



**General Conference**  
35th session, Paris 2009

rep

United Nations  
Educational, Scientific and  
Cultural Organization

Organisation  
des Nations Unies  
pour l'éducation,  
la science et la culture

Organización  
de las Naciones Unidas  
para la Educación,  
la Ciencia y la Cultura

Организация  
Объединенных Наций по  
вопросам образования,  
науки и культуры

منظمة الأمم المتحدة  
للتربية والعلم والثقافة

联合国教育、  
科学及文化组织

Report

35 C/REP/20  
17 August 2009  
Original: English

**REPORT BY THE DIRECTOR-GENERAL ON THE WORK DONE BY  
THE WORLD COMMISSION ON THE ETHICS OF SCIENTIFIC KNOWLEDGE  
AND TECHNOLOGY (COMEST) SINCE ITS FIFTH SESSION**

**OUTLINE**

**Source:** Article 9, paragraph 3, of the Statutes of the World Commission on the Ethics of Scientific Knowledge and Technology (COMEST), adopted by the Executive Board at its 154th session (154 EX/Decision 3.4.2).

**Background:** In accordance with Article 9, paragraph 3, of the Statutes of COMEST, the Director-General transmits to the General Conference the results of the Commission's work and its recommendations, in accordance with the priorities set out in document 34 C/5.

**Purpose:** This report reviews the work carried out by COMEST in 2008-2009, the Extraordinary Session held in Paris in November 2008 and the outcomes of its Sixth Ordinary Session, convened by the Director-General in Kuala Lumpur, Malaysia, from 16 to 19 June 2009.

1. The World Commission on the Ethics of Scientific Knowledge and Technology (COMEST), is an independent and pluralistic UNESCO advisory body that was established in 1998 in response to the growing ethical challenges posed by scientific and technological progress. COMEST has held six Ordinary Sessions: in Oslo, Norway (April 1999), Berlin, Germany (December 2001), Rio de Janeiro, Brazil (December 2003), Bangkok, Thailand (March 2005), Dakar, Senegal (December 2006) and in Kuala Lumpur, Malaysia (June 2009). The regional approach that the Commission has embraced since its third Ordinary Session has been hailed as a success for the activities of COMEST demonstrating that it is receptive to distinctive regional concerns on these matters.

## **I. EXTRAORDINARY SESSION OF COMEST**

2. An Extraordinary Session of COMEST was convened at UNESCO Headquarters in Paris in November 2008 with an agenda organized around key COMEST deliverables expected in the work programme for 2008-2009: science ethics and the ethical implications of global climate change, along with a review of work on nanotechnologies, and on information ethics.

3. With respect to science ethics, the general orientation of COMEST's work, focusing on revitalization and follow-up of the 1974 Recommendation on the Status of Scientific Researchers and 1999 Declaration on Science and the Use of Scientific Knowledge, was noted and approved. With respect to climate change, a preliminary background document was noted and approved, along with the work programme proposed by the environmental ethics working group. After review of the 2007 Policy Recommendation on nanotechnologies and ethics, along with subsequent work, it was argued that additional policy-oriented work was required, particularly to raise awareness of ethical issues among policy communities. With respect to information ethics, it was noted that UNESCO has been fostering a pluralistic dialogue and debate on the subject and that it was recommended that COMEST strive to take a more active role in such dialogue, while also examining the larger relations between the ethics of science and technology and information ethics.

4. Reviewing their past and proposed future activities, COMEST members expressed concern that their work was less visible than the importance of the topics covered deserves and engaged discussion about appropriate mechanisms to reach and engage with key stakeholders, especially in the preparation process for major reports.

## **II. SIXTH ORDINARY SESSION OF COMEST**

5. At the kind invitation of the Government of Malaysia, the sixth Ordinary Session of COMEST was held in Kuala Lumpur (Malaysia) from 16 to 19 June 2009. More than 250 participants attended from 25 countries, mainly in the Asia-Pacific region but also from Africa, Europe and North America, and Latin America and the Caribbean.

6. Following the orientation of the 2008 Extraordinary Session, the sixth Ordinary Session was structured around the key elements of COMEST's work programme in 2008-2009, which are described in more detail in paragraphs 9-14 of this report, with three sessions devoted to the ethical implications of global climate change, two sessions to science ethics, and a session each covering the ethics of nanotechnologies and environmental ethics teaching.

7. In addition, four public sessions were devoted to topics of regional significance. The formal opening session was addressed by His Excellency Mr Maximus Johnity Ongkili, Deputy Minister of Science, Technology and Innovation of Malaysia, along with the President of COMEST, Mr Alain Pompidou, and the Assistant Director-General for Social and Human Sciences, Mr Pierre Sané. Two substantive sessions were also organized: a round table on research-policy linkages in science ethics, and a round table on the ethics of energy technologies in Asia and the Pacific. A fourth session gave participants in the Youth Forum, which ran in parallel with the Ordinary Session of COMEST, the opportunity to report publicly on its deliberations and to make specific recommendations.

8. COMEST also held five private sessions. In accordance with its Statutes, COMEST elected a new Bureau by open ballot and according to a simple majority of voting members. The following Bureau was unanimously elected: Mr Alain Pompidou (France), President; Ms Hebe Vessuri (Venezuela) and Mr Rajoana Andriamananjara (Madagascar), Vice-Presidents; and Mr Johan Hattingh (South Africa), Rapporteur. Furthermore, COMEST discussed in private session achievements and challenges from activities in 2008-2009; its work plan for 2010-2011; and its recommendations relating to the key conclusions of the Session (see paragraphs 15-18).

### III. SCIENCE ETHICS

9. Taking note of 175 EX/Decision 13, COMEST has devoted its science ethics work in 2008-2009 to continuing its efforts to involve Member States, intergovernmental and international non-governmental organizations, and relevant national and regional bodies in the process of pursuing reflection on science ethics and scientists' responsibilities through a process of regional consultations, and to analyse the ethical principles of the Recommendation on the Status of Scientific Researchers as well as of the ethical aspects of the Declaration on Science and the Use of Scientific Knowledge, in order to clarify their status, develop their implications, and encourage their use by Member States and other relevant bodies. Consultation meetings have been held in Cairo, Egypt (October 2008) and Bergen, Norway (May 2009), in the context of the World Social Science Forum organized by the International Social Science Council.

10. COMEST is engaged in drafting a report on science ethics, which was considered at the sixth Ordinary Session and on which consultations continue. The report reviews key ethical challenges for science in light of past and ongoing COMEST work on science ethics, analyses the existing normative framework for science ethics, and formulates recommendations for future development. After further consultation with Member States and relevant bodies with ongoing activities in this area, the report will be published in 2010.

11. Within the context of its general analysis of the existing normative framework for science ethics, COMEST has devoted particular attention to the Recommendation on the Status of Scientific Researchers, taking note of the request to provide advice to the Director-General on monitoring of implementation, and has adopted specific recommendations relating to the monitoring process (see paragraph 15).

### IV. ENVIRONMENTAL ETHICS

12. Taking note of the UNESCO Strategy for Action on Climate Change (180 EX/16 Rev.), along with the related Plan of Action (181 EX/15), and of the decisions thereon, COMEST has considered that, without prejudice to work in other areas of environmental ethics, climate change deserves high priority in the short term. Efforts have continued in parallel to promote the teaching of environmental ethics, *inter alia* through mapping of existing experiences and expertise. Thus, a consultation meeting for West Africa was held in Lomé, Togo, in March 2009.

13. COMEST is currently finalizing a report on the ethical implications of global climate change (see 182 EX/INF.56), following the presentation of a background document at the Extraordinary Session in November 2008, three working group meetings in July 2008, March 2009 and May 2009, and circulation of a preliminary draft for public comment in April and May 2009. The report reviews the key characteristics of global climate change, emphasizing in particular the ethical challenges that derive from its complex extension in time and space, from the uncertainties surrounding it, from its impacts on differentially vulnerable populations, and from the difficulties in applying established ethical frameworks to it. The report is the basis for the recommendation that UNESCO develop an ethical framework of principles in relation to climate change (see paragraph 16).

### V. NANOTECHNOLOGIES AND ETHICS

14. In light of the objectives set at the Extraordinary Session in 2008, and taking account of emerging and possible convergence with biotechnologies, information technologies and cognitive science, which gives rise to additional ethical challenges, a consultation meeting for the Arab region was held in Doha, Qatar, in May 2009 (see paragraph 18). Further meetings are planned to ensure adequate regional coverage, particularly in the context of reflection about the application to converging technologies of codes of conduct or ethics codes that may be based on disciplines made obsolete by cutting-edge research. Collaboration is envisaged in particular with the European Parliament, Science and Technology Options Assessment (STOA); with existing nanotechnology observatories; with the International Risk Governance Council and with the World Federation of Engineering Organizations.

## VI. COMEST RECOMMENDATIONS

15. With respect to monitoring of the implementation of the 1974 Recommendation on the Status of Scientific Researchers, COMEST made five recommendations:

- The monitoring process should be designed so as to ensure integration of science ethics and science policy issues. It should also give Member States the opportunity to comment on the limitations of the 1974 Recommendation on the Status of Scientific Researchers and the practical steps that might be taken to supplement it, *inter alia* through enhanced articulation with the 1999 Declaration on Science and the Use of Scientific Knowledge.
- In addition to monitoring of national policies, consideration should be given to the impact of globalization, with particular reference to fair employment and non-employment conditions across and within national research systems.
- Particular attention should be given in analysis and follow-up of the monitoring process to global inequalities including brain drain and inequitable distribution of research funds.
- The role of public investment in research leading to public benefit should be promoted. Public-private partnerships, where relevant, should be equitable with regard to sharing of costs and benefits.
- In monitoring the 1974 Recommendation on the Status of Scientific Researchers, taking account of the economic importance of the knowledge society, UNESCO should consult Member States on the need for new ethical thinking on private sector research and on intellectual property rights.

16. In view of the nature and extent of the scientific, social and human challenges of global climate change, which necessitate adoption of policies at the global level to address the pressing needs of the most vulnerable in the face of major uncertainties and the exigencies of international cooperation, COMEST judged that it is urgent to determine universal ethical principles to guide responses to such challenges. COMEST therefore recommended that UNESCO develop an ethical framework of principles in relation to climate change.

17. In the area of environmental ethics, in order to improve access to environmental ethics teaching resources (such as curricula, case studies, reading lists, teaching methodologies, etc.), COMEST requested UNESCO to expand and enhance the Global Ethics Observatory, with a view to comprehensive regional coverage of teaching programmes.

18. With respect to the ethics of nanotechnologies, COMEST adopted two specific recommendations:

- taking note of the conclusions of the regional expert meeting on nanotechnologies and ethics in the Arab region, held in Doha (Qatar) in May 2009, and with particular reference to rapid scientific and technological development in the area of nanotechnology, UNESCO was requested to bring to the attention of its Member States in the Arab region the potential value of a “Declaration on the Ethics of Nanotechnologies in the Arab States”, based on the COMEST policy recommendations, and to support the relevant processes as required;
- with a view to improved access to information resources, documents and research relating to nanotechnology ethics, UNESCO was requested to enhance coverage of information on nanotechnologies and ethics in the Global Ethics Observatory.