

THE CONFERENCE

The WSCC is an annual event where scientists, policymakers, and stakeholders from various sectors discuss the diverse facets of water security and its inter-relationship with climate variability and climate change. The overarching objective of these conferences is to proliferate the exchange of knowledge and practical know-how on the intrinsic relationship between water security and climate change, with a view to advance fundamental and action research in this domain that will help humankind address one of the greatest challenges in present times. The conference strives to go beyond science and build bridges between state-of-the-art advancements in multiple disciplines and different groups of stakeholders and practitioners.

WSCC2022

The Water Security and Climate Change Conference (WSCC2022), organized by the Asian Institute of Technology (AIT) in association with CNRD (TH Köln), SWINDON (TU Braunschweig), FSC (University of Hohenheim), SDG^{nexus} Network (University of Gießen), and ABCD Centre (TU Dresden), was held from 01-03 December 2022 at Novotel Bangkok Future Park Rangsit, Thailand. The event was launched by H.E. Mr. Varawut Silpa-archa, Minister of Natural Resources and Environment, The Government of Thailand. H.E. Mr. George Schmidt, Ambassador of Germany to Thailand; H.E. Mr. Yuichi Oba, Deputy Chief of Mission and Minister (Economic Affairs), Embassy of Japan in Thailand; H.E. Dr. Suwit Khunkitti, Vice Chairperson, Board of Trustees, AIT and Prof. Mukund Babel, Chair of the Scientific and Organizing Committee of WSCC2022 gave their opening remarks.

During the opening ceremony of the event, a new initiative undertaken by AIT, the Centre for Water and Climate Adaptation (CWCA) was launched by Prof. Kazuo Yamamoto, AIT President. Another initiative WATER Security Assessment Tool (WATSAT) was launched by Ms. Neeta Pokhrel, Chief of the Water Sector Group at the Asian Development Bank (ADB).

OUTCOME

A conference synthesis committee was formed to summarize and deliver the outcomes of the conference as well as to explore how the WSCC2022 can enhance its impact. The committee condensed and structured the session outcomes provided by the moderators and rapporteurs of each session. The committee silhouette that Nexus should be consider not only water, energy, and food but also the human and societal needs to address the social inequalities thereby making nexus an inclusive process.

Further, the committee highlighted that water is a solution for adaptation across various scales supported by decision making tools.

“Embracing the trans disciplinarity and knowledge co-creation is a fundamental approach for translating knowledge into action” was a key message from the conference delineated by the committee. The committee also demarcated ways to enhance WSCC2022’s impact through aligning with other conferences, integrate results into education and training.

A high-level panel discussion committee, moderated by Prof. Lars Ribbe and Prof. Mukand Babel, was formed to discuss on the innovative water management for enhanced climate resilience. The panelists included Prof. Mihir Shah, Dr. Elena Lopez Gunn, Prof. Tony Wong, Dr. Bindu Nath Lohani, Prof. Taikan Oki, and Dr. Aditi Mukherji. The panelists discussed on the diverse aspects of the water security, climate change, adaptation, resilience, and many more. The panel stressed that enhancing the resilience now is a first step to cope with the future climate and we need to invest for resilience as we are far below the preferred level of resilience. Further, the panel suggested for a long-term investment in adaptation for climate resilient future.

The conference attracted over 270 scientists and researchers from 30+ countries. The conference showcased 7 keynote speeches, 12 technical sessions, 17 partner sessions, 2 special sessions, and 4 side events. A total of 150 papers were presented during the WSCC2022 which equaled to the research of 75 years assuming that each research takes about 6 months to complete.

The technical session in the WSCC2022 was grouped into 12 sessions which included 5-6 presentations which explored on the different themes and focuses of the conference. The session looked into the objectives of strengthening research in nexus thinking, informing decision makers in water related risks and hazards, nature-based solutions for climate adaptations, transforming nexus thinking into practice, numerical modeling for decision support systems, etc. The presenters from 24 countries presented 64 technical papers on the diverse facets of water security and climate change and provided insights on the ways to combat the increasing risks. As an outlook, the session reflected on re-designing the concept of nexus thinking to address its complexity and reduce the uncertainties. This supports in translating the nexus knowledge into practice through multi-disciplinary approach, stakeholder engagement, and science communication. Further, the sessions highlighted that the decision makers should be informed and well prepared on the risks related to water. The preparedness may be done with the societal or organizational participation and sharing the indigenous knowledge for resilience and climate change adaptation. Together with indigenous knowledge, nature-based solution (NbS) is a key in mainstreaming the climate resiliency and climate change adaptation. However, effective policy guidelines are hindering the NbS's mainstream. A holistic monitoring and evaluation efforts which combines both bio-geophysical and socio-economic measurements are an integral part in implementing the nature-based solutions. As a soft measure on climate change adaptation, modeling-based decision support systems emphasized that modeling tools and scenarios play a crucial role in communicating the situation of water resources and provide a way for adaptation. This can be further strengthened by appropriate policy that can focus on environmental regulation through gender balance.

The keynote speeches in the conference were related to water policies and programs, nexus transformation into practice, system thinking in addressing the crises and water management. The speakers also focused on the strategies in strengthening the climate change adaptation through ground example and IPCC reports. The speakers emphasized that there is an urgent need for water policies and programs to incorporate the unique characteristics of water such as its finiteness, interconnectivity, and diversity. Also, water is an integral part of resilience and needs to be more visible in climate negotiations. Thus, a paradigm shifts in water related sectors is required to solve the water related problems. This can also be achieved by considering water as a key entry point for deep transformation in the nexus of water, energy, food, policy, ecosystems through actionable knowledge in resilient development. Parallel and hand on hand movement of local community and technology is a key in enhancing the resilience through system thinking and capacity development.

The high-level panel discussion was more focused on innovative water management for enhance climate resilience. The panelists discussed on the innovative tools, climate financing, investment in adaptation, policies, etc. for enhanced climate resilience.