

## Wetlands and the UNFCCC COP15 climate change meeting (Copenhagen, 7 - 18 December 2009)

### Briefing Note from the Ramsar Scientific & Technical Review Panel (STRP) and Secretariat to Contracting Parties

#### Purpose and scope of the Briefing Note

The purpose of this briefing note is to provide relevant, easily accessible information on wetlands and climate change. We encourage Ramsar's Contracting Parties who will be attending the upcoming meeting in Copenhagen of the UN Framework Convention on Climate Change (December 2009) to use this information in preparation for, and during, the meeting to ensure that wetland issues are given the consideration they merit. The briefing note is based on recent decisions adopted by Ramsar Contracting Parties, and on recent information and recommendations provided by the STRP in relation to wetlands and climate change. We hope that the briefing note can serve as an aide-memoire to all our Parties as they prepare for the very important Copenhagen meeting of the UNFCCC.

#### Supporting documents

There are four key supporting documents, which are readily available from the Ramsar website or directly from the Secretariat:

- **Ramsar COP10 Resolution X.24** (*Climate change and wetlands*), which was adopted at COP10 of the Ramsar Convention in November 2008, and which sets out the Parties' concerns and position on climate change and wetlands: [http://www.ramsar.org/pdf/res/key\\_res\\_x\\_24\\_e.pdf](http://www.ramsar.org/pdf/res/key_res_x_24_e.pdf);
- **Ramsar COP10 DOC.25** (*Additional Information on Climate Change and Wetlands Issues*), an information document tabled at Ramsar COP10 that summarizes the current state of STRP knowledge and additional relevant background information: [http://www.ramsar.org/pdf/cop10/cop10\\_doc25\\_e.pdf](http://www.ramsar.org/pdf/cop10/cop10_doc25_e.pdf);
- **Ramsar COP10 Resolution X.3** (*Changwon Declaration on Human Wellbeing and Wetlands*), which addresses some of the cross-sectoral actions that are needed to support protection and wise use of wetlands in response to climate change impacts as well as direct impacts caused by human activities: [http://www.ramsar.org/pdf/res/key\\_res\\_x\\_03\\_e.pdf](http://www.ramsar.org/pdf/res/key_res_x_03_e.pdf);
- **Caring for Wetlands: An Answer to Climate Change** - Information leaflet prepared by the Secretariat for World Wetlands Day 2010, which is based on the preceding three documents and which contains some additional scientific information: [http://www.ramsar.org/pdf/wwd/10/wwd2010\\_aa\\_leaflet\\_e.pdf](http://www.ramsar.org/pdf/wwd/10/wwd2010_aa_leaflet_e.pdf).

#### Structure of this Briefing Note

The Note is structured around four "headline messages". Under each "headline message", we provide references to relevant preambular and operative paragraphs of Ramsar Parties' decisions to support the message, and references to relevant supporting information provided by the STRP and the Secretariat.

#### Headline messages:

1. **Wetland ecosystems, their biodiversity and the wetland ecosystem services on which humans depend, are threatened by the likely impacts of climate change.**
2. **Wetland ecosystems are important for climate change mitigation.**
3. **Wetland ecosystems are essential for climate change adaptation.**
4. **From words to actions: policies, planning and implementation related to climate change, at all levels from global to local, should recognize and incorporate the role and importance of wetland ecosystems.**

## Background:

### Why is it important for Ramsar Contracting Parties to bring wetlands issues into the UNFCCC?

Wetlands provide food, store carbon, regulate the water flows, store energy, and are crucial for biodiversity. Their benefits to people are essential for the future security of humankind. Conservation and the wise and use of wetlands are vital for people, especially the poor.

(Ramsar Resolution X.3)

Wetlands are vulnerable to human-induced climate change but, if we manage them well, wetland ecosystems and their biodiversity also have a role to play in the mitigation of climate change and will be important in helping humans to adapt to climate change through their critical role in ensuring water and food security. Caring for wetlands is a part of the solution to climate change:

- Maintaining wetland biodiversity helps to reinforce the resilience of wetland ecosystems to changes and pressures, both natural and human-induced;
- Wetland biodiversity, ecosystems and species are indeed under threat from the impacts of climate change, but proper management of wetlands can reduce these impacts.

(Ramsar WWD 2010 leaflet)

Ramsar Contracting Parties are... AWARE from the findings of the Millennium Ecosystem Assessment (MA), the 4<sup>th</sup> Global Environment Outlook (GEO-4), the World Water Development Report (WWDR 2006), and *A Comprehensive Assessment of Water Management in Agriculture (CA)*.... demand for water, particularly for irrigated agriculture as well as other uses, is projected to continue to increase.

(Ramsar Resolution X.24 para 13)

It is urgent that the international community recognizes the crucial importance of wetlands to mitigate climate change (through reducing Greenhouse Gases). Equally, adaptation measures for wetlands (which deal with the impacts of climate change) are critically important to human welfare.

(COP10 DOC.25: citing "*Wetlands, water, biodiversity and climate change*":  
*report of the March 2007 joint CBD-Ramsar technical workshop*)

The 9<sup>th</sup> Conference of the Contracting Parties to the Convention on Biological Diversity (CBD) in Decision IX/16 invited the Conference of the Parties to the Ramsar Convention, at its 10th meeting, to consider appropriate action in relation to wetlands, water, biodiversity and climate change in view of the importance of this subject for the conservation and sustainable use of biodiversity and human welfare, in line with the lead implementation role of the Ramsar Convention for CBD for wetlands and the terms of the fourth CBD/Ramsar Joint Work Plan.

(Ramsar Resolution X.24 para 22, citing CBD Decision IX/16)

The 10<sup>th</sup> Conference of the Contracting Parties to the Ramsar Convention on Wetlands RECOGNIZED that the low levels of understanding and appreciation of wetlands in climate change discussions represent a serious and real threat to wetland ecosystems and a missed opportunity for wetlands to contribute to addressing the impacts of climate change.

(Ramsar Resolution X.24 para 26)

### Headline message 1:

## **Wetlands, their biodiversity and the wetland ecosystem services on which humans depend, are threatened by the likely impacts of climate change**

The ecosystem services from wetlands – such as water, fish, recharging of groundwater reservoirs, water purification and waste treatment, flood control and storm protection, recreational and spiritual opportunities – are essential for human survival. These services have been valued by some economists at US\$14 trillion annually. We cannot afford for environmental, social or economic reasons to lose wetlands, yet evidence suggests we have been doing just that. From well documented figures in various countries, we can probably assume that we have already lost 50% globally and that we are still losing wetlands, especially in developing countries. . . . climate change will become one of the major drivers of ecosystem loss during this century and will intensify the impacts of the other drivers.

(Ramsar WWD2010 leaflet)

Wetlands/biodiversity and climate change are interlinked. Climate change threatens these important ecosystems and the services they provide for human welfare. These ecosystems are already declining faster than any other biome and climate change will exacerbate this problem largely because its main impacts will be on water.

(Ramsar COP10 DOC.25: citing “*Wetlands, water, biodiversity and climate change*”: report of the March 2007 joint CBD-Ramsar technical workshop)

In its Third Assessment Report (TAR), the International Panel on Climate Change (IPCC) concluded that some wetlands, including reefs, atolls, mangroves, and those in prairies, tropical and boreal forests, and arctic (including permafrost) and alpine ecosystems, are considered to be amongst those natural systems especially vulnerable to climate change.

(Ramsar Resolution X.24 para 5)

Ramsar Contracting Parties [NOTED] WITH CONCERN that the IPCC, in its Fourth Assessment Report indicates. . . . many natural systems, including wetlands, are being affected by regional climate changes.

(Ramsar Resolution X.24 para 6)

“Observational records and climate projections provide abundant evidence that freshwater resources are vulnerable and have the potential to be strongly impacted by climate change, with wide-ranging consequences for human societies and ecosystems.”

(Ramsar COP10 DOC.25, citing “*Climate Change and Water*”. Bates, B.C., Z.W. Kundzewicz, S. Wu and J.P. Palutikof (Eds.) 2008. *Technical Paper of the Intergovernmental Panel on Climate Change, IPCC Secretariat, Geneva, 210 pp.*)

“Climate change will have its most pronounced effects on inland freshwater wetlands through altered precipitation and more frequent or intense disturbance events (droughts, storms, floods). Relatively small increases in precipitation variability can significantly affect wetland plants and animals at different stages of their life cycle (Keddy, 2000). [WGII 4.4.8].

(Ramsar COP10 DOC.25, citing “*Climate Change and Water*”. Bates, B.C., Z.W. Kundzewicz, S. Wu and J.P. Palutikof (Eds.) 2008. *Technical Paper of the Intergovernmental Panel on Climate Change, IPCC Secretariat, Geneva, 210 pp.*)

Ramsar Contracting Parties NOTED WITH CONCERN the Key Messages of the Millennium Ecosystem Assessment (MA) *Wetlands and Water Synthesis Report*. . . . that . . . global climate change is likely to exacerbate the loss and degradation of many wetlands, that the adverse effects of global climate change will lead to a reduction in the services provided by wetlands, and that the projected continued loss and degradation of wetlands will reduce the capacity of wetlands to mitigate impacts.

(Ramsar Resolution X.24 para 11)

## Headline message 2:

### Wetland ecosystems are important for climate change mitigation

Ramsar Contracting Parties are ....AWARE of the increasing evidence that some types of wetlands play important roles as carbon stores, but {are} CONCERNED that this is not yet fully recognized by international and national climate change response strategies, processes, and mechanisms.

(Ramsar Resolution X.24 para 8)

There is strong evidence that wetlands are one of the most important, but also the most complex, biomes in relation to carbon and GHG balances. However, the role that wetlands will play in the global picture of carbon storage and methane emissions in the future is very uncertain and the processes involved are complex. It is important to recognize that wetlands have always sequestered carbon and also decomposed to produce CO<sub>2</sub> and CH<sub>4</sub>; their effect upon future climate change depends on how these processes depart from historical steady-state rates of production.

(Ramsar COP10 DOC.25)

We can also have a real impact on emissions by the way we manage our environment. Peatlands, though covering only 3% of global land area, have long been recognized as an important carbon sink, and their drainage and conversion for other uses as an important source of emissions. There is also increasing evidence of the role of mangroves, saltmarshes and other wetlands as carbon sinks, and thus there is an urgent need to restore and secure the management of these wetlands as well.

(Ramsar WWD 2010 leaflet)

Wetlands are .... critical to mitigating climate change. They have an important and underestimated role in both carbon storage and the regulation of greenhouse gas emissions. Degraded wetlands are already a significant source of atmospheric carbon and the restoration/rehabilitation of wetlands offers a return on investment up to 100 times that of alternative carbon mitigation investments.

(Ramsar COP10 DOC.25)

Mitigation measures can reduce the magnitude of impacts of global warming on water resources, in turn reducing adaptation needs. However, they can have considerable negative side effects, such as increased water requirements for afforestation/reforestation activities or bio-energy crops, if projects are not sustainably located, designed and managed.

(Ramsar COP10 DOC.25)

There are significant gaps in research and knowledge that preclude full assessment of the real magnitude of the importance of wetlands globally in the carbon and GHG balance.

(Ramsar COP10 DOC.25)

Ramsar Contracting Parties CALL ON Ramsar Administrative Authorities to provide expert guidance and support where appropriate to their respective UNFCCC focal point, within the context of UNFCCC Decision 1/CP.13, on the joint policies and measures that are aimed to reduce anthropogenic greenhouse gas emissions from wetlands such as peatlands, where practical.

(Ramsar Resolution X.24 para 35)

Ramsar Contracting Parties ALSO URGE relevant Contracting Parties to take urgent action, as far as possible and within national capacity, to reduce the degradation, promote restoration, improve management practices of peatlands and other wetland types that are significant greenhouse gas (GHG) sinks.

(Ramsar Resolution X.24 para 32)

### Headline message 3:

#### Wetland ecosystems are essential for climate change adaptation

Water and well-functioning wetlands play a key role in responding to climate change and in regulating natural climatic processes (through the water cycle, maintenance of biodiversity, reduced greenhouse gas emissions, and buffering of impacts). Conservation and wise use of wetlands help to reduce the negative economic, social and ecological effects that may result.

(Ramsar Resolution X.3)

Wetland ecosystems offer a natural infrastructure to strengthen climate change adaptation.

(Ramsar WWD2010 leaflet)

Ramsar Contracting Parties RECOGNIZE that the conservation and wise use of wetlands enable organisms to adapt to climate change by providing connectivity, corridors and flyways along which they can move.

(Ramsar Resolution X.24 para 12)

Ramsar Contracting Parties NOTE that wetlands can also reduce adverse effects of climate change, such as food shortages, by providing vital biodiversity resources...

(Ramsar Resolution X.24 para 16)

Ramsar Contracting Parties RECOGNIZE that the wise use and restoration of wetlands contributes to building the resilience of human populations to climate change impacts and can attenuate natural disasters expected with climate change, such as the use of restored floodplain wetlands to reduce risks from flooding.

(Ramsar Resolution X.24 para 18)

Ramsar Contracting Parties RECOGNIZE that almost all of the world's consumption of freshwater is drawn either directly or indirectly from wetlands, and ALSO RECOGNIZE the importance of wetland ecosystems in protecting freshwater supplies...

(Ramsar Resolution X.24 para 3)

Wetlands are vital parts of the natural infrastructure we need for addressing climate change. Degradation and loss of wetlands make climate change worse and leave people more vulnerable to climate change impacts such as floods, droughts and famine. Many climate change policy responses for more water storage and transfers, as well as energy generation, if poorly implemented, may deleteriously impact on wetlands. Climate change is increasing uncertainty in water management and making it more difficult to close the gap between water demand and supply. We will increasingly feel the effects of climate change most directly through changes in the distribution and availability of water, increasing pressures on the health of wetlands. Restoring wetlands and maintaining hydrological cycles is of utmost importance in responses for addressing climate change, flood mitigation, water supply, food provision and biodiversity conservation.

(Ramsar Resolution X.3)

Ramsar COP10 URGES Contracting Parties to manage wetlands wisely to reduce the multiple pressures they face and thereby increase their resilience to climate change and to take advantage of the significant opportunities to use wetlands wisely as a response option to reduce the impacts of climate change.

(Ramsar Resolution X.24 para 28)

Ramsar COP10... URGES Contracting Parties and other governments, where appropriate, to include in national climate change strategies the protection of mountain wetlands, to reduce the impacts of extremes in precipitation, attenuate the impacts of melting and disappearing glaciers and the reduction of water storage in mountain areas, and the restoration and management of degraded lowland and coastal wetlands, resulting in the attenuation of large storms and sea-level rise.

(Ramsar Resolution X.24 para 31)

#### **Headline message 4:**

##### **From words to actions:**

**Policies, planning and implementation related to climate change, at all levels from global to local, should recognize and incorporate the role and importance of wetland ecosystems**

### **Policy and planning**

When policies in different sectors are not harmonized, many major developments and infrastructure schemes aimed at poverty reduction can actually lead to the degradation of wetlands, thus undermining their ability to provide vital services for local communities and ultimately leading to further and deepening poverty.

(Ramsar Resolution X.3)

The Ramsar Contracting Parties RECOGNIZE that the use of renewable energies is essential to face the challenges posed by climate change, and ACKNOWLEDGE the need to develop these energies in a way that promotes positive and minimizes negative impacts on wetlands and their capacity to store carbon.

(Ramsar Resolution X.24 para 20)

The Ramsar COP10 ALSO URGES Contracting Parties to ensure that the necessary safeguards and mechanisms are in place to maintain the ecological character of wetlands, particularly with respect to water allocations for wetland ecosystems, in the face of climate driven changes and predicted changes in water distribution and availability due to the direct impacts of, and societal responses to, climate change.

(Ramsar Resolution X.24 para 29)

Ramsar COP10 ENCOURAGES Contracting Parties to promote the restoration of river, lake and aquifer basins and their wetlands as an important aspect of policy related to climate change.

(Ramsar Resolution X.24 para 30)

Ramsar COP10 ENCOURAGES Contracting Parties to promote integrated coordination in developing and implementing national policies related to water management, agriculture, energy production, poverty reduction, and human health, in order to ensure that sectoral objectives are mutually supportive in addressing the likely negative impacts of climate change and that such objectives are consistent with the need to protect the ecological character of wetlands and maintain wetland services, as is described in the reports of the IPCC and the MA.

(Ramsar Resolution X.24 para 36)

Ramsar COP10 REAFFIRMS the need for Contracting Parties to make every effort, when implementing the UNFCCC and, as appropriate, its Kyoto Protocol, to consider the maintenance of the ecological character of wetlands in national climate change mitigation and adaptation policies.

(Ramsar Resolution X.24 para 37)

Ramsar COP10 ALSO ENCOURAGES Contracting Parties, the private sector and other stakeholders, respecting national legislation, to pay attention to the potential of incentive measures and funding mechanisms under climate change adaptation and mitigation activities to support the sustainable use and restoration of wetlands.

(Ramsar Resolution X.24 para 39)

## Implementation

Globally there is a great need to reverse certain significant human-induced stressors to ecosystems including drainage, flood control, and unsustainable development. We can do this by undertaking wetland restoration programs and implementing sustainable ecosystem management plans now as we continue to work on the task of reducing CO<sub>2</sub> emissions and reversing existing climate change trends.

(Ramsar COP10 DOC.25)

Decision-making should, wherever possible, give priority to safeguarding naturally-functioning wetlands and the benefits they provide, especially through ensuring the sustainability of ecosystem services, while recognizing that human-made wetland systems can also make a significant contribution to water and food security objectives.

(Ramsar Resolution X.3)

Ramsar COP10 URGES Contracting Parties and others to make full use of the existing Ramsar guidance on the wise use of wetlands (the Wise Use Handbooks), much of which is applicable to many of the threats and impacts on wetlands arising from climate change, in developing their policy and management responses relating to climate change.

(Ramsar Resolution X.24 para 44)

“Evidence suggests that working with nature’s capacity to absorb or control impact in urban and rural areas can be a more efficient way of adapting than simply focusing on physical infrastructure.”

(European Union, quoted in Ramsar WWD 2010 leaflet)

## Collaboration

Developing opportunities should be seized for collaboration among international technical bodies involved in climate change (e.g., the Intergovernmental Panel on Climate Change, the Ramsar Scientific and Technical Review Panel), to share understanding and harmonize analyses, especially in relation to wetlands/water/climate linkages.

(Ramsar Resolution X.3)

Ramsar COP10 ENCOURAGES Contracting Parties and other organizations to undertake, where possible, studies of the role of wetlands in carbon storage and sequestration, in adaptation to climate change, including for flood mitigation and water supply, and in mitigating the impacts of sea level rise, and to make their findings available to the Convention, the UNFCCC and other relevant processes.

(Ramsar Resolution X.24 para 42)

Ramsar Contracting Parties ALSO REQUEST the Ramsar Secretariat and the STRP to use appropriate mechanisms to work with the UNFCCC and other relevant bodies.....to develop guidance for the development of climate change mitigation and adaptation programmes that recognize the critical role of wetlands in relation to water and food security as well as human health; and URGE Contracting Parties and other governments, and [INVITE] the secretariats and scientific and technical subsidiary bodies of environment conventions, to improve integration on biodiversity and climate change at the international level...

(Ramsar Resolution X.24 para 46)

Ramsar Contracting Parties {at COP10 in 2008} INSTRUCT the STRP to continue its work on climate change as a high priority and, in conjunction with the Ramsar Secretariat, to collaborate with relevant international conventions and agencies, including UNFCCC, CBD, UNCCD, IPCC, UNEP, UNDP, FAO and World Bank, in the development of a multi-institutional coordinated programme of work to investigate the potential contribution of wetland ecosystems to climate change mitigation and adaptation.

(Ramsar Resolution X.24 para 48)