

AWP Webinar Series 2021

Managing the impacts of climate change on water security

Tuesday 23 February, 10am–12pm AEDT, Zoom

Overview

The Australian Water Partnership (AWP) Webinar on “Managing the impacts of climate change on water security” explored climate change impacts, features, and challenges on water security across the globe and, particularly, in Pacific countries. The webinar was held virtually on Tuesday 23 February, 2021, receiving up to 126 people in the live session and interest from 253 registrants.

- [Presentations](#)
- [Webinar recording](#)
- [Transcript](#)

Objectives

The webinar aimed to foster a broader discussion and understanding between AWP and partners to identify opportunities for future work and collaboration, leading to tangible development results and new ways of approaching these complex problems.

The webinar content has started informing pathways to:

- Leverage Australian Partners’ expertise to contribute to reducing the vulnerability of water sources to the negative impacts of climate change, particularly in the Pacific.
- Develop a program to help address climate change and water security in the Pacific.
- Mainstream climate change into AWP’s activity portfolio.
- Contribute to reducing gender and social inequalities compounded by the effect of climate change on access to water resources.

Session breakdown

1. Welcome and introduction
2. Setting the scene
3. AWP current impact and future activities
4. Introduction of guest speakers
5. Panel discussion
6. Recommended resources

Speakers

- Mr Rory Hunter, Program Lead, AWP
- Dr Hemant Ojha, Principal Advisor, Institute for Study and Development Worldwide
- Dr Kate Duggan, Director, Griffin Natural Resource Management
- Ms Rhonda Robinson, Deputy Director Disaster and Community Resilience Programme, The Pacific Community (SPC)
- Dr Wade Hadwen, Lecturer, Griffith University’s School of Environment and Science, and Climate Action Beacon

Facilitator

- Michael Wilson, Chief Executive, AWP

The next sections (1–5) provide a summary of the webinar organised by the session breakdown, including the key messages, questions, and comments gathered during the session. Section 6 contains links to further resources recommended by guest speakers.

1 Welcome and introduction

Michael Wilson, introduced the webinar with an Acknowledgement of Country:

In the spirit of reconciliation, I would like to begin by acknowledging the traditional custodians of Country throughout Australia and their continuing connection to land, water and the community. We pay our respects to their Elders past, present and emerging and extend that respect to all Aboriginal and Torres Strait Islander peoples today.

2 Setting the scene

Hemant Ojha set the scene for the webinar by defining climate change impacts to the region in terms of water and security, emerging responses and lessons from the past to move forward. He touched on the need to manage climate risks through socio-ecological system level changes and beyond a project focus.

Key messages

- Evidence of climate impact on water security is growing in Asia, in the Pacific, across Australia and around the world. All parameters are rising (or moving in the unfavourable directions)—temperature, precipitation extremes, cyclone frequency and intensity, and flood frequency and intensity. The risks and impacts also vary across different socio-ecological regions.
- Differing languages, concepts, and ideas used in water security and climate change are a barrier. Water security can be framed using the Asian Development Bank’s Asian Water Development Outlook framework, which covers household, urban, economic (including agriculture and industry), environmental measures of water security, as well water-related risks like flood and drought. Rethinking is needed in making knowledge more relevant to policy and practice, and co-designing solutions in specific contexts rather than imposing generic solutions from outside.
- Responses cover a broader approach to building resilience, like integrated water management, nature-based solutions, socio-technical solutions, and other biophysical solutions, which are supported by a range of institutional and policy solutions. Water needs to be treated as a cross sectoral theme that traverses everywhere and all sectors.

3 AWP current impact and future activities

Rory Hunter gave a brief overview of AWP’s ongoing and upcoming activities, which contribute to people as populations and demand for water grows and the impacts of climate change intensify.

Key messages

- AWP’s work continues to develop in South East Asia (especially the Mekong Region and Indonesia) and in South Asia (India, Pakistan, Nepal and Sri Lanka), with growing investments in the Pacific. Activities focus on supporting people who live in high-water stress areas.
- In some Asian countries, up to 90 percent of diverted water resources are used in irrigation. AWP is working with the Food and Agriculture Organization of the United Nations to promote

more efficient and contemporary approaches to irrigation water management. Such approaches apply water resource planning at a catchment and landscape level, consider gender equality and social exclusion in irrigation decision-making, and aim to maintain and restore biodiversity and ecosystem services.

- Drought-mitigation projects (e.g. water efficiency, irrigation modernisation, and managed aquifer recharge) have been focussing on the key elements of climate change, groundwater irrigation, soil health, and stakeholder engagement and collaboration. Likewise, water stewardship, water utility twinning programs, and nature-based solution interventions are progressing and these are all pursuing risk-reduction strategies.

4 Introduction of guest speakers

Speakers introduced themselves and their view of the most pressing water security and climate change issues on the horizon.

Kate Duggan

Kate Duggan presented the climate trends emerging in the Pacific and their significance for water security, as well as the contextual political and institutional settings that have influenced her work on the ground.

Key messages

- The huge geographic diversity in the Pacific means that high islands, low islands, atolls, raised coral islands, small islands (in particular those adjacent to bigger islands) result in different stressors which add to existing diverse challenges.
- The need for overarching institutional national, provincial, and catchment-level water resources management must be balanced with traditional/local community governance structures. This can happen through community engagement, working with local partners and providing opportunities for professional development.

Rhonda Robinson

Rhonda Robinson began her intervention by acknowledging the people of land past, present and emerging. She shared stories about the work of SPC, country counterparts, government and civil society in highlighting the importance of applying risk vulnerability an exposure lenses.

Key messages

- Out of 171 countries, six nations in the Pacific rank within the top 20 according to the World Risk Index. Risk is assessed by combining areas of exposure to natural—primarily natural hazards as floods and droughts—with vulnerabilities, and currently excludes infectious diseases.
- Climate change risks compound with the issue that only 30 percent of the Pacific as a region has access to basic sanitation. Now WASH is in the Pacific agenda as a key resilience effort in addressing the impacts of climate change and disasters.
- A call to action by a cross-section of Pacific Island countries, sectors and partners prioritised support and strengthening for leadership at all levels; building better awareness; and supporting meaningful ways to communicate issues to leaders.
- Working with partners is central to progressing regional security efforts, and integrated agendas on climate and disasters. Building long-term commitment, trust and relationships with local actors enables using and developing the region's existing capacity. Central-line

agencies in government, like finance and planning, can bring the sector closer to the resilient development agenda.

Wade Hadwen

Wade Hadwen reaffirmed the other speakers on the problem that climate change represents in the Pacific, one which is acknowledged. He shared his experience working on a range of DFAT and other donor-funded projects in the Pacific over the last nine years.

Key messages

- The size of Pacific countries compared to the ocean that surrounds them and the lack of data are problematic, as visibility drives people's awareness and concern.
- Coupling scientific knowledge with understanding—through conversations—of the stories that people can share about what they think the risks might be, how they value and use water supports recognising the varied customs and cultures. These can enable or disable some climate change adaptation interventions.
- There is a need to adopt a systems approach where water sits at the heart of everything we do.

5 Panel Discussion

Responding to the scene-setting and presentations, webinar participants requested further information and inquired about appropriate and inclusive development policy approaches, and how to establish partnerships to support SPC's efforts in the Pacific.

On developing a policy approach across the Pacific region

Strengthening the information base needs to be paired with work at national and sub-national levels, and also the socio-ecological zones to understand specific risks. Even though the Sustainable Development Goal process provides a fairly well-structured process to collect and report data at the national level, there is no consolidated repository containing all the climate, water quality, health, and water resources information in the one place, or one ministry. There is a regional dialogue around data across sectors. Data gives a sense of ownership and power, people want to be able to keep their data and have the rights to share their data with whom and when they need to, if them or their work will be benefited.

Gaps can be filled by locals' experiences, traditional knowledge and management approaches, as well as by national level priorities. There is a role for collaborative discussions and identifying local agents of change, at the organisational and individual level. A starting point are the issues that are important to local communities so that help is provided on their terms and addresses their priorities. One challenge is that differing experiences and perspectives can prevent scaling interventions at the provincial level or a national government policy level. Another is that climate change will bring unprecedented experiences. Helping communities understand how their risk profile may be changing is critical as well. Strategies need to be local, as much as vulnerability and risk are local. It is also important to recognise the strengths and limitations of both science and local knowledge.

Working at different levels of government to gather the technology, the investment, the collective action and effort required to mitigate climate risks is also important. Things are changing, stronger sectoral coordination in the sector is happening, and connections to the national central government machinery is being done in a more strategic, organised, coordinated, resourced way. Long-term bilateral commitments facilitate making connections with central and national planning efforts. The call to action led by SPC has been exploring the finance dimension to progress the water and sanitation

agenda. The Sanitation and Water For All Campaign that deliberately brings both water ministers and finance ministers into the conversation about water security is an opportunity to Pacific countries. The Pacific Island Forum's Economic Ministers meeting is another platform to engage at the regional and the global level around the finance and WASH discussions. However, SPC has observed less support at the national level.

An example of connecting data to action to policy is being developed at a local scale— island wide or community to island wide—where SPC's water resources assessment and monitoring team have been getting a better understanding of the groundwater resources. Understanding the behaviour of groundwater resources across a range of different parameters through technical assessments, analysis and mapping, resulted in being able to inform WASH infrastructure, which has allowed those communities to be able to have conjunctive water sources for their daily needs in normal times and in times of water stress. In the next step, provincial and island councils can use that data to help guide and inform work at an island scale. If other partners come on board, they can use existing processes and governance structures that have been embedded as part of the process. If all goes well, it carries over to the next level up, and so on and so forth. Joining the dots is needed to achieve something bigger.

On developing partnerships in the Pacific

National priority areas guide the development of the regional parts of the work SPC does. As national governments are busy, the focus has shifted to getting communities better prepared for incoming disaster events and the subsequent response, and the recovery rehabilitation work that follows. The second guide for SPC is the ability to pivot and change regional and national approaches to accommodate emerging country needs. Establishing partnerships depends on the alignment of partners' offer with national and regional priorities.

Nuances to consider include partnership management, politics, capacity, trust building, commitment and flexibility. In the Pacific the focus on WASH and utilities is a government priority, which tends to diminish every time there's a successively large cyclone, storm or drought surge. Disasters get in the way of governments developing capacity and communities and putting infrastructure in place to support the development of communities. An important challenge is to keep developing and also have the capacity to recover quickly from disasters.

On balancing exclusion when addressing water security and climate change impact

Exclusion is most visible in the context of urban water and sanitation, but also required solutions at multiple levels. Water security alone cannot solve all the societal exclusions, it requires coordinated input across different sectors. Integration and systems thinking and the language that goes with it can shift the knowledge and discourse towards experts and external agencies and can exclude disadvantaged local people, communities and decision makers. There is a need to make those complex languages understandable and actionable to people at different levels.

An example of an intervention to improve gender equality, disability and social inclusion is a project by the Water For Women Fund which looks at the role that tourism plays. By unpacking how tourism is a big user of water and a big generator of waste, the problems it creates and the economic benefits it provides can support the development of local communities around sanitation and water resource availability because often there is a big disparity in terms of water sources being used and the sanitation and hygiene systems available. This type of project promotes water stewardship from sectors like tourism, where the water sector can play a really important role in closing the gap on some of those shortfalls.

6 Recommended resources

- ADB (2020). Asian Water Development Outlook 2020 Report: Advancing Water Security across Asia and the Pacific, Metro Manila, Philippines, Asian Development Bank.
- Australian Pacific Climate Partnership: <https://apclimatepartnership.com.au/about.html>
- Australian Water Partnership: <https://waterpartnership.org.au/>
- Blaschke, P M ... [et al.] (2017). Port Vila: Ecosystems, Climate Change and Development Scenarios, Vanuatu. Samoa, Secretariat of the Pacific Regional Environment Programme.
- Climate and Oceans Support Program in the Pacific: <http://cosppac.bom.gov.au/>
- Climate Wise: <https://climatewise.apclimatepartnership.com.au/apex/f?p=208>
- Geoscience, Energy and Maritime Division: <https://gem.spc.int/>
- Handmer and Iveson 2017. Cyclone Palm in Vanuatu: Learning from the low death toll. Australian Journal of Emergency Management. 32 (2): 60-65.
- IPCC (2019). Summary for Policymakers. In: IPCC Special Report on the Ocean and Cryosphere in a Changing Climate [H.-O. Pörtner, D.C. Roberts, V. Masson-Delmotte, P. Zhai, M. Tignor, E. Poloczanska, K. Mintenbeck, A. Alegría, M. Nicolai, A. Okem, J. Petzold, B. Rama, N.M. Weyer (eds.)].
- Johnston, R, Ameer R, Soumya B & McCartney M [et al.] (2015). Improving water management in Myanmar's Dry Zone for food security, livelihoods and health. International Water Management Institute, National Engineering and Planning Services, and Myanmar Marketing Research and Development Research Services.
- Lacombe, G, Pennan C & Alan N. (2019). Review of climate change science, knowledge and impacts on water resources in South Asia. Background Paper 1. CGIAR Research Program on Water, Land and Ecosystems. <https://hdl.handle.net/10568/102233>
- Nerem, R. S., B. D. Beckley, J. T. Fasullo, B. D. Hamlington, D. Masters and G. T. Mitchum (2018). Climate-change–driven accelerated sea-level rise detected in the altimeter era. Proceedings of the National Academy of Sciences 115(9): 2022.
- Nicholls, RJ, S Hanson, C Herweijer, N Patmore, S Hallegatte, Jan Corfee-Morlot, Jean Chateau and R Muir-Wood (2007). Ranking of the world's cities most exposed to coastal flooding today and in the future. Organisation for Economic Co-operation and Development, Paris.
- Ojha, H (2021). Climate Change Risks to Water Security in the Indo-Pacific Region: Towards an Effective Responses (DRAFT under Review). Australian Water Partnership and Institute for Study and Development Worldwide.
- Ojha, H. (2020). Building an Engaged Himalayan Sustainability Science. One Earth
- Shrestha, A. B., Bajracharya, S. R., Sharma, A. R., Duo, C., & Kulkarni, A. (2017). Observed trends and changes in daily temperature and precipitation extremes over the Koshi river basin 1975–2010. International Journal of Climatology, 37(2): 1066-1083.
- Pacific MET services: <https://www.pacificmet.net/national-met-services>
- Pacific Resilience Partnership platform: <http://www.resilientpacific.org/pacific-resilience-partnership/>
- The Pacific Community: <https://www.spc.int/>
- Tuan, L & Suppakorn C. (2011). Climate Change in the Mekong River Delta and Key Concerns on Future Climate Threats. Environmental Change and Agricultural Sustainability in the Mekong Delta. Dordrecht, Springer Netherlands. 10.1007/978-94-007-0934-8_12
- WASH and climate change adaptation in the Pacific: <https://www.watercentre.org/resources/wash-and-climate-change-adaptation-in-the-pacific-paccwash-project/>
- Webster, P. J., Holland, G. J., Curry, J. A., & Chang, H. R. (2005). Changes in tropical cyclone number, duration, and intensity in a warming environment. Science, 309(5742): 1844-1846.