
Topic Sessions Proposal

Topic 1.1

Adapting to climate change in water resources and water services:
understanding the impacts of climate change, vulnerability
assessments and adaptation measures

Prepared by:
The CPWC & the World Bank

in consultation with the
Topic 1.1 Consortium and Topic 1.1 Consultation Group:

IWA, IUCN, UNESCO, WWC, GWP, Green Cross International, AWC, IAH,
Governments of Turkey, Denmark, the Netherlands and Australia, Munich Re,
Munich Re Foundation, ICID, IGRAC, GWA, UNFCCC, FAO, REC, TSMS,
JWP, the World Wildlife Fund, UN-Water, the WHO and the UNU-EHS

- June 02, 2008 -

Proposal for Session 1, Topic 1.1:
“(Mis)managing Inconvenient Climate Truths for Sustainable Development”

Broader Issue/Context	<p>Not so long ago, climate change was just a fringe issue. But in the past few years, it has catapulted to a mainstream issue and a political one at that. Climate change has been getting lots of attention in the popular media (Al Gore, The Day after Tomorrow, hurricane Katrina, the 2003 and 2005 heat waves in Europe, the tropical cyclones in Asia, the drought in Australia, the recurring droughts and floods in Africa) and from scientists all over the world. While this surge of attention has made climate change less abstract, it also has the potential to overwhelm other important development issues like poverty alleviation, energy security, food security and environmental sustainability.</p> <p>The Millennium Development Goals (MDGs) recognize that development rests on the foundations of democratic governance, the rule of law, respect for human rights and peace and security. Many of these foundations and basic economic growth and livelihood security are similarly linked to environment and climate. But while achieving the MDGs are, rightly so, still the main challenge for the South, climate variability / climate change presents significant threats to the achievement of these goals, especially those related to eliminating poverty and hunger and promoting environmental sustainability. Nevertheless, strategies for achieving the MDGs do not account for climate variability and change. Climate change presents significant threats to the achievement of the Millennium Development Goals (MDGs), and related national poverty eradication and sustainable development objectives.</p> <p>It is therefore a matter of high urgency to assist developing countries to build environment, energy and climate risk management considerations right into the foundations of all efforts to reach the MDGs and go beyond. Climate proof tools and agreements need to be developed and integrated into sectoral development plans as well existing infrastructures and arrangements.</p> <p>If the problems of climate change are to be solved the solutions to them must involve politicians. However, policymakers, resource managers and major water user groups all face difficult choices and have questions in relation to responding to climate change and climate variability, one of which is: Is there sufficient sound scientific evidence to necessitate action now in the face of other priorities (MDGs) on which to base additional/new policies?</p> <p><i>Public Support</i></p> <p>Lastly, politicians tend to respond to their voters when they are crafting legislation. The direction of debate on solutions will depend on how deep public concern is and on whether what people ‘want’ (either consciously, or as expressed by their behaviour) in different countries diverges or converges. Governments will be able to move ahead of their electorates, but not a great distance. So even if the available knowledge justifies addressing climate change, how can a policy-maker get public support¹ and build a public platform for this?</p>
------------------------------	---

¹ People around the world seem convinced that climate change is real and, to a slightly lesser extent that it is caused at least in part by humans. However, the problem is not necessarily an immediate one for them. Moreover, merely to observe that majorities in multiple countries

	<p>A related serious concern is that without a full understanding of the current state of knowledge on climate change and climate variability, there is a risk of unintended consequences; for instance, adoption of innovative technologies that may have hidden adverse side effects upon agricultural productivity.</p>
Key Question for politicians	<p>How to cope with the inconvenient truths of climate change while continuing the development objectives?</p>
Session Development Description/ Outline	<p>Areas that need to be explored The key positions of politicians at all levels (global, country level, local).</p> <p>Affected stakeholders include but are not limited to</p> <ul style="list-style-type: none"> - Global political leaders - National political leaders - Local political leaders - Media - NGOs - Political advisors <p>A more inclusive list of affected stakeholders can be found in Annex I.</p> <p>Process of Identifying Stakeholders The process of identifying stakeholders will include the 3 levels of stakeholders:</p> <ol style="list-style-type: none"> 1. <i>Primary Stakeholders:</i> Who is directly affected by the issues? 2. <i>Secondary Stakeholders</i> Who is indirectly affected by the issues? 3. <i>Tertiary Stakeholders</i> Who is not involved or affected, but can influence opinions either for or against <p>As a start, the three levels of stakeholders and their weighted stakes will be identified with the Topic Consortium Group and the Consultation Group. In combination with desk research, the feedback process through the World Water Forum website and consultations during meetings and events, a final list of stakeholders and their stakes will be identified per key issue in the next 3 months. Lastly, the focal points for the various stakeholder groups (made available by the WWC) can assist in identifying appropriate representatives to associate within the sessions.</p> <p>Envisioned Session Format Part of the session will dedicated to necessary information-sharing by means of presentations, after which the viewpoints will be debated. The audience will be encouraged to join. It might be necessary to appoint a moderator. Ample room is left for further developments to enable the inclusions of as many of the proposed contributions as possible (received through Sept. 30th).</p>

think that ‘major steps’ are needed ‘very soon’ overlooks a fundamental point. There is little consensus about *what these steps should be* or *who should take them*. Few people are prepared to take expensive steps on their own behalf until these questions are settled.

(Types of) Organizations to be involved in session development	CPWC, WWC, UNESCO, the government of the Netherlands, UN-Water, GWA, UvW (all confirmed).
What is being bridged here?	The existing gap between the global development agenda and the global climate agenda.
Next steps and timeline	<p>The first step is to organize a high level political debate, starting at Stockholm during the World Water Week (August 2008).</p> <p>Then, as soon as the Session Convener Group (SCG) has been identified, a list of key events and meetings will be developed and drafted by the Session Convener in consultation with the Topic Consortium, the Topic Leader and the Topic Consultation Group.</p>
Contact information for coordination of this session	<p>Name: Mr. Henk van Schaik and Mrs. Marloes Bakker - <i>confirmed</i></p> <p>Organisation: CPWC</p> <p>Country: the Netherlands</p> <p>E-mail: h.vanschaik@unesco-ihe.org and m.bakker@unesco-ihe.org</p> <p>Tel: +31 15 215 1882 and +31 15 215 1748</p>

**Proposal for Session 2, Topic 1.1:
“Climate Change: Friend or Foe?”**

<p>Broader Issue/Context</p>	<p>For water managers climate change is rather a foe:</p> <p><i>There is no more Stationarity</i> Worldwide changes in the water budget are undermining basic assumptions of water management. Water management is often based on the principle of "stationarity," which means that water availability factors -- like stream flow and precipitation -- vary within an "unchanging envelope of variability." However, the change of Earth's climate is altering the means and extremes of these factors so that this paradigm of stationarity no longer applies. This means that when planning worldwide investments in water infrastructure -- an exercise that costs nations about \$500 billion a year -- engineers can no longer be guided by historical variability of water availability and flow. So the adequacy of those structures to handle with their intended jobs is called into question.</p> <p><i>Climate Information</i> Though climate change is irrevocable, climate models do not forecast accurately enough at temporal and/or spatial scales to be of use for designers, planners and decision makers facing adaptation choices, and even if they did, given irreducible uncertainties robust decision making is a better approach than seeking to optimize. There is a lack of clarity regarding the space and time scales on which users should pay attention to model forecasts. Policy-makers and managers often indicate that they do not receive the information they need; scientists are frustrated when their information is not being used, and ultimately, communities remain vulnerable in the face of extreme events and environmental changes. Despite all this, water managers will have to develop systems that can react based on uncertain assumptions in the absence of robust and effective models.</p> <p>The loop between climate science and societal decision makers should be closed, and a clearer distinction between the output of model experiments designed for improving the model and those of immediate relevance for decision making ought to be made. Modellers need to convey just how stable they think today's model projection are or clarify to the decision makers who grapple with adaptation to future climate changes the fact that their decisions should be robust to a wide range of future possibilities, and they need to use caution in seeking to optimize based on this or that prediction of the near-term future.</p> <p><i>Increasing complexity</i> Because water is linked to food, energy, environment and land, and vice versa, the impacts of land, food, energy and environment on water policies require strategies to be developed beyond the “water box”. An expression of these linkages can be made by footprints of water on food, industries, environment, land and - vice versa - footprints of land, food, environment and energy on water ought to seriously be considered.</p> <p>It is essential that water management becomes a strategic concern in the national economy, and across sectors. Vice versa, water management should adapt its policies, strategies, planning and operations to cope with climate change by adopting, revitalizing, strengthening and exacerbating the principles of integrated development policies for water security, food</p>
-------------------------------------	--

	<p>security, equity, energy security and economic development.</p> <p>Can climate change also offer opportunities for technological innovation, or a means to improve one's reputation? In other words, can climate be turned into a friend?</p> <p>Yes, climate change can trigger technological innovation, can trigger broadening the agenda with new risk reduction and insurance options, land use planning, institutional change, innovation in communication, and it can trigger 'demand management' under conditions of water stress while simultaneously positively contributing to improve the reputation of water managers.</p> <p>Water management should, by definition, cope with all the key drivers of global change: climate change, demographic (e.g., population growth), economic, social, policy/law/institutional, and technology drivers, food security, energy security, and environmental sustainability.</p> <p><i>Assessment of vulnerabilities and hot spots</i></p> <p>Vulnerability of humans related to their use of water has now become a widely discussed topic, related not only to climate change, but also to flood and drought risks and poverty in the development community. Vulnerability is not only and maybe not primarily a property of a system or a water catchment per se, but rather reflects a combination of characteristics of the hydrological system, the livelihood assets and social relations of people and the effects of a range of external factors on these two: water and people. Different people are exposed in different ways to stresses and threats.</p> <p>There is no doubt that the number of vulnerable people is growing and will be growing over the next decades. Upcoming challenges are the very vulnerable group of migrating people (which will increase with growing effects of global climate change) and the partition of population groups with varying level of vulnerability in built-up areas. But, where are the people most at risk from the effects of climate variability and climate change? And who is vulnerable to what?</p> <p>The determination of people's risk related to climate change, climate variability and associated natural disasters at the national and local level is of crucial importance in all phases of water resources management, thus of utmost importance to policy makers all over the globe. Vulnerability assessments in themselves can be used as a useful tool to guide the contents and basic procedure of water management planning.</p>
Key Question	<p>How can robust climate strategies be developed for water, food, energy and environmental security in response to the compound of drivers including demography, economic development, social change, and technological change?</p>

Session Development Description/ Outline	<p>Areas that need to be explored The (non)existing overlaps between the</p> <ul style="list-style-type: none"> - Climate sector - Food sector - Energy sector - Water sector - Development sector <p>Affected stakeholders A list of affected stakeholders can be found in Annex I.</p> <p>Process of Identifying Stakeholders The process of identifying stakeholders will include the 3 levels of stakeholders:</p> <ol style="list-style-type: none"> 1. <i>Primary Stakeholders</i> Who is directly affected by the issues? 2. <i>Secondary Stakeholders</i> Who is indirectly affected by the issues? 3. <i>Tertiary Stakeholders</i> Who is not involved or affected, but can influence opinions either for or against <p>As a start, the three levels of stakeholders and their weighted stakes will be identified with the Topic Consortium Group and the Consultation Group. In combination with desk research, the feedback process through the World Water Forum website and consultations during meetings and events, a final list of stakeholders and their stakes will be identified per key issue in the next 3 months. Lastly, the focal points for the various stakeholder groups (made available by the WWC) can assist in identifying appropriate representatives to associate within the sessions.</p> <p>Envisioned Session Format Based on concrete examples, part of this session will be an information sharing session that provides concrete answers and solutions. Ample room is left for further developments to enable the inclusions of as many of the proposed contributions as possible (received through Sept. 30th).</p>
(Types of) Organizations to be involved in session development	<p>GWP, IHA, AWF, UNFCCC, GWA, UN-Water, ICID</p>
What is being bridged here?	<p>In this session, bridges will be built to facilitate enhanced understanding and improved information exchange between the sector perspectives of water, food, energy and environmental security versus the perspectives of a compound of drivers including demography, economic development, social change, and technological change.</p>

Next steps and timeline	<p>As soon as the Session Convener Group (SCG) has been identified, a list of key events and meetings will be developed and drafted by the Session Convener in consultation with the Topic Consortium, the Topic Leader and the Topic Consultation Group. Expected is that planned meetings like the World Water Week in Stockholm will be taken advantage of to get people around the table.</p>
Contact information for coordination of this session	<p>Name: GWP – <i>confirmed</i> Organisation: Mr. Torkil Jønch-Clausen - <i>confirmed</i> Country: Denmark E-mail: tjc@dhi.de Tel: + 46 8 522 126 30</p>

Proposal for Session 3, Topic 1.1:
“Climate Change & Adaption: Think beyond the Water Box”

<p>Broader Issue/Context</p>	<p>Broadening the portfolio of response options is essential if water resource managers and water service managers are to adapt successfully to global and climate induced changes in the water resources.</p> <p><i>Adaption requires new thinking</i> Portfolios of measures (structural and non structural) will be essential if water and land management are to adapt successfully to climate induced changes in their water resources. For the development of effective portfolios of measures it is important that the best-available scientific information on climate change is translated into terms that are meaningful to policy makers (proposed Session #1) and policy-makers have received input from the impact assessment community (proposed Session #2), water managers and politicians must integrate all this information into a broader policy portfolio and make decisions on response options that include but are not limited to:</p> <ul style="list-style-type: none"> - Storage - Demand management - Technical innovation - Public awareness raising and communication - Need for capacity building - Institutional and legal arrangements - Increasing society's resilience by measures to adapt to a changing climate - Investments in monitoring and surveillance systems - Investments in research to reduce key policy-relevant uncertainties. <p>Since climate change has repercussions on the hydrology, adaptation options can be found in other parts of the water cycle. This includes shifting towards other use of the available water, the use of other sources of water (groundwater instead of surface water) and measures to enhance the availability of water (e.g., by converting surface water into groundwater).</p> <p>Hence, addressing the climate change challenge requires new thinking in water management—thinking that considers engagement on climate change not only in the sphere of water, but also outside the ‘water box’.</p> <p><i>Adaptation needs to be site specific</i> Adaptation measures need to be site specific for example for</p> <ul style="list-style-type: none"> - snowpack dependent water services - drying (arid) areas - areas with increasing run off and precipitation - mitigation measures
<p>Key Question</p>	<p>What are the pro's and con's of response options (<i>i.e.</i>, hard and soft methods and costs) to adapt to global and climate change?</p>

Session Development Description/ Outline	<p>Areas that need to be explored The area of hard and soft response options to adapt to global and climate change.</p> <p>Affected Stakeholders The affected stakeholders are listed in Annex I.</p> <p>Process of Identifying Stakeholders The process of identifying stakeholders will include the 3 levels of stakeholders:</p> <ol style="list-style-type: none"> 1. <i>Primary Stakeholders:</i> Who is directly affected by the issues? 2. <i>Secondary Stakeholders</i> Who is indirectly affected by the issues? 3. <i>Tertiary Stakeholders</i> Who is not involved or affected, but can influence opinions either for or against <p>As a start, the three levels of stakeholders and their weighted stakes will be identified with the Topic Consortium Group and the Consultation Group. In combination with desk research, the feedback process through the World Water Forum website and consultations during meetings and events, a final list of stakeholders and their stakes will be identified per key issue in the next 3 months. Lastly, the focal points for the various stakeholder groups (made available by the WWC) can assist in identifying appropriate representatives to associate within the sessions.</p> <p>Envisioned Session Format This session will explore innovative local level measures for addressing the multi-scale and multi-disciplinary challenges associated with climate change impacts, adaptation, vulnerability and mitigation.</p> <p>Based on concrete examples, part of this session will be an information sharing session that provides concrete answers and solutions. Ample room is left for further developments to enable the inclusions of as many of the proposed contributions as possible (received through Sept. 30th).</p>
(Types of) Organizations to be involved in session development	<p>IWA, GEF, IUCN</p>
What is being bridged here?	<p>The existing gap between theory of climate change adaptation and practice of climate change adaptation at local, national, regional and global levels.</p>
Next steps and timeline	<p>As soon as the Session Convener Group (SCG) has been identified, a list of key events and meetings will be developed and drafted by the Session Convener in consultation with the Topic Consortium, the Topic Leader and the Topic Consultation Group. Expected is that planned meetings like the World Water Week in Stockholm will be taken advantage of to get people around the table.</p>

Contact information for coordination of this session	Name: Ms. Åse Johannessen - <i>confirmed</i> Organisation: IWA - <i>confirmed</i> Country: the Netherlands E-mail: Ase.Johannessen@iwahq.org Tel: +31 70 315 0797
---	--

Proposal for Session 4, Topic 1.1:
“Where and when to put your money”

<p>Broader Issue/Context</p>	<p>Even the most stringent mitigation efforts cannot avoid further impacts of climate change in the next few decades, which makes adaptation essential. When it comes to climate change, the ‘solutions’ debate is not solely about science anymore, but more about politics and economics. Which solutions will or should be favoured, where and why? Who will back and resist them? How much will they cost, where can you get the money in the first place? How to assess cost effectiveness and risk reduction of adaptation measures, where to get the resources for adaptation. And what benefits will they deliver?</p> <p>Climate change is one of the greatest environmental challenges facing our planet requiring urgent action from all sections of society, and the finance sector is no exception. Climate change has become an important factor for the finance sector in its insurance, banking and investment activities. Next to the governing issues, financial markets in government and corporate initiatives are becoming increasingly important in combating global warming and adaptation to climate change. The financing, insuring and investing efforts to combat the negative effects of climate change is a new emerging phenomenon new to the water sector and for mechanisms at global and local level, through governments and private channels are still developing.</p> <p><i>Funding</i></p> <p>Municipalities, states and private sector entities ought to have sufficient funding to help identify sectors at risk and assess vulnerable systems, and proactive adaptation planning, in order to avert more costly reactive responses in the future.</p>
<p>Key Questions</p>	<ul style="list-style-type: none"> - Where and when to put your money? - What is required to get money to be committed? - How can (and/or should) measures for climate change in the water sector be identified and prioritized?

Session Development Description/ Outline	<p>Areas that need to be explored The financial sector in relation to climate change adaptation.</p> <p>Affected stakeholders The stakeholders affected are listed in Annex I.</p> <p>Process of Identifying Stakeholders The process of identifying stakeholders will include the 3 levels of stakeholders: 1. <i>Primary Stakeholders:</i> Who is directly affected by the issues? 2. <i>Secondary Stakeholders</i> Who is indirectly affected by the issues? 3. <i>Tertiary Stakeholders</i> Who is not involved or affected, but can influence opinions either for or against</p> <p>As a start, the three levels of stakeholders and their weighted stakes will be identified with the Topic Consortium Group and the Consultation Group. In combination with desk research, the feedback process through the World Water Forum website and consultations during meetings and events, a final list of stakeholders and their stakes will be identified per key issue in the next 3 months. Lastly, the focal points for the various stakeholder groups (made available by the WWC) can assist in identifying appropriate representatives to associate within the sessions.</p> <p>Envisioned Session Format Based on concrete examples, part of this session will be an information sharing session that provides concrete answers and solutions. Ample room is left for further developments to enable the inclusions of as many of the proposed contributions as possible (received through Sept. 30th).</p>
(Types of) Organizations to be involved in session development	World Bank, GEF, Munich Re
What is being bridged here?	The financial gap between what needs to be done and how to get it done when it comes to climate change adaptation on local, national, regional and global levels.
Next steps and timeline	As soon as the Session Convener Group (SCG) has been identified, a list of key events and meetings will be developed and drafted by the Session Convener in consultation with the Topic Consortium, the Topic Leader and the Topic Consultation Group. Expected is that planned meetings like the World Water Week in Stockholm will be taken advantage of to get people around the table.

Contact information for coordination of this session	Name: Mr. Vahid Alavian – <i>to be confirmed</i> Organisation: World Bank – <i>to be confirmed</i> Country: USA E-mail: valavian@worldbank.org Tel: + 1 202 473 3602
---	---

Annex I:
Weighted List of Identified Stakeholders

Scale	Stakeholders	Issue 1	Issue 2	Issue 3	Issue 4	Issue 5
National	National governments	++	+++	++	+++	+++
	Ministries	++	+++	++	+++	+++
	Departments	++	+++	++	+++	+++
	Planners (IWRM and others)	+++	+++	+++	+++	+++
	Government agencies	++	+++	++	+++	+++
Regional	Insurance companies	+	+++	+++	+++	+++
	Regional Assemblies	+	+++	++	++	+++
	Local opinion leaders	+	+	+	+	+++
	National and local media	+	+	+	+	+++
	Science and technology	+	+	++	++	+++
	Financial sector	+	++	+++	+++	+++
	Environmental groups	+	++	+	+	+++
Local	Mayors	++	+	+	+	+++
	Local level politicians	++	++	+++	++	+++
	Local Government Associations	++	++	+	+	+++
	Landowners	+	++	+++	++	+++
	Communities (the public in general)	+	+++	+++	++	+++
	Community groups	+	+++	++	+	+++
	Private sector	+	++	++	++	+++
Major groups	Women	+	++	+++	+	+++
	Farmers	+	++	+++	+	+++
	Local Governments	+	++	+++	+	+++
	Youth and children	+	++	+++	+	+++
	Workers and Trade Unions	+	++	+++	+	+++
	Business and Industry	+	++	+++	+	+++
	Indigenous people	+	++	+++	+	+++
	NGOs	+	++	+++	+	+++