Hans-O. Pörtner, Alfred-Wegener-Institute and Co-Chair IPCC WGII, 24.10.22

I am intervening based o the recent IPCC reports. I think we are all aware that water can be too dirty, too little, too much, too hot to use, during extreme events. There is flooding, excess precipitation during extreme events, conversely, growing crops in heat and drought reflects the other side of extreme events, limited water availability.

But like energy currently, clean water is a limited resource, avoiding excess use and holding it back in ecosystems and soil, for example through preserving wetlands is important under climate change. At the same time we are losing water resources, through glacier melt and drought, we live on a shifting baseline that we need to closely monitor, in long-term monitoring systems and in early warning systems. Monitoring also serves to check climate models for the accuracy of their projections. The resulting data should stimulate action, because implementation of the global goals is currently the key issue. Data should be primarily collected to inform action. This appears most timely during the current crises.

For water security, we need to consider water use efficiency and water resource management as a precondition for sustainable use and as a core element in adaptation to climate change. Adaptation is core with respect to dealing with limited water availability. For that we rely on capacity building as a way forward.

Water co-defines habitat for biodiversity and humans, human health, food security depending on crop productivity, and for a liveable future. Life in many arid habitats is pre-adapted to water scarcity, we can learn from it through research, including from indigenous populations.

Climate change strengthens the need for adaptation measures. At the same time there will be adaptation measures that become insufficient under climate change. Adaptation options exist but are constrained by warming, reaching limits to adaptation. Ecosystems, people and biodiversity will be able to sustain adaptation to water scarcity and issues invlolving water only once we have been successful to stop global warming. So a precondition for successful adaptation in the water sector is ambitious mitigation and keeping global warming within limits, best to or below 1.5°C GWL.

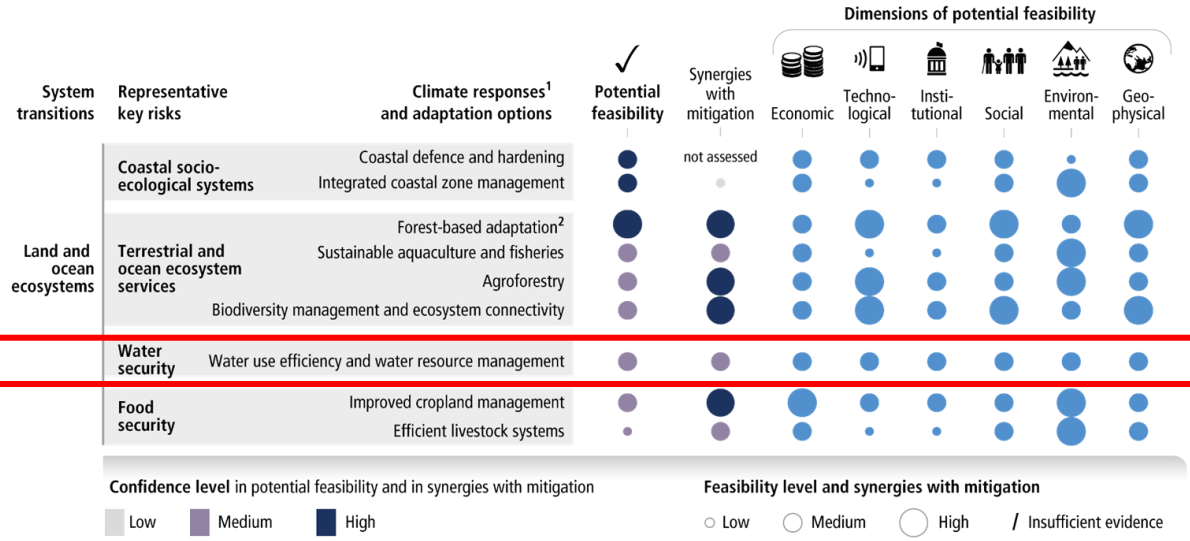
So if you think about water, it does not work in a silo, think about climate change and ecosystems as well as biodiversity and if all of these are considered for ambitious action, current insight indicates that it will work out. However, we have a huge implementation gap currently that urgently needs to be closed. And progress certainly needs to be tracked. Combining data collection with informed action, that is what is urgently needed.

Literature

Climate Change 2022: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press. In Press.

The Feasibility of Adaptation measures

Land and ocean ecosystems (up to 1.5°C global warming)



Footnotes:

[1] The term response is used here instead of adaptation because some responses, such as retreat, may or may not be considered to be adaptation.

[2] Including sustainable forest management, forest conservation and restoration, reforestation and afforestation.

[3] Migration, when voluntary, safe and orderly, allows reduction of risks to climatic and non-climatic stressors.