



Setting Priorities for Climate Change and Development for Africa

Concept and Speaker Brief

Venue: Zoom

Session: 26 (French) & 27 (English) May 2021

Session duration: 1 hour

Session overview

Together with the United Nations University's Institute for Natural Resources in Africa (UNU-INRA), the African Academy of Sciences (AAS) is hosting a 2-day event with the participation of IPCC speakers to present the key messages of the three most recent IPCC special reports (Global Warming of 1.5°C, Climate Change and Land, and the Ocean and Cryosphere in a Changing Climate) with a focus on Africa. The events will also provide updates on the preparations for the upcoming Sixth Assessment Report and aim to stimulate contributions to the future activities of the IPCC by providing information on the IPCC processes.

For the AAS, the event presents an opportunity to present the outcome of a scientific prioritisation process for climate change led through its African Science, Technology and Innovation Priorities Programme (ASP), a programme of the Alliance for Accelerating Excellence in Science in Africa (AESA).

Africa contributes least to global greenhouse gas emissions at only 4% yet is hardest hit by the impacts of climate change. United Nations Environment Programme (UNEP) projections for 2020, suggested that between 75 and 250million people in Africa are exposed to increased water stress while yields from rain-fed agriculture are probably reduced by up to 50% in some countries because of climate change. There is a paucity of peer reviewed research outputs on climate change in Africa compared with the rest of the world. Periodic assessments of the state of the world's climate conducted by the Intergovernmental Panel on Climate Change (IPCC), rely on peer reviewed data and therefore have very limited input from African scientists. From 2019, the ASP engaged Africa's science leaders, policy stakeholders and partners and collated top scientific priorities that, if addressed, offer the highest return on investment for Africa's sustainable development. This evidence can feed into global discussions and processes, such as the IPCC this week.

Proposed questions for discussants.

Q1. You have heard the climate change and development priorities outlined by the documents produced by the ASP. What is needed to ensure that these priorities inform the agenda of R&D funders and climate scientists in Africa to ensure the research is relevant to the priorities of the continent? How can these inform future IPCC reports as well?

Q2. Provide examples of available education and training that has helped or is helping C African populations to adapt to climate change and increase resilience against the threat of climate change?

Q3. What innovation is needed in climate science to facilitate agricultural productivity and job and wealth creation?

Session run of show

This will be an hour session moderated by Salif Diop. On 26 it will be in French and on 27 May it will be in English. It will kick off with a presentation on setting priorities for climate change and will be followed by a discussion led by Fellows who are members of the AAS climate change working group.

Speakers

Keynote

Uzma Alam, African Academy of Sciences

Discussants

Jessica Thorn, University of Cape Town

Stella Kabiri, Mukono Zonal Agricultural Research and Development Institute
Afwork Gebrekirstos Aster, ICRAF

Session agenda

4.00 - 4.05 pm Introduction, Salif Diop (5 minutes)

4.05 - 4.25 pm Setting priorities for climate change in Africa, Uzma Alam

4.25 - 4.45 pm Discussants

4.45 - 4.55 pm Q&A

4.55 - 5.00 pm Wrap up

Speaker bios

Salif Diop

Professor Salif Diop has worked at the United Nations, in UNEP's Division of Early Warning and Assessment (DEWA), for the past 16 years as Senior Officer. His water expertise is in coastal oceanography, freshwater assessment, aquatic and marine issues, sustainable management and development. He earned a Third Cycle Doctorate in 1978 from The University Louis Pasteur in Strasbourg, France, and a State Doctorate in 1986. He served a yearlong sabbatical as a Senior Fulbright Scholar in the Division of Biological and Living Resources at The Rosenstiel School of Marine and Atmospheric Sciences of the University of Miami, Division of Biological and Living Resources, in 1986/87. He is a member of multiple expert and working groups, including at numerous scientific and research institutions. He has published more than 60 peer reviewed articles and seven books as main author or co-author and was awarded a Nobel Peace Prize Certificate in 2007 for his contributions to the IPCC. In addition to his research articles, he has also contributed 170 technical documents, research reports, monographs, theses, abstracts and book reviews. He is a University Professor, and has served as one of the Vice-Chairs of the International Lakes Environment Committee Foundation (ILEC) Scientific Committee since November, 2016 and member since Sept 2019 of the High Level Panel Expert Group for a Sustainable Ocean Economy; Sustainable Ocean Initiative of the World Resources Institute. He was named a Member of the National Academy of Sciences and Techniques of Senegal in 2006, a Member of the African Academy of Sciences (AAS) in 2009 and a Member of The World Academy of Sciences for the Advancement of Sciences in the Developing Countries (TWAS) in October 2010. Personal website: <http://www.esalifdiop.org>

Uzma Aslam

Dr Uzma Alam is passionate about taking a data-driven, culturally embedded approach to global health, incorporating science, technology, and innovation to strengthen health within marginalized populations. Working at the intersection of infectious diseases and healthcare delivery in the international development and humanitarian contexts, she applies data and innovation to inform and influence policies and strategies.

She holds a PhD and a Master's in public health from Yale University, with a focus on infectious diseases & global health. With a diverse background comprising of international experience working across four continents and has served with academic, non- profit, corporate, and governmental agencies, including advisory commissions and corporate counsel with roles of increasing responsibility across the science value change.

Uzma is the former secretary of the Association of Women in Science and editor of the Yale Journal of Health Policy, Law, and Ethics and a grant reviewer for the U.S Centre for Environmental Health. Currently she serves on the Board of the Geneva Foundation.

Presently, she leads the Biomedical and Health Sciences Portfolio of the Developing Excellence, Leadership and Training in Science in Africa program (DELTAS). A US\$100 million programme supporting development of world-class scientific leaders on the continent. Implemented through The Alliance for Accelerating Excellence in Science in Africa (AESIA), a funding, agenda setting, and programme management platform created by the African Academy of Sciences and the Africa Union Development Agency, global funding partners, and through a resolution of the summit of African Union Heads of Governments. She is also the Program Manager for The African Science, Technology, and Innovation Priorities (ASTIP) programme. The programme engages Africa's science and political leaders to identify the top STI priorities for the continent that if addressed, offer the highest return on investment for Africa's sustainable development.

Her work has appeared globally across print and media outlets. Here is a link to her [publications](#).

Jessica Thorn

Jessica is a Namibian ecologist with a background in human geography and climate adaptation, with 13 years' experience, travelling to 55 countries. In affiliation to the University of Cape Town, University of York, University of Nairobi, and African Conservation Centre, she uses probabilistic social-ecological modelling and participatory scenario analysis to measure impacts of development on land use change. Jessica has been involved in various NSF, NERC, AU, NRF, DFID, CGAIR, IDRC, ESRC, and USAID funded projects. Professional activities have been affiliated with the UN, World Bank, Conservation International, WWF, Red Cross, CIFOR, CCAFS, Global Environmental Facility Kew, Cambridge, Oxford, London School of Economics, and Brown University. She completed her BSocSci(Hons) at UCT, MSc and DPhil at Oxford, and postdoctorate at Colorado State University and ETH Zurich.

Stella Kabiri-Marial

Dr Stella Kabiri-Marial, a senior research officer and program Leader at the National Agricultural Research Organization in Uganda, is one of the 40 candidates selected for the fifth cohort of the African Academy of Sciences Affiliates Mentorship scheme, who will receive substantial support to develop into outstanding research leaders in their professional fields.

Stella, who is based at the Mukono Zonal Agricultural Research and Development Institute, is a trained Scientist in Production Ecology and Resource Conservation, with a PhD from Wageningen University, the Netherlands. Her study focused on preparing African rice farmers against parasitic weeds in a changing environment. She has a Msc. in Geo-information Science and Earth Observation from the University of Twente, the Netherlands and her field work focused on genetic remote sensing crop models of rice systems of the Mekong Delta, of Vietnam. Stella has a BSc. in Agriculture from Makerere University, Uganda.

Stella is currently a grantee of the Climate Research for Development (CR4D) grant for Climate research, at the African Academy of Sciences. Her research revolves around the development of a zero-carbon process of fertilizer production using air as a raw material, to illustrate a way out of the current fertilizer production process that consumes a lot of energy and in the process emits alarmingly enormous greenhouse gases, responsible for global warming.

Afwork Gebrekirstos Aster, ICRAF

Prof. Afwork Gebrekirstos is a Scientist at the World Agroforestry Centre (ICRAF). She has over 20 years of experience in research, tertiary-level teaching and consulting. Her research focuses on tropical forest ecology and management, which includes dendrochronology (to reconstruct past climates and the effects and consequences of global climate change on

hydrology, biodiversity and livelihoods), plant water relations, agroforestry and the restoration of degraded landscapes. She supervised many PhD and MSc students from across Africa. Together with her students and partners she has produced relevant information on climate variability and climate change (e.g. reconstructed 360 years of precipitation data the longest for Eastern Africa yet), establishing tools to facilitate adaptation planning by local decision-makers and for early warning systems (including extreme drought/ flood, El Niño–Southern Oscillation events and determine large scale atmospheric circulation patterns). Raising research funds through her own initiative to build scientific capacity and facilities in Africa. She established a dendrochronology lab in Ethiopia funded by the German Research Council, DFG in 2009. She established a state-of-the-art dendrochronology lab at the World Agroforestry Centre in Nairobi with financial support from the CGIAR Research Programme on Climate Change and Food Security, CCAFS, in 2013.

Prof. Afwork Gebrekirstos has published over 70 papers in international peer-reviewed journals, conference papers and book chapters and gave keynote speeches, presentations in major international conferences. In recognition of her research, Prof. Afwork Gebrekirstos has received various distinctions, notably the prestigious African Climate Award for excellence in research in climate change adaptation and mitigation in 2014. In 2016, she was awarded a visiting professor position under the University of Dresden's Eleonore Trefftz Programme. She also received the 2009 Special Award for Groundbreaking Science — African wide Young Professionals and Women in Science Competitions organized by the Technical Centre for Agricultural and Rural Cooperation (CTA), African Technology Policy Studies (ATPS), Alliance for a Green Revolution in Africa (AGRA), Forum for Agricultural Research in Africa (FARA), Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) and the New Partnership for Africa's Development (NEPAD). She also serves on the Mountain Research Institute (MRI) Science Leadership Council, Scientific Steering Committee of the Past Global Changes project (PAGES) and is a member of many societies. Prof. Afwork Gebrekirstos is Vice president of the Board International Union of Agroforestry and Chair of The AAS Committee on Environment.