, and conferences. The challenges and difficulties UNESCO may face in its various activities are highlighted.

On 16 November 1945, representatives from 37 countries meeting in London decided to establish an organization that would create a genuine culture of peace through education, science, culture, and communication. The constitution of this new organization was to give hope to the international community for a world of solidarity and dignity after the world war that had just ended. The United Nations Educational, Scientific and Cultural Organization (UNESCO) is the only United Nations (UN) agency with specific responsibilities for scientific research. This implies the promotion of scientific collaboration among the peoples of the world in order to advance the objectives of international peace and of the common welfare of humankind. It also implies making sure that the advances of science and technology will take place within the framework of “universal respect for justice, for the rule of law and for the human rights and fundamental freedoms,” as expressed in Article 1 of UNESCO’s constitution. The ethical aspects of scientific research therefore need to be considered. The *Recommendation on the Status of Scientific Researchers*, adopted in 1974,

underlines the importance of freedom of research but at the same time articulates that scientific and technological knowledge should be used for the enhancement of the cultural and material well-being of citizens (UNESCO 1974). In the 1980s, UNESCO focused activities on the human genome project and its ethical implications. The General Conference invited the Director-General of UNESCO in 1989 to introduce a permanent system of consultation for the exchange of information and experience on the ethical implications of contemporary science and technology (UNESCO 1989). The purpose is to make UNESCO a clearing-house for information and documentation on the ethics of science and technology within the UN system in order to produce “forward-looking reflection.” Since then, UNESCO has been involved in organizing and sponsoring international activities in bioethics (see, e.g., Sass 1991). In 1993, the member states requested the organization to consider the possibilities for establishing an international legal framework for the protection of the human genome. The underlying reason for the request not only is to have due regard for the freedom, dignity, and identity of the human person, but also is the need to ensure the participation of all in the advances of the biomedical and life sciences and in the resultant benefits (UNESCO 1993). In the same session, the member states decided to establish the UNESCO International Bioethics Committee. This was the start of an explicit program in the ethics of science and technology, in particular bioethics. In 2002, ethics was earmarked as one of the five principal priorities of UNESCO.¹

The current revolution in science and technology has led to the concern that unbridled scientific progress is not always ethically acceptable, and at least necessitates careful ethical reflection. The need to establish common values and benchmarks for all countries, and to promote ethical principles and standards to guide scientific progress and technological development, is becoming increasingly acute, especially in developing countries that do not equally enjoy the benefits of scientific and technological advances. UNESCO’s work in ethics of science and technology reflects these global concerns. It examines such progress in light of ethical considerations rooted in the cultural, legal, philosophical, and religious heritage of the various human communities. This is another characteristic of present-day ethics: it not only is related to science and scientific developments, but also has an essentially cultural and educational dimension. Finally, the priority of ethics in UNESCO reflects the fact that the ethics of science and technology increasingly is considered a responsibility of the world’s political community (Lenoir 1997a).

As a permanent committee, the International Bioethics Committee (IBC) functions to promote reflection on the ethical and legal issues raised by research in the life sciences and their applications, as well as to encourage the exchange of ideas and information, particularly through education. The Committee also must inspire action to heighten awareness among the general public, specialized groups, and public and private decision makers involved in bioethics. Finally, it must cooperate with the international governmental and nongovernmental organizations concerned by the issues raised in the field of bioethics as well as with the national and regional bioethics committees and similar bodies. The IBC is the only bioethics committee within the UN system and is without counterpart at the global level (Lenoir 1997b). The Committee is multidisciplinary and multicultural. It has 36 members, designated by the Director-General of UNESCO for a term of four years on the basis of equitable geographical representation. The members serve in a personal capacity; they are fully independent and do not represent their countries. They are recognized experts in, for example, the life sciences, medicine, social and human sciences, law, philosophy, and ethics. The Director-General convenes the IBC at least once a year. The Committee has produced a long series of opinions and recommendations, adopted by consensus and widely disseminated. Examples are the reports *Genetic Screening and Testing* (1994); *Ethics and Neurosciences* (1995); *Food, Plant Technology and Ethics* (1996); *The Use of Embryonic Stem Cells in Therapeutic Research* (2001); and *Pre-Implantation Genetic Diagnosis and Germ-Line Intervention* (2003) (available at www.unesco.org/shs/bioethics, accessed 5 November 2006).

In order to ensure that the recommendations and activities of the scientific experts in IBC are linked to the activities of governmental experts and policymakers, the member states of UNESCO established the Intergovernmental Bioethics Committee (IGBC) in 1998. The IGBC examines the advice and recommendations of the IBC, submitting its opinions to the Director-General for transmission to the member states. The IGBC is composed of 36 representatives of the member states, elected by UNESCO's General Conference. This committee therefore consists of a different type of experts than the IBC: members of IGBC, even if they are, for example, experts in bioethics, represent the views of their governments, whereas members of the IBC are represent themselves as experts in a particular scientific discipline. In bringing together two bodies of scientific and political experts, respectively, UNESCO also demonstrates that bioethics itself has

evolved from solely an academic discipline to the field of policymaking and public debate. Policy development and political decision making regarding bioethics need to be informed by expert scientific advice, and bioethical expertise, if it wishes to be translated into policies and legislation, needs to be associated with politics. The unique link between IBC and IGBC also brings to light some of the difficulties with the connection between ethics and policymaking. As bioethics has become more politicized, some member states dislike the idea that independent experts are advising the Director-General. They prefer to begin political negotiations immediately, as in the case of the *United Nations Declaration on Human Cloning*, adopted in 2005, which was not brought to UNESCO but directly to the General Assembly in New York.

In 1998, the UNESCO ethics program was expanded beyond the domain of bioethics with the establishment of the World Commission on the Ethics of Scientific Knowledge and Technology (COMEST). The Commission is composed of 18 prominent and independent scientists and other experts from different regions of the world and from various scientific disciplines—education, engineering, history, law, mathematics, philosophy, politics, and sociology. It advises UNESCO on issues concerning the ethics of science and technology. The Secretariat for COMEST, as well as IBC, is located within the Division of Ethics of Science and Technology. COMEST is specifically mandated to be an international advisory body and an intellectual forum for exchanging ideas and experience, encouraging the scientific community to examine fundamental ethical questions—and to detect the early signs of risk situations. It formulates ethical principles that can shed light on the various choices and impacts brought about by new discoveries. It advises decision makers on policy issues and promotes dialogue between the international scientific community, government, and the public at large concerning sensitive areas such as sustainable development; freshwater use and management; energy production, distribution, and use; outer space exploration and technology; as well as issues of rights, regulations, and equity related to the rapid growth of the information society. The Commission executes its mandate through bringing together experts who study specific problems and disseminate the results of their analysis through publications. Areas such as ethics and space technology, ethics and energy, and ethical issues related to water use have been examined in the past and have led to widely disseminated publications (e.g., Pompidou 2000; COMEST 2004). One recent publication concerns the Precautionary Principle, which states that when human activities may lead

to morally unacceptable harm that is scientifically plausible but uncertain, actions shall be taken to avoid or diminish that harm. Because this principle is controversial from an international perspective, a group of experts analyzed the concept and its applications in diverse settings, in order to clarify possible misunderstandings (COMEST 2005a). This publication is the first one in the area of environmental ethics. COMEST is preparing a “policy advice” to identify possible areas of work for UNESCO. Many UN agencies are active in environmental issues. However, environmental ethics is not explicitly addressed. Setting ethics on the agenda will require a careful approach, knowing that at least a number of the member states will not welcome any UN initiative in this regard. The same consideration applies to the most recent area of work: nanotechnologies and ethics. Following a publication explaining the ethical dimensions of nanotechnologies (UNESCO 2006), COMEST currently explores what role an intergovernmental organization could play in the ethical assessment of these emerging technologies. Here again political opinions diverge. Some member states do not think there is any role for UNESCO since the ethical issues should be left primarily to scientific organizations and separate governments. Other states, primarily many developing countries, argue that UNESCO is the only neutral agency that can pay proper attention to the moral dimensions of scientific and technological developments, taking a genuine global perspective on ethics.

In order to update this global perspective regularly, COMEST organizes a public session every two years, bringing together, for almost one week, scientists, ethicists, lawyers, and policymakers to discuss salient ethical questions in science and technology. Such well-attended conferences are organized in different regions of the world, not only to provide a platform for global concerns, but also to stimulate the ethical debate and the creation of networks of experts in these regions. Recent conferences took place in Rio de Janeiro (COMEST 2003a) and Bangkok (COMEST 2005b), and the current meeting will be in Senegal in December 2006.

In order to coordinate the increasing number of international activities in the area of bioethics, the Director-General of UNESCO took the initiative in 2003 to establish the United Nations Inter-Agency Committee on Bioethics. The Committee involves intergovernmental organizations within and outside the United Nations system, such as the World Health Organization (WHO), the Food and Agriculture Organization (FAO), the International Labor Organization (ILO), the United Nations High Commissioner for Human Rights (UNHCHR), and the World Intellectual

Property Organization (WIPO), as well as the Council of Europe, the European Commission, the Organization for Economic Cooperation and Development (OECD), and the Arab League Educational, Cultural and Scientific Organization (ALECSO). The Committee provides a forum for debate and exchange of information, promotes coordination of activities, facilitates collaboration, and engages in concerted action—e.g., examining the ethical issues in regard to intellectual property rights. The Committee meets at least once a year; it reports to the Secretary-General of the United Nations and to the executive heads of the participating organizations.

UNESCO's activities in the ethics of science and technology take many forms and cover much ground. They include, for example, drawing up recommendations for decision makers and drafting and developing ethical guidelines, standards, and legal instruments. UNESCO also helps to develop regional networks, to build and expand national capacities, to promote ethics in science education, and to provide educational materials. Further, it performs an essential "ethical watch dog" function and plays an important role as a catalyst and think tank, informing public opinion on the human rights implications of scientific and technological progress.

STANDARD SETTING

Following the global dissemination of science and technology, bioethics also has become increasingly international. Medical research is increasingly multi-center and international, with more and more research subjects recruited in developing countries. Also healthcare practices are global, but guidelines and legal contexts differ and are sometimes absent. Rules for organ transplantation and procedures for organ donation, for example, vary among countries, and these different approaches have led to abuses such as organ trafficking and commodification of transplantation practices. Furthermore, the burdens and benefits of scientific and technological advancements are not equally distributed. Poorer countries are at risk for exclusion from the benefits of biomedical progress. There also is a risk that double, or at least different, moral standards are applied in different regions of the world.

Many countries, however, have only a limited infrastructure in bioethics, lacking expertise, educational programs, bioethics committees, and legal frameworks. The global nature of science and technology implies the need for a global approach to bioethics. Member states have mandated UNESCO to set universal ethical benchmarks covering issues raised within the field of bioethics. They want to work together to identify basic prin-

ciples and shared values regarding science, technology, and health care. Standard-setting action in the field of bioethics has become a necessity that is felt throughout the world, often expressed by scientists and practitioners themselves, as well as by legislators, policymakers, and citizens. At the same time, the involvement of an intergovernmental organization in area of ethics is controversial. It is argued that governmental regulation, and thus political interference, is unwanted since ethics should be left to civil society, professional organizations, and public debate. Organizations such as UNESCO should not regulate, dictate, or impose any ethical principles. On the other hand, nowadays, many governments are involved in the development of ethical regulations. Quite a few countries, especially in Europe, North America, and Latin America, have enacted “bioethical legislation,” particularly regarding medical research and reproductive medicine. Such governments may be anxious that ethical agreements at the level of UNESCO might be contradictory or inconsistent with their domestic legislation. Nonetheless, it is pointed out in every intergovernmental debate that UNESCO, as an organization with 192 member states, has an important role to play since the majority of its members do not have an adequate ethics infrastructure, often lacking any regulation and legislation. The desire to develop international frameworks therefore often is articulated by the least developed countries that are in need of normative guidance and that want to have the certainty that ethical principles are formulated on a global level so that the same standards are used everywhere.

It was in this context that, in October 2003, based on preliminary feasibility studies of IBC, UNESCO was mandated by its member states to draw up a declaration setting out fundamental principles in the field of bioethics. After two years of intense work, these same member states adopted, unanimously and by acclamation on 19 October 2005, the *Universal Declaration on Bioethics and Human Rights*, thus solemnly affirming the commitment of the international community to respect a certain number of universal principles for humanity in the development and application of biomedical science and technology. With this new declaration, UNESCO strives to respond in particular to the needs of developing countries, indigenous communities, and vulnerable groups or persons. The declaration reminds the international community of its duty of solidarity toward all countries.

When UNESCO was considered by the member states to be the most appropriate forum for the elaboration of such a text, it is without doubt

because the organization has been able to demonstrate and confirm its standard-setting role in the field of bioethics. As the only specialized instance within the United Nations system that combines education, culture, science, and social sciences in its field of competence, UNESCO has developed a bioethics program over the past 10 years that reflects the multidisciplinary and transcultural dimensions of this debate. UNESCO is engaged in actions that involve all countries in this international discussion in order to bring out fundamental principles common to all, with respect for the cultural diversity of societies. After extensive preparations and consultations the *Universal Declaration on the Human Genome and Human Rights* was adopted in 1997. The subsequent adoption of the *International Declaration on Human Genetic Data* in 2003 reinforced UNESCO's role in setting global standards in the field of bioethics and allowed member states to place confidence in the organization to finalize a similar document in the area of bioethics.

The *Universal Declaration on the Human Genome and Human Rights* formulates important principles to guide the development of genetic knowledge and the application of genetic technologies (Lenoir 1997b). A basic concept is that the human genome “underlies the fundamental unity of all members of the human family, as well as the recognition of their inherent dignity and diversity;” it therefore should be regarded, in a symbolic sense, as the “heritage of humanity” (Article 1). For this reason, the human genome in its natural state “shall not give rise to financial gains” (Article 4); it is also stated that benefits from advances in biology, genetics, and medicine “shall be made available to all” (Article 12a). The declaration also emphasizes the fundamental role of human dignity and human rights: “Everyone has a right to respect for their dignity, and for their rights regardless of their genetic characteristics” (Article 2a). This principle implies that genetic reductionism must be rejected; individuals cannot be reduced to their genetic characteristics. It furthermore implies nondiscrimination; no one shall be subjected to discrimination based on such characteristics (Article 6). An important implication also is that practices contrary to human dignity shall not be permitted; the text of Article 11 explicitly refers to reproductive cloning of human beings, as an example of such infringement of human dignity.

Under the aegis of respect for human dignity, human rights, and fundamental freedoms, the *Universal Declaration on Bioethics and Human Rights* has a much wider scope than the previous declarations that have been focused on genetics. It deals with ethical issues raised by medicine,

life sciences, and associated technologies as applied to human beings, taking into account their social, legal, and environmental dimensions. The Declaration on Bioethics aims to determine those principles in the field of bioethics that are universally acceptable, in conformity with human rights as ensured by international law. It does not pretend to resolve all the bioethical issues presently raised and that evolve each day. Rather, its aim is to constitute a basis or frame of reference for states wishing to endow themselves with legislation or policies in the field of bioethics. It also aims, as far as possible, to inscribe scientific decisions and practices within the framework of a certain number of general principles common to all. And it aims to foster dialogue within societies on the implications of bioethics and the sharing of knowledge in the field of science and technology.

In order to achieve these goals, the Declaration on Bioethics presents a vested right, which is reflected in its title: it anchors the principles it endorses in the rules that govern respect for human dignity, human rights, and fundamental freedoms. By drawing on the 1948 *Universal Declaration of Human Rights*, it clearly enshrines bioethics in international human rights law in order to apply human rights to the specific domain of bioethics (Faunce 2005).

Apart from the already well-established principles in the scientific community, such as informed consent, the principle of autonomy and individual responsibility, and respect for privacy and confidentiality (also articulated in the two previous declarations adopted by UNESCO), the *Universal Declaration on Bioethics and Human Rights* raises the issues of access to quality health care and essential medicines, adequate nutrition and the provision of clean water, the improvement of living conditions, the environment, and the reduction of poverty. The Declaration on Bioethics thus opens perspectives for action that reach further than just medical ethics and reiterates the need to place bioethics within the context of reflection open to the political and social world. Today, bioethics goes far beyond the code of ethics of the various professional practices concerned. It implicates reflection on the evolution of society, indeed world stability, induced by scientific and technological developments. The Declaration on Bioethics paves the way for a new agenda of bioethics at the international level.

TOWARD INTERNATIONAL BIOETHICS

Although the Declaration on Bioethics constitutes a nonbinding instrument in the eyes of international law, its value and its strength are in no way diminished. The unanimous adoption by the member states is not merely

symbolic but gives the declaration moral authority and creates a moral commitment. For the first time in the history of bioethics, all states of the international community are solemnly committed to respect and implement the basic principles of bioethics, set forth within a single text. Also through the declaration, bioethics finds its place on the agenda of states. Furthermore, characterized by the transparency and active participation of all the actors concerned, the elaboration process of the declaration, involving extensive consultations, and linking science and policy, already has contributed greatly to the renown of the text and its general acceptance. The innovative dimension of the declaration is that it constitutes for the first time a commitment of governments to a set of bioethical principles. Previous international declarations, although sometimes very influential, such as the *Declaration of Helsinki*, have been adopted by professional organizations, such as the World Medical Association. The adoption of the declaration also illustrates that there is now agreement about principles that form the basis of international, multicultural bioethics, itself firmly founded on international human rights (Thomasma 1997).

The *Universal Declaration on Bioethics and Human Rights* should be seen therefore not as the fruit of the reflection of just a few but as the result of a long and sustained common effort in which all stakeholders have been involved. The principles articulated in the declaration are, in some cases, expressed already in previous declarations adopted by UNESCO, but the scope of these principles have now been widened in order to cover medicine and life sciences as a whole. Other principles articulated in the Declaration on Bioethics are relatively new. They cover a broader area of interest, not only of more developed countries but also particularly of less developed countries, taking into account diverse cultures, religions, and schools of thought. Although these principles embrace very different cultures and political and economic climates, they need to be constantly confronted with real and practical situations that are very different. It is therefore clear that the adoption of the declaration is at the same time the start of a long process of detailed elaboration and consequent application. The International Bioethics Committee has now set up two working groups focusing on elaborating two of the principles in the declaration: Consent (Article 6 and 7) and Social Responsibility and Health (Article 14). They illustrate the adage, "Think globally, act locally." As principles they are universally adopted, but in practice their application must be tailored in multiple ways to accommodate different types of research and health care, categories of patients and problems, and cultural settings and

traditions. Specification will be particularly important for the application of the principle of social responsibility and health. It states that progress in science and technology should advance, among other things, access to quality health care and essential medicines, access to adequate nutrition and water, and reduction of poverty and illiteracy. In the process of drafting the declaration, the developing countries insisted on including this principle, precisely because it requires resetting the agenda of bioethics, focusing on international inequity and social issues rather than “sexy” topics such as genetics and stem cell research (Turner 2004).

BUILDING NATIONAL CAPACITIES AND INTERNATIONAL COOPERATION

The objective of the UNESCO program is to identify ethical issues that are relevant to the various regions of the world in an effort to determine and implement appropriate strategies for encouraging ethical reflection at regional and subregional levels and for strengthening national capacities and international cooperation in bioethics. For these efforts to be successful, it is essential to take into account the legal, cultural, and religious traditions in the member states. However, standard-setting activity is only the first step to achieve the objective of the program. The declarations adopted will remain paperwork if their provisions are not taken into account by and in the member states.

However, the bioethics infrastructure in member states is very heterogeneous, varying from countries with many bioethics experts, teaching programs, legislation, and ethics committees, to countries with hardly any of these. This heterogeneity also means that the input to the bioethical debate often comes from wealthy developed countries. For instance, the contribution from researchers in developing countries to the scientific bioethical literature is rather low (Borry, Schotsmans, and Dierickx 2005). UNESCO is undertaking major efforts to assist member states in building and reinforcing their bioethical infrastructure. In particular three main activities are targeted: (1) providing factual information, (2) promoting ethics teaching, and (3) establishing bioethics committees.

GLOBAL ETHICS OBSERVATORY

In order to provide member states with proper tools for reflection and appropriate means for coping with emerging ethical challenges in science and technology, the Global Ethics Observatory (GEObs) was launched in December 2005 (www.unesco.org/shs/ethics/geobs). GEObs is constituted at the moment by three databases. The first database—“Who’s who in

ethics?”—presents data on experts in various areas of ethics. A questionnaire has been developed and mailed to experts in all regions of the world. The database allows searching for different types of experts, according to country, area of expertise, experience, and keywords. The second database includes data of institutions such as ethics committees (at different levels: local, national, regional, and international); departments and centers in the area of ethics; and associations and societies in ethics. This database, as the others, covers all areas of applied ethics: bioethics, nursing ethics, law and ethics, social sciences and ethics, science ethics, environmental ethics, engineering ethics, and the so forth. In due course, it also will present all data in the six official languages of the organization. The third database presents descriptions of ethics teaching programs developed in the Ethics Education Program, described below. Since the launch of GEObs, the number of data entered is gradually increasing, allowing better assessment of available expertise in various member states.

Efforts are now focused on constructing the layout of the fourth database, which will provide information about legislation, guidelines, and policies developed in member states pertaining to the ethics of science and technology. Not only will it provide the texts of such legal regulations, but it also will identify the structure, organization, and contents, which will be instructive to other countries that are contemplating to draft legislation in the domain of ethics—e.g., in connection to research with human beings or to the ethical principles of science in general. In order to provide useful information that can guide the drafting of legislation, it will provide examples; it therefore will be necessary to abstract or excerpt the main characteristics of existing legislation. A team of legal experts is currently examining the question of how international legislation can be made comparable. The team also is developing a methodology for the construction of this database.

ETHICS EDUCATION

The Framework for Action of the World Conference on Science, which met in Budapest in 1999, states that ethics and the responsibility of science should be an integral part of the education and training of all scientists and that they should be encouraged to respect and adhere to basic ethical principles and responsibilities of science. In 2002, the Division of Ethics of Science and Technology and COMEST organized a Working Group on the Teaching of Ethics that has provided advice on how to integrate ethics and responsibility into scientific training. This working group produced a

report on the teaching of ethics, which includes a survey of existing programs, an analysis of their structure and contents, and detailed curriculum advice on how to integrate ethics, history, philosophy, and the cultural impact of science into scientific education (COMEST 2003b). The report served as the basis for the Ethics Education Program launched in 2004.

During the 32nd UNESCO General Conference (2003), many member states expressed the need to initiate and support teaching programs in ethics, not only in bioethics, but in all scientific and professional education. Ethics teaching varies greatly between regions and countries and requires that attention be given to moral issues that are relevant to specific regions. As a first step, data on ethics teaching are collected. In order to establish a database of ethics teaching programs, standardized forms have been developed to describe teaching programs, so that the substance of each program can be examined and various programs can be analyzed and compared. Within a group of countries, experts are identified who actually are teaching within a university setting. The experts are invited to take part in a regional meeting; in advance they are invited to provide data on their programs and to return the forms so that these can be discussed during the meeting. Often it is the first time that experts have insight into the programs taught by their colleagues. In the meeting, data can be clarified and discussed, difficulties identified, and problems discussed with colleagues. With the empirical data obtained and clarified, the next step can be taken: exploring what will be necessary for the future and how UNESCO can help to promote ethics teaching. Until now, expert meetings have been organized in Budapest (October 2004), Moscow (January 2005), and Split (November 2005). Approximately 100 teaching programs have been validated and entered into the Global Ethics Observatory database. In 2006–2007, further meetings are planned in Asia and the Arab region. One common finding so far is the vulnerability of ethics teaching programs. Often the programs are taught by enthusiastic teachers, but there is no firm institutional basis, nor any systematic effort to create a future generation of ethics teachers. A pilot ethics teacher training course, organized by UNESCO and the UNESCO Chair in Bioethics in Haifa, Israel, has been set up to remedy these problems; it took place in November 2006 in Bucharest, Romania. A different finding is the absence of cooperation between nations. International cooperation of experienced teachers in neighboring countries could create programs with more impact and sustainability, but the awareness and willingness to work together in this area need further stimulation.

Another dimension of the Ethics Education Program is the Advisory Expert Committee on the Teaching of Ethics. This ad hoc committee, composed of members of IBC and COMEST as well as representatives of the UNESCO Chairs in Bioethics, the Academy of Sciences for the Developing World (TWAS), and the World Medical Association (WMA), is assisting UNESCO in the area of ethics teaching. One of its first projects is the development of a proposal for a core curriculum in bioethics based on the recently adopted *Universal Declaration on Bioethics and Human Rights*. As soon as such a proposal has been developed, multimedia resources will be constructed to assist scholars who want to establish bioethics teaching programs in various cultures and regions. In the future, similar efforts can be directed toward other areas of applied ethics, such as environmental ethics, science ethics, and engineering ethics, examples of which can be found in GEObs.

ASSISTING BIOETHICS COMMITTEES

The *Universal Declaration on Bioethics and Human Rights* advocates the establishment of independent, multidisciplinary, and pluralist ethics committees at national, regional, local, or institutional levels. The purpose of these committees is to foster the exchange of ideas and information, to support decision making, to develop tools for standard setting, and to strengthen coordination and contacts among experts and institutions—e.g., through databases. They reinforce the role of UNESCO as an international clearing house for ethical issues. Ethics committees will be one of the most important intermediary bodies for the implementation of the normative instruments adopted by the member states. In many countries, experiences exist with bioethics committees at various levels of government. However, in the majority of member states, such committees do not exist at the moment. UNESCO has initiated a program to support the establishment and operations of bioethics committees (ABC program—Assisting Bioethics Committees). Through a series of practical guidebooks, information is provided about how to establish such committees and how to function when a committee has been established (UNESCO 2005a; 2005b). New guidebooks will address the topics of education of committee members and public outreach of committees. Task forces of experienced committee members in member states with operational committees will assist those countries that are in process of establishing committees; they also will provide training for committee members in working procedures and ethical analysis.

RAISING AWARENESS

UNESCO strives to create a better understanding of the major ethical issues raised by science and technology and supports analysis and discussion of those issues internationally, regionally, and nationally. An essential part of this work is raising public awareness and stimulating public debate. Public involvement is important for two reasons. First, ethics is of interest to policymakers because of public concerns. Because there is public concern and debate on issues such as cloning, research with human beings, transplantation, nuclear energy, or environmental pollution and global warming, ethics has been set on the national and international agendas. Ethics no longer is the sole concern of scientists, engineers, or health care professionals. It has transcended the exclusive domain of experts, showing that science is first of all a public enterprise, a social activity, and cultural good. Second, scientific developments often affect all people. This is clear in medical research, which is increasingly dependent on the cooperation of large numbers of patients and healthy volunteers, often in international trials. The interests of science and research should be balanced with the interests of participating people, exactly because human rights and freedoms can be at stake. Public debate and awareness raising are therefore important to make clear that science and technology are advancing within an ethical framework of respect for human dignity and human rights. They also show that scientists have responsibilities toward society and do take into account the possible effects of their work on society, for example, with respect to protection of the environment, promotion of justice, and prevention of biohazards and bio-events.

To promote public awareness and participation, the Division of Ethics of Science and Technology is organizing “Ethics around the World,” a series of thematic rotating conferences to disseminate information and promote interaction and networking among national and international experts. The objective is to stimulate debate at national and regional levels to build participation of civil society in the debate. These conferences, which are organized jointly with national UNESCO commissions, UNESCO field offices, and academic or research centers, usually feature one or two keynote speakers, often members of IBC or COMEST. Analysis and debate will then focus on specific topics relevant to the country. During the last two years, “Ethics around the World” conferences were held in the Netherlands, the Islamic Republic of Iran, Lithuania, Mexico, Argentina, the Russian Federation, Portugal, Turkey, the Republic of Korea, Indonesia, China, Estonia, the Philippines, New Zealand, and Peru.

Awareness raising also will be stimulated through the production and dissemination of publications. An explanatory brochure on ethics and human cloning has been issued in the six official languages of UNESCO—Arabic, Chinese, English, French, Russian and Spanish—(UNESCO 2005c). A similar brochure focusing on ethics and nanotechnology was issued earlier this year (UNESCO 2006).

Another way to focus attention on ethics is the Avicenna Prize for Ethics in Science. Created in 2002 by UNESCO on the initiative of the Islamic Republic of Iran, this biennial prize rewards individuals and groups who have contributed to high-quality research in the field of ethics in science and technology. It is named after Abu Ali al-Husain ibn Abdallah ibn Sina—also known by his Latin name Avicenna—one of the greatest scientists, philosophers, and doctors of the tenth and eleventh centuries (UNESCO 2004). The prize consists of a gold medal of Avicenna, a sum of \$10,000 (U.S.), and a one-week visit to Iran, during which the prizewinner delivers speeches in academic gatherings. Candidates are nominated by UNESCO member states and international NGOs officially linked to the organization, and the Director-General designates the winner on the recommendation of an independent international jury. The Avicenna Prize has been awarded to Margaret A. Somerville (2004) and Abdallah Daar (2006).

CONCLUSION: CHALLENGES

Although the ethics of science and technology always has had an international dimension, nowadays many international organizations have programs and activities in this area. This development illustrates that ethics, and bioethics in particular, has evolved from an academic discipline into field of public debate and global policymaking. The member states of UNESCO have decided that ethics is one of the five priorities of the organization. The activities have focused on three categories of activities: (1) standard setting—i.e., developing internationally agreed normative frameworks to guide policymaking in member states; (2) capacity building—i.e., enhancing the ethics infrastructure in member states so that they will be able to cope better with the ethical issues emerging from the application and development of science and technology; and (3) awareness raising—i.e., supporting public debate on ethical issues so that all persons involved will have a better understanding of the moral choices at stake in globalized world.

The role of UNESCO in these areas is not free from difficulties. First, the time frame for implementing and sustaining the activities is short.

Although ethics is one of the five priorities of the organization in the current period (2002–2007), it is unclear whether this will be continue the case in the next period. In a political realm, priorities can shift quickly. In the past period, emphasis has been on standard setting. The drafting and adoption of 3 declarations had a high profile. Currently, the focus is on implementation activities; these cover a larger span of time and are less visible at a global level. Second, the intercultural context makes ethics in the context of UNESCO challenging because of the diversity of approaches and the pluralism of values. At the same time, the declarations identify shared values and common principles. The formulation of these values and principles, however, is very general, allowing for various interpretations. This raises the question of how the generalized language of normative statements can be translated into practical applications. One approach is to incorporate the framework of principles into teaching programs for young professionals and scientists. Another is to assist governments to draft their own regulations and legal provisions based upon the general principles. The third difficulty relates to the political context. Although it is characteristic for present-day bioethics to be interconnected with politics (Kahn 2006), in an intergovernmental organization it is an unavoidable connection. It is precisely the political relevance of (bio)ethics that has made member states to make ethics a work area in UNESCO. The challenge is to make clear that (bio)ethics is a scientific discipline with a body of knowledge and methods so that member states may really benefit from exchange of expertise. This is a continuous effort since it is not clear who are experts. Member states can delegate scientists, medical doctors, lawyers, or government officials to bioethics debates or they can nominate them for ethics committees. This cannot be contested since it is their prerogative to determine who are the experts representing them. What can be shown however is that in many countries there already exists extensive expertise in various areas of ethics; this is the purpose of the Global Ethics Observatory. It can help governments to enhance their input in intergovernmental processes. But it also assumes that (bio)ethicists are willing to cooperate with governments and intergovernmental organizations, which often is not the case. Perhaps this is the main challenge for the ethics program of UNESCO: to continuously mediate between ethics and politics.

NOTE

1. All information and documentation are available on the UNESCO website. To navigate the site, go to *www.unesco.org*, then click on *Social & Human Sciences* at the left side of the page. Next click on *Ethics* (left side page). The main page of the ethics programs refers to specific programs: Bioethics, Ethics of Science and Technology, and the like.

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