

## DIALOGUE SESSION

# Water and climate: how to define adaptation actions

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OUR COMMON FUTURE UNDER CLIMATE CHANGE

The International Scientific Conference *Our Common Future under Climate Change* took place at UNESCO and UPMC (Paris) in July 2015. This four-day conference was the largest forum for the scientific community to come together ahead of the 21st UNFCCC Conference of the Parties (COP21) hosted by France in December 2015 (Paris Climat 2015). Building on the results of IPCC 5th Assessment Report (AR5), the Conference addressed key issues concerning climate change in the broader context of global change. The conference was a major opportunity for scientists, stakeholders and the larger public, to take stock of existing knowledge, explore and identify innovative solutions, discuss them, and prepare for an ambitious post-2015 climate governance regime. To strengthen the dialogue between scientists and the actors involved in the fight against climate change and to feed the future agenda of research, the Conference also offered a venue for scientists, policy-makers, businesses and NGOs to dialogue about specific topics.

[www.commonfuture-paris2015.org](http://www.commonfuture-paris2015.org)

### Defining adaptation for water management

Given the unavoidable consequences of a 2°C global warming by the end of this century, which is the political target of the forthcoming 21st Conference of Parties to the UN Framework Convention on Climate Change, the agreement sought in Paris in November and December 2015 will also have to address adaptation to this foreseen global change.

Defining adaptation strategies and capacitating countries and populations to adapt (in terms of financing, knowledge and capacity building) to climate change, remains however an open question and challenge.

**Water is at the heart of adaptation to climate change** issues, through dramatic changes in precipitations producing increased droughts and floods. Indeed, as of today 90% of natural related disasters happening every year are already water related, especially in the Asia-Pacific Area (UNESCAP, 2015). About 80 % of the French Development Agency's funds, and around 60 % of the Adaptation Fund projects are correspondingly water-related (taking into account water for agriculture, for energy...).

**With the adoption of a water goal, and explicit references to water in other goals in the sustainable development agenda of the United Nations, the international community has acknowledged the importance of water in sustainable development.** The preparation of this water goal offers a first important advisory work on the definition of a sustainable water management in changing contexts.

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The water community has a lot to offer to enrich the international debate on defining adaptation through concrete case studies that were presented in a dialogue session on the 9th of July on the sidelines of the International Conference *Our Common Future under Climate Change*.

*Based on statements and discussions made during this dialogue session, this paper displays and summarizes a set of key ideas for climate-smart water strategies and provides two illustrations.*

### Taking into account climate change in water management

RIO+20 was an opportunity to remind world leaders that development without consideration for natural resources is unsustainable, especially in a context of climate change. For example, most of the Asian coastal cities are more and more exposed to a subsidence process, with critical cases in Bangkok, Jakarta or Manila, that we can explain in great part by important pumping in groundwater since the 1950s. This process increases now their vulnerability to floods and sea level rise. It was stated that development aspirations should not be contradicted by climate change mitigation needs and thus that there is a need to support all countries towards this human and ecological transition.

Water managers and decision makers have progressively tried to develop balanced and inclusive approaches to managing water through the development of Integrated Water Resources Management and the development of basin or local scale participatory approaches

By adding major uncertainties, climate change has added an extra layer of complexity in this delicate process.

**Assessing water actions and projects through a “climate lens”** is of the essence, and this implies developing robust a priori evaluations of risks, vulnerability and the exposure of ecosystems and humans, and capacity to adapt.

A starting point for the integration of climate resilience into water actions is to develop no/low regrets measures, i.e. measures designed with adequate integration of climatic fluctuations assumptions and uncertainties about future water demand and availability. “Climate-specific” measures, such as the construction of sea walls, are also needed, but are only part of the answer.

**Reinforcing knowledge and acknowledging the potential inputs from traditional knowledge** regarding the impacts of climate change at local level is also extremely important and lacking.

**Reinforcing governance** is critical to meet water challenges due to climate change. Consistency between the different sectorial policies is essential. There is often a lack of communication between climate divisions and water divisions within national institutions. Coordinated governance should be reinforced at the national but also regional and local level, with further strategic planning for climate responses at all scales. Participation of local and vulnerable populations is required for an appropriation of these strategies. Last, integrating climate change within WASH (Water Sanitation and Hygiene) strategies and other water-related strategies is essential.

### Towards “water resilient” actions

Quoting a recent study from the GWP and UNICEF on WASH Climate Development (2015), resilience can be defined as the ability of people and systems to anticipate, adapt and recover from the negative effects of shocks and stresses (including natural disasters and climate change) in a manner that reduces vulnerability, protects livelihoods, accelerates and sustains recovery, and supports economic and social development, while preserving cultural integrity. Adaptation to climate change requires going towards more climate resilient water actions. These actions will not be able to balance all aspects but they should as much as possible thrive to go towards “win win” situations.

It is thus important when looking at adaptation to climate change for water to develop hard measures but also soft (institutional innovation, capacity building, raising awareness) and green solutions (based on ecosystems).

The dialogue session of the 9th of July was an occasion thus to present such actions.

## Wetlands of Colombo (Sri Lanka)

The World Bank presented the case study of Colombo wetlands. Colombo has significant urban wetlands, which provide natural flood retention and offer various natural resources ecosystem services. These areas are at risk of disappearing due to urban development.

The World Bank has been working with local authorities and actors on a new methodology based on “robust decision-making” which defines what strategies are the most robust. In this case the question was asked of keeping wetlands with their multiple co-benefits, or developing artificial lakes designed to maximize flood retention at the expense of other ecosystem services. The decision assessment methodology addresses 3 key sequential questions: 1) assessing risks from losing natural wetlands and related services, 2) assessing all types of costs and benefits from conserving versus developing wetlands, 3) discuss relative value of conserving versus developing. In that case, it was shown that developing artificial lakes was valued for a large part for recreational purposes, whereas conserved wetlands would bring superior water risk management and natural resources; therefore conserving wetlands appeared a collectively preferable option provided recreation would be enhanced. After this assessment it was decided that the wetlands should be kept, for their social and environmental benefit, the potential profit that could be made from tourism, and as a buffer zone against the raising threats of flooding, or the decrease of water quality.

## The Senegal River

Facing the foreseeable challenges of development and climate, the member states of the Senegal River Basin Organization (OMVS) drafted the Water Development and Management Master Plans for the Senegal River, with full consideration of the above issues for the period up to 2025. The Master Plan outlines key guidelines and a detailed action plan to establish a consistent framework for development activities while protecting water resources and the

environment, looking ahead to 2025. Climate change dominated discussions at several stages of the master planning process. Modeling used to produce the Master Plan included forecasts for withdrawals (water demand) and inputs (potential supply), thus making it possible to test various water development scenarios and the impact of these on uses of the resource.

## A central role for water in climate debates

Due to the essential role of water for adaptation, water needs to gain further importance within climate negotiations and debates. There is a need to raise awareness on the impacts of climate change on water resources, notably in developing countries. For instance, even a raise in temperatures of above 2°C could lead to non-returnable situations in the Sahel or in many Mediterranean countries already suffering from severe droughts.

Joint learning among all types of stakeholders at all levels is essential. Water is managed locally but needs to be also taken into account at international level. Spreading information on measures to adapt to climate change would lead to speeding up and scaling up trustworthy experiences and solutions. Capacity building on this issue is particularly lacking in developing countries that are faced with long-term consequences.

Financing is a fundamental requirement for developing climate resilient water actions. It is required that water dedicated actions be mentioned within the Green Climate Funds. Today, water is mentioned through resilience but remains less visible than water security and energy actions. This calls for specific measures to be taken in the field of Water and Sanitation services.

Finally, there is a need to further develop the debate on adaptation for water and climate, and to preclude the risk of “green washing” of water actions, which would undermine the necessary efforts to address together the development and environmental challenges we are collectively facing.

### List of participants:

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