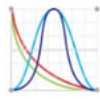




**ARUA-CD**  
Centre of Excellence  
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**ACEIR**  
AFRICAN CENTRE OF EXCELLENCE  
FOR INEQUALITY RESEARCH



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## SESSION OVERVIEWS + ABSTRACTS

### ARUA Climate Change and Inequalities Symposium

Justice in Transition: Transforming Social Inequalities Through Inclusive Climate Action (TSITICA)  
7 - 8 March 2023, UCT Graduate School of Business, Cape Town

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#### DAY 1: TUESDAY, 7 MARCH

09h00 – 10h20 **PLENARY: Intersections between multidimensional inequalities and climate action – what do we know and what do we need to know?**

**Session Overview:**

This panel discussion sets the stage for the symposium. Our aims are i) to structure the problem from multiple perspectives, ii) to understand the state of the art about the interlinkages of multidimensional inequalities and inclusive climate action and iii) to hear about further needs to learn and understand the intersections between climate change and inequality.

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10h50 – 12h10 **PLENARY: Climate change and inequalities knowledge, data, and reporting**

**Session Overview:**

The defining challenges of today are climate change and inequality and we realise that, while our work has focused on inequality, we need to better understand how the linkages with climate as not only climate worsens inequalities, but inequalities prevent efficiently addressing the climate challenges. One of the key tools that has been developed are the inequality diagnostics for a growing number of countries. Through this panel we will start thinking of how these analyses can be enhanced by bringing in the climate dimensions. As there is more and more demand to produce new inequality diagnostics, this is a timely occasion to reflect on how past diagnostics have informed the policy and public debates and how the future diagnostics could address the climate-inequality nexus.

The panel will therefore take stock of the use and impact of the inequality diagnostics and reflect together on how these may be improved in the future. The session is organised around four main presentations: i) the past diagnostics; ii) diagnostics in process and iii) the future diagnostics.

1. The first diagnostics were completed 2 – 3 years ago. Representatives from the Statistical Offices that have partnered with us on this project will provide feedback on how the inequality diagnostics have been used, how this analysis has impacted their current work, and which are the sections or points of the diagnostic that are most useful.
2. A second speaker will speak to why they were interested in producing a diagnostic and how this shapes their work on inequality.
3. One of the frontiers of the diagnostics (and a frequent question we receive) is the lack of a section on environment and inequality. Thus, the session will include speakers who can speak to how the work that they are doing can inform the eventual introduction of a section on environment and inequality in the future diagnostics. This last intervention can also lead to an updated version of the *Inequality Handbook* that would have a chapter on how to analyse inequalities related to the environment.

## **SESSION 2: Profiling multidimensional vulnerability to climate change impacts in South Africa, Ghana and Kenya**

### **Session Overview:** Osei *et al.*, 2023

We present four papers in this panel that examine climate-related vulnerability in South Africa, Kenya, and Ghana. We apply a multidimensional inequality framework approach to identify various and intersecting vulnerability factors that households/individuals face. We measure multidimensional climate-related vulnerability using four dimensions: demographic, economic, housing conditions, and nutrition. Overall, the findings show that there has been progress in reducing multidimensional climate-related vulnerability in the three countries over time. Despite these improvements, a sizable portion of the population remained vulnerable due to a lack of safe drinking water and sanitation, poor housing conditions, and food insecurity. Furthermore, the degree of multidimensional climate-related vulnerability varies significantly by demographic factors, income level, and location. Rural residents and those with lower incomes were more vulnerable on multiple fronts.

### **Papers:**

1. Climate change vulnerabilities in Kenya: A spatial and socioeconomic analysis
  2. Profiling multidimensional vulnerability to climate change impacts in South Africa
  3. Climate change vulnerability in Ghana: A spatial and disaggregation analysis of household sensitivity
  4. Who is multidimensionally vulnerable to climate change in Ghana, Kenya, and South Africa?
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## **SESSION 3: Climate governance and institutions in unequal societies**

### **Papers:**

1. Multidimensional inequality and representation in Sub-Saharan climate governance
2. The role of policy knowledge systems in nationally determined contributions (NDCs) in South Africa, Ghana and Kenya
3. Can climate actions be designed to address poverty and inequality? Lessons from Ghana, Kenya, and South Africa
4. Synergies, trade-offs and contradictions across multiple international regimes: reconciling action and effectiveness for biodiversity related agreements
5. Reflections on the transparency mechanisms: Challenges and opportunities for research on the implementation of the Paris Agreement in Africa

### **Paper Abstracts:**

#### **1. Multidimensional inequality and representation in sub-Saharan climate governance**

*Britta Rennkamp, University of Cape Town, [britta.rennkamp@uct.ac.za](mailto:britta.rennkamp@uct.ac.za)*

This paper investigates the governance and participation mechanisms in climate and clean energy policies in highly unequal societies in sub-Saharan Africa. The analysis of actors, coalitions and influences in the climate and energy networks demonstrates how multidimensional inequalities unfold in political participation in two emerging policy fields. We combine elements of the multidimensional inequality framework with discourse networks and socio-technical transitions theories to analyse recognitional, procedural and distributional inequalities in South African, Ghanaian and Kenyan climate and clean energy governance. Our findings surface the landscape of actors and show who is included in the climate and energy policy arena. The network analysis shows how actors connect in influencing the climate goals and who is included and left out of the multi-scalar climate governance processes. Lastly, the analysis of political participation in climate policy. This research builds innovative transdisciplinary and empirical evidence on the ways that climate change and clean energy policies emerge as relatively new policy fields within historically evolved socio-technical, economic, and political systems in sub-Saharan Africa. It

demonstrates how multidimensional inequalities shape access to climate policy processes and benefits of public policy outcomes. The evidence expands on the recent findings of the research literature, confirming that climate change exacerbates existing inequalities. Vulnerable livelihoods will suffer more severely from the impacts of climate change, while everyone will benefit from decarbonised economies in the long term, according to the International Panel on Climate Change. Understanding inequalities in access and representation in climate governance is critical evidence in support of inclusive climate action.

## **2. The role of policy knowledge systems in nationally determined contributions (NDCs) in South Africa, Ghana and Kenya**

*Michael Boulle, Change Pathways, [mjboulle@gmail.com](mailto:mjboulle@gmail.com)*

There is now a well-established body of literature on the NDCs, however few studies have assessed the formulation processes of the NDCs (Laudari et al., 2021). Consequently, there is still a limited understanding of the formulation processes for the NDCs and NDC updates, particularly at the country level, and no more so anywhere than in African countries. This research makes a unique contribution by conducting a policy knowledge systems analysis of the NDC and NDC update processes and their outcomes in South Africa, Ghana and Kenya. This perspective revealed the roles of policy actors in NDC processes, through their use of knowledge and the access they were permitted to the policy process, to influence the process and its outcomes in ways that represented their interests. Unpacking the NDC processes revealed “how” and “why” unfolded as they did to determine what was possible with NDCs. This research found that the origins of the NDCs were influential and that baselines and targets created lock-ins that resisted change; while the credibility, legitimacy and relevance of the knowledge base were crucial for building consensus. The NDCs have shown themselves to be unique policy instruments in their ability to connect the national and the international, break domestic deadlocks and unlock progress. While success was evident with agenda setting, questions remain about the participation of policy actors and the ability of the NDCs to drive implementation. Ultimately this research revealed which knowledge and actors were represented and marginalised, and how these issues can be addressed by future NDC processes to develop NDCs that are more just, inclusive, and transformative for the lives of ordinary citizens in these three countries.

## **3. Can climate actions be designed to address poverty and inequality? Lessons from Ghana, Kenya, and South Africa**

*Reuben Mutegi, University of Nairobi, [rmutegi@uonbi.ac.ke](mailto:rmutegi@uonbi.ac.ke)*

There are very few studies that have analysed a set of climate change projects to document and synthesise learning from these projects with the intent to improve the design, implementation, and outcomes of future projects. In addition, with the emergence of the Sustainable Development Goals (SDGs) as the framework for sustainable development and the increasing recognition that delivering on the SDGs requires integration across the different SDG domains, it is also important to consider how to maximise the co-benefits (and minimise dis-benefits) of climate change projects for other SDGs. In this talk we reflect on the analysis of project documentation (proposals and evaluations) from a subset of around 50 climate change projects from Ghana, South Africa and Kenya. The initial insights, which will be further developed for presentation at the symposium, include i) the extent to which climate change projects explicitly and implicitly address one or more dimensions of poverty and/or inequality, both macro MDPI multiple dimensions of poverty and inequality;; ii) the details of the activities proposed in the project and how they are proposed to lead to the stated outcomes; iii) the extent to which the expected outcomes were achieved and any additional (unexpected) outcomes; iv) where outcomes were not met or different from those expected, the reasons for this; and v) key lessons emerging from project implementation, both generic [of relevance to improving climate projects in a general sense] and specific to enhancing SDG or poverty and inequality outcomes as well as capturing shortcomings and negative aspects.

#### **4. Synergies, trade-offs, and contradictions across multiple international regimes: reconciling action and effectiveness for biodiversity related agreements**

*Florence Oduk, Oduk Ongati Advocates, [florenceoduk@gmail.com](mailto:florenceoduk@gmail.com)*

The development of intellectual property rights (IPR) in genetic resources (GR) and the subsequent adoption of various international agreements have led to profound changes in how GR are utilised globally. A fundamental shift relates to the fact that GR have now been removed from the public domain and national sovereignty has been established over them. As a result, entities seeking access to GR have to comply with rules and regulations set by national governments. A key objective of this access and benefit sharing (ABS) legislation is to forestall access and misuse of GR and associated traditional knowledge (TK) without due compensation or sharing of arising benefits with local communities residing in GR-rich parts of the world. Local ABS laws are based, to a varying extent, on international agreements. These include the Convention on Biological Diversity, which Kenya is party to, even though it has not developed the legislation anticipated under it and is unlikely to do so anytime soon. Kenya is also a party to the TRIPS Agreement – an agreement that is applicable, but is thoroughly ill-suited to regulate TK associated with GR. At the same time, access to GR has become a critical part of overall climate change adaptation measures. It therefore follows that, because Kenya is rich in biodiversity but lacks the capacity, wealth, and technologies to exploit it, its resources will be exploited by multinationals to the exclusion of its citizens. The goal of this oral presentation is to provoke discussion about the depth of the problems created and perpetuated by the lack of a functional legislative framework. I argue that the prevailing status is another avenue for perpetuating climate injustices. I do so by giving a historical account of biopiracy on the continent and linking it to the fragmented, inoperable international legal regime governing GR and arising intellectual property rights.

#### **5. Inequality, environmental (mis)-governance and the prospects of the green movement in Nigeria**

*Olawale Akinrinde, Osun State University Nigeria*

This study explores the negative contributions of environmental mis-governance to the rising profile of social and economic inequalities in the Ogoniland in Nigeria. It engages with questions about what prospects and challenges the movement must contend with, and what political space it manoeuvres in, in its attempt to address environmental mis-governance that has contributed to the rising profile of social and economic inequalities and poverty among inhabitants of the oil-producing Ogoniland in Nigeria. While the state has exhibited interest in environmental issues, data shows that, despite widespread concern, the green movement has had little influence on environmental legislation in Nigeria. There appears to be a schism between the movement and the state since the movement has limited political room to initiate and affect official environmental policies. Nonetheless, the green movement has played laudable roles in raising awareness, educating people, preventing and resolving conflicts, developing local leadership and campaign strategies, increasing local environmental consciousness, and so on. It appears necessary to highlight the environmental movement's contributions to environmental governance, even though its influence has been primarily in the form of a societal cultural shift. The oil-related plundering of the Niger Delta remains a cause of concern among inhabitants of the region, academics, and environmentalists. Environmental devastation is not only at the core of communal grievances that have since spawned non-violent and violent movements in the region but also the rising social and economic inequalities in the region. The oil-related plundering has left the inhabitants with absolutely no means of livelihoods as many of the rivers have become death-traps for fishes and other mineral resources due to oil spillage that arose from crude oil exploration in the regions. The depth of the ongoing despoliation was recently underscored by the United Nations Environmental Programme scientific study, Environmental Assessment of Ogoniland, which reported heavy pollution of the waters and environment some 40 years after the original oil spill. This is saddened by the fact that several communities within this region still drink water from wells that have been contaminated with benzene, a known carcinogen, at levels over 900 times above the World Health Organization guideline. The implication of this is the manifestation of high mortality

rates among the inhabitants of the Ogoniland due to contaminated water. Whilst the privileged few among the inhabitants, many of whom have been entrusted with the political leadership of the land, continue to enjoy basic amenities and access to resources from both the government and the multinational companies, the majority of the poor inhabitants continue to bear the brunt of the environmental mis-governance and unlimited oil plundering within their land. Whilst the movement of environmentalists include grassroots communal actors, advocacy non-governmental organisations (NGOs), environmental awareness NGOs, and NGOs focused on meditating the interaction between oil companies and local communities, among others, the green movement groups have not been able to actively bring an end to the environmental mis-governance that has aided the continuous oil plundering by the multinational companies with its attendant consequences on the inhabitants' social and economic wellbeing. The mis-governance that has empowered the privileged political class and the multinational companies at the expense of the less-privileged indigenous inhabitants who have been negatively affected by the unending oil plundering on one hand, and the environmental mis-governance of the state.

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#### 12h10 – 13h30 THEMATIC SESSIONS (IN PARALLEL)

##### **SESSION 4: Assets, wellbeing, and climate change shocks: Evidence from the cases of Kenya, Ghana, and South Africa via an asset lens**

###### ***Session Overview:***

In this panel we discuss how climate change shocks can impact wellbeing, and how wellbeing can be mediated by the ownership of assets. To do this, we review some of the discussions regarding the different impacts of climate change shocks on households' wellbeing and illustrate this via the analysis of the impacts of climate change shocks on rural and urban households by looking at the assets of households in Ghana, Kenya and South Africa. We evaluate to what extent climate change shocks (such as droughts and floods) affected the livelihoods of households in Ghana, Kenya, and South Africa. Based on the evidence from the case studies, we observed how the composition of asset portfolios defined the vulnerability and the resilience of livelihoods and their social mobility considering climate change shocks like droughts or floods. We find that climate change shocks have a compounding effect that erode assets, affect livelihoods, deepen inequality and poverty, and hamper social mobility; yet this effect tends to be significantly bigger for asset-poor households. In addition to this, in this panel we reflect on the methodological and conceptual challenges of accounting for the climate change shocks in different settings like the Ghanaian, Kenyan and South African contexts.

###### ***Papers:***

1. Assets, wellbeing, and climate change shocks: Methodological notes from the cases of Kenya, Ghana, and South Africa via an asset lens
  2. Assets, wellbeing, and climate change shocks: The case of Ghana
  3. Assets, wellbeing, and climate change shocks: The case of Kenya
  4. Assets, wellbeing, and climate change shocks: The case of South Africa
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##### **SESSION 5: Justice in urban transitions**

###### ***Papers:***

1. Climate-urban nexus: A study of vulnerable women in urban areas of KwaZulu-Natal province, South Africa
2. Another aspect of spatial inequalities: Urban planning and climate outcomes
3. Equitable urban climate adaptation in Africa: Challenges and opportunities

## **Paper Abstracts:**

### **1. Pathways for Urban Transitions**

*Anton Cartwright*

Cities aggregate climate opportunities and risks. Against the backdrop of ongoing urbanisation, neither South Africa's just transition nor its Nationally Determined Contribution (NDC) will prove tenable unless supported and enacted by the eight Metropolitan Municipalities (Metros). With a history of apartheid, a population that is approaching two-thirds urban, annual per capita greenhouse gas emissions over 9tCO<sub>2</sub>e (including AFOLU), large parts of the country warming more quickly than the global average, a Gini-coefficient of 0.63 and 40% of the working-age population out of employment, South Africa is a country in urgent need of a just urban transition (JUT). A JUT would bring much needed investment, technologies and partnerships to the everyday challenges of running the Metros. A JUT in South Africa goes beyond supporting the NDC and involves (i) ameliorating the disruption and job losses associated with the unavoidable changes in greenhouse gas intensive sectors (most obviously fossil fuels, steel and cement), and (ii) tackling the bottlenecks on service delivery and job creation that make Metros unjust places in the first place and (iii) reducing inflationary pressures introduced by centralised, commodity dependent service provision, that make some services 'unaffordable' to poor households. Metro climate action plans cover a wide range of mitigation and adaptation measures to drive reduction in emissions and deepen urban adaptation and resilience. Linking Metro mandates to a JUT offers the chance to address existing barriers to implementation. To gain traction, a JUT has to become part of the day-to-day operations of Metros. An effective JUT will register in Metro budgets. National efforts can support the mainstreaming of a JUT by outlining who should be doing what, and with what financial resources. Within a multi-level governance framework, Metros can implement a JUT through their regulatory, fiscal and governance mandates. Implementing and scaling projects and programmes is the challenge. Leadership is required to enable 'learning by doing'. Political leadership is required to encourage Metro officials from across line-functions, to explore and propose JUT options and to scale those initiatives that prove impactful, while knowing that not every option will succeed. The same leadership is required to ensure that a JUT strikes the right balance between accountability and being a 'safe space' for officials to try new approaches and to allow intermediaries to facilitate partnerships across traditional 'silos'. In this way 'coalitions of the willing' will be formed, alignment will emerge, experience will be gained, and climate response efforts will be lifted out of environmental departments and into the day-to-day functioning of multiple government departments.

### **2. Climate-urban nexus: a study of vulnerable women in urban areas of KwaZulu-Natal province, South Africa**

*Sithabile Hlahla, University of Cape Town, [HLHSIT002@myuct.ac.za](mailto:HLHSIT002@myuct.ac.za)*

The changes in climatic conditions and their associated impacts are contributing to a worsening of existing gender inequalities and a heightening of women's socioeconomic vulnerabilities in South Africa. Using data collected by research methods inspired by the tradition of participatory appraisals, we systematically discuss the impacts of climate change on marginalised women and the ways in which they are actively responding to climate challenges and building their adaptive capacity and resilience in the urban areas of KwaZulu-Natal, South Africa. We argue that changes in climate have both direct and indirect negative impacts on women's livelihoods and wellbeing. Less than one half (37%) of the women reported implementing locally developed coping mechanisms to minimize the impacts of climate-related events, whereas 63% reported lacking any form of formal safety nets to deploy and reduce the impacts of climate-induced shocks and stresses. The lack of proactive and gender-sensitive local climate change policies and strategies creates socioeconomic and political barriers that limit the meaningful participation of women in issues that affect them and marginalise them in the climate change discourses and decision-making processes, thereby hampering their efforts to adapt and reduce existing vulnerabilities. Thus, we

advocate for the creation of an enabling environment to develop and adopt pro-gendered, cost-effective, transformative, and sustainable climate change policies and adaptation strategies that are responsive to the needs of vulnerable groups (women) of people in society. This will serve to build their adaptive capacity and resilience to climate variability and climate change-related risks and hazards.

### **3. Another aspect of spatial inequalities: Urban planning and climate outcomes**

*Arindam Jana and Murray Leibbrandt, [murray.leibbrandt@uct.ac.za](mailto:murray.leibbrandt@uct.ac.za)*

Effects of climate change in urban areas have been receiving much attention recently, particularly in the face of increasing frequency and intensity of extreme events. As evidence trickles in from different geographies, it is becoming increasingly apparent that though no region and population group are unaffected, impact varies tremendously. Recent research from cities in developed countries exhibit that poorer neighbourhoods are more likely to display physical characteristics (e.g., lesser green cover, denser built-up area), which contribute to large intra-city variations in surface temperature and adds to pre-existing inequalities experienced by certain population groups. We extend this analysis to the Global South context in three ways: first, using a global database of urban agglomerations, establish a relationship between physical characteristics, temperature outcomes, and population size. Using a dissimilarity metric, we then show that variations in physical characteristics and climate outcomes by regional and income categories are significant – and that the gap among cities in high-income countries and Global North is much lower than the gap among cities in lower income countries and Global South. Second, using a sample of global cities, we look at the intra-city scale and explore these relationships further, showing that intra-city variations tend to be higher in cities of the Global South. Third, we build on the intra-city analysis by using the case of South Africa and show that there exists a strong spatial correlation between historical (exclusionary) spatial planning practices, and intra-city variations, adding to growing evidence on the existence of feed-back and -forward loops with pre-existing forms of inequalities. These results paint a stark picture of lived experiences of a large proportion of the global urban population, particularly in the Global South, and contribute to growing literature on varied impacts of global warming and climate change across population groups.

### **4. Equitable urban climate adaptation in Africa: Challenges and opportunities**

*Gina Ziervogel, University of Cape Town, [gina@csaq.uct.ac.za](mailto:gina@csaq.uct.ac.za)*

Increasing attention is being placed on adapting to climate change in cities. However, to date, there are limited examples of how urban adaptation has reduced the vulnerability of the most marginalised residents. More attention needs to be paid to understanding how urban responses might contribute to social justice and transformative adaptation, whilst recognising the diverse needs of different groups. This paper explores what equitable urban adaptation might look like in African cities. It draws on a collaborative process that sought to answer this question. Nine themes emerged as important starting points for strengthening equitable urban adaptation, namely: i) governance and leadership; ii) inclusivity and participation; iii) quality of relationships, iv) human rights; v) finance; vi) structural considerations; vii) context and reality; viii) knowledge brokers; and ix) knowledge and information. These themes help to guide deeper questions into both the process and nature of what more equitable urban climate adaptation might entail in practice. Importantly, tangible entry points need to be found for experimental action and learning by doing. This paper unpacks some emerging examples and some guidelines for how to take this further to feed into ongoing just urban transitions work.

**Session Overview:**

This session will provide a platform to discuss global climate challenges and linkages with socioeconomic inequality and development through the lens of public policy and programming. The focus will be on highlighting socioeconomic and demographic drivers and consequences of climate change and environmental damage. Panel members will bring a range of perspectives, experiences, and opinions about priorities for low- and middle-income countries addressing environmental issues, equity, and climate change adaptation. The discussion will contribute to understanding how research on the interaction of inequality and climate change may inform policy dialogue and action.

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**DAY 2: WEDNESDAY, 8 MARCH**

09h00 – 10h20 **PLENARY: Gender inequality and intersectionality in a changing climate**

**Papers:**

1. Just an energy transition? A gendered analysis of South Africa's just energy transition
2. Policy interventions for inclusive climate governance regimes: Reducing gender-based inequalities
4. Implications of social differentiation on sustainable intensification in semi-arid Northern Ghana
5. Disability inclusive disaster risk reduction strategies

**Paper Abstracts:**

1. **Just an energy transition? A gendered analysis of South Africa's just energy transition**

*Julia Taylor, University of the Witwatersrand, [julia.taylor@wits.ac.za](mailto:julia.taylor@wits.ac.za)*

The world faces a climate crisis due to the extraction and burning of fossil fuels which has supported industrialisation and capitalist expansion. One of the solutions to the climate crisis is to reduce carbon emissions by transitioning from a fossil fuel-based energy system to one based on renewable sources such as solar or wind energy. The just energy transition promises to address unemployment and poverty while reducing the carbon intensive nature of the energy system. However, this energy transition is complex and holds uncertainty and risk for many people, particularly workers and communities who depend on the coal value chain. This paper adopts a feminist political economy lens to explore the relationship between the development of renewable energy and gendered labour. This approach highlights the importance of the economy, the household, and the state in the process of social reproduction. By analysing the impact of the development of solar power plants on the workers and communities in three towns in the Northern Cape, and focusing on the three components of social reproduction, I find that the energy transition in its current form will not deliver justice for the poor and working classes.

2. **Policy interventions for inclusive climate governance regimes: Reducing gender-based inequalities**

*Jacqueline Njambi Kamau, University of Nairobi*

Climate change is real in Kenya, with a long rainy season becoming short and dry while a short rainy season is long and wet. The country continues to experience drought and floods in its seasons. Thus, climate actions are applied to adapt to these extreme deviations. Kenya's government has policies that alleviate climate change impacts including the Climate Change Act, 2016 (No. 11 of 2016), The National Climate Change Action Plan (NCCAP), 2018 – 2022, and Sessional Paper No. 3 of 2016 on National Climate Change Framework Policy. The Kenya government has integrated the United Nations Framework Convention on Climate Change in its efforts to promote social Inclusion. Further, Kenya is



implementing the Paris Agreement to reduce global warming and increase conservation efforts in both rural and urban communities. Kenyan societies have designed climate action to improve sustainable livelihoods that reduce poverty and inequality. This paper evaluates the contribution of the climate change governance regime to gender-based inequalities as stipulated in the policies. Further, it investigates whether policy gaps and barriers promote gender-based inequalities and social exclusion. The article and the presentation are based on desk-top research that examines available literature and policy papers on climate change in Kenya. The findings indicate that the climate change policies have promoted a green economy and have not created awareness of gender-based inequalities and social exclusion. The policies promote social stability through equitable governance structures. However, there is a gap since the policies do not advocate for equal opportunities. Climate actions are emphasised to enhance resilience and raise levels of productivity. The study recommends fast-tracking implementation with effective monitoring and evaluation tools for gender parity and social inclusion. In conclusion, the climate change policies have targeted the right actors, and if well implemented, they can build sustainable futures and adequate food security.

### **3. Implications of social differentiation on sustainable intensification in semi-arid Northern Ghana**

*Prince Ansah*

Global and regional food demand are expected to triple by 2050 as population growth outpaces food production. Socioeconomic and biophysical risks like climate change, rural-urban migration and limited resources coupled with weak institutions are projected to challenge the sustainability of crop production within fragile agriculture systems, particularly in semi-arid West Africa. Sustainable intensification (SI) has been proposed as a guiding concept to address these complex challenges and meet the growing food demand. However, limited knowledge exists in the literature on how sustainable intensification outcomes could achieve equity and benefit all social groups. In Northern Ghana, cultural norms and traditions have limited the rights of some social groups to access agricultural resources that could enhance productivity and achieve sustainable intensification goals. This research used case studies and an integrated SI framework to understand how social differentiation could affect sustainable intensification in Northern Ghana. The findings revealed that inequities among social groups manifest in unequal access, control and use of agricultural resources based on community and household power dynamics. Inequity creates vulnerabilities as farmers without access, control, and use of resources are less likely to build resilience against biophysical and socioeconomic risks. Vulnerable social groups tend to have lower yields, land tenure insecurity, limited off-farm livelihood options and limited access to agriculture resources like fertiliser, pesticides, capital and information, which hinder their ability to attain sustainable intensification goals. However, achieving an equitable distribution of resources will need local and national policy backing where the agency of vulnerable groups is enhanced to adopt efficient on-farm and off-farm strategies to enable agriculture system resilience and productivity.

### **5. Disability inclusive disaster risk reduction strategies**

*Willem Stassen, Elzarie Theron et al.*

Climate change-related disasters threaten lives and livelihoods across the planet. Disaster risk reduction plans and technologies have helped communities to prepare for climate-related disasters to enhance resilience. The most vulnerable communities to climate change-related disasters are those in low-resource settings, who are marginalised and live in conditions of poverty in the Global South. A substantial proportion of these can be identified as people with disabilities. This group is particularly vulnerable to climate change-related disasters, but often remains left without much support or consideration – including in disaster response – exacerbating the consequences and marginalising these communities even further. Through a process of co-creation and community participation, this pilot project aims to establish an approach to the development of a contextually sensitive and responsive community-based, disability-inclusive disaster risk reduction (DIDRR) system. By doing this, the project seeks to reduce vulnerability and bolster resilience within communities that have a high-

risk to climate-related disasters. The pilot study will be conducted in the Western Cape province of South Africa. A partner community will be determined with a specific focus on disability-inclusivity, climate, and disaster risk profile. The study will follow a longitudinal, multi-method approach to co-create a multidisciplinary and intersectoral understanding of the current reality of the partner community, including disaster risks, vulnerabilities, strengths, needs, and expectations of the community. In a co-creation space, the collaboration will seek to align concepts, approaches, and epistemologies with an emphasis on intersecting vulnerabilities. We will adopt the philosophy of nothing about us, without us, embedding a disability-inclusive voice throughout the lifecycle of the project. Hereby we deliberately seek to promote health and wellbeing for vulnerable communities by strengthening disaster response and health emergency preparedness while leaving no one behind.

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## 10h40 – 12h00 **THEMATIC SESSIONS (IN PARALLEL)**

### **SESSION 7: The South African racial wealth divide**

#### ***Papers:***

1. The South African racial wealth divide
2. Wealth inequality in Kenya: What can we learn from probate notices

#### ***Session Overview:***

This is a practical, hands-on session.

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### **SESSION 8: Climate risks and impacts on livelihoods**

#### ***Papers:***

1. Systematic mapping of climate change actions in Africa: A comparative assessment of Ghana, Kenya and South Africa
2. Gathering evidence for heatwaves and impacts across Mozambique
3. Climatic stressors and their effects on social cohesion and livelihoods: Evidence from Lombok, Indonesia
4. Empowering vulnerable communities against the impacts of climate change: An innovative community-based flood early warning system in eThekweni Municipality

#### ***Paper Abstracts:***

1. **Systematic mapping of climate change actions in Africa: A comparative assessment of Ghana, Kenya and South Africa**

*Darlington Sibanda et al. darlington.sibanda@uct.ac.za*

This paper provides an overview of climate change actions implemented through funded projects in Ghana, Kenya and South Africa. It assesses: i) the relative balance between adaptation and mitigation actions; ii) distribution of projects across different sectors; iii) the extent to which the actions match national climate action priorities in Nationally Determined Contributions (NDCs) and National Climate Plans; and iv) the potential co-benefits for the Sustainable Development Goals (SDGs) especially in relation to alleviating poverty and inequality. Several international and national climate change project databases were consulted to identify reported climate change projects for the period 2000 to 2020. The project summary information was used to categorise the projects into those with an adaptation, mitigation, or multi-purpose focus. Thereafter, projects were assessed across multiple criteria including: i) sector; ii) climate risks being addressed; iii) source and amount of funding; iv) linkage to the SDGs; v) potential to alleviate poverty and/or inequality. Finally, the projects were mapped against national climate adaptation priorities. Results indicate that there is a bias towards mitigation actions as compared to adaptation across all countries. In Ghana and

Kenya, these actions are funded by international sources, while national sources provided most of the funding in South Africa. Reported adaptation and multi-purpose projects in Ghana and Kenya mostly targeted the agriculture sector. On the other hand, in South Africa the biodiversity sector had the most projects. It is also observed that for both Kenya and South Africa, the projects do not mention explicitly poverty and inequality as issues that need to be addressed. Interestingly, there is some alignment to country priorities as set out the NDCs and other national policies. Overall, the mapping exercise demonstrated that current and past interventions remain inadequate, and more effort is needed to ensure that climate actions deliberately address other development issues such as poverty and inequality.

## **2. Gathering evidence for heatwaves and impacts across Mozambique**

*Carolina Marghidan et al.*

The intensity, frequency, and duration of heatwaves are increasing worldwide, posing a large threat to human health and other sectors of society. These impacts are disproportionately felt by vulnerable groups of people, such as those with lower socioeconomic status. Yet, heatwaves and their impacts are systematically underreported and under-researched, especially across the African continent. This research presents one of the first studies on heatwaves across Mozambique, a country highly vulnerable to climate shocks. To calculate historical heatwaves, a spatial and temporal analysis was done from 1983 – 2016 using the newly developed high-resolution daily temperature dataset CHIRTS-daily. Five heatwave characteristics and trends were examined using the Excess Heat Factor. Furthermore, four media outlets were systematically examined to analyse communication of heat alerts and gather evidence for heat-related impacts. Findings show that Mozambique has experienced many heatwaves in the past decades with varying characteristics over the country. The trend analysis proved heatwaves are significantly increasing for a large part of Mozambique, with 44% of the total population living in areas exposed to this increase. City-level summaries for four largely populated cities (Maputo, Beira, Nampula and Tete) show that all cities have been exposed to 50+ heatwave events, with abnormal heatwave conditions during the summers of 2015 – 2016. Furthermore, 79 heat alerts and 12 posts on impacts were found starting from 2016 – 2022. A disproportionately high number of alerts and impacts were reported for southern provinces compared to northern ones. Heat-related impacts included loss of crops and livestock, food insecurity, and an increase in heat-related hospital admissions. Overall, these findings are relevant for stakeholders such as meteorological officers, healthcare professionals, and urban planners. It is essential to develop effective adaptation and communication strategies to reduce risk to heat, focusing on the unequal distribution of heat risk across groups within the same region.

## **3. Climatic stressors and their effects on social cohesion and livelihoods: Evidence from Lombok, Indonesia**

*Muchammadun and Sri Hartini Rachmad*

The poor population group has the highest level of risk of bearing the impacts of climate change. Women and children's groups in developing countries are really feeling the direct impact of injustice and being left behind in development due to climate change and the COVID-19 pandemic. Livelihoods and changes in the environment, hotter temperatures and erratic seasonal patterns, have made it difficult or even destroyed the livelihoods of this vulnerable group of people. Furthermore, the handling of the problem of poverty, which is not inclusive of the sensitivity of climate change, will of course further widen the gap between the economic groups of the poor and the rich. This study aims to explore the relationship between the increasing prevalence of poverty and widening inequality as a result of climate change that is occurring on the island of Lombok as part of West Nusa Tenggara Province, Indonesia. Model explanations that can be found: First, an explanation of vulnerability, the poor live in conditions that make them most vulnerable to the impacts of climate change. Second, the disconnection explanation, poverty alleviation policies fail to address the problem of poverty because they do not take into account the climate change factor. And third, an explanation for the production of poverty, namely that in the context of unequal socio-political relations, various global and local

agendas to respond to climate change actually exacerbate or even create poverty. Therefore, It is high demand that research of which focusing on the Governance in Lombok-Nusa Tenggara Barat of intersecting crises in light of increasing climatic stressors and social inequality would be one top priority of among solutions in the reducing poverty and closing the gap of inequality, and leads to formulating the new norms life and forming a new mitigation-adaptation in to community practices. This research is mixed method and relies on qualitative and quantitative data, and also observation of literature documents.

#### **4. Empowering vulnerable communities against the impacts of climate change: An innovative community-based flood early warning system in eThekweni Municipality**

*Catherine Sutherland, Sylvia Hannan et al., [SHannan@hsrc.ac.za](mailto:SHannan@hsrc.ac.za)*

Climate change has wide-ranging and long-lasting impacts that are distributed unequally, with the most vulnerable communities facing the greatest challenges. The extreme rainfall that occurred in April 2022 in KwaZulu-Natal was exacerbated by climate change. This extreme event resulted in extensive flooding which led to the loss of life, destruction of houses and schools, and damage to infrastructure such as roads and bridges. Additionally, large parts of the eThekweni Municipality (Durban) experienced prolonged water and electricity outages due to damage to critical infrastructure, as well as housing shortages due to the loss of both housing and land. Flooding is a hazard that poses the greatest risk to those living in floodplains, which is where many of the 587 informal settlements in Durban are located. These communities live in contexts of multiple deprivation and therefore are disproportionately affected by flood events due to pre-existing vulnerabilities. In the municipality several thousand homes in informal settlements were destroyed. Although the responsible authorities issued early warnings of the pending weather, these had limited reach and those who received the information may not have known what actions to take. In order to protect citizens, there is a need for proactive adaptation to flood risk. One tool that can aid in minimising the impacts of flooding is the development of community based flood early warning systems, which are based on people-centred, timely, simple and low-cost technology which allows sustainable operation by vulnerable communities. A properly designed and implemented system can save lives and reduce property loss by increasing the lead time to prepare and respond to floods. We explore a community based flood early warning system, developed through transdisciplinary research and bottom-up engagement through the Palmiet Catchment Rehabilitation Project, that played a critical role in the timely evacuation of the Quarry Road West informal settlement in the eThekweni Municipality.

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12h00 – 13h20 **PLENARY: Justice in urban transitions**

#### **Papers:**

1. State of inequality and renewable energy in South Africa
2. Paying for the Just Energy Transition – The financial implications of the energy transition for municipalities, their development mandate, and the alternatives
3. Intergovernmental power relations in Mpumalanga Province's Just Transition

#### **Paper Abstracts:**

##### **1. Paying for the Just Energy Transition – The financial implications of the energy transition for municipalities, their development mandate and the alternatives**

*Kevin Foster and Megan Davies*

This paper asks how the developmental mandate of local government is affected by the impact of the energy transition on local government finance. The cross-subsidisation of municipal services and low-income users using surpluses from electricity distribution has been common practice in local government in South Africa since the 1940s. However, rising bulk electricity prices, the introduction of small-scale embedded generation and the new regulations allowing unlimited unlicensed private generation pose threats to the continuation of this practice by eroding those surpluses and introducing

competition to municipalities as electricity providers, and provides an example of socio-technical regime destabilisation. It poses questions for the ongoing financial sustainability of municipalities and their ability to fulfill their developmental mandate in terms of the Constitution. It creates the necessity for municipalities to find new approaches to revenue generation through electricity distribution. This example of a socio-technical regime transition forcing change in institutions governing other socio-technical systems that have equity and justice related dependencies on the system undergoing transition. The dynamic interaction between these developments creates the necessity for municipalities to find novel approaches for revenue generation through electricity distribution to ensure that they meet their developmental mandate, and that social equity and justice are not compromised by the energy transition. This paper explores how this municipal financial system became established, what responses governments in municipalities are making to the energy transition's implications for this institution, and what governance responses are available to municipalities to ensure their sustainability. It uses a literature analysis, participant observation, key stakeholder interviews and financial modelling to examine alternative financial options to respond to the energy transition that can support the local government developmental mandate and assess their justice implications. The paper contributes towards a better understanding of the energy transition implications for municipalities, their ability to serve their residents and meet their developmental mandate, and ensure that energy transition is 'just'. It further contributes to the understanding of transition dynamics in the Global South, in particular regime destabilisation, and where the transition affects overlapping sectors, and how these can impact on social equity and justice.

## **2. Intergovernmental power relations in Mpumalanga Province's Just Transition**

*Ebenaezer Appies and Seutame Maimela*

The trajectory of the South African government to transition to renewable energy has been received with mixed reactions in Mpumalanga Province. Many local and provincial government officials do not support the closure of coal mines due to the severe socioeconomic impacts, such as the rise in unemployment on local economies, particularly Nkalanga District Municipality. These government officials also reason that the region's immense coal reserves as well the recent meteoric rise in coal exports to EU countries as reasons why it is nonsensical to close coal mines. Meanwhile the Presidential Climate Finance Task Team has released the five-year Just Energy Transition Investment Plan that aims to support South Africa's goal of establishing a low-carbon society. According to this plan, ZAR 1,5 billion investment is required to primarily decarbonise the electricity and automotive sectors. Critically, the ambivalence of South Africa's Minister of Minerals and Energy, Gwede Mantashe, to commit to a carbon-free future is frustrating foreign investors like independent power producers. The purpose of this study is to explore this societal concern of the various levels of commitment found at different layers of government as well as the political sphere on the trajectory of South Africa's Just Transition Plan. The data collection methods include online and in-person workshops and seminars such as the Presidential Climate Change Commission webinars. Several expert interviews were held, and document analyses were done. The preliminary results suggest that the incoherence of the layers of government on the direction and support for the Just Transition in Mpumalanga is likely to lead to an inability to build resilient economies and people as set out in the Just Energy Transition definition. The implication of this study could identify measures to streamline efforts to get all affected government departments and political role-players in sync with the Just Transition Investment Plan.

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**Papers:**

1. Preliminary analysis for Ghana, Kenya and South Africa
2. Stepping down the ladder: The impacts of fossil fuel subsidy removal in a developing country

**Session Overview:**

Climate change requires action by countries to reduce GHG greenhouse gas emissions and contribute to the global effort of maintaining climate conditions at acceptable levels; and adapt to minimise the negative impacts of physical climate changes. These actions impact the development path of countries as they require additional investments and structural change in the economy. The type and design of climate action also has different impacts on the economy depending on the sectors and actors affected. At the same time countries also need to continue efforts to achieve development targets and increase the general level of welfare for all citizens. This is particularly important for countries south of the Sahara which are often characterised by high levels of poverty and inequality and who are particularly vulnerable to the negative impacts of climate change. To design appropriate climate actions aligned with country development objectives and lessen the negative unintended consequences of climate actions, the economy-wide and distributional impacts of actions need to be understood. This submission proposes to present three research papers assessing this issue for South Africa, Kenya and Ghana. A presentation of the methodology is also proposed. The research that will be presented is innovative in its methodology and the application of climate actions as defined in the Updated Nationally Determined Contributions of each country. In terms of the methodology, a linked energy-economic model or power sector linked economic model, in the case of Kenya and Ghana, is developed and used with economic results further linked to household survey data in a microsimulation framework to assess the impacts on poverty and inequality. This analytical framework is innovative as it accounts for the technical detail needed to understand the necessary transformations in the energy/power sector, but also accounts for sectoral and household behavioural changes and the impacts of these on economic growth and development.

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**Session Overview:**

This final session starts off with a scene setting presentation and invites five minds from the Global South and North to reflect on innovation and new research horizons as they unfolded in the interdisciplinary discussions over the past two days. All participants are encouraged to share their impressions and reflections on the symposiums.

Guiding question: What did you learn from the symposium that you didn't know before? Where can we innovate and contribute to transformative climate actions that reduce inequality?

**Abstract**

The pace of climate change progresses faster as the societal abilities to adapt and accelerates social inequalities and fragmentation. They become particularly apparent at the local level and the need for developing place-specific adaptation pathways within the diverse contexts of the Global South (IPCC WG3 2022). Innovation in policies and institutions are critical in transforming the current climate governance regime. Innovations in climate policy under the Paris Agreement on Climate Change primarily gravitate towards the integrating transnational and national dynamics, while the much-needed implementation at local levels falls short. The objective of this research is to better understand the shaping of scales, places and spaces of transformative pathways to change incumbent and institutionalised social practices. For this purpose, we combine findings from the emerging scholarship in climate policy analysis, innovation studies and research on the Geography of Sustainability Transition (GeoST) underlined that place-specificities connected with institutional environments and path-dependent institutional legacy as well as the diversity of resource endowments impact sustainability-oriented transformation processes (Hansen & Coenen 2015, Binz et al. 2020).