

## **Report on the Ethics of Science and Technologies Activities of UNESCO Bangkok**

The Regional Unit in Social and Human Sciences in Asia and the Pacific (RUSHSAP) was established in 1977 at UNESCO Bangkok as part of the decentralization efforts of UNESCO, and is responsible for coordinated management of Social and Human Science (SHS) sector projects in 47 member countries, in a geographical range from Iran in the West to Japan in the North, and Oceania in the South East.

Since 2003 there have been activities on the Ethics of Science and Technology in UNESCO Bangkok, and the results of some of these projects are included in **publications** on the website and in book format (see list in appendix).<sup>1</sup>

Over 40 **workshops** in different countries in the region since 2005 have brought together experts in a range of fields linked to the EST mandate of UNESCO, to work on these subjects.<sup>2</sup>

The work has included support for research and networking in information ethics and nanoethics. There is a regional network in cyberethics and in nanoethics. There is also considerable work inside the 160 members of the UNESCO Asia-Pacific School of Ethics on these issues. The major work has focused on environmental ethics, ethics of science and technology, and on education of EST in general. These are discussed in more detail in the sections below.

For specific information on the activities please examine the regularly updated working group webpages which list the members, and the overall website, <http://www.unescobkk.org/rushsap/energyethics/>, and contact Dr. Darryl Macer, Regional Advisor in Social and Human Sciences in Asia and the Pacific, Regional Unit in Social and Human Sciences in Asia and the Pacific (RUSHSAP) at UNESCO Bangkok or +66(0) 2391 0577, extension 147 or email [rushsap@unescobkk.org](mailto:rushsap@unescobkk.org).

### **A. Environmental Ethics**

**This work is conducted under the framework of the Ethics of Energy Technologies in Asia and the Pacific Project (EETAP)<sup>3</sup>**

The Ethics of Energy Technologies in Asia and the Pacific project is not intended to duplicate the numerous meetings being held in the UN and other forums on energy and environment, but to open up ethical and value questions that have often been neglected.

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<sup>1</sup> <http://www.unescobkk.org/rushsap/publications/>

<sup>2</sup> <http://www.unescobkk.org/en/rushsap/news-and-events/past-events/>

<sup>3</sup> <http://www.unescobkk.org/rushsap/energyethics/> Each group has an individual web page with members and reports available.

Importantly the work can complement the considerations of the COMEST on ethics of climate change.

The Asia Pacific region is experiencing the fastest annual growth in energy demand in the world and meeting this demand over the next two decades will be a tremendous challenge. The ethics of all energy choices, including fossil fuels, biofuels, nuclear energy, fuel cells, renewables, etc., need be considered holistically. How will energy production affect the environment and other living organisms? How will changing energy prices affect the poor? What are our ethical obligations for consultation with local people? What are our ethical obligations to future generations and what vision for the future do we hold? Do environmental values held in Asian philosophical and religious traditions affect the sustainability of our relationships with our environment?

The project was launched in September 2007 with a three day conference hosted by UNESCO Bangkok in collaboration with the Ministry of Science and Technology and the Ministry of Energy, Thailand, attended by a hundred people from over 20 countries, from many sectors and backgrounds, with a range of views on these issues. The project aims to encourage science and value-based discussions on environmental ethics to produce substantive cross-cultural and multidisciplinary outputs that will be relevant for long-term policy making. The primary outputs will be reports with policy options (not recommendations), and the governments of all member countries have been informed and consulted on the project. Since 2007 there have been a number of subsequent conferences and working group sessions organized in different countries, including participation of some COMEST members.

### **Fifteen working groups**

Following on from the conference fifteen provisional working groups have been formed on the following topics:

- Universalism and environmental values
- Ethical worldviews of nature
- Visions and hopes of the future
- Representation and who decides
- Community engagement
- Stakeholder responsibilities
- Energy equity and human security
- Cost-benefit analysis and economic constructions
- Adoption & development of energy technologies (state of the art review)
- Ethical frameworks for research agendas and policy
- Educational frameworks for environmental ethics
- Nuclear dialogues
- Energy flow, environment, and ethical implications of meat production
- Water ethics and water resource management

- Gender, Environment and Energy Technologies

### **Overview of the groups**

The aim of the working groups is to develop dialogue around these particular issues with a focus on environmental ethics and human security. Each group will produce a report with policy options that can be used by policy makers, philosophers, scientists and researchers to consider the ethical dimensions of energy policy.

There is a yahoo group which is used to share information among the 200 plus current members of the project, [unesco\\_eet@yahoogroups.com](mailto:unesco_eet@yahoogroups.com)

The report development can be followed through the individual working group websites, which include meeting reports and draft outlines of the reports. The project is open to more people interested in participating in the working groups with a diverse range of experience in energy and environmental ethics, from fields including but not limited to engineering, government, institutional advisory bodies, civil society organizations, energy-related industries, education, and academia.

The members participate as individuals in the highest standards of intellectual vigor and integrity. The reports will be subject to peer review, including through circulation to member countries governments, and do not represent the views of partner organizations. It is also planned to hold discussions of some draft reports at the ordinary session of COMEST in 2009. Some of working groups will continue to develop further reports, once the initial report has been completed.

### **Brief Description of Working Groups (WG)**

#### *WG1: Universalism and environmental values*

Environmental values in the Asia Pacific region are drawn from a diversity of rich philosophical and religious heritages. To what extent can common ground be found within a United Nations system that seeks to implement universal rights and dialogue among different values? Is it appropriate to seek universal or pluralist environmental values? Is there such a thing as an 'Asian environmental ethos' that might be the foundation for building and promoting a more sustainable economic growth? Are their common environmental values that can feed into methods to protect the environment?

**Based on meetings of the working group in Kumamoto, Japan, in Bangkok, Thailand, and Tehran, Iran, the WG draft report is on-line.**

#### *WG2: Ethical worldviews of nature*

Are there worldviews inherent in philosophical and religious traditions of the Asia Pacific that shape ethical relationships with the natural world? Are these anthropocentric, biocentric, ecocentric or cosmocentric worldviews? How do our worldviews allocate value and meaning to people, plants, animals and the biosphere? What are the

relationships between such worldviews and actual decisions made by policymakers or the daily lives of the people they represent?

**Based on meetings of the working group in Seoul, Korea, in Bangkok, Thailand, and Tehran, Iran, the WG preliminary draft report is on-line.**

*WG3: Visions and hopes of the future*

What is the most appropriate timescale to consider problems of environmental ethics – years, decades, centuries, or generations? Is there a common vision of where we would like society to go beyond MDGs? How to balance economic growth, quality of life, and other future aspirations in a holistic vision?

**This working group will meet in Kuala Lumpur, Malaysia at the time of COMEST. Some of the issues have been merged under the auspices of WG2.**

*WG4: Representation and who decides*

What are the rights of nation states to decide on energy technologies for their people, when such decisions may pose an environmental or security risk to neighboring countries, to the region or to all countries? What are rights of provinces, communities and ethnic groups with regards to energy infrastructure in their geographic area?

**This working group will meet in Kuala Lumpur, Malaysia at the time of COMEST, to consider a preliminary draft report. The WG preliminary draft report is on-line.**

*WG5: Community engagement*

How can we engage communities in the decision-making process? Are communities being given a chance to articulate their environmental values? Do communities have adequate access to information about energy technologies and their risks and benefits? What is the role of education in assisting communities to make decisions about their future? Are women and young people being engaged? What are the appropriate stages of an energy project for community consultation? Is there a trade-off between adequate consultation time and expedient implementation of a project? How can we develop the ‘not in my backyard’ view when it comes to large-scale energy infrastructure? How can community engagement reflect the emerging paradigm shift from principles of paternalism through those of informed consent to informed choice?

**This working group will meet in Kuala Lumpur, Malaysia at the time of COMEST. The first meeting: Joint UNESCO-Kadoorie Institute (University of Hong Kong) Conference on Community Engagement and the Ethical Dimensions of Energy Technologies, has been postponed from 9 May 2009, in Hong Kong because of H1N1 flu. The WG preliminary draft report is on-line.**

*WG6: Stakeholder responsibilities*

What are stakeholders’ responsibilities towards the environment and to future generations? Is a rights’ based framework really appropriate for environmental ethics, when an emphasis on responsibilities may be more important? When regional or global

consensus cannot be reached, do countries have a responsibility to do what is ‘ethically correct’, even if no-one else will? The group will articulate the responsibilities of scientists, policy makers (funding and regulation), the public (including consumers and non-consumers of different products), investors, companies, institutions, particular interest groups (e.g. geographically close to a power plant, occupational groups, faith groups), and other living organisms, as examples in a cross-cultural perspective.

**Future meeting and activity is under planning based on results of other WGs.**

*WG7: Energy equity and human security*

While energy generation supports economic growth and a higher standard of living, it also has financial and environmental costs. How do we reconcile the disproportionate consumption of energy by developed countries with increasing demand for energy in developing countries, and particularly across the Asia Pacific region? Is it appropriate for rich countries to encourage less developed countries to limit their energy consumption and shun luxury lifestyles? Is there a way for developing countries to access the technology and expertise that permits more efficient energy generation in the developed world? At the social level, should governments provide concessions to make energy more affordable and accessible for lower-income people? Do government subsidies for energy run the risk of subsidizing inefficient use of energy?

**Based on conferences and associated meetings of the working group in Chennai, India and in Bangkok, Thailand, this working group will meet in Kuala Lumpur, Malaysia at the time of COMEST, and be the major focus of the Joint UKM-UNESCO Satellite Conference on 19 June. The WG preliminary draft report is on-line.**

*WG8: Cost-benefit analysis and economic constructions*

What environmental values can be quantified? How can environmental and cultural values best be incorporated into cost-benefit analyses for energy projects? What are the real costs of ‘cheap energy’? What are the costs of any form of energy if we consider the opportunity costs of infrastructure construction or land surface area, and total energy costs over the lifecycle of a product, including waste, disposal and security?

**Future meeting and activity is under planning based on results of other WGs.**

*WG9: Adoption & development of energy technologies (state of the art review)*

This review of energy alternatives for local and national scale projects will focus on the ethical implications inherent in different research options for energy production and delivery. It will include development of innovation in new science and translational research, diffusion of technology, and energy diversity. It will also consider global networking and IT. It will apply an ethical matrix to analyze points of different alternative energy technologies, with case studies.

**Based on meetings of the working group in Bangkok, Thailand, the WG draft outline is on-line.**

*WG10: Ethical frameworks for research agendas and policy*

What criteria do policymakers use in deciding to adopt energy technologies, and how are ethical considerations taken into account? How should policy makers identify and employ the precautionary principle? How can they ensure appropriate gender-sensitive aspects in policy formulation from planning through implementation and impact assessment, emphasizing that all people in a society are assets in environmental and energy management? This group will examine the different understanding of ethical frameworks by looking at critical ethical issues including: codes of ethics for researchers, societal values, rights of all participants (stakeholders), rights of indigenous peoples, religious values, legal issues and take account of the conclusions of the specialized working groups above. After a review of all policies it will analyze the ethical frameworks inherent in the documents to draw up a model ethical framework.

**Based on meetings of the working group in Jogjakarta, Indonesia in Bangkok, Thailand, and Tehran, Iran, the WG preliminary draft report is on-line.**

*WG11: Educational frameworks for environmental ethics*

This working group will link to ongoing efforts to develop and test environmental ethics education materials and strategies with pilot trials. The topics link to the coverage of all the above working groups.

**This working group will meet in Kuala Lumpur, Malaysia at the time of COMEST.**

*WG12: Nuclear dialogues*

This group will look at the particular sensitivities of the nuclear energy debates from an ethical perspective. A specific case study of one alternative energy. Issues raised include transparency; industrial marketing; safety; risk surcharge to add to the price estimates for energy production; analysis of so-called “new” generation reactors; waste; extremely long term risk.

**Based on meetings of the working group at the Joint UNESCO-UNITAR Dialogues on Ethics of Nuclear Energy Technologies, 25 and 27 July 2008, UNITAR, Hiroshima, Japan, the WG preliminary draft report is on-line.**

*WG13: Energy flow, environment, and ethical implications of meat production*

Meat, as a food, is a form of energy for humans, but in order to produce enough meat to satisfy global demand huge reserves of energy are required in the form of feed, fertilizers, pharmaceutical production, transport and refrigeration. This group is examining the consumption of energy, particularly fossil fuels, in industrial meat production, and ethical implications for humans and the environment.

**Based on meetings of the working group at the UNESCO Ethics of Energy Technologies Conference on Energy Flow, Environment and Ethical Implications for Meat Production, 24 July 2008, at UNU-IAS, Yokohama, Japan, the WG draft report is on-line.**

*WG14: Water ethics and water resource management*

The ethical issues associated with water resource management, including its uses in energy and other domains are a priority area in many countries. There are also issues over equity of access, ways to conserve water, and privatization of what many consider to be a common resource.

**Based on the First and Second Joint UNESCO-Beijing University Conferences on Water Ethics (2007 and 2008), Peking University, Beijing, China o, the WG draft report is on-line.**

*WG15: Gender, Environment and Energy Technologies*

This is a new working group established in association with the Women's/Gender Studies Network in Asia and the Pacific.

**Future meeting and activity is under planning based on results of other WGs.**

## **B. Consultations on Science Ethics**

In 2006 a series of regional Consultation Meetings on Codes of Ethics in Engineering and Sciences were held in Bangkok, Tokyo, Seoul, New Delhi.<sup>4</sup> The member countries and experts suggested that UNESCO should develop a code of science ethics, as part of the follow-up to the 1974 Recommendation on the Status of Scientific Researchers. Further focused workshops have examined these issues on an ad hoc basis.

Museum displays on ethics of science and technology have been developed with the joint purposes of consultation, education, and research on attitudes towards ethics of various applied sciences and technology.

## **C. Environmental Ethics Education**

*Environmental Ethics Teaching Materials and Trials in Asia-Pacific Region*

Since 2005 there have been trials in many countries among the 47 member states of Asia-Pacific of environmental ethics teaching materials (and pedagogical methods) coordinated by RUSHSAP. In addition to the materials listed below, there are student and teacher evaluation forms available on the website:

<http://www.unescobkk.org/rushsap/ethics-resources/multilingual-material/>

- A1. Making Choices, Diversity and Principles of Bioethics
- A2. Ethics in History and Love of Life
- A3. Moral Agents
- A4. Ethical Limits of Animal Use
- A5. Ethics and Nanotechnology
- B1. Ecology and Life

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<sup>4</sup> <http://www.unescobkk.org/rushsap/programmes-and-activities/ethics-of-science-and-technology/>

- B2. Biodiversity and Extinction
- B3. Ecological Ethics
- B4. Environmental Science
- B5. Environmental Economics
- B6. Sustainable Development
- B7. Cars and the Ethics of Costs and Benefits
- B8. The Energy Crisis and the Environment
- B9. Ecotourism
- B10. The Earth Charter

In 2006 a Joint Plan of Action for Regional Networking in Bioethics Education Towards Better Bioethics Education was adopted by the participants at the **UNESCO Asia-Pacific Conference on Bioethics Education**, held 26-28 July 2006 in Seoul, Republic of Korea, together with other members of the UNESCO Asia-Pacific School of Ethics. It includes a number of issues in environmental ethics, since the view of the regional experts is that the term “Bioethics” includes environmental ethics. The action plan and some of the materials are available in several languages, including English, Chinese, Indonesian, Japanese, Khmer, Korean, Thai, Urdu, and Vietnamese. The materials (and additional teaching resources and teacher references), are available in MS Word format for users to modify for local needs, and they were developed by authors in Asia and the Pacific region.

*Educational frameworks for environmental ethics Working Group in Asia and the Pacific*

Under the EETAP framework one working group is on “Educational frameworks for environmental ethics”. The working group is building upon publications of UNESCO Bangkok that were compiled on earlier consultations on environmental ethics and ethics education in the region, and programmes across the regional schools and universities, to produce a report with policy options for the governments of member countries and other institutions. Since 2007 there have been a number of subsequent conferences and working group sessions organized in different countries in the region. The report is expected to be completed in the second half of 2009, including a regional survey of environmental ethics teaching programs and resources.

**D. Annex: Major Publications of RUSHSAP in the Field of Ethics of Science and Technology (excluding only Bioethics-related publications)**

<http://www.unescobkk.org/rushsap/publications/>

**2008**

Macer, Darryl RJ, ed. *Asia-Pacific Perspectives on Environmental Ethics*, Regional Unit for Social and Human Sciences in Asia and the Pacific (RUSHSAP), Bangkok: UNESCO Bangkok, 2008. vi + 108 pp. ISBN 978-92-9223-218-4 (Electronic version)

Macer, Darryl RJ, ed. *Asia-Pacific Perspectives on Bioethics and Biotechnology*, Regional Unit for Social and Human Sciences in Asia and the Pacific (RUSHSAP), Bangkok: UNESCO Bangkok, 2008. v + 147 pp. ISBN 978-92-9223-220-7 (Electronic version)

Macer, Darryl RJ, ed. *Asia-Pacific Perspectives on Bioethics Education* Regional Unit for Social and Human Sciences in Asia and the Pacific (RUSHSAP), Bangkok: UNESCO Bangkok, 2008. v + 195 pp. ISBN 978-92-9223-221-4 (Electronic version)

**2007**

Macer, Darryl RJ, ed. *Asia-Pacific Perspectives on Ethics of Science and Technology*; Regional Unit for Social and Human Sciences in Asia and the Pacific (RUSHSAP), Bangkok: UNESCO Bangkok, 2007, 80 p. ISBN 978-92-9223-137-8 (Electronic Version) ([pdf file](#)).

**2004**

Bergstrom, P. (ed). *Ethics in Asia-Pacific*. Bangkok, UNESCO Asia and Pacific Regional Bureau for Education, 2004. P.376.

**2001**

Hayes A. and Nadkarni M.V. (Editors). *Poverty, Environment and Development: Studies of Four Countries in the Asia Pacific Region*. Bangkok, UNESCO Asia and Pacific Regional Bureau for Education, 2001. P.279.