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COMEST

BACKGROUND FOR A FRAMEWORK OF ETHICAL PRINCIPLES AND RESPONSIBILITIES FOR CLIMATE CHANGE ADAPTATION

FINAL REPORT
adopted by COMEST at its 8th Ordinary Session
held in Bratislava, Slovakia, from 27 to 29 May 2013

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I.   PREFACE

In 2008-09, the Environmental Ethics Working Group of the World Commission on the Ethics of Scientific Knowledge and Technology (COMEST) conducted a study on the ethical implications of global climate change. The study started from the observation that it is generally both naïve and unworkable to attempt to move directly from definition of a problem – even on the basis of evidence – to adoption of solutions. The policy relevance of ethics lies precisely in its ability to facilitate reflexive questioning about both problems and solutions.[1] Ethically grounded policies may be expected to be more robust and more inclusive than those that short-circuit ethics, whether by science or by political fiat.

The report of the study was discussed and approved in general terms at the 6th Ordinary Session of COMEST, held in Kuala Lumpur, Malaysia, from 16 to 19 June 2009, and the text was subsequently submitted as an information document to the Executive Board and to the General Conference of UNESCO.[2] Following minor revisions, the report was published in June 2010 under the title *The Ethical Implications of Global Climate Change.*[3]

From the outset, COMEST has considered that ethics has a vital role to play not just in analyzing climate change, but also in shaping responses: "climate change cannot be dealt with adequately and properly if [its] ethical dimensions … are not highlighted, well understood, and taken into account in decisions about responses".[4] The main objectives for follow-up of COMEST's first phase of work were thus clearly defined in practical terms: the challenge was not simply "to make climate change a (new) theme of ethics, but rather to make ethics a core and necessary element of any debate about climate change and its challenges".[5]

With this in mind, on the basis of its discussion of the draft report on *The Ethical Implications of Global Climate Change*, the 6th Ordinary Session of COMEST judged that "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, it is urgent to determine universal ethical principles to guide responses to such challenges" and adopted a recommendation to the Director-General of UNESCO "that UNESCO should develop an ethical framework of principles in relation to climate change".[6]

However, on that occasion, the precise nature of the ethical framework proposed and its specific policy implications were not explored.

The report and recommendation of COMEST were among the factors that led the 35th

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[1] *The Precautionary Principle,* Report by the World Commission on the Ethics of Scientific Knowledge and Technology (COMEST), UNESCO, 2005, offered a detailed statement of this procedural approach to ethics as a contribution to policy formulation. COMEST argued that the value of the precautionary principle lies precisely in its capacity to favour critical and participatory dialogue between scientists, policy-makers and the concerned public on possible risks and on provisional and revisable solutions. [Available online at: http://unesdoc.unesco.org/images/0013/001395/139578e.pdf]

[2] The version of the report submitted to the 35th UNESCO General Conference is available online as document 35 C/INF.31 [http://unesdoc.unesco.org/images/0018/001849/184907e.pdf].

[3] *The Ethical Implications of Global Climate Change,* Report by the World Commission on the Ethics of Scientific Knowledge and Technology (COMEST), UNESCO, 2010. [Available online at: http://unesdoc.unesco.org/images/0018/001881/188198e.pdf].

[4] COMEST, *Ethical Implications of Global Climate Change*, p. 38.

[5] *Ibid.*

[6] Recommendation of COMEST to the Director-General adopted at its 6th Ordinary Session.

session of the General Conference of UNESCO, in October 2009, to adopt a resolution[7] requesting the Director-General to report on the desirability of preparing a draft declaration of ethical principles in relation to climate change, following consultation with Member States and other stakeholders, including relevant United Nations' agencies, and further study on the matter by COMEST and the UNESCO Secretariat.

In response to the request from the Director-General, COMEST participated in a series of regional workshops in 2010, organized in conjunction with the UNESCO Secretariat, to discuss the key ethical and policy issues with experts from a wide range of disciplinary and geographical backgrounds. COMEST was also represented in certain governmental consultation meetings organized by UNESCO. This work provided the basis on which, at its Extraordinary Session in June 2010, COMEST adopted the following recommendation to the Director-General of UNESCO.

1. Determination of universal ethical principles in relation to climate change would complement other efforts under way within the United Nations system, subject to explicit articulation of UNESCO action with discussion on implementation of the United Nations Framework Convention on Climate Change.

2. Relevant universal ethical principles would provide invaluable support to climate change responses at various levels, and in particular to design of appropriate equitable adaptation policies.

3. There is a significant body of internationally recognized principles that bear directly on climate change or could be adapted to apply to it. However, many of these principles require further elaboration on the basis of extensive consultation.

4. Therefore, preparation of a draft declaration of ethical principles in relation to climate change would not be feasible for submission to the 36th General Conference.

5. With the objective of favouring genuine consensus, COMEST should conduct a systematic review, including consultation with Member States, of ethical principles identified as requiring further elaboration in relation to climate change. COMEST's report thereon to the Director-General should be available for the consideration of the Executive Board at its 189th session, on the basis of which it will be in a position to reassess the desirability of preparing a declaration of ethical principles in relation to climate change[8].

Having considered the findings of the study and consultation process requested by the General Conference, and having taken note of the recommendation of COMEST, the Executive Board of UNESCO, at its 185th session (October 2010) declined to initiate a process to prepare a draft declaration of ethical principles in relation to climate change. However, in its decision 185 EX/Decision 13, the Executive Board did ask for the matter to be followed up. In addition to requesting a follow-up report to be submitted at its 186th session, the Board specifically invited COMEST to continue its exploration of an ethical framework for climate change policies.

At its 186th session, in May 2011, the Executive Board was in a position to take account of the outcomes of the 16th Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC), which had met in Cancun, Mexico, in late 2010,

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[7] 35 C/Resolution 36.
[8] It should be noted that the Executive Board, while noting the recommendation, did not specifically request COMEST to present the report proposed in paragraph 5 thereof.

along with further assessment of the substantive and political issues raised by the possible preparation of a declaration of ethical principles in relation to climate change. In light of these elements, the Executive Board confirmed the position adopted at the 185th session. On the one hand, the preparation of a normative instrument was judged to be inappropriate; on the other hand the practical importance of ethics in responding to climate change was affirmed, and COMEST was requested to continue its work in this regard.

A number of follow-up activities have been organized to give substance to the work of COMEST on the practical implications of environmental ethics for climate change policies. In particular, an international conference on "Environmental ethics: biodiversity and climate change" was held in Monaco, with the support of the Government of the Principality, from 8 to 10 December 2010. The COMEST environmental ethics working group met on the occasion of the conference to discuss progress with its work. Subsequently, COMEST was represented at a high-level meeting on "Climate Change Adaptation in the Caribbean: Science, Ethics and Policies", held in Basseterre, Saint Kitts and Nevis, 8-9 March 2011, at which participant ministers and delegates confirmed the importance of developing ethically grounded capacity-building tools in the areas of science and adaptation and affirmed the necessary connection in this regard between ethics and the social sciences, inviting UNESCO specifically to "promote and support regional scientific cooperation in the social and human sciences directed at analysis of climate change impacts and adaptation, inter alia through the mechanisms of the intergovernmental program on Management of Social Transformations (MOST)".

In addition, COMEST has been able to rely on the outcomes of two meetings organized by the UNESCO secretariat on ethical issues in relation to extreme events, including but not limited to those induced by climate change, held respectively in Bled, Slovenia on 1-2 March 2011 and in Paris on 4 July 2011.

This report builds on and extends the work done previously by COMEST in the context summarized above, including the interim report adopted and published following the Extraordinary Session of COMEST held in Paris in June 2010, which reflected the main outcomes of the study on the desirability of preparing a declaration of ethical principles in relation to climate change and reviewed some of the key issues to be resolved if an ethical framework for climate change policies is to be adopted.

At its 7th Ordinary Session in Doha, Qatar, on 9-12 October 2011, taking account both of the practical and political reasons that led to COMEST's decision at its 2010 Extraordinary Session to recommend against the preparation of a draft declaration of ethical principles regarding climate change for submission to the General Conference and of the broad set of practical and principled reasons for its having recommended, at the same time, that its work on ethical principles pertaining to climate change continue; and taking account as well of the requests of the Executive Board of UNESCO, both in its 185th and 186th sessions, that COMEST continue with this work, COMEST distilled from its previous work on this topic a set of principles and responsibilities pertaining to climate change adaptation. This document, "A Framework of Ethical Principles and Responsibilities for Climate Change Adaptation"[9] was formally adopted by COMEST at the close of the 7th Ordinary Session. It is appended here.

The present report lays out some of the thinking that lay behind this framework, including COMEST's decisions to focus in this instance on climate change adaptation, to spell out principles that should underlie any approach to policies in that area, and to proceed beyond

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[9] A Framework of Ethical Principles and Responsibilities for Climate Change Adaptation (COMEST), UNESCO, 2011. [Available online at:
http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/SHS/pdf/Summary-Report-on-Decisions_COMEST_2011.pdf]

that by articulating a more specific set of responsibilities in the area of climate change adaptation.

II. INTRODUCTION

There is widespread agreement that climate change poses serious challenges to humanity and the environment that require urgent policy responses from nation states, international organizations, business corporations, NGOs and governmental structures within nations cooperating with and supporting one another on a multiplicity of levels and across conventionally drawn sectoral boundaries. It is of equal importance to consider these challenges and policy responses from an ethical and not simply a scientific or political perspective. In fact, it can be argued that climate change first and foremost constitutes an ethical challenge to which we respond on the basis of scientific knowledge and with the tools of national and international policy. The ethical dimension of climate change, however, is not only related to its assessing and mitigating its effects, but also to the manner in which we respond and adapt to these challenges. Furthermore, important ethical issues are raised by the manner in which we define the challenges of climate change.

Although policy deliberations often have a marked ethical dimension and seldom can be reduced to the technical assessment of factual claims, policy deliberation about climate change has a particularly marked ethical thrust. This is true both of efforts to define and assess the problem of climate change and of efforts to articulate policy regarding climate change mitigation and climate change adaptation. Deeply held value assumptions and principles shape the definition of the "problem" of climate change and the priority given to it, and therefore determine the kinds of "facts" that can be regarded as the basis of these problems and the set of criteria that would serve to map acceptable solutions. The characterization of any problem as complex as that of climate change would need broader background assumptions independent from the issues to be addressed. Such assumptions typically include judgments about the nature and causal dynamics of the phenomena that constitute the problem. Even when firmly based on evidence, such judgments that frame policy are rarely immune from challenge, because they also include fundamental value choices about the kinds of lives and the future that we envision for ourselves and our descendants; indeed, there is often serious debate about what counts as "evidence" or "a problem" in the first place. Hence, the issue of establishing or defending such background judgments becomes, broadly speaking, an ethical issue.

Moving from the effort to define the problem to that of articulating and agreeing upon policies of climate change mitigation, the ethical aspect of the issues intensifies. Efforts at climate change mitigation not only inherit all of the ethical dimensions that enter into the definition of the problem but also raise issues of justice. Questions arise as to how allocations of responsibility for mitigating the effects of climate change should take account of countries' past contributions to the problem and of current economic inequalities among countries. Since the problem's effects will extend far into the future, the issue of allocating responsibility for mitigation must somehow take account of what we transmit to future generations, a complex issue in itself.

The principle of safeguarding the interests of future generations was articulated, in one form or another, by the UN Framework Convention on Climate Change, the Convention on Biological Diversity, and the UNESCO Declaration on the Responsibilities of the Present Generations Towards Future Generations. This principle generates debates. How do we identify the interests of future generations? How can we reasonably adjudicate the conflicting claims of different generations? However, this paper, for the purposes of COMEST's Framework of Ethical Principles and Responsibilities for Climate Change Adaptation, has attempted to sidestep these complex issues by instead laying stress on principles and responsibilities on which climate change adaptation may be established.

Many of the ethical issues that arise in the context of climate change adaptation do so in more tractable form. When they arise – and they are arising – issues of climate change adaptation are more immediately practical. Consider an analogy to traffic safety issues: trying to define the issue of traffic safety could generate a lot of deep controversy (do we consider bicyclists' collisions with pedestrians? health effects of automobile emissions?), as would trying to allocate responsibility for securing traffic safety (as between the city planners and the traffic police, say); but once a road accident has occurred and someone is lying injured on the road, the practical urgency of the situation largely silences these theoretical controversies. In a similar way, problems of climate change adaptation, when they arise, still contain the ethical dimensions indicated, but in a practical context that better lends itself to pragmatic solutions.

At the levels of defining the problem and developing solutions with regard to mitigation and adaptation, therefore, policy deliberation about climate change inevitably has an ethical and not simply a factual thrust. These ethical dimensions of policy deliberation, however, are usually not made explicit, and thus it is mostly very difficult to scrutinize and to critically discuss them rationally.

In light of these challenges, COMEST has considered in some detail the basis on which an ethical framework for climate change policies might be established. There are several related tasks in this regard.

- To identify and as required to specify the available, and as far as possible consensual, ethical principles by which problems and potential responses can be framed. The COMEST report on *The Ethical Implications of Global Climate Change* established that this is not a trivial task, especially regarding climate change mitigation. The distinctive features of climate change challenge traditional ethical assumptions about causality, temporality and capacity to act, and thus call into question well-established ideas of responsibility. Responding adequately to climate change at the conceptual level calls for new and sharper tools.

- To reflect on the operational implications of such principles, and in particular the methodologies by which ethics can be connected to practical policy-making. It is a direct implication of the earlier work of COMEST that even when principles are well established and widely accepted in their abstract form, their specific application to climate change may be either indeterminate or controversial. For this reason, and because it is both desirable and advisable to operationalize ethical principles in a way that encourages the participation and empowers the discretion of subsidiary actors who face the relevant issues on a day-to-day basis, reflection on the operational implications of ethical principles should attempt to articulate specific responsibilities incumbent on such actors.

- To consider the processes that could ensure, in real-world conditions, that decisions take account of relevant ethical criteria. It follows directly from the ethical analysis developed by COMEST in its report on *The Ethical Implications of Global Climate Change*, that ethics needs to pay careful attention to options for practical action that could be taken up by States, international organizations, corporations, communities, families and individuals, and other stakeholders, and could enhance the capacity of societies to respond effectively to the present and future challenges of climate change.

The combination of principle, methodology and process, with its ultimate focus on guiding the formulation of policy, underlies the approach taken by COMEST in drafting, in its 7th Ordinary Session, "A Framework of Ethical Principles and Responsibilities for Climate

Change Adaptation". Although proceeding in this way undoubtedly does not suffice to exhaust the subject, it does allow the articulation of a coherent and potentially applicable framework within which practical policies can be designed, implemented and assessed.

The remainder of this report presents in more detail the reflections on principles, methodology and process that lay behind COMEST's formulation and adoption of this framework of principles for climate change adaptation. In addition, through discussing the ethical issues generally posed by the issue of climate change, this report indicates the crucial challenges that would need to be faced by any effort to articulate a framework of principles and responsibilities for the ethics of climate change more comprehensively, including issues of climate change mitigation. Recognizing the controversial character of appeal to principles, the report nonetheless defends the possibility of invoking them appropriately and discusses a series of principles particularly relevant to climate change issues. Recognizing the possible unfamiliarity of talk about specific responsibilities corresponding to ethical principles, the report explains that idea in the course of a broader discussion of how ethical principles can be operationalized in a policymaking setting.

III. CHALLENGES IN ARTICULATING AN ETHICAL FRAMEWORK PERTAINING TO CLIMATE CHANGE

The work of COMEST since 2008 has made considerable progress in clarifying what is at stake, ethically, in thinking about and acting against climate change. In the course of this work, COMEST has encountered four potential challenges to the framing of a useful framework of ethical principles and responsibilities regarding climate change. This section summarizes these challenges and explains how to respond to them. They concern policy transversality, justice, the ethical status of non-human beings and the environment, and arguments against the language of universal principles.

III.1 Policy Transversality

There is a fairly broad expert consensus, confirmed by the work of COMEST itself,[10] that the challenges of climate change are not being adequately understood or acted upon because they continue to be addressed in a fragmented manner that distorts their most significant features. Evidence of this fragmentation is clearly visible in the manner in which mitigation policies have, until fairly recently, been given priority over adaptation policies, the manner in which carbon reduction has been given centre stage in the design of mitigation policies, and the manner in which ethical considerations are virtually absent in international negotiations about climate change responses.

With this emphasis on policy transversality in mind, a number of specific policy issues demand discussion in ethical terms.

Broadly speaking, it is widely agreed that *energy*, *transport*, *urban planning* and *agriculture* can all be fruitfully addressed by explicit ethical consideration. Similarly, climate-driven *migration* raises issues that should be addressed in ethical terms, especially if no structural changes are made to the international legal regime of asylum.[11]

Certain other issues that would benefit from more explicit ethical consideration are not sectoral and do not correspond to specific or urgent problems, but rather constitute the backdrop against which all problems must be framed. These include *access to an adequate scientific knowledge base*, *risk assessment* and *the integrity of climate science*. What connects these three themes is the notion of *uncertainty* as reflecting not just the limits of scientific knowledge – though these are real – but also the fundamental characteristics of the socio-ecosystems to which such knowledge applies. Decisions in the face of uncertainty give rise to specific burdens of responsibility, which are inherently ethical in nature. While this general point is probably fairly consensual, there are sharp controversies at both technical and political levels with respect to specification and particularly differentiation of the attendant responsibilities.

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[10] When no specific source is given for claims about opinions on various aspects of climate change ethics, reference is made to the outcomes of the study and consultations conducted in 2010, as reported on by COMEST in *Towards an Ethical Framework for Climate Change Policies*.

[11] Policy formulations in these areas do not fall within the competence of UNESCO. Action on the basis of ethical principles would thus necessarily depend on national policies or on coordinated action by other UN agencies. Nonetheless, clarification of ethical principles across sectoral boundaries would contribute to effective policies in response to an inherently cross-cutting agenda. Any questions bearing on the appropriateness of action by UNESCO therefore do not undermine the ethical significance of the issues themselves.

A further, and rather different, cross-cutting issue is *education*, which provides the basis on which the challenges of climate change can be grasped by relevant stakeholders. Action is undoubtedly required, within the framework of education for sustainable development, to enhance awareness of the ethical challenges of climate change and build capacity for appropriate ethical reflection to enhance the ability of policy-makers and of societies generally to deal with them.

Although these kinds of policy transversality certainly make the formation of sound policies regarding climate change challenging, a framework of ethical principles that also sets out a flexible set of operational responsibilities can actually help policy-makers cope with these cross-cutting issues. Policy-makers can be reminded to pay attention to these cross-cutting issues. Although we should not pretend that articulating such responsibilities can solve all practical problems posed by these transversalities, neither should we be deterred from formulating an ethical framework by the fact that it will inevitably leave the policy makers much work to do.

III.2   Justice

As noted in the Introduction, the questions of justice raised by the problem of climate change are particularly challenging, especially with regard to climate change mitigation.

For instance, questions of *international justice* in relation to climate change are raised by consideration of the claim that "compensation" could be owed by major historical emitters of greenhouse gases to those, particularly in Africa and in Small Island Developing States, who could suffer disproportionately from the consequences of a problem to which they have contributed little or nothing. Many societies, particularly those affected by climate change, lack adequate resources to adapt in crucial areas. These include the negative impact of climate modification on food supply and the increased risks of weather-related illnesses such as those associated with heat waves, changes in allergens, food- and water-borne diseases, and animal- borne diseases. The compensation agenda is further related to concerns about a reduction of international development assistance if funding for climate change mitigation is not allocated in addition to existing funds for development. In the absence of a criterion such as additionality, it might be argued that international assistance for climate change mitigation and adaptation will primarily benefit emerging economies with fast-growing emissions rather than the developing countries with the least secure access to material and intellectual resources. What is at stake in this regard is both the background framework of justice appropriate for international consideration of climate change and how global justice should be weighed against priorities with which it may clash.

These questions about compensation for harms imposed by climate change and about reallocating the costs of mitigating it or adapting to it are particularly delicate questions of justice at an international level. That some issues of justice in this arena are presently beyond the reach of consensual solutions, however, by no means implies that considerations of justice should simply be set aside. Especially in the case of climate change adaptation, where the policy tasks tend to be more immediately practical than the radical structural reforms that are proposed in the context of mitigation, there are more abstract principles of equity and fairness that, as we will see in Section IV, garner considerable consensus.

III.3   The Ethical Status of Non-Human Beings and the Environment

There are two fundamental and interconnected debates that challenge, *prima facie*, an agreed ethical approach to climate change or indeed to environmental issues in general.

These two debates concern, on the one hand, the ethical status of human beings within a broader setting, as variously conceived (such as Gaia, the biosphere, or the cosmos), and on the other hand the ethical significance of diversity or difference, understood in primarily cultural terms. At a general level, both debates are very familiar from the academic literature and from policy controversies. For present purposes, they will simply be summarized very briefly with specific reference to environmental issues, including in particular climate change.

Among general views of the origin of value in environmental ethics, one option emphasizes the central and privileged position of human beings who, as the only entities capable of raising ethical questions and ascribing value to others, necessarily give ethics its basis. Such a view is often summarized by the word "anthropocentrism". However, it does not imply, logically, that human beings should necessarily be valued higher than non-human entities. It is perfectly consistent to argue that humans are the only source of value but that they should, for instance, ascribe greater value to the Earth or to the environment, or even to specific animals or plants, than to themselves. Rightly understood, anthropocentrism supports a duty for humans to address climate change in a way that expresses concern not only for their own species but also for all life and for the environment itself. Indeed, many strictly anthropocentric statements of strong obligations incumbent on humans in their relations with non-human entities may be found in everyday practice from various spheres, as well as religious scriptures and academic literature. However, there does tend to be a connection between the ontological status granted to human beings and the practical priority given to their interests. A widely accepted statement of this position may be found in Principle 1 of the 1992 Rio Declaration on Environment and Development, which states that: "Human beings are at the center of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature".

While it is generally recognized that anthropocentrism, in this sense, does not necessarily imply practical indifference to the fate of non-human entities, it is nonetheless widely criticized as culturally biased (effectively, as "Western" or as a "production of modernity") and as philosophically indefensible in principle. From a conceptual point of view, the alternative perspectives proposed in Asia, in the Pacific, in Africa and in Latin America are quite diverse. What they share is an argument that the moral status of human beings derives from their position within a setting that has independent ethical standing. According to such views, human perspectives cannot offer a "basis" for environmental ethics. In practical terms, opposition to anthropocentrism supports criticism of human rights and the rights of sovereign states as implying or authorizing neglect of the rights of non-human entities and of duties towards them. It can also lead to a rejection of economic approaches to environmental valuation and of market-based solutions, such as carbon trading, premised on pricing of "externalities".

Such arguments obviously bear on the very possibility of developing a universally acceptable framework of ethical principles in relation to climate change, whatever its precise normative status. It is certainly clear that, in order to be widely acceptable, any ethical framework for climate change policies would need to be flexible and sensitive to the variety of national and local circumstances. Nonetheless, COMEST is of the opinion that there are two strong reasons to think that debates about anthropocentrism and other worldviews can converge on ethical agreement.

First, the challenge of universalism, from the perspective of an international organization such as UNESCO, is not to reconcile fundamental philosophical, cultural and religious differences but on the contrary, taking those differences as they are, to explore the possibility of principled consensus, both in those areas where background views actually intersect and in those areas where common conclusions can be drawn from contrasting premises. Given the strength of background disagreement, this approach to consensus-building is obviously demanding in procedural terms. With sustained efforts to promote dialogue between different

cultural and religious frameworks, though, it is possible to develop ethical frameworks related to climate change that gain broadly based support from different perspectives.

Secondly, and perhaps more importantly for present purposes, the specific features of climate change shift the terms of debate. Setting aside those who deny the very existence of climate change, there is no disagreement that the shared challenge of climate change establishes a common world and, thus, at least a minimal basis for solidarity. In addition, both the causal dynamics and the possible impacts of climate change give rise to new, more specific forms of solidarity among people from different cultural and political backgrounds, as well as interdependence between humans and non-humans. These connections cut across any crude distinction between anthropocentrism and its alternatives.

Whatever one may think, philosophically, about the deeper issues aired in this subsection, it is hard to deny at a practical level that human and non-human interests are intimately intertwined in the face of climate change. This does not guarantee that universal agreement could be reached on an ethical basis for thinking about and responding to the challenges of climate change. There is however no reason *a priori* to dismiss such a possibility.

III.4   Arguments against the Language of Universal Principles

Perhaps the most general challenge to the very idea articulating a useful framework of principles pertaining to climate change attacks the language of principles, as such. Two complementary arguments may serve to motivate rejecting the language of universal principles as an appropriate basis for ethically inspired responses to climate change. To a considerable extent, these arguments are generic, having little specifically to do with climate change; rather, they arise from broader concerns about the way in which the space of ethical deliberation is structured in the international arena.

First, it is often judged that emphasis on "principles" as underlying practical commitments represents a bias towards a form of abstract, deductive reasoning that is culturally specific and therefore inappropriate for the purpose of seeking broad consensus. In many cultural settings, it is argued, individual ethical behaviour is reflective, and is a search for abstract principles through actions that reveal individual integrity and social belonging. Given that claims about the rational basis of ethics are, indeed, put forward strongly in the COMEST report on *The Ethical Implications of Global Climate Change*, this is clearly an area that requires further reflection – which, as public debate shows, is hard to avoid.

Second, it is argued that basing ethics on "principles" entails a bias towards universalism that conflicts with forms of diversity and pluralism that are often regarded not simply as facts about, but as desirable features of the world. Far from the search for practical agreement on commitments to act being facilitated by the emphasis on principles, it might actually be impeded by it. This, again, is an area that requires further reflection, although it should be noted that, with specific reference to climate change, international attempts to reach practical agreement on action *without* specifying underlying principles have not been conspicuously successful in the past.

These two arguments against principles have been offered both in a theoretical register, criticizing philosophers who proceed to reason with ethical principles in certain ways, and in a more practical register, instead criticizing the ways in which international policy debates are conducted. Although COMEST aims to infuse some of the fruits of philosophical reflection into policy debates, its efforts are directed towards generating practical guidance for policymakers. In that context, it is not necessary to settle on preferred modes of reasoning. Instead, to meet the valid concern that is too broadly stated by the first argument, what must

be done is to suggest flexible ways of bringing principles to bear on practice. In the case of COMEST's Framework of Ethical Principles and Responsibilities for Climate Change Adaptation, this is done by supplementing the principles with a flexible set of responsibilities that make clear that the principles cannot simply be applied in an abstract, deductive manner. As to the concern that using the language of principles bespeaks a bias in favour of universality, we need to distinguish between presuming universality and aspiring to universality. The history of civilization is rife with false and mistaken assertions that this or that principle is universally valid and accepted. Recognizing this, it is possible to use the language of principles in a more humble spirit, in an attempt to articulate a framework that may reasonably be hoped to garner widespread acceptance. In the context of an issue such as climate change, which is manifestly a global issue, COMEST has made this attempt in an effort, not to legislate morality, but to provide helpful guidance to policymakers.

IV. ETHICAL PRINCIPLES FOR CLIMATE CHANGE ADAPTATION

The previous section of this report canvassed the principal challenges to articulating a useful framework of ethical principles pertaining to climate change. We turn now to articulating the principles identified in COMEST's work so far as being most relevant to climate change. In developing this list of principles, COMEST has proceeded along two complementary lines, first reviewing a list of currently agreed principles, largely drawn from the report on *The Ethical Implications of Global Climate Change* (2010), and secondly considering possible new principles proposed in international debate, but not yet formally recognized in agreed international instruments. Seeking not to simply presume that any of these principles is an apt object of international agreement, we have noted how each principle is supported by existing documents articulating recognized international principles. Finally, let us recall that ethics concerns setting some limits to human action in questioning the morality of ends and aims. In doing so, ethics sketches a horizon of universality in promoting principles, values and virtues that orient human behaviours and actions. But ethics in the 21st century face major new challenges: the impact of human action on long time scale, the power of technology to modify the world, the human relation toward living beings and the environment. In proposing these five principles, COMEST initiates a set of ethical reflections that address these challenges.

We now turn to the five principles adopted in our Framework pertaining to climate change adaptation. Then we will discuss a principle that supports the Framework's inclusion of a set of responsibilities.

IV.1 The Principle of Avoiding Harm (Framework Principle 1)

The principle of avoiding harm (non-maleficence) is a central and obvious ethical principle. It can stand on its own; and it can also be supported as an implication of the altruistic ideal of reciprocity, an ideal to which philosophical systems like Confucianism and many religions – including, for example, Buddhism, Hinduism, Christianity, Islam and Judaism – are committed. This commitment can take different ethical forms like: "do not do to others as you would not want them to do to you" or "what you do not want done to you, do not extend to others". The principle of non-maleficence is also rooted in medical ethics through the Hippocratic oath.

In the environmental context, it has been specified in the Preamble of the United Nations Framework Convention on Climate Change as the responsibility of States to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction. In the context of climate change adaptation, COMEST has specified it as the principle of ***avoiding harming*** *people or the environment by failing to act in response to climate change or by responding to it in an ill-considered way[12].*

The international community already faces some effects of climate change. Some climate events, such as floods and storms, are more frequent and brutal. Long-term changes – temperature elevation, perturbation in rainfall, rise of the sea level – have already been observed. The negative outcomes are affecting people now and the future generation to

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[12] It is well understood that this principle carries with it some inbuilt qualification. In particular, harming is to be avoided unless harming is adequately justified because, for example, it is the by-product of one's activity and any other action would cause worse harm. With such qualifications taken as read, the principle is uncontroversial.

come. The principle of avoiding harm gives a strong ethical motivation to act collectively in a responsible manner and to overcome fatalism or "the business as usual" attitude.

IV.2 The Principle of Fairness (Framework Principle 2)

The principle of fairness is another core ethical principle. Fairness, considered as an aspect of justice, implies treating individuals or parties equally and takes into account the claims of the less advantaged. Although there are different ways of giving special consideration to the least advantaged, the principle of fairness is relevant because it demands special consideration for those who are especially badly off. It is associated with a conception of distributive justice.

Justice as fairness is applied at a state level through domestic institutions as courts of law or state policies. To what extent the idea of justice should or not prevail against the idea of the good is a question still intensely debated in liberal states (for instance in the familiar form of the debate between libertarianism and communitarianism).

It is difficult to transfer this conception of justice directly to the international level, because other interests, conceptions of state sovereignty, and power relations among states complicate the issue of justice. For the moment, there is no consensual concept of global justice and or of the institutions that would impose it. Still, the United Nations through the Universal Declaration of Human Rights (articles 22, 25) is morally engaged in promoting a conception of justice as fairness through actions and programs in helping poor countries on the path of welfare for the poorest people (health, education, economic opportunity). Dignity and justice for each and every human being are central concerns of the Universal Declaration of Human Rights. By affirming values of non-discrimination and equality, the Declaration reaffirms a commitment to universal justice and recognition of inherent human dignity.

Climate changes have already had some consequences for all people of the planet. These changes have been produced by processes whose benefits were unequally reaped. Their harmful outcomes, too, are distributed unequally from one region to another. Further, the financial capacity to respond differs from one country to another. Moreover, because the poorest people are already struggling with day-to-day survival, the poorest countries will face more difficulties as they attempt to overcome the damage done by climate change (flood, storm, rainfall, weather-related illnesses) and to find ways to adapt themselves. This vulnerability to climate change touches directly the poorest people but more precisely women, children and indigenous peoples. On the long term, it will impact negatively the generations to come.

The fact that the poorest countries have contributed less to the elevation of CO_2 and the resulting climate change reveals a claim in term of justice as fairness for help in adapting to climate change. The aims of international development should converge with efforts at adapting to climate change to induce some opportunities, cooperation and policies to improve the general situation of the poorest, wherever they are.

IV.3 The Principle of Equitable Access (Framework Principle 3)

A key ethical principle for policy consideration that is both consensual and in line with the conclusions drawn on conceptual grounds in COMEST's report on *The Ethical Implications of Global Climate Change* (2010) is the principle of equitable access. This principle is related also to the issue of justice in a more narrow sense and at a practical level. It is linked to

access to and distribution of benefits and burdens of economic activity, but also to the meaning of a decent life. The Universal Declaration of Human Rights, along with other international agreements (International Covenant on Economic, Social and Economic Rights; United Nations Declaration on the Rights of Persons Belonging to National or Ethnic, Religious and Linguistic Minorities; United Nations Declaration on the Rights of Indigenous Peoples; Durban Declaration; Universal Declaration on Cultural Diversity), has recognized the right to a standard of living adequate for health and well-being.

In the Universal Declaration on Bioethics and Human Rights, for example, this appeared as the principle of equitable access to medical, scientific and technological developments that imply a correlative responsibility at an international level to share scientific capacity, resources and data.

Although this version of the principle is too narrow for the climate change context, it highlights the importance of developing the technical and scientific basis for adapting well to climate change. If one does not know that will happen in the short term (a storm, a flood) or in the medium term, due to changes in the usual patterns of rainfall, one cannot protect oneself and one's family, or change crops and manage the water of one's field, or mobilize to redirect urban-planning efforts.

The principle of equitable access calls for actions that enhance capabilities and resilience, a term for which there is no commonly accepted definition although it is generally associated with the capacity of people to develop strategies of adaptation based on traditional or local knowledge and experience of past natural or technological catastrophes.[13] This principle has many direct implications for climate change adaptation. It grounds initiatives at different levels (states, municipalities, communities, families and individuals) that promote equitable access to education, experience, knowledge and technologies (with exchange between modern and traditional knowledge) with the capacity to change behaviour and promote well-being in a perspective of sustainability.

IV.4 The Intellectual and Moral Solidarity of Humankind (Framework Principle 4)

Enshrined in UNESCO's constitution, the principle of the intellectual and moral solidarity of humankind extends the scope of UNESCO's concern beyond the political and economic arrangements of governments to include "the unanimous, lasting and sincere support of the peoples of the world". This principle is especially relevant to climate change because the causes, effects and solutions to its problems lie beyond the geographical boundaries of nation-states. The protection and flourishing of the common goods of the earth – its oceans, lands and air – cannot be achieved by the individual initiatives of individual or national personalities alone but requires the cooperation of everyone else because of the bonds of solidarity that bind human beings among each other as well as the interdependence of humans and their social systems with their environments. Nature's components, too, are interconnected.

Contemporary interpretations of solidarity support preferential treatment for the most marginalized sectors of society and entail mutual obligations of assistance, especially towards those who are most affected. In terms of climate change, this principle offers a solid ethical foundation on which to base responsibilities, particularly towards affected individuals

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[13] A complex discussion of the concept of resilience can be found in *Definitions of Resilience: An Analysis*, Plodinec J., Community and Regional Resilience Institute (CARRI), Savannah River National Laboratory, November 2009. [Available at: http://www.resilientus.org/library/CARRI_Definitions_Dec_2009_1262802355.pdf]

and populations, but also more broadly towards the environment. The environment is engaged in extended interaction with all human beings, above and beyond intra-human social bonds, correlatively extending the responsibilities incumbent on humans. The anthropogenic origin of climate change requires that responsibility for the current state of the environment cannot be abdicated: it falls on human beings themselves.

The principle of intellectual and moral solidarity of humankind establishes the duty of solidarity between human beings, and expresses the idea of mutual responsibility of all towards the more vulnerable. It exemplifies the concepts of benevolence and of universal sympathy, linking human beings through social bonds. In non-Western societies, the principle shows itself in practices of gift-giving and hospitality. Regardless of cultural diversity and differing ideas of solidarity, the principle entails an obligation to help one another. In the context of climate change, the principle of solidarity offers a solid ethical foundation on which to base responsibilities, particularly towards affected individuals and populations, but also more broadly towards the environment.

IV.5   Environmental Sustainability (Framework Principle 5)

The principle of environmental sustainability contained in COMEST's Framework of Ethical Principles and Responsibilities for Climate Change Adaptation is broadly formulated. Like the sustainability principles stated in the 1972 Stockholm Declaration, the 1980 World Conservation Strategy, the 1983 World Charter for Nature, and the 1987 Brundtland Report, it makes no direct reference to the idea of development. Instead, it is stated as a principle of **environmental sustainability,** *understood as embracing the protection of biodiversity and the integrity of ecosystems as the very basis of life on earth.*

This principle expresses the moral relevance of the fact that humanity is dependent on the environment for its long term survival. Human beings are therefore in relation with the environment, modifying the habitat in using modern and traditional technologies to change the material conditions of their living. Moral virtues addressing this relation, such as moderation and frugality, are important in order to maintain the condition of life itself.

Climate change affects not only human beings but all ecosystems and species. Some species will disappear. Others are already migrating. Climate change will also affect species distribution. It will further accelerate the loss of biodiversity, especially if current behaviours and actions are not modified. For example, harvesting wood without reforestation will both contribute to the increase of CO_2 levels in the atmosphere and destroy ecosystems.

The principle of environmental sustainability provides a solid basis for supporting adaptations to climate change that relate human beings to their environment from a long-term perspective, thereby introducing another timescale. It stimulates new ideas, new paths of action.

For example, facing climate change, the use of wildlife reserves to preserve species cannot be expanded indefinitely; other means (migration corridors, management on communal or private lands, etc.) could be developed to facilitate the expansion of conservation elsewhere. Those means directly help species adaptation and enhance general awareness of our dependence on the environment.

Climate change also has a direct effect on the availability of water not only for human beings but for species and ecosystems. In some regions, global warming increases water evaporation; climate variability changes the rainfall regime inducing dry years that affect water availability. Adaptation to these effects of climate change calls for the development of

storage resources at different levels, especially in towns, and modifications in water allocation for agriculture.

IV.6 The Principle of Common but Differentiated Responsibilities

In the context of climate change, this principle has been articulated in the United Nations Framework Convention on Climate Change (Article 3) and the Rio Declaration on the Environment and Development (Principle 7). COMEST's Framework of Ethical Principles and Responsibilities for Climate Change Adaptation reflects this principle in its list of fourteen responsibilities. These responsibilities are treated as common, in that the Framework does not assign them to any specific individuals or entities – states, private enterprises, social organizations, families, etc. Yet these responsibilities are clearly nonetheless differentiated, in that they will each clearly arise differently for different agents and entities. A crucial purpose of including this list of responsibilities is to help operationalize the five principles for the purpose of developing policy responses to climate change adaptation. To this issue of operationalizing ethical principles for policy purposes we turn next.

V. OPERATIONALIZING ETHICAL PRINCIPLES FOR POLICY RESPONSES BY ARTICULATING SPECIFIC RESPONSIBILITIES

The formulation of principles does not, in itself, ensure a practical basis for action. To achieve that objective, it is necessary to develop awareness of the principles, to establish practical reasons to subscribe to them (which is not the same as justifying them in abstract terms), and to facilitate their actually guiding action on real-world problems. To further each of these aims, it is helpful to articulate specific responsibilities that help indicate the concrete tasks that need to be carried out if the principles are to be satisfied. Before turning to such responsibilities, we offer some further reflections on climate change as a challenge for policy-making.

V.1 Ethical Principles and Decision-Making

Consistently with the work of COMEST on the precautionary principle, a serious ethical approach to issues such as climate change requires a conception of decision-making that is prudent, knowledge-driven and reflexive. Focusing on worst-case scenarios can be *misleading* and a *distraction*. For instance, with respect to small island developing states, the issue of concern is not so much the worst that might happen, but the bad things that are rather likely to happen, on a timescale of possibly only 20 to 30 years. Indeed, the problem of saltwater aquifer intrusion is already undermining agricultural productivity in Pacific islands. Furthermore, worst-case planning tends quite naturally to regard catastrophes as external – something that hits human societies without being connected to their internal processes. Yet most of the threats associated with climate change do not affect humanity from the outside – they are intimately bundled up with the characteristic structures and processes of contemporary societies.

Once one accepts that ethically adequate decision procedures are knowledge-intensive, seeking the best possible basis to make judgments that weigh – as far as possible – all relevant interests, the question of *value* becomes central. Valuation raises a number of distinct problems turning on issues of *comparison* that point, in turn, to an intimate connection between knowledge and ethics: understanding how systems work is decisive with respect to determination of what constitutes ethical behaviour within them.

The fact that climate change cuts across sectors and established epistemic communities, and is constantly defined and redefined within the policy process itself, is neither an argument for inaction nor a counsel of pessimism. The point is, however, a caution against simple, one-off, technical solutions.

The case of sea-level rise, which is a consequence of global warming of great concern in the Caribbean, may serve as an illustration here. The possible impacts of sea level rises over the next 50 years have been studied in some detail in recent reports by UNDP and by the World Bank,[14] considering various points in the 20 to 80 cm range by 2100 that represents the

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[14] Quantification and Magnitude of Losses and Damages Resulting from the Impact of Climate Change: Modeling the Transformational Impacts and Costs of Sea Level Rising in the Caribbean. Prepared by the CARIBSAVE Partnership for UNDP Barbados and the OECS for CARICOM Member States, UNDP, 2010. [Available at: http://www.bb.undp.org/uploads/file/pdfs/energy_environment/Modelling%20the%20impacts%20and%20costs%20of%20SLR%20in%20the%20Cbean%20-%20Final2011.pdf]
Turn Down the Heat. Why a 4°C Warmer World Must Be Avoided. A report for the World Bank by the Potsdam Institute for Climate Impact Research and Climate Analytics, The World Bank, November

IPCC's plausible confidence interval in the 4th Assessment Report[15]. () The main issues concern the vulnerability of infrastructure, including but not limited to tourist infrastructure, to the rise itself, to induced coastal erosion, and to related bad weather events. There may also be indirect effects on agricultural productivity, via saltwater aquifer intrusion, although the impacts on agriculture appear likely to be greater from changing temperature and precipitation patterns. The scale of the consequences can, in certain scenarios, range as high as a cumulative 30% of GDP by 2050, and even milder assumed outcomes correspond to annualized adaptation costs that could rapidly reach 3 to 5% of GDP.

The question, then, is what to do. The scale of the issues, combined, with the crowding-out effect of any particular option, put a very high premium on not getting the answer wrong. Experience is limited, but there is a broad emerging consensus that the easy options – those based on changing "hard" infrastructure or protecting it with more steel and concrete – may not be a good idea. "Soft" infrastructure, for these purposes, is simply the range of social, human and cultural processes that make the hard infrastructure work. For example, in those areas where freshwater scarcity is likely to be aggravated by climate change, adjusting the social patterns of water use, using technologies geared to more efficient water management, is likely to be a cheaper and more effective adaptation strategy than higher dams, deeper boreholes or highly energy-intensive desalination.

With respect to tourist infrastructure, the best option may thus be neither to protect it at all costs, nor to rebuild it in places where it will be less vulnerable, but to rethink it, with a view to inventing a model, or a diversified set of models, that depend less on specific localized assets (such as beaches for instance) and more on a soft infrastructure of service provision. This is precisely what has become known in the technical and increasingly in the policy literature as "resilience" – not adapting to one particular change, but enhancing the capacity of society as a whole to respond positively to change in general. It seems fairly clear that enhancing resilience is an essential feature of ethical responses to climate change.[16]

It follows from these points that climate change is an opportunity as well as a challenge – even in particularly vulnerable societies. Many policies that are required to enhance climate resilience are desirable in any case for other reasons. The example of irrational water use has already been given. The problem of black carbon, which is both a direct contributor to radiative forcing and glacier melt and a major public health hazard in many developing countries, has also recently received considerable visibility, notably in the work of UNEP.[17] More generally, it is increasingly recognized that inappropriate urban design, leading to heat islands, extensive unsought mobility and other features, is both a direct contribution to climate change and a source of avoidable loss of social welfare. Similarly, agricultural systems highly sensitive to climate change are often unsustainable in other ways as well, and policies to promote climate resilience (including less input-greedy cultivation techniques and different approaches to crop choice) are often entirely justified without reference to climate change. This way of thinking about the interaction between climate change adaptation and other social development processes has become known as the "co-benefits"

2012. [Available at:
http://climatechange.worldbank.org/sites/default/files/Turn_Down_the_heat_Why_a_4_degree_centrigrade_warmer_world_must_be_avoided.pdf]
[15] Much higher figures are possible in certain scenarios, some rather speculative, but one should be wary, as noted above, of the ability of improbable worst cases to distract attention from likely outcomes that are bad enough.
[16] "Community resilience is the capability to anticipate risk, limit impact, and bounce back rapidly through survival, adaptability, evolution, and growth in the face of turbulent change". Plodinec, J., *Op. cit.*
[17] *Integrated Assessment of Black Carbon and Tropospheric Ozone. Summary for Decision Makers*, UNEP and World Meteorological Association, 2011. [Available at:
http://www.unep.org/dewa/Portals/67/pdf/Black_Carbon.pdf]

approach,[18] because it emphasizes how the costs of adaptation may sometimes be exaggerated by relating them exclusively to climate change. If we were more sensitive to the ways in which climate change reflects the whole functioning of modern societies, we would perhaps better grasp the opportunities it offers.

These points do not mean, of course, that each society should be able to fund all of its adaptation costs from associated co-benefits in a painless way. There is no guarantee whatsoever that a co-benefits approach can deal with the entire challenge of climate change, even at the global level, and still less in the most vulnerable societies. Nonetheless, dealing with the costs – including the necessary burden sharing – would be much easier if key co-benefits in the areas of public health and social inclusion were exploited. The results would also be much more sustainable over the long term.

V.2   Responsibilities that Help Embed Ethics in Practical Policies

The quick review just concluded of some of the policy complexities that arise in the context of climate change suffices to indicate that the path from the general principles articulated in Section IV to sound policies on climate change mitigation or adaptation will not be a straightforward or deductive one. In order to facilitate the connection between principles and policies in the area of climate change adaptation, COMEST's Framework thereon supplements its five principles with fourteen responsibilities. These are designed to help encourage and enable the many central and subsidiary agents and actors who must take action on climate-change adaptation – including States, international organizations, NGOs, CBOs, corporations, the media, local authorities, and families, individuals – to orient themselves, practically, in ways that are sensitive to the concerns underlying each of the five principles. Although we cannot spell out these connections for each of the fourteen principles, we will cover this connection under four main headings: scientific cooperation, education and awareness-raising, participation and empowerment, and policy support for sustainability.

V.2.i   Scientific Cooperation

At one level, there is unanimous agreement that scientific cooperation is valuable and that it is UNESCO's role to enhance it. At a deep level, scientific cooperation expresses the intellectual solidarity of humankind referred to aspirationally in the preamble of UNESCO's Constitution. Indeed, COMEST is also expanding its role in scientific cooperation through regional mechanisms formulated in terms of conceptual clarification and of enhancement of regional capacities to contribute to and to influence international intellectual debate. Academic objectives relating to the teaching of environmental ethics, including exchanges of staff, students and curriculum-relevant resources, are generally also put forward.

It is not clear, however, that this unanimous agreement has as yet sufficiently penetrated the level of policy-making. This is understandable in one sense, in so far as ethics is in the first instance the subject matter of a proposed set of activities. However, it is also somewhat misleading to disconnect the strengthening of academic capacities in the area of environmental ethics from the reinforcement of public awareness and policy capacities in the area of ethical response to climate change. In principle, scientific cooperation could be

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[18] *Assessing the Environmental Co-Benefits of Climate Change Actions.* Kirk Hamilton and Sameer Akbar. 210 Environmental Strategy. Analytical Background Papers. The World Bank Group. November 2010. [Available at: http://siteresources.worldbank.org/ENVIRONMENT/Resources/244380-1250028593656/6382907-1252510780845/6428643-1256655379723/6510806-1258739266750/6594179-1279218279812/20101115-Assessing-Co-benefits-of-Climate-Change-Nov-15.pdf]

regarded as a key upstream contribution to the other policy objectives that are generally supported and, on that basis, can be granted valuable dual legitimacy. It is likely that these minor problems can be resolved in the process of implementing specific ideas for scientific cooperation at regional level.

In order to foster these kinds of connections in practice, COMEST's Framework of Ethical Principles and Responsibilities on Climate Change Adaptation articulates two responsibilities pertaining to this issue. One of these explicitly recognizes that the exchange of scientific knowledge is not a one-way street, since policy-makers have to learn on these issues from local and indigenous sources. This potential contribution of *indigenous peoples* constitutes a key policy issue, consistently with the Declaration on the Rights of Indigenous Peoples. Concerns in this regard, which have been expressed in many international arenas, are multi-faceted. Indigenous peoples are often specifically vulnerable to climate change, particularly because of the connection between their cultures and their landscapes. Like local communities and families, they also have specific knowledge relevant to adaptation to climate change that should be drawn on, and indeed shared when relevant. Furthermore, in line with the earlier comments on pluralism and diversity, indigenous peoples and other local communities are often the bearers of distinctive worldviews that deserve recognition within the global conversation on responses to climate change – both uniform and differentiated. For this reason, too, they should be seen as legitimate participants rather than merely as potential victims. And participation refers here not just to a fairly narrow range of traditional "indigenous" or "local" issues, though many may be of enduring importance, but to all the policy areas that affect indigenous people and local communities – which, for the reasons given above, constitute a very wide spectrum.

V.2.ii   Education and Awareness-Raising

Policy-makers and the general public should of course be better informed about climate change. Existing UNESCO activities in education for sustainable development and in media communication about climate change are very helpful in this regard. In addition, however, *ethics* has a specific role to play in education and awareness-raising.

The issue is not, primarily, the teaching of ethics as a specialized discipline, although graduate-level training in a range of courses with environmental relevance (including engineering and economics in particular) would undoubtedly be enhanced by the inclusion of ethics modules, which would in turn enhance capacities to deal with climate change at the required comprehensive and cross-cutting level. Rather, key ethical considerations should be built into education about environmental issues, including climate change, at all levels. Needless to say, this is a major challenge, which calls *inter alia* for critical thinking about the teaching of a range of disciplines including history, geography, biology, chemistry, physics and economics.

The connection with education is, however, not only pedagogical. It also concerns awareness-raising. If individuals are to take responsibility for their environmental "footprint", it is of considerable importance to note that individuals, especially considered as consumers, are often unaware of the implications of their choices for the broader socio-ecosystem of which they are part and therefore cannot be expected to take full and informed responsibility for their actions. Nonetheless, the more modest proposition that climate change cannot be adequately addressed at the required comprehensive level without a much broader approach to responsibilities, including those of individuals in particular, remains persuasive.

The topic of education and awareness-raising thus involves ethical responsibilities in two different directions at once, one looking towards the educated and one looking towards the educators. By informing individuals and making them aware of climate change issues, by disseminating information to them about those issues, and by building their capacity for

ethical reflection on these issues, we can enhance their ability to take responsibility for coping with these issues in a host of different ways. Because this contribution towards an ethically adequate response to these issues is so fundamental, it is plain that those agents who are in a position to educate and to raise awareness on these issues have an important responsibility to do so. States, NGOs, the media, other organizations and communities must work together – recognizing their conflicting interests and unequal resources – to educate and build awareness of climate change issues, to disseminate information about them, and to help build not only individual but also social capacity for ethical reflection on these difficult issues. This responsibility is closely tied to the responsibilities, discussed above, pertaining to the dissemination of scientific knowledge. Without improved understanding of science, and of ethical issues raised by climate change and the interaction of humans with their environments, it will be difficult to promote what might be called in general terms "responsible environmental citizenship". Poorly designed educational or awareness-raising campaigns, however well intentioned, threaten to undermine this objective. Well undertaken efforts at education and awareness building, by contrast, will not only help express the intellectual and moral solidarity of humankind – commitment to which is stated in both UNESCO's Constitution and Principle 4 of COMEST's Framework on climate change adaptation – but will also help deepen and enhance that solidarity.

V.2.iii Participation and Empowerment

Policies are generally viewed as being not just ethically more acceptable, but also practically more effective, when they are based on *empowerment* and *genuine participation* of those affected by them. Principles 10 and 20-22 of the Rio Declaration give a consensual expression of this basic idea in general terms and with respect to women, youth, and indigenous peoples respectively. This agreed requirement deserves to be extended by making it a key issue for climate change policy development in general. There has been some debate, as yet unresolved, whether such principles, which are primarily political, deserve to be regarded as "ethical" in nature. However, it is clear enough that outcomes compatible with general ethical principles of equity and justice or fairness are more likely to be attained when interested parties are fully involved in their development and implementation. In that minimal, instrumental sense, the connection between ethics and participation is unquestionable. In its Framework of Ethical Principles and Responsibilities on Climate Change Adaptation, accordingly, COMEST has explicitly treated the issues of empowerment and participation as relatively concrete responsibilities that serve the underlying principles, which include principles of fairness and equitable access. Supplementing these procedural responsibilities are two more substantive ones: number 7, which pertains to assisting those struggling with the immediate effects of climate change, and number 8, which is to assist those who do not have the capacity for climate change adaptation, in addition to development aid.

V.2.iv Policy Support for Sustainability

Adequately satisfying the principles of avoiding harm to people or the environment and securing environmental sustainability (Framework Principles 1 and 5) will require policy actors around the world to shoulder a series of more concrete responsibilities, articulated as Responsibilities 9-14 in COMEST's Framework of Ethical Principles and Responsibilities on Climate Change Adaptation. To begin with, the ability of ethics to contribute directly to policy formulation is viewed very differently in different contexts. In some developing countries, and particularly in Africa, there is clear interest in the development of guidelines that can assist in the elaboration of national policies, especially with respect to adaptation, designed to take due account of key ethical objectives such as prioritizing the needs of the most vulnerable, safeguarding the interests of future generations, and reflecting the interconnectedness between human and non-human requirements and the potential effect on all life. In other

regions, on the other hand, the need appears not to be perceived in the same way, possibly because national capacities are felt to be adequate, and possibly because there is resistance, on the "diversity" grounds discussed in previous sections, to the idea of any uniform framework, even expressed in the form of indicative guidelines. In these regards, and in many others, policy-makers must be sensitive and responsive to the variety and variability of stakeholders' circumstances. Further, their assessments of policy options need to take special account of effects on fragile ecosystems, vulnerable populations, and future generations. The possible role of UNESCO in contributing to such guidelines, within the terms of existing cooperation and policy support programs, needs to be better recognized. One of UNESCO's special concerns, shared with that of other international organizations, is that of protecting the common heritage of humankind. All those who make policy relevant to climate change mitigation and adaptation must take this concern seriously.

Because of the long time horizon involved, sound policy making in the area of climate change is subject to a number of common obstacles. These undermine the possibility of framing sound and resilient policies. Among these obstacles are the priority given to short-term social consequences, prejudice and bias, cognitive constraints, and the use of inappropriate methods of cost-benefit analysis, financial discounting, and impact assessment. Policy makers have a responsibility to identify and overcome these obstacles to arriving at sound policies. They also – looking ahead at their efforts to address problems that will extend far into the future – have a responsibility to develop resilient policies that can continue to function in the fact of unexpected challenges brought about by climate change.

V.3 Voluntary Commitments

Ethical objectives can be pursued by "policies" in the strict sense – for example, by regulations that give legal form to specific principles or by incentivizing policies. Ethics can also be embedded in concrete social practices, and thereby have real effects on behaviour and social structures, by means of voluntary commitment, the essence of which is that those actors who subscribe to certain principles or values act unilaterally, without waiting for any requirement or incentive to do so. Both the power and the limitations of voluntary commitment are well attested from numerous examples at local, national and international level. In some cases voluntary commitments, on the part of individuals, business or civil society groups, are likely to produce significant outcomes. With respect to climate change, one can certainly make a *prima facie* case that sharp disagreements about the issues within and between societies, and major barriers to comprehensive and consensual regulatory frameworks, create the conditions in which voluntary commitments might be relevant, for those subscribing to a certain view of the urgency of action.

It should be noted, however, that when it comes to the question to climate change adaptation, the urgency of the situation requires that those who are most affected must act as a matter of survival.

How UNESCO or other international bodies might contribute to such voluntary frameworks is, at this stage, an open question.

VI. CONCLUSIONS

Climate change is a fact of contemporary society. The majority of governmental scientific agencies and independent research institutions agree that climate change is already taking place and that humans are contributing to it. The fact that scientists are still conducting inquiries on the manifold and complex components of climate change, and that there is no complete scientific agreement on those components do not undercut this general conclusion, and need to be appreciated via a general framework that accepts that climate change is happening and is basically caused by greenhouse-gas emissions caused by human activity. Furthermore, consensus exists around the urgency of taking action to mitigate climate change and to facilitate adaptation to it.

Challenges arising from climate change and policy responses to it must be assessed from an ethical and not simply a scientific or political perspective. Climate change first and foremost constitutes a practical challenge of such magnitude that it is ethically urgent that we respond on the basis of all of the scientific knowledge and all of tools of national and international policy at our disposal. Important ethical issues, nevertheless, are raised by the manner in which we define the challenges of climate change. The ethical dimension of climate change is related not only to evaluating and mitigating its effects, but also to the manner in which we answer and adapt to these challenges.

COMEST considers that ethics has a vital role to play not just in analyzing climate change, but also in shaping responses. Given the practical urgency of implementing climate change adaptation policies and actions, COMEST has decided to focus in the present phase of its work on climate change adaptation, to spell out principles that should underlie any approach to policies in that area, and to proceed beyond that by articulating a more specific set of responsibilities in the area of climate change adaptation. The objective is to contribute to facilitating widespread support around the formulation of principles and responsibilities which can be used by states, international organizations, NGOs, CBOs, corporations, the media, local authorities, and individuals, to aid in the formulation and implementation of adaptation policies and address the effects of climate change.

The present report has identified five principles that provide the ethical basis on which responsibilities in respect of climate change adaptation may be established:

1. ***Avoiding harming*** people or the environment by failing to act in response to climate change or by responding to it in an ill-considered way.
2. ***Fairness*** in the distribution of the burdens of climate change, and the benefits of appropriately responding to it, with special reference to the position of vulnerable populations, future generations, and indigenous peoples, women, and children.
3. ***Equitable access*** to vital resources, to medical, scientific and technological developments, as well as knowledge about climate change and the measures taken to adapt to it.
4. ***The intellectual and moral solidarity of humankind*** in facing the shared challenges of climate change and the consequences of climate-related disasters.
5. ***Environmental sustainability***, understood as embracing the protection of biodiversity and the integrity of ecosystems as the very basis of life on earth.

COMEST expects to discuss in the near future the challenges that would need to be faced by any effort to articulate a framework of principles and responsibilities for the ethics of climate change more generally, including issues of climate change that include issues on mitigation. In doing so, COMEST will build upon the discussions already included in this report on the ethical issues generally posed by the issue of climate change.

A Framework of Ethical Principles and Responsibilities
for Climate Change Adaptation

Adopted at the 7th Ordinary Session of the World Commission on the Ethics of Scientific Knowledge and Technology (COMEST) in Doha, Qatar (9-12 October 2011)

Preamble

Having considered the far-reaching global changes that would follow from unmitigated climate change whatever its causes, and

Taking into account the uncertain and highly politicized context within which any international and national actions are taken in efforts to mitigate climate change and adapt to its effects, and

Noting its mandate to advise Member States and the Director-General of UNESCO, COMEST proposes the following framework of ethical principles and responsibilities, which can be used by States, international organizations, NGOs, CBOs, corporations, the media, local authorities, and individuals, to aid in the formulation and implementation of adaptation policies and address the effects of climate change:

Principles

The principles hereunder state the ethical basis on which responsibilities in respect of climate change may be established.

1. ***Avoiding harming*** people or the environment by failing to act in response to climate change or by responding to it in an ill-considered way.

2. ***Fairness*** in the distribution of the burdens of climate change, and the benefits of appropriately responding to it, with special reference to the position of vulnerable populations, future generations, and indigenous peoples, women, and children.

3. ***Equitable access*** to vital resources, to medical, scientific and technological developments, as well as knowledge about climate change and the measures taken to adapt to it.

4. ***The intellectual and moral solidarity of humankind*** in facing the shared challenges of climate change and the consequences of climate-related disasters.

5. ***Environmental sustainability***, understood as embracing the protection of biodiversity and the integrity of ecosystems as the very basis of life on earth.

Responsibilities

The principles listed above give rise to stakeholder responsibilities in respect of climate change adaptation.

1. *To establish an adequate scientific knowledge base* about the causes of climate change, the different effects it has on different regions, and the different adaptation needs it generates in different parts of the world. This includes the establishment of the capacity to generate this scientific knowledge, to interpret it, and to share it with those who may require it for adaptation, wherever they are.

2. *To recognize, respect, and make appropriate use of local and indigenous knowledge* relevant to climate change adaptation.

3. *To promote adequate education and awareness building* to establish the basis on which the adaptation needs created by the challenges of climate change, and appropriate responses to it, can be grasped by relevant stakeholders.

4. *To disseminate information about climate change adaptation* that is scientifically sound and readily accessible.

5. *To build the capacity for appropriate ethical reflection* to enhance the ability of policy-makers and of societies in general to deal with the ethical challenges of climate change, taking into account cultural sensitivities.

6. *To empower* the victims of climate change and promote their genuine participation in the development and implementation of adaptation policies.

7. *To assist* those more vulnerable to the immediate effects of climate change where the capacity exists to offer such assistance.

8. *To provide assistance* for climate change adaptation where the capacity for it does not exist, in addition to development aid.

9. *To protect the common heritage* of humankind when developing and implementing climate change policies.

10. *To be sensitive and responsive* to the variety and variability of stakeholders' circumstances in developing and implementing policies to adapt to climate change.

11. *To assess the impact* of measures taken to respond to climate change with due regard to the fragility of ecosystems and the interests of vulnerable populations and future generations.

12. *To identify and overcome the common obstacle*s that undermine the ability of stakeholders to appropriately respond and adapt to the challenges of climate change, such as the priority given to short-term social consequences, prejudice and bias, cognitive constraints, and the use of inappropriate methods of cost-benefit analysis, financial discounting, and impact assessment.

13. *To consider* the effects of climate change on *all life*, and not only on humans.

14. *To develop resilient policies* that can continue to function in the face of unexpected challenges brought about by climate change.

Stakeholders are encouraged to further explore and discuss these principles and responsibilities and to share the results of their deliberations with COMEST.