

International Hydrological Programme

18th session of the Intergovernmental Council
(Paris, 9 – 14 June 2008)

PROGRESS REPORT ON RECENT IHP INITIATIVES AND PROGRAMMES

Item 12 of the provisional agenda

SUMMARY

This progress report on recent IHP initiatives and programmes concerns the following:

- Water and Cultural Diversity
- IHP's role in the Thematic Programme on Education for Sustainable Water Management of the UN Decade of Education for Sustainable Development (DESD, 2005-2014)
- IHP involvement in the UNESCO Strategy on Climate Change.

IHP'S NEW INTERDISCIPLINARY INITIATIVE: WATER AND CULTURAL DIVERSITY

1. The interdisciplinary initiative 'Water and Cultural Diversity' (WCD) of the IHP was launched at the 10th International Riversymposium in Brisbane, Australia, in September 2007. The initiative started at the end of the sixth phase of the IHP under the theme "Water and Society". In the seventh phase of the IHP (IHP-VII: 2008 – 2013) the initiative will contribute towards the theme 2.1 - "cultural, societal and scientific responses to the crises in water governance", in the broader context of theme 2 - "Strengthening Water Governance for Sustainability".

2. This initiative responds to the urgent need in the water field to better understand the links between water and cultural diversity in order to reach a holistic and integrated approach to water sciences and water management. The overall goal is to mainstream cultural diversity into Water Resources Management by creating a database and a community of practice (CoP), an interactive platform for communication and information exchange, on the IHP website. The development of innovative research and culturally sensitive policies will be strengthened through this newly established network of experts, worldwide institutions and activities dealing with the topic of Water and Cultural Diversity.

3. The results of activities implemented include the following:

- Creation of expert advisory group on Water and Cultural Diversity consisting of 14 members from 12 countries, who form the core part of the CoP and who represent a variety of backgrounds and disciplines pertaining to water – hydrology, anthropology, engineering, geography, philosophy, ethnobotany, forestry and indigenous knowledge.
- Holding of the first meeting of advisory group in Paris, France, in January 2008. The advisory group provided direction and guidance to the activities implemented under the project. The results of the meeting were: (1) finalized focal areas of the initiative and set priorities; (2) development of long-term strategy and goals for the project; (3) agreement on the next steps, including short-term outputs of the project; (4) identification of core actors, existing projects and initiatives, and additional partners for cooperation; and (5) a meeting report.
- Preparatory steps towards achieving the results for the next biennium, such as conceptual work towards a public session at the Expo 2008 in Zaragoza, conceptual design for topic 6.5 "Water and Culture" at the 5th World Water Forum in Turkey in 2009, draft design of "Water and Cultural Diversity" brochure, database design and conceptual design of CoP.

4. The 41st session of the IHP Bureau welcomed this initiative.

IHP'S ROLE IN THE THEMATIC PROGRAMME ON EDUCATION FOR SUSTAINABLE WATER MANAGEMENT OF THE UN DECADE OF EDUCATION FOR SUSTAINABLE DEVELOPMENT (DESD, 2005-2014)

5. Following the decision of World Summit on Sustainable Development (WSSD), held in Johannesburg in 2002, the General Assembly of the United Nations proclaimed the ten-year period beginning on 1 January 2005 the United Nations Decade of Education for Sustainable Development (DESD), and designated UNESCO as the lead agency for the promotion of the Decade (A/RES/57/254). The coordination process for the DESD led to the development of a comprehensive UNESCO Action Plan for the DESD (34 C/INF.16), adopted in 2007, which defined actions along nine thematic programmes. One of these programmes focus on education for sustainable water management (thematic programme 8) and is to be implemented with IHP as the lead partner. The Action Plan also established key

tasks for each biennium, foreseeing the preparation of detailed plans during 2006-2007. These key tasks and further details were presented in document IHP/Bur-XL/14 rev.

6. As a follow-up to 166 EX/Decision 3.6.1, calling for an intersectoral strategy on water education, and IHP-IC resolution XVII-12, focusing *inter alia* on the establishment of a working group of experts on water education, a UNESCO Working Group on Water Education was constituted and had an initial meeting in April 2007. The Working Group proposed a draft Work Plan for the Thematic Programme of the UN-DESD, which was presented to the 40th session of the IHP Bureau. The Working Group met again in July 2007 to follow-up on the comments of the Bureau and to elaborate a detailed implementation plan for thematic programme 8, among other objectives. This process allowed the inclusion of other UNESCO programmes, category 1 institutes and centres, and units directly or indirectly working on water education, such as UNESCO-IHE, the UNESCO Chairs and UNITWIN Network, UNESCO-UNEVOC, the Network of the Associated Schools Programme (ASPNet). Preliminary contacts were also established with UNU, UNICEF and UN-HABITAT. One of the main activities foreseen for 2008 consists in the organization of regional workshops, under the leadership of IHP and in cooperation with several partners, to focus on water education at all levels. These workshops will discuss best practices in water education in the regions, present recommendations and contribute to guidelines at all levels. These workshops will discuss best practices in water education in the regions, present recommendations and contribute to guidelines. In addition, collaboration with UNESCO-IHE was strengthened (IHP/IC-XVIII/Inf.6) with a new tertiary water education grants programme and a comprehensive assessment of water education needs being proposed for the consideration of the Council (IHP/IC-XVIII/6)

IHP INVOLVEMENT IN THE UNESCO STRATEGY ON CLIMATE CHANGE

7. UNESCO's Intersectoral Task Force on Global Climate Change was created in June 2007 by the Director-General of UNESCO. The purpose of the Task Force is to define a strategic and integrated approach for UNESCO on the issue of global climate change and to position the Organization so that it can make a tangible contribution in the years to come. The draft strategy, attached, builds on existing strengths in climate research and assessments and climate monitoring, and identifies new opportunities for climate-relevant activities in all of UNESCO domains, especially those that can enhance and contribute to deliver in an interdisciplinary and integrated approach. The draft strategy emphasises that climate change will have significant impacts on fresh water, affecting both its availability and the frequency of floods and drought. The consequences are far-reaching and are likely to be felt most strongly by the most vulnerable. These impacts could undermine development achievements, affect human security and livelihoods, significantly impact agriculture and industry, and trigger population movement and migration. Water scarcity could also trigger conflict. Consequently, the draft strategy document highlights the important role of IHP in this context. The 41st session of the IHP Bureau noted these developments with appreciation.

8. Additional information about the UNESCO Intersectoral Task Force on Global Climate Change is available at: http://ioc3.unesco.org/unesco-climate/task_force/index.php

ANNEX

**UNESCO's (Draft) Strategy to Address
the Challenges of Climate Change**

**Information Meeting for Permanent Delegates to UNESCO
13 November 2007**

*...adaptation to climate change is not a technical challenge,
but one that involves society in its broadest sense.*

Rajendra Pachauri

*Chair of IPCC at the thematic debate of the
177th Executive Board of UNESCO*

I. Introduction: Climate change and the UN system

1. The UN Secretary-General has labeled climate change as a *defining issue of our era*. The Fourth Assessment Report (AR4) of the Intergovernmental Panel for Climate Change (IPCC) – since honored as co-recipient of the 2007 Peace Nobel Prize for its work - outlines the strongest case yet for a warming planet influenced largely by human activities. Impacts of climate change are already being felt, often with significant economic consequences, and impacts on water resources, ecosystems, food, the coasts, urban areas, human migration and health will grow in time, affecting not only the environment but also economic growth, development, human rights and security in many regions of the world, particularly in developing countries. The cost of inaction will exceed the cost of taking early action, probably by several orders of magnitude. Owing to the accumulation of greenhouse gas emissions to date, reducing emissions alone will not avoid climate impacts, and effects will persist for many centuries even after atmospheric greenhouse gas concentrations are stabilized. Without a stable climate and without adequate knowledge of future climate change trends, all the internationally agreed development goals, including the MDGs, may not be achieved.

2. The UN Secretary-General, drawing on the latest IPCC report, has stated that action to stop climate change must begin immediately if irreversible damage is to be avoided. A carefully-crafted portfolio of mitigation (including emissions reduction), adaptation and action to induce behavioral changes of the population at large can reduce negative impacts on society. Developing these actions will depend on a range of environmental, economic, informational, social, cultural, gender, and behavioural factors.

3. Unequivocal and authoritative scientific evidence, recent climate events and an increased public awareness have elevated climate change to the highest rungs of the political agenda - globally, regionally and at national levels.

4. The United Nations system is widely acknowledged as the central multilateral framework through which the international community can address global challenges, including a coherent approach to climate change and the establishment of a future climate change regime. Many challenges the UN system currently faces can only be met if the system brings to bear its collective capacities in a coherent and mutually supportive manner. The Chief Executive's Board for Coordination (CEB) is the highest manifestation of the political will necessary for all the organizations of the UN system to «deliver as one».

5. In April 2007, the UN Secretary-General requested CEB's High-level Committee for Programmes (HLCP) to undertake an assessment of the current role of the UN in climate change and how it can position itself to play a central role in international efforts to address the negative implications of climate change. Accordingly, CEB placed climate change on the agenda for its October 2007 session, in the wake of the Informal Consultations held by the President of the UN General Assembly on 31 July and 1 August 2007 as well as the High-level Event on Climate Change, convened by the Secretary-General on 24 September 2007, at which the assembled world leaders expressed their commitment and sense of urgency to tackle climate change through concerted action and agreed that the only forum in which this issue can be decided upon is the United Nations Framework Convention on Climate Change (UNFCCC). The Director-General participated in this High-level Event.

6. A series of consultative meetings on UN system cooperation on climate change have identified several thematic areas of action for the UN system as a whole. In the framework of preparations for the Bali negotiations, the focus is on

- mitigation,
- adaptation,
- technology innovation and transfer, and
- finance mechanisms.

UNESCO and other organizations have underlined the need to include scientific research and assessment as well as climate monitoring as additional action pillars, representing as they do the knowledge base for the climate issues and related action. These interventions have led to the explicit acknowledgement of the knowledge base with science, assessment, monitoring and early warnings as a foundation for climate change action that must be created, refined and maintained.

7. As member of CEB and HLCP, UNESCO has actively contributed to the elaboration of elements for a United Nations strategy, while articulating its own strategy through an inter-sectoral Task Force, chaired by the Director-General, and reinforced by the focus of the thematic debate of the Executive Board on 2 October 2007, with the participation of Prof. R. K. Pachauri, Chairman of the IPCC.

8. An inclusive and coherent approach to climate change could enable the UN system to provide support for the negotiations of an international agreement on an effective post-Kyoto (2012) climate change framework and propose a multi-sectoral framework to deliver on future agreements. The UN Secretary-General has committed his own personal leadership to ensuring the UN meets this expectation and supports the international community in achieving a successful conclusion of the 13th Conference of Parties to the UNFCCC in Bali in December 2007. In addition to its unique function of brokering the negotiations on Climate Change, the UN has a broad range of activities, both of a sectoral and crosscutting nature.

9. Thus, the United Nations system has a window of opportunity to develop a result-oriented, pragmatic and effective climate engagement strategy. The evolution of the multilateral climate change regime and the reform of the United Nations are both at critical junctures and intertwined. To respond to this challenge, the UN must project a compelling strategic vision of its role and value added to the international community. The UN needs to be more than merely the sum of its parts. To provide a solid platform and deliver a sound framework, concrete and meaningful cooperation across the system should be enhanced. The challenge is to develop and implement effectively integrated scientific, economic, trade, social and environmental policies to mitigate and adapt to climate change.

10. As a first step to achieve this level of unity, it is important to have an inventory and mapping of the current role and engagement of the UN system in tackling climate change with a view to inducing a strengthened UN engagement. This shall facilitate a realistic assessment of current strengths and weaknesses of each organization of the UN system – including UNESCO – and an identification of opportunities for improved coordination. Strengthening synergies and forging new relationships would enable the collective capacity of the UN to be brought to bear, preventing fragmentation and duplication.

11. In these discussions, UNESCO drew particular attention to the crucial role of science and research, assessment, monitoring and early warning representing the *knowledge base* of any climate change action. Moreover, UNESCO has underlined the critical importance of the often neglected “*soft dimensions*” of climate change, including education, disaster preparedness, ethics, culture, and involvement of local authorities and communities.

II. Towards a UNESCO Strategy to Address Climate Change

12. Developing an effective response to climate change calls for actions in virtually all of the Organization’s fields of competence. An integrated approach is essential to address the range of environmental, economic, social, educational, informational, gender, attitudinal and behavioural issues involved.

13. The Organization has a series of strengths that translate into strategic opportunities and weaknesses that translate into strategic challenges. One particular strength of UNESCO is its

longstanding expertise residing in IOC generating information for scientific assessments. Another strength of UNESCO lies in its potential to address interdisciplinary and cross-sectoral challenges, which will be recognized by the creation of an inter-sectoral platform for climate change. Organizational constraints like modalities of work and a lack of incentives to conduct interdisciplinary work will need to be addressed. The new Medium Term Strategy 2008-2013, offers a programmatic framework that lends its support to this effort.

UNESCO's current engagement with climate issues

14. A survey revealed that **over 40 climate-relevant activities are carried out by all sectors of the Organization**. Several of these activities are already recognized contributions to the UN system consolidated effort, mentioned above.

15. Many of these activities partially address climate change either through research especially in the natural and social and human sciences, education, awareness-raising capacity-building and policy advice. They support objectives in many of UNESCO's long-standing fields of work. They include: *sustainable development, biodiversity conservation, land and water resources, oceans, conservation of natural and cultural World Heritage, indigenous knowledge systems, solid earth science, and natural disaster mitigation*.

16. In the last 30 years, as a result of UNESCO's long-standing areas of work, **the Organization has actively contributed to build the global knowledge base on climate change**. Its contributions in the area of Oceanography, Hydrology and Ecological and Earth Sciences are well-recognized and form part of the overall UN response.

17. Within the UN framework, UNESCO has unique sectoral competences not only in the Natural and Social and Human Sciences, but especially also in the fields of education, natural and cultural heritage, public awareness and the media. If the contributions of the sciences are essential to build in an **upstream** manner the knowledge base of climate change, all other activities are apt to help devolve this knowledge to society and to promote its translation and application into specific interventions in the various fields and especially at the country level, in what can be characterized as the **downstream** delivery chain.

18. **The efforts to build the knowledge base are far from being complete and need to be maintained and refined**. There are new aspects that need further development, for example, precise knowledge of the regional and local impacts of climate change and the interactions between climate processes and human populations. **Some of the human dimensions of climate change urgently need further attention if appropriate guidance is to be provided to policy makers**. Examples of these are the impacts on the livelihoods of different social groups, on human settlements, and the prevention or management of climate-driven massive migrations. Improvements in the availability and sharing of such information would greatly assist countries in developing long-term adaptation strategies and integrating these into national development / energy / poverty-reduction plans.

19. In his address to the thematic debate at the 177th session of UNESCO's Executive Board, Rajendra Pachauri, Chair of the Intergovernmental Panel on Climate Change, noted that the UN system has not made sufficient efforts in the field of social science research to address the human dimensions of climate change. He stressed that adaptation to climate change is not a technical challenge, but one that involves society in its broadest sense, and suggested that a multi-disciplinary body like UNESCO is appropriate for looking at this complex issue.

20. He also highlighted the importance of the debate on **the ethics of climate change** both internationally and within the UN system, and that UNESCO, with its convening power and multi-disciplinary competencies, could create the conditions for a constructive dialogue and debate.

21. Based on the global environment, especially within the context of the UN system, and taking into account the strengths, opportunities and challenges highlighted above, the following is proposed as

The UNESCO (Draft) Strategy for Action on Climate Change

22. The draft strategy builds on existing strengths in climate research and assessments and climate monitoring, and identifies new opportunities for climate-relevant activities in all of UNESCO domains, especially those that can enhance and contribute to deliver in an interdisciplinary and integrated approach. This draft strategy can eventually be expanded by information about the thematic and sectoral nodes and activities involved in the implementation of the main components of the strategy.

UNESCO's (Draft) Strategy for Action on Climate Change consists of an integrated multidisciplinary programme capable of offering Member States capacity-building and technical advice – especially during the International Year of Planet Earth (IYPE), 2008 - to design and implement evidence-based policies and projects at the local, national, regional and global levels, drawing on two principal pillars:

***a) the sound and unbiased generation and use of data, information and research concerning climate change (the knowledge base) ; and
b) the application of educational tools, specific sectoral measures and public awareness activities.***

This strategy aims at assisting Member States to:

- build and maintain a requisite knowledge base***
- help adaptation to the impacts of climate change***
- contribute to a mitigation of its causes, and***
- strengthen sustainable development.***

The strategy also seeks to make UNESCO itself a carbon-neutral organization.

1. Creating and maintaining the knowledge base: science, assessment, monitoring and early warnings

23. The response to climate change has to be science-based, benefit from comprehensive analysis, and be continuously updated by **monitoring of data, trends and new insights**, in short the **knowledge base**. Greater understanding of the scientific foundations of emerging issues and threats will require increased investment of effort. The provision of unbiased and technically sound data and information is at the centre, if not the pivot, of all climate change action: it is critical for enabling adaptation and mitigation policies as well as activities to be based on sound scientific evidence. Without such information, the causes, impacts and appropriate levels of response are open to dispute.

24. The **capacity of countries to monitor climate trends and utilize climate predictions** is crucial in assessing the impacts of mitigation and effective strategies for adaptation to climate change, as well as in developing early warning systems on extreme climate events and hazards. Increased investment in scientific research to improve climate prediction, reduce uncertainties, and have more precise and quantitative information on the impact of climate change at regional and local levels is required.

25. UNESCO and its Intergovernmental Oceanographic Commission (IOC) as well as the World Meteorological Organization (WMO) have played a central role in providing authoritative scientific and technical information that has enabled evidence-based policy- and decision-making and to inform the work of the IPCC. Global weather and climate observation and prediction systems are a unique resource coordinated by these key UN entities concerned and require continuous involvement and support by Member States.

26. IOC is the recognized UN focal point and mechanism for global cooperation in the study of the oceans, a key climate driver. Through the Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM) it coordinates and manages the implementation of an operational ocean observing system in support of the Global Ocean Observing System (GOOS)

and the Global Climate Observing System (GCOS), in support of and reporting to the United Nations Framework Convention on Climate Change. In addition, UNESCO's oceans and climate programmes carry out global and regional research and monitor programmes on climate impacts on fisheries and coral reefs, as well as the impacts of ocean acidification on the marine ecosystem.

27. A range of other science-related activities is under way including the **World Climate Research Programme (WCRP)** jointly sponsored by WMO, IOC of UNESCO and ICSU, providing rigorous and unbiased reviews of the state of knowledge on climate processes and impacts.

28. Likewise, **early warning and assessments**, which identify emerging challenges, enable countries to pre-empt, respond and adapt to the potential impacts of climate change. Improvements in the availability and sharing of such information would greatly assist countries in developing long-term adaptation strategies and integrating these into national development/poverty reduction plans and strategies as well as joint UN country team plans and documents. In terms of **natural disaster reduction**, a dedicated UNESCO Programme assists Member States to reduce risks from such disasters that may be exacerbated by climate change such as tsunamis, storms, floods, and droughts, through design and dissemination of mitigation measures and information, education, and public awareness. The **link between disaster risk reduction and climate change** points to the need to increase the resilience of communities to extreme weather phenomena through systematic planning and capacity building. UNESCO contributes also to the **United Nations Platform on Space-based Information for Disaster Management and Emergency Response**, implemented as a United Nations programme under the United Nations Office for Outer Space Affairs (UNOOSA), which provides access to and develops the capacity of all countries to use types of space-based information to support disaster management.

29. UNESCO will continue its work on the **upstream contribution** to build and complete the knowledge base of climate change. UNESCO will further undertake capacity-building efforts and bring to bear its expertise in different sectors to deliver and implement integrated packages in a downstream manner at the country level, especially in the context of joint UN common country programming aimed at « delivering as One ».

30. Consistent with Article V of the UNFCCC, **the UN system could further contribute** in the following ways:

- Develop networks of scientific data and information providers to strengthen capacities, improve synergies, and support collaboration;
- Develop a central platform of scientific data and information for the sharing and collation of information;
- Strengthen the links between science and policy by improving the 'accessibility' of information i.e. improve national relevance of information, hold consultations between science and policy makers to determine a) what information is most required and b) how this information can best be presented and disseminated;
- Strengthen national capacities to monitor, predict and evaluate climate impacts and to better utilize information for response planning and disaster risk reduction; and,
- Strengthen financing of scientific research, including at the national level to enhance countries predictive capacities.

31. Climate change will have significant impacts on **fresh water**, affecting both availability of fresh water and frequency of floods and droughts. The consequences are far-reaching and are likely to be felt most strongly by the most vulnerable. They could undermine development, affect human security and livelihoods, significantly impact agriculture and industry and act as a push factor in population movements and migration. Water scarcity can also trigger conflict. The **International Hydrological Programme (IHP)** of UNESCO is the only broadly-based science programme of the UN system coordinating an international scientific cooperative programme in **water research, water resources management, education and capacity-building**. Its activities directly address adaptation to climate change, including assessing the effects of climate change on groundwater, surface watersheds, aquatic ecosystems and biodiversity, specific regions such as arid lands and urban conglomerations, and societies most vulnerable to sharp changes in water availability or quality. IHP also hosts the **World Water Assessment Programme**, which produces the UN inter-agency's **World Water Development Report (WWDR)**, which is the UN system's authoritative reference document tracking

the water-related MDGs. UNESCO provides the Secretariat for the WWAP and leads the production team of over 20 UN entities of UN-Water contributing to the WWDR. The 3rd Edition of the WWDR, as endorsed by the inter-agency UN-Water will be published in 2009 and focus on 'Climate Change and Water'.

32. Climate change and natural resource management are inextricably linked. A changing climate has direct impacts on biodiversity and ecosystems and vice versa. UNESCO promotes the study of environmental protection, biodiversity conservation, climate change impacts and sustainable development through its **World Network of Biosphere Reserves** (507 sites worldwide in 102 countries). This Network uses the buffer and transition zones of the reserves for research into innovative combinations of afforestation / reforestation, avoided deforestation, rural energy and infrastructure development and urban planning.

33. UNESCO's Local and Indigenous Knowledge System programme carries out research and assessments based on **local and indigenous knowledge systems**, including local-level climate observations, understanding strategies devised by local communities to cope with changing environments, and identifying needs and ensuring the relevance of adaptation measures for vulnerable populations in remote areas such as small islands, high altitudes, wet tropics and the circumpolar North.

34. UNESCO's **social and human sciences programme advances knowledge, research, standards and intellectual cooperation** in order to facilitate positive social transformations. The strategy recognizes as an integral part the potential for UNESCO to play a leading role in the UN system for addressing climate change through contributions in existing activities in social transformations and migrations, urban development, and environmental ethics.

35. UNESCO's education and social science programmes will work to raise awareness of **gender specificities in adaptation and mitigation** to climate, including collection and use of sex-disaggregated data, mapping of gender-specific emissions profiles, and differences in mitigation and adaptive capacities and strategies.

2. Leading the International Year of Planet Earth, 2008

36. 2008 has been designated by the UN General Assembly as **International Year of Planet Earth (IYPE)**, upon proposal by the UNESCO General Conference, recognizing that never before in living memory has Planet Earth been subjected to such rapid and profound change both in terms of the physical environment and social transformations. Led by UNESCO and the International Union of Geological Sciences (IUGS), the **focus of IYPE will be on the fundamental role of earth sciences, within a resolutely interdisciplinary context, in maintaining a living and healthy Earth system**, thus enabling prosperous and diverse human societies to envision a future based on the principles of sustainable development. Activities in observance of IYPE span the three years 2007-2009. During the 34th session of the General Conference, UNESCO has organized with several partners, a major exhibition on Planet Earth with five themes: the Earth system, dynamic Earth, diverse Earth, changing Earth and sustaining the Earth.

3. Mitigation and adaptation: the pivotal role of education for sustainable development

37. Apart from the science-driven knowledge base, the many **sectoral** responsibilities of the UN system need to be understood in the context of the negotiation framework of adaptation, mitigation, technology and finance. Mitigating climate change requires a multifaceted approach, spanning all areas of policy and decision making. **Comprehensive national development strategies** are a key tool for mitigating climate change as is the integration of climate change impacts into development programmes. However, each sector will relate to these categories in different ways, some relating in a major way to one, others to all. There exists a clear recognition that **development and adaptation as well as mitigation efforts must be complementary**. The importance of **national adaptation programmes** of action must be highlighted, as well as the need to ensure that these programmes should address broader adaptation needs.

38. **Education will be a pivotal driver for addressing the climate change challenge.** An educated population aware of the challenges of sustainable development and climate change will be necessary to lead and live the changes required to respond to these challenges.

39. UNESCO as the United Nations specialized agency for education has also been designated as the lead agency for the **UN Decade of Education for Sustainable Development (DESD) 2005-2014**, which includes climate change as a thematic priority. In the context of DESD – an inter-sectoral activity with contributions by all five Sectors – the focus will be on how to mobilize all strata of society and available expertise in both formal and non-formal education to further the principles, values and behavior linked to sustainable development and to induce the necessary behavioural and attitudinal changes required to minimize negative climate impacts, including through education for disaster risk reduction, and climate change education. DESD has four priority areas: promoting basic education, reorienting and revising education programmes, developing public understanding and awareness and providing practical training. In addition, it should also be noted that UNESCO is Task Manager for Chapter 36 (Promoting Education, Public Awareness and Training) of **Agenda 21**. Furthermore, in the framework of the UN Inter-Agency Committee for DESD, UNESCO can help enhance a coordinated "educational" response of sister UN agencies to address climate change.

40. UNESCO will particularly promote the **integration of environmental sustainability, including climate change, into national curricula** - including science education - as well as into life long learning programmes. To that end, UNESCO is also developing and disseminating teaching, training, learning and resource materials on climate issues. Teacher training activities will be adapted accordingly.

41. Furthermore, **UNESCO's Associated Schools Network** is used for pilot testing of prototype materials and awareness-raising tools, providing information to educators, teachers, and students worldwide.

42. UNESCO's programmes provide **support for institutions of higher education** through the UNESCO Chairs programme and the UNITWIN network to increase local, national, and regional capacity to make informed decisions about climate change, to enable full participation in international debates, to develop local adaptation and mitigation strategies, and to be able to take full advantage of opportunities for economic development, technological innovations and market incentives that may arise from mitigation actions, resource management practices, and international conventions.

43. UNESCO's **Environmental Ethics programme** is working to improve education and awareness on the ethics of climate change, addressing questions crucial for decision-making such as how to assess the needs and rights of future generations, and how to determine what is worth protecting, and at what cost or consequence.

4. Mitigation and adaptation: building capacities in specific areas of UNESCO's domains

4.1 Energy

44. Energy is at the heart of the climate mitigation agenda. The international community faces the immense challenge of providing two billion people with access to modern energy and assisting countries meet their development objectives, while mitigating climate change. The global nature of the energy challenges and the **growing role of energy in development and climate change mitigation** will call for the **development of energy strategies and policies, disseminating relevant scientific knowledge and technology and ensuring local capacities and competencies**. UNESCO can play a catalytic role in this process. Furthermore, **promoting the use of renewable energy sources** as well as energy efficiency technologies and practices can contribute to a significant reduction in emissions while at the same time increasing the competitiveness of developing country economies and avoiding a negative impact on prospects for economic growth in developing countries need to achieve better living standards.

45. As energy demand continues to grow, the ability to address energy issues, including energy access, efficiency, renewables, low carbon technologies and security, will be paramount in enabling development and climate change priorities to be met in a mutually reinforcing way. Advances in

energy efficiency offers the quickest, most affordable and most sustainable means of reducing emissions. Renewable sources of energy offer win-win solutions by increasing access to energy whilst reducing air pollution and mitigating climate change. Access to energy is above all essential to achieving the MDGs.

46. To ensure a long-term sustainable and environmentally sound supply of energy, joint efforts are required at the international level so as to find a solution to a range of intertwined problems, namely promoting comprehensive, holistic approaches to energy, sustainable development and climate change. The **UN-Energy** mechanism - with UNESCO as an active member - provides a UN system-wide collaborative framework for energy issues. At present, there is scope for this forum to be strengthened and better utilized. Under a revised work programme, envisaging a thematic clustering with lead agencies for each issue, UN-Energy offers the potential to facilitate a more integrated and effective UN approach to energy and climate issues.

47. UNESCO's **Global Renewable Energy Education and Training (GREET) Programme** works to improve the capacity of Member States to use, maintain and manage local renewable energy projects, through institutional and human resources development and exchange of experiences, best practices and scientific knowledge.

4.2 Culture and World Heritage

48. UNESCO works to conserve diversity as the necessary basis for achieving sustainable societies. Linkages between the different types of diversity, including **cultural and biological diversity**, create rich and complex knowledge systems.

49. UNESCO provides support to States Parties to the 1972 "Convention concerning the Protection of the World Cultural and Natural Heritage" in implementing preventative and corrective measures to combat **climate change impacts on natural and cultural World Heritage**, including raising awareness and sharing of knowledge and experience, and developing pilot projects. Recognizing that the impacts of Climate Change are affecting many World Heritage sites and are likely to affect many more in the future, the intergovernmental World Heritage Committee asked UNESCO's World Heritage Centre and its Advisory Bodies to investigate the impacts of Climate Change on World Heritage and strategies for dealing with them. This led to the 2006 **landmark study on "Predicting and Managing the Impacts of Climate Change on world Heritage"** and a **"Strategy to Assist States Parties to Implement Appropriate Management Responses"**. In 2007 a compilation of 26 representative case studies on the impacts of climate change on World Heritage was prepared and widely distributed as a means of raising general awareness to the problem.

50. In October 2007, the General Assembly of States Parties to the World Heritage Convention adopted a **"Policy Document on the Impacts of Climate Change on World Heritage Properties"**. The policy document identifies key research priorities for world Heritage sites, to use them as laboratories for long-term climate change impact monitoring and testing of innovative adaptation solutions, emphasizes the importance of building synergies with other international Conventions and organizations, and discusses the legal aspects of responding to the challenges. Consequently, concern for climate change has been mainstreamed into the various operational mechanisms and processes of the Convention.

5. Support to Member States for policy planning and national development

51. The UN system possesses the capacity and the analytical, normative and operational experience to develop innovative policy options and integrated sustainable development strategies at the national level to support countries in mitigating and adaptation.

52. UNESCO's programmes and global networks coordinate international research and provide rigorous and unbiased data and reviews of the state of knowledge on climate processes and impacts, and also provide **institutional and individual capacity-building of a scientific and technical nature to Member States** through the Organization's IOC, IHP, the World Water Development Report, the World Climate Research Programme, the Global Climate Observing System, Global Ocean Observing System and its Global Sea-level Observing System, Global Terrestrial Observing

System, the World Network of Biosphere Reserves, natural and cultural World Heritage sites, the Local and Indigenous Knowledge Systems (LINKS) programme, Coastal and Small Island Developing States programme, and international migrations and urban development programmes.

53. Furthermore, UNESCO provides assistance to Member States in **the formulation of evidence-based long-term sustainable development strategies and policies**, with an explicit integration of the gender dimension throughout.

54. This also extends to the development of climate change components in **UN common country programming exercises** (e.g. UNDAF, PRS documents). Cutting across adaptation, mitigation, technology and financing, the integration of climate, including science and technical advancements, into national development plans is a key tool for facilitating country-led responses to climate change and ensuring complementarity and coherence between, for example, environment, development, economic, social, trade and security policies. The UN is well-placed to play a leadership role in development and delivery of coherent national development plans and helping deliver the appropriate capacity, finance and technology for their implementation.

55. In addition, UNESCO will support Member States, at their request, with **pertinent information and technical capacity-building and policy advice in the context of the UNFCCC process**. Each UN body has a role in reinforcing this collective effort and in supporting the negotiating process to build momentum for agreement on a future framework. This includes building capacity of developing country negotiators in climate negotiations.

6. Effective dissemination of information and public awareness-raising

56. Public information, insight and pressure are a key driver of political will. **Informed action by individuals is fundamental to tackle climate change**. Both are dependant on citizens having a **good level of understanding and awareness of the causes and effects of climate change** as well as the required response. Engagement with civil society organizations across the world is essential. IYPE offers a possibility for awareness raising among UNESCO Member States and the public at large.

57. UNESCO's communication and information programme works to **advance shared knowledge and understanding** through all means of mass communication and to promote the free flow of ideas by word and image. UNESCO can play an important role in ensuring access to sound and unbiased climate information and enhancing the capacity of the media to understand and convey climate change information in an accurate and balanced manner. Science communication, the creation of scientifically-literate societies, and the nurturing of intellectual and scientific curiosity in children and students are vital to find and implement solutions.

58. Men and women have different access to public awareness information, including early warning systems. These societal and cultural issues must be an integral part of providing truly universal access to information.

59. Work will also be carried out with **national and community broadcasters** on enhancing media capacities and access to information about climate change with the goal of enhancing the capacities of the media to raise public awareness and promote social actions for climate change adaptation and mitigation.

7. Moving towards a climate-neutral United Nations and UNESCO

60. The UN system needs to lead by example. Talking will not mitigate climate change - actions will. The UN Secretary-General has launched a new initiative to **'Green the UN'**. Taking the opportunity afforded by the renovations of its Headquarters in New York, he is committed to making the UN a model of efficient use of energy and resources. Subsequently, the CEB has adopted in October 2007 a statement on **"Moving towards a climate-neutral UN"**, prepared by the Environment Management Group (EMG), committing the Executive Heads of all organizations of the UN system - including UNESCO - to move their organizations towards climate neutrality in their respective headquarters and UN centres for facility operations and travel.

61. By the end of 2009, the organizations will **estimate their greenhouse gas emissions consistent with accepted international standards, undertake efforts to reduce greenhouse gas emissions to the extent possible, and analyze the cost implications and explore budgetary modalities - including consulting with governing bodies as needed - of purchasing carbon offsets to eventually reach climate neutrality.** This commitment was made with a view to achieving the goal of climate neutrality at a date to be set in the future, by reducing emissions first and then offsetting the remainder through the purchase of offsets from CDM, that meet high standards of additionality, transparency and verification and which promote sustainable development in developing countries. The focus of action will be on air travel, its possible substitution through videoconferencing, the use of paper, energy options for buildings, etc. UNEP and UNCTAD will share their pilot experiences in this regard, including a full costing of certain measures required before committing to a plan of action. CEB supported the development and implementation of a UN system-side strategy reaching climate neutrality, the monitoring of the system's collective efforts, and a reporting back on progress and difficulties encountered.

62. In June 2007, a **"green audit" of UNESCO operations at Headquarters** was launched. This audit is expected to be followed by the adoption of policies and new practices for reducing the environmental "footprint" of UNESCO. The audit will benchmark the environmental impacts of current activities, provide an analysis of the areas for improvements, set targets and implementing measures as well as a dissemination plan, involving headquarters and field offices. On 13 November 2007, this green audit will be discussed at a "60 minutes to convince" edition at UNESCO Headquarters.

8. Conclusion: The way forward

63. The need for action to address climate change is indisputable and urgent. Governments, industry, international financial institutions, intergovernmental organizations and civil society all have an individual and collective role to play. Unless these actions are coherent and channeled towards shared goals their collective potential will never be realized. An international response mounted within a multilateral framework is required. The international community acknowledges the United Nations as the appropriate multilateral framework for establishing a post2012 climate regime.

64. In fulfilling this expectation, the UN will need to draw on its strengths in "Delivering as One"; providing a neutral negotiating forum, establishing trust and galvanizing high-level political support. Each UN body - and here UNESCO will contribute fully in line with the elements set out above - has a role in supporting the UNFCCC process within an agreed framework, and in supporting related implementation activities. To fine-tune the collaboration on mechanisms and the necessary division of labour across themes, it will be essential for each organization to illustrate the impacts of climate change, in their specific policy area, and the relevance of their work to addressing climate change.

65. The immediate international objective will be to contribute to successful **negotiations of the post-Kyoto climate regime** to be launched at the 13th session of the Conference of Parties to FCCC in **Bali**, Indonesia in early December 2007. UNESCO will not only have made a substantive contribution to the formulation of the UN system contribution, to be presented by UN Secretary-General Ban Ki-moon, but it will also participate with a senior team in this significant event. In Bali, it will organize a side event focusing on the particular contributions to be rendered by the Organization. Beyond Bali, the negotiations will continue in 2008 in **Poland** and in 2009 in **Denmark**. UNESCO will stay engaged throughout this process.

66. The UNESCO strategy, once approved, will be further implemented through the Secretariat **intersectoral platform for action on climate change** and further developed in an iterative approach, refining the responses as may be required. The activities to be carried out as part of the strategy will be defined in the workplans for the biennium 2008-2009, under the direct guidance and review of the **Task Force on Climate Change**.