

REPORT OF THE FIRST MEETING OF THE GROUP OF EXPERTS ON ENVIRONMENTAL ETHICS

UNESCO HQs, Room V, 23-24 September 2004

23rd September 2004, 4pm – 6pm

Each participant introduced himself: Robin Attfield, Alan Holland, Hamish Kimmins, Johann Hattingh, Yang Tongjin, Teresa Kwiatkowska, Emmanuel Agius, John Buckeridge, Nadia Tollemache, Julien Tort, Peter Dogse, Simone Scholze and Henk ten Have.

Prof. Henk ten Have, Director of the Division of Ethics of Science and Technology of UNESCO, explained the history of ethics in UNESCO, starting with the establishment of the International Bioethics Committee. The main focus, so far, has been on normative action, as reflected by the Universal Declaration on Human Genome and Human Rights, the International Declaration on Human Genetic Data, and the declaration of universal norms in bioethics, currently in the drafting process. The World Commission on the Ethics of Scientific Knowledge and Technology (COMEST) was created in 1997 to reflect upon the development in Science and Technology that request international action. Mrs Nadia Tollemache, Prof. Hattingh and Prof. Kimmins are among its 18 members. In its early years, the committee focused on four topics: ethics of fresh water, ethics of energy, ethics of outer space and ethics of the information society, and this work resulted in several reports. The work on ethics of the environment is the continuation of the works initiated on fresh water and energy (a COMEST subcommission which was chaired by Prof. Kimmins).

UNESCO has three types of activities:

- Standard setting activities: member states can reach agreements and adopt declarations; this activity can help countries that are underdeveloped as regards standards in a particular area;
- Capacity building activities, like the publication of a manual for ethics committees; helping member states in the implementation of international declarations; the ethics education programme; or the Global Ethics Observatory, with data on experts, institutions, teaching materials, and legislations;
- Awareness-raising activities, with a purpose to make people aware of issues and of what UNESCO is doing. Here we have notably the programme of rotating conferences “Ethics Around the World” with its focus on specific topics; and publications such as the series on ethical issues in science and technology, starting with environmental ethics and nanotechnology ethics.

The Division of Ethics of Science and Technology is working in four areas of ethics: bioethics, ethics of the environment, ethics of science, ethics of outer space. In science ethics, exploratory steps are taken towards a code of conduct for scientists. In space ethics, a group is being created of ethicists and other scholars that are willing to develop this area.

Prof. ten Have then explained the approach that led to the constitution of this group on environmental ethics. In order to allow the moral approach to clearly emerge, it was decided to develop a three steps approach to explore whether it is possible to develop a set of principles that can be adopted. In the first step, ethicists are asked to reflect on the moral issues and to make proposals for international action. In the second step, these proposals are discussed by the scientific community, starting with COMEST, and, in a third step, the consultation reaches the policy making community. A policy document will result from the first step, possibly leading to the drafting of a feasibility study, with a view to adopt a declaration by 2007 or 2009.

Two outputs are expected of this group:

1. Descriptions that can explain to a broad audience what environmental ethics is and what possibilities are for international action. These descriptions will be brought together in a publication that will be widely disseminated among member states.
2. A draft policy document, that will be submitted to the next COMEST meeting in Bangkok in March 2005, thus starting phase 2. The Division will draft this document and Mr. Tort will present a tentative outline of it at the end of the meeting.

To a question raised by one participant about the relationship of UNESCO with the UN Environmental Programme (UNEP), Mr. Dogné, of the Division for Ecological Sciences of UNESCO, responded that, although UNEP has developed some expertise in ethics, not much has been undertaken in this field. Prof. ten Have emphasized that several agencies are dealing with bioethics, hence the Inter Agency Committee on Bioethics, but that there was so far nothing on environmental ethics. Furthermore, even if other agencies are involved in ethics, UNESCO is the only UN Agency with an ethical mandate, and ethics is a priority for UNESCO. However, there are political dimensions to the debate, as one can judge by the fact that the debate on cloning is taking place in New York instead of being organized by UNESCO.

One member of the expert group asked about the relationships of environmental ethics and bioethics, stressing that several issues seem to concern bioethics rather than environmental ethics in the stricter sense. This issue was raised, Prof. ten Have responded, in the consultations leading to the declaration on universal norms in bioethics: does such declaration only concern human life or not? Mrs. Scholze reminded that UNESCO was invited by the international community to address environmental ethics on three occasions: at the World Conference on Science in Budapest (1999); at the World Summit for Sustainable Development of Johannesburg (2002); and in the Millennium Declaration of the United Nations (2000).

Prof. ten Have thanked the experts for their papers and apologized for Prof. Sagoff. He then wondered, if the papers in their current form are adequate for the general public, and asked how they can be improved. In November, he said, we can focus on the first draft of the policy document and the final versions of the contributions. Responding to one of the ethicists, he stated that one should not, when writing these papers, make a difference between the general public and the policy makers, for both actually do need to be informed about environmental ethics.

Prof. Robin Attfield then presented his paper, renouncing to discuss in detail the “very profound criticism” in Mark Sagoff’s paper, given the absence of the latter. He emphasized the need of an objective view of value, as is the case in the Earth Charter – he suggested to adopt at least the wording of the earth charter for intrinsic value – although this term is never mentioned in the charter. He also notably proposed that UNESCO clearly states that environmental sustainability requires peace. He emphasized the interest of the Dobson diagramme for policy makers; he proposed welcoming the conception of strong sustainability, but without implying that it includes everything about nature. He stressed that the current rate of loss of species is disastrous. He commended the contraction and convergence policy. He suggested applying the argument of future generation to non-human species as well. And he finally advocated the objective recognition of the precautionary principle.

The problem of intrinsic value in individuals vs. species was raised; with Professor Attfield remarking that almost all human societies have rejected the law of the jungle, and have made concern for the vulnerable the basis of ethics. A further ethicist joined this comment and also asked clarification about the term “moral standing”, as the first expert did. The moral standing of a thing, Prof. Attfield responded, means that this thing should be taken into consideration when making moral decisions. Nature, he added, is indeed not a moral agent, and there may be a further debate on the question of how diverse moral agents should be accounted when taking a moral decision.

One contributor evoked the issue of ecosystems, both a concrete reality and a concept. Another expert expressed her view that intrinsic value is not correctly established, and that different intrinsic values do conflict. Also, that the issue is a political one. She added that we should learn from those people who do live with the forests. As regards climate change, she added, if it is real, we should focus on the change and not on the *status quo*, and take into account the pressure of markets. Prof. Attfield basically agreed on these remarks, emphasizing that there must be degrees in intrinsic value, and that political decisions could be based on such a theory. One participant added that intrinsic value ethics could be called “an ethics of respect for life”, and that “value” is not a biological term.

One ethicist called himself “a perspectivist”, in the sense that he can only make sense of a notion of value with a perspective. Referring to the presenter’s paper, he emphasized that an “implausible implication” is not a fact. On such assumptions, it may then be correct in certain situations to torture babies. Certainly, he added, it may be true that nature was valuable before humans value it. In response, the speaker expressed his concern about a perspective view, and that he could not see the reasons why torturing babies would be right, and, hence, could not make an answer.

Prof. Teresa Kwiatkowska described her paper as long and in need of better organization. But, she added, we experts are here for a reason, and if environmental problems were efficiently addressed, we would not be here. How could we stop environmental destruction, given that nothing so far has been working well enough to be accepted universally? What we cannot encompass by law, she said, is morality, an individual decision. If decision makers are addressed, she also stated, they need clear options and alternatives. Also, what is natural in a

world where everything is touched by humans? Finally, environmental ethics is not completely universal; it is always grounded in a social and cultural context.

One of the specialists asked for a clarification: if “morality is a personal affair”, then what are we doing here? In response, the speaker referred to the *Nicomachean Ethics* of Aristotle. We live our lives because we value certain things, and politics is the basic model for all science. The responsibility is always ours. In that sense, principles do not discharge us from our responsibility. If you educate people, she added, they may share values. Hence, the specialist proposed the speaker to rephrase this sentence, to avoid giving the impression that there is no collective dimension.

Another professional asked what the overall message was and what view of nature was underlying the view of Prof. Kwiatkowska. The part of her paper on financial incentives suggests that we are selfish bastards, but we are changeable. Are we then shaped by institutions? What are we assuming about the level of human participation? Prof. Kwiatkowska responded that she had no specific theory. But the part about the incentives was necessary, and many, who are just looking to satisfy basic needs, cannot care about the environment. Ethics can make us better persons, she claimed, but it never changed a political decision. Here the importance of education should be emphasized. Also, in this group, we speak the language of those who can read sophisticated papers. People, she added, do not understand non-instrumental value when they do need food. In reply to an earlier comment, she responded that she is defending virtual ethics.

Environmental ethics was the ethics of the ecosystem, and has more to do with the physical environment than with biological ethics, so one member of the expert group expressed his view. Nature, he added, is not stability. Another participant criticized the formulation that opposes human beings and nature. Historically, he said, people do respect *and* use nature. One of the philosophers wondered about the two Polish words for nature, of which one (*Przyroda*) was mentioned on page 10 of the presented paper.

A question was raised, if metaphors are useful or should be avoided. Prof. Kwiatkowska referred to the book *Chance and change* and her discussion with Prof. Callicott. “Environmental health”, she stated, is a metaphor. Scientific explanations must be taken into account, but, in Latin America, for example, much wrongdoing has been made on the basis of scientific explanations. A further participant in this meeting also expressed her approval about §2 of p.6 in the paper under discussion, which refers to the contradiction between ecological equalitarianism and democracy.

24th September 2004, 9am – 12:30am

Prof. Johan Hattingh emphasized the idea of a practical environmental ethics, and explained that this was the reason why his starting point was the document of the World Summit on Sustainable Development, hence he confined himself, he said, to this “Johannesburg document”. Sustainable development is the central scenario of this document, he said, but there are still major flaws inside this consensus. In his second section, he thus drew the contours of a practical environmental ethics in the Johannesburg document, noting the emphasis on instrumental value and articulating that sustainable

development is seen preeminently as a social development program (“from narrow green to wide social agenda”). He then developed different ideas of sustainable development, and the way it combines the “three spheres”, namely the environmental one, the socio-political one and the economical one. In his discussion on these ideas, he particularly stressed the danger seeing these three areas as independent areas. On the whole, he emphasized the value of the current consensus while saying that it clearly needs improvements. To this end, there can be some help in three areas: drawing the contours of this dominant consensus, exploring alternative paradigms, and reconceptualizing the three spheres. He then exposed his concrete suggestions, in particular to engage in an institutional framework, by doing an audit of current international instrument and to what extent they contribute to sustainable development. He also suggested engaging in some international cooperation with UNEP, the World Trade Organization (WTO), as well as national institutions. Finally, he also supported the idea of awareness-raising and the promotion of new paradigms.

One ethicist welcomed the criticism of the three pillars model, by saying that its rejection should be institutionalized. Economical growth, he said, is a contingency. The presenter agreed on this statement, advocating for a shift from narrow material growth to social development, with which sustainable development has to do. Prof. ten Have emphasized that good notions are sometimes based on bad assumptions, and that it could be a good idea to start on a strategic level with the three pillars model.

One of the participants expressed his difficulty with the idea of a practical task of environmental ethics. Environmental ethics, he said, is a branch of philosophy, and he claimed not to have anything to say about how to build a society. However, the end of the paper, he said, does indeed describe things he feels able to do, such as explore new paradigms. He also pointed out that the two declarations at the beginning of Prof. Hattingh’s paper seem contradictory with the emphasis put on social development, on which the speaker fully agreed but, he said, these declarations are like this, and have been signed this way by state parties.

Prof. Rolston A statement that sustainable development has become an umbrella for almost everybody followed. You can solve one problem without solving them all. For instance, sustainable development could be fairly independent of cultural diversity. It may also be that some cultures (e.g. corporate capitalism) do not need to be respected. Prof. Hattingh admitted that the term of sustainable development has indeed lost its critical edge, and that it has become strategically important to adopt it in order to do nothing. This critical edge, he claimed, need to be restored, rather than throwing away the very concept of sustainability.

One ethicist emphasized on the contribution of the business community to the World Summit on Sustainable Development, and its involvement in sustainability. Prof. Hattingh announced that there would indeed be examples from the corporate world in the next draft of his paper, showing to what extent they do adopt the three pillars model. Mr. Dogsé emphasized here that UNESCO is fully committed to the millennium goals. While these goals would seem to be ethically unapproachable, he recalled that some observers actually have expressed concerns about the fact that many decision makers seems convinced that the goals cannot be met according to the agreed deadlines. Is it of any ethical concern that environmental and other goals are being established by decision makers that they themselves

think cannot be delivered in time, he asked? Also, he suggested that the size of the economic sphere in the figures of Prof. Hattingh was too small.

Prof. Kimmins One contributor referred to the focus on time dimension and complexity. The closer you get to the ground, he said, the more difficult it is to have appropriate tools and methodology to integrate all relevant approaches. Mrs Scholze drew a parallel between the three sphere figure and the same figure used for the relationship between ethics, law, and science, the intersection of the three spheres being the policy making area.

Prof. Rolston A philosopher noted that some argue that the bottom line is economic, and that the smallest circle should hence be the ecological system. A comment on this was that this is a complex system, for which non-exact figures and models are needed. It was argued that engineering should be central to the diagram. The presenter acknowledged that it was only a heuristic device.

Prof. Yang Tongjin summarized his paper saying he had two things in mind, namely, that the paper addresses the general public, and that the main principles applying for this matter are that of equity between persons, between nations, and between generations. In the first part, he described the current status of environmental ethics, stating first that it was extended, interdisciplinary, plural, global and revolutionary. After a brief history of the discipline and a presentation of different schools, he explained what, in his view, was the consensus in environmental ethics, both as regards normative principles such as environmental justice, intergenerational equality and respect of nature, and as regards practical issues such as the environmental crisis, the consideration of poverty as a pollution or the threat of militarism. In the second part, Prof. Yang presented his proposals for action, divided in four main categories: encourage ethics studies, promote education, develop capacity building, and recommendations on more complicated issues such as international environmental justice and warming, biodiversity and pacifism.

The stress Prof. Yang put on global warming was welcomed and a reference made to §3.2.5., noting that there was probably a language issue, for this paragraph gave the impression that it was in favor of transferring polluting industries to developed countries. The speaker agreed on this point. Regarding §2.1, Prof. Atfield claimed that his position, though indeed “consequentialist”, could not be called “utilitarian”.

One member of the expert group expressed doubts about the “revolutionary” quality of environmental ethics. A crisis is needed, she said, to tackle environmental problems, and all problems cannot be put on environmental ethics. The same is true of the balance between economic growth and environmental protection, and environmental ethics cannot solve all the problems of the world. Prof. Yang responded that his understanding of a smooth transformation referred mainly to education. As regards the balance between growth and environmental protection, he admitted it was a tough issue and that, in China, most people think they are incompatible.

Another professional welcomed the lecturer’s synthesis and liked the idea that there was a birthday of environmental ethics. He suggested that Prof. Rolston was then one of the progenitors. Referring to §3.1.3, he asked if there were such things as ecological laws. He

also noted that the term “conservation” was conservatively connoted. Prof. Yang agreed to these remarks.

One contributor expressed his particular appreciation of §5 (Measures to encourage environmental ethics studies) and proposed to put more emphasis on environmental rights. He wondered how this idea could be developed. A scientist pointed to an ethical dilemma in regard to war. In the long run, he explained, war is environment-friendly because it regulates human population, which is the single greatest threat to the environment. Hence, while he is against war, he cannot subscribe to the idea that “militarism is the greatest threat to the environment”. The presenter responded that he referred at least as much to the diversion of budget and the opportunity cost of war as to the direct threat.

Prof. Alan Holland presented his paper as mainly articulating values in the natural world with the economists’ approach. He claimed not to be an antieconomist but, he said, insofar as economics is practices, it does have an ethics of its own, and this ethics is a very inadequate one. His perspective, he said, might be UK oriented in the policy arena, for in this sphere, economics is often the dominant discourse. There is a picture of human nature and decision embedded in the economical approach, and it does matter what kind of picture of the human being one has. In the economical theory, he emphasized, human beings are more aspiring beings than desiring ones, and this has consequences for policies. As regards sustainability and future generations, Prof. Holland referred to the famous discussion in Aristotle *Nicomachean Ethics* about the influence on our life of events that happen after our death. Sustainability, he stated, will not make the difference it is hoped to make. For economists there is no environmental crisis and the environmental capital increases, as it is the use of nature in the production process. Markets, he added, are highly specialized institutions. He mentioned the example of a school where the institution of penalty for delays actually aggravated the delays observed, “because now we are paying for it”. Prof. Holland then considered the idea of intrinsic value. Diseases, he said, are actually living organisms, too. He said he would defend intrinsic value not as Profs. Rolston or Attfield do, but in naturalism. He wondered whether the term “nature” was to be used in a policy document and emphasized that “intrinsic” value does not mean “absolute”. You don’t preserve at all costs, he said. As regards global warming, it is not an artifact, but a result. To the degrees of values Prof. Attfield talks about, he would prefer the degrees of individuality, that would depend on the species, for instance of its attachment to children. Environmental ethics, he concluded tends to undervalue instrumental value. He added that, though he was nervous about making recommendations, he would propose the organizational concept of “meaningful relationship”.

One participant in this meeting expressed his admiration for the speaker’s work and his innovative ideas, often critical to his own. As regards degrees of individuality, there was no inconsistency in recognizing such degrees, particularly for plants, and at the same time recognizing degrees of intrinsic value. About meaningful relationships, he criticized the view that meaningful relationships are necessary for a worthwhile life by mentioning the example of Jesus, betrayed by his friends and whose life we would probably consider worthwhile. There are, he added, several sources of value. The response to this point stressed that the idea still needed to be refined, notably by looking at the medical implication chains.

One participant explained his meaningful relationship to his plant and asked if environmental ethics extends to landform conservation. Another philosopher explained that Environmental ethics can even be concerned with saving geysers or caves. One of the participants commended § (e) (i) on industry and agriculture, and another one expressed his concern about the transfer of the term “human” out of his ecology. A suggestion to read *Woodland ecology* was made. Mr. Dogsé noted that people’s preferences do not seem to be along the line of worthwhile life, and Prof. Holland noted that this showed the difficulty with the term “preference”.

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Prof. Holmes Rolston III made a PowerPoint presentation on his paper, in 7 parts. In the first one “people and the planet”, he emphasized that ethics is for people and the earth belong to us all. It is a half truth to say that Environmental ethics is about human rights to nature. In the second, “animals”, it claimed that animals have a good of their own. In “organisms”, he noted that plants do, although having no felt experience, have a good of their own. In “species”, he argued that these are value-able, and that the value resides in the dynamic form and the appropriate survival unit. In “ecosystems”, he invited one to think systemically, and not to disvalue the goose while valuing the golden eggs. An ecosystem, he stated has instrumental, intrinsic and systemic value. In “earth”, he emphasized that the planet is the relevant survival unit. Here he referred to the “black mystery of transcendence”. Finally, in “humans”, he invited one to be pragmatic, and claimed that intrinsic value would never outweigh our own interests. He concluded by saying that there were four critical items, namely population, development, peace and environment. The UN-mission, today, is to transform conflicts into cooperation. But tomorrow, it may well be to sustain and respect the biosphere, for there is no foreign affairs in this regard. Demanding our rights is only half the truth, putting ourselves first is always our problem, and it will be difficult to be at peace when we’re not at peace with the environment. On the whole, the UN need to worry not only about sustainable development, but also about the sustainability of the biosphere.

Mrs. Scholze spoke as a Brazilian national and temporary chair and expressed her agreement with the view that the Amazon, for instance, is not only a Brazilian issue. But, she added, neither is the oil in Alaska an American issue. One of the ethicists agreed and invited her to come and visit Grand Canyon and Yellowstone. A comparison of the presentation of Prof. Rolston to poetry was made. What should be concretely done, so the same commenter asked, when one accepts intrinsic value? Prof. Rolston responded that a vision is first needed on the progress that can actually be achieved. The Antarctic treaty or the treaty on CFC show that things are possible, he claimed, with the consideration of the enlightened and common self-interest of nations. European Union, he said, is better than the US government in regard to environment conservation. He took the example of the US where, he said, the way smoking, women or black people are thought about do have radically changed, to make his case that “things do change”.

A professional emphasized that there seems to be something more in the sentence “the organism is valuing things” than in the sentence “things are valuable to organisms”. A valuer, he argued, has to have a valuing capacity. Value, he added, has to have a specific context. The presenter agreed that, probably, in the natural world, plants do not choose between options, but he claimed that he did not want to think biologically. From the moment that organisms do have a good of their own, the burden of proof should lie on those who claim life should not be respected.

One of the member of the group said he preferred the term “need” to that of “value”, for value is a loaded term, with another one asking . Prof. Yang asked if there can be degrees in intrinsic value, and if there can, what criteria would be relevant. He also argued, referring to an earlier comment in the session, that human beings contain more richness than beetles, for they can write poetry or have huge nervous systems. The response argued that he did not intend the idea of “meaningful relationship” as a replacement of “intrinsic value”, and that he would be in favor of the consideration of systemic value. Responding to a question about what response should be given to those skeptics who claim that we cannot know what adaptive fits are, the presumption is, Prof. Rolston said, that things have to have an adaptive fit to continue to exist. Hence, he added, we need to think in a timespan of centuries and at the level of the biosphere.

One specialist announced that Russia just had taken the first steps toward the ratification of the Kyoto protocol. He then raised the issue of the definition of an ecosystem, in which there has to be some stability. To a question of Mr. Dogsé on biodiversity and the consideration of the consequence of the evolution, Prof. Rolston affirmed that certain trends in evolutionary biology, in his opinion, were probably intrinsic to the system. A question was raised about what kind of language should be used in the policy document if starting from the Johannesburg document. Agreement was stated with a view expressed in the morning on this issue, saying that pressure should be kept on policymakers.

Prof. Emmanuel Agius started the presentation of his paper by emphasizing two issues who in his opinion are at the center of the debate, namely that of the intergenerational aspects, on which all papers focused somehow; and that of education. There are, he stated, practical ethical principles of sustainability, such as carefully assessing the probability of risks, calling to peace and justice, asserting the need for radical changes, and setting limits to technological efficiency. The rights of future generations, he added, are actually more problematic. We are morally unequipped, he said, to face this issue. John Rawls only speaks about the next generation, not the following ones. In accordance with A.N. Whitehead’s view, it is reasonable that, in our search, we have to refine traditional goods of social ethics, namely common good and social justice. One proposal was to set-up a “guardian” for future generations, a person or an institution, whose role would be to argue cases on behalf of future generations. The greatest danger, prof. Agius stated, is the depletion of resources, and this is were intergenerational solidarity is most needed.

One participant expressed his agreement with most of the conclusions, and said in particular that he backs the idea of a “guardian”. He expressed his criticism of the non-identity problem, which, he said, should not have been raised. Another ethicist noted that, if, as Aristotle believes, one learns to be good, it does not follow that one can be taught to be

good. On what premises, he also asked, should future generations always be considered disadvantaged? We are better off, he argued, than during the 14th century or the industrial revolution. Some of us, he added, do live beyond 35. On the issue of education, Prof. Agius said he referred to the education to good practices and good attitudes. On the issue of the destiny of future generations, he mentioned the idea of John Rawls that future generation will be advantaged because they will have more capital stock. Future generations, he acknowledged, could have more goods and knowledge. But, from the environmental point of view, we can easily destroy our culture.

One argued that species are members of a continuum and that, genetically, the unborn are with us, another one expressing the view that, depending on bioethical considerations, cloning might be a solution to ensure survival of human species. He also claimed that a philosophical background should be developed to the concerns of the general public. Clarification was sought about the idea of putting limits to technological efficiency. The Chinese example of the one-child family policy was mentioned, in which current generations are disadvantaged. One philosopher claimed that international organizations should set up a mechanism, for instance to filter political decisions for their long-term impact.

One specialist claimed that the China example was double edged. He also stated that the wording “non-existent person” is confusing, for either someone will exist or he will not. Those who will exist, he argued, are as real as we are, and the fact that we do not know if they will exist does not alter our responsibility to them. Coming back to the issue of Chinese population, another participant reminded that demographical projections initially showed that the population would exceed the capacity of the territory by 2025. Hence, he argued, such issues must be taken very seriously.

That “guardian” could get out of control was the worry of one expert. The speaker responded that, in developing countries for example, future generations are current generations’ allies, and, furthermore, that the guardian would not be there to decide, but to advocate, and to help make enlightened decisions.

Prof. Henk ten Have then introduced the general discussion. Two questions, he stated, are now on the table:

1. What is our general response to these papers? What do we think about it at this stage? What do non-ethicists, such as the three scholars present, think about it? They represent the future audience of the book.
2. What will be in the policy document?

One expert mentioned p.8 in prof. Agius’ paper. Indeed, what people do depend on what they believe. Hence the papers have to be at a level which they can understand. The philosophical background, she stated, is very important to understand, and readers are not philosophers. She also added that the Policy Document would have to be drafted at a very political level. Another participant agreed with this view and said that he is comfortable with the papers, except with the accessibility of their language. Next step, he said, is to show what we can do now, and in this regard, education is a basis.

Prof. Hamish Kimmins made a presentation on his idea of a “new club of Rome” and general forest ecology. The single greatest problem of the world, he said, is population, and everything else is related to it in some ways. Also, urban living means divorce from nature. Where man is, nature is damaged, as the deforestation in the tropics illustrates. The measures of biodiversity are a difficult issue. It can be assessed only at a local scale. To measure a phenomenon, one needs to know what kind of what measures should be used, in what area and with what change in time. Several examples here illustrated the difficulty of assessing the condition of natural milieus. Aldo Leopold, prof. Kimmins claimed, is not well known, and he has understood that the integrity of ecosystems does not mean an absence of change, neither does their security. Only the ecosystem understanding, he insisted, allows prediction, and this requires appropriate tools and methodology to integrate the various relevant approaches. Often, he added, disturbances are necessary in nature. For instance, forest fires are necessary to the harmonious development of forests. Forest is adapted to disturbance. In conclusion, the idea of protection of nature needs thorough study and knowledge, and there is implicit complexity in any ethics.

One ethicist asked if it is possible to make predictions, to which the presenter acknowledged that certain predictions are indeed not possible, but that likely outcomes can indeed be specified.

Another philosopher claimed that other scholars from other backgrounds must be brought into the debate. Mr. Dogsé stated that all papers are intellectually strong, and suggested that they may contain more example or case studies.

Mr. Julien Tort, programme specialist in the Division of Ethics of Science and Technology presented a first draft outline of the future policy document, bringing together all proposals made in the group. The policy paper, he said, will be a document drafted by UNESCO on the basis of the experts’ recommendations. Facing environmental problems, he said, we can consider four types of moral response. First, the development of principles to guide us in our behavior towards the environment; second, the development of interdisciplinary studies to reduce the uncertainty we are facing; third, the development of awareness about environmental problems, notably through education. The fourth way consists in enhancing the effectiveness of environmental policies, but this is out of the ethical mandate of UNESCO. That said, the proposals could be grouped following the usual categorization of actions in UNESCO: standard-setting activities, capacity building activities and awareness-raising activities. Of course, this is just a first outline, and it needs to be refined. In the first category, the following ethical principles could be identified:

- Recognition of intrinsic value, possibly using the wording of the *Earth Charter*;
- Recognition of the value of biodiversity and of nature;
- Proclamation of several declarations on the ethics of the environment, on environmental management, on agriculture, on forestry, on engineering, on animal protection ethic;
- Principle of contraction and convergence;
- Sustainability of the biosphere;
- Rights of future generations;
- Objective applicability of the Precautionary principle;

- Principles of environmental justice;
- Principles about war/militarism and the environment;
- Natural resources as common heritage of mankind;
- Setting limits to technological efficiency – possibly with a reformulation of this principle, such as promoting renewable energies;
- A code of conduct for scientists/biologists/engineers;
- Mandatory ethical education for scientists.

As regards capacity-building actions, the following proposals were made:

- Setting up national and international environmental committees;
- Developing systems for complexity management and interdisciplinary studies;
- Developing international cooperation with international, regional and national organizations;
- Developing education in the area of environmental ethics, in particular through the integration of environmental ethics in the Ethics Education Programme of UNESCO, which includes:
 - o Developing teaching material, including a possible syllabus;
 - o Training teachers;
 - o Developing fellowship programs and other funding sources for education;
 - o “Mediation pedagogy” (training medias);
- Promoting in-depth study of global warming;
- Institutionalizing a “guardian” that would advocate the interests of future generations to international organizations, governments, and other interested actors;
- Developing local conservation ethics (model of the RENEW network for water management?).

In the area of awareness raising, the proposals were:

- Awarding of medal or prizes for environmental ethics;
- Setting up an international conference;
- Promoting new paradigms;
- Promoting research on financial and political incentives;
- Developing workshops on ethical literacy;
- Promoting the Dobson diagram or the four conceptions of sustainable development;
- Compiling Environmental ethics reports;
- Encouraging the expression of spiritual values in the environment.