

UN-Water  
Decade Programme on  
Capacity Development

# CAPACITYPOOL

## Climate Change

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AVINASH TYAGI, WMO

# UNW-DPC

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## Foreword



Dear Reader,

The last Capacity Pool of the year is dedicated to the important theme of climate change, in this run up to COP 15, the United Nations Climate Change Conference in Copenhagen. Climate change is an important work area of UNW-DPC. This work is described in the lead article Capacity Development in the Area of Water and Climate Change.

For this issue we have also interviewed Avinash Tyagi, Director of the Climate and Water Department (CLW) of the World Meteorological Organization (WMO) and UNW-DPC's role in the Task Force. UNW-DPC has also been working on a number of publications, two of which are presented in this Capacity Pool.

I wish you a good read and let us look forward to a successful conclusion of COP15.

Reza Ardakanian  
*Director of UNW-DPC*

# UNW-DPC Activities Calendar

## October

- 1 **Mapping:** start of the Mapping Exercise for Transboundary Waters and the Mapping Exercise for Climate Change and continuation of mapping UN-Water mandates
- 16-18 **Event:** worldwide stand up against poverty: [www.standagainstopoverty.org](http://www.standagainstopoverty.org)
- 24 **Event:** UN Day in Bonn, Germany
- 25-29 **4<sup>th</sup> AquaCrop Workshop** on *Capacity Development for Farm Management Strategies to Improve Crop-Water Productivity Using AquaCrop* with FAO and the Soils, Water and Environment Research Institute (SWERI) for Northern Africa in Giza, Egypt
- 26-3/11 **1<sup>st</sup> Middle East and North Africa Training Workshop** with the German Commission for UNESCO and German IHP/HWRP Hydrological Committee in Cairo, Egypt

## November

- 02-04 **1<sup>st</sup> Regional Workshop** on *Water Loss Reduction in Water & Sanitation Utilities* with UN-HABITAT for Latin America and Caribbean Countries (LAC) in Guanajuato, Mexico
- 16-18 **2<sup>nd</sup> Regional Workshop** on *Water Loss Reduction in Water & Sanitation Utilities* with UN-HABITAT, EWA, the Bulgarian Water Association (BWA) and DWA for South East European Countries (SEE) in Sofia, Bulgaria
- 16-24 **2<sup>nd</sup> Middle East and North Africa Training Workshop** with the German Commission for UNESCO and German IHP/HWRP Hydrological Committee in Cairo, Egypt
- 30-2 **4<sup>th</sup> GWAHS-CS Workshop** on *Groundwater and Human Security - Case Studies* with UNU-EHS, UNU-INWEH and UNESCO-IHP in Ho Chi Minh City, Vietnam

## December

- 07-15 **3<sup>rd</sup> Middle East and North Africa Training Workshop** with the German Commission for UNESCO and German IHP/HWRP Hydrological Committee in Cairo, Egypt
- 10-11 3rd Journalist Workshop** *Capacity Development Workshop for Water Journalists* in the LAC Region with UNW-DPAC, UNESCO-IHP and UN-HABITAT in Montevideo, Uruguay

For more information on UNW-DPC activities, please visit [www.unwater.unu.edu](http://www.unwater.unu.edu)

# UNW-DPC News

## RECENT UNW-DPC PUBLICATIONS

UNW-DPC has recently published the third and fourth publication in its Knowledge Publication series, both are follow-ups of the 5<sup>th</sup> World Water Forum in Istanbul, Turkey.



*Institutional Capacity Development: Working together to support policy and legal reforms for equitable water allocation* (Knowledge No. 3) reports on Session 6.1.2, organized by UNW-DPC and the Arab Water Council, which brought together water management stakeholders from all sectors and parts of the world to discuss what institutional capacities are required to ensure equitable water allocation between sectors in water-scarce areas. The publication presents the responses of the session contributors to the following key questions: What are

the drivers for and barriers to ensuring equitable allocation of water to all necessary sectors in regions of water scarcity? What policy and legal frameworks have been or should be developed to overcome the barriers and to strengthen the drivers? What institutional capacity development exists or is required to support the development of these frameworks? For answers to these and other questions, please refer to the Knowledge No. 3 publication.

The second publication *Water Related Migration, Changing Land Use and Human Settlements* (Knowledge No. 4) is a report of Topic 1.2, which was jointly organized by UNU-EHS, the GAP Administration and UNW-DPC and which contributed to developing a better understanding of the process of rural to rural, rural to urban and cross-border migration in the face of water scarcity. The main objective of the sessions of this topic was to shed some light on an important aspect of human migration that has not yet been given enough consideration and recognition by the international community: the relationship between water scarcity, land degradation and migration. The publication provides a summary of the intensive discussions held in Istanbul around the topic, and provides an excellent starting point for deepening the examination of the factors and drivers of human migration amid a constantly changing environment.



All UNW-DPC publications can be downloaded at [www.unwater.unu.edu](http://www.unwater.unu.edu).

## RECENT UNW-DPC EVENTS

UNW-DPC, FAO and regional partners have completed the first three workshops on *Capacity Development for Farm Management Strategies to Improve Water Productivity Using AquaCrop* in Burkina Faso, Iran and China. The 4<sup>th</sup> AquaCrop workshop will be taking place in Giza, Egypt (25-29 October 2009) in cooperation with SWERI; the 5<sup>th</sup> and last workshop will take place in South Africa in the beginning of 2010. You will find more information on food security and the AquaCrop workshop series in the next Capacity Pool.



For more information, please visit [www.unwater.unu.edu](http://www.unwater.unu.edu).

# Facts & Figures on Climate Change

- There is evidence that the global climate is changing. The main impacts of climate change on humans and the environment occur through water.
- Climate change is the fundamental driver of changes in water resources and an additional stressor through its effects on other external drivers.
- Policies and practices for mitigating climate change or adapting to it can have impacts on water resources, and the way we manage water can affect the climate.

These are some of the key messages of the 3<sup>rd</sup> World Water Development Report.

According to UNFCCC fact sheets, climate change is becoming a major threat to efforts to promote sustainable economic and social development and reduce poverty. Impacts are already showing and are very likely to increase as climate change takes hold.

The Intergovernmental Panel on Climate Change (IPCC) projects that the world will face an average temperature rise of around 3° C this century, should emissions rise at their current pace and thus double from their pre-indus-

trial level. This could result in a scenario which includes sea-level rise, shifts in growing seasons, and an increasing frequency of extreme weather, such as storms, floods and droughts.

According to the International Energy Agency (IEA) the global energy demand will grow 55% by 2030. In this period the energy supply infrastructure worldwide will require a total investment of USD 22 trillion, with about half of that in developing countries. Emissions could go up rather than down by 50% by 2050, if these investments are not directed towards climate-friendly technologies.

Impacts fall disproportionately on the poor, those who do not have the means to deal with them. These impacts include:

- by 2020, yields from rain-fed agriculture could be reduced by up to 50% in some African countries;
- approximately 20-30% of plant and animal species are

Interesting links:  
 IPCC: [www.ipcc.ch](http://www.ipcc.ch)  
 IEA: [www.iea.org](http://www.iea.org)

likely to be at increased risk of extinction if increases in global average temperatures exceed 1.5-2.5° C;

- widespread melting of glaciers and snow cover will reduce melt water from major mountain ranges, where more than one billion people currently live;
- more than 20 million people were displaced by sudden climate-related disasters in 2008 alone. An estimated 200 million people could be displaced as a result of climate impacts by 2050.

IPCC suggests that to avoid the most catastrophic impacts of climate change, greenhouse gas emissions need to peak in the next 10 to 15 years, and be reduced in the order of 50-80% below 1990 levels by 2050.

**Source:** UNFCCC Fact Sheets



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# Capacity Development in the Area of Water and Climate Change

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In the build up to COP15 of the UNFCCC in Copenhagen, it is impossible to ignore the issue of climate change and the impacts that it will have on the environment, society, economics and politics. Affecting all these sectors will be the impact of climate change on water resources. According to the June 2009 Bonn Climate Change Talks side event **“Bridging the water and climate agendas: water - the medium for climate change adaptation”**, water should also be seen as the main medium for the implementation of climate change

adaptation strategies. The way water resources are managed will be a key instrument for adapting to impacts of the predicted extremes in weather the planet will likely face. UN Member States thus need the individual, organizational and institutional capacity to develop and implement effective water-related adaptation strategies. Mechanisms such as UN-Water have been established by the UN in order, among other things, to strengthen the coherence and integrated effectiveness of the capacity development support Member States get from the

UN system. UNW-DPC, in turn, has been set up to support UN-Water in providing this.

With this in mind, this article will review different aspects of UNW-DPC’s capacity development work related to water and climate change.

## **Mapping exercise for the UN-Water Task Force Water and Climate Change**

Taking up the challenge to “strengthen UN system coordination on activities related to water and climate change”

is the UN-Water Task Force on Water and Climate Change. This is led by the World Meteorological Organization (WMO). The Task Force has developed a work plan which includes the implementation of a mapping exercise on the activities and projects of UN-Water members and partners at the intersection of climate change and water. UNW-DPC and WMO are working together on the application of the UNW-DPC's Capacity Development Observatory (CDO: see illustration) in designing and implementing this mapping exercise which will assist the members of the Task Force discuss key activity areas to jointly focus on in the coming years. Mr Tyagi of the WMO explains more about this in his interview on page 10 of this issue.

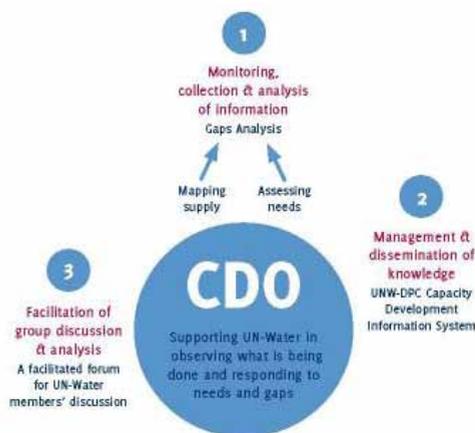
### Capacity Development in Higher Education

The mapping and analysis of UN-Water members' activities is just one of the tasks UNW-DPC is undertaking to support UN-Water, with regards to water and climate change issues. It has also been supporting specific capacity development activities. These include two training of trainers courses aimed at capacity development in higher education, an important issue for sustainability that was highlighted in the recent workshop on "Education for Water Sustainability", referred to in Capacity Pool 6.

In the first such activity, UNW-DPC and the EU FP6 project NeWater convened a training of trainers course to disseminate the NeWater-GWSP curriculum on Adaptive River Basin Management (AWM) at the International Human Dimensions Workshop 2008, organised by UNU-IHDP in New Delhi, India. The modules that make up the curriculum were written by international water management experts and introduced the concepts and methods of adaptive management and integrated water resources management for application in the context of global change. Lecturers from developing

countries were instructed by UNW-DPC, the University of Osnabrück and Alterra the didactics of transferring the necessary skills, knowledge and attitude required for adaptive river basin management. By the end of the workshop, participants had drafted designs for adaptations to curricula in water and environmental resources management studies.

In the second training of trainers course, the UNW-DPC and the World Meteorological Organization (WMO) co-organized the "East European Training of Trainers Workshop on Climate and Water Affairs". This was supported by the Consortium for Capacity Building of Colorado University (CCB) and hosted by the Ss. Cyril and Methodius University, Faculty of Civil Engineering, Skopje in



countries were instructed by UNW-DPC, the University of Osnabrück and Alterra the didactics of transferring the necessary skills, knowledge and attitude required for adaptive river basin

management. This course offered training to university staff in order to support universities in strengthening their capacity to adapt curricula and course material. The latter should reflect new knowledge

about climate and water affairs that will allow students to develop a cross-sectoral, climate change-aware approach to decision-making within their own disciplines. The twenty participants shared experiences and strategies for creating interdisciplinary curricula and drafted designs for new postgraduate programmes.

### Needs Assessment

When supporting specific activities of UN-Water members, UNW-DPC also seeks to collate and assess capacity development needs from the participants so that this information can be disseminated back to UN-Water as a whole. For example, participants at the Climate and Water Affairs training of trainers course described above were asked to identify their capacity development needs should their designs for new postgraduate programmes be realised.

One of the first challenges highlighted was that new courses are only sustainable if they attract sufficient students. However, courses not linked to clear job possibilities are not attractive in many parts of the region. Thus it was suggested that workshops would also be needed for policy makers. These should seek to raise awareness about climate and water affairs so that there are policies created that increase the number of employment in the jobs market requiring the type of interdisciplinary skills taught in these new courses.

A further issue mentioned was the lack of trainers who can cover all the disciplinary subjects to be taught. In the short term, this could be resolved by creating an exchange pool of lecturers from inside and outside the region. In the long term, more training of trainers courses would be needed to develop the multi-disciplinary pool of lecturers within the regions' universities. Finally, more support would be needed in providing universities with course materials and models of successful postgraduate courses covering climate and water affairs.

More information on this can be found in a forthcoming UNW-DPC publication on curriculum development approaches and challenges in the area of water and climate change.



### Collecting Lessons Learned from Experiences in Climate-Related Capacity Development

Another role of UNW-DPC is to collect and analyze approaches to capacity development and to provide UN-Water with policy guidance on future approaches. Of great interest to the UNW-DPC was



the recent 3<sup>rd</sup> WMO World Climate Conference (WCC-3) and, in particular, the session chaired by START (Global Change System for Analysis, Research and Training) on "Capacity-Building, Education and Training". This session was aimed at "reviewing lessons learned from efforts at developing capacity in meteorology, climate science, policy-makers and end users". An inspiring collection of speakers provided some important guidance for UNW-DPC and other programmes interested in effective capacity development. This guidance fell into three categories: success factors, criteria for success and general principles.

### Success factors

Many factors increasing the probability of the success of capacity development activities were mentioned. Probably the most important of these were that there should be local demand for, and ownership of, the activity, and that development be planned in terms of a long-term process that exploits existing information provision structures, and is linked to measurable management-based outcomes. Only then can an appropriate and acceptable development

process be planned. A long term process supporting capacity development for climate change adaptation or mitigation was characterised as a sequential chain of development activities that allows actors to develop capacities to collect data, then convert it into information and knowledge and finally to act on that knowledge wisely. It was suggested that the focus of climate-related capacity development should be on supporting wise adaptation to current climate variability and extremes. Once this capacity has been established, the actors can deal with future adaptation challenges predicted to be faced in the next 10-30 years, rather than during the 50-100 year time spans often modelled.

#### *Success criteria*

Several success criteria for capacity development activities were also described. Such activities could be seen as a success if they resulted in scientific activities being undertaken on regional issues; if resources and skills developed were sustained over a long period of time; if there was a critical mass of inter-disciplinary collaboration taking place; if participants were self-funding and if "actionable" knowledge was being produced.

#### *Principles*

Finally, in the session, the UN was called upon to adhere to three principles of capacity development. First of all, development activities are to in-



form and to respect partners' choices, not to dictate them. Secondly, capacity development should support only priority programmes that are contained in a country's plan of action, and thirdly, local actors should be networked to create a strong scientific basis for capacity development.

#### **Conclusions**

Through its work supporting capacity development activities related to water and climate change, through collating needs, and by collecting and

analyzing best practices in capacity development activities, UNW-DPC seeks to further strengthen its support for UN-Water in meeting the challenges of climate change. UNW-DPC hopes to continue this work until it meets the ultimate success criterion coming from the above session at the WCC-3: that capacity development support is no longer needed.

*Matt Hare*  
Senior Programme Officer,  
UNW-DPC

#### **Useful Links**

UN-Water Task Force on Water and Climate Change

[www.unwater.org/TFclimate.htm](http://www.unwater.org/TFclimate.htm)

UNU OpenCourseWare portal [ocw.unu.edu](http://ocw.unu.edu)

NeWater Curriculum on Adaptive River Basin Management

[www.newatereducation.nl](http://www.newatereducation.nl)

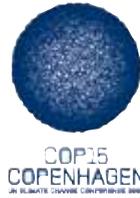
East European Training of Trainers Workshop on Climate and Water Affairs

[ccb.colorado.edu/skopje2009/index.php](http://ccb.colorado.edu/skopje2009/index.php)

UNFCCC Nairobi Work Programme

[unfccc.int/adaptation/sbsta\\_agenda\\_item\\_adaptation/items/3633.php](http://unfccc.int/adaptation/sbsta_agenda_item_adaptation/items/3633.php)

# United Nations Climate Conference



From 7-18 December, the whole world will look to Copenhagen, Denmark, for answers to climate change questions and guidelines for the coming years. The Climate Conference, which consists of the Conference of the Parties (COP) and the Meeting of the Conference of the Parties (CMP), will be attended by several thousand people, including observer organizations and representatives from 190 governments, to negotiate the process on climate change.

The existing legally binding agreement which governs carbon emissions, the Kyoto Protocol, expires in 2012. In order to take mankind into a sustainable and equitable future, an ambitious new deal needs to be agreed this year. This will give national governments time to prepare for implementation beyond 2012. The Climate Change Conference offers a historical opportunity to step up international action on climate change.

According to the United Nations Framework Convention on Climate Change (UNFCCC) the four essential political issues that need to be dealt with in Copenhagen are:

- ambitious emission reduction targets for developed countries;
- nationally appropriate mitigation actions of developing countries;
- scaling up financial and technological support for both adaptation and mitigation;
- an effective institutional framework, with governance structures, that addresses the needs of developing countries.

## THE CALL TO ACTION

“Seal the Deal!” is a major campaign led by the United Nations to encourage governments to seal the deal on a fair, balanced and effective climate agreement when they meet for the climate change conference. People and organizations around the world are urged to get involved in the “Seal the Deal!” campaign to call for urgent and united action on climate change.

UN Secretary General Ban Ki-moon stressed the need for a deal “that will enable deep cuts in emissions, that promotes green growth, that that

will provide the resources and structures needed for adaptation. (...) Let us work together to seal the deal in Copenhagen. I count on your commitment and I count on your strong political leadership” “Seal the Deal!” Climate Petition will serve as a reminder that the governmental leaders must negotiate a fair, balanced and effective agreement in Copenhagen.

To support the initiative and to sign the climate petition please visit the “Seal the Deal!” website.



## Interesting links and further information:

- Seal the Deal!  
[www.sealthedeal2009.org](http://www.sealthedeal2009.org)  
United Nations Climate Conference:  
<http://en.cop15.dk/>  
UNFCCC:  
[www.unfccc.int](http://www.unfccc.int)

# Avinash Tyagi on the UN-Water Task Force Water and Climate Change

**Mr Tyagi, as the coordinator of the UN-Water Task Force on Water and Climate Change, what do you consider as the main challenges for Member States to sustainably meet the Millennium Development Goals in the face of climate change?**

As the temperatures rise due to global warming, the hydrological cycle is accelerated changing precipitation patterns both in intensity and extremes and substantial spatial and inter-decadal variability. This will have profound impacts on water resources availability and demand. Changes in hydrological cycle combined with sea level rise and higher temperatures are projected to affect availability and distribution of rainfall, snowmelt, river flows and groundwater recharge. Increased precipitation intensity and variability are projected to increase the frequency and magnitude of extreme events, such as droughts, flash floods, storm surges, and landslides. Higher water temperatures will also impact water quality, exacerbate many forms of water pollution and affect

**Avinash Tyagi** is Director of the Climate and Water Department at WMO. He joined WMO in February 2003 as Director of the Hydrology and Water Resources Department. Before joining WMO he was working as Commissioner of Policy and Planning at the Ministry of Water Resources, Government of India. Tyagi has a B.Sc degree in Civil Engineering from the University of Roorkee, India, Master of Technology in Geo-technical Engineering from the Indian Institute of Technology, New Delhi, India, and a post-graduate diploma from International Institute of Hydraulic & Environmental Engineering, Delft.



aquatic ecosystems. Water is predicted to be the primary medium through which early climate change impacts will be experienced by various sectors.

Increasing use of fresh water due to demographic and socio-economic factors has already stressed the water availability in most developing countries. Climatic changes will exacerbate existing water management and related development issues in almost all sectors such as health, agriculture, food production and security, sustainable energy and

biodiversity, through water and related extreme events, such as floods and droughts.

As the aquatic systems and rain fed agriculture come under stress, the livelihoods in rural areas will be affected. Migration of the population, which is likely to accelerate as the livelihoods dependent on the natural resources in the countryside come under pressure, will result in the consequent concentration of populations in urban areas. Water supply and sanitation services will be put under additional pressure and will

present formidable challenges in achieving related MDGs. This in turn will also impact health and education. As six of the eight MDGs are directly or indirectly affected, among others, by inappropriate management of water resources, with water resources experiencing increasing stress, progress in these MDGs is likely to be impeded. In fact we risk that the efforts made by countries to meet the MDGs so far may be rolled back unless concerted actions are taken.

Therefore, coupled with population growth and serious economic circumstances, climate change is an additional, highly uncertain and variable factor that exacerbates the difficulties that developing nations are facing in achieving the MDGs.

**In your opinion, what role can the UN-Water Task Force play in assisting the Member States in meeting the above challenges?**

Water is the primary medium through which climate change influences the earth's ecosystem (IPCC, 2007). Many of the UN agencies are preparing their responses to this new situation. Water management at national as well as international level is under the mandate of various institutions and agencies, typically serving the specific economic needs of a sector. UN-Water represents a mechanism to coordinate actions among various UN agencies active in different aspects

of water management. Over the years UN-Water has evolved and today it constitutes an excellent platform for supporting the Member countries in climate issues that require expertise and inputs from various scientific disciplines and sectors. It is my belief that a more coordinated UN system could play a proactive role, for instance stimulating coordination of specific support provided to countries facing the challenges of climate change and its impacts in water management.

water and climate change. This will serve to support Member countries in assessing the impacts of climate change on water and in implementing strategies for mitigating and adapting to climate change in all aspects of water management.

Under the UNFCCC process, the Nairobi Work Programme on impacts, vulnerability and adaptation to climate change highlights the need for comprehensive and cross-sectoral adaptation planning. Establishment of the UN-Water's



The UN-Water Task Force on Water and Climate Change strives to exchange information, knowledge, expertise and experiences in this emerging challenge. Sharing of expertise and experiences is particularly relevant, as climate change adds new dimensions to the water management issues. The Task Force's objective is to strengthen UN System coordination on activities related to

Task Force on Climate Change represents a response to this call for cross-sectoral collaboration. The Task Force provides an opportunity to discuss climate change and water linkages in their widest sense and supports the UN System as it prepares to meet the challenges posed by climate change.

Presently, most countries do not have the information and

tools for understanding or making quantitative assessments of how water availability and water quality will change. The fact that water management professionals are seldom engaged in the UNFCCC debates, and that the mechanisms for national coordination are far from perfect, means that there is little recognition among the negotiating parties at the UNFCCC of the centrality of the role that water management can play in climate change adaptation. Consequently, water has not found its rightful place in the adaptation debate so far. The Task Force can play a crucial role in raising the awareness of the role that water management can play in the adaptation debate. Effective and efficient water management can play the same pivotal role in adaptation to climate change as energy measures are poised to play in the mitigation efforts.

The “Acting on Climate Change: the UN System Delivering as One” initiative, launched under the leadership of the UN Secretary General with the objective of intensifying the implementation of existing intergovernmental mandates and building upon the experience gained, was presented at COP 13 in Bali, Indonesia. Five focus areas and four cross-cutting areas have been identified to develop synergies of actions. Under the cross-cutting areas Climate Knowledge: science assessment, monitoring and

early warning, the Task Force can effectively collaborate to make scientific knowledge underpin climate change adaptation in the water sector.

**UNW-DPC is supporting the Task Force to carry out a mapping exercise for identifying synergies between UN-Water members’ and partners’ key water- and climate change-related activities. How would the Task Force use these results?**

The Task Force has focused its initial work on understanding how various agencies involved in water management issues can support Member countries in facing up to this new challenge. How should our activities, separately and jointly as UN-Water, be adjusted to incorporate this additional relatively uncertain factor? How should we work together on climate change issues so as to serve the mandate of each member agency more effectively?”

In order to maximize the synergies, eliminate duplications and overlaps, the Task Force has started mapping the activities of UN-Water members. Based on the results of this mapping exercise and other available information, an analysis will be carried out to identify:

1. The information and knowledge requirements in water management for climate change adaptations,
2. The capacities within the UN-Water members to provide this information,
3. The gaps in knowledge within the UN-Water agencies to meet the requirements,
4. Possible mechanisms through which such interdisciplinary information and knowledge can be shared among agencies and made available to the Members, and
5. Capacity building needs both at agency level and national level.



The Task Force will plan its future activities based on the outcomes of this analysis.



**Which institutional capacity development activities should UNW-DPC and the UN-Water mechanism support in order to promote adaptation to climate change in the water sector?**

It is not only technical and scientific knowledge and information that require more certainty. Institutional arrangements to meet this challenge are also formidable and need to be addressed. Just like Integrated Water Resources Management (IWRM), climate change adaptation requires a multi-disciplinary and multi-dimensional approach through collaborative and coordinated mechanisms. All of us have to think outside our expertise and mandates to look for innovative solutions.

IWRM provides the framework within which climate change adaptations can be successfully sustained. Ho-

wever very little progress on implementing IWRM at the ground level has been achieved and we need to accelerate the process. Current institutional mechanisms often don't lend themselves to this approach. There is often confusion among national institutions regarding mandates on climate change adaptations. We need to better coordinate the actions among the different institutions responsible for managing water resources. It will help us understand better how different uses and different stakeholders influence each other as climate change and climate change policies affect water resources. Factoring climate change in the water sector requires an accelerating the pace of institutional reforms.

Effective institutional strengthening involves capacity development in areas such as:

1. Developing appropriate institutional frameworks under which climate change adaptations, based on risk management and adaptive management principles can be implemented ;
2. Developing a sound and shared information base which supports planning and a proactive response to climate change;
3. Encouraging a participatory and transparent approach which includes the active participation of a representative range of stakeholders in the decision making process.

UNW-DPC and the Task Force, through its participating agencies, have to work together and provide avenues to build these capacities in the Member countries.

**We thank Mr Tyagi for his time.**

# The Nairobi Work Programme

The Nairobi Work Programme was established in 2005 for a period of five years and aims to assist countries that are party to the United Nations Framework convention on Climate Change (UNFCCC), particularly developing countries to improve their understanding and assessment of climate change impacts, vulnerability and adaption and to make informed decisions.

The Nairobi Work Programme is implemented through its nine work areas:

1. **Methods and tools** - promotes the development and dissemination of methods and tools for climate change

impact and vulnerability assessment. Nairobi Work Programme partners pledge actions towards the goals and objectives of the programmes through Action Pledges.

2. **Data and observations** - seeks to improve the collection, management, exchange, and use of data and observations.

3. **Climate modelling, scenarios and downscaling** - promotes climate models, which offer estimates of climate variables under changing climate conditions.

4. **Climate related risks and extreme events** - seeks to improve the mitigate the impact of extreme climate conditions, such as drought, tempera-

ture change, wildfires or flash floods, vulnerability and their impacts.

5. **Socio-economic information** - assists partners at international, national, regional and local levels to collect and evaluate socio-economic information, including poverty, population growth or human adaptive capacity.

6. **Adaptation planning and practices** - collects analyzes and disseminates information on adaptation practices to help partners adapt to the impacts of climate change.

7. **Research** - promotes research on adaptation options.

8. **Technologies for adaptation** - promotes technologies which address the adaptation priorities. These technologies can include sea walls and irrigation systems or insurance and crop rotation.

9. **Economic diversification** - promotes understanding and dissemination of measures and tools aimed at increasing economic resilience and diversification.



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## Further information:

UNFCCC: [www.unfccc.int](http://www.unfccc.int)

## Imprint

The UN-Water Decade Programme on Capacity Development (UNW-DPC) aims to support and strengthen the activities of the more than two dozen UN organizations and programmes within UN-Water and to support them in their efforts to achieve the Millennium Development Goals (MDGs) related to water and sanitation. The purpose of this quarterly newsletter is to inform about UNW-DPC and UN-Water capacity development activities, but also to act as a source of information on matters connected to capacity development in the water sector in general.

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## Coming Up

The next Capacity Pool will be looking at the issue of food security. In the midst of climate change discussions, rising food prices and the world financial crisis, millions of people worldwide are suffering from hunger and undernourishment, the United Nations estimates 840 undernourished people in the world.

UNW-DPC will report on the workshop series on *Capacity Development for Farm Management Strategies to Improve Crop-Water Productivity Using AquaCrop*, which was held in cooperation with FAO and regional partners. The workshops trained participants from various regions in the practical application of AquaCrop, a new FAO tool to estimate yield response to water, in order to improve their skills in strategic management aimed at increasing crop-water productivity in rainfed and irrigated production systems.

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