



Climate-U

Transforming Universities
for a Changing Climate

CLIMATE-U

NETWORK CONFERENCE, 2024

**THEME:
HIGHER EDUCATION AND CLIMATE CRISIS**

SEPTEMBER 24TH - 27TH, 2024.

**VENUE:
KENYATTA UNIVERSITY CONFERENCE CENTER (KUCC)**

BOOK OF ABSTRACTS

Introduction

Climate-U Network Conference Higher Education and the Climate Crisis

The Climate-U network brings together universities from around the world committed to working together to address the climate crisis. The network was born out of the Climate-U project (Transforming Universities for a Changing Climate) which ran from February 2020 - January 2024, funded by the Global Challenges Research Fund.

The aim of the network is to strengthen climate action and sustainability efforts within each institution and collaboratively given that the sustainability challenges traverse sectors and regions. Universities are central to the transformation of societies, through their unique role in professional development, knowledge production and public debate. While there has been increasing attention to the active role universities can play in recent years, and many institutions have made commitments to achieving carbon neutrality and just transitions, there is still a significant knowledge gap. Building on the Higher Education and the Climate Crisis event held in London in October 2023, this conference provides a space for debate, exchange of ideas and sharing of new research on diverse aspects of the higher education-climate crisis-sustainability axis. It offers a platform for a range of activities that will include interactive seminars, workshops, research papers and poster presentations featuring interdisciplinary perspectives from prominent speakers and decision-makers in climate education.

The mode of the conference will be blended with both in-person events to be held at the Kenyatta University Conference Centre, Nairobi, and virtual participation.

Conference sub-themes:

1. Trans disciplinary approaches to addressing the Climate Crisis in Higher Education
2. Sustainable Campus Initiatives and Best Practices
3. Climate Justice, Intersectionality, Equity and Higher Education
4. Indigenous Knowledge and Perspectives on the Climate Crisis
5. Student Activism and Engagement for Climate Action
6. Climate Communication, Policy, and Public Engagement Strategies
7. The Role of Higher Education Institutions in Advancing the UN Sustainable Development Goals (SDGs)
8. Sustainable Development and Community Partnerships

**THEME 1:
TRANSDISCIPLINARY
APPROACHES TO ADDRESSING
THE CLIMATE CRISIS IN HIGHER
EDUCATION**

1.1 NATIONAL EXTENSION CLIMATE INITIATIVE: ACCELERATING AND UPLIFTING ACTION ACROSS THE US EXTENSION SERVICE TRANS DISCIPLINARY APPROACHES TO ADDRESSING THE CLIMATE CRISIS IN HIGHER EDUCATION, CLIMATE COMMUNICATION, POLICY, AND PUBLIC ENGAGEMENT STRATEGIES, SUSTAINABLE DEVELOPMENT AND COMMUNITY PARTNERSHIPS.

Paul Lachapelle, Roslynn McCann, David Kay

Abstract: The National Extension Climate Initiative (NECI www.nationalextensionclimateinitiative.net/) formed in 2020 serves as an anchor for Extension professionals, researchers, and partners to collaborate on climate-related issues to share resources, discuss barriers and opportunities for advancing climate change programming in Extension, and engage in professional development opportunities. Since its formation, NECI has grown from a handful of dedicated faculty working in higher education primarily at Land Grant Universities, to a network of over 1000 members. Members represent over 80 distinct institutions including universities, tribal and community colleges, nonprofit organizations, federal, state, and local agencies across the United States. This presentation will share background information on the purpose and goals of NECI, its operating structure, and case studies and metrics on accomplishments to date including, 1) Providing input to the White House upon invitation on the development of its National Climate Resilience Framework, released September, 2023; 2) Adoption and implementation of the EcoActUs curriculum (www.ecoactus.org/neci) as a climate change Extension education resource in 2023; 3) Drafting a national vision and objectives for climate change work in Extension; 4) Providing recommendations on the President's Executive Order on Tackling the Climate Crisis at Home and Abroad as a partnership between Extension professionals and department heads in 2021 upon request from USDA NIFA; and 5) Publishing Extension Climate & Extreme Weather Programming: Successes, Challenges & Opportunities national report in 2020. The presentation will conclude with planned next steps for NECI and opportunities for engagement.

Keywords: climate communication, policy, and public engagement strategies, sustainable development and community partnerships.

1.2 THE VIEWS AND PERSPECTIVES OF STUDENTS AND FACULTY REGARDING CLIMATE CHANGE AND SUSTAINABILITY EDUCATION INTERVENTIONS AT MAKERERE UNIVERSITY, DEPARTMENT OF MANAGEMENT.

David Ssekamate

Scientists on climate change and sustainability seem to agree that climate change is the most pressing challenge facing the globe. Human behavior and action has been cited as the key contributor to the climate change challenge and therefore a call for change in human actions and practices to mitigate and adapt to climate change. Education and more especially higher education have the capacity for creating awareness communities and society at large on climate change and sustainability. It could also support altering human behavior and influencing climate action at various levels within and outside the countries. The study explored the faculty and student perspectives regarding climate change and sustainability interventions at the Makerere University in Uganda. A qualitative case study research design was adopted. The researcher engaged 10 faculty members using semi-structured in-depth interviews and 24 undergraduate and postgraduate students on climate change

and sustainability education related programs using Focus Group Discussions (FGDs) at the case university. Data was analyzed using the Braun and Clarke (2006) thematic analysis model, supported with MAXQDA software. Findings uncovered several perspectives and views from faculty and students regarding training, research and community engagement interventions on climate change and sustainability, implemented by the case university. These perspectives may contribute to scholarly discourse and literature on climate change and sustainability education in the East African context.

Keywords: Climate change and sustainability education, Makerere University, faculty, and students' perspectives.

1.3 BRIDGING DISCIPLINARY BOUNDARIES: CHALLENGES AND OPPORTUNITIES IN INTEGRATING GENDER INTO WATER AND CLIMATE SCIENCE RESEARCH IN SOUTH ASIAN HIGHER EDUCATION INSTITUTES.

Dr. Sreenita Mondal, Ms. Suchita Jain, Dr. N.D.K. Dayawansa Professor, Dr. M. ShahjahanMondal Professor, Mr. Robert Dongol

South Asia, with its sensitive socio ecological systems, faces severe impacts from climate change and water insecurity. Despite recognizing gendered vulnerability in these issues, there is a lack of comprehensive gender and social inclusion research in water and climate science (WCS). Higher education institutions are crucial for raising awareness among future scientists, but WCS research typically focuses on core physical sciences, only minimally integrating other disciplines. Social and gender theories, rooted in social sciences, often struggle to find a place in STEM education and research. This study examines the challenges of incorporating gender through interdisciplinary and Tran's disciplinary approaches in WCS research in higher education and tries to identify effective methods and pedagogical tools for bridging disciplinary divides. The research is based on a case study of four engineering institutes across South Asia, which provided fellowships and training in interdisciplinary and gender in WCS to post-graduate students, funded by donor agencies. Findings reveal that despite intensive training, integrating gender through interdisciplinary remained conceptually and practically challenging for most students. This difficulty reflects the stringent boundaries of disciplines, their distinct languages, principles, and methods, which are institutionalized within universities, necessitating systemic changes. It further indicates the need for sustained mentorship and experiential learning to further advance gender integration through interdisciplinary approach in WCS. Nevertheless, the approaches adopted successfully introduced the significance of a gender lens within the discourse of WCS research at the institutions and with the fellows.

Keywords: Socio ecological Systems, Gender and Social Inclusion, Interdisciplinary and Trans disciplinary Approaches, **Systemic** Changes

1.4 ASSESSING OUTCOMES OF THE ENVIRONMENTAL EDUCATION AND CLIMATE OUTREACH INITIATIVE

Karnita Garner, Roosevelt Robinson, Paul Okweye, Pooja Preetha and Allyson Shabel

Climate change affects many facets of our lives, yet our lifestyles are a key part of the problem. According to the Environmental Protection Agency, the climate is changing because the Earth is warming (USEPA, 2016). In recent years, we have observed significant environmental impacts resulting from climate change. Declines in plant and animal biodiversity, desolation of natural resources, and economic impacts arising from natural disasters are just a few. Despite immeasurable consequences, we continue to widen our carbon footprint. The objective of this program is to minimize climatic impacts through the environmental education and climate outreach initiative. This project tackles climatic impacts in three primary focus areas: I) wildlife management, ii) waste management, and iii) natural resources management. It also advances cultural diversity and strengthens the capacity of Cooperative Extension. Outcomes include increased adoption of climate-smart actions, enhanced literacy and climate resiliency, and lower greenhouse gas emissions.

Keywords: environmental education, climate change, Earth warming

1.5 TRANSDISCIPLINARY APPROACHES TO ADDRESSING THE CLIMATE CRISIS IN HIGHER EDUCATION: TRANS DISCIPLINARY APPROACHES TO CLIMATE JUSTICE: COLLABORATIVE EFFORTS AT THE UNIVERSITY OF SÃO PAULO.

Tercio Ambrizzi, Karnita Garner, Roosevelt Robinson, PhD Paul Okweye, Pooja Preetha PhD, Allyson Shabel

This study highlights the collaborative efforts of nine research groups from different institutes of the University Of São Paulo (USP) in addressing climate justice in São Paulo, Brazil. Despite diverse projects and disciplines, these groups adopted a common interdisciplinary approach to engage the community. Their achievements include climate literacy for high school teachers, empowering elementary students to collect climate data, educating society through pollinators, equipping communities to combat climate injustice, developing methodologies to prevent landslides, creating climate change board games, implementing selective waste management, and estimating emissions from the university. These initiatives also aimed to foster climate change research and efforts at USP. We will present how these initiatives have impacted higher education on the USP campus through Tran's disciplinary approaches, demonstrating the critical role of collaborative efforts in addressing climate justice and enhancing community engagement.

Keywords: Climate justice, Interdisciplinary approach, Community engagement, Tran's disciplinary initiatives

1.6 TOWARDS CLIMATE CHANGE PREPAREDNESS FOR ENGINEERING GRADUATES: A ZIMBABWEAN CASE STUDY. THEME: TRAN'S DISCIPLINARY APPROACHES TO ADDRESSING THE CLIMATE CRISIS IN HIGHER EDUCATION.

Doris Chasokela, Tawanda Mushiri, Abel, Nyamapfene, Isaiah Gwitira, Doubt Simango, Francis Mafuratidze, Farai Matawa

A multifaceted response from academia, industry, and governments is required to address the climate change crisis. Graduates from higher education are well-positioned to play a critical role in mitigating climate change. This study examines how the engineering curricula of four Zimbabwean universities can positively contribute

to addressing climate change. Data was collected by interviewing engineering lecturers from four universities and analyzing engineering degree programs and the role of the Scientific and Industrial Research and Development Centre. The study found that the engineering curricula of these universities recognized the importance of climate change but there is limited coverage of the necessary skills and knowledge needed to address climate change. This may result from inadequate training in sustainable engineering practices that can mitigate climate change. The main gaps in the curriculum such as lack of faculty expertise and limited industry engagement contribute to lack of preparedness. The findings calls for the need for curriculum review, professional development of lecturers and engagement of industry to strengthen engineering graduates capacity to address climate change. Results of this study may be used for prioritizing curriculum review focusing on sustainability and climate change-related topics. There is also need for lecturers need to unlock their potential in sustainable engineering practices and climate change mitigation strategies and enhance collaboration with industry in curriculum development. Students should be provided with practical experience and opportunities to develop hands-on skills in sustainable engineering practices.

Keywords: Climate Change, Engineering Education, Graduate Preparedness.

1.7 ENABLING CLIMATE CHANGE ACTION THROUGH TRAN'S DISCIPLINARY COLLABORATION; TRAN'S DISCIPLINARY APPROACHES TO ADDRESSING THE CLIMATE CRISIS IN HIGHER EDUCATION.

Jacqueline bleacher, university of surrey, united kingdom

Globally, climate change action including mitigation and adaptation is not as rapid as necessary. The Intergovernmental Panel on Climate Change (IPCC) highlight specific subject areas and sectors relevant to climate change action encompassing the period 2020-2050. Progress will inform current projections and scenarios for 2100. Currently, climate change poses an existential threat to three-point-six-billion people. Areas of high vulnerability are concentrated in the Global South (IPCC, 2023). Many factors inhibit climate change action, however this paper/article identifies a need for: multidisciplinary and trans disciplinary research in academia and collaboration with climate scientists; diversification of communication strategies to bridge the communication gap between climate scientists and key actors responsible for progressing climate action; the integration of climate change knowledge and research with practice; and researcher-practitioner engagement with practitioners realizing Urban Transformation. This paper/article is informed by a narrative literature review encompassing bibliometric literature reviews and critical reviews, spanning the period 1956 to 2024. Findings discuss the status of Climate Action Plans (CAPs) and initiatives to accelerate progress, including opportunities for universities to increase representation in academia, from Global South academics of diverse ethno-cultural backgrounds and include more Global South centric climate action research in Global North academic publications to holistically address climate science knowledge gaps. Specific initiatives highlighted are: Global North and Global South university partnerships, collaborations, and knowledge exchanges; including climate change risk assessments to inform regional and local climate agency; in addition to projects and pilots that mitigate and adapt to climate change hazards.

Keywords: Mitigation and adaptation, Multidisciplinary research, Communication strategies, urban transformation

1.8 AN INTERDISCIPLINARY APPROACH TO TACKLING THE CLIMATE CRISIS IN HIGHER EDUCATION THROUGH THE SOCIAL DIALOGUE “KANKYO CAFE” INITIATIVES IN JAPAN AND ABROAD; INTERDISCIPLINARY APPROACHES TO TACKLING THE CLIMATE CRISIS IN HIGHER EDUCATION.

Jin Tanaka

The 2030 Agenda for Sustainable Development states the need for regional-level dialogue. Scientists and the public have been engaging in dialogues, known as “Kankyo Cafés” since 2015. The Café is an event at which an environmental dialogue takes place intending to deepen the participants’ understanding and promote empathy. The cafés generally last for about 60 to 90 minutes. Each café has about four to eight participants. In Japan, cafés related to a safe and secure society and harmonious coexistence with nature have been held, with themes related to SDGs. Cafés have also been held on SDG themes at universities in the United States etc. In addition, the type of environmental dialogue represented by the café is related to other interactive environmental educational activities and more generally to SDG 4 (education). We hope to continue this activity by inviting not only students but also a broader range of participants, and hope that the sharing of various opinions from people of different cultures and educational backgrounds will contribute to a better understanding of environmental issues. We predict that using this method for education, consensus building, and policy advocacy will help to promote a society that pursues SDGs in the future. This presentation will share the results of the 10-year initiative through the methodology and the outcomes of the online participants, and discuss this methodology as an advanced example of how interactive dialogue in environmental education can improve learning efficiency and spontaneous education through new methods.

Keywords: Kankyo Cafés, Themes and locations, Broad participation, Educational impact

1.9 ENABLING CLIMATE JUSTICE RESEARCH: INTEGRATING TRADITIONAL KNOWLEDGE THROUGH EXPERIENTIAL LEARNING.

Suparana Katyaini, Bhavya Katyal, Aradhana Amlathe, Bibhu Prasad Nayak

The paper brings key insights from two research studies carried out in India to demonstrate the significance of including traditional knowledge on adaptation and resilience in higher education for enabling research on climate justice. First is a case study of the traditional knowledge of indigenous women in the Brahmaputra River basin, in India for adaptation to floods and over time build resilience. The experiential knowledge is evident in their traditional practices of food preservation for the flood period considered as non-structural adaptation, and structural adaptation in the form of housing structure, structures for preventing erosion associated with floods. Some of these are gradually recognized through policies for up scaling. These scientific findings are important inclusions in the ‘higher education on climate change and sustainable development’ to build interdisciplinary and subsequently Tran’s disciplinary learning. This is linked to the second study on rethinking higher education on climate change and sustainable development in India through an interdisciplinary lens and subsequently through Tran’s disciplinary approaches’. The research undertook a participatory approach to understand perspectives from actors engaged in policy, research and practice spheres

on bringing in a balance of knowledge on climate change from the physical, natural, and social sciences disciplines, with knowledge on and from Global South; and experience of inculcating skills in conducting participatory action research on various aspects of climate change where climate justice was an important dimension. Two key conclusions emerging from the studies are- first, the relevance of qualitative research methods in eliciting the knowledge and perspectives of stakeholders to understand climate justice. Second, need for rethinking higher education through participatory action research to impart learning and skills to enable policy-relevant research on climate justice, and catalyze youth-led climate action for a sustainable future.

Keywords: Traditional knowledge, climate change, climate justice research

1.10 ARTISTIC ENGAGEMENT: "CLIMATE (IN) JUSTICE RIBEIRA VALLEY IPORANGA AND ELDORADO" SUBTHEMES THE PRESENTATION RELATES TO (OR THE OPEN STRAND): TRANSDISCIPLINARY APPROACHES TO ADDRESSING THE CLIMATE CRISIS IN HIGHER EDUCATION;

Suparana Katyaini, Ana Beatriz

The short movie Climate (in) Justice Ribeira Valley Iporanga and Eldorado tells the stories of rural residents and residents of the school community in the municipalities of Iporanga and Eldorado, which are located in the south-east of the state of São Paulo. The movie was produced by the Center for Research on Organizations, Society and Sustainability (NOSS) and Moeté Filmes and is one of the results of the "Participatory Research in Action: Education for Climate Justice in the Ribeira Valley-SP". It was developed by the NOSS EDU CLIMA research project under the institutional coordination of the Center for Research Support in Climate Change (INCLINE USP) in collaboration with the Climate-U project at the University College of London (UCL).

Keywords: Artistic engagement, climate justice, climate crisis

1.11 POLICIES AND APPROACHES FOR ACCELERATING AFRICA'S PROGRESS TOWARDS THE ACHIEVEMENT THE SDGS THROUGH UNIVERSITY LED ICT INNOVATIONS FOR CLIMATE CHANGE RESILIENCE AND E-LEARNING

Dumisani Chirambo, PhD.

African countries are at risk of not achieving the Sustainable Development Goals (SDGs) as climate change could engender food insecurity, poverty and inequality. For example, for every three Malawians that moved out of poverty between 2010 and 2019, four fell back in poverty due to the impact of weather shocks. 1 ZEF (2024) 2 highlighted that the G7 commitment of lifting 500 million people from hunger by 2030 can only be achieved if more investment is directed towards Information and Communications Technology (ICT) - based

agricultural information services and female literacy improvement. Accordingly, this study focused on assessing how universities can enhance climate change resilience through ICT innovations and e-learning approaches. The study utilised a qualitative research approach using key informant interviews, and secondary data sources such as academic papers and case studies. The study discovered that (i) the lack of locally translated education content excludes a majority of rural households from using e-learning platforms and (ii) that universities can enhance climate change resilience by increasing Africa's literacy rates and climate change awareness through the development of low-tech e-learning platforms.

Keywords: Climate Change, Food Insecurity, ICT Innovations, E-learning

THEME: 2
CLIMATE
COMMUNICATION,
POLICY, AND PUBLIC
ENGAGEMENT
STRATEGIES

2.1 CLIMATE COMMUNICATION EMPIRICAL PERSPECTIVES REGARDING CURRENT STATUS OF CLIMATE CHANGE AND SUSTAINABILITY EDUCATION AT BUSINESS AND MANAGEMENT TRAINING INSTITUTIONS IN UGANDA: A CASE OF UGANDA MANAGEMENT INSTITUTE (UMI)

David Ssekamatte

The role of higher education in addressing climate change and promoting sustainability has been highlighted in literature and discussions within the global community for more than a decade. This study aimed at examining the current status of climate change and sustainability education in business and management training at Uganda Management Institute. A pragmatist perspective and mixed methods approach was adopted in conducting the study. The research design was convergent parallel mixed methods. A total of 237 students, lecturers and administrators participated in the study using the survey and semi-structured in-depth interview methods. Quantitative data was analyzed using R software. The findings revealed that the institution has a few courses where climate change and sustainability aspects are integrated. However, many of the students have limited knowledge on these aspects, illustrating a serious gap in curricular and training. It also emerged that limited research on climate change and sustainability has been conducted by academics and students at the institution and therefore yet to explore the potential of contributing to sustainable development. Findings indicate that the institution has not adequately explored the third mission (outreach and community engagement) to promote sustainability and address climate change issues. The findings could support engagement of university leaders and other actors to effectively explore ways of ensuring Higher Education Institutions (HEIs) significantly address issues of climate change and promote sustainability within business and management training.

Key words: Climate change, sustainability education, business and management training, higher education.

2.2 SOCIAL MEDIA AND CLIMATE CHANGE ACTIVISM: TOWARDS CLIMATE-CONSCIOUS DIGITAL COMMUNITIES

Hafssa Chabbane

The issue of climate change presents a significant challenge for humanity. Hence, in order to effectively address this challenge, it is crucial that we communicate about it in a way that is understandable and encourages public participation. The rise of social media has transformed the way we communicate, creating a "network society" (Castells, 1996). However, the impact of social media on climate crisis communication is not yet fully understood. That being said, this research paper attempts to explore the role of social media activism in promoting awareness of climate change as it also tries to examine whether social media messages lead to slacktivism or foster green citizenship. With that in mind, the paper aims to answer two key questions. Firstly, how do social media platforms promote climate change communication behavior in Africa, specifically in Morocco? Secondly, to what extent do social media sites shape and nurture public opinion on the climate crisis? To answer these questions, the study uses an ethnographic analysis of social media communities coupled with interviewing ten social media creators whose content is basically on climate issues. The study has revealed that YouTube is the most potent medium for promoting climate change awareness, followed by popular social media platforms like Intagra, Twitter, and What Sapp. The study further recommends the use of multiple social media platforms to maximize the outreach and impact of climate change messages. Most importantly, the

research underscores the crucial role that social media activism can play in promoting green citizenship and raising awareness about the climate crisis. All in all, by leveraging social media platforms, we can create a more connected, climate-conscious, and informed society, better equipped to tackle the challenges of climate change.

Keywords: activism, climate crisis, communication, content creators, social media

2.3 SOCIAL MEDIA AND CLIMATE CHANGE ACTIVISM: TOWARDS CLIMATE-CONSCIOUS DIGITAL COMMUNITIES

Prof Marcia McKenzie, Prof Aaron Benavot, Sisitka, Dr Aaron Redman, Dr Sidney Muhangi, Dr Ludwig Chanyau, Stefanie Mallow,

Abstract Symposium:

Tackling climate change in higher education is multi-faceted. It involves not only innovations in teaching and learning, or facilities and operations, but also across domains of research, community outreach, and overall institutional governance. In this presentation, we will share results from several linked studies examining the uptake of climate change in higher education across one or more of these institutional domains, including in relation to climate justice and Indigenous knowledge.

The study results to be presented are components of the Monitoring and Evaluating Climate Communication and Education (MECCE) Project, a partnership project funded by a six-year partnership grant from the Social Sciences and Humanities Council Canada. It unites diverse perspectives to explore the monitoring and evaluation of climate change communication and education. With over 100 partners engaged, including UNESCO and UNFCCC, the project operates across continents, drawing upon diverse disciplines and viewpoints.

The MECCE Project integrates both quantitative and qualitative methodologies, creating global indicators alongside literature reviews, case studies, and country profiles aiming to increase both the quantity but also the quality of climate change communication and education. The important role of higher education in addressing the climate crisis is visible throughout several of the Project's components. In this symposium, we focus on the MECCE project exploration of higher education climate action, presenting the different methodologies for monitoring and evaluating higher education's contributions. We point out existing gaps and challenges, highlighting possibilities for future research and projects.

Chairs: Sidney Muhangi and Ludwig Chanyau

Presentation 1: Towards an Onto-epistemic Understanding of Climate Change Communication and Education: Perspectives on HE CCEC engagement from a regional literature review (Heila Lotz-Sisitka presenting online)

The findings reported in this presentation emerge from a regional synthesis study, undertaken to establish regional perspectives on climate change communication and education (CCCE). The study sought to uncover a) insights into regional contexts and approaches to CCCE, and b) regional conceptual and methodological emphases in CCCE where these existed and c) regional debates on CCCE where these existed. The study was constituted as a critical realist 'theory mining review' (Okoli, 2015), involving in the first instance (at level A)

a systematic review of literature with a view to contending for onto-epistemic theory to inform depth understanding of a phenomenon. We particularly prioritized reviews, especially systematic reviews (SR) and Evaluation Reports (EV) where these existed. We combined key search terms “Climate Change Education” OR “Climate Change Communication” OR “Climate Change Learning” with “Review Europe”, “Review Sub-Saharan Africa” etc. to get a regional focus. While there was no clear pattern related to Higher Education and CCE emerging from the studies, Most of the studies were undertaken by Higher Education researchers. Overall, the study shows that HE research shows active engagement in the onto-epistemic public dynamics associated with the nature and scope of CC concerns (i.e. via emphasis on media communication and public perspectives on climate change), and a concern with the role of formal education in CC responsiveness (via research on curriculum and formal education CCEC research across regions).

Presentation 2: Climate Action in Higher Education - Comparing approaches in 80 countries (Stefanie Mallow presenting online).

In this presentation we hone in on the higher education findings from 80 Country Profiles, the MECCE project has published jointly with UNESCO’s Global Education Monitoring Report (GEMR). Comparing higher education across different systems is a difficult task, as higher education institutions tend to be given more autonomy than other forms of formal education. This autonomy makes higher education institutions around the world key players in climate action as they educate future leaders, conduct relevant research, and act as exemplary in terms of “walking the talk”. In this presentation, we will present the different ways higher education policies are focusing on climate action. The country profiles analyze national focus on CCE across pre-primary, primary, and secondary education, higher education, TVET, and communication sectors. They were developed through a specific methodology, with data collection by a team of research assistants from all over the world and, in a final step, were reviewed by country experts.

Presentation 3: Measuring Climate Change Research in Higher Education Institutions (Aaron Redman and Aaron Benavot presenting online).

One key component of the MECCE Project is the development of indicators, which enables the measurement of the current state of climate communication and education across the world. The MECCE project partnered with Clarivate to access the Web of Science (WOS). Clarivate provided the MECCE Project a data set of references (from 2000 to 2020) which included, in either the title or author keywords, at least one of the following terms: climate change, global warming, climate justice, and climate action. Analysis of this data clearly shows the explosive growth in climate change related publications, far outpacing increases in the size of the higher education sector and nearly tripling in standardized productivity from 2010 to 2020. Thus far researchers in Europe, North America, and Oceania have led this growth in the extent of research on climate change (even after controlling for the size of the higher education sector and country income). Several Small Island Developing States such as the Marshall Islands also stand out consistently. Investigating the relationship with other indicators reveals significant relationships on the one hand with education policy in the K-12 sector and the extent of public access to information (both by the government and through the news).

Keywords: Climate change learning, climate change communication and education, climate action.

THEME: 3

**THE ROLE OF HIGHER EDUCATION
INSTITUTIONS IN ADVANCING THE
UN SUSTAINABLE DEVELOPMENT
GOALS (SDGS)**

3.1 CHALLENGING HEGEMONIC APPROACHES OF SUSTAINABILITY: EXPERIENCES FROM UNIVERSITIES IN LATIN AMERICA

Adriana Marroquin Rodriguez and Ma. Guadalupe Sanchez Sandoval

Higher education institutions around the world are integrating sustainability (and sustainable development) into their mandates, operations, and curricula. However, despite the Global South experiencing disproportionate effects of climate change and environmental degradation (Islam & Winkel, 2017), most research on sustainability in higher education focuses on institutions in the Global North (Caeiro et al., 2020; Urbanski & Leal Filho, 2015; Yanez et al., 2019). This paper critically addresses this gap by presenting empirical data from Latin American universities and emphasizing the need for inclusive and diverse approaches to sustainability. Specifically, the study critically explores how universities in Latin America define and implement sustainability. Semi-structured interviews with sustainability leaders at 10 universities in 5 Latin American countries reveal the dominance of Western conceptualizations and practices in sustainability agendas. Our interview data finds more engagement of universities related to projective and expressive activities and less constructive engagement that involves debating and conceptualizing sustainable development (McCowan, 2023). The study also finds unique local conceptualizations and approaches to sustainability rooted in local cultures and knowledge that resist dominant discourses. This paper calls for critical engagement with sustainability frameworks, advocating for the integration of Indigenous worldviews and local cultures to challenge and reflect on hegemonic sustainability approaches. In conclusion, the study suggests that enhanced dialogue and exchange of practices among diverse institutions can enrich and problematize dominant sustainability conceptualizations and practices in higher education. By incorporating alternative perspectives from the Global South, this research contributes to a more comprehensive and equitable understanding of sustainability in academia.

Keywords: Higher education institutions, Indigenous worldviews, sustainability frameworks

3.2 THE ROLE OF HIGHER EDUCATION INSTITUTIONS IN ADVANCING THE UN SUSTAINABLE DEVELOPMENT GOALS (SDGs), SUSTAINABILITY TEACHING AND ONLINE LEARNING: THE EXPERIENCES OF THE DITTS PROJECT

Amanda Lange Salvia, João Eustachio, Jennifer Pohlmann, Walter Leal Filho, Franziska Wolf, Luciana Brandli, Rudi Pretorius(3)

With less than six years for 2030 and to achieve the Sustainable Development Goals (SDGs), initiatives to support their implementation need to be urgently accelerated. Including the goals into higher education teaching is one of these initiatives, considering the role played by universities in promoting the SDGs, offering learning opportunities and training future generations. The aim of this study is to present the international project “Digital introduction of the Sustainable Development Goals into Higher Education Teaching” (DITTS) – a strong and sustainable partnership between University of Passo undo (Brazil), University of South Africa (South Africa) and Hamburg University of Applied Sciences (Germany). The project fosters the creation and dissemination of open educational materials for higher education institutions as a strategy to introduce the SDGs to students from all areas. The collaboration among the partner institutions and countries leverages the expertise and regional insights of each team that enrich each teaching module. The study will present the main

lessons from the teaching modules prepared by the research team, and recommendations to support further South-South and North-South collaboration and sustainability initiatives in higher education institutions.

Keywords: sustainable development goals (sdgs), sustainability teaching and online learning, the ditts project

3.3 EDUCATION FOR SUSTAINABLE DEVELOPMENT: INSIGHTS FROM CANADIAN AND AUSTRALIAN BUSINESS SCHOOLS

Mehran Nejati and Eduardo Ordonez Ponce

Climate crisis calls for more commitment from business schools to nurture and empower responsible leaders for a sustainable future. Despite previous attempts at examining sustainability practices across business schools, there is a dearth of research looking into a cross-country comparison of integrating sustainability in learning and teaching for business education. This study aimed to investigate whether and how business schools in Australia and Canada advocate for education for sustainable development. This exploratory study employed a sequential mixed methods design, utilizing a combination of qualitative content analysis and a thematic analysis. During the first phase, Sustainability reports developed by Australian and Canadian business schools, which are signatories to the Principles for Responsible Management Education (PRME), were reviewed using qualitative content analysis methods. Following that, during phase 2, thematic analysis of semi-structured interviews with 9 representatives from selected business schools from Canada and Australia were conducted to triangulate and interpret the findings from phase 1. Our findings show that Australian and Canadian business schools incorporate sustainability into their teaching practices through mandatory courses designed around sustainability and its relationship with business and linking sustainability with other business-related courses by including relevant aspects of sustainability with course contents. Sustainability education in Australia and Canada is being addressed through a variety of degree and non-degree programs showing an increasing relevance for sustainability across business schools. However, results also show differences between the two countries, dependence on leadership, at times lack of support and infrastructure, and not always clear strategies to place sustainability at the core of business education.

Keywords: Business education, Sustainability, SDGs, Business Schools, Australia, Canada.

3.4 ASSESSMENT OF SUSTAINABLE DEVELOPMENT AND GLOBAL CITIZENSHIP EDUCATION INTEGRATION IN HIGHER EDUCATION INSTITUTIONS CURRICULUM

Wilson Mutuma, Damaris Kariuki, Mukirae Njihia

The global community has been faced by a myriad of challenges ranging from climate change, human conflicts, diseases such as Covid-19 pandemic and many others that have impacted heavily on peoples' livelihoods and ways of lives. Globally and nationally, the debate on responding to these challenges has gained a voracious momentum including in the education sector with a view that education can significantly prepare societies for global challenges including climate change. Higher Education Institutions have been seen as agents of change in addressing these challenges because of their tripartite roles of teaching, research and community service. Higher education can significantly prepare societies for global challenges by creating awareness of emerging issues and advocating behavioral change. The aim of this study was to establish the extent to which Education

for Sustainable Development and Global Citizenship Education aspects have been incorporated in Higher Education Institutions Curriculum. A desktop review was employed. Findings show that Education for Sustainable Development and Global Citizenship Education have not been adequately integrated in the Higher Education Institutions Curriculum despite their crucial roles in addressing emerging global challenges. The study recommends that Higher Education Institutions should mainstream these aspects across their curricula.

Keywords: Curriculum, Global Citizenship Education, Higher Education, Sustainable Development

3.5 EMBRACING ONLINE LEARNING AS PATHWAY FOR LIFELONG LEARNING OPPORTUNITIES: THE IMPERATIVE FOR CONTINUED TRAINING AND SUPPORT TO FACULTY IN HIGHER EDUCATION, RWANDA

Irene Ndayambaje

With the experienced in-person instruction halt due to Covid-19 pandemic, online learning has since taken shape and is expected to lead forthcoming lifelong learning opportunities as pledged under SDG4. The boost is associated to the increasing penetration of ICT devices and fast adoption of ICT-led initiatives by younger generation (denoted as digital natives). While so, it is apparent that university faculty (denoted as digital migrants) that should lead the move still struggle to get there. Using a cross sectional research design, the researcher designed an online survey, shared the same with the faculty under the University of Rwanda-College of Education in early May 2024. In a week time, 76 feedback responses were registered from 16 females (21.1%) against 60 (78.9%) males. Of these respondents, 49 (i.e. 64.5%) have been teaching in higher education for more than 10 years. Despite this proven teaching experience, it emerged from the findings that embracing online learning (that should be now combined with in-person instruction) is still cumbersome. This is supported by the fact that 42 respondents (55.3%) sometimes use the established Moodle platform. In addition, 32 respondents equivalent to 42.7% reported unable to independently run a synchronous session using Microsoft team. It also emerged that only 13 respondents (17.1%) have required competences to design an online instruction using blogs. Indeed, only 21 (28%) strongly agreed to have the knowledge to design online quizzes and activities. The present study advocates for refresher training and continued technical support to faculty towards optimum use of online learning.

Keywords: pathway for lifelong learning opportunities, higher education, online learning

3.6 HOW UK UNIVERSITIES DEFINE AND ENACT SUSTAINABILITY – A SYSTEMATIC REVIEW

Ronghui (Kevin) Zhou

Given the increasing importance of sustainability on the global agenda, UK universities are actively integrating the Sustainable Development Goals (SDGs) into their strategic missions, campus infrastructure, curricula, etc. (Filho et al., 2019; Hallinger & Chatpinyakoop, 2019). On one hand, the development of SDGs in leading UK universities provides a 'living lab' to explore the possibility of integrating sustainability into education. On the

other hand, sustainability has emerged as an alternative way to attract high-quality students and increase international popularity, such as rankings in different league tables (Findler et al., 2019). This article aims to explore the definitions of sustainability and approaches to SDGs in UK higher education institutions. Specifically, the article investigates how sustainability is defined and enacted in the strategic documents, sustainability reports, and university missions from 24 official websites of the Russell Group Universities. Through a systematic review, this article aims to: 1) explore the diverse interpretations of sustainability and identify areas of common ground among UK universities; 2) illustrate how universities in the UK are implementing sustainable development initiatives under the current SDGs agenda; and 3) provide practical and policy implications for advancing sustainability in higher education institutions in the UK.

Keywords: Higher education, sustainability

3.7 THE COMPLEXITY OF INSTITUTIONALIZING HIGHER EDUCATION FOR SUSTAINABILITY

Elizabeth Buckner, You Zhang

Universities worldwide have recently made commitments to advancing sustainability and sustainable development, making it an emerging mandate in higher education. Much of the literature on higher education for sustainable development (HESD) is practice-oriented or proscriptive, while less has focused on the complexity of institutionalizing HESD as an institutional priority in both framing and practice. This study aims to explore how HESD is supported yet contested across various contexts. Drawing on semi-structured interviews with sustainability professionals at 73 universities in 25 countries, we find that the HESD is institutionalized through an internal push from visionary leaderships, and student and staff advocates, and externally through funding in sustainability-related projects, and the legitimization of sustainability through global rankings and assessments and the UN's SDG framework. In addition, there is a tendency among HEIs to have a narrow focus on environmental sustainability, although a small number of universities have started to look at sustainability comprehensively, linking environmental sustainability with social and economic sustainability focusing on equity, diversity, inclusion. Yet, institutionalizing HESD also met with challenges such as internal competition for financial and human resources, and sometimes pushbacks from various stakeholders, who consider sustainability projects irrelevant, costly, or a project "good to have." The findings suggest a clear trend that HESD is becoming a widespread mandate in higher education worldwide, but also point to the challenges of institutionalizing HESD in universities with wide-ranging stakeholders and diverse mandates. We conclude with reflections on what these findings mean for the future of the SDG agenda.

Keywords: Higher education, sustainability, institutionalization

3.8 AFRICAN UNIVERSITIES RESPONSES TO THE UN SUSTAINABLE DEVELOPMENT GOALS (SDGS)

Farai Kapfudzaruwa

The role of African universities in responding to societal challenges is considered ever more important given the scale and scope of the issues the continent is facing – which include the effects of the climate crisis, high

youth unemployment, and conflicts. Whilst there is increasing insights on the progress of universities in other regions, there is limited comprehension on the progress of African universities in responding to sustainable development. To respond to this gap, this paper uses the framing provided by the UN sustainable development goals to investigate the role of African universities in tackling sustainable development. The study relies on survey responses from 44 African universities and 22 interviews with senior university leaders. The results show that African universities as a whole are concerned with all the 17 SDGs and are engaged in areas of priority interest to many African countries such as climate, energy, food security and health. However, with the exception of a small number of institutions which are pursuing an extensive engagement, SDGs-related engagements in most African universities are targeted or selective engagements. For many, SDGs-related engagements are organized and managed at the departmental level involving some faculty members and students without any university-wide strategic approach. Research, teaching and community outreach activities relating to the SDGs are pursued variously, but collaboration with government and industry is not very visible. Responding universities identified ‘training for embedding SDGs’, ‘funding’ and increasing cooperation within universities as a key requirement for advancing SDGs-related work. These are structural and functional inputs for establishing a viable institutional arrangement for any university – perhaps indicating that SDGs-related work for many African universities is still at the initial and formative stage.

Keywords: SDGs, African universities, community outreach, research

3.9 LANGUAGE ACCESS AND INCLUSIVE HIGHER EDUCATION IN MOROCCAN UNIVERSITIES

Kaoutar Chahbane

As Morocco progresses in achieving the United Nations Sustainable Development Goals (SDGs), ensuring equitable access to sustainable education emerges as a critical imperative. Language barriers pose significant challenges to inclusivity, particularly for marginalized communities. By examining the intersection of language, accessibility, and sustainability within the higher education landscape of Morocco, this study aims to shed light on strategies for overcoming linguistic obstacles and promoting inclusivity. It looks at how language barriers can make it hard for some students to access education and how translation efforts can help accessing education on sustainability. It investigates the efficacy of language support services, such as translation workshops, language proficiency courses, and digital language resources, in facilitating access to educational opportunities for diverse student populations and access to education around the SDGs. Furthermore, this explores the role of media platforms, digital technologies, and community-based translation efforts in bridging linguistic divides and promoting equitable access to education. The aim is to offer valuable insights for policymakers, educators, and stakeholders seeking to promote inclusive education and linguistic justice as integral components of sustainable development initiatives in Morocco and beyond.

Keywords: language access, higher education, policymakers, stakeholders

3.10 THE ROLE OF ENVIRONMENTAL EDUCATION IN FOSTERING AGENTS FOR ENVIRONMENTAL SUSTAINABILITY, A CAPABILITY APPROACH: FINDINGS FROM ZAMBIA.

Daizy Shoma Nalwamba

Decades post the Tbilisi declaration on Environmental education (EE) countries world over continue to grapple with adverse ecological consequences. Therefore, this study is motivated by the urgency for effective frameworks aimed at mitigating the aforementioned and recognizes that this hinges on the critical role of higher education which has been recognized as a lynchpin for sustainable development. Specifically, higher education EE if nurtured has the potential to advance the sustainability agenda in Zambia and beyond. The University of Zambia's EE program underpinned this study. Thirty two participants (lecturers, students, graduates and environmental institutions) were interviewed and data was analyzed by use of reflexive thematic analysis. Empirically, there are diverse meanings, values and conceptualizations ascribed to environmental sustainability and agency. There is also a disconnect between acquired and required capabilities for EE students and graduates to be argentic. This PhD project proposes a capability-based framework to EE that accords individuals to acquire contextually fitting ecological knowledge, skills and experiences that inherently transform the individual in and beyond the university walls towards sustainability. It further prompts for contextually relevant practices and tools towards the applicability of EE into responding and curbing environmental problems based on unique contexts. This study advances the centrality of individual and collective argentic freedoms instrumental for altruistic and biospheric values. The CA-based framework argues for a reframing and rethinking of the purposes and approaches to EE towards the expansion of argentic freedoms for people to live lives they value while doing so in sync with nature.

Keywords: Environmental education (EE), ecological consequences, sustainability agenda

3.11 FOSTERING SUSTAINABILITY AND SDGS: THE EXPERIENCE OF UGANDA MANAGEMENT INSTITUTE IN PROMOTING SUSTAINABILITY AND IMPLEMENTATION OF SDGS IN UGANDA.

David Ssekamatte

The education sector and more especially higher education has been identified as one of the key avenues for promoting sustainability and supporting governments, other actors in implementing Sustainable Development Goals (SDGs). Management Development Institutes (MDIs) can particularly be handy in providing training, research and expert services to individuals and agencies as well as organizations on sustainability and implementation of SDGs. Such institutions enroll a number of practitioners on management related courses and programmed and these individuals influence decisions in their organizations. A number of public agencies and Non-Government Organizations (NGOs) approach such institutions to develop their management capacities and systems as well as providing expert services in various aspects of management and administration. The paper presents the experience of Uganda Management Institute (UMI) in fostering sustainability and the various engagement of government and other non-government actors on the implementation of SDGs in Uganda. The paper will describe the various training, research, and policy engagements with actors on sustainable development and implementation of SDGs in Uganda conducted by the Institute.

Keywords: Sustainability education, Uganda Management Institute, Policy engagements on SDGs

3.12 THE URGENCY OF IMPLEMENTING EDUCATION FOR SUSTAINABILITY DEVELOPMENT (ESD) IN SUPPORTING FOLU NET SINK IN INDONESIA.

Munthe, M. A., Sari, R., Siadari

The Government of Republic Indonesia has established policies in controlling climate change with the National program "Indonesia's FOLU Net Sink 2030". Indonesia's target in reducing greenhouse gas emissions through the Enhanced Nationally Determined Contribution (ENDC) is 29% or 834 million tons. This is a big target and it requires the role of every institution to make it happen, which includes higher education. Higher education can take the role of a formal educational institution in creating the nation's generation. This study aims to find the importance of procuring Education for Sustainable Development (ESD) courses as compulsory subjects in universities in Indonesia as an effort from higher education to realize Indonesia's FOLU Net Sink 2030. The methods used in this study are qualitative and quantitative methods by collecting data through Focus Group Discussion by inviting all stakeholder components both from the government through The Ministry of Environment and Forestry, academics, Non-Government Organization, and communities. McGowan's framework of universities' modalities in tackling climate change is used to analyze the findings. The result of the study is that 100% of stakeholders agreed to trigger the ESD course as a compulsory subject that students must study because the benefits of ESD are able to form a generation that cares about environmental sustainability and knows the strategy in sustainable environmental management. The three most urgent issues need to be discussed, namely related to land degradation, forest fires, and flooding. Due this important role, ESD must be sought to be present in formal education spaces.

Keywords: Higher Education; ESD; FOLU Net Sink; Indonesia

3.13 THE ROLE OF HIGHER EDUCATION INSTITUTIONS IN ADVANCING THE UN SUSTAINABLE DEVELOPMENT GOALS (SDGS): "AUTHENTIC SUSTAINABILITY: LEVERAGING INDIVIDUAL FACULTY MEMBERS' MOTIVATION FOR SUSTAINABILITY EDUCATION IN BUSINESS SCHOOLS".

Peterson Newton Angela

The urgency to integrate sustainability into business education has never been more significant as the world grapples with unprecedented environmental challenges. The responsibility to foster sustainable mindsets among future business leaders is increasingly falling on business schools. However, the success of sustainability education often hinges on the commitment and personal motivation of individual faculty members. Highly motivated faculty members also employ more innovative teaching methods, exhibit more enthusiasm in the classroom, and offer more transformative learning experiences related to sustainability. These educators often go beyond the curriculum, fostering environments that challenge traditional business thinking and develop a genuine concern for sustainability. This study explores the potential of leveraging faculty's intrinsic motivation to enhance the delivery and impact of sustainability education within business schools, conceptualizing a framework for authentic sustainability that transcends the typical institutional mandates and curricular standards. I argue that faculty members' values and motivations are the primary drivers

for institutional change. Underpinning this argument is a mixed-methods research study encompassing a survey of business school faculty and in-depth interviews with faculty known for their passion for teaching sustainability. The study contributes to the existing literature by providing insights on how business schools can harness and amplify individual faculty members' motivation for sustainability. My research identifies specific motivational drivers of faculty members that correlate with effective sustainability education. In addition, it provides actionable recommendations for academic leaders on creating support systems and structures that nurture and sustain faculty motivation for authentic sustainability education. The implications of this study are profound for policymakers and educators in business schools aiming to embed a culture of sustainability. By aligning institutional strategies with the personal motivations of faculty members, business schools can create a more conducive environment for genuine sustainability education, ultimately contributing to the development of business leaders capable of driving sustainable practices within their organizations and communities.

Keywords: authentic sustainability, business schools, policy makers,

3.14 A SYNTHESIS OF CLIMATE JUSTICE CONCEPT UNDER THE CURRENT GREENHOUSE GAS EMISSIONS FROM WETLAND FARMING SYSTEMS IN SUB-SAHARAN AFRICA.

Rodgers Makwinjaa, b, Christopher J. Curtisa, Solomon G. Tesfamichaela

Natural wetlands have been ranked among essential global ecosystems for capturing and sequestering atmospheric GHGs. They are recognized to have the highest soil carbon density compared to other ecosystems, such as forests, grasslands, and scrublands. Our previous research in Southern Malawi shows that most wetlands are facing multiple threats and rice farming expansion is the most prominent one. This paper underpins an important discussion on climate justice. The critical questions the paper tries to address are; 1) Will it be fair for the least developed countries to pay for GHGs emissions from wetland farming systems? How can wetland food production be achieved without compromising the role of wetlands in regulating GHGs emissions? This is an important discussion and it aligns with global collective effort in combating climate change. It further a critical discussion on why adopting the Paris Climate Agreement and meeting the United Nations Framework Convention on Climate Change (UNFCCC) commitment to reduce GHG emissions and scale-up adaptation actions through the Intended Nationally Determined Contribution (INDC) has always remained a contentious topic in Africa.

Keywords: climate justice, greenhouse gas emissions, sub-Saharan Africa; wetland rice farming

3.15 BEES AND SOCIETY: CLIMATE JUSTICE THE USE OF ENTOMOLOGICAL COLLECTIONS IN TEACHING

Rosely Imbernon, Fabiana Pioker-Hara, Tiago Francoy, Gustavo Alexandre, Guilherme Lopes, Elen Faht, Bianca Silva

The use of entomological collections in teaching is a way of awakening curiosity in students in relation to biodiversity and has a strong appeal in environmental education. Most of the time, however, the collections are merely demonstrative and do not involve the students in the search to identify the different organisms and their role in natural systems. Regarding the social perception that the student should develop in relation to insects, didactic materials need to go beyond identification and classification and involve the students in the relationship between the different insect species and eco-systemic services. The aversion that many insects cause in most individuals is, at times, an impediment to the teaching and learning process in Zoology in regard to Entomology. The proposal of activities that involve an approach based on bees, a species within the Insect class whose representation by society frames it as "friendly" species, is a strategy involving an approach in which the student perceives the social role of insects, in addition to learning about morphological characteristics, structural characteristics, and evolution etc. In this chapter, we shall address Entomology teaching strategies and methodologies involving bees, which could be applied to different groups of students at different levels of formal and non-formal environmental education.

Keywords: bees and society, climate justice, entomological

3.16 THE ROLE OF ISLAMIC HIGHER EDUCATION IN CREATING A MORE SUSTAINABLE SOCIETY: EXPERIENCE FROM INDONESIA

Irfan L. Sarhindi

This study aims to understand how and to what extent Islamic Higher Education (IHE) contributes to enacting a sustainable society, situating Indonesia—as the biggest Muslim-majority country—as a case study. This study is important because studies about IHE's role in mainstreaming sustainability through its modalities are difficult to find. Here, modalities are understood based on McGowan's (2020) framework on higher education's role in tackling climate change: education, knowledge production, service delivery, public debate, and campus operation. Two Indonesia IHEs are selected as fieldwork locations: Syarif Hidayatullah State Islamic University in Jakarta (UIN) and Indonesia Islamic University in Yogyakarta (UII). Data is collected through an iterative process, from analyzing sustainability-related documents accessible to the public to interviewing relevant stakeholders within the university. The preliminary findings show that the notable awareness and understanding of IHE's role in sustainability are evident in both IHEs, albeit with divergent implementation strategies. UIN Jakarta manifests sustainability-related initiatives in the university's motto, its strategic planning, the enactment of the SDGs centers, and thematic research and community service. Meanwhile, UII boasts sustainability-related initiatives by establishing SDGs-centric centers, incorporating it on the research roadmap, and integrating green buildings and outdoor spaces. However, the efficacy and comprehensiveness of these initiatives, the eco-friendliness of institutional culture, and the understanding of

the correlation between Islam and climate action warrant further exploration through forthcoming interviews scheduled for June 2024.

Keywords: Islamic Higher Education (IHE), sustainable society, climate change: education, knowledge production, service delivery, public debate, and campus operation.

3.17 TRAN'S DISCIPLINARY APPROACHES: INTERNATIONALIZATION THROUGH DIGITAL RIGHTS IN HIGHER EDUCATION

Dr. Simon-Peter Kafui Aheto

This paper explores ways by which Digital Rights can be used to promote internationalization in Higher Education. Digital Rights are those human and legal rights that permit persons to engage, access, utilize, create, share and or publish digital materials or to also access and use digital devices sometimes via a network. In an interconnected world of technology, internationalization is a currency that can be used by institutions to evaluate and drive their strategic growth and external partnerships while leveraging on the strengths of other partners and collaborators for rapid development. Internationalization is one surest way of contributing towards the achievement of the UN SDG 4: Quality Education and seven Aspirations of the African Union through internationalization of higher education and UN SDG 17: Partnership for the SDGs. Current trends show that not only do Universities align their mission statements to reflect internationalization but they are seen to be internationalizing via institutional operations. Some of these have happened through joint degrees, research and mobility. This paper argues that internationalization can be achieved in various ways through enhancement and safeguard of Digital Rights of students and staff in Institutions of Higher Education (IHE). This research is underpinned by Digital Rights Framework and the 3 pillars of internationalization by the European Commission, European Higher Education in the World: “mobility, internationalization at home and cooperation and partnership” (EU, 2015) as lens. This research contributes to Digital Rights enhancement and Internationalization in Institutions of Higher Education.

Keywords: keywords: digital rights, educational rights, higher education, internationalization and sustainable educational development.

3.18 ECOHEALTH AS A CURRICULUM AIM

Dima Khazem

There is increasing acknowledgement that education, both within universities and schools, needs to change its aims, its content and its pedagogies if it is to prepare students for the challenges of the Anthropocene. Climate change is the single biggest health threat facing humanity (WHO, 2021). Moreover, climate change is also affecting the health of other organisms, with consequent changes in ecosystem functioning (Nunez et al., 2019). Tackling climate change could be the greatest health advance of the 21st century (Watts et al., 2015) and I therefore argue for embedding EcoHealth as a curriculum aim within schools and universities. To illustrate this, findings from a study undertaken in Egypt are presented, where a multi-level, multi-method, intensive critical realist approach was employed. A documentary analysis of the Egyptian school curriculum was

conducted to examine how climate change and its health impacts are dealt with through a scope and sequence scrutiny for every school stage (age 5-18) and subject, including vocational provision. Forty-two pupils (age 14-16) and eight teachers were interviewed across seven schools in Cairo, Alexandria and the Delta region to explore their understandings of climate change and its health effects. The curriculum, pupil and teacher interview analyses show stark absences in climate change development in Egyptian schools and little understanding of its health impacts. The findings are used to argue for a framework for climate change education within universities, including teaching training institutions, and schools that promotes EcoHealth as a curriculum aim.

Keywords: Climate Change, Education, EcoHealth, Curriculum

3.19 SUSTAINABILITY EDUCATION AND HIGHER EDUCATIONAL INSTITUTIONS IN KAZAKHSTAN: A STUDENT PERSPECTIVE

Gulzhanat Gafu

Kazakhstan is one of the 133 countries that has committed to UN SDGs and the first Central Asian country to adopt the Agenda 2030 for Sustainable Development indicating the country commitment to sustainable development. Possessing huge reserves of coal, oil and natural gas, the country has only recently committed to becoming climate-neutral by gradually reducing greenhouse gas and methane emissions. While there have been various initiatives and some policy developments in addressing SDGs in different sectors, relatively little is known on how universities in Kazakhstan are addressing this critical issue in the country. This presentation will discuss the findings from the analysis of the policy and institutional context within which Kazakh HE promotes sustainability. It also presents data from the quantitative survey of students across multiple discipline areas and qualitative focus groups with student leaders in five universities in Kazakhstan on their attitudes and perspectives towards sustainability education in the national higher education context. The results of the survey among more than 900 students about their perspectives on whether their universities provide them with opportunities to develop knowledge, skills, values and attitudes toward sustainability indicate that universities are not the primary source of learning and influence for students on sustainability and climate action. Both survey and focus group results conclude that universities need to do more to promote sustainable development among students. This study calls for universities to rethink the ways they can better equip students with the learning needed for a sustainable future in the country and beyond.

Keywords: Sustainable Development, Universities, Kazakhstan, Climate Action

3.20 ENHANCING EQUITABLE RESEARCH PARTNERSHIPS IN KNOWLEDGE EXCHANGE AND CO-CREATION

Dr. Daniel Otieno Okech

Participatory Action Research, Knowledge co-creation and Exchange are necessary in generating solutions and interventions that are relevant to those affected. This Case study showcases the Knowledge exchange and co-creation project that was conducted in India, Kenya and Egypt. This Knowledge Exchange Project (KEP) is a description of the co-creation process with stakeholders regarding the research project titled; Impacts of Climate Change on Health Access among Marginalised Communities and Use of Digital Technology for Climate Resilience - Experiences from Developing Countries; The research project aims to shed light on this critical issue and explore the potential of digital technology in enhancing climate resilience and health access in India, Kenya, and Egypt. The KEP engaged with stakeholders from these countries. Knowledge exchange has been defined as an iterative and reciprocal process of exchange of expertise between academics and non-academics in pursuit of impact (Maythorne 2019). The project describes the objectives of the KEP and its conceptual framing. It provides the problem context and how it contributed to addressing the identified issues. The stakeholder mapping in each country represented in the project is presented as well as the methodology for engagement and the outputs of the project. The main output was the development of a comprehensive research proposal that will lead to a full-scale research. This KEP is relevant to practitioners as it demonstrates the process of establishing equitable partnerships in research.

Keywords: Participatory Action Research, Equitable Partnerships, Knowledge co-creation

THEME: 4

CLIMATE JUSTICE, INTERSECTIONALITY, EQUITY, AND HIGHER EDUCATION

4.1 THE SKILLS ECOSYSTEM REQUIRED FOR A SUSTAINABLE TRANSITION OF SOUTH AFRICA'S SUGARCANE INDUSTRY TO ENHANCED BIOFUEL PRODUCTION: A CASE STUDY OF THE MILLING SECTOR IN KWAZULU NATAL

Victoria Hepplethwaite

The South African sugarcane industry has faced a multitude of challenges in the past 2 decades including fluctuating global prices, reduced production levels, climate change impacts, and the introduction of a sugar tax that has resulted in a loss in revenue and a loss of at least 10,000 jobs. To sustain the industry, there have been diversification plans that have been put in place with the diversification to biofuel production being highlighted as one key focus area for the industry. However, transitions often give rise to inequalities as the livelihoods of employees are threatened due to possible mismatches in jobs, and employees losing relevance. While significant research has been conducted pertaining to enhanced biofuel production within the sugarcane sector, focus has not been placed on the skills implications. This study therefore aimed to examine the skills ecosystem needed to support the sustainable transition of the sugarcane industry in the KwaZulu Natal (KZN) province in South Africa to enhanced biofuel production. A case study of the milling sector in the KZN region was the approach adopted, in which document analysis, 30 key informant interviews and 4 focus group discussions were conducted. The study found that the transition of the South African sugarcane industry to enhanced biofuel production requires a substantial shift in the skills ecosystem as there is a lack of coordination between stakeholders in the skills system, hampering efforts to reskill and up skill the workforce to avoid job losses and address skills mismatches. The study recommends developing a robust, inclusive skills development framework that involves collaboration between government, industry stakeholders, educational institutions, and labor unions.

Keywords: biofuels, sugarcane industry, skills ecosystems, sustainability transitions

4.2 LEARNING PATHWAYS IN THE CONTEXT OF A JUST ENERGY TRANSITION IN SOUTH AFRICA

Presha Ramsarup, Victoria Hepplethwaite,

Learning Pathways in the Context of a Just Energy Transition in South Africa the South African energy system is highly coal dependent and deeply rooted in a Mineral Energy Complex (MEC), which has resulted in high levels of inequality and poverty, environmental degradation, enhanced climate change impacts, and instability of the labor market. The country has however made enormous commitments to ensuring a Just Energy Transition (JET) seen through the integrated resource plans (2010 and 2019), the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP), development of the Just Transition Framework in 2021, and the COP26 pledges to mobilize financial and technical resources to help South Africa reduce its reliance on coal and invest in renewable energy. However, as South Africa makes this transition there are risks that arise including, skills supply/demand mismatches, job losses, and economic and social disparities. This study therefore aimed to investigate the nature of learning pathways at intermediate level to help create a better flow within education and training, improved connections between education and work, and improved development and use of skills at work within the emerging energy sector. The study focused on learning pathways within Solar PV, Wind, Battery Storage, Energy Efficiency, and Electric Vehicles. A qualitative approach was adopted through document analysis, semi-structured interviews and learning pathway

stories. The study revealed that these nascent industries are already witnessing multiple entry points into, and mobility points within, learning pathways across the value chains, particularly from an up skilling and reskilling point of view. This is an important element of the just transition, and the skills system should create enabling conditions for flexible entry and progression to take place. The study acknowledges that it is necessary to take cognizance of these multiple entry points to make it easier for curriculum planning and provisioning, and to enable inclusive access for those who are particularly affected by the shifts in labor market demand due to the decarbonization of carbon-intensive value chains.

Key words: learning pathways, just energy transition, renewable energy, skills

4.3 AFFECTIVE MAPS AS A METHODOLOGICAL RESOURCE FOR ACCESSING AFFECTIVITY AND SENSE OF BELONGING TO A PLACE

Klaudia Yared Sadala¹, Tânia Suely Azevedo Brasileiro², Adriane Panduro Gama³, Luciandro Tássio Ribeiro de Souza⁴

This workshop aims to present the Instrument for Generating Affective Maps (IGMA) as a methodological resource for accessing affectivity and sense of belonging to a place. This instrument is validated by international research and has been used by researchers from the CLIMATE-U Brazil/Amazon group and the PRAXIS UFOPA research group in Western Pará. The IGMA generates affective maps, which are conceived as representations of space within an emotional territory, serving as a resource for accessing the dialectic of subjectivity/objectivity in the interaction between subject/community/affectivity. The IGMA explores environments through drawings, metaphors, and feelings related to the community, as well as the meanings and expressions of social thought. It also produces the “place esteem” indicator, which refers to the cognitive, affective, and symbolic representations constructed in the daily lives of individuals within their environments, indicating the individual’s potential for action within the community and their civic participation in these spaces. The IGMA was applied to 28 community members of Anã to investigate their level of community belonging and their level of action for environmental protection, considering the impacts of climate change on their territory and the strategies they use to maintain the forest standing. This workshop is intended for researchers who wish to learn about and deepen their studies on affectivity involving places and its consequences for environmental protection and justice. The target audience is 30 people, and it will be conducted online through the Climate Justice, Intersectionality, Equity, and Higher Education axis.

Keywords: Affective Maps, belonging to a place,

4.4 DROUGHT MONITORING AND ASSESSMENT OF CLIMATE PARAMETERS VARIABILITY IN KOUTIALA AND SAN DISTRICTS, MALI.

Diarra Doukoro

In Mali, the annual temperature, rainfall, and evapotranspiration are high variables. Their distributions are unevenly spread from north to south. Climate change strengthens to increase air temperature and evapotranspiration. It also increases the intense rainstorms and the risk of drought associated heat waves. Drought is considered a natural disaster among all hydrologic extremes. It causes severe damage to the

environment, agriculture, and livelihoods relying on water resources. The present study evaluated the variation of drought indices from 1989 to 2019 in Koutiala and San districts, respectively. Therefore, the Standardized Precipitation Evapotranspiration Index (SPEI) was applied. Hence, the Mann-Kendall (MK) test was used and for 12-month time-scales. Trend analysis of monthly precipitation, temperature, and evapotranspiration has been done by using the MK test. Based on the analysis result, the climate of the Koutiala and San districts has been classified as moderate to severe drought category. However, this result clearly shows SPEI pattern changes in both districts. The monthly precipitation showed a significant decreasing trend in Koutiala and San districts. In comparison, the monthly temperature and evapotranspiration displayed an increasing trend in both districts.

Keywords: Drought, Climate Parameters, SPEI, Trend, Mann-Kendall, Koutiala, San, Mali.

4.5 WHERE CLIMATE CHANGE POLICIES MEET CLIMATE JUSTICE: A STUDY OF KENYA'S CLIMATE CHANGE ACT, 2016

Pratiba Poonia

Climate change refers to significant and lasting changes in the Earth's climate and weather patterns over an extended period. It encompasses both natural variations and changes induced by human activities. While climate change can occur due to natural processes, such as volcanic eruptions and variations in solar radiation, the current trend of rapid climate change is primarily driven by human activities which makes climate change anthropogenic as well and that is the abyss where common people, governments, academicians and young researchers are to debate about the 'anthropogenic' character of climate change. Yet, the world can see the functioning of the climate change act, 2016. Climate justice and climate change policies are deeply interconnected, with climate justice emphasizing the fair and equitable distribution of the burdens and benefits of climate change and climate policies providing the mechanisms to achieve this fairness. The climate change act of 2016 is a landmark piece of legislation in Kenya that provides a comprehensive legal and institutional framework for addressing climate change. The act aims to promote climate resilience and low-carbon development for sustainable development in Kenya. The act establishes a national climate change council and a directorate. The Act emphasizes the importance of public participation and stakeholder engagement in the formulation and implementation of climate change policies and actions. It ensures that the voices of vulnerable and marginalized communities are heard and considered in climate change decision-making processes. The Act promotes research, education, and capacity-building initiatives to enhance understanding and awareness of climate change issues. It encourages the integration of climate change into the education curriculum and the promotion of climate change research and innovation. By providing a comprehensive legal and institutional framework, the Act aims to mainstream climate change considerations into national and county development planning, promote low-carbon growth, and build resilience to climate impacts. This legislation underscores Kenya's commitment to sustainable development and its proactive approach to tackling the challenges posed by climate change. Climate justice and climate change policies are interdependent, with climate justice providing a framework for ensuring that climate policies are fair, equitable, and inclusive. By integrating climate justice principles into climate change policies, governments and organizations can address the disproportionate impacts of climate change on vulnerable populations, promote human rights, and ensure that

all communities can participate in and benefit from climate action. This holistic approach is essential for achieving a just and sustainable future in the face of climate change.

Keywords: Climate change, Climate justice

4.6 TACKLING EPISTEMIC, GENDER, AND SOCIOENVIRONMENTAL INJUSTICES THROUGH PARTICIPATORY ACTION RESEARCH IN HIGHER EDUCATION

Sônia Fátima Schwendler, Mariana Ribeiro do Amaral, Sylviane Guilherme

This paper focuses on climate decolonization from an intersectional decolonial, feminist, antiracist, and anti-capitalist critique, based on the premise that climate justice is inseparable from gender, social and epistemic justice. The Federal University of Paraná, Brazil, developed this study as part of the international Climate-U project (Transforming Universities for a Changing Climate), funded by the Global Challenges Research Fund. Based on Participatory Action Research (PAR) methodology, it diagnosed the impacts of climate change on rural populations, traditional communities (indigenous and quilombola), coastal and riverside communities, agrarian reform encampments/settlements, and climate refugees affected by dams, among others; it also identified the demands and the resistance strategies of these social groups, particularly of women. The act of attentively listening to the practices and experiences of resistance within the communities, through thematic seminars and culture circles based on Freire's Pedagogy, has proven pivotal in shaping novel syntheses and acknowledging the establishment of a fresh epistemology centered around climate emergencies, which derive from social movements and are framed by a feminist perspective, interweaving gender, social and epistemic justice with climate justice. By giving priority to the voices of rural, water, and forest women regarding climate emergencies and acknowledging the pedagogy of care for the body, others, social relationships, territory, and the planet that they cultivate, the PAR has enabled the discovery of previously marginalized and silenced narratives (related to class, race, ethnicity, and gender), and has significantly contributed to confronting epistemic, gender, and socioenvironmental injustices.

Keywords: epistemic, gender, and socio environmental injustices

4.7 NEW EXPRESSION OF ENVIRONMENTAL ART THROUGH SCIENTIFIC POETRY; CLIMATE JUSTICE, INTERSECTIONALITY, EQUITY AND HIGHER EDUCATION

Ana beatriz nestlehner cardoso de almeida, amanda cseh, isabela cavaco, aline gomes, prof. Dr. Sylmara gonçalves dias, daniel felipe paiva, érico pagatto, Jin Tanaka

Numerous contemporary artworks related to environmental issues have already been created. In particular, Banksy's caricatures and concept art that considers environmental conservation have been distributed worldwide and have achieved a certain status. The new artwork we propose is a new expression of environmental art by converting academic papers into poetry. Academic papers are supposed to reproduce the results of research by anyone from a third-party perspective and describe them inorganically. The scientific poem we propose is a new work of art that expresses the ideas and thoughts of scientists by creating a free-form poem that combines both the author's emotions and the results of the academic paper, utilizing the paper. It has already been created and published as a scientific poem based on several papers. In this presentation, we will share the method and detailed concept of creating this new form of artwork, as well as the actual work, and present a new form of fusion of art and academia.

Keywords: climate justice, intersectionality, equity and higher education

THEME: 5

**INDIGENOUS KNOWLEDGE AND
PERSPECTIVES ON THE CLIMATE CRISIS**

5.1 INDIGENOUS KNOWLEDGE AND PERSPECTIVES ON THE CLIMATE CRISIS: VUKU IN VANUA FIJIAN INDIGENOUS WISDOM – ADDRESSING THE CLIMATE CRISIS (CASE STUDIES – FIJI)

Rosiana Lagi, Ledua Waqailiti, Apolosa Robaigau and Kolaia Raisele

While the world is moving towards euro-centric ideologies and practices to address the climate crisis, there are indigenous communities that are still using their ontology and epistemology to understand the climate crisis and use relevant interventions to mitigate the risks and costs of the damages and in extreme situations adapt to the changes brought about by the climate crisis. Using the Solosolevaki Participatory Action Research Approach, through veitalanoa focus group discussion and talanoa interview, this research explored the perceptions of Indigenous Fijians in two indigenous Fijian communities about the climate crisis and indigenous intervention approaches they are implementing to reduce the risks and costs of the climate crisis. The study found that the participants' standpoint on the climate crisis is from their daily experience and interaction with their vanua (land, sea, sky, atmosphere, people, spirit and their relationship with each other). While the participants to some extent experience pre-traumatic stress over losing their vanua to the climate crisis, they are using their vuku in vanua (indigenous knowledge, skills and practices) to forecast and prepare for any change in climate or weather conditions. More so, in worst case scenarios use their village governance system to adapt or relocate within their communally owned land. With the assistance of the researchers, the participants are able to generate climate literacy in the communities with the hope of acquiring climate justice and climate proof communities.

Keywords: indigenous knowledge, climate crisis, vuku in vanua Fijian

5.2 MANDALA OF AMAZONIAN KNOWLEDGE: INTERACTIVE CIRCLE OF KNOWLEDGE ADRIANE PANDURO GAMA 1, TÂNIA SUELY AZEVEDO BRASILEIRO 2

Rosiana Lagi, Ledua Waqailiti, Apolosa Robaigau, Kolaia Raisele

The mandala is an ancient cultural element that allows bridges to be established with various areas of knowledge, and is an empowering tool in education. Under the Climate-U PRAXIS UFOPA Project, the Amazonian Knowledge Mandala was applied as one of its scientific instruments. Inspired by significant references such as Popular Education based on Paulo Freire and Amazonian Educology, represented by Magnólio de Oliveira, this holistic, systemic, creative method of active community interaction and listening can map and dialog innovative elements and good practices of the socio-productive chains of Anã, in order to point out guiding paths for designing the implementation of a circular ecological bioeconomy of the forest, as well as proposing mitigation and adaptation strategies in the face of climate impacts in this territory. The results showed rich experiences of belonging, innovative community ideas, exchanges between traditional knowledge and scientific knowledge and contributions from ecological and circular bio economy experiments incorporated into contextualized climate actions for this Amazonian riverside territory. The aim of this workshop is to present the principles of the Mandala of Knowledge according to the local reality and contextualized themes; to encourage teamwork involving trust, discipline, collaboration and interaction through a formative, reflective, critical and playful approach based on the daily challenges in each territory; to exercise the replicability of the innovative Mandala of Knowledge in various participatory learning contexts.

This workshop will be held online and will be aimed at academics and the community in general who are interested in collaborative interactions and climate action. The number of participants will be between 15 and 20 people, for the Sustainable Development and Community Partnerships axis.

Keywords: Amazonian knowledge, mandala

5.3 MOBILIZING INDIGENOUS KNOWLEDGE TO RESTORE CLIMATE CHANGE IMPACTS IN TANZANIA

Glynnis Vergotine and Palesa Molebatsi

Tanzanian coastal communities engaging in fish-related businesses and seaweed farming are conscious of human actions and climate change effects which threaten the sustainability of their coastal and oceanic incomes. Based on this awareness, community groups in the Somanga village devised mechanisms to impart local knowledge and skills to engage in sustainable fishing practices and to conserve and restore coastal and marine ecosystems. The paper describes two informal community-led initiatives using indigenous knowledge to educate communities, the first was to develop the skills of the fishing community to revive coral reefs in the area for practicing sustainable fishing. The second initiative was developing skills in restoring mangroves. The research aimed to determine how knowledge is mobilized within informal knowledge networks. Shaxson et al's framework was adapted to capture the unique process of informal knowledge co-creation, in an informal knowledge network. The data was collected using the photo voice methodology in conjunction with focus groups and interviews. The findings show how knowledge mobilization occurs within informal knowledge networks through co-creation and recontextualisation.

Keywords: climate change, indigenous knowledge

5.4 INDIGENOUS KNOWLEDGE AND PERSPECTIVES ON THE CLIMATE CRISIS: CLIMATE CRISIS AND IMPACTS: AWARENESS, ACTIONS, AND INACTIONS OF MEMBERS OF COASTAL COMMUNITIES OF KILWA DISTRICT, TANZANIA

Almas Fortunatus Mazigo

The paper discusses the perspectives of coastal community members on the causes and solutions to the climate crisis and their implications on climate activism. These perspectives were gathered through surveys and interviews in the coastal communities of Kilwa District in Tanzania. The respondents shared their thoughts on the causes, responsibilities, and actions related to the climate crisis, including preventive and remedial measures. Their perspectives influence their current climate actions and inactions. Seventy-seven percent of respondents are involved in community-led climate actions, such as mangrove and coral restorations and climate change awareness campaigns. Further analysis of these community-led climate actions revealed people's understanding of the impacts of the climate crisis on their livelihoods and their preference for actions that can mitigate these impacts. The findings suggest that while these people are aware of and concerned about local climate impacts, they have limited interest and concern about global-scale impacts. This indicates that these individuals are more likely to support local climate activism than global-scale efforts.

Keywords: climate activism, climate impacts, indigenous knowledge

5.5 INDIGENOUS KNOWLEDGE AND PERSPECTIVES ON THE CLIMATE CRISIS: LEARNING CLIMATE RESILIENCE FROM TRADITIONAL WISDOM AND EMPOWERING NEXTGEN TO TACKLE CLIMATE CHANGE

Pradeep Mehta, PhD

The climate agenda is at the core of all global issues. Though we have international policies like the Paris Agreement, Convention on Biodiversity, Kyoto Protocol, Bonn Challenge, etc., but still we as a global community have failed to accomplish our commitments. One of the reasons of our failures is that we do not have climate change at the core of our higher education system. No matter which sectors the student chose they all have to live on the same planet and breathe the same air. Today, we do not have skilled human resource to work on climate crisis. Climate Crisis should be taken as an opportunity for jobs for which we need to skill our next generation and equip them to take care of this planet before it's too late. Climate change and climate crisis should be included in the course curriculum in Higher Education and students should be skilled in climate modelling, climate adaptation, mitigation, climate disasters. Developing foresight, etc. They need to be trained to look at things from climate lens, so we have a brigade of trained youths to tackle climate crisis in future. Exposure of students to the traditional knowledge system to learn climate resilience is important. Higher education should focus on learning rather than teaching. This is the high time where globally, we need to work for the inclusion of climate change in higher education to be ready for the future.

Keywords: climate crisis, climate activism, climate impacts, indigenous knowledge

5.6 CLIMATE CHANGE IN AMAZON: THE ROLE OF ORAL NARRATIVES ABOUT CLIMATE CHANGE IN A SMALL COMMUNITY INSIDE THE AMAZON.

Prof. Dr. Luís Alípio Gomes, Prof. Dr. Tânia Suely Azevedo Brazilian, Elian Mara Sousa Carvalho

Recent events such as heavy rains and floods in south region in Brazil, reveal the devastating effects of anthropogenic climate change on both a global and local scale. This study aimed to understand climate change based on oral narratives from residents of Anã Village, located in the Tapajós-Arapiuns Extractive Reserve, Amazon, in Santarém city, Pará State, north of Brazil. The study highlights the importance of including voices and perspectives of local residents in understanding climate change and its impacts. Data were obtained through oral narratives, recorded in audio and transcribed into the Voyce application and analyzed qualitatively. The six study participants (two elderly people and four teenagers) signed the consent form that authorized the interview with them. The narratives were grouped into eight perceptions of these community members about climate change at Anã Village: I) significant increase in temperature; ii) problems with fruiting and fruit quality; iii) torrential rains; iv) little fish reproducing known as piracema locally; v) different periods of dry season and flood of the river; vi) fewer pollinating insects; vii) drier air; and, viii) respiratory diseases. These results demonstrate how much oral narratives from the local residents help us understand climate change, since they are the ones who suffer and feel the impacts of such phenomena in their immediate reality. In other words, epistemological aspects cannot fail to consider dialogue with those who represent the most vulnerable part of the environmental imbalance: the people who inhabit the Amazon.

Keywords: climate change, climate impacts, indigenous knowledge

5.7 INDIGENOUS KNOWLEDGE AND PERSPECTIVES ON THE CLIMATE CRISIS: THE ISSUES AND CHALLENGES OF INDIGENOUS PRACTICES FOR CLIMATE SOLUTIONS IN NIGERIA

Dr. Erimma Gloria Orie, and Dr. King James Nkum

Historically, Indigenous peoples have interfaced with the natural world, have a deep connection to the land, water, and ecosystems that are central to their cultures, languages, and livelihoods. Through this intergenerational experience and observation and cross-cultural climate conversations, Indigenous peoples have critical knowledge for adapting to climate crisis for benefits to the earth and humanity. Indeed, the IPCC noted that the Indigenous Peoples have strategies for resilience in changing environments to strengthen current and future adaptation efforts. Despite these benefits which the indigenous peoples provide there is a lack of recognition of the multifaceted role of indigenous knowledge and practices in stewarding the environment and combatting climate change and its impacts. The result is that there is a gap in climate information and knowledge which are lost making climate solutions for combating the impact of climate change not to be holistic, in sync with the peculiar traditional technologies nor capable of achieving accelerated collective progress towards solving the climate crisis. Using the doctrinal methodology the paper explores the challenges contributory to the Indigenous peoples' knowledge being undermined in the climate solutions (climate adaptation). Meanwhile, the paper argues that reckoning with their expert indigenous knowledge has the potential to shape national climate policies and strategies for promoting a more harmonious and sustainable relationship between humanity and the environment to implement and scale-up climate action. The paper therefore among other things recommends holistic collaboration between indigenous communities and climate stakeholders like government, researcher, environmentalists, etc. as partners in climate adaptation initiatives.

Keywords; indigenous peoples, climate adaptation, climate crisis

THEME: 6

SUSTAINABLE DEVELOPMENT AND COMMUNITY PARTNERSHIPS

6.1 SUSTAINABLE DEVELOPMENT AND COMMUNITY PARTNERSHIPS UFPA CLIMATE-U NETWORK: PARTICIPATORY ACTION RESEARCH IN QUILOMBOLA AND RIBEIRINHA SCHOOLS TO ADDRESS CLIMATE CHANGE IN THE TOCANTINA AMAZON.

Edir Augusto Dias Pereira Oscar Ferreira Barros, Salomão Mufarrej Hage

This work presents the results of Participatory Action Research developed in public schools in quilombola and riverside territories of the Tocantina Amazon, linked to the CLIMATE-U Network of the Federal University of Pará, with the support of the National Council for Scientific and Technological Development-CNPQ. The text discusses the ideas and pedagogical actions carried out by the Territorial Governance Collective – COGTER in the educating of teachers, students and social leaders in municipalities in the Tocantina Amazon, with the aim of including the themes of climate, climate change and socio-environmental impacts in school educational practices, expanding the defense of their territories, build collective strategies to confront and demand sustainable and pedagogical measures to climate change and the socio-environmental impacts existing in their territories. Participatory Action Research and Pedagogy of the Alternation constitute the theoretical-methodological bases of the pedagogical activities carried out in ribeirinha and quilombola schools, which favored the dialogue between academic knowledge about climate, climate change and socio-environmental impacts with the traditional knowledge of students, teachers, social leaders, fathers and mothers involved. The results address experiences in the educating of teachers and students, involving methodologies for producing knowledge about the climate with collective intervention in the communities, rivers and territories where the participants live, work and develop their community practices. They highlight the advancement of COGTER with the involvement of public schools, which now include in teacher educating and in the school curriculum, topics such as: climate justice and all forms of protection, care and defense of nature, schools and ribeirinhos and quilombolas territories from the Tocantina Amazon.

Keywords: Participatory Action Research, Tocantina Amazon, National Council for Scientific and Technological Development-CNPQ.

6.2 SUSTAINABLE DEVELOPMENT AND COMMUNITY PARTNERSHIPS. UNIVERSITY COMMUNITY PARTNERSHIPS FOR CLIMATE CHANGE ADAPTATION IN MALAWI: EXPLORING CONTRIBUTIONS, POTENTIAL OPPORTUNITIES AND CHALLENGES

Chimwemwe Phiri, Higher Education and Human Development Research Group, University of the Free State, Bloemfontein.

Partnerships with local communities have emerged as a prominent educational strategy within university functions, aligning with the ethos of an institution dedicated to community engagement. These partnerships serve not only to empower communities with essential skills to address societal challenges, notably climate change, but also reflect a broader shift in academia towards fostering collaborative relationships with local stakeholders. For students, partnerships offer invaluable hands-on experience by immersing them in direct

engagement with community members, bridging the gap between theoretical knowledge and practical application to enrich their educational learning outcomes. This article explores the benefits and contributions of partnerships to sustainable community well-being while addressing the inherent complexities that arise when universities engage with communities in promoting human development. Drawing upon qualitative data obtained from interviews with lecturers, students, and communities, the study investigates the contributions and potential opportunities presented by partnerships and examines challenges encountered by stakeholders in advancing partnerships interventions. Despite the positive impact of partnerships on community skills and empowerment, I argue that while partnerships are contributing towards sustainable community well-being, coordination, funding and mindset change remains key issues to be addressed. Further, educational practices and pedagogical approaches should prioritize addressing the multidimensionality of climate change and fostering agency and empowerment among community leaders to actively engage in partnership activities. This includes giving them a voice in the choice of adaptation interventions and inclusion of communities' voices in the monitoring and assessment of partnership interventions. By doing so, partnerships can be more effective and improve students' learning outcomes.

Keywords: Partnerships, local communities, university functions,

6.3 THE ROLE OF UNIVERSITY AND COMMUNITY PARTNERSHIPS IN ADVANCING SDGs: AN ANALYSIS OF GOOD PRACTICES AND GAPS IN KENYA

Acquilina Nawire Wafula and Dr. Vasiliki Kioupi

Sustainable development is defined by the United Nations as ‘meeting present needs without compromising the chances of future generations to meet their needs.’ The call for sustainable development is expressed through 17 goals developed by the United Nations in 2015. The Sustainable Development Goals (SDGs) ought to be achieved by states by 2030. We are 6 years shy the deadline yet not much progress has been made especially in the global south. There is still a lot of effort needed and the role of community partnerships cannot be overlooked. The benefits of sustainable development range from socio-economic to environmental. Through community partnerships, a range of complexities can be solved. Collaboration and coordination also help organizations to avoid duplicating efforts and closing gaps. Sustainable development points to meeting needs, some of which can only be identified through strengthening community partnerships. This study will be based on SDG 4, SDG 11 and SDG 13.

Keywords: Sustainable development, community partnerships, Collaboration and coordination

6.4 URBAN WATER STRUGGLES – DISCUSSING WATER CONFLICTS IN THE CASE OF DELHI

Afia Siddiqui

Conflict is an inevitable aspect of development and change in urban settings. The story of Indian cities suggests that most of them face a combination of water-related problems: quantity and quality, equity across different segments, and obsolete wastewater management practices. This nexus between water scarcity, pollution, and unequal global water distribution are the primate factors which further leads to disparities reflecting water's quality as a latent factor for causing conflicts. This research caters to the urban water conflicts of various categories occurring in metropolitan Delhi which connotes the need to assess their causal factors and the best resolution mechanisms. The analysis distinctly focuses on the multiple dimensions of water conflicts through social, economic, environmental, and administrative components. The Urban Political Ecological Framework has been developed which helps in understanding various stages of Water Conflicts from the Issues identification stage to the Categorization stage. The analysis developed for the identified neighborhoods of Delhi consists of two major findings: Water Conflict as a potential force for competition and survival with negative impacts and water Conflict as an adjustment tool for negotiation and cooperation leading to new approaches. The research firmly concluded that improving water-based governance for collective action through Stakeholder Engagement Action Plans shall result in better and more effective solutions. In further study, both spatial and non-spatial strategies aim at reducing conflict starting at the very micro level to a larger city scale involving myriad layers of governance. These strategic conflict resolution models can then be replicated to reduce the future 'pumping race' amongst various water users.

Keywords: The Urban Political Ecological Framework, nexus between water scarcities,

6.5 SUSTAINABLE DEVELOPMENT AND COMMUNITY PARTNERSHIPS, BRIDGING EDUCATIONAL DIVIDES: A RESEARCH-PRACTICE PARTNERSHIP TO EMPOWER TEACHERS TO INTEGRATE CLIMATE CHANGE ACROSS SUBJECTS

Christina Torres

No singular institution can address as large and complex a challenge as climate change education. Through an on-going research-practice partnership (RPP) between the Center for Sustainable Futures at Teachers College, Columbia University and New York City Public Schools (NYCPS) Office of Energy and Sustainability, we identified main barriers for teachers' engagement with climate change education. These barriers include: misperception of climate as only a science topic, teacher knowledge gaps, curriculum resource gaps, and overall teacher preparedness. We sought to address these barriers by developing professional learning opportunities for NYCPS teachers aiming to develop teachers' knowledge of climate change, situate climate change in a local NYC context, and build connections between the impacts of climate change to K-12 education. Climate scientists from the Learning the Earth with Artificial Intelligence and Physics (LEAP) center at Columbia University, curriculum development experts, and NGOs/CBOs were active in these programs. We offered these programs in two modalities. The summer institute was created as a week-long,

intensive workshop with 40 teachers from the same school level (e.g., elementary) to develop Trans disciplinary lesson plans on climate change over the school year. The mid-winter institute provided 500 teachers access to NYCPS curricular experts and local partners around climate change education during a three-day program. This paper will present findings from both cases and future directions for this RPP. We hope this will serve as a model for future partnerships around climate change education, inspiring strategic collaborations between K-12 education systems and higher education.

Keywords: New York City Public Schools (NYCPS), Office of Energy and Sustainability, climate change education

6.6 EMPOWERING WOMEN FARMERS THROUGH DIGITAL SOLUTIONS: ENHANCING PRODUCTIVITY, CLIMATE RESILIENCE, AND FINANCIAL STABILITY IN THE RICE-WHEAT CROPPING SYSTEM

Falguni Ganguli, Amit Mishra, Akash Asthana, Amitesh Anand, Sujeet Pandey

Digital solutions play a crucial role in empowering small-scale producers (SSPs), particularly women, to tackle the challenges induced by climate change in agriculture. These tools enhance productivity, climate resilience, and profitability through data-driven decision-making, systematic monitoring, and assessment of agricultural practices. The current study presents a case from the Bihar state in Eastern India, where a platform has been established to set rigorous standards for tracking agronomic practices. This platform ensures that all farmers, with an emphasis on gender inclusivity, can access, understand, and share their data with informed consent. It supports government extension systems in integrating climate considerations into operations, policies, and financial strategies. By providing tailored advisories on the Rice-Wheat cropping cycle, the platform offers gender-sensitive advice to optimize yield, improve crop timing for rice, and allow timely sowing of wheat, maximizing benefits from the rice-wheat system. This approach significantly enhances farmers' livelihoods, particularly for women farmers, by boosting economic stability through better crop management. Incorporating climate-smart practices enables women to increase productivity and profitability, leading to greater financial security and empowerment. The platform fosters behavioral change by encouraging the adoption of data-driven practices to improve outcomes and resilience. This integrated approach not only improved productivity and climate resilience but also empowers all farmers, with a special focus on women, to leverage their data for maximum value, enhancing their livelihoods and fostering sustainable agricultural practices. Key words: Digital Solutions; Climate Resilience; Climate Smart Practices; Behavioral Change; Gender Inclusion.

Keywords: small-scale producers (SSPs),

6.7 ENHANCING CLIMATE RESILIENCE AND WOMEN'S EMPOWERMENT IN POTATO FARMING: A STUDY ON THE SOCIOECONOMIC AND ENVIRONMENTAL IMPACTS OF POTATO ZERO TILLAGE AND MULCHING WITH RICE STRAW (PZTM) IN BIHAR

Shams Tarique, Falguni Ganguli, Akash Asthana, Amit Mishra

Limited access to knowledge hinders the adoption of innovative agricultural practices, particularly among small and marginal farmers. This study investigated the effectiveness of a community video-based extension approach implemented by Digital Green in Bihar, India. The approach utilizes locally produced videos in local languages featuring fellow farmers to promote Zero Tillage and Mulching (PZTM) for potato cultivation. PZTM offers multiple agronomic benefits, including water conservation, reduced labour requirements, improved soil health, and increased crop yield. A randomized controlled trial design was employed to evaluate the socio-economic and environmental impacts of PZTM on potato farming. The intervention significantly increased farmer adoption of PZTM practices, leading to potential improvements in yield, resource use efficiency, and climate resilience. The inclusion of women farmers and extension workers in the program played a crucial role in reducing labor burdens and fostering knowledge dissemination. Future efforts will focus on strengthening digital extension services through mobile platforms like What Sapp and Telegram to enhance scalability and address resource constraints. This study demonstrates the potential of community video-based extension approaches for promoting climate-smart agricultural practices and empowering smallholder farmers, particularly women, in India.

Key Words: Climate Smart Agriculture; Gender empowerment; Community video extension, Climate Resilience, Agricultural Innovation

6.8 PARTNERSHIP IN STRENGTHENING PUBLIC UNDERSTANDING OF CLIMATE CHANGES: EXAMPLES FROM USM AND WWP COLLABORATIVE EFFORTS

Puteri Atiqah Bandira, Suhaibu Dabo, Narimah Samat, Tan Mou Leong, Chan Ngai Weng, & Hong Chern Wern

UN SDGs 2030 calls for concerted efforts by all parties to play central roles in ensuring sustainable futures. Higher education institutions (HEIs) for example, can focus on educating future generations in understanding and taking part towards achieving sustainable development. Collaborative efforts at local levels may lead to a bigger impact with education being the main agenda. In strengthening climate actions, for example, University Sains Malaysia (USM) has collaborated with NGOs namely Water Watch Penang (WWP) in educating the young people to take proactive actions in addressing climate change. This paper aims to share efforts by USM and WWP in educating the public about climate change and focusing on actions to reduce climate impacts. Two case studies were presented to share the experience of these collaborative efforts. Rainwater harvesting and climate rangers are two of the programmers conducted to educate the public, particularly young people on the importance of saving water and actions to reduce climate change impact. With strong support from Penang Water Supply Agency (PBA), a total of 58 education/seminar/events involving 9794 young students and 591 teachers. Collaborative local efforts among university, NGO and private agencies in educating the public towards understanding climate change and actions to be undertaken are effective in tackling climate change issues.

Keywords: higher education, climate change, public-private partnership, university sains Malaysia.

THEME: 7

**SUSTAINABLE CAMPUS INITIATIVES AND
BEST PRACTICES**

7.1 EXPERIENTIAL LEARNING FOR EDUCATING GRAPHIC DESIGN STUDENTS ON ENVIRONMENTAL SUSTAINABILITY IN HIGHER EDUCATION.

Dr. Stefania Sansoni

Higher education learning in the field of environmental sustainability and climate impact is essential to educate a new generation capable of understanding the issues, their roles, and critically evaluating dynamics while proposing solutions. However, our previous research shows that students still lack a clear understanding of this important topic. To address this issue, the content of a Graphic Design module (Design Research Methods) for second-year students was designed accordingly. The module aimed to educate them through direct experience in environmental sustainability. This paper describes the educational process inspired by Bloom's Taxonomy and guided by Constructivist principles, leading students through a practice-based research approach (Experiential Learning). This process included structured secondary research followed by primary research through two data collections to better understand stakeholders and end-users. Subsequently, students were guided through data analysis and visualization to develop a critical approach in finding solutions, summarizing their findings in practical outputs. The focus of the module was for students to explore and familiarize themselves with various research methods and data collection methodologies. They investigated a specific area of environmental sustainability, including green washing and climate change. By engaging critically and motivating students to tackle real-world problems related to their everyday lives, particularly within the campus area, many found this approach highly motivating and presented creative and engaging solutions. Case studies and examples from the best projects are included, featuring both written research and creative visual representations of their ideas.

Keywords: environmental sustainability, Bloom's Taxonomy, Graphic Design module

7.2 ASSESSING THE IMPACT OF THE GREEN OFFICE INITIATIVE: A THREE-YEAR ANALYSIS OF CLIMATE ACTION AND SUSTAINABILITY EFFORTS AT THE UNIVERSITY OF PASSO FUNDO".

Luciana Londero Brandli, Amanda Lange Salvia, Janaína Mazutti, Ana Carolina Martins dos Santos, & Gabriela Rodrigues

Climate change has been receiving increased attention in the Brazilian Context due to the more frequent extreme weather events that occur throughout the Country, and that recently occurred in South. The Green Office at University of Passo Fundo was planned to generate student engagement and new learning opportunities Based on the existing range of practices related to sustainability and climate action at the University. The lack of a specific sector was one of the factors that favored the creation Of the Green Office, allowing the Green Office, as the first initiative of this nature in Latin America. The aim of the paper is to describe the Green Office activities along Three-year and brings reflections on the extent to which the activities have been able to Meet the initial expectations. The methodology is based on participatory action research Approach. The results include the direct and indirect impacts from the activities, the Challenges, and obstacles as well as the successes and failures. The conclusion provides an overview of how the Green Office activities could strengthen the capabilities of Universities to respond to the climate crisis by means of the potential for this initiative, On-going impacts and changes and the enabling or disabling factors.

Keywords: green office, climate change, sustainability, participatory action research, university initiatives

7.3 BUILDING INTERDISCIPLINARY NETWORKS FOR SUSTAINABILITY EDUCATION: LESSONS FROM THE SUSTAINABILITY EDUCATION FELLOWS PROGRAM,

Justus Wachs, Stephanie Leite, Jessica Latus, Blane Harvey

Universities worldwide are committing to increasing sustainability considerations in their teaching. But how can we ensure these efforts go beyond token references to sustainability, and that they span a range of disciplines and educational settings? This paper will share McGill University's experience and lessons learned from the Sustainability Education Fellows (SEF) program. The SEF program is an interdisciplinary initiative that trains teaching staff and students across faculties to incorporate sustainability into their curricula. We will use our experience of organizing, participating in, and evaluating the SEF to share how such programs can equip instructors with the necessary skills and resources to mainstream sustainability across university faculties. We will present findings from our evaluation of the SEF program, highlighting the types of support (e.g., coaching, resources) and tools (e.g., instructional frameworks, teaching methods) that enhance the effectiveness of university-led sustainability initiatives. Participants will learn about the structure of the SEF program; engage with prompts on how to build interdisciplinary networks for sustainability education; and think about challenges and strategies for implementing and up scaling ESD initiatives at their institutions. This paper presentation is aimed at university administrators, department leads, faculty members and sustainability educators more widely. By the end of the presentation, attendees will have a deeper understanding of how to effectively support faculty in incorporating sustainability into their teaching and planning practices. Our findings will provide valuable insights for other universities undertaking similar work, contributing to the broader goal of mainstreaming sustainability in higher education.

Keywords: sustainability, Sustainability Education Fellows (SEF) program

7.4 UNIVERSITIES AS CATALYSTS FOR CLIMATE JUSTICE

Gabriela Martinez Sainz, Daniel Capistrano, Orla Kelly, Aoife Keogh, Sara Lannin

Climate justice connects the causes and consequences of the changing climate to human rights and social justice. It emphasizes not only the importance of combating climate change but doing so while safeguarding the rights of the most vulnerable people and sharing the burdens, benefits and impacts of climate change equitably and fairly. Education is essential for this purpose, and Universities have the responsibility to take an active role in advancing climate justice. This paper presents the results of the 'University Climate Challenge', a research project that measured undergraduate students' understandings of, attitudes towards and actions against climate change in Ireland. A survey was administered to 169 students across six Colleges of an Irish University. The findings of the study reveal barriers that hinder climate action among students connected to curriculum and learning opportunities in Higher Education and identify the challenges in preparing students for the climate crisis. These findings are the basis to conceptualize a critical, intersectional and socially just climate education required from Universities to foster climate justice and effectively contribute to a sustainable future. For this conceptualization, we bring together Hill Collins and Bilge's (2016) intersectionality

framework with Freire's (1970 / 2005) proposal of critical education, which serves to explore how curriculum-making in Higher Education as a social practice (Priestley, Alvunger, Philippou & Soini, 2021) can become a catalyst for climate justice within and beyond education systems.

Keywords: Climate justice, climate change, human rights and social justice

7.5 LEADING FROM WITHIN: USING A TRANSITION DESIGN WORKSHOP APPROACH TO CREATE A CLIMATE-RESPONSIVE TEXTILES CURRICULUM

Jennifer Dranttel, BA

For the first time in 2021, 195 national member governments of the Intergovernmental Panel on Climate Change reviewed and approved a report by 234 scientists from 66 countries that “unequivocally” linked human activity to global temperature rise (United Nations, 2021). Yet for students in University, they have lived their entire lives under the looming specter of climate crisis. In most cases, youth activists are driving conversations around climate action, and the pressing need for an immediate shift in mindsets, consumption, and behavior. When Greta Thunberg first came into public view in 2018, a young person with such strong views on geopolitical issues was a bit of a novelty; by COP28 last December in Dubai, young people were at the forefront of every event, microphone, outreach activity, and climate protest. Youth are the “experts” when it comes to climate action and are also initiating conversation and research around Climate Grief and other novel fields needing further inquiry and focus. However, in many regions of the world not yet feeling the daily and disruptive impacts of climate change, progress on environmental issues is still slow, and the ‘Institution’ of many Universities, particularly those in the global north, can feel another slow-moving reflection of governments. Climate action- particularly the grassroots- bottom-up, diverse, inclusive, and at times unruly version thriving in the under-30 population can feel at odds with these established institutions, which are often reluctant to embrace quick change, and seek constancy and certainty in direction. A passionate climate advocate myself, I have struggled to find ways to marry my role within the establishment- a reputable and longstanding Textiles Programmed- with the urgent climate issues my students desire me to address. My research and practice with the emerging theoretical framework of Transition Design has granted me access to a toolkit which can be applied not only to the world’s wicked problems, but also to develop a responsive and future-facing Textile Design program curriculum. Transition Design encourages a broad web of stakeholders to envision short-term actions for a more sustainable future, which will make the larger changes needed for a healthier overall system more feasible. Transition Design is a still-developing field of research and inquiry, and as such has enormous potential to be applied across many disciplines of design and even as a method for practice beyond design itself. Professor Terry Irwin developed the field of Transition Design in 2015, building on the influential writings of Wolfgang Sachs (Sachs, 1992), Victor Papanek (Papanek, 2003), and many more. Transition Design theory believes that the problems facing humanity- and the problems we are already embroiled in- are interconnected, interdependent and always manifest in place and culture-specific ways. Transition Design argues that new knowledge and skill-sets are required to address these problems, and that their resolution is a strategy for igniting positive, systems-level change and societal transitions toward more sustainable, equitable and desirable long-term futures (Irwin, 2015). Pinpoints of Transition Design theory are incredibly relevant to curriculum development and enabling quick action within a short-term future, by privileging the lived experiences of students and young people, and allowing them a voice in shaping their own

educational focus (Irwin, 2019). In developing the curriculum and new modules at Loughborough, I used a workshop structure published by Irwin and other to determine short- and long-term aims and concerns of the students. The resulting path forward enables students to take their own actions and empowers them, rather than enforcing a relationship of traditional top-down teaching delivery. As a result, students feel heard, short-term goals are addressed, and steps are taken toward a stronger overall link between the degree program and necessary climate action.

Keywords: climate-responsive textiles curriculum, transition design workshop

7.6 USING KITCHEN TABLE PEDAGOGY IN AND OUT OF THE CLASSROOM FOR CONNECTING CLIMATE JUSTICE AND SOCIAL JUSTICE IN HIGHER EDUCATION

Dr. Lucy Aphramor

Food is a generative portal for analyzing many interconnected dimensions of the metabolic and epistemic rift that forge and maintain structural socio-environmental injustices (Brenner and Katsikis 2021). Because food and eating are classed, raced, gendered, material and relational, talking about food invites in affect, emotion, connection to place, trauma, pleasure, and more. A wider optic surfaces the enduring impact of colonialist in shaping how food is known in public health nutrition. This raises questions about the ideological commitment of hegemonic nutrition narratives. Organized around the construct of the inert, ahistorical, atomistic, body of liberal humanism, the body is a calorie burning machine and food becomes a commodity for nutrient transfer. Moreover, the individualized construct ‘health’ is a colonial lock-in. In these and other ways, everyday ‘healthy eating’ messages function as vectors of scientific imperialism and epistemic ide. The oppressive logic of nutrition narratives doesn’t alter the fact that food and eating are important variables in personal and collective flourishing, and a site of avoidable injustice. How then can we talk about them in ways that expose and replace the onto-epistemological drivers of colonialist, without desecration or other harm, and to nurture healing? In this presentation I demonstrate how to use a Freirean-inspired approach called ‘kitchen table pedagogy’ to expose oppressive logics and offer alternative, liberator ways of sense-making around food. The approach is informed by my practice as a radical dietitian and scholarship from diverse disciplines including Fat Studies – notably Da’ Shaun Harrison (2021), critical dietetics, disability justice, and Trans ecologies.

Keywords: Pedology, climate justice and social justice in higher education

THEMES: 8

**STUDENT ACTIVISM AND ENGAGEMENT
FOR CLIMATE ACTION**

8.1 ENGAGING STUDENTS FOR SUSTAINABILITY & CLIMATE ACTION: A PARADIGM SHIFT IN KNOWLEDGE SCHOOL-BASED INTERVENTIONS IMPACTING CLIMATE CHANGE & SUSTAINABILITY PRESENTATION TYPE.

Azwad Bari, Arif Azad Khan

The impact of climate change is severe on developing countries like Bangladesh. Despite significant progress in the health & education sector, our country is encountering a major challenge of climate change and extreme weather events leading to disasters such as floods, droughts, cyclones, heat waves, earthquake and so forth. Government of Bangladesh has formulated the Standing Orders on Disaster (SOD) to inform all concerns about their responsibilities & build synergies among the national & international climate policies. Furthermore, in recent years the government is emphasizing on student-led interventions in climate action to combat the negative impacts of climate change. The gap in institutional arrangement for Climate Change and disaster management has been witnessed at school mostly in the vulnerable locations as per the SOD. Hence, to support government reach its target of disaster risk reduction, Women-led Climate Resilience Program (WLCRP) of Pathfinder International is being implemented on a pilot basis in five vulnerable districts of Bangladesh involving 40 schools. The main objective of this paper is to demonstrate how the students & school-based component of WLCR Program is positively contributing to climate change by as well as retaining its alignment with SOD. Some of these initiatives under the school-based component include mobilizing the school disaster management team & student council, capacitating students on climate change, disaster risk reduction, supporting schools for small-scale mitigation, mock drill simulation, and advocacy with different disaster management committees. The interventions will be analyzed separately to visualize the shift in student's knowledge along with the role they're playing to build a sustainable future.

Keywords: climate action, sustainability, climate change

8.2 KNOWLEDGE AND ATTITUDES OF KNUST FINAL YEAR UNDERGRADUATE STUDENTS TO CLIMATE CHANGE

Gyampoh B A, Tuffour Y F, Sunyani, Ghana), Ogega O M and Amisah S

Effectively responding to climate change requires acceptance that climate change is happening, understand the underpinning science and what can be done in terms of mitigation and adaption measures. Climate change advocacy in KNUST is low and a rapid assessment showed that many students in did not care about climate change advocacy or activism. This is concerning because university students should be drivers of knowledge for change in society but did not care about the most topical issue in society. The study focused on final year students in their last semester having done almost all their courses in the university. A total 644 students from different programmes were randomly surveyed on their knowledge, attitudes, and apprehensions about the causes and likely consequences of climate change; intentions and commitment to reduce their personal greenhouse gas emissions; and their assessment of education on climate change they received at KNUST. Fifty-nine percent (59%) of respondents assessed their knowledge of climate change to be moderate. Although

70% considered climate change as very/extremely important to them, 43% were concerned about it. Also only 14% believed that humans can reduce climate change and will do so successfully. On knowledge on climate change received from KNUST, 11.7% responded 'none, 30.4% too little, and 44.2% stated 'just enough'. These findings suggest that KNUST needs to do more in incorporating climate-related topics into all programs to equip students to be agents of change in society advocates for climate change mitigation and adaptation.

Keywords: keywords: climate knowledge; climate action; university education; effective training

8.3 STUDENT ACTIVISM: "REFLECT, CREATE, ACT: MANIFESTOS AS TOOLS FOR RESPONSIBLE DESIGN EDUCATION"

Marianna Joy Coulentianos

Our professional identities, developed during university education, are a radical lever for change. To have a meaningful impact in the world, one must connect their work to deeply held values. This paper explores the pedagogical benefits of using manifestos – a written statement declaring the intentions, motives, or views of an individual or group – as a pedagogical tool to foster reflection and strengthen the alignment between students' values and their academic and professional work. The study had two objectives: to identify the values held by students and to explore the barriers and enablers faced in translating these values into their work. The data comprised manifesto-related assessments from three modules: two modules included a one-hour lecture and exercise on manifestos, with final submissions that integrated these reflections. In a third course, 32 students were assessed on their ability to create a manifesto and develop an artefact embodying its principles in both outcome and process. Content analysis and qualitative thematic analysis were used for data analysis. Key findings revealed the manifesto principles that students upheld, and strengths and areas of improvement for translating these values into their design processes. These preliminary findings can inform pedagogy to foster a reflective practice that aligns with contemporary challenges, and to enhance students' self-awareness and considerations of responsible practice. By embedding these practices in education, we aim to cultivate a generation who are mindful of their impact and committed to responsible and value-driven practice.

Keywords: responsible design education, student activism.

8.4 CLIMATE CHANGE TRAINING: INTERDISCIPLINARY TEACHING MODULES FOR HIGHER EDUCATION

Amanda Lange Salvia, Luciana Londero Brandli, Patricia Grazziotin Noschang, Marcos Antonio Leite Frandoloso, Jaime Martinez, Mateus Possebon Bortoluzzi, Cristina Fioreze, Altair Favelo

As the world faces the increasing challenges of climate change, higher education institutions become key actors in prioritizing climate change education and preparing students and the academic community to handle the associated social, economic, and environmental impacts. This training is crucial for fostering a generation of professionals capable of addressing the impacts of climate change, regardless of their field of study. This study presents the experience of the University of Passo Fundo, located in south of Brazil, in developing a comprehensive climate change training program. The training consists of a set of modules aimed at equipping the academic community, particularly undergraduate and graduate students, with the knowledge and skills to tackle climate change challenges. Offered by the institutional sustainability office– the Green office UPF - and supported by the international project “Transforming Universities for a Changing Climate” (Climate-U), this training features a mix of lectures and workshops to be delivered online. The modules span scientific, legal, technological, biological, agricultural, and social perspectives on climate change, concluding with a workshop on professional ethical responsibilities. The expected outcomes of this training include critical thinking, problem-solving skills, and practical insights that students can apply in their current and future professional experiences to contribute to climate action efforts.

Keywords: Climate change education, Higher education institutions, Comprehensive training program, Climate action efforts, and green office.