Global Centres

Deutscher Akademischer Austauschdienst
German Academic Exchange Service

Global Centres for Climate and Environment

GLOBAL CENTRES CONFERENCE

Conference Book

Imaginaries of Climate Futures - Cross Regional Insights to get from Knowledge to Action

10 - 12 September 2024

Tagungswerk

Lindenstraße 85, 10969 Berlin

Version: 6 September 2024

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Preface

Dear Conference Guests,

The German Academic Exchange Service (DAAD) has launched the Global Centres programme to promote international scientific collaboration across disciplines. The programme funds four Global Centres for Climate & Environment and Health & Pandemic Prevention at higher education institutions in the Global South. These centres aim to bridge the gap between knowledge generation and implementation of sustainable climate change mitigation and adaptation measures.

DAAD is hosting the second interdisciplinary conference, "Imaginaries of Climate Futures: Cross Regional Insights to get from Knowledge to Action," to foster collaboration and global knowledge exchange. The conference was designed with support from the Academic Advisory Board, Global Centres, DAAD-funded projects, and individuals, covering thematic diversity and latest research.

Climate change perceptions and actions vary across societal groups and regions, ranging from IPCC scenarios to fossil fuel use scenarios. Effective climate action is planned and implemented based on these imaginaries. To close the knowledge gap between knowledge generation and sustainable mitigation measures, understanding these imaginaries is crucial. The DAAD Global Centres Conference in Berlin 2024 will explore pathways and obstacles to multilaterally coordinated approaches to the climate crisis.

The DAAD is looking forward to an exciting conference programme featuring diverse formats, junior scientist contributions, and networking opportunities. The conference book provides an overview, speakers, and contact information. The DAAD would like to thank everybody for their active involvement, together we will make this to a valuable event for all!

Dr Kai Sicks

Secretary General

German Academic Exchange Service (DAAD)

Conference Programme

Participation in the workshops requires prior registration.
If you haven't registered before the conference for the workshops, please contact the registration desk to ask for availabilities.
Workshops take place on Thursday, 11 a.m. (open for everyone) and Thursday, 3.30 p.m. (PhD-students only)

Please also take a look at the programme of the **conference of the Global Centres for Health and Pandemic Prevention "Global Actions for Sustainable Health for People and Planet"** taking place at the same time in the same location. You are cordially invited to participate in this conference as well! Sessions that are part of both conferences are written in blue.

Tuesday, 10 September 2024

8.30 – 9.00 a.m.

REGISTRATION

9.00 – 10.30 a.m.

Saal Gesamt

OPENING WORDS

By the German Academic Exchange Service (DAAD) and the Academic Advisory Board of the Conference

ROUND TABLE: IMAGINARIES OF CLIMATE FUTURES AROUND THE WORLD. PERSPECTIVES FROM THE DIFFERENT GLOBAL CENTRES

Climate futures are imagined differently around the world, for lots of reasons like historical responsibility for climate change, climatical conditions, cultural background, economic situation. Within this session, we will draw attention on five imaginaries from the five regions where Centres are located. How do they imagine a good climate future for all and how do they think should/could it be reached? After their 5-minutes impulses the speakers will discuss on their imaginaries and search for a common one that brings together the largest possible overlap.

CHAIRED BY

Dr Christiane Fröhlich, SAGE-Centre, Senior Research Fellow at German Institute for Global and Area Studies (GIGA)

PANELLISTS

Prof Andrea Cardoso, TRAJECTS, Professor at the Faculty of Business Administration at the Universidad del Magdalena, representing Latin America

Prof Anan Jayousi, SAGE-Centre, Director of the Energy Water and Food Security Center at the An-Najah National University, representing the MENA-Region

Prof Dr Daniel Olago, AFAS, Head of the Department of Earth and Climate Sciences at the University of Nairobi, representing Sub-Saharan Africa

Prof Dr S. A. Sannasiraj, ABCD-Centre, Professor at the Department of Ocean Engineering at the Indian Institute of Technology Madras, representing Asia

Prof Dr Holger Schüttrumpf, ABCD-Centre, Director of the Institute of Hydraulic Engineering and Water Resources Management of the RWTH Aachen**,** representing Europe

10.30 – 11.00 a.m.	Coffee Break
11 a.m. – 12.30 p.m.	PARALLEL SESSIONS
Seminar 2	**INDIVIDUAL PRESENTATIONS: BALANCING THE THREE PILLARS OF SUSTAINABILITY (ECONOMIC VIABILITY, ENVIRONMENTAL PROTECTION, AND SOCIAL EQUITY) UNDER CHANGING CLIMATIC AND SOCIAL CONDITIONS** CHAIRED BY **Prof Dr Sameer Shadeed**, SAGE-Centre**,** Faculty member at the An-Najah National University PRESENTERS **Razan Al-Hmoud**, SAGE-Centre: Urban Green Space Management under Climate Change **Mandela Nelson**, East and South African-German Centre of Excellence for Educational Research Methodologies and Management: University-Community Engagement Opportunities to Address Climate Change Issues in African Context **Ahmed Shaqfa**, SAGE-Centre: Climate Change Adaptation in Rangelands: Cost-Benefit Analysis of Contour Ridges as a Rainwater Harvesting Method **Sawsan Abdul-Jalil**, SAGE-Centre: Assessing Economic and Distributional Impacts of Restoring Degraded Rangelands in Jordan **Julia Tatham**, TRAJECTS: A Review of Energy Systems and Economic Modeling Tools Capable of Estimating the Finance Needs and Responses Relevant to Energy, Water, and Food Security in South Africa in the Face of Climate Change
Seminar 4	**INDIVIDUAL PRESENTATIONS: MANAGING WATER SECURITY (IN QUANTITY AND QUALITY) UNDER CLIMATE CHANGE IMPACT** CHAIRED BY **Prof Erasmo Alfredo Rodriguez Sandoval**, TRAJECTS, Associate Professor at the Universidad Nacional de Colombia PRESENTERS **Ernestina Annan,** West African Science Service Center for Climate Change and Adapted Land Use (WASCAL): Land Use/Cover Changes in the Ouémé River Basin, Benin Using Google Earth Engine and Random Forest Classifier **Triambak Baghel,** ABCD-Centre: An Approach for Assessing the River Health under the Impact of Climate Change in the Songkhram River Basin, Thailand **Elanchezhiyan Duraiseakaran,** Indo German Centre for Sustainability (IGCS): Optimization of Detention Reservoir Storage in Peri-urban Areas to Mitigate Riverine Flooding **Dr Fabian Falter,** ABCD-Centre: The Politics of Water Security in the Indus-Ganga Plains – and What it Teaches us for Today
12.30 – 2.00 p.m.	Lunch Break

2.00 – 3.15/3.30 p.m. **PARALLEL SESSIONS**

Saal Süd

90 min

ROUND TABLE: KEY CHALLENGES AND OPPORTUNITIES FOR CITIZEN PARTICIPATION IN JUST TRANSITION PROCESSES

This round table will bring together experiences from the EU, Colombia, South Africa and Ecuador related to the phase-down of gas, coal, and oil use and production, with a special focus on citizen participation mechanisms that have been used to facilitate just transitions processes in those countries.

CHAIRED BY

Dr Paola Andrea Yanguas Parra, TRAJECTS, Post-doctoral researcher at the Zurich University of Applied Sciences (ZHAW) and Policy Advisor at the International Institute for Sustainable Development (IISD)

PANELLISTS

Jesse Burton, TRAJECTS, Senior Researcher at the University of Cape Town

Anna Mazur, TRAJECTS, Project Manager at The Polish National Energy Conservation Agency

Julia Schwab, Research Assistant at the Justus-Liebig University Giessen and Lecturer and Researcher at the University of Jember

Seminar 2

75 min

ROUND TABLE: UPSCALING NATURE-BASED SOLUTIONS FOR SUSTAINABLE AND CLIMATE CHANGE RESILIENT AGRICULTURE: A PIPE DREAM OR A TANGIBLE REALITY?

The planned format is a round table that should facilitate a discussion on the uses of Nature-based Solutions to achieve sustainable and climate-resilient agriculture. Although the panellists' prime expertise is on the African context, the discussion will provide insights that can be applied across the world.

CHAIRED BY

Prof Dr Christian Borgemeister, AFAS, Director of the Center for Development Research (ZEF) at the University of Bonn

PANELLISTS

Prof Dr Daniel Olago, AFAS, Head of the Department of Earth and Climate Sciences at the University of Nairobi

Prof Dr N'golo A. Koné, AFAS, Senior researcher and lecturer, University Félix Houphouet Boigny and University Nangui Abrogoua

Dr Nelly Masayi, AFAS, Post Doctoral Research Fellow at the University of Nairobi

Esther Mutuma, AFAS, CEO of Boreka social enterprise

3.15 – 3.45 p.m. Coffee Break

3.45 – 5.00 p.m. **PARALLEL SESSIONS**

Seminar 2

ROUND TABLE: ADVANCING WATER SECURITY IN A CHANGING CLIMATE: HIGHER EDUCATION AND TRANSFER MEASURES IN THE GLOBAL SOUTH

The ABCD Centre hosts a round table on water security, a pressing concern amid climate fluctuations in the vulnerable Global South. This session unites diverse experts, policymakers, and practitioners to explore innovative higher education measures and knowledge transfer strategies. It aims to fortify water security with actionable recommendations, distilling insights from Global South experiences.

CHAIRED BY

Prof Dr Jürgen Stamm, ABCD-Centre, Director of the Institute of Hydraulic Engineering and Technical Hydromechanics at the Technische Universität Dresden

PANELLISTS

Prof Dr Edeltraud Guenther, ABCD-Centre, Director of the United Nations University Institute for Integrated Management of Material Fluxes and of Resources (UNU-FLORES)

Prof Dr S. A. Sannasiraj, ABCD-Centre, Professor at the Department of Ocean Engineering at the Indian Institute of Technology Madras (IIT Madras)

Prof Dr Holger Schüttrumpf, ABCD-Centre, Professor at the Institute of Hydraulic Engineering and Water Resources Management of the RWTH Aachen

Saal Süd

ROUND TABLE: COLLABORATIVE KNOWLEDGE PRODUCTION FOR EFFECTIVE, JUST AND INCLUSIVE ENVIRONMENTAL INTERVENTIONS

For this interactive working table, the panellists will discuss their experiences with collaborative knowledge production for improved measures for climate change adaptation, biodiversity conservation and sustainable land management, based on examples from West, East and South Africa. The table will have an "empty" chair, for members of the audience to chip in.

CHAIRED BY

Prof Dr Michael Bollig, AFAS, Professor of Social and Cultural Anthropology at the University of Cologne

PANELLISTS

Aminata Belem, AFAS, AFAS Alumna and Master Graduate of the Université Félix-Houphouët-Boigny

Yvonne Githoria, AFAS, Research Scientist at Wildlife Works

Dr Gerda Kuiper, AFAS, Scientific Staff Member at the Global South Studies Center, University of Cologne

Dr Michelle Pressend, TRAJECTS, Academic Coordinator African Hub at the University of Cape Town

Wednesday, 11 September 2024

9.00 – 10.30 a.m.

Saal Gesamt

WELCOME

Dr Kai Sicks, Secretary General, German Academic Exchange Service (DAAD)

Anke Reiffenstuel, Director for Education and Science Diplomacy, German Federal Foreign Office

POLICY DIALOGUE: HOW (PROJECTS LIKE) THE GLOBAL CENTRES CONTRIBUTE TO BETTER HEALTH AND BETTER CLIMATE

What is the contribution of programmes like the Global Centres to overcome the climate crisis and to reach better health worldwide? What further support can German policymakers provide to strengthen international scientific cooperation? What can the DAAD and the Global Centres do to make the Centres even more politically and socially relevant in their second funding phase?

CHAIRED BY

Dr Christina Berndt, Süddeutsche Zeitung

PANELLISTS

Dr John Amuasi, Head of Department of Global Health at the Kwame Nkrumah University of Science and Technology (KNUST) and Ghanaian Principal Investigator of the Global Health Centre G-WAC

Prof Dr Mukand Babel, Professor for Water Engineering and Management (WEM) at the Asian Institute of Technology (AIT) and Thai Principal Investigator of the Global Climate Centre ABCD

Anke Reiffenstuel, Director for Education and Science Diplomacy, German Federal Foreign Office

Dr Kai Sicks, Secretary General, DAAD

Ruppert Stüwe, Member of the German Parliament and Member of the Parliamentarian Sub-committee Global Health, SPD

10.30 – 11.00 a.m. Coffee Break

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11 a.m. – 12.30 p.m.

Saal Nord

POLICY DIALOGUE: REALIZING CLIMATE FUTURES: HOW TO CLOSE THE GAP BETWEEN KNOWLEDGE AND ACTION

The aim of the Global Centres is to have practical relevance and to contribute to realize imaginaries of climate future. But how can we ensure and promote that knowledge created in the Centres is transferred to society, politics and business? What is important for being politically and socially relevant? How to best get our scientific knowledge applied? Practitioners and activists will talk about their engagement and discuss the way forward.

CHAIRED BY

Prof Dr Christian Borgemeister, AFAS, Director of the Center for Development Research (ZEF) at the University of Bonn

	PANELLISTS **Nada Majdalani,** Director of EcoPeace/Friends of the Earth Middle East, PhD Fellow SAGE-Centre **Esther Mutuma,** CEO of the Boreka Social Enterprise **H.E. Yadir Salazar Mejía,** Ambassador of Colombia to Germany **Nouhou Zoungrana,** Member of the National Coordination Office for the Great Green Wall Initiative in the Sahara and Sahel, Burkina Faso and Climate Activist, AFAS Alumnus
12.30 – 2.00 p.m.	Lunch Break
2.00 – 3.00 p.m.	PARALLEL SESSIONS
Seminar 3	**ROUND TABLE: TOWARDS TRANSBOUNDARY CLIMATE RISKS MITIGATION: LOCAL AND INTERNATIONAL EFFORTS FOR FOOD SYSTEM RESILIENCE IN JORDAN** *Transboundary climate risks aggravate the multiple risks facing food systems in developing countries especially in highly food import dependent countries like Jordan. Import policies are seen as a mitigation tool for climatic changes but the global polycrises context calls for more innovative local and multilateral solutions.* CHAIRED BY **Dr Jonas Luckmann**, SAGE-Centre, Senior Researcher at the Humboldt-Universität zu Berlin PANELLISTS **Raghad Altalli**, Programme Manager and Trade Facilitation Adviser at the International Trade Center **Dr Imad El-Anis**, Associate Professor at the Nottingham Trent University **Lamia Dabbas**, Regional Director at Advance Consulting **Esther Wintraecken**, Project developer and manager at the Wageningen University & Research
Saal Süd	**ROUND TABLE: PERSPECTIVES ON PATHOGEN SPILLOVER & PANDEMIC PREPAREDNESS** *A moderated panel discussion beginning with opening responses to common questions, followed by invitations to each panellist to provide contributions on specific topics and comment on responses provided by other panellists. This session will highlight different perspectives on pandemic preparedness and prevention influenced by research discipline and regional experiences.* CHAIRED BY **Michael Owusu**, G-WAC, Senior Lecturer at the Kwame Nkrumah University of Science and Technology (KNUST)

PANELLISTS

Dr Linda Batsa Debrah, G-WAC, Senior Lecturer at the KNUST

Prof Dr Benjamin Emikpe, G-WAC, Dean at the School of Veterinary Medicine at the KNUST

Dr Andres Moreira-Soto, GLACIER, Postdoc at the Charité – Universitätsmedizin Berlin

Dr Jesse Owino, AFAS, Research Fellow at the University of Nairobi

Prof Dr Le Huu Song, PACE-UP, Director at the 108 Military Central Hospital

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Saal Nord

ROUND TABLE: NEXUS APPROACH: BRIDGING WATER, CLIMATE ADAPTATION, AND HEALTH IN THE FACE OF EMERGING BACTERIAL AND PARASITIC INFECTIOUS DISEASES

The session aims to explore the interconnectedness of water resources, climate change adaptation, and public health with a specific focus on the rise of bacterial and parasitic infectious diseases. As climate change intensifies and water-related challenges become more pronounced, understanding the nexus between these factors is crucial for effective public health interventions.

CHAIRED BY

Dr Firas Aljanabi, ABCD, Project Manager at Technische Universität Dresden

PANELLISTS

Prof Dr Dr Ayola Akim Adegnika, CAIDERA, Director of the Centre de Recherches Médicales de Lambaréné (CERMEL)

Prof Dr Mukand Babel, ABCD-Centre, Professor for Water Engineering and Management (WEM) at the Asian Institute of Technology (AIT)

Prof Dr Steffen Borrmann, CAIDERA, Research Group leader at the Institute of Tropical Medicine at the University of Tübingen

Prof Dr Daniel Karthe, ABCD, Head of Research Programme – Resource Nexus for Regions in Transformation, UNU-FLORES

Seminar 2

ROUND TABLE: UNVEILING THE FUTURE CLIMATE CHANGE-INDUCED HEAT STRESS EFFECTS ON HUMAN HEALTH

Panel discussion with Q&A to shed light on the perceived and foreseen heat effects on human health (theories and case studies), available methods/tools to assess heat stress effects, and adapting and mitigating actions to future climate change-induced heat stress.

CHAIRED BY

Zuhal Elnour, Senior Researcher at the Humboldt-Universität zu Berlin

PANELLISTS

Dr Fred Hattermann, Senior Researcher at the Institute for Climate Impact Research

Martial Houessou, Research Assistant at the Humboldt-Universität zu Berlin

Dr Prasad Liyanage, Senior Researcher at the Heidelberg Institute of Global Health

Dr Martina Maggioni, Lead Scientist and Co-PI of the Center for Space Medicine and Extreme Environments Berlin, Charité – Universitätsmedizin Berlin

3.00 – 3.30 p.m.	Coffee Break
3.30 – 5.00 p.m.	PARALLEL SESSIONS
Seminar 3	**INDIVIDUAL PRESENTATIONS: ENERGY TRANSITIONS (SUSTAINABLE POST-MINING FUTURES FOR FOSSIL-FUEL DEPENDENT REGIONS, IMAGINING SUSTAINABLE FUTURES FOR THE DEMOCRATISATION OF ENERGY PRODUCTION)** CHAIRED BY **Dr Andrea Cardoso**, TRAJECTS, Professor at the Universidad del Magdalena PRESENTERS **Juan Pablo Cárdenas**, TRAJECTS: Reimagining the Role of Intermediary Organisations to Promote Community-owned Renewable Energy in Low-to-Middle-Income Communities in South Africa and Colombia **Abiola Kehinde**, TRAJECTS: The Barriers Influencing the Contribution of Biogas to South Africa's Energy, Climate and Sustainability **Prof Victor Jose Olivero Ortiz**, TRAJECTS: Technological Opportunities for the Closure of Solar Parks in the Vida Cesar-Magdalena Corridor, which Facilitate Community Use in the Territory **Moyahabo Masipa and Dr Michelle Pressend**, TRAJECTS: South Africa's Sustainability Energy Transitions Contradictions: Implementation or Transformation? **Dr Michelle Pressend**, TRAJECTS: An Exploration of Decolonial and Relational Theories and Praxis: Towards Possibilities of Relational Energy Transitions
Saal Süd	**INDIVIDUAL PRESENTATIONS: SUSTAINABLE AGRICULTURE (AGROECOLOGY, BIOLOGICAL AGRICULTURE, NATURE-BASED SOLUTIONS) 1** CHAIRED BY **Dr André Lindner**, ABCD-Centre, Managing Director and Advisor Internationalization - School of Civil and Environmental Engineering at the Technische Universität Dresden PRESENTERS **Eduardo Arias-Pineda**, TRAJECTS: Systemic Environmental Transitions from Agroecological Territorial Communities in Colombia to Face the Planet's Food Crisis **Amaël Daval**, SAGE-Centre: How Plastic Germination Favours Plant Diversity **Dr Tokouaho Flora Kpan,** AFAS: Constraints Analysis of the Implementation of Nature-based Solutions in West Africa **Dr Abiodun Olusola Omotayo**, ClimapAfrica-Alumnus: Improving Food-Nutrition and Water Security Outcomes through the Adoption of Climate-Smart Practices: Evidence from Agricultural Households in South Africa
6.00 – 9.30 p.m.	**DRINKS AND RECEPTION AT THE CONFERENCE VENUE**

Thursday, 12 September 2024

9.00 – 10.30 a.m.	PARALLEL SESSIONS
Seminar 4	**INDIVIDUAL PRESENTATIONS: TRANSFORMATION OF COASTAL URBAN AREAS TO CLIMATE RESILIENT CITIES** CHAIRED BY **Dr Fabian Falter**, ABCD-Centre, Strategy India and Project Manager at RWTH Aachen PRESENTERS **Fahad Ahmed**, ABCD-Centre: Integrating Digital City Model for Sustainable Stormwater Management under Climate Change: A Case Study of Nature-Based Solutions in Udonthani City, Thailand **Vagamare Ganapati Shashank**, ABCD-Centre: Investigation of Cyclones' Influence on Coastal Morphological Changes along the Nearshore Areas amid Climate Change using Numerical Modeling **Dr Haruna Jimoh**, ABCD-Centre: Collaborative Initiatives Towards Climate Change Adaptation in the Global South **Pyae Mon Naing**, ABCD-Centre: Beyond Traditional Solutions: Unravelling the Potential of Adaptation Pathways in Blue-Green Infrastructures for Flood Resilience
Seminar 2	**INDIVIDUAL PRESENTATIONS: SUSTAINABLE AGRICULTURE (AGROECOLOGY, BIOLOGICAL AGRICULTURE, NATURE-BASED SOLUTIONS) 2** CHAIRED BY **Dr Amna Jrrar**, SAGE-Centre, Climate Modelling Expert PRESENTERS **Majd Allouzi**, SAGE-Centre: Soil Seed Banks Assessment in Overgrazed Arid Rangelands to Determine the Restoration Potential of Aboveground Vegetation in Arid Degraded Rangelands in Jordan **Ashley Comma Roy**, DAAD Graduate School Scholarship Programme (GSSP): Citizens' Preference for Risk of Pesticide Residue or Risk of Invasion to Combat Invasive Species in Agriculture in Changing Climate **Maud Moes**, SAGE-Centre: Plant Community Response to Climate Change and Grazing in Middle Eastern Rangelands **Evelyne Othigo**, AFAS: Evaluation of Nature-Based Solutions and Their Benefits to the Maasai Agro-Pastoralists in Narok County, Kenya
10.30 – 11.00 a.m.	Coffee Break

11 a.m. – 12.45 p.m.

Seminar 5

Registration required

WORKSHOP: REIFYING RESILIENCE: TRANSLOCAL LEARNINGS FROM COASTAL/DELTA CITIES OF SOUTH AND SOUTH-EAST ASIA

Rotating round tables. In a personal setting, participants will exchange on practice-based questions posed by the different table hosts. After three rotating rounds that build up on each other, the table hosts will report back and open up a wider discussion [hosted by the DAAD exceed centre "Global Center of Spatial Methods for Urban Sustainability – SMUS"].

MODERATOR

Dr Katleen De Flander, Researcher at the Technische Universität Berlin

Prof Dr Wiwandari Handayani, Researcher, Lecturer and Head of Department at the Department of Urban and Regional Planning, Faculty of Engineering at the Diponegoro University (also Table Host)

TABLE HOSTS

Dr Johannes Herbeck, Researcher and Lecturer at the Bremen University

Dr Khairul Hisyam Kamarudin, Researcher and Lecturer at the Faculty of Built Environment and Surveying at the Universiti Teknologi Malaysia

Prof Dr Jenia Mukherjee, Researcher and Lecturer at the Department of Humanities and Social Sciences at the Indian Institute of Technology Kharagpur

Prof Dr Jakkrit Sangkhamanee, Researcher, Lecturer, Deputy and Dean of Academic Affairs, Department of Sociology and Anthropology, Faculty of Political Science at the Chulalongkorn University

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11 a.m. – 12.45 p.m.

Seminar 3

Registration required

WORKSHOP: IMAGINARIES OF INSIDE-OUT PLACE MAKING: SENSING, DESIGNING AND TRANSFORMING (URBAN) SPACES WITH HUMANS AND THE NON-HUMAN WORLD FOR SUSTAINABLE AND CLIMATE RESILIENT FUTURES

Facilitated workshop enabling participants to engage with each other in order to brainstorm and ideate co-creatively. The three convenors will be moderating through the various phases of the workshop working in pairs, groups, plenary. Outcome: highlighting a rather neglected, at best implicit topic; connecting discourses from global south and global north about imaginaries; learning from each other's perspectives, cross-culturally; networking across the world.

CHAIRED BY

Dr Christoph Woiwode, Visting professor at the Indo-German Centre for Sustainability, Indian Institute of Technology Madras

CO-CONVENORS

Keya Chakraborty, Associate Professor at the Srishti Manipal Institute of Art Design and Technology at the Manipal Academy of Higher Education

Lalit Kishor Bhati, Co-Founder of the Planning and Architecture Towards Holistic Development and the Auroville Integral Sustainability Institute

11 a.m. – 12.30 p.m. Saal Süd	**INDIVIDUAL PRESENTATIONS: MANAGING WATER SECURITY IN QUANTITY AND QUALITY / BALANCING THE THREE PILLARS OF SUSTAINABILITY UNDER CHANGING CLIMATIC AND SOCIAL CONDITIONS** CHAIRED BY **Yvonne Githoria**, AFAS, Research Scientist at Wildlife Works PRESENTERS **Kaushal Chapagain**, ABCD-Centre: Impacts of Climate Change and Land Use Change on the Water-Energy-Food Nexus in Ping River Basin, Thailand **Dr Timothy Downing**, AFAS: History of 'Nature-based' Solutions to Land Degradation in the Savannahs of Kenya: An Analysis of Literature and Archival Records **Dr Dibesh Khadka**, ABCD-Centre: Agricultural Drought Risk, Climate Change, and Local Adaptation Measures: A Case Study in the Upper Mun River Basin, Thailand **Dr Nelly Masayi**, AFAS: Effects of Land Use Change on Tropical Savannas of Western Kenya under Changing Climatic Conditions
12.30 – 2.00 p.m.	Lunch Break
2.00 – 3.00 p.m. Saal Süd	**CLOSING SESSION** CHAIRED BY **Petra Bogenschneider**, Head of Section "German Transnational Education Projects in the Middle East, Africa, Latin America", DAAD RAPPORTEURS **Prof Dr Jürgen Stamm**, ABCD-Centre, Director of the Institute of Hydraulic Engineering and Technical Hydromechanics, Technische Universität Dresden **Prof Dr N'golo Koné**, AFAS, Senior researcher and lecturer, University Félix Houphouet Boigny and University Nangui Abrogoua **Prof Anan Jayousi**, SAGE-Centre, Director of the Energy Water and Food security Center, An-Najah National University **Dr Michelle Pressend**, TRAJECTS, Academic Coordinator African Hub at the University of Cape Town
3.00 – 3.30 p.m.	Coffee Break

END OF THE CONFERENCE

START OF THE INTERNAL PART FOR THE GLOBAL CENTRES: PHD-SEMINARS AND MEETING OF PROJECT TEAMS AND DAAD

Supported by:
Federal Foreign Office

Short Profiles of Chairs and Panellists of Sessions

IMAGINARIES OF CLIMATE FUTURES AROUND THE WORLD. PERSPECTIVES FROM THE DIFFERENT GLOBAL CENTRES

Climate futures are imagined differently around the world, for lots of reasons like historical responsibility for climate change, climatical conditions, cultural background, economic situation, and many others. Within this session, we will draw attention on five imaginaries from the five regions where Centres are located. How do they imagine a good climate future for all and how do they think should/could it be reached? After their 5-minutes impulses the speakers will discuss on their imaginaries and search for a common one that brings together the largest possible overlap.

CHAIR

Dr Christiane Fröhlich
Member of the Academic Advisory Board

Senior Research Fellow at German Institute
for Global and Area Studies (GIGA)
SAGE-Centre
Contact: christiane.froehlich@giga-hamburg.de

Christiane Fröhlich is a senior research fellow at the German Institute for Global and Area Studies (GIGA) in Hamburg. She is particularly interested in the intersection between forced migration, global environmental change, and socio-political upheaval, and in the interactions between mobility governance and state survival, consolidation, and (trans)formation. Her regional focus is mainly on the Middle East (Syria, Jordan, Lebanon, Israel/Palestine, Turkey), where she has conducted extensive field research. She is also engaged in cross-regional comparative projects, including the EU-funded consortium "Migration Governance and Asylum Crises (MAGYC)" and the DAAD-funded Climate Centre "Sustainable Adaptation to Global Change in the Middle East" (SAGE-Centre). Fröhlich holds a PhD from the Center for Conflict Studies at Marburg University.

PANELLISTS

Prof Andrea Cardoso
Professor at the Faculty of Business Administration
at the Universidad del Magdalena, representing Latin America
TRAJECTS
Contact: acardoso@unimagdalena.edu.co

Andrea Cardoso is a professor in the Business and Economics Faculty of the University of Magdalena, Santa Marta, Colombia, where she also serves as director of the Energy Transitions students' research group. She holds a European Joint Master's degree in Water and Coastal Management from the University of Plymouth, U.K., and Cadiz University, Spain. She received her MSc and PhD in environmental studies from the Institute of Environmental Science and Technology, Autonomous University of Barcelona. Andrea's research addresses the political ecology of the global coal chain, just transition and climate justice.

Prof Anan Jayousi
Director of the Energy water and food security
Center at the An-Najah National University, representing the MENA-Region
SAGE-Centre
Contact: anan@najah.edu

Professor Jayyousi has over 30 years of proven experience in water and sanitation sector in the fields of planning, regulation, institutional frameworks, investment analysis from leading and participating in different national, regional and international projects. He has proven expertise dealing with water management and capacity building issues. Professor Jayyousi experience in water related issues covers Palestine, Jordan, Libya, Tunisia and Egypt. He has a distinctive combination of expertise of water and sanitation and has cumulative experience with different donors and governmental authorities. In particular Palestinian water Authority (PWA), Palestinian National Authority, United Nation Development Program (UNDP), USAID, World Bank, Canadian International Development Agency (CIDA), Water Resources Action Program (WRAP), UNESCO, TAMKEEN and German Agency for Technical Assistant (GIZ) and others. He served as a member of the Board of Directors of the Water Sector regulatory Council and at present he serves as the Chair holder of the UNESCO Chair on Sustainable water Resources Management and the director of Energy, Water and Food Security Research Centre of An-Najah National university.

Prof Dr Daniel Olago
Head of the Department of Earth and Climate Sciences
at the University of Nairobi, representing Sub-Saharan Africa
AFAS
Contact: dolago@uonbi.ac.ke

Daniel Olago, a Rhodes Scholar, is Professor of Geology (Environmental Geoscience), and heads the Department of Earth and Climate Sciences, and Institute for Climate Change and Adaptation, University of Nairobi. His research interests span the broad field of environmental geoscience, including paleoclimate and paleoenvironments, water, climate, environment and human linkages with a special focus on eastern Africa. He has been involved in multi-disciplinary research, training and capacity building activities on global environmental change in local, regional and international contexts for a diverse range of stakeholders, from grassroots, through management to policy-making groups and government agencies. Daniel is a member of the International Lake Environment Committee and Fellow of; The World Academy of Sciences, African Academy of Sciences, Kenya National Academy of Sciences, Geological Society of Kenya, and Geochemistry Fellow. His projects include: REACH Programme https://reachwater.org.uk/; Development Corridors Partnership https://developmentcorridors.org/; African Climate and Environment Center - Future African Savannas (AFAS - https://www.afas.africa/); Enhancing and Scaling Up Climate Adaptation for Resilient Infrastructure in Kenya, and; GWS-SENCE: Groundwater Sustainable and Equitable Development under Constraints of Ecosystem Conservation and Saltwater Intrusion Prevention in Large Deltas. He has been a Lead Author for the recent 6th IPCC Assessment Report and the earlier 4th report that won the Nobel Peace Prize for 2007.

Prof Dr S. A. Sannasiraj
Member of the Academic Advisory Board

Professor at the Department of Ocean Engineering
at the Indian Institute of Technology Madras, representing
Asia
ABCD-Centre
Contact: sasraj@iitm.ac.in

Dr S. A. SANNASIRAJ is the Chair Professor of the Department of Ocean Engineering, IITMadras. He is the main coordinator for the DST-CoE on Climate Change Impacts on coastal infrastructures & its adaptation strategies at IIT Madras. He is the also the lead Indian coordinator of DAAD sponsored Global water and climate adaptation centre in India. At present, he is the vice-chair of executive council of Asia Pacific Division of IAHR. His area of specialization includes climate change impacts on coastal infrastuctures and structural rehabilitation, port and harbour structures, and wind-wave modeling. He has supervised 26 phd scholars in the above specialization and completed 18 sponsored research projects. At his credit, he has 135 peer-reviewed journal publication and 4 patents; co-authored 4 text books on coasts and participated over 120 technical conferences. He has successfully executed more than 350 industrial projects of nature port and harbours, intake/ outfall systems, design of coastal protection structures and wind-wave prediction. He was awarded Endeavour India Executive Award from Australian Government during 2007; Fulbright-Nehru senior research fellowship during 2011; and, Melbourne School of Engineering visiting fellow award during 2020. Further, he has organized more than 25 short Courses and Workshops for Researchers, Field Engineers, Faculties & Senior Managers.

Prof Dr Holger Schüttrumpf
Director of the Institute of Hydraulic
Engineering and Water Resources Management of the RWTH Aachen,
representing
Europe
ABCD-Centre
Contact: schuettrumpf@iww.rwth-aachen.de

Prof Holger Schüttrumpf is director of the Institute of Hydraulic Engineering and Water Resources Management at RWTH Aachen University/Germany and full professor at RWTH Aachen University since 2007. He had previously worked at the Technical University of Braunschweig/Germany as a research assistant until 2001 and at the Federal Waterways Engineering and Research Institute (BAW) in Hamburg/Germany as a senior researcher until 2007. His research interests are related to flood risk management, hydraulic structures, coastal engineering, waterways engineering and water resources management with a special interest in interdisciplinary research and international cooperation. He successfully supervised more than 60 Ph.D students as main or co-supervisor.

KEY CHALLENGES AND OPPORTUNITIES FOR CITIZEN PARTICIPATION IN JUST TRANSITION PROCESSES

This roundtable will bring together experiences from the EU, Colombia, South Africa and Ecuador related to the phase-down of gas, coal, and oil use and production, with a special focus on citizen participation mechanisms that have been used to facilitate just transitions processes in those countries.

CHAIR

Dr Paola Andrea Yanguas Parra
Member of the Academic Advisory Board

Post-doctoral researcher at the Zurich
University of Applied Sciences (ZHAW) and Policy Advisor at the
International Institute for Sustainable Development (IISD)
TRAJECTS
Contact: paola.yanguas33@gmail.com

Paola is an economist with a master's degree in public policy and a Ph.D. in Economics. She currently works as a Sustainability Transitions researcher at the ZHAW and a Policy Advisor on Fossil Fuels Phaseout at IISD. She is a passionate advocate for climate action, clean energy, and international cooperation. As a Colombian-German citizen, Paola is particularly interested in bringing together Global South and Global North countries to exchange, cooperate and work together towards solving the climate crisis.
Over the last 10 years, Paola has worked in the interface of climate science and energy policy, leading several multidisciplinary projects and analytical work related to the public policy implications of the Paris Agreement, with an emphasis on climate change mitigation strategies for Global South countries, Just Energy Transition, and Fossil Fuels Phaseout. From 2021 to 2023, Paola served as the academic coordinator of the European Hub of the DAAD-funded TRAJECTS centre, which brings together her bachelor's and PhD Alma Maters: the Universidad Nacional de Colombia and the Technical University of Berlin.

PANELLISTS

Jesse Burton
Senior Researcher at the University of Cape Town
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Contact: jesse.burton@uct.ac.za

Jesse Burton is a senior researcher in the Energy Systems Research group at the University of Cape Town and a senior associate at global thinktank E3G, where she provides analysis and policy advice on coal transitions globally. She is a specialist in coal and electricity markets and energy and climate change policy in South Africa. Her research focuses on the challenges and opportunities of the energy transition for coal dependent countries, including just transition strategies. Jesse has been involved in the development of Just Transition strategic plans for the South African government at national and provincial level. She was a member of the Secretariat of the Just Energy Transition Partnership, a world first approach to financing Just Transition, and was part of the team that drafted the country's Just Energy Transition Investment Plan under the Partnership.
Her research has quantified and examined the politics of fossil fuel subsidies in South Africa, the cost and greenhouse gas implications of future coal investments, the costs and risks of stranded assets in the South African energy sector, and the economics of coal-fired power and coal mining. Recent projects have included the development of an electricity plan for South Africa in the context of global climate policy goals and air quality compliance, analysis of the employment and skills. impacts of future electricity and coal production pathways, and strategies for implementing a just transition for coal workers and communities in South Africa.

Anna Mazur
Project Manager at The Polish National Energy Conservation Agency
TRAJECTS
Contact: amazur@kape.gov.pl

Anna Mazur is a project manager in the Department of International Cooperation and Research at the Polish Energy Conservation Agency (Krajowa Agencja Poszanowania Energii S.A., KAPE). She graduated from the Cracow University of Economics and has been working at KAPE since 2014. She has extensive experience in working on projects implemented under EU programmes both as a representative of the Beneficiary and of the institution implementing regional programmes in Poland. At KAPE, she is responsible for leading tasks within international projects, coordinating national and EU projects, as well as educational campaign projects on energy efficiency and behavioural change, etc. One of the projects she is currently working on is the project "JUSTEM - Justice in Transition and Empowerment against energy poverty", under EU LIife Programme, where she is leading activities focusing on engaging the citizens of coal mining regions in the Territorial Just Transition process.

Julia Schwab
Research Assistant at the Justus-Liebig University Giessen and Lecturer and Researcher at the University of Jember
Contact: julia.schwab@recht.uni-giessen.de

Julia Schwab is a research associate and PhD candidate at the Chair of Peace Studies at the University of Giessen. She holds a Master's in Sustainable Development from Uppsala University in Sweden and a Bachelor's in Anthropology and History from Heidelberg University in Germany. Her research on post-oil futures and Indigenous self-determination in the Ecuadorian Amazon lies at the intersection of the anthropology of futures, affect theory and the anthropology of oil. Her research interests focus on the resource affects, human-Nature relationships, and Indigeneity.

UPSCALING NATURE-BASED SOLUTIONS FOR SUSTAINABLE AND CLIMATE CHANGE RESILIENT AGRICULTURE: A PIPE DREAM OR A TANGIBLE REALITY?

The planned format is a roundtable that should facilitate a discussion on the uses of Nature-based Solutions to achieve sustainable and climate-resilient agriculture. Although the panellists' prime expertise is on the African context, the discussion will provide insights that can be applied across the world.

CHAIR

Prof Dr Christian Borgemeister

Director of the Center for Development Research (ZEF) at the University of Bonn
AFAS
Contact: cb@uni-bonn.de

Christian Borgemeister is a Director of the Center for Development Research (ZEF) (www.zef.de) and Professor for Ecology and Natural Resources Management at the University of Bonn, Germany. He was appointed in 2013 at ZEF, and from 2014 to 2022 also served as Managing Director of the Center. Prior he was the Director General of the International Centre of Insect Physiology (icipe - www.icipe.org), a Nairobi, Kenya headquartered pan-African R&D Centre. CB is a trained entomologist and has lived and worked for >20 years in West and East Africa, South East Asia and Latin America. He is a Fellow of the African Academy of Sciences, the Royal Entomological Society, the Entomological Society of America (ESA), Member of the Council of the International Congress of Entomology and from 2020-2023 was the Chairman of the Board of the International Institute of Tropical Agriculture (IITA – www.iita.org). CB has been the recipient of the 2011 International Plant Protection Award of Distinction of the International Association for the Plant Protection Sciences (IAPPS), and the 2015 Distinguished Scientist Award of ESA's International Branch. He has authored and co-authored > 250 papers in peer-reviewed scientific journals, with > 9,500 citations and an h-index of 52, has co-authored a book on biological control in Africa, and has written > 10 chapters for different scientific books.

PANELLISTS

Prof Dr Daniel Olago
Head of the Department of Earth and Climate Sciences at the University of Nairobi
AFAS
Contact: dolago@uonbi.ac.ke

Daniel Olago, a Rhodes Scholar, is Professor of Geology (Environmental Geoscience), and heads the Department of Earth and Climate Sciences, and Institute for Climate Change and Adaptation, University of Nairobi. His research interests span the broad field of environmental geoscience, including paleoclimate and paleoenvironments, water, climate, environment and human linkages with a special focus on eastern Africa. He has been involved in multi-disciplinary research, training and capacity building activities on global environmental change in local, regional and international contexts for a diverse range of stakeholders, from grassroots, through management to policy-making groups and government agencies. Daniel is a member of the International Lake Environment Committee and Fellow of; The World Academy of Sciences, African Academy of Sciences, Kenya National Academy of Sciences, Geological Society of Kenya, and Geochemistry Fellow. His projects include: REACH Programme https://reachwater.org.uk/; Development Corridors Partnership https://developmentcorridors.org/; African Climate and Environment Center - Future African Savannas (AFAS - https://www.afas.africa/); Enhancing and Scaling Up Climate Adaptation for Resilient Infrastructure in Kenya, and; GWSSENCE: Groundwater Sustainable and Equitable Development under Constraints of Ecosystem Conservation and Saltwater Intrusion Prevention in Large Deltas. He has been a Lead Author for the recent 6th IPCC Assessment Report and the earlier 4th report that won the Nobel Peace Prize for 2007.

Prof Dr N'golo Abdoulaye Koné
Member of the Academic Advisory Board

Senior researcher and lecturer, University Félix Houphouet Boigny and University Nangui Abrogoua
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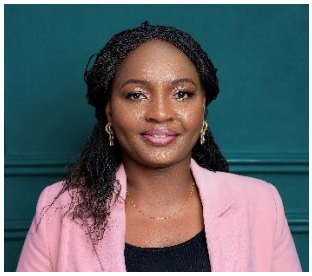
Contact: ngolo197804@yahoo.fr

Lecturer and researcher at the University Félix HOUPHOUËT-BOIGNY
I am trained in ecology and biodiversity conservation
Deputy Director of the Graduate Study Program WASCAL/CEA-CCBAD Doctoral Course on Climate Change and Biodiversity (University Félix HOUPHOUËT-BOIGNY).
Director of the Research Station in Ecology of the Comoé National Park (North-eastern Côte d'Ivoire).
Co-Principal Investigator of the African Centre on Climate and Environment - Future African Savannahs (AFAS).
Coordinator of the Master in Management of the Science, Policy and Practice Interface in Biodiversity, Ecosystem Services and Climate Change.

Dr Nelly Masayi
Post Doctoral Research Fellow at the University of Nairobi
AFAS
Contact: nelly@uonbi.ac.ke

I hold a PhD in Geography from Moi University (Kenya), a Master's degree in Geography and a Bachelor of Education (Arts) degree from Maseno University, Kenya. I am currently a Post Doctoral Research Fellow at the University of Nairobi, Institute of Climate Change and Adaptation(ICCA). I have great interest in matters that focus on Nature Based Solutions, Climate Change, Biodiversity Loss, Land Use Change and community livelihoods. I embrace the use Geospatial Technologies (GT) and Indigenous Knowledge (IK) in mapping and modelling Climatic Change, Land Use Change and biodiversity loss.



Esther Mutuma
CEO of Boreka social enterprise, Kenya
AFAS
Contact: esther.mutuma@boreka.co.ke

Esther is a Kenyan Citizen working in the climate change industry in Africa. She graduated with a Bachelor's Degree in Economics from the University of Nairobi & a Masters Degree in Social Enterprise and Community Development from the University of Cambridge, United Kingdom. She also holds a Certified Public Accountants Qualification (CPA-K). Esther's vision is to create a platform of bankable climate resilient & rural development projects, for communities to participate in sustainable land use management in climate action.

Her career spans 15 years of senior management in the banking, manufacturing & development sectors. She is currently leading Boreka Group as the Founder & Chief Executive Officer. Boreka works in partnership with civil society organisations, indigenous groups, and women's associations as key stakeholders. A successful C-Level Executive, she has had interactions at global policy levels to contribute to the design & implementation of policies specifically in the Climate Change arena. Esther is a member of the Kenya Private Sector (KEPSA) Environment Sector Board. In this respect, she engaged in the Pre COP 28 deliberations for inclusion in the final COP 28 declarations. Esther also served for 3 years on the AMREF Kenya Board Committee championing the climate health nexus.

Esther provides strategic leadership for aspects of Goal 13 of the SDGs by championing adoption of Nature Based Solutions to unlock carbon financing & innovations to support community participation. Esther is skilled in leadership, policy development, problem solving, critical thinking & professional networking; with competencies in resource mobilisation and execution & in depth knowledge of project development.

ADVANCING WATER SECURITY IN A CHANGING CLIMATE: HIGHER EDUCATION AND TRANSFER MEASURES IN THE GLOBAL SOUTH

The ABCD Centre hosts a roundtable on water security, a pressing concern amid climate fluctuations in the vulnerable Global South. This session unites diverse experts, policymakers, and practitioners to explore innovative higher education measures and knowledge transfer strategies. It aims to fortify water security with actionable recommendations, distilling insights from Global South experiences.

CHAIR

Prof Dr Jürgen Stamm
Member of the Academic Advisory Board

Director of the Institute of Hydraulic Engineering and Technical Hydromechanics, Technische Universität Dresden
ABCD-Centre
Contact: juergen.stamm@tu-dresden.de

Doctor of Engineering with more than 30 years of research experience, such as on the morphology of watercourses, the functioning of spillways and operating facilities, synergies between flood protection and natural watercourse development, flood protection in inland and coastal areas, material behaviour of bituminous or synthetic resin-based sealants, wave effects, backwash effects on revetments and riverbeds, influence of groynes on riverbed structures. University Professor of Hydraulic Engineering, Dean of the Faculty of Civil Engineering, Speaker of the School of Civil and Environmental Engineering at the Dresden University of Technology (TUD) in Germany. In the wake of climate change, my research now focuses on adapting hydraulic engineering for a more sustainable future and water security.

PANELLISTS

Prof Dr Edeltraud Guenther
Director of the United Nations University
Institute for Integrated Management of Material Fluxes and of Resources (UNUFLORES)
ABCD-Centre
Contact: od_flores@unu.edu

Prof Edeltraud Guenther is Director of the United Nations University Institute for Integrated Management of Material Fluxes and Resources (UNU-FLORES).
She is a globally recognized expert in environmental management and sustainability assessment and took over the position of Director of UNU-FLORES in Dresden on 1 September 2018.
Prof Guenther's research focuses on sustainability management, environmental accounting and management control systems with a focus on corporate responsibility, life cycle, resilience and sustainability assessment. She is an advocate of "promoting the resource nexus", which is also reflected in the Institute's mission to make a significant impact across the scientific landscape and to promote the Resource Nexus as an important scientific perspective.
Prof Guenther is Editor-in-Chief of the Sustainability Management Forum (2015) and Editor-in-Chief of the International Journal of Life Cycle Assessment (2016). In her own work, Prof Guenther primarily asks the question "How does it pay to be sustainable?" and is committed to promoting the financial benefits of sustainability.
To strengthen the links between UNU-FLORES and the United Nations, Prof Guenther was also one of the founding directors and the first chair of the UNU Water Network. In 2020, she was appointed as the lead UNU official for the Environmental Management Group (EMG).

Prof Dr S. A. Sannasiraj
Member of the Academic Advisory Board

Professor at the Department of Ocean Engineering
at the Indian Institute of Technology Madras (IIT Madras)
ABCD-Centre
Contact: sasraj@iitm.ac.in

Dr S. A. SANNASIRAJ is the Chair Professor of the Department of Ocean Engineering, IITMadras. He is the main coordinator for the DST-CoE on Climate Change Impacts on coastal infrastructures & its adaptation strategies at IIT Madras. He is the also the lead Indian coordinator of DAAD sponsored Global water and climate adaptation centre in India. At present, he is the vice-chair of executive council of Asia Pacific Division of IAHR. His area of specialization includes climate change impacts on coastal infrastuctures and structural rehabilitation, port and harbour structures, and wind-wave modeling. He has supervised 26 phd scholars in the above specialization and completed 18 sponsored research projects. At his credit, he has 135 peer-reviewed journal publication and 4 patents; co-authored 4 text books on coasts and participated over 120 technical conferences. He has successfully executed more than 350 industrial projects of nature port and harbours, intake/ outfall systems, design of coastal protection structures and wind-wave prediction. He was awarded Endeavour India Executive Award from Australian Government during 2007; Fulbright-Nehru senior research fellowship during 2011; and, Melbourne School of Engineering visiting fellow award during 2020. Further, he has organized more than 25 short Courses and Workshops for Researchers, Field Engineers, Faculties & Senior Managers.

Prof Dr Holger Schüttrumpf
Professor at the Institute of Hydraulic
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Prof Holger Schüttrumpf is director of the Institute of Hydraulic Engineering and Water Resources Management at RWTH Aachen University/Germany and full professor at RWTH Aachen University since 2007. He had previously worked at the Technical University of Braunschweig/Germany as a research assistant until 2001 and at the Federal Waterways Engineering and Research Institute (BAW) in Hamburg/Germany as a senior researcher until 2007. His research interests are related to flood risk management, hydraulic structures, coastal engineering, waterways engineering and water resources management with a special interest in interdisciplinary research and international cooperation. He successfully supervised more than 60 Ph.D students as main or co-supervisor.

COLLABORATIVE KNOWLEDGE PRODUCTION FOR EFFECTIVE, JUST AND INCLUSIVE ENVIRONMENTAL INTERVENTIONS

For this interactive working table, the panellists will discuss their experiences with collaborative knowledge production for improved measures for climate change adaptation, biodiversity conservation and sustainable land management, based on examples from West, East and South Africa. The table will have an "empty" chair, for members of the audience to chip in.

CHAIR

Prof Dr Michael Bollig
Professor of Social and Cultural Anthropology at the University of Cologne
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Contact: michael.bollig@uni-koeln.de

PANELLISTS

Aminata Belem
AFAS Alumna and Master graduate of the Université Félix-Houphouët-Boigny
AFAS
Contact: belemzen12@gmail.com

I am BELEM Aminata, I am 24 years old, I come from Ivory Coast. I did a Master's degree in the research of Nature-based solutions for the fight against Climate Change in the first session of the AFAS program (African Climate and Environmental Center Future African Savannas). This program is financed by the DAAD. Furthermore, I have a second Master's degree in Biodiversity and Sustainable Ecosystem Management. I am currently a Project Assistant in a reforestation project for degraded areas in my country. This program aims to encourage companies to guide Social Responsibilities in restoring the Ivorian forest cover.

Yvonne Githoria
Research Scientist at Wildlife Works, Kenya
AFAS
Contact: yvonne.githiora@wildlifeworks.com

Yvonne Githiora works as a research scientist in the Biodiversity Department at Wildlife Works, Kenya. Her research focuses on the connections between ecosystem services, human societies, and climate change within African ecosystems. She recently earned her PhD in Climate Change and Adaptation from the University of Nairobi, with her thesis concentrating on participatory methods to evaluate the impacts of land use and climate changes on ecosystem services in Kenya's Yala wetland. Her background is in Conservation Biology and her professional experience spans public policy, climate change mainstreaming, and research on water and ecosystems. Passionate about effecting positive change in environmental, social, and educational spheres in Africa, Yvonne volunteers with the Women in Nature Network Kenya Chapter and Conscious Kenya, a local NGO committed to social initiatives in Nairobi's informal settlements. Her work in participatory research has enriched her with experience on how the dual challenges of climate change and biodiversity loss can be addressed by collaborating with the most impacted local communities.

Dr Gerda Kuiper
Scientific staff member at the Global South Studies Center,
University of Cologne
AFAS
Contact: gkuiper@uni-koeln.de

Dr Gerda Kuiper is a cultural anthropologist based at the Global South Studies Center, University of Cologne. She is the author of the book "Agro-Industrial labor in Kenya: Cut flower farms and migrant workers' settlements" (Palgrave 2019) and co-editor of the interdisciplinary volume "Agricultural intensification, environmental conservation, conflict and co-existence at Lake Naivasha, Kenya" (with Eric Kioko and Michael Bollig, Brill 2024). She has a great interest in interdisciplinary research and teaching, and is one of the coordinators of the DAAD Global and Environment Center "Future African Savannas".

Dr Michelle Pressend
Academic Coordinator African Hub at the University of Cape Town
TRAJECTS
Contact: michelle.pressend@uct.ac.za

Michelle Pressend, PhD is currently the TRAJECTS - Transnational Centre for Just Transitions in Energy, Climate and Sustainability Academic Coordinator of the African Regional Hub based in the Department of Chemical Engineering at the University of Cape Town (UCT). She lectured Environmental Sociology at UCT in the past five year. She designed and lectured a course in African Feminist Studies at UCT focused on the gender and the politics of development. She has worked as a researcher, policy analyst, and activist on environmental and socio-economic justice primarily within the non-governmental sector for over twenty years. She also served in national government during the World Summit on Sustainable Development. Her PhD in Anthropology, argues that relational energy transitions, which considers pluriversality is needed to address the climate crisis. Relational perspectives pay close attention to power relations, politics, materiality, and exclusions. Values that are respectful, regenerative, and reciprocal to nature and each other constitute the concept of relationality. Her research approach engages with soil and land history/memory and what can be learnt from the changes in land to address the social-ecological crises differently to the dominant techo-scientific 'fixes.

TOWARDS TRANSBOUNDARY CLIMATE RISKS MITIGATION: LOCAL AND INTERNATIONAL EFFORTS FOR FOOD SYSTEM RESILIENCE IN JORDAN

Transboundary climate risks aggravate the multiple risks facing food systems in developing countries especially in highly food import dependent countries like Jordan. Import policies are seen as a mitigation tool for such climatic changes but the global polycrises context calls for more innovative local and multilateral solutions.

CHAIR

Dr Jonas Luckmann
Senior Researcher at the Humboldt-Universität zu Berlin
SAGE-Centre
Contact: luckmann@hu-berlin.de

Dr Luckmann is a senior research fellow at the International Agricultural Trade and Development Group at Humboldt-Universität zu Berlin, Germany. He obtained his PhD in agricultural economics from the University of Hohenheim, Germany. His research focuses on policy analysis, water and resource management as well as climate change including their regional, distributional and economy-wide implications. Geographically, his research is centered in Africa and the Middle East. Dr Luckmann is an associate editor of the journal Water Economics and Policy and a consultant for various international organizations.

PANELLISTS

Raghad Altalli
Programme Manager and Trade Facilitation Adviser at the International Trade Center
Contact: altalli@intracen.org

Raghad Altalli is a Trade Facilitation Manager Programme at the International Trade Centre in Geneva. Since joining ITC in 2014, Raghad has managed trade related programmes in over 25 countries with a focus on the development of digital solutions, streamlining of trade procedures and implementation of a wide range of trade facilitation reforms. Additionally, Raghad provides advisory services to policymakers and businesses.
Prior to her tenure at ITC, Raghad worked in the financial department of the United Nations Office for the Coordination of Humanitarian Affairs. In this role, she was responsible of enhancing OCHA's financial performance. This experience was preceded by four years spell in the private sector.
Raghad holds a master's degree in Economics from the University of Geneva.

Dr Imad El-Anis
Associate Professor at the Nottingham Trent University

Contact: imad.el-anis@ntu.ac.uk

Dr Imad El-Anis is an Associate Professor in International Relations and Director of the Centre for Policy, Citizenship, and Society at Nottingham Trent University, UK. Imad holds a BA (Hons) in International Relations and Global Politics, an MA in International Political Economy, and a PhD in International Political Economy. He has authored several books, articles and chapters on various aspects of the international political economy of the Middle East and North Africa. He has researched and published works on trade, economic integration and political cooperation; freshwater scarcity; energy security and nuclear energy proliferation; and climate change adaptation and mitigation policies in authoritarian states. His current research focuses on the impact of free trade and economic interdependence on international relations in the Middle East and North Africa.

Lamia Dabbas
Regional Director at Advance Consulting
Contact: lamia@advanceconsulting.nl

With over two decades of dedicated professional experience spanning various sectors, I currently serve as a Regional Director, leading and managing a dynamic team of local and international experts. In this role, I am instrumental in driving impactful change and fostering development across diverse regions.
My career is distinguished by a robust portfolio in business development, adept proposal writing, and a strong foundation in fundraising. Specializing in financial inclusion, Market Systems Development (MSD), and private sector engagement, I have consistently delivered persuasive proposals and secured critical funding from prominent donors such as GGF, GCF, EU, USAID, and others, crucial for sustaining and expanding our initiatives.
Collaboration with influential organizations including GIZ, the World Bank, and the World Economic Forum has been central to my career. This collaborative approach has enabled me to innovate effective solutions to complex challenges and cultivate enduring relationships with stakeholders.
As a Regional Director, I oversee multi-year projects funded by diverse donors, managing project teams, identifying business opportunities, coordinating funding responses, and cultivating strategic partnerships to drive growth.
Educationally, I hold a bachelor's degree in agricultural economics and business administration, complemented by a master's in environmental management and technology focused on climate change. I am committed to continuous professional growth, evidenced by certifications in Project Management in Development (PMD) and Project Management Professional (PMP), and completion of specialized training programs. Fluent in Arabic and English, I leverage a global perspective to engage effectively with stakeholders worldwide.

Esther Wintraecken
Project developer and manager at the Wageningen University & Research
Contact: esther.wintraecken@wur.nl

Esther Wintraecken is working as a learning professional and project developer and manager of sustainable agriculture at Wageningen Plant Research in Team International. Prior to this position she worked as a country manager of an agricultural consultancy firm in Myanmar focusing on value chain development in various crops and livestock. In her current position she focuses on strengthening horticultural sector professionals in LMICs so that they can effectively transfer this knowledge and knowhow to smallholder farmers. Emphasis lies on sustainable farming practices where the concepts of the farm of the future from the Netherlands are key. As a curious and positive minded promotor of learning and development, she gets excited and committed about facilitating growth and development among people, organisations and the wider society. And this is exactly what her work is all about.

PERSPECTIVES ON PATHOGEN SPILLOVER & PANDEMIC PREPAREDNESS

A moderated panel discussion beginning with opening responses to common questions, followed by invitations to each panellist to provide contributions on specific topics and comment on responses provided by other panellists. This session will highlight different perspectives on pandemic preparedness and prevention influenced by research discipline and regional experiences.

CHAIR

Michael Owusu
Senior Lecturer at the Kwame Nkrumah University of Science and Technology (KNUST)
G-WAC
Contact: michaelowusu80@gmail.com

Dr Michael Owusu is a Senior Lecturer at the Faculty of Allied Health Sciences, KNUST and Senior Research Fellow at the Kumasi Centre for Collaborative Research in Tropical Medicine (KCCR). He completed his PhD Clinical Microbiology through a sand-witch programme between KNUST and the University of Bonn Medical Center, Germany. Prior to joining the University, he worked as a Biomedical Scientist at the Komfo Anokye Teaching Hospital for 10 years, where he engaged in the use of classical microbiological techniques for identification of microbiological agents. His research interest is to understand the interactions among microbial agents in the respiratory and gastrointestinal niches using both classical microbiological and molecular based techniques. His research arears include viral zoonosis, microbial genomics and epidemiology of epidemic prone infectious diseases. He is one of the lead scientists in virological diagnostics at the Kumasi Centre for Collaborative Research in Tropical Medicine and contributed immensely towards supervision and laboratory diagnosis of SARS-CoV-2.
Dr Owusu has published over 70 papers in peer-reviewed journals and contributed to 4 book publications. He has served a member or secretary on over 30 committees of the University and international community. Dr Owusu is a reviewer of high impact journals including BMC Medicine, BMC infectious disease journal, Plosone, Plos Neglected Tropical Diseases and International Journal of Tropical Disease and Hygiene. He has recently been appointed as member of the Board of Reviewers of the American Society of Microbiology.

PANELLISTS

Dr Linda Batsa Debrah

Senior Lecturer at the KNUST

G-WAC

Contact: lbdebrah.chs@knust.edu.gh
Linkedln: lbdebrah

Dr (Mrs.) Linda Batsa Debrah is a Senior Lecturer of Medical Parasitology in the Department of Clinical Microbiology at the Kwame Nkrumah University of Science and Technology (KNUST), Kumasi, Ghana. She is also a Senior Research Fellow and currently the Principal Investigator on the TAKeOFF project that seeks to tackle the obstacles of lymphatic filariasis (LF) and podoconiosis sponsored by the German Ministry of Education and Research (BMBF) [http://takeoff-ntd.net]. She has enormous experience in the conduct of clinical trials especially on NTDs with filariasis as the main focus.
She has several ongoing research activities sponsored by German Centre for Infection Research (DZIF), German Research Foundation (DFG), European and Developing Countries Clinical Trials Partnership (EDCTP) among others.
Dr (Mrs.) Linda Batsa Debrah is the Scientific Coordinator of the German West African Centre for Global Health and Pandemic Prevention (G-WAC). She is a reviewer of many reputable funding agencies and journals including Wellcome Trust, BioMed Central (BMC) infectious diseases, DAAD in-country/in-regions applications, and a Peer Review Editor of Neglected Tropical Diseases (specialty section of Frontiers in Tropical Diseases). Dr (Mrs.) Linda Batsa Debrah was adjourned the Best Mid-Career Researcher at KNUST in 2023 and the Best Senior Member in teaching at School of Medical Sciences,KNUST in 2024. She has over 60 publications to her credit (ORCID ID: orcid.org/0000-0001-9620-3408).

Prof Dr Benjamin Empike
Dean at the School of Veterinary Medicine at the KNUST
G-WAC
Contact: Boemikpe.chs@knust.edu.gh

Emikpe Benjamin Obukowho, Professor of Diagnostic and Toxicological Pathology (2014), Former Chair of the Department of Veterinary Pathology at the University of Ibadan in Nigeria, and Visiting Professor to Pan African University of Life and Earth Science in Ibadan, University of Developmental studies, Ghana, Njala University, Sierra Leone and University of Buea, Cameroon. Currently, the Dean of the School of Veterinary Medicine of the Kwame Nkrumah University of Science and Technology (KNUST), Kumasi, Ghana. My research has focused on detecting and controlling diseases affecting livestock, zoos, and wildlife, with a particular interest in One Health and Pandemic preparedness. I have published extensively and have been a plenary speaker at international conferences, workshops on livestock, wildlife disease diagnosis and AMR Surveillance Systems in humans, animals and the environment, highlighting the One-Health concept and efforts in Ghana. I have also engaged with FAO in developing an AMR training manual for veterinarians in Ghana, reporting on One Health monitoring tool, Training of Trainers (TOT) training for ISAVET and FAO, USAID, WHO resource person and consultants on One Health, Zoonoses and AMR.

Dr Andres Moreira-Soto
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Dr Jesse Owino
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AFAS
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Dr Jesse Owino is a distinguished expert in climate change adaptation, mitigation, regreening, and natural resource management, actively involved in the restoration of degraded ecosystems across the African landscapes. He has postdoctoral experience through the University of Nairobi-DAAD-AFAS program in 2023-2024, he holds a Ph.D. in Climate Change and Adaptation (CCA) from the University of Nairobi (2020). Dr Owino earned a Master of Science degree in Natural Resources Management from Egerton University, along with a Bachelor of Science in Natural Resources Management from the same institution. His scholarly contributions extend beyond academia; he has served as a visiting researcher at Oxford-Brookes and is a seasoned trainer on biodiversity themes in various universities. Dr Owino is an accredited ecologist affiliated with prestigious organizations, including the Africa Forest Forum, East Africa Natural History Society, Nature Kenya, Forestry Society of Kenya, and the British Ecological Society. Furthermore, he serves as an environmental expert for the National Environment Management Authority. With over two decades of experience, Dr Jesse Owino stands out as a renowned research scientist, demonstrating expertise in collaborating with diverse communities and successfully leading consulting programs and projects on REDD+ in various community systems, including pastoralist landscapes.

Prof Dr Le Huu Song
Director at the 108 Military Central Hospital
PACE-UP
Contact: songlh@benhvien108.vn

Prof Dr Le Huu Song is a leading infectious disease physician and the Director of 108 Military Central Hospital in Hanoi, Vietnam. He founded the Vietnamese-German Centre for Medical Research (VG-CARE) and co-coordinates the global health hub PAN ASEAN Coalition for Epidemic and
Outbreak Preparedness (PACE-UP).
Prof Song earned his doctorate from the University of Tübingen, Germany, supported by a DAAD scholarship. He later founded the Institute for Clinical Infectious Diseases at 108 Hospital. With over 25 years of experience, his research focuses on viral hepatitis, emerging infectious diseases, and antimicrobial resistance.
He has led several bilateral projects with the University of Tübingen, funded by the German Federal Ministry of Education and Research, DAAD, EU and other agencies. Prof Song has published over 80 peer-reviewed articles with an h-index of 30. Prof Song has received numerous awards, including the Ho Chi Minh Prize for Hepatitis, the Alexandre Yersin Prize, and the World Intellectual Property Organization Prize. He also received a Certificate of Merit from the Vietnamese Prime Minister.

NEXUS APPROACH: BRIDGING WATER, CLIMATE ADAPTATION, AND HEALTH IN THE FACE OF EMERGING BACTERIAL AND PARASITIC INFECTIOUS DISEASES

The session aims to explore the interconnectedness of water resources, climate change adaptation, and public health with a specific focus on the rise of bacterial and parasitic infectious diseases. As climate change intensifies and water-related challenges become more pronounced, understanding the nexus between these factors is crucial for effective public health interventions.

CHAIR

Dr Firas Aljanabi
Project Manager at Technische Universität Dresden
ABCD-Centre
Contact: firas.aljanabi@tu-dresden.de

Dr Firas Aljanabi is currently serving as the coordinator of the Global Water and Climate Adaptation Centre. With a long-standing affiliation with TU Dresden in Germany, he has held the position of senior lecturer for several years, accumulating extensive expertise in capacity building and projects management within the international landscape. Prior to this, Dr Aljanabi served as an expert and scientific officer at the world meteorological organization in Switzerland, Mozambique and Myanmar, while also holding a significant role as a department head at the Ministry of Environment in Iraq. Dr Aljanabi's academic background includes a Ph.D. in Climate Change and Water Resources Management, which he obtained in 2014. He also holds an M.Sc. in Hydro Science and Engineering from TU Dresden, Germany, achieved in 2009, and a BSc in Civil Engineering from Babylon University, Iraq, acquired in 2002. His diverse educational journey has equipped him with a well-rounded understanding of various disciplines related to water, climate change, early warning systems , and engineering. Dr Aljanabi's comprehensive experience and academic accomplishments position him as a respected professional in the field of global water and climate adaptation.

PANELLISTS

Prof Dr Ayola Akim Adegnika
Director of the Centre de Recherches Médicales de Lambaréné (CERMEL)
CAIDERA
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Prof Dr Ayola Akim ADEGNIKA obtained his medical degree from the Medical University of Libreville and his Ph.D. in Immuno-Epidemiology at the University of Tübingen, Germany, and a Master in Epidemiology at the London School of Hygiene & Tropical Medicine. As director of the Centre de Recherches Médicales de Lambaréné, (CERMEL), Gabon and Full Professor (W3) at the University of Tübingen, Germany, he leads numerous research projects including applied (clinical trials), and basic research (immunological, and epidemiological studies) as well as clinical epidemiology of infectious diseases. He is involved in lecturing and training of students and young scientists. He is a member of various national and international research networks and initiatives, including ARNTD, NTD-OCEAC, CANTAM, WANETAM, DZIF, DTG, GLOHRA, ESR, CAIDERA, ARRIGE etc.

Prof Dr Mukand Babel
Professor for Water Engineering and Management (WEM) at the Asian Institute of Technology (AIT)
ABCD-Centre
Contact: msbabel@ait.ac.th

Dr Mukand S. Babel is a Professor of Water Engineering and Management (WEM) and Director of the Centre for Water and Climate Adaptation (CWCA) at the Asian Institute of Technology (AIT), Thailand. He is also an Adjunct Professor at UNU-FLORES, Germany, an Honorary Professor at the University of Exeter, UK, an Honorary Professor at IIT Guwahati, India, and a Visiting Professor at IIT Roorkee, India. His professional experience in teaching, research, and consultancy spans 40 years, mainly in Asia in the fields of hydrological and water resources modeling; integrated water resources management; water supply and sanitation; climate change impact and adaptation; flood and drought analysis, forecasting, and management and water-energy-food nexus. He has co-authored more than 200 journal articles in high impact factor international journals with the current h-index of 46. He was recognized among the top 2% of influential scientists globally in Environmental Engineering in the annual rankings published by Stanford University in October 2023. He was among the world's top 1000 influential climate scientists in the Reuters Hot List published in April 2021. He appeared in the top 2% list of scientists worldwide for research impact based on 2019 achievements in Engineering. Dr Babel received the 2018 International Award from the Japan Society of Hydrology and Water Resources.

Prof Dr Steffen Borrmann
Research group leader at the Institute of Tropical Medicine at the University of Tübingen
CAIDERA
Contact: steffen.borrmann@uni-tuebingen.de

I studied medicine in Berlin, Vienna, Bern and Paris, graduating with both German and US state examinations in 1998. Since then, I have acquired substantial experience in leading multidisciplinary teams, including between 2004-2012 at the KEMRI/Wellcome Trust Research Programme, Kilifi, Kenya – first with an affiliation at University of Oxford and since 2005 via a DFG-funded junior group at University of Heidelberg. Following a short professorship position in Magdeburg, I have re-joined the Institute for Tropical Medicine, University of Tübingen where I had started my career in 1998. Recently, I was appointed full professor in Tübingen.
My research interests centre around a desire to contribute to the development of novel interventions against malaria using the full range of pre-clinical to phase I-III clinical studies. Currently, I am directing a 2-year M.Sc. in "Infection Biology and Control" by Tübingen in Gabon targeting African students and funded through the DAAD Global Health Centres initiative (https://uni-tuebingen.de/ibc). I am currently also leading the preparation of a first-in-Africa controlled human infection trial using local P. falciparum-infected mosquitoes as a new platform to dissect naturally acquired immunity at the Centre de Recherches Médicales de Lambaréné, Gabon (DZIF). In addition, I am leading two large DFG multicentre projects between German and African partner institutions on arbovirus transmission and the biology of neglected, non-falciparum human malaria parasites, co-leading an ARUA-Guild initiative for scaling up PhD training on the African continent (https://www.the-guild.eu/africa-europe-core/Advanced-infectious-diseases-research-and-training.html), co-leading a new EDCTP/EU programme on early and mid-career training in the Central African region that is based on the DAAD CAIDERA programme (https://www.medizin.uni-tuebingen.de/en-de/das-klinikum/pressemeldungen/610) and several other infectious diseases-related research projects.

Prof Dr Daniel Karthe
Head of Research Programme – Resource Nexus for Regions in Transformation, UNU-FLORES
ABCD-Centre
Contact: karthe@unu.edu

Prof Karthe heads the Programme "Resource Nexus for Sustainability Transformations" at United Nations University - Institute for Integrated Management of Material Fluxes and of Resources in Dresden, Germany. Prof Karthe's main research interest is in integrated approaches to the management of environmental resources and their contribution to sustainable development. He has substantial experience in working in the Global South (particularly Central Asia, India and West Africa). Before joining UNU in 2020, Prof Karthe established the chair of Environmental Engineering at the German-Mongolian Institute for Resources and Technology (GMIT) in Ulaanbaatar, Mongolia and served as the university's first Vice-Rector for Research. Prior to that, he led and coordinated several national and international research and development projects at the Helmholtz-Centre for Environmental Research in Magdeburg, Germany.

UNVEILING THE FUTURE CLIMATE CHANGE-INDUCED HEAT STRESS EFFECTS ON HUMAN HEALTH

Panel discussion with Q&A to shed light on the perceived and foreseen heat effects on human health (theories and case studies), available methods/tools to assess heat stress effects, and adapting and mitigating actions to future climate change-induced heat stress.

CHAIR

Zuhal Elnour
Senior Researcher at the Humboldt-Universität zu Berlin
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Dr Zuhal Elnour is a Senior Research Fellow at the International Agricultural Trade and Development Group at Humboldt-Universität zu Berlin. She also serves as a Senior Researcher at the Agricultural Economics and Policy Research Center of the Agricultural Research Corporation in Sudan. Her expertise is further underscored by her consultancy work for esteemed institutions such as the World Bank and the European Commission.
She is an agricultural and development economist specializing in economic and agricultural development, economy-wide simulation modelling and the economics of development and labour. Her research interests focus on addressing the challenges of poverty alleviation and sustainable development. Her current work involves using and developing economy-wide simulation modelling to analyze climate change impacts on human health in Sub-Saharan Africa. Besides, she is experienced in offering professional training on economy-wide modelling, e.g., in Sudan, Germany, Benin, Kenya, and Jordan.

PANELLISTS

Dr Fred Hattermann
Senior Researcher at the Institute for Climate Impact Research
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Martial Houessou
Research Assistant at the Humboldt-Universität zu Berlin
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Martial Houessou is an Agricultural Economist based in Berlin, Germany. With over four years of experience in socio-economic research and development initiatives, he is dedicated to addressing socioeconomic challenges like climate change, poverty, and food insecurity. Martial currently pursues his Ph.D. in Agricultural Economics at Humboldt University, Berlin.
His professional journey includes significant roles such as Research Assistant at Humboldt University, Regional Monitoring and Evaluation Advisor for GIZ Nigeria, and Research Assistant Consultant for 3IE. Martial holds an International M.S. in Rural Development from Ghent University, a M.S. in Agricultural Economics from the University of Ibadan, and a B.S. in both Agricultural Economics and Sociology-Anthropology from the University of Abomey-Calavi.
Martial has contributed to numerous projects across Africa, focusing on market-oriented value chains, and project impact evaluations. His technical expertise spans general economic modeling, data analysis and visualization, and survey design. Fluent in French and English, and with intermediate German, Martial is recognized for his collaborative mindset and exceptional communication skills.
He has presented his research at international conferences and has been honored with several academic scholarships and awards. His publications include studies on sustainable rice cultivation in sub-Saharan Africa and the relationship between remittances and household expenditure in Benin.

Dr Prasad Liyanage
Senior Researcher at the Heidelberg Institute of Global Health

Contact: prasad.liyanage@uni-heidelberg.de

Dr Prasad Liyanage is a medical doctor and epidemiologist originally from Sri Lanka. With over 15 years of experience as a public health specialist, he has focused on the surveillance, prevention, and control of vector-borne diseases in tropical countries. Currently, he is a postdoctoral research scientist attached to the Climate Change and Health Intervention Working Group at the Heidelberg Institute of Global Health, Heidelberg University Hospital. His work involves developing climate change adaptation interventions for the most vulnerable populations in sub-Saharan Africa.
Dr Liyanage employs experimental and quasi-experimental designs to conduct large-scale causal impact evaluations of interventions in the housing, urban design, infrastructure, and food sectors. His goal is to understand how these interventions affect outcomes, including infectious diseases. In Burkina Faso, he supports a randomized controlled trial under the DFG-funded program on climate change and health. This trial tests the effectiveness of passive housing interventions, such as cool roofs, and examines their impact on health, environmental, and economic outcomes in a rural sub-Saharan African setting.

Dr Martina Maggioni
Lead Scientist and Co-PI of the Center for Space Medicine and Extreme Environments Berlin, Charité – Universitätsmedizin Berlin
Contact: martina.maggioni@charite.de

Martina A. Maggioni is a physiologist who focuses on human adaptations to extreme environments. She has accumulated experience in the development of methods of cardiovascular biosignal analysis. She is especially knowledgeable in the interpretation of the response of physiological control mechanisms to different conditions, in autonomic diseases, ageing, or living in extreme environments, including space-missions.
She is habilitated as a full Professor of Physiology at the Charité - Universitätsmedizin Berlin, where she is currently working as a senior research associate. Martina A. Maggioni is leading several projects granted by different institutions including for example European Space Agency (ESA), German Aerospace Center (DLR), Wellcome trust foundation and the German Research Foundation (DFG). Specifically, in the frame of the DFG-established Research Unit 2936 (2020-2025), she is leading as a co-PI the individual project "Climate change, heat stress and their effects on health and work capacity in vulnerable groups". During her career she developed extensive experience in exercise physiology, studying the effects of exercise on the cardio-respiratory and metabolic profiles in healthy, athletic, older and pathological subjects, with many studies on the autonomic control of heart rate and blood pressure. Martina A. Maggioni has also history of active collaboration in the design, validation and realisation of advanced miniaturised devices for recording the individual level in real-life settings physiological parameters in a variety of environmental conditions.

POLICY DIALOGUE: HOW (PROJECTS LIKE) THE GLOBAL CENTRES CONTRIBUTE TO BETTER HEALTH AND BETTER CLIMATE

What is the contribution of programmes like the Global Centres to overcome the climate crisis and to reach better health world-wide? What further support can German policymakers provide to strengthen international scientific cooperation? What can the DAAD and the Global Centres do to make the Centres even more politically and socially relevant in their second funding phase?

WELCOME AND PANELLISTS

Anke Reiffenstuel
Director for Education and Science Diplomacy, German Federal Foreign Office

(born on 7 October 1968 in Halle, married, 3 children)
Director for Education and Science Diplomacy at the Federal Foreign Office in Berlin since August 2023.
From 2019 to 2023 she was Ambassador at the German Embassy in Manila.
From 2012 to 2019 she was first Deputy and then Head of the Division of Humanitarian Assistance, Crisis Prevention, Humanitarian Demining (Operations), Stabilization and Post-Conflict reconstruction at the Federal Foreign Office in Berlin.
Anke Reiffenstuel has worked in the diplomatic service since 1993; her postings included the German embassies in London, New Delhi, Cairo and Manila.
During her first two years as German Ambassador in the Philippines she had the chance to get to know different places, where she met with Representatives and Officials to not only strengthen the bilateral relationship between both countries, but also to get to know better its people and their culture. Her journey lead her to Mindanao, Iloco South & North, Cebu, Palau, Cavite, Negros, Bohol, Zamboanga, Davao and Mindoro.
Anke Reiffenstuel studied German and English studies at the Martin-Luther-University Halle and has a MA . in German and Literature studies.

Dr Kai Sicks
Secretary General, DAAD

Kai Sicks, born 1976, studied German Studies and Political Sciences in Frankfurt/Main, Cologne and Vienna. In 2008 he completed his Ph.D. in German Literary Studies. He was a research scholarship holder at the German Historic Institute in Washington, D.C. and at Cornell University (USA).
From 2008 until 2013 Dr Sicks acted as coordinator of the European PhD Network in Literary and Cultural Studies (PhDnet) at the International Graduate Center for the Study of Culture (University of Giessen) with partner organizations in Bergamo, Helsinki, Lissabon and Stockholm.
In 2013 Dr Sicks became managing director of the Bonn Graduate Center, the central service unit for early-career researchers at the University of Bonn. As of 2017, he was appointed as director of the University of Bonn's International Office. In this position, Dr Sicks co-authored the University of Bonn's Excellence Strategy and acted as Bonn's project manager of the European University of Brain and Technology (NeurotechEU).
In April 2021 Dr Kai Sicks was appointed as Secretary General of the German Academic Exchange Service (DAAD).

CHAIR

Dr Christina Berndt
Süddeutsche Zeitung

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Dr Christina Berndt works as an author, journalist and speaker on topics like medicine, psychology and life sciences. Since 2000 she has been part of the editorial staff of the Süddeutsche Zeitung. After studying biochemistry in Hanover and Witten/Herdecke, she wrote her doctoral thesis at the German Cancer Research Centre in Heidelberg, for which she received the doctoral prize of the German Society for Immunology. She has also received numerous awards for her journalistic work, including the European Science Writers Award, the Wächterpreis der Tagespresse (Guard Prize of the Daily Press) for her revelations of the transplantation scandals, the Media Award of the Stiftung Gesundheit (Health Foundation), the Dr Georg Schreiber Award for Science Journalism and an honorary award from the German Association for Psychiatry, Psychotherapy and Psychosomatics for sustained good reporting on mental health. She has been named Journalist of the Year several times, most recently Science Journalist of the Year 2021. Her books on "Resilience", "Contentment" and "Individuation" have become bestsellers.

PANELLISTS

Dr John Amuasi
Head of Department of Global Health at the Kwame Nkrumah University of Science and Technology (KNUST)
G-WAC
Contact: amuasi@kccr.de

John AMUASI is based at the Kwame Nkrumah University of Science and Technology, where Heads the Global Health Department of the School of Public Health and Leader of the Global One Health Research Group at the Kumasi Center for Collaborative Research in Tropical Medicine (KCCR). He holds a W2 Professorship of Global One Health at the Bernhard Nocht Institute of Tropical Medicine and the University of Eppendorf in Hamburg, Germany, is an adjunct Professor at the University of Minnesota School of Public Health in the USA, and an Honorary Visiting Research Fellow in Tropical Medicine at the University of Oxford in the UK. For over 20 years, he has engaged in Tropical Medicine and Global Health research - including in malaria, NTDs, AMR and One Health. He has also consulted for several Global Health-focused organizations and supported civil society organizations with technical expertise on matters related to access to drugs, vaccines, and diagnostics, as well as strategic advice related to Global Health research. He further serves as Co-Chair of The Lancet One Health Commission, and as a regular technical advisor/contributor to several Global Health organizations. He is passionate about mentorship and sustainably building health research capacities in Africa.

Prof Dr Mukand Babel
Professor for Water Engineering and Management (WEM)
at the Asian Institute of Technology (AIT)
ABCD
Contact: msbabel@ait.ac.th

Dr Mukand S. Babel is a Professor of Water Engineering and Management (WEM) and Director of the Centre for Water and Climate Adaptation (CWCA) at the Asian Institute of Technology (AIT), Thailand. He is also an Adjunct Professor at UNU-FLORES, Germany, an Honorary Professor at the University of Exeter, UK, an Honorary Professor at IIT Guwahati, India, and a Visiting Professor at IIT Roorkee, India. His professional experience in teaching, research, and consultancy spans 40 years, mainly in Asia in the fields of hydrological and water resources modeling; integrated water resources management; water supply and sanitation; climate change impact and adaptation; flood and drought analysis, forecasting, and management and water-energy-food nexus. He has co-authored more than 200 journal articles in high impact factor international journals with the current h-index of 46. He was recognized among the top 2% of influential scientists globally in Environmental Engineering in the annual rankings published by Stanford University in October 2023. He was among the world's top 1000 influential climate scientists in the Reuters Hot List published in April 2021. He appeared in the top 2% list of scientists worldwide for research impact based on 2019 achievements in Engineering. Dr Babel received the 2018 International Award from the Japan Society of Hydrology and Water Resources.

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Ruppert Stüwe
Member of the German Parliament and Member of the parliamentarian Sub-committee for Global Health, SPD

Since 2021, Ruppert Stüwe is serving as member of parliament in the German Bundestag, rep-resenting the Social Democratic Party. In the Committee on Education, Research and Technology Assessment, he acts as rapporteur for international education and research policy, health re-search, digitalization and research data infrastructures. Furthermore, he serves in the Subcom-mittee on Global Health, the Petition Committee and as a substitute member in the Budget Com-mittee and the Transport Committee. Mr Stuewe is an economist by training, and studied at the University of Passau, the Masaryk University in Brno/Czech Republic and the Freie Universität Berlin. Before joining the German parliament, he was inter alia acting as head of strategy for the Berliner Verkehrsbetriebe, Germany's largest public transport company.

POLICY DIALOGUE: REALIZING CLIMATE FUTURES: HOW TO CLOSE THE GAP BETWEEN KNOWLEDGE AND ACTION

The aim of the Global Centres is to have practical relevance and to contribute to realize imaginaries of climate future. But how can we ensure and promote that knowledge created in the Centres is transferred to society, politics and business? What is important for being politically and socially relevant? How to best get our scientific knowledge applied? Practitioners and activists will talk about their engagement and discuss the way forward.

CHAIR

Prof Dr Christian Borgemeister
Director of the Center for Development Research (ZEF) at the University of Bonn
AFAS
Contact: cb@uni-bonn.de

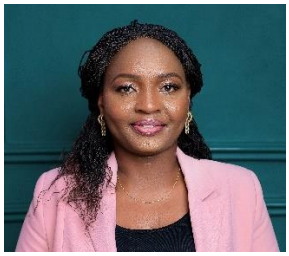
Christian Borgemeister is a Director of the Center for Development Research (ZEF) (www.zef.de) and Professor for Ecology and Natural Resources Management at the University of Bonn, Germany. He was appointed in 2013 at ZEF, and from 2014 to 2022 also served as Managing Director of the Center. Prior he was the Director General of the International Centre of Insect Physiology (icipe - www.icipe.org), a Nairobi, Kenya headquartered pan-African R&D Centre. CB is a trained entomologist and has lived and worked for >20 years in West and East Africa, South East Asia and Latin America. He is a Fellow of the African Academy of Sciences, the Royal Entomological Society, the Entomological Society of America (ESA), Member of the Council of the International Congress of Entomology and from 2020-2023 was the Chairman of the Board of the International Institute of Tropical Agriculture (IITA – www.iita.org). CB has been the recipient of the 2011 International Plant Protection Award of Distinction of the International Association for the Plant Protection Sciences (IAPPS), and the 2015 Distinguished Scientist Award of ESA's International Branch. He has authored and co-authored > 250 papers in peer-reviewed scientific journals, with > 9,500 citations and an h-index of 52, has co-authored a book on biological control in Africa, and has written > 10 chapters for different scientific books.

PANELLISTS

Nada Majdalani
Director of EcoPeace/Friends of the Earth Middle East, PhD Fellow SAGE-Centre

Contact: nada@ecopeaceme.org

M.Sc.in Environmental Assessment and Management from Oxford Brookes University, the UK. Specialized in the field of environmental management, she is a PhD Candidate at the University of Hamburg as part of the DAAD Research Centers Scholarship programme. she served in leading technical positions with several international agencies in the areas of infrastructure development, mainly water and sanitation, solid waste management, sustainable and clean production as well as various tasks on institutional capacity building and policy advisory support, as well as technical assistance to SMEs. As a strong believer in the impact of proactive dialogue that brings parties in conflict closer, she had been part of several affiliation of Palestinian-Israeli youth groups as a moderator and activist including the OneVoice Movement and the Palestinian-Israeli Young Entrepreneurs Forum. Mrs. Majdalani presented before various prestigious international platforms, including the UN Security Council, NATO, Planetary Security Conference, World Water Week, Berlin Climate Security Conference and Brookings Institute.



Esther Mutuma
CEO of the Boreka social enterprise, Kenya

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Esther is a Kenyan Citizen working in the climate change industry in Africa. She graduated with a Bachelor's Degree in Economics from the University of Nairobi & a Masters Degree in Social Enterprise and Community Development from the University of Cambridge, United Kingdom. She also holds a Certified Public Accountants Qualification (CPA-K). Esther's vision is to create a platform of bankable climate resilient & rural development projects, for communities to participate in sustainable land use management in climate action.
Her career spans 15 years of senior management in the banking, manufacturing & development sectors. She is currently leading Boreka Group as the Founder & Chief Executive Officer. Boreka works in partnership with civil society organisations, indigenous groups, and women's associations as key stakeholders. A successful C-Level Executive, she has had interactions at global policy levels to contribute to the design & implementation of policies specifically in the Climate Change arena. Esther is a member of the Kenya Private Sector (KEPSA) Environment Sector Board. In this respect, she engaged in the Pre COP 28 deliberations for inclusion in the final COP 28 declarations. Esther also served for 3 years on the AMREF Kenya Board Committee championing the climate health nexus.
Esther provides strategic leadership for aspects of Goal 13 of the SDGs by championing adoption of Nature Based Solutions to unlock carbon financing & innovations to support community participation. Esther is skilled in leadership, policy development, problem solving, critical thinking & professional networking; with competencies in resource mobilisation and execution & in depth knowledge of project development.

H.E. Yadir Salazar Mejía
Ambassador of Colombia to Germany

Ambassador Yadir Salazar Mejía has been serving as the Ambassador of Colombia to Germany since October 2022. She has had a distinguished career in the public sector of Colombia, including roles such as Chief of Staff at the office of the Vice President of the Republic of Colombia; various responsibilities within the Diplomatic Career, such as Director of Economic, Social, and Environmental Affairs, among several others, and at the Ministry of Industry, Trade, and Tourism of Colombia as the Coordinator of negotiations for Colombia's free trade agreements with Canada, EFTA, and the European Union. Ambassador Mejía holds an undergraduate diploma in Finance and International Relations from Universidad Externado de Colombia, a postgraduate degree in European Economic Integration from the University of Saarland, Europa-Institut, Saarbrücken, Germany, and certificates from Harvard University in Environmental Management and Global Climate Change.

Nouhou Zoungrana
Member of the National Coordination Office for the Great Green Wall Initiative in the Sahara and Sahel, Burkina Faso and Climate activist, AFAS Alumnus

Contact: nouhou.zoungrana@gmail.com

Zoungrana Nouhou, from Burkina Faso, is a geographer with a Master degree in "Climate Change, Biodiversity and Ecosystem Services". Passionate about environmental sciences, Zoungrana is actively involved in various youth organisations and has extensive experience in youth organisations working on environmental issues and the water-climate-agriculture nexus. He is dedicated to addressing the dual crises of climate change and biodiversity loss through sustainable solutions, community engagement, and advocacy for climate justice.
As an environmentalist he is involved in the Great Green Wall Initiative in Burkina Faso. His expertise in managing nature-based solutions, sustainable agriculture, sustainable land management and stakeholder engagement, has contributed to significant advances in food security and poverty reduction, also driving environmental and social change.

WORKSHOP: REIFYING RESILIENCE: TRANSLOCAL LEARNINGS FROM COASTAL/DELTA CITIES OF SOUTH AND SOUTH-EAST ASIA

Rotating Roundtables. In a personal setting, participants will exchange on practice-based questions posed by the different table hosts. After three rotating rounds that build up on each other, the table hosts will report back and open up a wider discussion.

MODERATOR

Dr Katleen De Flander
Researcher Technische Universität Berlin

Contact: deflander@tu-berlin.de

Dr-Ing. Katleen De Flander is one of the scientific coordinators of the Global Center of Spatial Methods for Urban Sustainability - SMUS (gcsmus.org), based at TU Berlin. She is an urbanist with focus on tackling the urban polycrisis and advancing socio-ecological transformations within contemporary complexities. She recently worked as a post-doc researcher at K LAB, TU-Berlin, focusing on the intersection of critical mapping, socio-environmental transformation, and municipalist movements in the project CMMM (cmmm.eu). Other projects are Mapping Change (labor-k.org/vw-mapping-change/) and Critical Urban Agenda: Rethinking the Urban (criticalurbanagenda.de).

Prof Dr Wiwandari Handayani (also Table Host)
Researcher, Lecturer and Head of Department
Department of Urban and Regional Planning, Faculty of Engineering at the Diponegoro University

Contact: wiwandari.handayani@pwk.undip.ac.id

Wiwandari Handayani is a professor at the Department of Urban and Regional Planning, Faculty of Engineering – Diponegoro University. She graduated with a bachelor's degree in urban and regional planning (UNDIP), master's degrees in urban and regional planning (ITB) and population studies (ANU-Australia), and holds a doctoral degree from the University of Stuttgart – Germany in Regional Development Planning. She has been actively involved in works related to urban sustainability and resilience since 2011. She was on the team of the Asian Cities Climate Change Resilience Network (ACCCRN)-Rockefeller program in Semarang City and performed as M&E coordinator for several projects implemented in 2011-2014. She contributed ideas and insights for promoting a Resilient City in Semarang and some other areas in Indonesia since 2015. Currently, she has been engaging in several networks including GCSMUS focusing on SDG 11 and NUPS focusing on Migration and Climate Change supported by the German government, and awardee of some research grants including KONEKSI from the Australian Government, KOICA-South Korea, and LUCE-USA.

TABLE HOSTS

Dr Johannes Herbeck
Researcher and Lecturer at the Bremen University

Contact: herbeck@uni-bremen.de

Johannes Herbeck studied geography, political science and sociology at the LMU, Munich. He has worked with GIZ in Sri Lanka and the Leibniz Center for Tropical Marine Research (ZMT) in Bremen. Since 2008, Johannes Herbeck is researcher at the Sustainability Research Center (artec) at Bremen University and works as lecturer at the Department of Geography, Bremen University. He has coordinated interdisciplinary research projects on the connections between rapid environmental changes and migration in coastal areas of Ghana and Indonesia, and on the mobility of adaptation policies in coastal megacities of Island Southeast Asia. His main interests are urban political ecology, infrastructures of coastal adaptation, mobility and migration research, and more-than-human geographies.

Dr Khairul Hisyam Kamarudin
Researcher and Lecturer at the Faculty of Built Environment and Surveying at the Universiti Teknologi Malaysia

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Khairul Hisyam Kamarudin is a senior lecturer in the Department of Urban and Regional Planning at UTM and an active member of the Disaster Preparedness and Prevention Centre (DPPC) at the Malaysia-Japan International Institute of Technology, UTM Kuala Lumpur. He holds a Doctorate in Planning from Oxford Brookes University, UK, and both bachelor's and master's degrees in Urban and Regional Planning from UTM. His research interests include regional and rural planning, sustainable rural development, disaster education, and community resilience planning. Between 2016 and 2024, Khairul conducted research on the APEC Cities and Built Environments (BE) Strategy: Building Back Better in the Post-COVID-19 era (funded by APEC), a study on smallholders' transformation in Malaysia (funded by the National University of Singapore), and studies on community-led CBDRM (funded by MOHE). He was also involved in developing the National Rural Development Policy 2030 and the National Guideline for Disaster Resilient Cities in Malaysia. Khairul has authored several research books, including Community Resilience and Disaster Risk Reduction in a Changing Environment (UTM Press, 2024), Differentiation in Economic Performance of Rural Areas (UTM Press, 2023), and Introduction to Sustainable Community-Based Rural Tourism (UTM Press, 2016).

Dr Jenia Mukherjee
Researcher and Lecturer at the Department of Humanities
and Social Sciences at the Indian Institute of Technology Kharagpur

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Jenia Mukherjee is an Associate Professor at the Department of Humanities and Social Sciences, Indian Institute of Technology Kharagpur. Her research spans across urban environmental history, urban political ecology and transdisciplinary waters. She received the prestigious Carson Writing Fellowship (2018-19) from the Rachel Carson Center, Munich for completing her book Blue Infrastructures: Natural History, Political Ecology and Urban Development in India. She was awarded the Salzburg Global and Nippon Foundation Fellowship (2020), Japan-India Transformative Technology Network to advance her urban ecological research in collaboration with urban practitioners and global think tanks. Jenia is an active Global Center of Spatial Methodology on Urban Sustainability partner, investigating several urban ecology projects funded by DAAD. She is also leading several other international projects funded by Swiss National Science Foundation (Switzerland), Social Sciences and Humanities Research Council (Canada), Water Development Partnership Programme (IHE-Delft), etc., exploring coastal livelihoods dynamics in the Sundarbans and urban deltas and wetlands of India, Indonesia, European and African countries. In August 2021, she was offered the Institute Faculty Excellence Award for her outstanding research and teaching performance.

Prof Dr Jakkrit Sangkhamanee
Researcher, Lecturer, Deputy and Dean of Academic
Affairs, Department of Sociology and Anthropology,
Faculty of Political Science at the Chulalongkorn University

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Jakkrit Sangkhamanee is an associate professor of anthropology at Chulalongkorn University's Faculty of Political Science in Bangkok, Thailand. He received his PhD in Anthropology from the Australian National University, with his dissertation focusing on the entangled relations between multiple ontological actors in the construction of knowledge on water management in the context of Thai environmental politics.
His work focuses on STS, specifically hydrological engineering projects related to Thai state formation. His latest publications include "An Assemblage of Thai Water Engineering: The Royal Irrigation Department's Museum for Heavy Engineering as a Parliament of Things" Engaging Science, Technology and Society, Vol.3 (2017): 276-291; "Infrastructure in the Making: The Chao Phraya Dam and the Dance of Agency" in TRaNS: Trans-Regional and -National Studies of Southeast Asia, 6(1).; and "Bangkok Precipitated: Cloudbursts, Sentient Urbanity, and Emergent Atmospheres" East Asian Science, Technology and Society: An International Journal (EASTS), Vol.15 Issue 2 (2021).

WORKSHOP: IMAGINARIES OF INSIDE-OUT PLACE MAKING: SENSING, DESIGNING AND TRANSFORMING (URBAN) SPACES WITH HUMANS AND THE NON-HUMAN WORLD FOR SUSTAINABLE AND CLIMATE RESILIENT FUTURES

Facilitated workshop enabling participants to engage with each other in order to brainstorm and ideate co-creatively. The three convenors will be moderating through the various phases of the workshop working in pairs, groups, plenary. Outcome: highlighting a rather neglected, at best implicit topic; connecting discourses from global south and global north about imaginaries; learning from each other's perspectives, cross-culturally; networking from across the world.

CHAIR

Dr Christoph Woiwode
Visting professor at the Indo-German Centre for Sustainability,
Indian Institute of Technology Madras

Contact: woiwode@igcs-chennai.org

Christoph Woiwode is a senior researcher at Leibniz Institute of Ecological Urban and Regional Development, where he is working in the URBNANCE research group that investigates human-nature partnerships in urban contexts. Having graduated in urban and regional planning (TU Berlin) and social anthropology (FU Berlin), Christoph holds a PhD in Planning Studies from the Development Planning Unit, University of London. He has accumulated more than 25 years experience of working and living in India, especially during his tenure as resident visiting professor at the IGCS – Indo-German Centre for Sustainability, IIT Madras (2013 – 2024). Previously, he was a Senior Lecturer in Human Geography at Bath Spa University, UK (2017-2019) a lecturer at the Faculty of Spatial Planning, TU Dortmund, Germany (2008-2012), and a planning advisor with the German development agency in Sri Lanka (2005-2007). His research areas cover sustainable urbanisation, climate change and disaster risk mitigation, urban socio-cultural change and transformation, theory and practice of urban planning and governance, international development, India/South Asia.

CO-CONVENORS

Keya Chakraborty
Associate Professor at the Srishti Manipal Institute of Art Design and Technology at the Manipal Academy of Higher Education

Contact: keya.chakraborty@manipal.edu

Dr Keya Chakraborty brings over 18 years of experience in academia to her role as a faculty member and researcher at Srishti Manipal Institute of Art, Design, and Technology, MAHE, Bengaluru, India. As a recognized Critical Geographer, her passion lies in exploring the connections between human society and the environment. Currently, she serves as the Post-graduate Head of Studies for Information Arts and Information Design Practice (IAIDP), shaping the educational experiences of future design professionals. Her leadership extends beyond the classroom as she spearheads the Centre for Reimagining Transitions, a hub for research exploring innovative approaches towards transitions and its challenges.
Dr Chakraborty embarked on her research journey with a Ph.D. in Urban Planning from the Indian Institute of Technology, Kharagpur, India. Following her PhD, she pursued postdoctoral research opportunities at two prestigious institutions: the Urban Transformations Lab at Sungkyunkwan University in South Korea and the Centre for Integrated Sustainable Technologies for Urban Planning (CiSTUP) at the Indian Institute of Science, Bengaluru, India. Presently, she is actively engaged with policymakers, NGOs, and experts in the critical fields of sustainability transitions, inequality, environmental issues, and design thinking. Her focus on place-based approach leads to publications in esteemed international journals and conferences.

Lalit Kishor Bhati
Co-Founder of the Planning and Architecture Towards Holistic Development and the Auroville Integral Sustainability Institute

Contact: lalit@auroville.org.in

Lalit Kishor Bhati, an Architect & Urban Planner, is based in Auroville (South India) for the last 25 years. He is an executive & Co-Founder of studio PATH Architects & Planners, along with Ar Shailaja.
Based on the spiritual vision of its founders, Auroville is an inspiring exploration of collective integral living & has promising elements of 'a learning society' and personifies 'City is a Living Curriculum'. Offering itself as an experimental playfield for 'Human Unity', Auroville could be seen as a startup for integral collective living having a wide range of sustainable practices & initiatives.
www.auroville.org
Cities are living curriculum in a true sense.

Lalit has had the privilege of having firsthand experience of 25 years while being part of this evolving city (Auroville) & society & being engaged in planning, development, collective self-governance, architectural & diverse range of learning activities. He firmly believes that Auroville's vision, charter & Living Lab oriented integral sustainability practices could offer significant clues in making our cities & citizens more engaging & empowering.
Apart from working on Auroville's Master Plan, Lalit has been engaged in organising related learning & educational activities at Auroville for groups from India and abroad & can be approached for the same.

CLOSING SESSION

CHAIR

Petra Bogenschneider
Head of Section “German Transnational Education Projects in the Middle East, Africa, Latin America”, DAAD

Contact: bogenschneider@daad.de

Ms. Petra Bogenschneider is head of the section "German Transnational Education Projects in the Middle East, Africa, Latin America" at the German Academic Exchange Service (DAAD) in Bonn. The section is responsible for managing regional projects in the field of German transnational education and for the transregional centre programmes "Centres of Excellence in Research and Teaching" and, since 2020, for the "Global Centres for Climate and Environment” and “Global Centres for Health and Pandemic Prevention ".
In 2014, Ms Bogenschneider started her career at the DAAD in the DAAD Cairo Office. Before she took up her current position at DAAD Bonn in April 2022 she worked as programme manager for a scholarship programme for refugees from Syria and team leader of German Studies Projects and the worldwide DAAD network of Centres for German and European Studies.

RAPPORTEURS

Prof Dr Jürgen Stamm
Member of the Academic Advisory Board

Director of the Institute of Hydraulic Engineering and Technical Hydromechanics, Technische Universität Dresden
ABCD-Centre
Contact: juergen.stamm@tu-dresden.de

Doctor of Engineering with more than 30 years of research experience, such as on the morphology of watercourses, the functioning of spillways and operating facilities, synergies between flood protection and natural watercourse development, flood protection in inland and coastal areas, material behaviour of bituminous or synthetic resin-based sealants, wave effects, backwash effects on revetments and riverbeds, influence of groynes on riverbed structures. University Professor of Hydraulic Engineering, Dean of the Faculty of Civil Engineering, Speaker of the School of Civil and Environmental Engineering at the Dresden University of Technology (TUD) in Germany. In the wake of climate change, my research now focuses on adapting hydraulic engineering for a more sustainable future and water security.

Prof Dr N'golo Abdoulaye Koné
Member of the Academic Advisory Board

Senior researcher and lecturer, University Félix Houphouet Boigny and University Nangui Abrogoua
AFAS
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Lecturer and researcher at the University Félix HOUPHOUËT-BOIGNY
I am trained in ecology and biodiversity conservation
Deputy Director of the Graduate Study Program WASCAL/CEA-CCBAD Doctoral Course on Climate Change and Biodiversity (University Félix HOUPHOUËT-BOIGNY).
Director of the Research Station in Ecology of the Comoé National Park (North-eastern Côte d'Ivoire).
Co-Principal Investigator of the African Centre on Climate and Environment - Future African Savannahs (AFAS).
Coordinator of the Master in Management of the Science, Policy and Practice Interface in Biodiversity, Ecosystem Services and Climate Change.

Prof Anan Jayousi
Director of the Energy water and food security center, An-Najah National University
SAGE-Centre
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Professor Jayyousi has over 30 years of proven experience in water and sanitation sector in the fields of planning, regulation, institutional frameworks, investment analysis from leading and participating in different national, regional and international projects. He has proven expertise dealing with water management and capacity building issues. Professor Jayyousi experience in water related issues covers Palestine, Jordan, Libya, Tunisia and Egypt. He has a distinctive combination of expertise of water and sanitation and has cumulative experience with different donors and governmental authorities. In particular Palestinian water Authority (PWA), Palestinian National Authority, United Nation Development Program (UNDP), USAID, World Bank, Canadian International Development Agency (CIDA), Water Resources Action Program (WRAP), UNESCO, TAMKEEN and German Agency for Technical Assistant (GIZ) and others. He served as a member of the Board of Directors of the Water Sector regulatory Council and at present he serves as the Chair holder of the UNESCO Chair on Sustainable water Resources Management and the director of Energy, Water and Food Security Research Centre of An-Najah National university.

Dr Michelle Pressend
Academic Coordinator African Hub at the University of Cape Town

TRAJECTS
Contact: michelle.pressend@uct.ac.za

Michelle Pressend, PhD is currently the TRAJECTS - Transnational Centre for Just Transitions in Energy, Climate and Sustainability Academic Coordinator of the African Regional Hub based in the Department of Chemical Engineering at the University of Cape Town (UCT). She lectured Environmental Sociology at UCT in the past five year. She designed and lectured a course in African Feminist Studies at UCT focused on the gender and the politics of development. She has worked as a researcher, policy analyst, and activist on environmental and socio-economic justice primarily within the non-governmental sector for over twenty years. She also served in national government during the World Summit on Sustainable Development. Her PhD in Anthropology, argues that relational energy transitions, which considers pluriversality is needed to address the climate crisis. Relational perspectives pay close attention to power relations, politics, materiality, and exclusions. Values that are respectful, regenerative, and reciprocal to nature and each other constitute the concept of relationality. Her research approach engages with soil and land history/memory and what can be learnt from the changes in land to address the social-ecological crises differently to the dominant techo-scientific 'fixes'.

Short Profiles and Abstracts of Individual Presenters

BALANCING THE THREE PILLARS OF SUSTAINABILITY (ECONOMIC VIABILITY, ENVIRONMENTAL PROTECTION, AND SOCIAL EQUITY) UNDER CHANGING CLIMATIC AND SOCIAL CONDITIONS

CHAIR

Prof Dr Sameer Shadeed
Faculty member at the An-Najah National University
SAGE-Centre
Contact: sshadeed@najah.edu

Prof Sameer Shadeed is a full Professor of Water Resources in the Civil and Architectural Engineering Department at An-Najah National University, located in Nablus, Palestine. Since 2008, Prof Shadeed has been actively engaged in research and lecturing in the field of water resources modeling and management. He has conducted various types of research, including hydrological modeling, rainwater harvesting, climate change, water quality, and agricultural best management practices. Additionally, he has supervised the work of several graduate students in the fields of water and environmental engineering, as well as environmental sciences. His teaching portfolio encompasses both graduate and undergraduate aspects of water resources quantity and quality, with a focus on hydrological processes and systems, natural resources management, soil-water-plant relations, irrigation and drainage, and GIS. Finally, Prof Shadeed has worked as an independent freelance consultant for several national and international consulting companies and firms in the fields of water, environment, and strategic planning.

PRESENTERS

Urban Green Space Management under Climate Change

Razan Al-Hmoud
PhD student at the University of Tübingen

SAGE-Centre
Contact: razanalhmoud@hotmail.com

I am currently pursuing my Ph.D. at the University of Tübingen, and I'm proud to be a recipient of the DAAD's support for my research. My focus revolves around the field of "GIS mapping of urban biodiversity on green roofs in Amman, Jordan," under the guidance of Prof Dr Katja Tielbörger. My research interests span a diverse array of topics such as Urban planning, Urban greening, Ecology, Landscape, Land use, Green space, Green roofs, Urban Gardening, Habitat, Biodiversity, Extinction, Deforestation, Climate change, SDGs, GIS & Remote sensing, Geographical, Management and Socio-economic factors. Before embarking on my doctoral journey, I spent nearly seven years applying my expertise and skills at Sönnichsen & Weinert, an engineering office in Minden, Germany. During my tenure there, my responsibilities encompassed many areas, including bluegreen planning, biotope mapping, river renaturation, and flood protection planning. This valuable experience has equipped me with a holistic perspective on environmental and urban planning. I hold a Master's degree in IWRM and a Bachelor's degree in Architecture, which has endowed me with a unique perspective on the built environment and managing our planet's resources.

Abstract:
Urban expansion contributes to green space degradation and harms biodiversity. Urban areas are also major contributors to climate change, accounting for 70% of CO2 emissions. This needs to be changed. Green space management includes the enhancement of green space quantity, quality, and accessibility. This requires new solutions, but first, we must change our mindset by shifting from Anthropocene (age of humans) to Symbiocene (age of all living beings). Nature-based solutions (NBS) are solutions that are inspired by nature, which are cost effective, provide environmental, social, and economic benefits, and help build resilience. NBS, such as Green Roofs (GR) or what so called Hortitecture (Architecture mixed with Gardens), advocate planning future cities closer to nature. GR are a promising climate adaption strategy to compensate degraded lands, beside improving microclimate, increasing building energy efficiency, and reducing floods. They support biodiversity by creating new habitats. GR are beautifying cities, making them more liveable, enhancing human well-being, and improving public health by adding meeting points for socializing and relaxing. They can also contribute to food security, create new jobs, and be source of additional income by implementing urban roof gardening. This can motivate local communities to take back responsibility of green spaces. Accordingly, GR are closely linked to the three pillars of sustainability. Yet, their value is still debated, especially in countries where GR are uncommon. Jordan is an example where the benefit of GR can be large, but knowledge about their effects for climate mitigation and biodiversity protection is highly limited. We use Amman, one of the least ‘green’ cities world-wide as a test case for GR benefits. Green space is about 2.5 m2/ capita, and consequently, urban biodiversity is very low. We evaluate the potential of urban green space (roofs and balconies) as a function of geographical, managemental, and socio-economic aspects.

East and South African-German Centre of Excellence for Educational Research Methodologies and Management: University-Community Engagement Opportunities to Address Climate Change Issues in African Context

Mandela Nelson

PhD student at the Moi University, East and South African-German Centre of Excellence for Educational Research Methodologies and Management

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Mandela Nelson is a Ugandan Ph.D. candidate at the school of education, Moi University, Kenya perusing a Doctor of Philosophy in educational research and evaluation under a scholarship of German Academic Exchange Service (DAAD) and East and South African-German Centre for Educational Research, Methodologies and Management (CERM-ESA). Nelson holds a Degree in Masters of educational research, which he obtained from the University of Moi in 2019 under similar scholarship. Nelson is currently working on Higher Education engagement and climate change action (after working on school-community engagement in his Master's). His research interests are climate change education, sustainability, Higher education engagement and school-community engagement towards contemporary community challenges. Nelson is currently concluding research on University-Community engagement opportunities to address climate change in African contexts, using two African Universities. Nelson hopes that findings can guide university community engagement towards climate change action at each African university to pay attention to its institutional context like history, disciplinary focus, location, inclusion, mission, culture, indigenous knowledge, values and priorities.

Abstract:
Detrimental impacts of Climate Change (CC) have necessitated strong and growing impetus for University-Community Engagement (UCE) to facilitate and sustain carbon reduction strategies and practices by African higher education institutions. Taking urgent action to combat CC is based on the adaptation of the United Nations to the Sustainable Development Goals (SDGs) by 2030. Many African universities have embedded CC knowledge and programs in the first two university missions (Teaching and research), with a dearth of literature in the third mission (Community engagement). Thus, this study explored opportunities that universities can engage communities to address issues of CC (CC knowledge, mitigation and adaptation practices), particularly in an African context. A qualitative multiple case study design was adopted to generate data from 40 purposively selected university staff from Makerere and Ndejje universities, students of CC related programmes and community leaders. Data was collected through semi-structured in-depth interviews and focus group discussions with students. Data was analysed using Braun and Clarke's (2006) thematic analysis with the help of MAXDA software. This study was underpinned by Ubuntu theory. The results of the study revealed numerous UCE prospects for climate action like institutionalization of CE towards CC mitigation and adaptation, incorporation of Indigenous knowledge about CC mitigation and adaptations in mainstream academic and collaboration programs, leveraging traditional conversation spaces (Barazas) for UCE and pathways for sensitization, Community empowerment and income diversification as a key to building climate resilient communities, and synergetic approach for policy formulation and implementation. To effectively utilize these opportunities, CE at African universities requires each university to pay attention to its institutional context like history, disciplinary focus, location, ownership, mission, culture, indigenous knowledge, values and priorities, and national policy agendas. The conceptualization, implementation and sustainability of CE programs in African contextualized Higher Education Institutions (especially universities) should reflect indigenous epistemologies induced by African philosophies as its core foundations.

Climate Change Adaptation in Rangelands: Cost- Benefit Analysis of Contour Ridges as a Rainwater Harvesting Method

Ahmed Shaqfa
PhD student at the Brandenburg University of Technology (BTU)

SAGE-Centre
Contact: AhmedMM.Shaqfa@b-tu.de

I am Ahmed Shaqfa, currently in the second year of my Ph.D. program in Environmental & Resources Management with a specialization in Environmental Economics at BTU Cottbus-Senftenberg. My research, titled "climate change adaptation in rangelands: cost-benefit analysis of contour ridges as a rainwater harvesting method," is funded by the Sustainable Adaptation to Global Change in the Middle East (SAGE-Centre). My academic journey commenced with a bachelor's degree in environmental engineering, followed by a master's degree in water resources engineering. During my master's program, I received full funding for my research through the Middle East Desalination Research Center's (MEDRC) water research innovation initiative award. Concurrently, I contributed as a teacher assistant, specifically for ground water modeling subjects. I am also an active member of the International Water Association (IWA) as an associated young water professional, boasting over 9 years of expertise in environmental and water engineering.

Abstract:
Rangelands in Jordan have been exposed to intensive degradation due to overgrazing and climate change events such as scarce and erratic rainfall, frequent droughts, and increased evapotranspiration rates. As a result, severe impacts are likely to increase, such as land cover degradation, loss of biodiversity, reduced fodder production, lowered carbon sequestration, increased soil erosion, and increased surface runoff. This research presents a case study conducted in Jordanian rangelands, focusing on the economic viability of contour ridges—a micro-catchment rainwater harvesting method—as a sustainable tool to adapt to climate change in degraded rangelands. The research delineated five conceptual classes at the sub-watershed level for the purpose of conducting economic analysis. These classes were constructed hypothetically through spatial analysis of key factors, namely rainfall, land slope, and soil organic carbon, which collectively influence the efficacy of contour ridges. The cost-benefit analysis (CBA) approach has been utilized to assess the benefits associated with four key ecosystem services: forage production, water availability, soil erosion prevention, and carbon sequestration. The CBA also considered the investment and management costs associated with both the construction and maintenance of contour ridges during the analysis period. The Soil and Water Assessment Tool (SWAT) model has been deployed to quantify water availability and sediment-related benefits, while the GRange model is employed for estimating forage production and carbon sequestration. Both models draw upon high-resolution remote sensing and historical climatic data to enhance the accuracy and robustness of their analyses. The estimates of costs and benefits are expressed in terms of present values, spanning a 15-year period.

Assessing Economic and Distributional Impacts of Restoring Degraded Rangelands in Jordan

Sawsan Abdul-Jalil
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Sawsan Abdul-Jalil is a PhD researcher with the International Agricultural Trade and Development group at Humboldt University in Berlin. And a lecturer (on leave)
in the Department of Economics at the University of Khartoum, Sudan, her doctoral research investigates the economic-environmental nexus in Jordan, focusing on examining the economic and distributional impacts of changes in ecosystem services using economy-wide models. Sawsan is also a fellow at the DAAD SAGE global center and the founder of the Sudanese Women Economists Association (SWEA).

Abstract:
This paper evaluates the potential impacts and trade-offs from sustainable management of Jordan's rangelands. These rangelands, serving as significant economic, environmental, and cultural resources in the country, have faced severe degradation due to many external and internal factors, including climate change and overgrazing, negatively impacting natural pasture provision. Livestock production is vital to Jordan's economy, contributing over half of the agricultural production and exports and serving as a primary income source for rural households. Therefore, restoring rangelands is a key policy objective. Our paper aims to explore the economic and distributional impacts of rangeland restoration, explicitly focusing on enhancing natural pasture provision as fodder, using a general equilibrium model framework in which simultaneous interactions and interrelations within the Jordanian economy are considered. To achieve this, we implement several database and model extensions, such as incorporating the value of natural pasture as a production factor and distinguishing between different extensive and intensive livestock production systems. Rangeland restoration is anticipated to have positive multiplier effects throughout the economy. With livestock production relying on purchased domestic and imported fodder, which constitutes a significant part of the feeding requirement, increasing natural pasture availability is expected to reduce livestock production costs by substituting purchased feed, increasing livestock production, and reducing meat and dairy prices. Rural poor households, predominantly engaged in pastoralism, are expected to experience welfare gains due to the increased demand for livestock. Moreover, reducing subsidized barley feed imports is also likely to improve the fiscal deficit. However, as Jordan is a net importer of feed, the growth in the livestock sector might decrease imports, potentially improving the trade balance. This paper offers valuable insights into comprehending the extensive implications of rangeland restoration, showcasing the interconnectedness between social, economic, and environmental aspects of development. The findings contribute to research and policy discussions relevant to the development of fragile rangelands and pastoralist communities in Jordan and similar contexts worldwide.

A Review of Energy Systems and Economic Modeling Tools Capable of Estimating the Finance Needs and Responses Relevant to Energy, Water, and Food Security in South Africa in the Face of Climate Change

Julia Tatham
PhD student at the University of Cape Town

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Julia is a development economist currently working at the Energy Systems Research Group and studying towards my PhD focusing on energy-economic hybrid and CGE modelling. She completed her master's in economics at the University of Cape Town focusing her thesis on energy poverty and indoor air pollution for which she received the Gunnar Kohlin award for best master's thesis. Since completing her master's she has worked as a researcher at the Environmental Policy Research Unit and as an energy advisor at Sustainable Energy Africa working on projects related to water and energy security in South Africa. Julias research interest include energy policy, the Just Energy Transition, hybrid climate economy modelling.

Abstract:
The water-energy-food (WEF) nexus approach is a comprehensive framework addressing the intricate connections among water, energy, and food systems. This holistic perspective recognizes the interdependencies of water security, food security, and energy security, emphasizing that policy actions in one sector impact the others. South Africa's power sector, while water-intensive, lacks large hydropower plants, minimizing the tradeoff between water use for energy production and agriculture. Instead, the key tradeoff lies in allocating limited funds for mitigating energy sector challenges versus adapting to climate-resilient water and agriculture systems. This paper offers a review of energy and climate economic modeling in South Africa. Existing tools for modeling the country's energy system and fully developed economy models are explored, with a focus on the limited number of hybrid climate economy models. Notably, the SATIMGE energy economy model, the most advanced of its kind for South Africa, assesses the mitigation investment required for an energy transition. However, it lacks insights into financial dynamics, climate damage factors, and spatial resolution. To comprehensively evaluate the macroeconomic and socio-economic implications of increased investment in climate-resilient water, energy, and food systems, both climate and financial risks must be considered. Additionally, spatial resolution in modeling tools significantly contributes to the accuracy of climate economy assessments. This paper critically reviews the SATIMGE model, proposing enhancements in addressing financial dynamics, incorporating climate impact assessments, and emphasizing the importance of spatial detail in future model development. It evaluates the modeling tools available to assist South African policymakers in understanding the tradeoffs between investment options and potential future model developments to increase the pertinence of Water Energy Food nexus modeling.

MANAGING WATER SECURITY (IN QUANTITY AND QUALITY) UNDER CLIMATE CHANGE IMPACT

CHAIR

Prof Erasmo Alfredo Rodriguez Sandoval
Associate Professor at the Universidad Nacional de Colombia
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Civil Engineer with an MSc and PhD in Water Resources. Currently an Associate Professor in the Civil and Agricultural Engineering Department at Universidad Nacional de Colombia (UNAL) and an Associate Researcher at UNAL's Environmental Studies Institute (IDEA). A Hydrologist specializing in macro-scale hydrological modeling and the use of reanalysis and remote sensing data for estimating precipitation, evapotranspiration, and discharge in data-scarce regions. I have extensive expertise in both urban and rural hydrological monitoring and modeling, as well as eco-hydrology, including environmental flow estimation and wetlands analysis. I am a keynote speaker at numerous international conferences and the author of over 25 peer-reviewed journal articles. With more than 30 years of experience in hydroclimatology, hydrology, hydraulics, environmental science, and sustainability, I am currently coordinating the Latin American Hub of TRAJECTS at UNAL.

PRESENTERS

Land Use/Cover Changes in the Ouémé River Basin, Benin Using Google Earth Engine and Random Forest Classifier

Ernestina Annan
PhD student at the Kwame Nkrumah University of Science and Technology (KNUST)

West African Science Service Center
for Climate Change and
Adapted Land Use (WASCAL)
Contact: ernestinaannan39@gmail.com

Ernestina Annan is a PhD student specializing in Climate Change and Land Use at the Kwame Nkrumah University of Science and Technology in Kumasi, Ghana. Her research focuses on assessing the potential impacts of climate and land cover changes on river basin hydrological processes. Ernestina holds a Bachelor of Science degree in Agricultural Engineering and a Master of Philosophy in Soil and Water Engineering.
Her academic journey is marked by a deep commitment to understanding and addressing the impacts of land management systems and climate change on agricultural and hydrological systems. Ernestina's research interests include eco-hydrological assessments, agricultural systems management, and the application of remote sensing technologies to monitor land cover changes.
She has made significant contributions to the field through her published study, "Spatio-Temporal Land Use and Land Cover Change Assessments: Insights from the Ouémé River Basin." This work explores innovative methods for analyzing and monitoring land cover changes using advanced cloud-computing technologies providing valuable insights for sustainable ecosystem and landscape management. Ernestina's dedication to advancing knowledge in climate change and land use is driven by her passion for creating sustainable solutions to complex environmental challenges.

Abstract:
The rapid increase in population and urban development are exacerbating the transformation of natural environments into unnatural forms. While detailed assessment of the environment is beneficial for efficient ecosystem system management, it can also be time and resources-consuming. This study aimed to map and quantify the spatio-temporal changes in land use and land cover (LULC) using the Ouémé River Basin as a case study. The supervised classification in Google Earth Engine (GEE) cloud-computing platform was employed to distinguish Landsat images for 1986, 2000, 2015 and 2023 into forest areas, settlements/bare lands, savanna areas (woodlands), agricultural lands and water bodies. Analysis of the LULC changes revealed that savanna areas and woodlands which were predominant in the basin in 1986 have steadily declined by 24 % in area in 2023. Forest areas have diminished by 4.3 % at an annual rate of 4 %. Agricultural lands have however grown exponentially by 28 % since 1986, with a more rapid increase between 2015 and 2023 at an annual rate of 3.7 %, driven by rising food demand due to population growth within and around the basin. Settlements and bare areas tripled in area, reflecting a similar trend to Benin's urban population growth. Accuracy statistics of the LULC classification showed overall accuracy and kappa statistic values above 90 % and 86 %, respectively, indicating the admirable performance and reliability of the Simple Composite Landsat algorithm for image composition, and the Random Forest Classifier for LULC classification approach applied in this study. The approach also demonstrates the robustness and potential of LULC mapping in large and complex ecosystems using the GEE cloud-based remote sensing tool, which is underutilized in the study area. Overall, the LULC trends provide beneficial insights useful to policy-makers and any other stakeholders involved in sustainable ecosystem management planning in the basin.

An Approach for Assessing the River Health under the Impact of Climate Change in the Songkhram River Basin, Thailand

Triambak Baghel
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Triambak Baghel, a Ph.D. student in Water Engineering and Management at the Asian Institute of Technology, Thailand, holds a Master's degree in Water Resources Development and Irrigation Engineering and a Bachelor's degree in Civil Engineering. With over 8 years of experience in the water and climate field, he has contributed significantly to water engineering, hydrological modeling, climate impact studies, and risk assessment. Currently focused on river health monitoring and assessment, his expertise includes the projection of land use/cover and climate change, utilizing remote sensing and GIS data for impact assessment studies. He received the ABCD Future Environmental Leaders Scholarships 2022 through the DAAD program and the Young Scientist Award from the Chhattisgarh Council of Science and Technology in 2017 under the Government of Chhattisgarh.

Abstract:
River health refers to the overall state of a river ecosystem. It includes a variety of physical, chemical, and biological aspects that impact the river's well-being and its ability to support aquatic life, while also providing essential services to human communities. Climate change have altered the river hydrological regime and threatened the health of river ecosystems. While predicting river health under climate change would be valuable for assuring water security to adapt to the changes, there is limited research on this topic. This research introduces a methodology for predicting river health under various climate change scenarios. This change was assessed based on projecting the precipitation and temperature using six global climate models of CMIP6 under SSP245 and SSP585 scenarios. The modified framework with 9 indicator, 4 dimensions and 1 index to assess the river health for present (1990–2019) and near-future (2021–2050) period is employed. Initially, a hydrological and water quality model were used to simulate the present and future runoff and water quality of the Songkhram River in Northeast Thailand. A response based on Indicators of Hydrologic Alteration, was employed to evaluate the biological status. The socio-economic status of the river is determined based on the ecosystem services derived from river. Lastly, assessing the impact of climate change on its overall health. Our findings indicate that the overall health of the Songkhram River Basin (SRB), is projected to decline in the future due to variation in river flow influencing the biological status, degradation in water quality and reduce in water availability for socio-economical need. The research will provide methodology for future river health assessment and will give scientific guidance for river managers for planning of adaptation measures for maintaining and conserving the health of river systems.

Optimization of Detention Reservoir Storage in Peri-urban Areas to Mitigate Riverine Flooding

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Elanchezhiyan Duraisekaran is currently pursuing his PhD degree in Indian Institute of Technology, Madras (IIT-M) in the Indo German Centre for Sustainability (IGCS). He completed his M.S. (By Research) from Anna University, Chennai after successfully defending his thesis titled, "Investigation of urbanisation impacts and flood mitigation". Continuing his research on flood management, he joined as a Project Associate in IIT-M at IGCS to work on climate change adaptation measures in the area of water resources especially on reservoir optimization. After joining PhD, he along with his research group undertook a rigorous field campaign to collect river flow and depth data along with pluvial flood marks during the 2021 and 2023 floods in Chennai. He is currently working on optimization of flood mitigation infrastructure to avert riverine flooding. In addition to research work, he is also actively involved in the development of Real Time Flood Forecasting for the city of Chennai. Elanchezhiyan has been interested in research from his undergraduate days when he worked on stabilization of clay using quarry dust. His research interests are mainly related to hydrologic modelling, remote sensing and spatial planning. Elanchezhiyan has published five peer-reviewed research articles in international journals in addition to a scientific correspondence.

Abstract:
Analysis of global data on riverine floods between 1951 and 2020 suggests that the severity is more pronounced in southern, eastern and south-eastern regions of Asia. In addition, climate change is expected to exacerbate riverine flooding. Hence, it is essential to devise appropriate adaptation strategies for flood mitigation, and hydrologic simulation studies are the only ways to assess the potential effects of flood mitigation. Although existing hydrologic models are very good for flood modelling, the optimization of flood mitigation infrastructure is not explicitly available in these hydrologic models. In this context, this research focuses on developing a methodology to arrive at the optimum size of a detention reservoir for flood mitigation by combining a hydrologic model - Hydrologic Engineering Centre – Hydrologic Modelling System (HEC-HMS) with a detention reservoir optimization framework. The calibrated and validated hydrologic model is used for the simulation of inflows which is given as an input to the detention reservoir optimization. The decision variables for the optimization are the surface area and depth of the reservoir, effective length and the sill level of the weir. The objective function is to reduce the peak discharge from the detention reservoir equal to or less than the carrying capacity of the channel downstream. The developed methodology was tested on a hydrograph generated for a 25-year return period storm in a 34.61 km2 watershed in the peri-urban area of Chennai, India. The results showed that for an inflow volume of 5.58 Mm3, the optimization reduced the peak discharge from 87.1 m3/s to around 50.2 m3/s by an optimized detention reservoir of 2.32 Mm3 storage capacity. The developed methodology can be further tuned to reduce the detention reservoir's storage capacity by incorporating better operation. Overall, the developed methodology can be applied to small watersheds in the peri-urban areas so that the combined effect can mitigate riverine flooding downstream in the urban area.

The Politics of Water Security in the Indus-Ganga Plains – and What it Teaches us for Today

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Abstract:
The Indus-Ganga plains cover the northern part of the Indian subcontinent and are bounded by mountain ranges like the Hindukush, the Himalaya, the Deccan, and the Arakan. They are mostly treeless and characterized by numerous tributaries to the three major rivers Indus, Ganga, and Brahmaputra as well as the south-west monsoon and extensive alluvium. These geographical conditions result in fertile soils. The plains were home to the early civilizations of the subcontinent and hosted many cultural and political centers throughout history. The adaption to water supplies, securing water, developing drainage systems, and the allocation of water played a very crucial role in expanding human settlements and agriculture over the plains and allowed for substantial population growth. For example, the Indus Valley Civilization (ca. 3300 – 1300 BCE) developed means to tame the floods of the Indus and designed comparatively big cities with a social order on a rather equal footing. The Vedic society (ca. 1500 – 500 BCE), which still influences several aspects of life in the region, used water in spiritual and symbolic ways – in addition to its agricultural and nutrient usage. During that period already, water became politicized through adding cultural significance and limiting to water for social groups and different types of usage. Therefore, “water security” – in the sense of both, a secure access to water supplies and the protection from water-related risks – has been an important political issue in the plains for around 3,000 years. This paper deals with selected historical examples on how water and water security were addressed in several sources over different eras and connects them to the present time, in which the extremely densely populated plains are confronted with a high risk of water shortages.

ENERGY TRANSITIONS (SUSTAINABLE POST-MINING FUTURES FOR FOSSIL-FUEL DEPENDENT REGIONS, IMAGINING SUSTAINABLE FUTURES FOR THE DEMOCRATISATION OF ENERGY PRODUCTION)

CHAIR

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PRESENTERS

Reimagining the Role of Intermediary Organisations to Promote Community-owned Renewable Energy in Low-to-middle-income Communities in South Africa and Colombia

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Juan Pablo Cárdenas is an environmental engineer from EIA University in Colombia and is completing a master's in Energy and Development Studies at the University of Cape Town in South Africa. He has experience in sustainability consulting, climate change mitigation and adaptation and user-centred renewable energy models. Juan Pablo is a researcher at Transactive Energy Colombia, an initiative that has developed Colombia's first peer-to-peer energy exchange and energy community pilots. He's collaborated with the IEA Users TCP, and his work has been published in Energy Research and Social Science, Energies, and IEEE Smart Cities, among others.

Abstract:
Energy communities are groups of citizens that actively participate in the electricity sector, usually with community-owned renewable energy generation. These models have been widely studied and implemented in developed economies. Experts conclude that they have the potential to promote just energy transitions by democratising energy production and enable communities to benefit from the renewable energy boom. However, there are fewer studies and implementations of these models in developing countries. Here it becomes critical to understand what barriers prevent low-to-middle-income communities from creating energy communities. Furthermore, it is necessary to understand what kind of support intermediary organisations can provide. This work proposes the role that intermediary organisations should play to support the development of energy communities. The barriers to developing energy communities were identified by analysing three case studies in South Africa and Colombia and conducting 20 interviews with experts in diverse fields from South Africa, Europe, Colombia, and Ecuador. This work concludes that intermediary organisations in these contexts must provide multi-faceted support across social, legal, technical, and financial dimensions to support communities. Finally, a social business model canvas looking into the characteristics of this type of organisation is presented.

The Barriers Influencing the Contribution of Biogas to South Africa's Energy, Climate and Sustainability

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Abiola Gboyega Kehinde is a PhD candidate and TRAJECTS (Transnational Centre for Just Transitions in Energy, Climate and Sustainability) Scholar at the Energy Systems Research Group (ESRG), Department of Chemical Engineering, University of Cape Town, South Africa. His research interests include sustainable energy systems, renewable energy technologies, waste management, energy management, and innovation systems analysis. Abiola holds a bachelor's degree in mechanical engineering from Olabisi Onabanjo University, Nigeria, and a master's degree in mechanical engineering from Stellenbosch University, South Africa. Before joining the University of Cape Town, he worked as an energy consultant in Nigeria and an energy analyst in South Africa, where he gained valuable experience in the energy sector. Abiola has published several articles in reputable journals and presented his research work at various local and international conferences. He is passionate about contributing to the development of renewable energy solutions and promoting sustainability in Africa.

Abstract:
The widespread use of fossil fuels (oil, coal, and natural gas) generates greenhouse gases responsible for the increase in the earth's average temperature. Biogas has been recognised by many countries as one of the means to produce sufficient lowcarbon energy, whilst also improving waste and resource management, thus contributing to the sustainability transition. However, the production of biogas in South Africa has been relatively low, and the uptake of the biogas technology remains slow. This study takes an innovation systems approach to identify blockages influencing the uptake of biogas technologies. A questionnaire is used for the analysis to identify the most critical barriers. Analysis of expert interviews is based on the ITEMIEST barriers (Institution, technologies, economic, market, information, environmental, socio-cultural, and technical). This study found that the barriers related to the system functions are key factors influencing the uptake of biogas in South Africa.

Technological Opportunities for the Closure of Solar Parks in the Vida Cesar-Magdalena Corridor, which Facilitate Community Use in the Territory

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Electronic engineer focus on solar energy projects in rural environments and off-grid applications. He currently works as a full professor at the Faculty of Engineering at the University of Magdalena. He has a master's degree in Engineering and is pursuing a doctorate in electrical and electronic engineering from Universidad del Norte.

Abstract:
The closure of photovoltaic solar parks not only represents a logistical and environmental challenge, but also a strategic opportunity to innovate and transform the management of resources and materials that make up the value chain of this activity. In this context, the present research project focuses on exploring the various facets associated with the closure of solar parks, highlighting especially the emerging opportunities that arise when solar modules reach the end of their projected lifespan. As the first generation of solar installations faces the inevitable need for renewal and retirement, it is imperative to carefully examine how the value of these assets can be maximized. This involves not only considering economic aspects but also assessing their contribution in terms of environmental sustainability, exploring technological opportunities, economic benefits, and social responsibilities. The purpose of this project is to contribute to knowledge, facilitate the identification of opportunities, and support informed decision-making at a crucial moment for the transition to a more sustainable energy matrix. As we move towards a future where solar energy will play an even more predominant role, understanding and optimizing the closure of solar parks becomes essential to forge a path towards a cleaner, more resilient world full of opportunities.

South Africa's Sustainability Energy Transitions Contradictions: Implementation or Transformation?

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Moyahabo Masipa is a research and administrative assistant at the Transnational Center for Just Transitions in Energy, Climate & Sustainability (TRAJECTS). She has a master's degree (with distinction) in global studies from the University of Cape Town. Her research interests focus on the political economy of energy and the geopolitics of energy, particularly the South African energy landscape, in relation to its pursuit of a just transition. In her current placement at TRAJECTS, she assists in the coordination and moderation of Virtual Lectures, Mobile Schools and Sustainability Transition Dialogues centred around key TRAJECTS objectives fossil-fuel phase-out and shift towards post-fossil energy system and ecosystem restoration.

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Michelle Pressend, PhD is currently the TRAJECTS - Transnational Centre for Just Transitions in Energy, Climate and Sustainability Academic Coordinator of the African Regional Hub based in the Department of Chemical Engineering at the University of Cape Town (UCT). She lectured Environmental Sociology at UCT in the past five year. She designed and lectured a course in African Feminist Studies at UCT focused on the gender and the politics of development. She has worked as a researcher, policy analyst, and activist on environmental and socio-economic justice primarily within the non-governmental sector for over twenty years. She also served in national government during the World Summit on Sustainable Development. Her PhD in Anthropology, argues that relational energy transitions, which considers pluriversality is needed to address the climate crisis. Relational perspectives pay close attention to power relations, politics, materiality, and exclusions. Values that are respect-ful, regenerative, and reciprocal to nature and each other constitute the concept of relationality. Her research approach engages with soil and land history/memory and what can be learnt from the changes in land to address the social-ecological crises differently to the dominant techo-scientific 'fixes'.

Abstract:
The 2030 Agenda Sustainable Development Goal 7 calls for nations to "ensure access to affordable, reliable, sustainable and modern energy for all ". The global energy transition to achieve sustainable development and climate change goals poses important equity, accessibility, and justice questions. In the context of South Africa's carbon-intensive political economy, the steer towards low-carbon transitions underlines the difficulties involved characterised by the power relations, policies, and exclusions due to the values and principles of energy politics that espouse liberalization. This paper analyses the underlying values and principles of energy liberalisation through an ecological Marxist lens. This theoretical framework highlights the connection between economics and politics through the emphasis on the overall structures of relations within which the political economy interactions operate. Universal access to electricity is deemed critical for improving living standards, a tool for poverty eradication and a key part of achieving sustainable development. However, the research postulates that energy access and affordability are not mutually exclusive, given the commodified space in which electricity in South Africa operates through aggressive cost recovery methods and mechanisms such as prepaid electricity meters. Furthermore, South Africa's sustainable development interpretations are through a techno-scientific modernisation lens and a green growth paradigm which attempts to decouple economic growth from environmental destruction through finding ways to increase energy efficiency and reduce emissions. The assumptions are that 'green' energy will reduce the negative impacts of non-renewable fuels on the environment as well as stimulate green economic growth. Furthermore, this interpretation assumes that this will result in a so-called 'win-win' outcome, contributing to climate change mitigation and the improvement of the well-being of people.

An exploration of decolonial and relational theories and praxis: Towards possibilities of relational energy transitions

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Abstract:
Within the climate mitigation discourse, renewable energy technology is understood as vital to reduce coal energy reliance. This discourse which is deeply anthropocentric in its approach understands 'green' energy transitions largely as reliant on reductionist techno-scientific 'solutions' and green economic growth rationalisation. If energy transitions are not engaged with critically, ongoing injustice and extractive relationships are likely to be perpetuated. The aim of this thesis is to show that alternative renewable energy transitions as responses to global warming need to be informed from a relational perspective. Values that are respectful, regenerative, and reciprocal to nature and each other constitute the concept of relationality. This study focused on the Tsitsikamma Community Wind Farm (TCWF) in the Eastern Cape (South Africa) as a site to explore the implementation of a renewable energy project. The site on which the wind farm is built has a colonial land dispossession narrative and the return of the Tsitsikamma Mfengu community to reclaimed land in 1994. The community was a willing partner in the investment of a wind energy public-private partnership. While the beneficiaries were promised improvements to their well-being, instead, the material well-being of this community remains unchanged and the commercial agricultural land degraded. The inequalities and the socialecological relations of the past persist. The so-called 'win-win' rhetoric is an illusion in climate mitigation approaches and largely serves capital accumulation at the expense of community well-being and restoration of the soil. This study drew inspiration from Moore's (2003) world-ecology framing - history is part of rather than separate from the web of life - a non-dualist version of world history. In the research, a multi-sited ethnography was used and included tracing the relationships that recognised land history, memory (patterns of material nature of the land) and the entangled relationships between humans and non-humans. The conceptual framing and methodology illuminated erasures consistently overlooked in the anthropocentric climate discourses. As a consequence of those revelations openings for more relational and decolonial conceptualisation(s) based on the profound interrelatedness of life became evident. Relational energy transitions are needed in response to the climate crisis that consider the regenerative possibilities of nature-human interrelatedness.

SUSTAINABLE AGRICULTURE (AGROECOLOGY, BIOLOGICAL AGRICULTURE, NATURE-BASED SOLUTIONS) 1

CHAIR

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Throughout my professional career, I covered a range of fields from basic research on biodiversity, to applied and development-oriented aspects of climate change adaptation, to postgraduate education for sustainable development in environmental management, especially in developing countries. Since 2020, I have been working as Managing Director and Advisor Internationalization of the School of Civil and Environmental Engineering (which comprises five faculties: Environmental Sciences, Civil Engineering, Architecture, Traffic and Transport Sciences, Business and Economics) at Technische Universität Dresden. Before that, I was able to deepen my experience in international and interdisciplinary exchange during my work at the Centre for International Postgraduate Studies of Environmental Management (CIPSEM). The courses organized by CIPSEM are characterized by their "multi-stakeholder" composition of participants. Experts from government, non-governmental organizations, science, and business come and work together. The courses are designed as a platform for a sustainable North-South and South-South exchange. Prior, I was project coordinator of the "International Network on Climate Change (INCA): Understanding adaptation and mitigation strategies of tropical Andean people" at TU Dresden, and a research associate within the project "Climate Change, landscape dynamics, land-use and natural resources in the Atlantic Forest of Rio de Janeiro" and worked on "Biodiversity and integrated land-use management for economic and natural system stability in the Mata Atlântica of Rio de Janeiro" at the University of Leipzig.
A recent focus is the cooperation within the "Global Water and Climate Adaptation Centre" - this ABCD Center (after the first letters of the 4 participating locations in 3 countries on 2 continents) will deal with climate adaptation measures in the Global South, especially in the water sector. The new Global Center not only promotes the mobility of young researchers and provides scholarships for master's and doctoral students, but also developed a new joint international MSc.-course on the subject of "Water Security and Global Change". In order to effectively counter the effects of the pandemic and to further optimize future exchange in research and teaching, great emphasis will be placed on the implementation and further development of digital formats. Furthermore, a network is to be established with three other Global Centers for Climate and Environment, and with the four Global Centers for Health and Pandemic Prevention, which have been installed at the same time. The topic of water obviously plays a central role and it builds on the internationally renowned expertise and the resources available in the field of construction and the environment at the TU Dresden and the partners involved.

PRESENTERS

Systemic Environmental Transitions from Agroecological Territorial Communities in Colombia to Face the Planet's Food Crisis

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Consultant, researcher and activist. Environmental Administrator with thesis laureate for his work in systemic environmental management and Master in Environmental Sciences from the Technological University of Pereira (UTP), PhD student in Environmental Studies at the National University of Colombia and scholar of the Transnational Center for Just Transitions in Energy, Climate and Sustainability (TRAJECTS). He has more than thirteen years of experience working in environmental management and climate change in public entities, the private sector and civil society organizations. He has led in the last twenty years from environmental NGOs, processes of cultural change for animal and environmental protection; he was president of the Federation of Animal Organizations (FOA) of Risaralda from 2011 to 2023.
Currently, he is an environmental consultant specialized in municipal environmental management for the Mayor's Office of Pereira and consultant in climate change for the Regional Autonomous Corporation of Risaralda (CARDER). He has been a master's degree teacher and international cooperation consultant for the Mayor's Office of Cartagena, member of the Municipal Environmental Council of Pereira representing the NGO sector. He has written on environmental complexity and systemic management, environmental ethics, sustainability and complexity, climate change and knowledge management, international policy and climate change.

Abstract:
The agroecological multitudes of the global South configure alternatives to the crisis of agrifood systems. This crisis is responsible for the greatest environmental pressure on the limits of life on the planet. A better understanding of these alternatives is transcendental to transform agrifood systems and corresponds to the purpose of promoting transitions towards sustainability based on a profound environmental cultural change; precisely the processes of resistance and emancipation around agroecologies are oriented towards this change in nurturing and making life flourish as the central stake of a new civilizing project. In this context in which environmental transitions must be propitiated, recognizing the processes of resistance and emancipation of the agroecological multitudes is fundamental. In this sense, the colonial indigenous reservation Cañamomo Lomaprieta and the Network of Seed Custodians of Riosucio in the department of Caldas (Colombia) are important territorial experiences that contribute to the identification of alternatives for the construction of new, fairer, more supportive and inclusive agro-food systems connected to the purpose of the civilizational turn towards environmental sustainability on the planet. Understanding how the stories about the care of life that are generated from these agroecological experiences contribute to strengthen the collective community identity and the sacred connection with nature, is vital to advance in alternatives for the transformation of agri-food systems, and in general to provide knowledge and skills that favor the environmental transitions that are proposed from the global South. For this reason, we intend to study and stimulate discussions on the mechanisms of resistance and emancipation used for the defense of life and the reappropriation of the territory as a strategy for the scaling up of agroecology against the hegemony of agrifood homogenization.

How Plastic Germination Favours Plant Diversity

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After a general biology bachelor in Nancy (France), I did a master in modelling ecological systems in Toulouse (France). It gave use different tools from statistic approach to mechanistic modelling to apply at various field in ecology and evolution. First year of the master I did an internship about insular biogeography while, second year my master thesis was in veterinarian epidemiology and was about modelling how intestinal parasite can be transmitted between wild and domestic ungulates. I started my PhD in February 2023 (6 months after the end of my master), in Tübingen (Germany). The topic is about to set a conceptual framework to look at effect of climate change on Middle-East plants rangelands.

Abstract:
Seeds have the capacity to enter a dormant state and germinate at favorable conditions. The ability to adapt the germination to a varying environment is called germination plasticity. Empirical studies often describe germination plasticity, in particular when either temperature or water avaibility is varying. However, a comprehensive understanding of its effects on biodiversity is missing. We use individual-based simulations to explore how germination plasticity affects biological diversity with spatial and temporal environmental variation. We show that germination plasticity leads to greater local and regional plants diversity when water availability varies over space or between years. We also investigate how the combination of germination plasticity and interannual environmental variation leads to an additional kind of diversity: diversity in plant composition between years. This work advances our understanding of conditions that favor biological diversity and might improve our interpretation of empirical data.

Constraints Analysis of the Implementation of Nature-based Solutions in West Africa

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I hold a PhD in Biology with a specialization in Animal Ecology. My doctoral research was conducted in collaboration with Humboldt University and the Museum für Naturkunde Berlin. My primary research focus is on quantifying the human impacts on biodiversity and ecosystems to enhance sustainability practices, particularly in timber harvesting, restoration, and agriculture. My expertise ranges from amphibian natural history and community ecology to sustainable forestry and land management. Prior to my PhD, I earned a master's degree in Tropical Ecology and a bachelor's degree in animal biology and Zoology from Felix Houphouet-Boigny University in Ivory Coast. In terms of biodiversity, I am actively engaged as a member of the Non-Governmental Organization Action for the Conservation of Biodiversity (ACB-Côte d'Ivoire), where I participate in initiatives and activities aimed at promoting biodiversity conservation, community management. I serve as the focal point for all studies concerning herpetofauna. I've currently published four first authored papers and contribute to book chapter.

Abstract:
African savannas are complex ecosystems subjected to strong pressures because of their richness in biodiversity and the ecosystem services they provide. In West Africa, the population depending on savannas is strongly increasing. To reduce these pressures, nature-based solutions (NbS) are presented as the best solutions involving a connection between science, policy, and practice. However, the implementation of NbS in West Africa likely faces several constraints. The objective of this study is to help the effective implementation of NbS for adaptation to climate change and the conservation of biodiversity in West African savannas. To achieve this objective, we are conducting (1) a literature review on the current state of implementation of NbS in Africa, to identify gaps in existing research on NbS and their implementation in West Africa, (2) a survey among stakeholders in the Guinean savanna zone to find out the level of knowledge, adoption and the constraints the stakeholders face in the implementation of NbS and (3) a field experiment on sustainable yam production using agroecology systems based on some grass and legume species. The study is ongoing in the Guinean savanna area of the center of Côte d'Ivoire, in two of the surrounding villages of the Lamto Scientific Reserve. As expected results, state of the art of research and projects on NbS and their implementation in West Africa offer a wide range of possibilities for the use of NbS in the field of biodiversity conservation and adaptation to climate change. The constraints and opportunities for developing NbS in Côte d'Ivoire with an emphasis on agriculture are acquired. Yam production on a one-year fallow is improved by the application of scientific discoveries on the functioning of savanna plants.

Improving Food-Nutrition and Water Security Outcomes through the Adoption of Climate-smart Practices: Evidence from Agricultural Households in South Africa

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Abiodun Olusola Omotayo is a National Research Foundation (NRF)-C2 rated researcher/scientist in the field of agricultural economics at the North West University, South Africa. He has over 15 years of professional research and lecturing experience with focus on the United Nations' Sustainable Development Goals (SDGs). He has contributed to the UN's Sustainable targets in Africa through the application of applied economics. His research engagements have benefited from different funding institutions with extensive publications (over 100 articles) in respectable high impact ISI-rated peer-reviewed journals. Omotayo is a recognized Expert by the United Nations Educational, Scientific and Cultural Organization (UNESCO) Inclusive Policy Lab, a fellow at the African Studies Centre, the Netherlands and the Food and Agriculture Organization of the United Nations (FAO)-Global Forum on Food Security and Nutrition (FSN Forum), He is also a member, of the Global Burden of Disease (GBD) Collaborator Network, Institute for Health Metrics and Evaluation (IHME), University of Washington and Global Assessor for grant applications to the Royal Society of Tropical Medicine and Hygiene (RSTMH), United Kingdom. Additionally, Omotayo is an Alumni-member- Climate Governance, Diplomacy and Negotiations Leadership Program and currently an Alumni-member; DAAD Alumni Deutschland-Germany. He is visiting Professor at the Innovation Lab for Policy Leadership in Agriculture & Food Security (PiLAF), University of Ibadan, Nigeria and has supervised and co-supervised many postgraduate student's research to completion. Omotayo currently serves as section editor for three respectable high impact international journals and frequently serve as reviewer and assessor for several high impact journals and funding institutions. Besides contributing to the research community, he voluntarily contributes and add value to different think-thanks organizations in Africa.

Abstract:
Agri-food systems in developing countries face significant challenges such as climate change, environmental pollution, resource degradation, and increased price volatility. South Africa's (SA) agri-food system is highly vulnerable to these effects due to over reliances on irrigation-fed systems. Climate-smart agricultural (CSA) practices have been promoted as a sustainable strategy to address these challenges. However, little is known about their role in enhancing food and water security, particularly in SA's context. A nationally representative dataset of 504 maize farmers in SA during the 2022/2023 production season was used to analyze factors influencing farmers' decisions to adopt CSA practices. In the study, long-term rainfall variability had a positive effect on farmers' adoption decisions, suggesting policy measures to increase resilience to weather variability in SA. Additionally, the adoption of CSA practices had a positive and significant impact on food-nutrition and water security, but the impact differed across quantiles of food-nutrition -water security outcomes and agro-ecological zones. Understanding the determinants of adoption of CSA practices could facilitate the design and dissemination of strategies to enhance farmers' resilience at all levels. Furthermore, strengthening extension services and incorporating climate change sensitization delivery could also enhance the adoption of climate-smart practices. These findings may be beneficial to the implementation of the government flagship program on food-nutrition and water security in SA and suggest that promoting climate-smart agriculture can be employed as part of domestic efforts to achieve the UN's SDGs to end hunger, achieve food-nutrition and water security, and promote sustainable agriculture.

TRANSFORMATION OF COASTAL URBAN AREAS TO CLIMATE RESILIENT CITIES

CHAIR

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PRESENTERS

Integrating Digital City Model for Sustainable Stormwater Management under Climate Change: A Case Study of Nature-Based Solutions in Udonthani City, Thailand

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Fahad Ahmed is developing an Integrated platform for Urban flood management using Nature based Solutions in Udonthani City, Thailand. His Doctoral research aligns with the Cluster II: "Ecosystem Resilience and Nature-Based Adaptation Measures" of ABCD Centre (The Global Water and Climate Adaptation Centre). He is also working on projects NAFOS (Safeguarding the Regional Food Security under Climate Change impacts via mainstreaming Nature-based Solutions centered adaptation strategies) and SAGA (Sustaining the shared groundwater resources of the Transboundary CAmbodia- Vietnam Mekong River Delta aquifer under Climate Change impacts through strategic Gender equality, disability, and social inclusion (GEDSI) tools and suitable NAture-based Solutions (NbS)) focusing on Cambodia's Siem Reap province. He is working as a full-time lecturer in Department of Civil Engineering, University of Sargodha, Pakistan since August 2013. In August 2022, He received a M.Eng. degree in Water Engineering and Management from the Asian Institute of Technology, Thailand. Previously he received Masters and Bachelor Degree in Civil Engineering from University of Engineering & Technology, Taxila, Pakistan.
His research interests include Hydrology and hydrological modelling, Hydraulic modeling, Stormwater Management, Nature based Solutions, Ecosystem based Adaptation, Climate Change and Environmental engineering.

Abstract:
Urbanization disrupts the water cycle by replacing natural vegetation with impermeable surfaces, hindering rainfall infiltration. Urban drainage systems (UDS) often overlook the impact of changing land use on urban floods during rainfall. Climate change intensifies extreme precipitation, increasing urban drainage pressure. "Green infrastructure" reduces runoff but can't fully replace "grey infrastructure" due to safety concerns and ecological factors, necessitating a balanced "grey-green infrastructures" approach for optimal urban runoff control and enhanced water security. Assessing integrated flood management before construction is challenging, but numerical modeling and computational technologies provide a sustainable strategy. Digital city models streamline management, communication, and consensus-building, effectively highlighting the crucial role of Nature-Based Solutions (NBS) in flood mitigation. In flood-prone Udonthani, a numerical approach incorporating NBS is vital for evaluating green infrastructure's effectiveness in adapting to climate change. The 1-D SWMM5 model, developed with the GisToSWMM5 tool, was calibrated and validated using observed streamflow. NBS performance was assessed under future climate projections (CMIP6) with two socioeconomic scenarios (SSP2-4.5 and SSP5-8.5). Additionally, a semantic 3-D digital city model, incorporating urban infrastructure, geological data, and drainage networks, was created. Various simulations, including standalone and combined NBS measures integrated with grey infrastructure, were conducted under two climate change scenarios (SSP2-4.5 and SSP5-8.5). The integration of "grey-green infrastructures" showed promising outcomes in enhancing urban runoff control. The study introduces a comprehensive digital web application, utilizing free and open-source software (FOSS) and open data, to communicate and raise awareness about NBS in urban stormwater management under climate change. This integrated approach enhances evidence-based decision-making and facilitates effective global urban planning for flood-prone areas.

Investigation of Cyclones' Influence on Coastal Morphological Changes along the Nearshore Areas amid Climate Change using Numerical Modeling

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I am V. G. Shashank, a joint doctoral researcher at the Indian Institute of Technology Madras, India, and RWTH Aachen University, Germany. I completed my master's degree in climate science and technology at the Indian Institute of Technology Bhubaneswar. My primary research focus revolves around the intricate modeling of tropical storm surges, with a keen in interest in understanding the dynamics of wind-generated waves and morphological changes accompanying these phenomena. I am honored to have been awarded the UGC-DAAD Scholarship in 2022, a prestigious accolade facilitated by the Indo-German Partnership Program (IGP). Additionally, in 2024, I secured the esteemed ABCD-Centre Scholarship from Aachen, Bangkok, Chennai, and Dresden, offered through the Global Water and Climate Adaptation Centre. My academic prowess is further evidenced by my successful qualification in the National level Graduate Aptitude Test in Engineering (GATE) examination in the years 2017 and 2018. In the realm of scholarly contributions, my work has been recognized through publications in three distinguished scientific international journals and the presentation of three papers at international and national conferences. This multifaceted journey underscores my commitment to advancing our understanding of climate-related phenomena and contributing meaningfully to the academic discourse.

Abstract:
Studying the impact of tropical cyclones on coastal morphological dynamics is crucial because it provides insights into the changing coastal landscapes, helping to anticipate and mitigate potential erosion and deposition. Understanding how storm surges influence the shape and structure of coastlines is essential for effective coastal management and infrastructure planning. For this purpose, a coupled hydrodynamic, wave, and morphological numerical model is essential to simulating cyclones because it captures the intricate interactions among water flow, wave dynamics, and coastal morphological changes. These interactions are crucial during cyclones due to the complex nature of storm surges, wave-driven processes, and morphological responses in coastal areas. This study considered coupled hydrodynamic, wave, and morphodynamical (Telemac2d+Tomawac+Gaia) models set up to compute the storm surge heights, wave height, and morphological bed evolution for the tropical cyclone Nivar (2020). The computed parameters from the numerical models, such as storm surge and significant wave heights, are initially validated with the in-situ observations for TC Vardah (2016), and the model estimated morphological bed evolution with the field observation measurements for the tropical cyclone Nivar (2020). These numerical experiments would provide us with a comprehensive understanding of the effect of storm-induced currents and waves on nearshore coastal morphological dynamics. The results of the above numerical investigations of morphological changes help in providing insights for sustainable coastal development and safeguarding marine ecosystems.

Collaborative Initiatives Towards Climate Change Adaptation in the Global South

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Haruna Jimoh lectures at the Department of Urban and Regional Planning University of Lagos. Nigeria. He earned a doctorate degree from University of Ibadan, Nigeria. He also had master's degrees in Urban and Regional Planning, Business Administration (Info. Tech), and Geographical Information Science from the Federal University of Technology, Akure, National Open University of Nigeria and LUND University, Sweden respectively. His research interest spans urbanisation and governance, spatial analysis and resource management, environmental planning, and climate adaptation. He is currently a Postdoctoral Fellow at the Wits-TUB-UNILAG Urban Lab (funded by DAAD) in the Centre for Housing and Sustainable Development, University of Lagos, Nigeria. He is also a current Fellow of the Commonwealth Futures Climate Research Cohort of the Association of Commonwealth Universities, and a Fellow of the Nigerian Institute of Town Planners.

Abstract:
Climate change is a global phenomenon with diverse impacts on communities. Recently, the effect of flooding on the coastal urban communities is on the increase. In Nigeria, about 1.4 million people were displaced while 603 were killed, and more than 2,400 injured in 2022 by flooding, induced by excessive rainfall and opening of a dam in Cameroon - a neighbouring country -. The scenario was repeated in 2023, putting people in state of perpetual fear. This unprecedented increasing rate of vulnerability to natural and man-induced disasters underlines the need for collaborative adaptive systems that engender sustainable and integrated regional development in the global south as the effects of climate change induced disasters exceed source points. Using mixed-method research approach, the research mapped the historical events over the years, examines the existing collaborative efforts addressing climate change adaptation in the study area and diverse initiatives being employed locally and at regional level (between Nigeria and Cameroon). Challenges to effective collaborations were also examined. The paper revealed that mitigating climate change effect along the coastal corridors requires implementation of policies that promote collaboration among countries and the local communities. There is need for adherence to planning regulations by the residents, early warning programmes and effective monitoring by government agencies. It highlights the importance of collective action among governments, NGOs, and local communities while emphasising the need for tailored solutions that consider regional vulnerabilities. By delving into successful partnerships and lessons learned, this paper contributes to the evolving discourse on fostering resilience in different regions and communities affected by climate change.

Beyond Traditional Solutions: Unravelling the Potential of Adaptation Pathways in Blue-Green Infrastructures for Flood Resilience

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Ms. Pyae Mon Naing is a Ph.D. candidate at the Asian Institute of Technology, majoring in Urban Innovation and Sustainability. Her research interests are within the field of hydrology and water resources, including climate change adaptation and mitigation, hydro-metrological flood and drought risk management, citizen science, water-energy-carbon nexus, and integrated water resources management. Ms. Naing was selected as a Future Environmental Leader through the research exchange program supported by the ABCD Centre. This opportunity facilitated a scientific research exchange at TU Dresden, underscoring her commitment to international collaboration in environmental research. Ms. Naing is involved in several projects tackling climate change and global issues. She worked as a project assistant in the UNEP CounterMeasure III project, focusing on marine pollution. Her diverse experience includes a six-month internship with the UN-Habitat/GWOPA in Bonn, Germany, where she collaborated with water supply and sanitation operators to advocate for safe and sustainable access. Additionally, she interned at UNESCO's New Delhi office, concentrating on the conservation of the biosphere reserves in the Global South.

Abstract:
Floods are among the most frequently occurring natural disasters in Bangkok, Thailand, leading to sociological and economic losses every year. Climate change, rapid urbanization, and insufficient drainage increase the stress on gray infrastructure, amplifying the scale of incurred losses. While blue-green infrastructure (BGI) measures can improve flood mitigation in suitable locations, a reinvestigation of the existing and future BGI efficiency under changing climate conditions is required. An adaptation pathway approach is selected due to its flexible and iterative process, which helps evaluate and adjust adaptation strategies over time. Therefore, the study aims to develop a novel adaptation pathway for proposing an optimized BGI implementation plan until 2100 while considering overall efficiency as well as the construction and upkeep costs. Sathorn district in Bangkok was chosen as the study area, as it experiences frequent pluvial floods and is predicted to face increased future precipitation. Suitable BGI are selected based on geographical factors, existing urban infrastructures, and stakeholder surveys to ensure co-benefit preferences and acceptance. A Python framework is developed to determine an optimized adaptation pathway by altering the performance of the selected BGI according to the changing climatic factors and their lifecycle effectiveness. For 5- year intervals from 2020 to 2100, BGI performance is benchmarked based on total runoff transformation and cost optimization. The economic feasibility of BGI over time is assessed by considering reductions in infrastructure damage, additional benefits, and associated costs. The study provides a holistic cost-benefit-driven adaptation pathway for various BGI, enhancing the planning processes for urban flood mitigation under climate change. This pathway serves as a data-driven blueprint for constructing and maintaining BGI, providing valuable insights for urban planners and policymakers in Bangkok to secure a resilient urban environment.

SUSTAINABLE AGRICULTURE (AGROECOLOGY, BIOLOGICAL AGRICULTURE, NATURE-BASED SOLUTIONS) 2

CHAIR

Dr Amna Jrrar
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Dr Amna Jrrar is a climate scientist with expertise in atmospheric chemistry modelling, development and validation of coupled global climate models with particular emphasis on sea ice variability, and analysis of regional climate models data with interest in climate extreme indices.
She obtained her PhD in atmospheric chemistry modelling from the Centre for Atmospheric Science, University of Cambridge in 2004, where she studied the dynamical variability of stratospheric ozone under the supervision of Prof John A. Pyle.
She held research positions at the British Antarctic Survey, Cambridge, UK, the Centre for Atmospheric Science, University of Cambridge, UK, and the Centre for Global Sea Level Change at NYU Abu Dhabi, Abu Dhabi, UAE, and the Royal Scientific Society in Amman, Jordan.
She is a member of the Task Force 'Eastern Mediterranean and Middle East (EMME) Climate Change Initiative: The Scientific Basis, which aims to develop a regional action plan to reduce the impact of climate changes facing countries in the EMME region, and to advance mitigation actions. Parts of the task force report, was published in the review paper "Climate Change and Weather Extremes in the Eastern Mediterranean and Middle East" https://doi.org/10.1029/2021RG000762
One of her recent research project working at the RSS in Amman, Jordan, is the analysis of high-resolution regional climate models output to provide projections of precipitation extreme indices over Jordan, a project funded by the Scientific Research and Innovation Fund of the Ministry of Higher Education and Scientific Research. She is also a climate modelling expert for a project which aims to develop climate resilience plans for two munciplaities in Jordan.
Currently she holds a National Geographic Explorer level 2 grant, her project is focusing on the Azraq region, and she will be working on co-producing with the local community, climate actionable information and climate storylines.

PRESENTERS

Soil Seed Banks Assessment in Overgrazed Arid Rangelands to Determine the Restoration Potential of Aboveground Vegetation in Arid Degraded Rangelands in Jordan

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PhD student in plant ecology group at the University of Tübingen\ SAGE project. My MS.c and BS.c degrees from University of Jordan \ Faculty of agriculture.

Abstract:
Climate change is continuously intensifying droughts. Extreme droughts are expected to reduce soil water content and thus, ecosystem properties such as soil seed banks and above-ground primary productivity. Most of the empirical research have ignored the effects on soil seed banks, and instead capitalized on above-ground vegetation. This is regrettable because seed banks play a critical role in plant community stability and buffering of environmental changes, and they have been discussed as a means to restore degraded (semi-)natural ecosystems and rangelands. We hypothesize that while the systems are, due to their history, resistant to grazing and drought alone, the combination may drive it across a point of no return. We also test whether biodiversity may increase resistance and resilience. The seed bank will be characterized to obtain a quantitative estimate of the recovery potential (resilience) of the degraded rangelands compared to the un-degraded ones. To that end, I will sample 30 10cm x 10cm soil cores of 3cm depth from three different site, with different degradation levels, prior to the first rain and irrigate them excessively in a net-house at the onset of the rainy season. Species composition, number of emerging seedlings, species diversity and functional group of the soil seed banks, and the influence of grazing on the similarity between the soil seed banks and aboveground vegetation will be study in arid rangelands of Jordan. All emerging seedlings will be identified and counted, and soil samples left to dry over the dry season. The procedure will be repeated to capture a large fraction of the dormant seeds. We will test whether the availability of persistent seeds in the soil could drive the transition from a degraded system under heavy grazing to healthy vegetation. The total emerged species from the soil seed bank samples will be counted and compared to the aboveground vegetation in heavily grazed sites and non-grazed during the experiment time. These findings will have important implications for the management, conservation, and restoration of arid rangelands in Jordan. These experiments will be closely coordinated with local stakeholders to test feasibility and acceptance of such measures. Key words:Climate change – drought- Soil seed bank- Tipping point- Resistant - Resilience

Citizens' Preference for Risk of Pesticide Residue or Risk of Invasion to Combat Invasive Species in Agriculture in Changing Climate

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Ashley Comma Roy is a Ph.D. student at Brandenburg University of Technology in the Department of Environmental Economics. She has been working at Bangladesh Agricultural University since 2018, where she holds the position of Assistant Professor in the Department of Agricultural Finance and Banking. Ashley holds both graduate and undergraduate degrees in agricultural economics from Bangladesh Agricultural University. Her research focuses on the intersection of sustainable agriculture and climate resilience. Currently, her PhD research within the DAAD MultiLand research cluster evaluates the economics of biological pest management in orchards under climate change. Her previous work includes examining the challenges faced by farmers in climate-vulnerable coastal areas of Bangladesh during her Master's thesis, and co-authoring a study on stakeholders' perceptions of haor ecosystem services. Ashley was awarded the National Science and Technology Fellowship in 2016 for outstanding master's research, and the University Grant Commission Fellowship in 2014 for outstanding achievement during her undergraduate studies in Bangladesh. Ashley's research aims to make a meaningful contribution to the fields of climate-resilient agriculture and environmental conservation. Her commitment reflects a dedication to advancing knowledge in these critical areas.

Abstract:
Invasive species pose a significant threat to natural ecosystems, biodiversity, and human well-being, and impose substantial costs on agriculture, forestry, fisheries, and various human activities. While the use of biological control (introducing natural predators from the pest's native habitat) is considered an environmentally friendly approach there is often the risk of the control agent becoming an invader. Conversely, chemical insecticides, although effective, face resistance due to their adverse effects on nontarget species and residue problems. To contribute to the socio-economic discussion of invasive species management under such trade-offs, this study uses the invasion of Halyomorpha halys (brown marmorated stink bug) in German apple orchards as a case study. Climate change-induced temperature rise is one of the facilitating factors of biological invasion worldwide, including Germany. According to our previous research, an invasion of Halyomorpha halys can result in a potential loss of €302.32 million in the German apple industry in 2022 which can reach up to €479.05 million in 2050. Therefore, this study explores citizens' preferences for controlling Halyomorpha halys invasion, navigating the trade-off between the risks associated with pesticide residues and the potential invasion of biological control agents. A discrete choice experiment (DCE) was conducted with a representative sample of German apple consumers (n=1200) for this purpose. The study highlights the importance of education, political orientation, income, and other demographic factors for citizens' preferences towards the control of invasive species and explores the role of information about the effectiveness of the control options for their preferences.

Plant Community Response to Climate Change and Grazing in Middle Eastern Rangelands

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Abstract:
Eastern Mediterranean rangelands are ecosystems that are highly resistant and resilient against drought and grazing disturbance. However, it is predicted that the region will suffer from an increased frequency of extreme droughts with an overall reduction in precipitation, potentially leading to adverse impacts on vegetation and grazing opportunities. This study experimentally simulates the effects of extreme drought using permanent plots with rainout shelters with a gradient ranging from 30% to 90% precipitation reduction. Additionally, within each plot clipping treatments early and late in the growing season are implemented to simulate different grazing regimes. The plots are located on three previously grazed rangelands in semi-arid and hyper-arid environments. The rainout treatments provide critical insights into how plant biodiversity changes under different climate scenarios and how species composition shifts as a result of plant adaptation to drought conditions. The clipping treatments give insight into how the timing of grazing influences the effect of climate change on plant biodiversity. The data will contribute to a long-term study focussed on identifying indicators for ecological tipping points in rangelands with which we can anticipate on unfavourable changes in plant communities. Our findings will serve as the basis for decision making regarding sustainable rangeland management in the eastern Mediterranean.

Evaluation of Nature-based Solutions and Their Benefits to the Maasai Agro-Pastoralists in Narok County, Kenya

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In my Bachelors degree in Botany and Zoology at the University of Nairobi, my focus area of study was ecology, where I looked at the complex interaction between living organisms and their physical environment, evolution, where I looked at the gradual development of living organisms during the history on earth, entomology, mammalogy, biodiversity and, conservation biology. With this background, I furthered my studies in Masters in Environmental Planning and Management at the University of Nairobi, focusing on major global environmental issues, human impact on environment, conflicts in resource use and the environment, environmental management and sustainable development, environmental protection, land, soil and water management, among others. My Masters thesis was a publication entitled "Hazardous Biomedical Waste Management in a Level Four Private Hospital in Nairobi County, Kenya, Othigo E and Moronge J (2020). Journal of Sustainability, Environment and Peace, 2663- 4627, July 2020". Currently, my PhD study is in Climate Change and Adaptation at the University of Nairobi, with a bias on climate change impacts and society, climate change governance, and transdisciplinary research. My research topic is "Evaluation of Naturebased Solutions and their Benefits to the Maasai Agro-pastoralists in Narok County".

Abstract:
Narok County lies within the Arid and Semi Arid Lands (ASALs) of Kenyan savanna rangeland, which is predominantly occupied by the indigenous Maasai community, that has a strong cultural attachment to livestock. The region has been experiencing climate change-related risks such as floods and droughts that are becoming frequent, severe and less predictable. Since the dominant livelihood system in Narok is the pastoral livelihood system, grazing cycles have been distorted due to climate shifts and preference for individual land ownership, leading to emerging ecological transformation in Narok. Other vulnerabilities include poverty, land use change and a low adaptive capacity, compounded with impacts on livelihoods, food security, human and animal health as well as vegetation. To tackle these issues, the study intends to evaluate existing Nature-based Solutions (NbS) within the context of the current Social-Ecological System (SES), in order to develop an integrated agro-pastoralists-centered NbS framework, taking into account indigenous/local knowledge and future climate scenarios, to enhance resilient livelihoods of the agro-pastoralists in Narok County under climate change. Both primary and secondary data will be used in the study. Remote sensing will be used for collecting data on land use patterns, while primary data will be collected using focus group discussions, key informant interviews, and household surveys. Fieldwork will commence in January 2024 and part of the results should be ready by June 2024. The results from the study will give insights into the effectiveness of NbS-interventions across grasslands while targeting vulnerable pastoral communities in the Global South. Such knowledge has a significant potential in addressing the climate crisis and biodiversity loss. It will furthermore contribute to our understanding of indigenous knowledge integration to the resilience of pastoral SES for enhancing secure livelihoods and improved food security.

MANAGING WATER SECURITY IN QUANTITY AND QUALITY / BALANCING THE THREE PILLARS OF SUSTAINABILITY UNDER CHANGING CLIMATIC AND SOCIAL CONDITIONS

CHAIR

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Yvonne Githiora works as a research scientist in the Biodiversity Department at Wildlife Works, Kenya. Her research focuses on the connections between ecosystem services, human societies, and climate change within African ecosystems. She recently earned her PhD in Climate Change and Adaptation from the University of Nairobi, with her thesis concentrating on participatory methods to evaluate the impacts of land use and climate changes on ecosystem services in Kenya's Yala wetland. Her background is in Conservation Biology and her professional experience spans public policy, climate change mainstreaming, and research on water and ecosystems. Passionate about effecting positive change in environmental, social, and educational spheres in Africa, Yvonne volunteers with the Women in Nature Network Kenya Chapter and Conscious Kenya, a local NGO committed to social initiatives in Nairobi's informal settlements. Her work in participatory research has enriched her with experience on how the dual challenges of climate change and biodiversity loss can be addressed by collaborating with the most impacted local communities.

PRESENTERS

Impacts of Climate Change and Land Use Change on the Water-Energy-Food Nexus in Ping River Basin, Thailand

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Mr. Kaushal Chapagain is a doctoral researcher in the Water Engineering and Management (WEM) program, of the School of Engineering and Technology (SET) at the Asian Institute of Technology (AIT), Thailand with a key research interest in the thematic field of water security, integrated water resources management and resource nexus. He is among the first recipients of the Global Water and Climate Adaptation Centre (ABCD-Centre)—Future Environmental Leadership (FEL) scholar's scientific cohort. Kaushal has authored publications in various international peer-reviewed journals, mentored master's students, reviewed documents (original articles, book chapters, abstracts for conferences and congress, student thesis competition), conducted training workshops, and actively participated in conferences. Currently, he is the Networking and Growth Coordinator (Academia) at the International Water Association - Young Water Professionals Nepal Chapter (IWA YWPN). He is also an active member of the International Water Resources Association (IWRA).

Abstract:
List of authors:
1. Kaushal Chapagain
2. Mukand S. Babel
3. Daniel Karthe
The study evaluates the impact of climate and land use change on the water, energy, and food (WEF) resource nexus in the Ping River Basin, Thailand. CMIP6 global circulation models (GCMs) for future climate projections under SSP2-4.5 and SSP5-8.5 scenarios and Dyna-CLUE model to simulate the land use changes under five different scenarios were employed for three future periods: near future (2015–2039), mid future (2040–2069) and far future (2070–2100). Climate projections indicate an increase in rainfall and temperatures, with higher changes expected in the mid and far future. Specifically, rainfall is projected to increase during wet seasons and decrease during dry seasons, while temperature increases are most pronounced from April to June. The Dyna-CLUE model forecasts a reduction in forest areas and an expansion of agriculture and urban areas in most scenarios. Integrating these findings into the WEAP-MABIA-DynaCLUE model reveals an increase in streamflow and hydropower potential and a decrease in agricultural productivity. Streamflow may rise by 9% to 54% under various scenarios, potentially leading to water scarcity during dry seasons and heightened flood risks during the wet season. Hydropower potential could increase by 6% to 39%, though with an associated flood risk from increased peak flows. Conversely, agriculture productivity is projected to decline by 4% to 21%, primarily due to the rising temperatures and further exacerbated by the cultivation of high water-consuming crops, conventional irrigation techniques, and reliance on local rainfall. The study's approach could be scaled up to all the major river basins in Thailand, offering insights for national adaptation strategies and action plans to ensure effective WEF resource management and sustainable development.

History of 'Nature-based' Solutions to Land Degradation in the Savannahs of Kenya: An Analysis of Literature and Archival Records

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Timothy Downing is a PhD student at the University of Nairobi's Institute for Climate Change and Adaptation. He has two Masters degrees- one from the University of Eldoret in Forestry (2016) and one from the University of Minnesota in Natural Resources Science and Management (2010). He also has a BSc. from Brown University in Environmental Science (2005). Timothy has worked for 7 years with the US Forest Service in New Mexico and in Washington State as an Ecologist and GIS Specialist. Currently Timothy is finalizing his research on the impacts of Climate Change in the tropical alpine moorlands of Kenya.

Abstract:
Nature-based solutions (NbS) are a promising tool for combatting land degradation in the dry-lands of East Africa. These types of solutions are not new, however, and have a long history dating back to the colonial period. An understanding of the successes and failures of past efforts can provide valuable insights for current NbS projects. This study examines two specific dry-land areas of Kenya- Baringo and Kitui- which were the focus of much colonial effort at restoring degraded land. The study uses primary and secondary literature to examine these efforts through the lens of Nature-based solutions. It then compares these projects with two modern restoration efforts in the same areas- namely sand dams and grazing enclosures. While both of the historical schemes had elements of NbS, they fell short in critical areas with respect to the implementation of the projects. The schemes failed to incorporate local communities into decision making processes in order to ensure long-term sustainability. Modern efforts overall do a better job at sustainable management - they deliberately seek stakeholder involvement - but they too fall short, often[6] giving these stakeholders very little say in decision making processes. History can provide valuable lessons for implementers of NbS, as many of the solutions enacted today have antecedents in the past. The failure to involve stakeholders at all stages of a project is a lesson from history that continues to be learned.

Agricultural Drought Risk, Climate Change, and Local Adaptation Measures: A Case Study in the Upper Mun River Basin, Thailand

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Dr Dibesh Khadka is a Senior Research Specialist in the Water Engineering and Management (WEM) at the Asian Institute of Technology (AIT), Thailand. With over a decade of research and consulting experience across South Asia and Southeast Asia, Dr Khadka specializes in hydrology, water resources modeling, hydro-meteorological extremes, and climate change studies. He has worked extensively on climate change projections, risk assessments, and adaptation strategies. Before joining AIT, Dr Khadka contributed to various projects focusing on water resources and climate change. He has published several peer-reviewed articles in esteemed international journals, reflecting his expertise and contributions to the field.

Abstract:
Northeast Thailand is one of the country's important agricultural regions. Yet, it is frequently grappled by droughts affecting crop production. We employed a comprehensive framework for assessing the drought risk in the Mun River basin, including hazard, exposure, and vulnerability factors. Hazard is estimated using a multivariate approach considering drought duration and severity, while exposure and vulnerability are evaluated using eighteen proxy factors encompassing physical and socioeconomic aspects. Local adaptation measures adopted by farmers to cope with droughts are an integral part of the risk assessment framework. Further, an extensive survey was conducted among 122 farmers in two hotspots with high hazards but contrasting vulnerability to investigate adaptation practices. The results show that people living in areas with high hazard levels and physical vulnerability also tend to have a higher adaptive capacity to manage water scarcity. Overall, 22% of the area is under high to very high drought risk. Under climate change, drought severities may increase by 45-65% in 2021-2050, compared to 1981-2010. Among two hotspots, Dan Khun Thot district farmers have diversified crops and practiced various adaptive measures to build their resilience against drought and have low vulnerability and risk. In contrast, adaptation measures are implemented to a far lesser extent in the Phlapphla Chai district and have high vulnerability and risk. The disparity in the adaptive measures adopted in the two districts highlights the significance of agricultural water management interventions. Access to climate information regarding droughts, building farm ponds, and crop management practices are the preferred adaptation measures taken by the farmers. We recommend that districts in each province identified as having high risk be prioritized and supported by the local government to improve farm-level water management practices and drought resilience. It is imperative as looming climate change will further exacerbate future droughts.

Effects of Land Use Change on Tropical Savannas of Western Kenya under Changing Climatic Conditions

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I hold a PhD in Geography from Moi University (Kenya), a Master's degree in Geography and a Bachelor of Education (Arts) degree from Maseno University, Kenya. I am currently a Post Doctoral Research Fellow at the University of Nairobi, Institute of Climate Change and Adaptation(ICCA). I have great interest in matters that focus on Nature Based Solutions, Climate Change, Biodiversity Loss, Land Use Change and community livelihoods. I embrace the use Geospatial Technologies (GT) and Indigenous Knowledge (IK) in mapping and modelling Climatic Change, Land Use Change and biodiversity loss.

Abstract:
Majority of Kenyan communities rely on tropical savannas for livelihoods, unfortunately, land use changes could affect this ecosystem. This study analysed trends and effects of Land Use Land Cover Changes (LULC) on tropical savannas of Bungoma and Busia Counties under changing climatic conditions. Landsat imageries downloaded from the United States Geological Survey were assessed LULC by applying supervised classification using ArcGIS Pro and Google earth Engine. Climatic data was collected from Climate Hazards Group InfraRed Precipitation with Station data (CHIRPS) and TerraClimate website. The major land uses in the region include water bodies, cropland, tropical rainforest, tropical savannas and built environment. There is an 18% increase in forest and 14% decline in grasslands. Built and cropland increased by 7% and 3% respectively. Regression analysis established a significant relationship between land under savannas verses cropland ($R2= 0.898524$, $P<0.05$), tropical rainforest ($R2=0.545147$, $P<0.05$ and built ($R2= 0.464427$, $p<0.05$) indicating that economic development could partly explains decline in grasslands. Temperature significantly affected NDVI of grasslands with ($R2= 0.392788$, $P<0.05$; $R2= 0.418691$ $P<0.05$) for maximum and minimum temperatures respectively. Reduction in grasslands has changed community livelihoods sources creating a need for a Science Policy Practice Interface to address economic development and biodiversity conservation.

Short Profiles of Further Participants

Prof Dr Jehad Abbadi
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Jehad Abbadi is a Professor in Plant Nutrition and Head of the Biology Department at Al-Quds University in Jerusalem, Palestine. His research interests lie in plant nutrition, soil science, and agricultural analysis, with emphasis on biodiversity and climate change. Abbadi's research encompasses various topics, including nutrient and water use efficiency, sustainable agriculture through the evaluation of traditional plant cultivars, and the bioactive content and antioxidant activity of plant parts. Additionally, he has developed and validated analytical methods and explored wastewater treatment using different approaches.
In the SAGE project, Abbadi serves as a Principal Investigator, providing guidance to PhD students in two key research areas: "Plant-Herbivores Insect Interaction as an Indicator of Drought Effects in Rangelands" and "Green Rooftops in a Dry Climate: Exploring Climate Adapted Methods for Biodiversity Conservation in the West Bank." His role includes supporting the establishment of research stations, designing experiments, analyzing samples, and contributing to the teaching of M.Sc. certificates. Through these efforts, Abbadi aims to advance understanding and solutions at the intersection of agriculture, biodiversity, and climate resilience.

Anfal Alashoush
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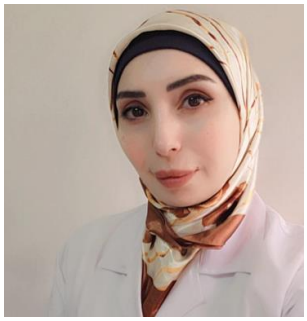

Isra Alkarabsheh
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Isra Alkharabsheh, a hydrologist from Jordan, currently serves as the Head of the Soil and Water Department at the National Agricultural Research Center (NARC). She got a Bachelor's degree in Soil, Water, and Environment from Jordan University of Science and Technology (JUST). She got a master's degree in water quality and treatment, also from JUST. She has experience in soil, water, plant, and fertilizers analysis in the laboratories directorate at NARC, also she participated in implementing several regional and international projects in the soil and water sectors, and she got a scholarship for sustainable adaptation to global climate change in the middle east (SAGE center) to continue her Ph.D. degree at KASSEL University in Germany (Agricultural water demand under climate change). She is in the final stage of implementing her doctoral experiment in the Al-Khanasri region, in eastern Jordan. Her role as the department head at the (NARC) reflects the implementation of scientific research results that contribute significantly to the sustainable management of vital resources for agriculture and the environment.

Dr Khulud Alsouleman
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I am a dedicated researcher in the field of biomass, waste-to-energy, and renewable energy. Through years of research, I've specialized in utilizing various substrates and techniques to develop sustainable energy resources. My current work focuses on innovative and sustainable methods for energy production, aiming to contribute to a carbon-neutral society and sustainable development. I am currently working as a researcher at TU Berlin and serving as a visiting faculty member at IIT Madras in India.

Nora Ateia
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I joined the SAGE Centre as coordinator of the University of Tuebingen hub in 2022. After completing my undergraduate and graduate studies majoring in Sociology and Middle Eastern Studies, I worked as a lecturer in Middle Eastern Studies, where I also started my doctoral thesis with a focus on social movements in the MENA region. Parallel to that I lead a research group with a qualitative research approach in the field of Psychiatry and migration and I coordinated a joint project of the Department of Middle Eastern Studies and the Faculty of Medicine in the field of language and cultural exchange amongst medical students from the MENA region, both at the University of Tuebingen. After working as a gender and diversity expert at the Technical University of Ulm, I am delighted to serve the SAGE Centre with my applied skills, my regional expertise as well as my knowledge in social change and my interest in social outreach.

Lewy Ayietta
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Lewnorah Ayieta is a Certified Public Accountant (CPA), registered with the Institute of Certified Public Accountants of Kenya. She has over 10 years of experience in administration and financial management of multi-donor funded projects. Her expertise in budgeting, grants management, financial analysis, and stakeholder engagement has been instrumental in the successful completion of various projects. As a Project Coordinator at one of the DAAD Global Centres for Climate and Environment (AFAS) and a Grants Accountant at the Institute for Climate Change and Adaptation, University of Nairobi Kenya, Lewnorah has demonstrated her proficiency in managing grants, ensuring compliance with donor and local regulations, and maintaining detailed finance and accounting operations. Her successful administration and close-out of research projects like the Development Corridors Partnership (UKRI), WISE-UP to Climate (BMUB-IKI), DAFNE (EU Horizon 2020), Transforming Resilience Across Water and Food Systems (HEFCW), among others, showcase her commitment to excellence in multi-donor funded projects.

Lars Backhaus
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I have been involved in the development of urban digital twins and their coupling with hydro-numerical models for flood risk management since 2016 as a Research Assistant during my media computer science studies at Dresden University of Technology, Germany. Since joining the Institute of Hydraulic Engineering and Technical Hydromechanics in 2020 as a Research Associate / PhD, I did work on multiple projects in the field of urban flood resilience, especially focusing on 1D-2D model coupling and smart cities. My ambition is to develop state-of-the-art technological tools to assist creating safe, sustainable and resilient water cities. Therefore, I'm linked with researchers from a broad spectrum of hydrologists, civil engineers, computer scientists, geodesists and urban planners as well as being involved with public actors and stakeholders. Recently, I've started to further delve into the field of nexus approaches and sustainability. My ambition for water security will continue in a 3-month research exchange at AIT Bangkok, Thailand at the end of 2024, expanding my prior network within the Global Water and Climate Adaptation Center (ABCD-Centre). At AIT, I'll want to apply the methods and technology developed in my PhD and adapt them for the Gobal South.

Anele Benya
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I am currently pursuing a master's degree in climate change and sustainable development at the African climate and development initiative (ACDI), where I also works as a research assistant. My current research looks at the interface of ocean and land-based livelihoods in how women smallholders from coastal rural communities are adapting/ navigating the adverse impacts of climate change on their livelihoods.
My broad interests are around gender, environmental, social, land, water, food justice and how marginalised communities, particularly working-class women, organise and build movements for alternatives to address the ecological crises.

Dr Klaus Birk

Dr Klaus Birk studied Chinese Studies, Political Science and Philosophy at Munich University and Peking University. From 1992 to 1993 he was a Visiting Scholar at the University of Michigan, Ann Arbor. From 1995 to 2001 Dr Birk taught at Leipzig University and did research on poverty alleviation in China. Since 2001, he has worked at the German Academic Exchange Service Exchange (DAAD), first as Head of Section "China and Mongolia" and then as Head of Division "Asia-Pacific", Head of Division "Knowledge and Network" and Director of the National Agency for Erasmus+ for Higher Education. Since February 2020 he is the Director of the Projects Department of DAAD.

María Clara Botero Zapata
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Biologist graduated from the University of Antioquia, master's degree in Sustainable Territorial Development from the University of Magdalena with emphasis on agroecology, environmental education and biodiversity conservation. With complementary studies in tropical microbiology, scientific dissemination and just and sustainable socio-ecological transitions, knowledge that allows me to address current challenges from various perspectives and find innovative ways to achieve sustainable development. I have assumed a rigorous commitment to the conservation of biodiversity and action against climate change, which has allowed me to gain experience from the technical, social, economic and political fields. With more than five years of experience working around the creation, management and financing of protected areas such as National Natural Parks, Regional Biological Corridors and private areas. I am co-founder and technical leader of the "El Maná Natural Reserve". In addition, I have led projects with children and young people, generating educational and participatory spaces around the problem of the climate crisis, which has allowed me to influence the programmatic agendas of public representatives and environmental authorities. My focus is to promote awareness about the care of biodiversity and lay the foundations for informed decisions among key actors. I have a clear vision: to contribute to the creation of a more diverse, fair and sustainable planet.

Joshua Fernando
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My name is Joshua, and I come from Mumbai, India. As a Master's student of Hydro Science and Engineering at Technische Universität Dresden (TUD), I am passionate about Hydrology, Hydraulic Engineering, Urban Water, Watershed Management, and Climate Modeling. Currently, I work as a Research Assistant at TU Dresden, developing Hydro-numeric models like Delft3D and Delft FM for wind-wave induced sediment transport in mining pit lakes and utilizing Xbeach for Hydro-morphodynamic modeling at Hubert Engels Laboratory. My role involves handling diverse research tasks and post-processing simulations using GIS/ArcGIS/CAD/Delft3D.
I have contributed to Urban Pluvial Flooding damage estimation projects, creating flooding damage maps with QGIS, SWMM, and Python tools. My remote sensing and image analysis courses, complemented by ESRI remote sensing certifications, have honed my skills in acquiring and interpreting satellite data. Effective communication with clients, stakeholders, and research faculty has been pivotal in my role. Previous internships have enhanced my leadership and collaborative skills through hydrological field surveying projects. Focused and motivated, I am eager to take on new challenges and contribute to advancing the field of hydro science and engineering.

Elias Handal
Contact: Eliashandal93@gmail.com

I am Elias Handal from Palestine, one of the SAGE Centre students at Tübingen University. My project is funded by DAAD. I am working under the project named: "Developing indicators for tipping points of rangelands in the Jordan River region under climate and land use change." My study takes place in an area near Hebron city in Palestine, and I am using rainout shelters to study the effect of drought on plant-insect interactions, and how to use them as early indicators for climate change. I did my Master of Science in Environmental Biology at Birzait University, Palestine, and my bachelor in Biology, medical laboratories, from Bethlehem University, Palestine. I have published over 30 scientific research papers on different fields such as entomology, herpetology, and cytogenetics.

Ayat Hazaymeh
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Ayat Hazaymeh is a senior water and environment researcher with twelve years of experience. She holds a M.Sc. in civil engineering/water resource and environment from the Jordan University of Science and Technology (JUST). Within the SAGE and Climate & Hydrology team, her research focuses on urban water harvesting in Jordan.

Alexandra Krumm
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Alexandra Krumm is the co-academic coordinator of the European hub of the DAAD Climate Global Center TRAJECTS. She is a PhD candidate at the Europa University of Flensburg investigating collaborative pathways for a just energy transition, focusing on participation and community perspectives in Germany and India. Additionally, she analyses the potential of integrating social aspects into energy models.

Lukas Loose

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Lukas Paul Loose is a researcher in the Indo-German Centre for Sustainability (IGCS) with focus on the Sustainable Water Resource Management. Additionally, he is currently pursuing his Ph.D. and working at the Department of Hydrology and Water Resources Management, Kiel University. His academic path began with comprehensive studies in Agricultural Sciences, with focus on Environmental Sciences, which he completed at Kiel University with a B.Sc. and an M.Sc. degree. Lukas's current research focuses on water quality of surface and groundwater, monitoring of water bodies, pesticide analysis in water, soil, and sediment, hydrologic examinations of surface and groundwater, and the use of hydrological tracers. He has conducted research in both Germany and India. In India, he works through the IGCS in cooperation at the Indian Institute of Technology Madras (IITM) in Chennai. Furthermore, he is working on interface solutions for the protection of surface water bodies from agricultural pollutants.

Sami Mujahed

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Sami Mujahed is a dedicated PhD student at the University of Tübingen, Germany, specializing in urban green space management under climate change under the umprella of the SAGE-Centre which is one of four Global Centres for Climate and Environment funded by the German Academic Exchange Service (DAAD). With a strong academic foundation, Sami holds a Master of Science in Sustainable IPM Technologies for Mediterraean Fruit and Vegetable Crops from CIHEAM-Bari and Libera Università Mediterranea, Italy, graduating with honors. He earned his Bachelor's degree in Plant Production and Protection from Hebron University, Palestine.
Sami has experience in research and sustainable agriculture. From 2019 to 2022, he served as a Research Assistant at the Applied Research Institute - Jerusalem (ARIJ), focusing on plant production, agricultural mapping, and climate change initiatives. He also contributed significantly as a part-time lecturer at Hebron University.
His research includes works on plant disease prevention through an automatic recognition algorithms for agricultural diseases. Sami has actively participated in international conferences and workshops, sharing his insights on climate change adaptation, water management, and agricultural innovations. Sami brings a versatile skill set, including proficiency in various computer programs and research methodologies. His commitment to sustainable agriculture and climate resilience continues to drive his academic and professional endeavors.

Vanessa Muñoz Meneses

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I am Vanessa Muñoz Meneses, Colombian national, professional in Business Administration and Master in Environment and Development from the National University of Colombia.
Throughout my career I have played various roles with an administrative and environmental focus. I worked as an academic-administrative professional for the Master's Program in Environment and Development of the National University of Colombia, contributing to its strengthening and development. I participated in the environmental licensing process and design of the Environmental Management Plan, from the economic and social component, for a recycling company. I supported the development of activities and initiatives of vulnerable communities and recyclers of the city of Bogota for a better use of solid waste. I worked as a teacher in the area of Financial Management through the Enseña por Colombia Program, which seeks to reduce the gaps in access to quality education in Colombia.
My interests are focused on solid waste management and environmental protection. I seek to generate a positive impact through the implementation of sustainable alternatives at an individual level, combining my experience in administrative management and my commitment to nature conservation.

Mai Nusir
Member of the Academic Advisory Board

Contact: mainsair1@gmail.com

Mai Nusir is an environmental engineer and economist. She holds an MSc in Regional and Environmental Economics from Corvinus University of Budapest in 2021 and a BSc in civil engineering from Jordan University of Science and Technology in 2019. Within the climate center SAGE, her research focuses on institutional economics and natural resource management, more specifically common-pool resource management in Jordan.

Indira Alejandra Oliveros Orozco
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Professional in International Business and Master in International Cooperation from the Universidad del Magdalena. Currently, she supports the International Relations Office at the Universidad del Magdalena and the Institución Universitaria Pascual Bravo, in addition to coordinating the administrative aspects of the TRAJECTS project at Unimagdalena. She has worked as a project administrator and has supported monitoring and quality management in projects such as ELANET, funded by the European Commission. Passionate about community work, environmental education, sustainability, and ecofeminism. Currently focused on developing international cooperation projects with socio-environmental impacts and gender equity.

Ghadeer Omar
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I am assistant professor at An-Najah National University. The dean of Faculty of Scirnce. In the field of biotechnology iam interested in the field of exploring meficinal plants antimicrobial, anticancer as well as anticoagulation effect via the accurate identification and cladsification of those wild plants as being a plant taxonomist and the supervisor of An Najah National UNIVERDITY Herbarium. Moreover, highly interseted in the molecular phylogenetic relationships among different plants by the molecular bioinformatics analysis.

Dr Christine Omuombo
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Dr Christine A. Omuombo is an Environmental Geoscientist who is a research associate at the Institute for Climate Change and Adaptation, University of Nairobi, Department of Earth and Climate Science, a Lecturer and Researcher at the Technical University of Kenya an affiliate researcher at the National Museums of Kenya, Earth Sciences Department. She is interested in Landscape evolution, past climate, and coastal hazards. She started working in the natural resource management sector with a focus on mining, freshwater, and coastal resources management. She is an advocate for the integration of geoscience into sustainable development at local, national, and international forums. She believes that earth scientists are critical to the delivery of the ambitions of the Paris Agreement and have a key role in collectively reducing emissions and achieving a low-carbon economy.

Bárbara Orozco Meraz
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School education in Mexico. BSc in Biology with specialization in Biodiveristy Sciences at Université Claude Bernard Lyon 1, Lyon, France. Then MSc in Organismic Biology, Organismic Biology, and Paleobiology at the University of Bonn, Bonn, Germany. Started in the AFAS DAAD Global Climate Center as a research assistant and currently part of the coordination of the program at the Center for Development Research (ZEF), University of Bonn, Germany.

Alejandra Gabriela Orozco Nande

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I am Gabriela, a Bolivian research associate for the PAVE for Climate project, funded by the Federal Highway Research Institute (BASt) and developed at the Hydraulic Engineering Department of TU Dresden. I am responsible for researching data and risk-based development of innovative construction methods for climate-adapted transportation infrastructure. Additionally, I have been conducting in-depth research on flood damage to roads from the July 2021 rainfall events in North Rhine-Westphalia (NRW) and Rhineland-Palatinate (RLP). My role includes developing theories and models to describe damage mechanisms and cause-effect relationships. I focus on performing hydraulic numerical simulations to assess flood impacts on road infrastructure, with the aim of proposing resilient road designs to withstand future flooding. I hold a Master's degree in Hydro Science and Engineering (HSE) from TU Dresden, where I focused on the spongeability assessment of urban areas using geospatial techniques for improved climate change resilience. My Bachelor's degree in Environmental Engineering sparked my passion for the Earth's water system and gave me extensive experience in water pollutant treatment. I am eager to collaborate in multicultural environments to advance the scientific development of sustainable and resilient cities.

Angela Viviana Puentes Rodríguez
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I am a bilingual sociologist (Esp-Eng), expert in gender mainstreaming in sustainable rural development initiatives, productive value chains and peace building processes. I have experience coordinating projects and developing social intervention initiatives in territories highly affected by the armed conflict. I am convinced that transformation towards sustainability and equity is possible. I am passionate about participating in the generation of sustainable and lasting changes, and therefore I have the ability to work in highly challenging contexts with patience, adaptability and perseverance. I have developed and applied educational methodologies oriented to: - Strengthen rural organizational and entrepreneurial capacities and favor the appropriation of sustainable production technologies. - Guarantee the access of rural and indigenous families to decent water, sanitation and hygiene conditions and promote environmental education. - Promote transformational processes for gender equity at household, organizational and community levels. I have knowledge and interest in pedagogy and teaching, communication, racism/anti-racism and differential/intersectional/territorial approaches. I am currently pursuing a master's degree in environment and development at the Universidad Nacional and I am part of the Latin American Hub of TRAJECTS.

Grace Quiceno Soto
Member of the Academic Advisory Board

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Academic Co-coordinator at the European Hub of the Transnational Centre for Just Transitions in Energy, Climate & Sustainability. PhD student and research associate at the FossilExit Group at EUF and TU Berlin. Additionally, she is a researcher and cofounder of POLEN Transiciones Justas, a Think Tank based in Colombia. Her research primarily focuses on evaluating the impacts of the energy transition on the labor market, including the associated skills, and seeks to identify solutions and strategies for a JUST transition. She is Colombian and has a background in International Business. Before starting her PhD, she completed a master's degree in Engineering – Sustainable Energy Management. Over the past decade, she has worked on various universities and project initiatives in Colombia, focusing on energy transition, renewable energy, modelling and simulation, scenario analysis, and policy and regulation.

Ayman Salah

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Dr Jan Henning Sommer

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Dr Jan Henning SOMMER
Senior Researcher, Center for Development Research (ZEF), University of Bonn, Germany
Associated researcher, AFAS: Nature-based solutions for climate change adaptation and biodiversity conservation: linking science, policy and practice

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Prof Dr Katja Tielbörger

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Katja Tielbörger is a Professor for Plant Ecology and Director of the Botanical Garden at the University of Tübingen and cospeaker of the SAGE-Centre. Her research focuses on interactions of plants with other organisms in a changing world. Here, she studies the role of biotic interactions such as competition, facilitation, herbivory, or pollination, for the maintenance of biodiversity, for response of plants to climate and land use change, or in driving plant invasions. An example are studies about the interactive effect of drought and (over)grazing on the functioning of ecosystems. Her main methods are field and greenhouse experiments as well as modeling approaches. She has also adopted transdisciplinary approaches to sustainability science by co-designing and coconducting research projects jointly among scientists and stakeholders. She has worked a lot in the Middle East and in many other dryland areas across the world.

Lisa van Aalst

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Lisa van Aalst is a Project Coordinator at the International Office at RWTH Aachen University.
Currently, she coordinates two international multi-stakeholder cooperation projects with partners in Germany and the Global South, the Indo-German Centre for Sustainability (IGCS) and the Global Water and Climate Adaptation Center (ABCD Center). The projects thematic focus is on sustainability in the fields of water, waste, energy and land use as well as climate adaptation. Her role has involved conceptualizing and executing projects in the higher education sector focussed on exchange, teaching and research while integrating digitalization and promoting gender equality. The projects are funded through the DAAD with funds of BMBF/AA.
Previously, Ms. van Aalst has worked for the German Development Corporation (GIZ) in Nepal on a project for local- and regional economic development.
Ms. van Aalst holds a Master's degree from Ruhr University Bochum, Germany and the University of the Western Cape, South Africa in Development Management and a Bachelor's degree in International Development Studies from Wageningen University, Netherlands.

Monserrat Vargas Méndez

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Monserrat Vargas Méndez is social researcher, specialized in education and technical vocational training in the field of organization, structure and planning of vocational training policies in Costa Rica. In recent years, she has focused mainly on understanding the dynamics of vocational training in the context of energy transformations and transitions associated with social and environmental policies in Costa Rica.

Max Vidal Carranza

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Max Vidal Carranza (he/him) is project manager for TRAJECTS at the Department for International Affairs of Technische Universität Berlin. He has several years of experience implementing academic, educational, and artistic projects funded by different actors of the public and private sectors. Since November 2021, he is the non-academic coordinator for TRAJECTS. His main responsibilities include the centre's financial management, its monitoring, and reporting. Max is passionate about history (M.A. Economic and Social History) and music.

Anna Weininger

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I joined the Climate Centre SAGE as one of the coordinators at the University of Tübingen hub in October. I completed my B.A. and M.A. in Rhetoric and History there and am currently writing my doctoral thesis in modern history. The work at SAGE combines my interest in climate change and interdisciplinary approaches to finding solutions to global and regional challenges. My focus in history is to investigate cultural and social responses to threats (especially economic). I ask about the (historical) knowledge actors use to make sense of a crisis and to find ways out of it. These questions can also be applied to climate change and the work taking place within SAGE.

Dr Azin Zarei

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Dr Azin Zarei is a Research Associate at the United Nations University (UNU-FLORES), focusing on the Resource Nexus approach to enhance climate vulnerability and risk assessment methods in grassland and forest areas. Her expertise includes identifying areas vulnerable to degradation by quantifying climate change impacts on vegetation cover through vegetation dynamics monitoring (Remote Sensing), Geographic Information Systems (GIS), and statistical models.
Currently, Azin supports coordination activities within the Sustainability Nexus Analytics Informatics Data (AID) programme at UNU-FLORES, aimed at establishing the institute as a global hub for Resource Nexus Analytics, Informatics, and Data.
Throughout her academic journey, Azin has developed expertise in vulnerability assessment, satellite monitoring of vegetation dynamics, GIS, and statistical models. Her interdisciplinary research encompasses climate change risk management and drought. Her Ph.D. thesis focused on developing a statistical model to quantify climate change impacts on vegetation cover in the grasslands of western Iran. As a Postdoctoral Researcher at the Potsdam Institute for Climate Impact Research (PIK), she expanded her research to Tanzania. Additionally, she has experience in drought and climate change monitoring with UNESCO International Hydrological Programme (IHP).
Her multidisciplinary background and collaborative research experience underscore her commitment to integrating sustainability principles into her work, aiming to develop innovative strategies for adaptation, resilience, and effective climate change risk management.

Grietje Zimmermann

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Grietje Zimmermann has been Head of the International Projects Section at TU Berlin's Department of International Affairs since 2016. International Projects contributes to internationalization at TU Berlin by acquiring and successfully implementing strategically effective projects. The section is in charge of supporting academic cooperation with partners in the Global South since 2019. It has been involved in the Global Centres TRAJECTS and G-WAC from the proposal stage on und is in charge of the project management of both centres.
Prior to her current position, Grietje was responsible for international cooperation and projects in the field of (higher) education at other institutions and worked in Colombia as DAAD representative for five years.

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