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Towards Just & Plural Futures // Hacia Futuros Plurales y Justos

Book of abstracts
Pollen24 – Lund

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10
JUNE

Parallel session 1

Time: 10.00-11.30

Hybrid panel LU192: Political Arenas of Infrastructuring African Futures

Arne Rieber, University of Bonn & Theobald Frank Theodory, Mzumbe University – hybrid from Lund & Dodoma

The development of infrastructure is inherently political. While often portrayed as a technical process driven by engineers, infrastructure development is always moved to the forefront of the political agenda. The political decisions to develop infrastructure projects shape the future daily life. Building or not building physical artefacts such as roads, ports, dams, power lines or railways is a political choice and a political trade-off. These decisions shape the connectivity, mobility, well-being and market integration for some, while becoming barriers and obstacles for others. A political ecology lens on infrastructure development helps to challenge notions of the periphery, left-behind places and the infrastructure gap. Just as access to resources is socially produced and categories of abundance and scarcity are created, access to and availability of infrastructure is shaped by political processes and visions of desired development. In recent decades, infrastructure-led development agendas, driven by visions of integration into global networks of trade and capital, and more recent models of blue or green economies, have accelerated the scramble for infrastructure development in urban and rural Africa. The anticipation of large-scale infrastructure projects has led to the emergence of Political Arenas around these projects, in which actors and groups of actors contest project designs long before their actual implementation, with the aim of influencing the project in their own interests or maintaining the status quo. The focus of the panel will be on questions of future-making of infrastructure and how in- and exclusion into project's vision and benefits is navigated by individuals, groups and actors.

1. Arenas of future-making – researching visions and practices of the „not-yet" in Africa

Detlef Müller-Mahn & Arne Rieber, University of Bonn – hybrid from Lund

The paper outlines a conceptual framework for the study of imagined futures and the practices of „future-making" in the context of infrastructure development. The „not-yet" in the title refers to a stage in the preparation of infrastructure projects before construction work begins, i.e., when the future still appears to be open. As long as implementation remains in limbo, there is room for contestation, with a focus on visions, „dreamscapes of modernity", and desirable futures, but also negotiation and resistance. This is the moment of „the Political" in the sense of Swyngedouw (2018), when powerful actors seek to control project design, while others express their disagreement or forge strategic alliances to gain influence. The paper proposes a focus on „arenas of future-making" as a heuristic approach to research the co-evolution of infrastructure and society at an intermediate scale. Against the backdrop of the case studies presented in the panel, it will have to be discussed how the arena approach can contribute to the toolbox of Political Ecology.

2. Development in the Shadow of Big Dams: Women, Water, and the Politics of Infrastructure in Tanzania

Jackson Nuru & Lucy Massoi, Mzumbe University – hybrid from Dodoma

This work provides an analysis of the involvement of women in the political arenas of infrastructure building in Africa , through the lens of Kidunda Dam in Tanzania as a case. It places women's experiences within the framework of Agenda 2063, specifically focusing on objectives for inclusive growth and sustainable development. We highlight how big dam projects, often viewed as technical grounds, are inherently political and have substantial socio-economic consequences, particularly for women. Drawing from our ongoing qualitative research, we uncover the many roles that women play in these initiatives, ranging from being impacted persons to actively shaping the results. This is in line with the aspiration 6 of Agenda 2063, which aims to prioritise the empowerment and involvement of women throughout Africa. We examine how women involvement in large-dams infrastructure projects (kidunda dam) redefines the conventional narratives of women as victims, underscoring their agency and empowerment. The study also examines the ways in which the project transect with wider political and economic dynamics, and their effects on the daily lives of women. Concluding with policy suggestions, we emphasize the need for adopting more inclusive and gender-sensitive approaches in infrastructure design. These recommendations are essential for achieving the goals of Agenda 2063 and promoting equitable sustainable development.

3. Futile water claims and the confinements of formality: The mobilization of infrastructural powers for water access in Nairobi, Kenya

Maja Kristine Dahl Jeppesen, Aarhus University – hybrid from Lund

The water provision infrastructures of Nairobi carve out an urban landscape of exclusion and inclusion through service provision. However, processes of exclusion still take place even when residents become formally included in the formal water provision system. This paper empirically describes the intricate process of claiming water rights in an unreliable public water supply context like Nairobi. Based on 11 months of fieldwork in Nairobi, Kenya, I show that successfully securing access to water demands substantial effort and

hinges on the adept mobilization of specific bundles of powers. I argue that achieving successful claims to water is intricately linked to people's capacity to mobilize the infrastructural powers (Truelove 2021) of key actors directly or indirectly making the water flow, a capacity often facilitated through personal connections with officials and politicians. In this way, it is generally a network of fragmented relations between residents and water governance actors that fosters access, overshadowing the significance of formal recognition through a water connection to the city grid. I give an example from a slum upgrading project in Nairobi where formalization has made water access more challenging for residents than when they relied on non-state water provision from water kiosks. This means that contrary to what we might expect, considering the emphasis the water literature puts on formal water connections, formalized hydraulic citizenship (Anand 2017) can prove more constraining than beneficial when individuals lack the capability to apply the appropriate amount of pressure to make the water flow. This central point underscores the limited efficacy of formal recognition of the right to water through a grid connection without the capacity to activate infrastructural powers effectively.

4. The Inequity of Mega Projects-Oriented Employment: Is Gender Equality an Issue of Interest in Construction Projects in Tanzania? The Blinder Oaxaca Analysis

Felician Andrew Kitole & Theobald Frank Theodory, Mzumbe University – hybrid from Dodoma

The promotion of gender equality in the realm of employment is of utmost importance in the endeavour to mitigate income inequality and alleviate poverty. This chapter examines the employment inequity in mega projects in Africa using the Tanzania's famous standard gauge railway as the case study, with a specific focus on gender-related concerns and their associated consequences. The overarching objective of this chapter is to enhance consciousness, foster discourse among relevant parties, and provide factual support for policy-making and implementation. Moreover, it seeks to rectify gender disparities and promote fairer distribution of employment opportunities within large-scale projects, with the ultimate aim of alleviating poverty and promoting sustainable development in Tanzania. The study that informs this chapter employed a mixed-methods approach, integrating quantitative analysis and qualitative exploration, with the objective of identifying gender disparities, comprehending their underlying determinants, and providing insights for policy interventions that promote fair and inclusive employment outcomes in mega development projects. Moreover, the Blinder-Oaxaca model was used to examine the extent of gender representation and wage disparities whereas qualitative components focused on the experiences and perceptions of individuals involved in the project. The results of this study have significant policy implications as they underscore the necessity of implementing specific interventions aimed at fostering gender equality and inclusivity within the context of mega project employments.

5. Local contestations and the struggle for survival amidst large-scale infrastructural projects in Kenya. The case of the Kesses 1 solar energy project

Frankline Ndi, University of Bonn – hybrid from Lund

Across Africa, promises of modernity and prosperity are used by governments and investors to mobilise community support for infrastructure development such as large-scale renewable energy projects. But such promises, in particular those in the form of corporate social responsibilities do not easily sail through or are sometimes back-pedalled. Using the Kesses 1 Solar Energy project as a case study, this article shows how the energy investor appears to be struggling to deliver on its promises – and how this has provoked local contestations against the solar project. Unlike in previously documented cases in Kenya where energy projects have faced local push backs predominantly linked to lack of clarity over land rights, flawed land consultation processes, contestations over land, and other issues, including tribal and clan politics, this present contribution argues that communities are not necessarily against the solar project per se; rather their main concern is how to be involved in, and to benefit from it, through for instance, employment and corporate social responsibility schemes. The study suggests the need for the energy investor to address community concerns relating to the project, and to respect all promises specified in the MoU signed with communities. Failure to do so might downplay the anticipatory local benefits of large-scale infrastructures, and possibly generates political questions around the future of rural Africa hosting these projects.

Panel 323: Political afterlives of ecological change I

Stine Krøijer, University of Copenhagen & Cari Tusing, University of Copenhagen and Austral University of Chile

Climate change not only affects global temperature and precipitation patterns, but also the intensity and frequency of extreme environmental events, such as forest fires, hurricanes, heat waves, floods, droughts, and storms. In the past political ecology approaches have mainly focused on identifying the broader political, economic and social factors that cause these environmental changes. This panel reverses the focus in order to understand the effects of fire and sudden ecological events on political processes. We are interested in how ecologies set politics in motion. The panel builds on ideas explored in the research project Fire and Political Alterity in Amazonia, but invites papers and participants willing to think about fire or other sudden ecological events as political actants that hold the capacity to alter social relations and (political) landscapes. We seek to trace their afterlives through different policy fields such as climate change and disaster preparedness, on land use and property rights or supply chain management. We are not only interested in what effects emerge, but also how such political afterlives play out and affect political cultures, create polarization or political alterities within public debates, in relation to private companies, among organizations and institutions also beyond local worlds. Like forest fires, political attention and controversies can flare or die, but sudden ecological events may also generate unintended, fleeting or long-lasting effects. The papers consider how are political processes set in motion by ecologies and sudden ecological events? How do such events affect the form of political processes? and what forms of political polarization or alterity emerge?

1. A Surge of Attention: The Dynamics of Short-lived Political Interest Following Storm Surges in Denmark.

Kristoffer Langkjær Albris, Anne Sofie Beer Nielsen & Emma Kirketerp Nielsen, University of Copenhagen

Since the Fall of 2013, Denmark has been impacted by an increased number of extreme storm surge events, which has caused damaging inundation of numerous housing areas across the country. Each of the storm surges have been followed by record breaking economic insurance claims, as well as changes to public opinion regarding the seriousness of such extreme events in lieu of the climate crisis and rising sea levels. Yet despite such tangible destructive effects and changes in public opinion, interest and willingness to pass new legislation, or put forth new policies, from the political system remains slow and complacent. The lack of political interest in managing future storm surge risks in Denmark does reflect a well know tendency for political attention towards disasters and crises to surge dramatically in the immediate wake of the events, only to fade just as dramatically (Birkland 1998). In this paper, we highlight some of the responses by local and national politicians to a recent storm surge event in the Southern Part of Denmark in October 2023, as well as critiques of the political system by citizens, NGOs, and interest organizations about the surprising lack of long-lasting political attention to preventing future events.

2. The Dynamics of Fire: The domesticated and the wild

Søren Hvalkof, University of Copenhagen

This paper delves into the multifaceted role of fire as a pivotal element shaping livelihoods within diverse agrarian practices in the Peruvian Amazon. It scrutinizes both the traditional indigenous methods of swidden cultivation and the utilization of fire by settlers, agriculturalists, and cattle ranchers. The study traces the intricate interplay of these practices with the escalating incidence of forest fires in the surrounding environment and seeks to categorize these fires while evaluating their repercussions. Through a comparative analysis of two proximate regions within the central and southern Peruvian Amazon, each characterized by similar habitats but distinct socioecological contexts, this research aims to delineate pivotal factors and actors crucial in devising effective strategies to combat forest fires and mitigate their impact. This study forms an integral part of an extensive ongoing research initiative, "Fire and Political Alterity in Amazonia," anchored at the University of Copenhagen, with a regional focus spanning Brazil, Bolivia, and Peru.

3. Becoming multiple: Exploring Chilean contemporary political struggles through fire

Fernanda Victoria Maria Gallegos Gutierrez, University of Copenhagen

The violent irruption of forest fires into Chilean landscapes is everything but natural. As a result of soil erosion and water scarcity, fire appears as the evident outcome of an intensive forestry industry encouraged by historical liberalization politics. Chilean history thus seems to be yet another narrative on the vulnerability of both people and lands that adds to a long story already told. Yet recently, after the 2019 massive wave of protest and riots labeled by the national media as estallido social ('social outbreak'), fire acquired a new meaning. As a reaction towards the incapacity of the State to guarantee

social rights, the generalized outburst of rage took the form of hordes of people rushing to burn public and corporate buildings to the ground. That way, fire was no longer an element strictly linked to the consumption of an exploited territory. Or at least, it was not just that. In order to explore the possibilities of fire as a multiple element, this presentation focuses on the path that fire has traveled to become a political tool used to set off social transformations, and how this depicts Chilean contemporary political struggles.

4. Regulating Soy and Fire in the Brazilian Amazon.

Cari Tusing, University of Copenhagen and Austral University of Chile

This paper takes the Amazonian megafires as a point of departure to argue that the soy agrobusiness sector becomes multiple in order to continue monocropping. 'O dia de fogo' was a coordinated burn carried out during the Bolsonaro presidency by land-grabbers, and subsequent fires in October 2019 in Mato Grosso burned over 3605.5 km². These caused international outcry to stop deforestation in the Amazon. In this context, a multiplicity of certified soy schemes and legal soy promote their crops as a kind of responsible production that avoids new deforestation. I conducted ethnographic interviews with soy certifiers, producers, and traders to track their perspectives on fire and deforestation. In this paper, I identify a kind of monocrop paradox, where attempts to regulate soy and reduce deforestation spark a proliferation of different kinds of legal and certified soy, mirroring the attempt to regulate and reduce fire and pests on the ground. I examine this monocrop paradox through two examples: 1) traders' diversification of soy production and 2) the shift from fire to chemical burns. I ask: What is the relationship between monocrops, regulation and proliferation under supply chain capitalism?

5. Natural landscape processes, land management methods, or a manifestation of political turbulence? A pyrogeography of the Middle East

Wan-Ni Lin, Department of Physical Geography and Ecosystem Science, Lund University & Lina Eklund, Centre for Advanced Middle Eastern Studies, Lund University

Anthropogenic climate change is bound to impact global fire regimes, as evidenced by more frequent and larger wildfires around the world. Research on vegetation fires has largely focused on biophysical factors, while other factors, e.g. politics or armed conflict, have received less attention. To investigate the fires thoroughly, it is necessary to consider both biological and socio-economic factors, particularly in regions outside the global north.
This study takes a broad perspective on drivers of vegetation fires in the Middle East region. It focuses on land cover, vegetation, and climate factors and how they interact with vegetation fires in the socio-economic and political context of the Middle East. We use remotely sensed data on fire damage, climate, and vegetation together with spatial data on population and armed conflicts to investigate the fire regime of the Middle East. We will present insights into where and when fires are occurring in the Middle East, what types of land systems are mostly affected, and how these patterns relate to common fire drivers, such as climate, vegetation, population and armed conflict. The findings of this study will provide a foundation for further studying the political ecology of wildfires in the Middle East.

Panel 177: Socio-ecological vulnerabilities, resistance, and the potential for more equitable and sustainable societies

Annabelle Houdret, German Institute of Development and Sustainability (IDOS) & Mirja Schoderer, Vrije Universiteit Amsterdam

Environmental degradation caused by resource overuse and climate change often creates new or exacerbates existing vulnerabilities for populations already affected by marginalization. Therefore, struggles against degradation are also contestations of unequal power relations between states and citizens and/or between different social groups and the multiple ways in which they manifest. The present panel enquires about these manifestations and relationships. It aims to understand how socio-political and environmental vulnerabilities mutually constitute each other and interact, and how social mobilization, grassroots initiatives, and public policies can enable more equitable and more sustainable societal relations and contribute to the emergence of different social contracts. These dynamics can be observed at and emerge from the interaction of many different levels, from the local to the global and anywhere in between. With a focus on the political ecology of climate change and adaptation, the four papers shed light on dynamics of marginalization of affected groups. Based on empirical findings from India, Morocco and Colombia, all interventions also analyse how the groups' mobilization induces changes to the ecological and socio-political framework conditions.

1. Adapting to shifting sand resources – The case of small-scale fisheries in South India
Dennis Schuepf, German Institute of Development and Sustainability

Coastal adaptation measures to climate change are common examples of redistributing vulnerability by, e.g., causing shoreline erosion beyond the spatial scale of the intervention. This is not least due to overlooked power relations that are consolidated through hard infrastructures, such as harbors or groins, and unequally affect different actors. While coastal sand resources and the flow of sediment are blocked by these interventions, the social implications on coastal communities caused by the deprivation of sand remain a striking blind spot in adaptation planning and policy-making alike. Drawing from an empirical case study on the South Indian coast, the present contribution seeks to fill this gap by investigating how shifting sand resources are entwined with the livelihood of small-scale fisheries and their daily practices. It brings to the fore how the formation of beaches and the reclamation of sand is linked to historically constructed social vulnerabilities in the aftermath of the Tsunami that struck the region in 2004. Findings show that asymmetric power relations and local politics influence the ability to reclaim sand. Expanding on a political ecology of adaptation, it is discussed how an enhanced understanding of shifting sands and its unequal impacts can help prevent maladaptation in the first place.

2. Analyzing altering water flows in the Draa Valley Morocco from a feminist perspective

Lisa Bossenbroek, iES Institute for Environmental Sciences, RPTU (Rhineland-Palatinate Technical University) Kaiserslautern-Landau, Germany; Hind Ftouhi, INAU (Institut National d'Aménagement et d'Urbanisme), Rabat, Morocco and Zakaria Kadiri, Hassan II University of Casablanca, Casablanca, Morocco

The oases in the Draa Valley in southeast Morocco are affected by altering water flows. These can be characterized by declining water availabilities due to water re-allocations in combination with climate change and changing water quality, with an increase in salinization of water resources. This paper analyzes what these transformations mean in terms of gender relations and identities. Inspired by feminist scholars who explore how gender relations/identities and the environment co-shape each other, we illustrate how gendered activities, identities, and livelihoods are profoundly changing. Women used to play an essential role in oasis agriculture. They walked daily to the fields, harvested fruits, cut alfalfa, wheat, and barley, and collected wood and twigs to heat the oven. Despite its hardship, their work allowed them to keep themselves busy, fulfill themselves, and create and maintain social relationships. It also enabled them to find spots of relative freedom: the fields where they used to meet other women, exchange, laugh, gossip, and have fun. However, farming has become more difficult due to less water availability and its diminishing quality. Some women are increasingly confined to the private feminine domain in this newly emerging environmental context. In contrast, others take up new opportunities to make a living and give sense to their daily lives. In doing so, they renegotiate notions of womanhood and co-shape the future becoming of the oasis.

3. Contested mean(ings) of conservation – Implementation of a nature park in Santander, Colombia, and implications for procedural and recognition justice

Mirja Schoderer, Vrije Universiteit Amsterdam

In order to implement the Convention on Biological Diversity and a national action plan, regional environmental authorities in Colombia have designated numerous protected areas in the form of natural parks, which often extend over the farms of peasant communities facing land use restriction as a result. Based on three months of field work in Santander, our research assesses the social-environmental impacts of the nature park as well as the political implications of the social mobilization surrounding it from the perspective of environmental justice. For the most part, contestation focuses on the environmental authority's failure to conduct adequate prior consultation, to provide compensation, and to recognize the peasant communities as conservation experts in their own right who have successfully maintained an extensive forest cover and thriving biodiversity habitat even before the designation of the park. Following the contestation and subsequent interactions with the environmental authority, the study demonstrates how, by acknowledging their own social-environmental expertise, farmers gained confidence to establish themselves as political rights-holders vis-à-vis the environmental authority. It also shows how, in order to empower rather than further disadvantage politically marginalized actors, international nature protection efforts need to recognize different notions and means of conservation beyond so-called fortress conservation.

4. Environmental justice and the social contract: women-led adaptation to environmental change and their contribution to new social contracts

Annabelle Houdret, German Institute of Development and Sustainability (IDOS)

The effects of climate change and overuse of natural resources often disproportionally affect women in rural areas, with repercussions on livelihoods, food security, health and education. Simultaneously, many women experience multiple forms of marginalisation in the political and social systems they live in. However, inter alia due to their key role for food security, (rural) women also play a key role in adaptation to environmental change. Based on empirical findings from Colombia, this paper shows how women-led protection, restauration and sustainable use of natural resources is also a source of socioeconomic and political change. Conceptually, the research uses a combined approach of environmental justice and social contract theories to analyse how, as a reaction to environmental change, women-led adaptation initiatives reclaim and renegotiate horizontal (societal relations, between groups) and vertical (state-society) relations. Drawing on empirical findings from women associations improving local water management, natural resource protection and livelihoods, the paper highlights their intertwined struggles for ecological and socio-political justice.

Panel 265: Political Ecologies of carbon removal, net zero and climate delay I

Wim Carton, Lund University

This is the first in a stream of six sessions entitled "Political Ecologies of carbon removal, net zero and climate delay". The stream is co-organized by Kirstine Lund Christiansen from University of Copenhagen, Wim Carton from Lund University and Jens Friis Lund from University of Copenhagen. This first session focuses specifically on CDR and the politics of mitigation deterrence and delay. Below follows a description of the topic of the entire stream.

The climate conversation has in recent years moved towards a new framing: Countries, municipalities, and various private actors have adopted 'net zero' as the new master narrative of global climate governance. Under this narrative, actors promise to balance out any remaining emissions with removals at some point in the future, including through reliance on new market mechanisms, offsetting methodologies, and the scaling of novel removal technologies. These developments raise all kinds of important questions about how this will be done, with what local and global implications, and who is set to lose/benefit in the process.

Political ecologists have only just begun to engage in the ongoing net zero and carbon removal conversation, for instance raising concerns about untenable demands on land use and a potential 'rescaling' of the global land rush in the global South. But there is much that the field could contribute to the debate. There is for instance a long history of research in political ecology on carbon sinks, carbon offsets, and REDD+, much of which engages with carbon removal in all but its name. Insights from decades of research on

conservation, green grabbing, and neoliberal climate governance more generally also appear directly relevant for understanding and scrutinizing current developments.

Currently, this kind of research is often framed out of discussions on carbon removal, which tend to take place in academic, corporate and policy circles where political ecology insights and political ecologists are, for now, relatively absent. Key questions therefore are: What is actually new here, and what is not? To what extent does the net zero and carbon removal turn in climate politics create a different set of concerns, conditions and obstacles for climate justice and effective mitigation? What can we learn from previous political ecology scholarship on these questions? How does the apparent rescaling of long-standing concerns raise the stakes for critical scholarship? And how can political ecologists critically engage academic and policy circles where net zero and carbon removal ideas and futures are set out?

1. Carbon removal as a 'time machine' in the face of a climate emergency

Duncan McLaren, UCLA

The fundamental difference between carbon removal and other technologies of prevarication (such as carbon capture and storage (CCS) or nuclear power), is that only carbon removal permits the reversal of atmospheric concentrations of CO2 as opposed to slowing rates of increase. This paper explores what this unique counter-temporal functionality means for our understanding of, and responses to climate procrastination. It briefly outlines the different ways counter-temporality is expressed in different techniques when taking into account the specific temporal profile of emissions, removals and leakage associated with key proposed methods (including direct air capture, bio-energy with CCS, ocean alkalinisation and enhanced weathering). In particular, it analyses how the temporal dimension may intersect with or reinforce spatial injustices anticipated in deployment of specific carbon removal techniques, and the ways in which counter-temporality is being expressed or exploited by different interests. It further discusses how counter-temporality may be managed (or exacerbated) in different policy mechanisms for supporting carbon removal development and delivering net zero emissions, such as mandates, public contracts, carbon banking and trading systems. It concludes with some reflections on implications for the temporal politics of climate change and emergency logics of climate action.

2. Carbon removal and the politics of target design: Exploring mitigation deterrence in the making of the EU's 2040 climate target

Etienne Schneider and Alina Brad, University of Vienna

The current mainstreaming of carbon dioxide removal (CDR) technologies in climate policy has raised novel concerns over climate delay or mitigation deterrence. hile clime delay or mitigation deterrence have been identified with other mitigation technologies (e.g., hydrogen, CCS), a specific feature of CDR technologies is that hey enable – and are enabled by – net zero target framings. Such framings are often ambiguous as they treat carbon removal and emission reduction as fungible nd fail to define a clear timing of mitigation efforts or the relation of emissions and removals over time. As a result, the design of net zero target structure is merging as a new focal point in climate politics, with

increasing calls to enhance the specificity of targets, particularly by separating emission reduction and removal targets. This paper investigates this new constellation of conflict based on the current negotiations of the EU's 2040 climate target. Using the public consultation process, document analysis and expert interviews, it specifically examines how different actors strategically positioned themselves towards the design of the 2040 target structure, and how this relates to their respective interests and visions regarding the role of CDR technologies in achieving the EU's climate neutrality target and related levels and distributions of residual emissions. Through within-case process tracing, we track potential instances of mitigation deterrence where expectations of CDR technologies facilitated a lowering of ambition or specificity of intended emission reduction in the 2040 target design.

3. The evolution of forest carbon removals in Aotearoa New Zealand: Least-cost mitigation, societal contestations, and a constructed necessity for forest carbon.

Mary Knowles, Sciences Po

As the world advances towards a post 1.5°C world, emphasis is increasingly placed on carbon removal mechanisms, such as planting forests to sequester carbon. Yet, the adoption of land-based carbon removals presents complex challenges, exerting pressure on land resources, disrupting ecosystems, and sparking societal concerns. This paper explores the evolution of using forest carbon removals through an analysis of Aotearoa New Zealand (NZ) as a case study. NZ's climate change mitigation strategy has been characterised by a reliance on forest carbon removals through market incentives since the 1990s. Drawing upon archival sources and semi-structured interviews, this paper examines why forest carbon removals in NZ emerged and how they have altered land use and created societal implications. Results highlight how claims of "necessary" forest carbon removals are socially constructed. This is underpinned by a least-cost mitigation strategy, delaying gross emissions reductions, and creating contestations over land use change in rural communities. The NZ case study contributes to our understanding of how and why carbon removals are necessitated and reveals potential ramifications of climate change policies incentivising land-based carbon removals.

Panel 346: The political ecology of nature-based value chains

Judith Krauss, University of York; Rosaleen Duffy, University of Sheffield & Aarti Krishnan, Alliance Manchester Business School

This panel aims to understand the political ecology of nature-based value chains, i.e. value chains which work with nature to address societal challenges. The political ecology of nature-based value chains begins a long-overdue conversation between two literatures to fill a key gap in knowledge: political ecology's emphasis on ecological change and social justice can help transcend value chains' standard emphasis on lead firms and lacking attention to environmental matters. Conversely, it will also enrich political ecology

with value chains' local-global, systematic, sequential focus on stakeholders and processes generating specific goods or services, and thus benefit both, while adding an important emphasis on power to the debate on nature-based solutions (Woroniecki et al., 2021).

In the past, diverse research has investigated the cross-border production processes for specific goods or services, often referred to as 'value chains'. Although many value chains rely on natural resources e.g. through agriculture, forestry or wildlife trade, it has been pointed out that most value-chain research does not systematically account for the environment, nor environment-economy-society interactions at different junctures of the value chain (Krishnan, 2022; Lanari & Bek, 2021; Ponte, 2020).

Equally, research has investigated various development opportunities and constraints which value chains entail for rural communities through concepts such as governance or upgrading, i.e. improving the social or environmental circumstances of production (Barrientos et al., 2016). However, much of the current value-chain literature directs its chief focus to lead firms' roles in value chains in the Global North. This fails to utilise political ecology's emphasis on the lives and livelihoods of those producing or trading in value chains, and also blinds us to the ways in which entrenched power asymmetries serve to conceal and reproduce structural inequalities (Duffy, 2010; Krauss et al., 2023; Rocheleau, 2015; Resurreccion, 2017; Sultana, 2022).

Consequently, this panel invites contributions that engage with these themes and questions:

- How can nature-based solutions, political ecology and value or commodity chains intersect meaningfully?
- How differently are considerations around risk and security viewed across political ecology and value chains?
- How could a political ecology of nature-based value chains help understand and govern recent dynamics in wildlife trade, agriculture and forestry?
- How can a political ecology of nature-based value chains engage with more-than-human perspectives?
- How does a political ecology of nature-based value chains help cope with the current polycrisis across all dimensions of sustainability?

1. Conceptualising the political ecology of nature-based value chains

Judith Krauss, University of York

The political ecology of nature-based value chains begins a long-overdue conversation between literatures to fill a key gap in knowledge. Political ecology's emphasis on ecological change and social justice in light of entrenched power asymmetries reproducing structural inequalities (Duffy, 2010; Rocheleau, 2015; Resurreccion, 2017; Sultana, 2022) can help transcend value chains' standard emphasis on lead firms and lacking attention to environmental matters (Krishnan, 2022; Lanari & Bek, 2021; Ponte, 2020). Conversely, this proposed research agenda will also enrich political ecology with value chains' local-global, sequential focus on stakeholders and processes of production

(Henderson et al., 2002; Barrientos et al., 2016; Horner and Nadvi, 2016), while adding an emphasis on power to the debate on nature-based solutions (Woroniecki et al., 2021). This paper will propose a research agenda by conceptualising how cross-border production processes for specific goods or services ('value chains') work with nature to address societal challenges ('nature-based') while intersecting with local-global society-economy-ecology dynamics. Querying ontological, epistemological, methodological and empirical synergies and differences in terms of preferred units of analysis, foci and approaches, it will highlight the possibilities and challenges of utilising lenses synergised from political ecology, nature-based solutions and Global Value Chains/Global Production Networks, proposing opportunities for further research.

2. Single-origin coffee and direct trade: political ecology of nature-based value chains

Anja Nygren, University of Helsinki

Nature-based solutions are becoming a global trend in the search for ways to manage ecosystems while providing biodiversity benefits and human well-being. This study focuses on the political ecology of nature-based value chains, using Costa Rican single-origin coffees to illustrate a global tendency to favour nature-based 'relationship' coffees bought directly from known Southern producers via traceable channels. The article provides a multi-actor, multi-scalar perspective onto coffee production, wherein the ecological and the political are tightly interwoven and the benefits and burdens are socially differentiated. It draws on documentary analysis combined with empirical field research in 2018 and 2019 to show that although Costa Rican speciality coffee growers produce high-quality, exotically flavoured, low-carbon and bird-friendly coffees, they get limited benefits from their engagement in laborious upgrading. Arguing that more attention should be paid to uneven power relations, forms of appropriating local knowledges and human-nonhuman relations in nature-based value chains, the article addresses the efforts of small-scale coffee growers to get their low-carbon, biodiversity-friendly forms of production and indigenous knowledges recognized. By focusing on the creative reimaginings of local coffee producers together with environmental activists and social-justice advocates, the study amplifies debates on transformative value chains and opportunities to create more just futures.

3. Pathways toward a grounded bioeconomy: Insights from sociobiodiversity value-chains in the Brazilian Amazon

Fabio de Castro & Gabriela Russo Lopes, CEDLA, University of Amsterdam

Unsustainable value chains promoted under the 'bioeconomy' agenda increasingly drive socio-environmental degradation and environmental injustices in the Amazon. Nature-based value chains led by local communities, systematically invisibilized by state and conventional market, face limited technical, financial, and institutional capacity. In contrast, nature-based 'bioeconomy' value-chains led by rural elite groups can reproduce outcomes similar to conventional value-chains such as landscape homogenization, export markets, land/green/labor grabbing, and exclusion of traditional practices and institutions. This transdisciplinary study analyzes three production systems in Pará, Brazil (agroforestry, shadow cultivation, community-based fishing management). Based on

fieldwork observations, semi-structured interviews, and knowledge co-production seminars, we propose the concept of place-based value chains. This term aims to label initiatives that are not only small in scale and led by local actors but also grounded in local knowledge and social norms, attached to the territory, and promoting multifunctional landscapes. Through an analysis of three aspects of such value chains—level of verticalization (processing), scope of action (short value chains), and values connected to sociobiodiversity production (non-economic values)—the discussion will focus on the power asymmetries and producers' agency, highlighting the gaps and opportunities for strengthening place-based value chains as the path to a grounded bioeconomy in the Amazon.

4. Politics of data: a comparative analysis of timber traceability and trade data in Brazil and the Democratic Republic of Congo

Alizée Ville and Caroline Sartorato Silva Franca, University of Helsinki and Chalmers University of Technology

Reliable data is considered a foundational element for 'good forest governance', particularly in the on-going struggle to curb tropical deforestation and forest degradation. Data and information are crucial components in various policy development, implementation and evaluation stages, with improved data systems expected to facilitate transparent decision-making and the enhancement of capacity and accountability. However, substantial discrepancies in timber production and trade statistics, especially in tropical producing countries, persist. The collection, selection, representation, and interpretation of data are not merely technical and apolitical procedures but are often related to interests within the policy processes they aim to inform. Based on the assumption that numbers are tightly related to politics, we investigate how their presence – or absence – translate political aspirations or resistance. Taking the cases of timber origin traceability data in Brazil and timber export data in the Democratic Republic of Congo, we attempt to shed some light on the statistical and political reasons underlying these 'gaps in data'. We assess data availability and transparency requirements set by relevant legal frameworks in both countries and compare them with the actual accessibility of data through official sources. Findings contrast trajectories of improvement and backsliding that are discussed in light of shifting political arenas.

Roundtable 303: Teaching Political Ecology and Environmental Justice with and against the canon

Alex Loftus, King's College London; Gustav Cederlöf, University of Gothenburg & Katie Meehan, King's College London

Both political ecology and environmental justice have powerful origin stories that have shaped the teaching of these fields for decades. For political ecology, the story is one of a paradigm shift in which cultural ecologists overcame the limits of the site to develop an analysis focused on a nested hierarchy of scales. For environmental justice, the story is

one that takes us from struggles over dumping in dixie to Love Canal and the First National People of Color Environmental Leadership Summit in 1991. The first story is rooted in a predominantly Anglo-American body of engaged scholarship, the second in the informed praxis of North American social and environmental movements. This panel questions how we might teach political ecology and EJ in ways that challenge Anglocentrism and acknowledge far more diverse origins while also doing justice to movements and scholars whose work we respect. The challenges are clearly different: disrupting a scholarly canon is not the same as questioning the narratives through which an intergenerational praxis is framed. We therefore approach this panel with humility, wanting to learn from and dialogue with others who teach within and against the canon.

Panelists:
Gustav Cederlöf, University of Gothenburg
Archie Davies, Queen Mary, University of London
Katie Meehan, King's College London
Alex Loftus, King's College London
Malini Ranganathan, American University
Hanne Svarstad, Oslo Metropolitan University

Panel 79: Geopolitical Ecology of Extractivist Empire-Making I

Nico Edwards, University of Sussex & Benjamin Neimark, Queen Mary's University of London

For many in the military-security apparatus, the Anthropocene is an era of approaching apocalypses and cascading 'threat multipliers' – from climate to migration chaos and war. Unsurprisingly then, as global temperatures skyrocket, military spending is also reaching record levels. This all comes in the backdrop of fresh conflict in Israel-Gaza, and protracted wars in Ukraine and Myanmar. While links between war, ecology and green 'extractive empire-making' – capital-intensive practices laid against both people and the planet, sometimes in the name of the 'green transition' – are more palpable than ever, the precise nature of those links, and how they intersect, need careful scrutiny. The following panels open the conversation about how the links between war, ecology and empire-making intersect, and how best to speak to them critically? What is at stake as they intensify, and what forms of resistance are they met with? What rigorous theoretical and empirical methods do we use to distinguish, deconstruct, and reconstruct narratives and evidence coalescing war, ecology and empire-making? We invite contributions that build on work across political ecology, political geography, international studies and cognate disciplines to explore the evolving modes of warfare and technologies of violence tasked with the enforcement of extractivist empire-making. What ecological aftermaths do these modes and technologies generate? What militarised environments spring up in their wake, shaping new forms of geopolitics? We especially want to build on theoretical and empirical papers by those with experience on the front line of green sacrifice zones and those defending environmental and social justice. This can range from studies in extractive zones, such as in Mexico, Germany and the Democratic Republic of Congo, all

the way to the boardrooms and bases of Glencore, Northrop Grumman and the British Armed Forces.

1. Critical infrastructures and PR campaigns: water and forests as part of military 'climate security' strategies

Corinne Lamain, University of Utrecht

Climate security sees an increased engagement of the military-industrial complex with climate change in its shift from discourse to practice. Climate security practices are driven by a range of concerns, from military deployment in a context of climate change to loss of life and livelihoods from extreme weather events. An underexplored element of this engagement are the specific military strategies that are applied in this operationalization. An example is the fairly recent rise of military involvement in the protection of 'vital infrastructure'. This paper builds on empirical work done in Nepal, amongst governmental actors and NGOs, and foreseen empirical work in Myanmar. Involvement of the military in the protection of hydropower dams, as vital infrastructure, is commonplace in Nepal. The question is posed whether increased importance of forests in economic terms (carbon markets), as well as in mitigating climate change (carbon sinks) may lead to the strategic importance of forests rising to be included in 'vital infrastructure' schemes. In turn, conservation actors and groups concerned with deforestation increasingly present forests as vital infrastructure, due to their contribution to carbon capture, economic benefits, as well as human well-being. This framing stands to place forests in the realm of economic and security interests. Is this the way forward, or are other military strategies notable? In Myanmar the entanglement of the military and forest industry is a reality since decades; does Nepal, and do other countries, stand to bear a similar future?

2. On armies and stomachs: Towards a geopolitical ecology of global food security

Melanie Sommerville, Norwegian University

The phrase "an army marches on its stomach" seems to have remarkable longevity, having been attributed historically to both Alexander the Great (356-323 BC) and Napoleon Bonaparte (1769-1821 AD). It remains relevant today when securitized framings of agriculture and food are proliferating amidst accelerating global food crises related to food prices, COVID, the war in Ukraine, and climate change. This paper articulates a geopolitical ecology approach to understanding these crises and the growing attention paid to food security in national and international politics. It brings together insights from political ecology vis-a-vis the political economic causes of environmental degradation, food regimes analysis with its attention to the role of agriculture in consolidating geopolitical and hegemonic power arrangements, and critical geopolitics with its awareness of geographical discourses and narratives as a key driver of political ecologic outcomes. The paper advocates for a shift away from 'events-based' understandings of geopolitical ecologic change towards the analysis of far longer running processes of agrarian transition and transformation. This helps to historicize recent trends such as the shifting geostrategic importance attached to global hunger (and appetites generally), growing concern about the potential use of food as a weapon, and

the de- (and very recently re-?) multilateralisation of global food governance. Throughout, the paper points to the limits of both liberalist and realist understandings of the challenges facing the global food system. Insisting on a critical approach, it examines opportunities for justice amidst rising rates of food insecurity globally.

3. War by Biodegradable Means? Towards a Political Ecology of Green Militarism

Nico Edwards, University of Sussex

Along the logic of less fuel, more fight – decarbonising defence to reduce emissions but not missions – military sectors across Europe and North America are presenting military practice as a driver of climate action and centring the arms industry as a guarantor of sustainable development. Yet the trend towards greening is paralleled by a recent historical upsurge in military spending, weapons production and the re-centralisation of military security in national security doctrines. Military sectors are both deepening their fossil fuel lock-in and increasing their reliance on mineral extraction to join the green energy transition – ever-intensifying war and militarism's dependence on extractivism. Addressing this paradox, the folding of ecological action into military interests and praxis is being met with myriad forms of refusal, contestation and resistance. In this paper, I capture the ongoing militarisation of ecological and social (eco-social) crises through the concept of green militarism. I interrogate the consequences of green militarism for eco-social justice and foreground its disruption by resistance movements tackling militarism, extractivism, colonialism and criminalisation as joint harms. Developing a political ecology of green militarism, I ask: which interests and relations are served by the militarisation of eco-social crises, and who/what comes to harm as a result?

4. Where Geopolitics Meets Political Ecology: The Norwegian Far North

Katharina Glaab Norwegian University of Life Sciences & Judith Shapiro, American University

The Norwegian Far North has long been an arena of conflicts over land use, indigenous rights, competing identities, historical narratives, and environmental degradation caused by resource extraction. All are well-visited topics for the field of political ecology, which understands land degradation as tied to multi-scalar, essentially political conflicts that often most affect the vulnerable while excluding them from benefits and suppressing their voices. In recent times, in an era of climate change, melting Polar ice and increasing tensions in Northern Europe, the Norwegian Far North has also been conceptualized as an arena for geopolitical maneuver and contestation. The prospects of strategically and economically important shipping lanes, rich fishing grounds, and redefined and re-centered sovereign spaces have recast the Arctic as an exploitable region in its own right, a new "geopolitical imaginary," rather than an extension of geographically contiguous states. Considering the increasing securitization of the Arctic amidst environmental and resource conflicts, in this paper, we argue for going beyond traditional geopolitical understandings of the Arctic as a region of great power conflict, and propose instead to examine it through a geopolitical ecology lens.

Panel 604: Resisting infrastructure

Claudia Campeanu, University of Bucharest

1. Paving the Earth: Infrastructural Violence and the Autobahn A49 in Hessen, Germany

Daniel Haudenschild, University of Kassel

In 2020, activists occupied the Dannenröder forest with 175 tree houses and 300 barricades to stop the construction of the Autobahn A49 in Hessen, Germany. Residents along the planned motorway and campaigners have criticized the mega-infrastructure project for cutting through forests, an EU-protected Natura-2000 area, and an aquifer while increasing traffic and lacking economic benefits. Despite the concerns, the forest occupation was evicted by a large-scale police operation. The German government promised that the A49 would improve regional transport, contribute to rural economic growth, and increase the quality of life of currently traffic-affected villages. Despite the growing resistance against the expansion of road infrastructure, the recent 'infrastructural turn' in the social sciences fails to shed light on the contested German Autobahn network. Therefore, I seek to investigate the spatial and temporal dimensions of the environmental conflict over the A49 by unravelling how infrastructural violence affects humans and more-than-human entities. I carried out eight months of multi-actor ethnographic fieldwork along the A49 route, encompassing 38 semi-structured interviews. I argue that the development of the Autobahn A49 results in a physical artery of capitalism to transport goods, people, and power while enacting infrastructure colonization of nature by fracturing habitats and consuming lives.

2. Irrigation Infrastructures, State Authority and Climate Crisis in Northern Kurdistan

Adnan Mirhanoglu, University of Hamburg

Launched in the 1970s, Turkey's Southeastern Anatolia Project (GAP) proclaims to address the Kurdish question through economic development, involving 22 dams and 19 hydroelectric powerplants on the Euphrates and Tigris rivers. This ongoing initiative seeks to cover 46% of planned irrigation canal areas. Ample scholarship exists on GAP's adverse effects (e.g., village inundation, water deprivation for small farmers, and soil/nutrient loss). Examining the Qoser/Kızıltepe plain, we discuss impacts in areas where GAP is anticipated but not yet implemented and where laws issued in the name of environmental protection imbricate with infrastructures that monopolize access to water and energy. Engaging with recent theorizations of infrastructural violence and biopolitics, we reveal how GAP transforms water into a coveted resource essential for land vitality and how this transformation intersects with histories of non-Muslim genocide, the quest for Kurdish autonomy, and its suppression. GAP's violence, we argue, is reducible neither to quantifiably rationalizable issues like productivity or consumption nor to the singular foci on life and death that characterize biopolitical frameworks. We reconceptualize infrastructural violence and biopolitics as a question of autonomy and self-determination, asking on whose terms protection of, access to, and relations between land and water are understood and acted upon.

3. Rural Transformations Within Infrastructure Corridors On The Edge of The Tropical Jungle: Livelihoods, Natural Resources, And Sustainability In Northern Laos

Zhiqiang Zheng, The University of Manchester

In Northern Laos, significant efforts are being made to address urgent threats to natural resource sustainability. However, challenges persist in promoting sustainable rural transformation, particularly considering infrastructure development. Alongside the unprecedented development of the China-Laos Infrastructure Corridor, rural livelihoods are often linked to deforestation and biodiversity loss. However, our understanding of how large-scale infrastructure interacts with the sustainability of livelihoods in this region remains limited. This research investigates how this corridor influences livelihood opportunities and impacts livelihoods dependent on natural resources. It also explores opportunities for sustainable livelihood transformations because of emerging conservation initiatives in this region. The study uses semi-structured interviews among rural Laotian inhabitants and Chinese rural migrants and explores document analysis as a complementary method. The qualitative methods are to comprehensively investigate the impacts of the infrastructure corridor on livelihood opportunities and the consequent implications for natural resource-dependent livelihoods. The methods aim to uncover the nuanced dynamics at play and assess emerging conservation initiatives to foster sustainable livelihood transformations after the infrastructure corridor development. Moreover, the research shows that the infrastructure potentially results in injustice among different groups on the corridor. Using the Political Ecology and Sustainable Rural livelihood as the theoretical frameworks, anticipated outcomes include insights into how the infrastructure corridor influences rural livelihood (e.g. strategies and outcomes), potentially catalysing shifts towards sustainability and conservation. This research seeks to illuminate pathways for sustainable rural livelihoods amidst evolving infrastructure paradigms in Northern Laos.

4. Out of the frying pan and into the fire: land concentration, drought, and wind power infrastructure in Central Dobrogea (Romania)

Claudia Campeanu, University of Bucharest

As in other places, in Central Dobrogea (Romania) wind turbines emerge as complex objects that are shaped by participation in multiple crises: energy security, climate change, biodiversity loss, and local socio-economic degradation. Locally presented as a way out of the local economic crisis caused by severe drought and the ensuing decreasing viability of agriculture, the new energy infrastructure instead reproduces local political arrangements by providing massive funds to be moved and used by the local political and economic elite. Opposition from environmental groups is largely ignored and interpreted as just another misguided barrier in the way of local development. For the locals already disenfranchised by the large-scale agriculture and land concentration processes, the turbines become however material and lasting signs of their alienation and provide a new language for articulating their own understandings of politics. The paper navigates through this nexus by using interviews, participant observation, and secondary data.

Panel 601: Political ecologies of the oceans and marine environments I

Ståle Knudsen, University of Bergen

1. The End of an Era? Future Failures in Alaskan Salmon Fisheries

Danielle Dinovelli-Lang and Karen Hébert, Carleton University

In December 2023, Trident Seafoods, one of the biggest seafood processors in the U.S., announced it was selling off a third of its Alaskan plants and laying off a tenth of its management staff. The news was not exactly shocking: Fisheries news has gone from bad to worse in recent years, as rising water temperatures, pollution, over-fishing, and the ever-growing expansion of farmed fish production globally has taken an already volatile industry right off the rails. But it nevertheless came as a surprise to coastal communities across the state, which have so often and for so long reconfigured their fishing labor to meet the fluctuating needs of the market, on the one hand, and the reproductive needs of wild-caught fish, Pacific salmon in particular, on the other. With Trident's announcement, it is almost as if the end of the neoliberal era in the Alaskan fishing industry—characterized by privatization, corporate consolidation, exploitation of migrant labor, etc.—may have arrived, even as a number of stocks remain abundant, and market conditions are not as dire as they have been in the not-so-distant past. Yet the end has come not in the form of a catastrophic collapse of either fish stocks or the market, which have loomed as possibilities for some time, but rather from a more mundane shift in corporate strategy. This paper considers how recent turmoil in the Alaskan commercial fishing industry relates to historical periods of instability and change. In particular, it explores how the specter of collapse, repeated, with ever-greater frequency and intensity, through the years of neoliberal economics and climate-changed ecologies, plays for and against the future of coastal Alaskan fishing communities, asking whether their figurative imperilment may have hastened their premature demise.

2. The Black Sea: Salmon's last frontier?

Ståle Knudsen, University of Bergen

The last five years have seen a spectacular growth in marine farming of 'Turkish salmon' in the Black Sea region of Turkey. This is largely taking place outside of the value chains controlled by hegemonic Norwegian capital. Reasons for this are largely geopolitical. However, the dynamics are recognizable: nature is incorporated into the capitalist production system though commodity-widening (Jason Moore). Sea space that was utilized as a managed common is being privatized, and especially small boat fishers' access to resources to sustain their income and livelihoods is reduced. Although they protest, there is little leverage for them to be heard as the political rhetoric as well as regulations emphasize production growth and exports. Capital's hold on the new privatized sea space is also increasing with ongoing horizontal and vertical integration: a

few dominant (all Turkish family owned) fish farming corporations seem to gain control of the flows in this frontier. With commodity-widening encountering limits (e.g. no new licenses), the larger corporations' investment strategies increasingly emphasize commodity-deepening and commodity-transformation. This paper details these processes and traces the way local nature is here being increasingly entangled with more complex flows of capital and material as fish feed ingredients are sourced globally and large fish farming corporations' capital is set to work in sea spaces beyond the Black Sea (Turkish Aegean, also abroad).

3. Fishy food security: How mainstream marine narratives represent and undermine food and nutrition security

Joeri Scholtens, University of Amsterdam

The importance of fisheries to food and nutrition security has gained prominent recognition in mainstream marine policy over the past decade. In tandem with this recognition, mainstream marine growth and conservation narratives are increasingly justified quoting their significance for addressing global food security concerns. Five such prominent contemporary marine policy approaches are Marine Protected Areas, fighting illegal fisheries, embracing corporate 'key-stone actors' for conservation, developing offshore aquaculture, and encouraging an inclusive blue economy. Based on a literature review this paper questions the evidence for these claims and exposes their underlying logics. This is achieved first by mapping the mechanisms through which fisheries can contribute to food and nutrition security. Second, I deconstruct the food security-enhancing claims for each of these policies to expose how, despite the good intentions often underlying them, they tend to compromise food security instead. I then combine these to demonstrate how both the growth and conservation narratives are almost exclusively focused on increasing fish productivity and food availability, conveniently bypassing concerns for food access and agency, thus translating a classic political ecology theme to the marine realm. I finally question how these myths are so effectively reproduced and conclude with proposing a set of counter narratives.

Panel 116: Meaty Futures: Political ecologies of meat and meat alternatives I

Sango Mahanty, Australian National University & Arve Hansen, University of Oslo

Globally, more than 80 billion animals are slaughtered each year to meet the growing demand for meat. The average consumer now eats twice as much meat as they did in the 1960s. This meatification of diets is enabled by a globally connected industrial meat complex (Weis 2013), with spatially differentiated production/consumption systems and entrenched inequalities. Meatification is a Green Revolution 2.0, ramping up long-standing environmental and justice questions while introducing new challenges for land justice, animal welfare, toxicity, zoonotic disease and climate change. Alternative proteins such as plant-based and lab grown meat are key alternatives to meatification as we know it but bring their own dilemmas. As such, meat is a crucial window into the political

ecology of contemporary food systems. This panel will advance the recent wave of research on meat, broadly defined, to assess the scope for more plural and just alternatives. Key themes include: - 'Meat as method' - what novel insights can be gained through meat as a lens into the political ecology of food systems? - The geographies of meat and meat alternatives - how do production/consumption systems operate across social and political-economic settings? - What prospects and challenges exist for alternatives to current meat production and consumption?

1. Toxic chickens - chemical flows and accumulations in Asia's broiler chicken complex

Sango Mahanty, Australian National University; Assa Doron, Australian National University; Rebecca Hamilton, University of Sydney; Thilde Bech-Bruun, Copenhagen University and Pin Pravalprukskul, Australian National University

If food "touches on most elements that make up daily life" (Haider and van Oudenhoven 2018), industrial meat might be a super-food – an apex commodity in contemporary food systems. The 'meat complex' (Weis 2013) that feeds and cultivates livestock, arranges for their slaughter and the efficient distribution of meat to consumers operates through local-to-global networks, with impacts that resonate across multiple scales. The recent flourishing of meat research highlights crucial justice questions for food systems regarding land, human-nonhuman relations, food security, climate change, corporate power, human health and more. An important blind spot has been the role of chemicals in the meat complex. Although agricultural chemicals are intensively used in feed production, we know little about the resulting toxic flows across species, and how these meld with the cocktail of antimicrobials that now infuse livestock. Broiler chickens are a key case, comprising around 40% of global meat production in 2020 and rising, especially in Asia. In this context, the paper will examine methods to understand chemical use, flows and accumulations in food systems in Asia's 'broiler chicken complex', and how this can contribute to our understanding of global food systems.

2. The political ecology of the "Chickenocene"

Ambarish Karamchedu, Kings College London

The industrial broiler chicken is seen as an answer to persistent malnutrition and protein requirements in developing countries amidst urbanisation, economic growth, and dietary transition. This paper examines the political ecology of how the chicken has become the most common bird and most consumed source of meat on the planet. Some 70 billion chickens are slaughtered each year in a factory farming system, raised and killed within forty days, compared to living up to five years in the wild. The fifty biggest chicken producers in the world contribute to 36% of annual chicken production, in an industry worth $322 billion in 2021, whilst only two firms, EWG and Tyson, control 90% of broiler chicken genetics. Chickens alone consume 10% of annual global maize and 15% of soy production. I explore asymmetries of power and policy formulations that give rise to corporate concentration in the poultry sector, using global firm level and poultry industry reports. I identify the role of global finance and government interventions that are significant in shaping highly industrialising poultry production systems. Exposing fault

lines and exclusions of the current trajectory of chicken production is urgently needed to value the animals that labour to bring meat on our plates.

3. Illuminating the care/repair nexus in the 'pandemic era', and the potential for care beyond repair in Danish poultry production

Rebecca Leigh Rutt, University of Copenhagen

Care and repair are key concepts in the fields of feminist theorizing and science and technology studies respectively. A fraught term, care's tendency to summon pleasant associations is challenged by the reality of embodied care practices in complex and compromised socio-ecological contexts. Repair as a concept has been used to signify the activities employed to stabilize systems at risk whilst largely ignoring or even worsening the drivers of instability. Researching in the context of the Danish poultry industry in a time of rising outbreaks of infectious disease (the so-called 'pandemic era') including avian influenza, and with inspiration from multispecies studies and ethnography, this study documents the practices emerging at the care/repair nexus in this era. The industry is under exceptional threat. Yet, concern for birds in production is not forgotten. In fact, given their extreme vulnerabilities, birds' need for care is arguably more overt than ever. We document the practices emerging at this nexus, with special attention to the effects of such practices on the human and more than human world. Throughout, we shed light on the analytical purchase of these two concepts especially when mobilized together. Finally, we illuminate farming practices of care beyond repair, that is ways of caring for birds under production that push back at and perhaps even escape the mounting pressures of capitalist agriculture including in times of worsening infectious disease. We conclude by considering the potentials of such care beyond repair in charting alternatives for Danish agriculture within – and also perhaps beyond? – this pandemic era.

4. Beware the perils of silver bullets: tension and disconnect in tackling biodiversity loss and zoonosis through One Health

Shadrach Parwon Kerwillain, Rachel Carson Center for Environment and Society

In recent years, health has become an essential tool in advancing the agenda of biodiversity conservation, reflected through approaches like One Health, EcoHealth, and Planetary Health. Defined as an integrated, unifying approach that aims to sustainably balance and optimize the health of people, animals, and ecosystems, One Health is increasingly being used to drive biodiversity conservation. The threat of disease spillover from 'wildlife' to humans brought on my land conversion has been used to demonstrate the urgency of addressing land conversion and the associated loss of biodiversity. Consider, for example, the 2014-2016 Ebola outbreak in West Africa. As the outbreak unfolded across Guinea, Liberia, and Sierra Leone, public health messaging aimed at preventing the virus spread warned locals against hunting and consuming wild animals, particularly bats, monkeys, and chimpanzees. The COVID-19 pandemic was used to amplify this type of messaging. The problem with these kinds of messaging is that they do not align with the lived experience of those it targets, contradicting generations of embodied knowledge and experience of people hunting and consuming wild meat. In this

paper, focusing on Liberia, I explore the challenges, pitfalls (and opportunities) associated with using One Health to drive biodiversity conservation.

Panel 199: Political ecologies of landscapes of restoration and restoration of landscapes

George Holmes, University of Leeds

Political ecologies of landscapes of restoration and restoration of landscapes In the 21st century, various forces have come together to prompt efforts to 'restore' rural landscapes. Socio-economic and agricultural changes drive land abandonment and depopulation of marginal farmland. New market instruments and policies such as carbon sequestration credits drive new investments in alternative forms of landscape such as afforestation. New conservation ideologies such as rewilding, and the growth in large scale conservation philanthropy and related private land purchases, are changing the political landscape on restoration, as well as ecological landscapes. This session would explore these trends, asking what restoration might mean in the 21st century, who gets to decide this, how and where 'restoration' takes place. It considers how restoration agendas view the relationship between nature and society, particularly questions of justice and equity, broadly considered. It seeks to identify both emerging trends in landscape restoration, as well as methods for understanding them.

1. Restoring markets? Exploring intrinsic linkages between new forms of ecological restoration and market approaches

Janet A. Fisher, University of Edinburgh & Annette Green, University of Cambridge

The moment for restoration and rewilding in the UK is now. Influential and dynamic coalitions of government, financial sector and non-governmental partners back initiatives of different character and size. Central and devolved administrations are turning centrally to land in response to their net zero and biodiversity recovery commitments, financiers evidently see opportunities in the new nature economy, with galvanising metaphors of ecosystem services and natural capital now having come of age, and non-governmental organisations apprehend financing opportunities for conservation and restoration that would have been unimaginable 15 years ago. What is striking about UK restoration is how it has become almost synonymous with market-led approaches. Thus, in this powerful and influential ascendant coalition, questions remain rarely posed and still more rarely answered, about the political ecology of new market instruments and forms of finance. Drawing on examples from the Scottish highlands, Cumbria and the Welsh borders, we unpick some of these questions and examine emerging evidence, about who wins and loses, whether and how these dynamics intersect with another ascendant idea of the just transition, and how socio-natures are being reshaped in the process.

2. Relational and rights-based approaches to landscape restoration in Europe

Nikki Paterson, Megan Tarrant & Hanna Pettersson, Leverhulme Centre for Anthropocene Biodiversity, University of York.

When planning and enacting restoration projects, balancing the wellbeing, needs and preferences of humans and nonhumans is crucial. From the human perspective, people derive wellbeing from connection, both socially and through relationships or attachments to place. This poses the question: how can restoration efforts maintain or create new attachments whilst minimising disruption to existing relations? The first part of this presentation applies relational thinking to landscape restoration and human-nature connection, illuminating the complex relationships connecting people with their surroundings. This brings us to consider who has the right to decide how landscapes should be restored, and what kinds of rights are perceived as relevant in this context. The second part of the presentation explores Rights-based approaches (RBAs), which have been gaining popularity as a way of incorporating rights thinking into conservation, and as a mechanism for improving social justice. However, critics argue that an emphasis on human rights ignores considerations of ecology and biodiversity. We illuminate the ways in which rights are used to "make real" the relationships between people and their landscapes, and how different conceptions of rights can be implicated in promoting or denying justice within landscape restoration. We finish by exemplifying the possible implications of these conceptual advances for ongoing restoration agendas in Europe. In 2022, a highly controversial landscape restoration law was voted through, bringing to a head the question of whose vision of the landscape should guide restoration efforts, and for which species. Using the cases of wolf restoration within agricultural landscapes in Sweden and Spain, we illustrate how relational and justice thinking reveals complex trade-offs for people, wildlife and domestic species that are insufficiently addressed in current management plans, and propose pathways to improved governance.

3. Why institution development is important for long-term positive outcomes of restoration: Lessons from the history of Nepal's community forestry development

Dil Khatri, Southasia Institute of Advanced Studies and Swedish University of Agricultural Sciences

Forest and landscape restoration has become a key environmental policy objective to sequester atmospheric carbon, preserve biodiversity, and support the livelihoods of rural populations. A growing body of literature argues for the importance of community participation (community institutions) to achieve positive ecological and livelihood outcomes of restoration interventions. Nepal's community forestry has been regarded as a successful example of decentralized forest governance, which research shows has resulted in both positive ecological and social outcomes. Yet, existing literature has paid limited attention to documenting the process of community institution development. We document a mutually influential relationship between forest restoration interventions and community institution development process drawing on the history of community forestry development in Nepal. Tree planting initiatives were undertaken during the 1960s and 1970s as a response to the wider concern of Himalayan Environmental Degradation (deforestation). With the initial failure of donor funding and government-led afforestation projects, donors began to channel interventions through community institutions. Agendas for restoration were thus central to the development of both community-level institutions

as well as broader policy frameworks for community forestry in Nepal. In turn, the further strengthening of community forestry institutions from 1990 onward led to a positive long-term outcome in terms of recovery of the once degraded mountain landscapes along with meeting local livelihood needs. At the same time, community institutions with decision-making authority continued to redefine the local restoration priorities and direct interventions toward local needs. We argue that Nepal's experience of community forestry development provides important theoretical and policy insight for achieving people-centric restoration and supporting long-term positive outcomes for humans and the environment in the context of current global agendas for forest restoration and other nature-based climate solutions.

4. Capturing future visons for landscape-scale restoration

Molly Simmons, University of Leeds

Landscape-scale restoration is increasingly cited globally as a potential solution for intersecting crises of climate, biodiversity loss and land degradation. 'Scaling-up' individual restoration projects to the landscape or ecosystem level is seen as important for improving ecological connectivity and capturing greater social and ecological benefits. However, scaling up restoration into the future in this way is a challenge that involves bringing together greater numbers and diversity of landscape actors to create 'shared' visions and foster collective action. It is well recognised that in a multi-stakeholder governance process like this there will be actors with different perspectives. In this case, this likely manifests in multiple and often contested priorities and visions for how restoration should happen and more broadly what the landscape should look like in the future. Different actors in any landscape will have varying viewpoints on the role of restoration in their desirable future. This work intends to improve understanding on what these viewpoints are for a case study in the Yorkshire Dales in Northern England. The method of image-based Q-methodology will be used to identify and analyse preferences for the future of restoration in this landscape, and the extent to which these are contested amongst landscape actors.

5. Using social science tools to make restoration better: findings from the English Lake District

Annette Green, University of Cambridge & Janet A. Fisher, University of Edinburgh

Ecological restoration is frequently positioned as a nature-based solution for addressing various environmental challenges. Restoration entails changing the way land is managed, and as such is a power-laden process where various norms and knowledge claims are leveraged in planning and decision-making processes. The diverse perspectives of those who are impacted by restoration are often not included in such processes, leaving many with a sense that their opinions and emotions are unimportant to people who 'do' conservation. Drawing from literature on conflict transformation, and empirical data from the English Lake District, this paper presents findings from research on the use of social science tools for understanding and deliberating diverse perspectives in a restoration project. I show how data from perspective elicitation surveys can structure and facilitate (potentially) difficult conversations between stakeholder groups – including conservation

practitioners – with fundamentally different approaches to nature, and very different stakes in how the landscape in question is managed. Ultimately, nature-based solutions – including ecological restoration – will only be solutions if they are acceptable to those who are impacted by them. Tools from social science can be used to map out perspectives and manage power dynamics in complex, contentious restoration contexts, making projects both fairer and more effective.

Panel 608: Political Ecology of Climate Adaptation

Brigida Brito, Universidade Autónoma de Lisboa

1. Climate adaption strategies, local crises, socio-ecological linkages for Indian grassland wetland ecotones

Jahnavi Sharma, Independent researcher

This paper presents linkages between ecological systems, social systems (such as livelihoods and policies), and climate adaptation strategies. We wish to use this platform to present the work in order to bridge the gap between crises which occur between local people, power, and natural resources in the light of climate change impacts and invite deliberations on issues untouched in our work. We have reviewed, interlinked, and derived potential linkages to factor critical verticals, existing linkages, and mapping opportunities for socio-ecological indicators in grassland-wetland ecotones as they are integral to political ecologies of a living system. Our findings are a result of thematic literature review using research articles, published reports, and secondary sources for inter-linkages. We present three critical vertical for improving interaction between crises of climate, socio-ecological, and political interaction in ecotones, and map the existing inter-linkages connecting the critical vertical for grassland wetland ecotones in particular with resource use, livelihood, and policy. The novelty of the study lies on addressing climate change impacts for localized action. We hope outcomes of this paper will help in sustainable planning and management of wetlands and grasslands with local people.

2. Understanding the Local Adaptation Measures to Climate change in a Tribal District: A Case study from Nandurbar, India

Himanshu Kumar, Indian Institute of Technology

Climate change poses an inevitable and far-reaching threat to ecosystems globally, driven by human activities affecting water, forests, and agriculture. India, heavily reliant on natural resources, faces profound consequences, notably in the agricultural sector, contributing approximately 20% to the GDP and employing 263.1 million people. Despite ambitious plans like the National Action Plan on Climate Change (NAPCC), challenges persist, with insufficient State Action Plans on Climate Change hindering effective implementation, especially in remote areas. Addressing this, Krishi Vigyan Kendra (KVK) Nandurbar, in collaboration with YOJAK Center for Strategic Planning for Sustainable

Development and Dr. Hedgewar Seva Samiti, has pioneered a unique model in Nawapur Taluk, Maharashtra. Focused on groundwater recharge, soil conservation, smart agriculture, alternative livelihoods, and community development, this model prioritizes the vulnerable tribal communities in the highly susceptible Nandurbar district. Embracing a Community-Based Adaptation (CBA) approach, it involves KVK as the implementing agency, YOJAK and HSS as think tanks, and local stakeholders. This model, blending traditional and modern practices, emphasizes knowledge preservation, empowering communities to adapt and thrive harmoniously with nature. As India shifts towards decentralized climate policies, this community-owned, climate-sensitive development model offers a replicable blueprint for various landscapes with necessary modifications. Climate change poses an inevitable and far-reaching threat to ecosystems globally, driven by human activities affecting water, forests, and agriculture. India, heavily reliant on natural resources, faces profound consequences, notably in the agricultural sector, contributing approximately 20% to the GDP and employing 263.1 million people. Despite ambitious plans like the National Action Plan on Climate Change (NAPCC), challenges persist, with insufficient State Action Plans on Climate Change hindering effective implementation, especially in remote areas. Addressing this, Krishi Vigyan Kendra (KVK) Nandurbar, in collaboration with YOJAK Center for Strategic Planning for Sustainable Development and Dr. Hedgewar Seva Samiti, has pioneered a unique model in Nawapur Taluk, Maharashtra. Focused on groundwater recharge, soil conservation, smart agriculture, alternative livelihoods, and community development, this model prioritizes the vulnerable tribal communities in the highly susceptible Nandurbar district. Embracing a Community-Based Adaptation (CBA) approach, it involves KVK as the implementing agency, YOJAK and HSS as think tanks, and local stakeholders. This model, blending traditional and modern practices, emphasizes knowledge preservation, empowering communities to adapt and thrive harmoniously with nature. As India shifts towards decentralized climate policies, this community-owned, climate-sensitive development model offers a replicable blueprint for various landscapes with necessary modifications.

3. Responses to climate change on a Small Island Developing State

Brigida Brito, Universidade Autónoma de Lisboa

The vulnerability that characterises community life in Small Island Developing States is defined by tradition, highlighting dependence on fragile ecosystems. The Democratic Republic of São Tomé and Príncipe is a vulnerable African micro-state. As a member of the Conference of the Parties on Climate, it ratifies agreements and implements action plans aimed at adaptation and mitigation. National actions are centred on reducing socio-environmental fragilities, promoting improvements in the quality of life of local communities and strengthening them in face of external threats, such as the loss of physical territory, which is already a reality. In this small state there are three fragile but dominant ecosystems: forest, coastal and marine, endowed with biodiversity and endemism, thear are the productive and economic basis of families, guaranteeing survival and the acquisition of income. Through a multistakeholder qualitative analysis, the responses of this vulnerable and dependent SIDS to minimise the impacts of climate change are presented and related. The interest of this case stems from the fact that it is one of the most affected by the global effects of climate change and is also a carbon sink, contributing to the global balance. The public actions created and implemented by

the state have been supported by multilateral organisations with the involvement of NGOs in direct contact with local populations.

4. Right to stay or climate mobilities? Mapping the discourse(s) on climate-induced mobilities in science and international politics from 2013 to 2023

Alina Kaltenberg, University of Augsburg & Angela Oels, University of Augsburg

In 2010, the Cancún Adaptation Framework recognized the need for cooperative action on climate-induced mobilities "with regard to climate change-induced displacement, migration and planned relocation" (UNFCCC, 2011, §14f) for the first time. In this paper, we investigate climate mobilities as a complex set of discourses that (re)produce imaginaries of who is moving in the face of climate change. Looking at key publications and initiatives within and outside the UNFCCC framework, including the Nansen Protection Initiative and the Taskforce on Displacement (TFD), we explore divergent discourses constructed by various international actors. Our analysis shows increasing political recognition of a right to stay and local adaptive capacities with calls for drastic emission reductions. Surprisingly, this goes hand in hand with the rise of a new paradigm of moving people out of danger. International legal frameworks increasingly include climate-related mobilities. The United Nations High Commissioner on Refugees (UNHCR) rejects the concept of climate refugees, arguing that those affected are not refugees escaping political persecution. Instead, the International Organisation on Migration (IOM) has emerged as a key mover in the field. Moreover, new forms of bilateral collaboration such as the resettlement contract between Tuvalu and Australia are emerging.

Authors' roundtable 615: Insurgent ecologies and earthly movements

Salvatore Paolo De Rosa, Center for Applied Ecological Thinking, University of Copenhagen / Undisciplined Environments; Diana Vela-Almeida, Utrecht University; Ethemcan Turhan, University of Groningen; Melissa García-Lamarca, University of Lund; Brendan Coolsaet, University of Louvain; Panagiota Kotsila, Institute for Environmental Science and Technology, Universitat Autònoma de Barcelona/Undisciplined Environments; Patrick Bresnihan, Maynooth University; Diego Andreucci, University of Barcelona / Undisciplined Environments

This roundtable discussion introduces and provides critical commentaries on two related books. The forthcoming book Insurgent Ecologies: Between environmental struggles and postcapitalist transformations (Fernwood Publishers), collectively edited by Undisciplined Environments; and All We Want is the Earth. Land, Labour and Movements Beyond Environmentalism (Bristol University Press), co-authored by Patrick Bresnihan and Naomi Millner. Both books engage with longstanding conversations in academic and movement-based political ecology around how to advance changes in, against and beyond capitalism, to make way for a just and livable world. The books start from the belief that

the panoply of subaltern environmental struggles taking place across global South and North to defend territories against the assault of extractive capitalism in its multiple manifestations, are today a necessary component of such transformations. All We Want is the Earth offers a counter-history of modern environmentalism, surfacing the many ways agrarian, anti-colonial, feminist and labour movements have connected social and ecological justice concerns since the 1960s. Insurgent Ecologies focuses on contemporary struggles and the pressing issue of systemic change, as well as strategic organizing to implement such transformative change. This has long been something of a blind spot of academic political ecology, which radical environmental movements have forced to the centre of the political agenda — shaking academic researchers out of the comfort zone of abstract critique. Together, the books offer historical and contemporary visions and strategies of environmentalism from below, struggles organized around sovereignty, land, climate, feminisms, and labour, from a wide diversity of contexts: Palestine and Kurdistan, the United States, Nigeria, Puerto Rico, Guatemala, Ecuador and Bolivia, Brazil, Mexico, Colombia, South Africa, Turkey, Georgia, Spain, Italy, Ireland and Greece, as well as transnational spaces. These stories shed light on how a radical, unified, revolutionary politics can emerge from place-based, often disconnected environmental struggles. Each story reflects on how to build counterhegemonic articulations through practices of alliance, solidarity and comradeship across diverse struggles, and how, through such articulations, new political subjects and transformative collective projects are created.

Panel 622: Green energy conflicts

Neelakshi Joshi, Leibniz Institute of Ecological Urban and Regional Development

This panel adopts a critical stance to the rapid infrastructural developments connected to 'green' or 'renewable' energy'. We explore the role of concepts and methods from political ecology to study conflicts that arise from renewable energy projects and uncover injustices associated with a rapid energy transition. The contributions aim to stimulate a robust discussion on the socio-ecological dimensions of renewable energy projects and their implications for local communities and ecosystems. Collectively, these contributions underscore the need for inclusive, just, and ecologically sensitive approaches to renewable energy transitions.-

1. Energy for the future, energies from the past: the conflict around a hydrogen plant in French Guyana

Roberto Cantoni, Universitat Autònoma de Barcelona

In recent years, hydrogen has become of the renewable energy industry's favorite buzzwords. It is often depicted as the environment-friendly techno-fix that will make electricity generated from solar and wind power storable and tradable on world markets. However, that techno-optimistic vision clashes with on-ground reality. In 2020, three French companies conceived plans for the world's largest solar-hydrogen power plant in the village of Prospérité, French Guyana. The Electric Plant of West Guyana promised to save CO2 emissions while ending recurrent outages for 70,000 Guyanese. Local customary chiefs belonging to the indigenous Kali'na people rejected the project from the

outset. While the Kali'na people are also resorting to juridical arguments to fight against the plant, they principally oppose the vision of their territory as no one's land, propagated by the industrial environment, and instead defend an alternative vision based on "a certain form of slowness and modesty". Based on fieldwork, I have examined this socio-environmental conflict through the prism of decolonial energy justice. I have integrated the analysis of energy justice with an examination of the valuation languages of project proponents and detractors to highlight the idiosyncratic worldviews that underlie these languages.

2. Local contestations and the struggle for survival amidst large-scale infrastructural projects in Kenya. The case of the Kesses 1 solar energy

Frankline Ndi, University of Bonn

Across Africa, promises of modernity and prosperity are used by governments and investors to mobilise community support for infrastructure development such as large-scale renewable energy projects. But such promises do not easily sail through or are sometimes back-pedalled. Using the Kesses 1 Solar project in Kenya as a case study, this article shows how the energy investor appears to be struggling to deliver on its promises – and how this has provoked local contestations against the solar company. Unlike in previously documented cases in Kenya where energy projects have faced local push backs predominantly linked to lack of clarity over land rights, flawed land consultation processes and tribal politics, this study argues that communities are not necessarily against the solar project; rather their main concern is how to be involved in, and to benefit from it, through for instance, employment and CSR schemes. It also demonstrates how local communities, despite being critical of the project, struggle with the company through their relations with the county government, to demand for a new MoU that offers them more benefits. For projects to be achievable and sustainable, the energy investor needs to address community concerns, respect promises specified in the MoU signed with communities.

3. Green-on-green conflicts as indicators of socio-ecological injustices in urban energy transitions

Neelakshi Joshi, Leibniz Institute of Ecological Urban and Regional Development

A shift towards renewable energy is essential to attain national, regional, and local low-carbon objectives. Cities, being significant energy consumers, play a crucial role in this transition. While many cities worldwide are ambitiously pursuing 100% renewable energy targets, conflicts related to large-scale urban renewable energy projects have surfaced. These conflicts often arise from the spatial dimension of urban energy transitions, involving energy production infrastructure within or near city boundaries. Particularly complex situations arise when renewable energy projects are proposed on greenfield sites with high ecological value, creating a clash between decarbonization goals and the impact on urban landscapes and biodiversity. This opposition, known as the 'green-on-green' conflict, exposes fault lines within climate action and nature conservation in cities. Two cases of green-on-green conflicts, involving large-scale urban solar farms in Edmonton, Canada, and Leipzig, Germany, illustrate this dilemma. I argue that while

these projects contribute to climate goals, siting them on ecologically valuable greenfield sites compromises the city's commitment to addressing the ecological and biodiversity crisis. I propose a socio-ecological justice framework for planners to navigate tensions and trade-offs arising from green-on-green conflicts. Urban energy transitions focused solely on carbon reduction perpetuate existing unsustainability and injustices in cities.

4. Political ecology of semi-arid landscapes as sites of renewable energy projects

Sanjana Nair, Ashoka Trust for Research in Ecology and the Environment

The climate crisis has brought to the fore the need to reduce dependence on fossil fuels. This has led to a significant push for a shift to renewable energy (RE). In India, RE projects are exempted from environmental impact assessments, evading regulation. Additionally, the ideal sites of these projects are often semi-arid landscapes misclassified as 'wastelands'. These projects restrict access and rights of use, and are detrimental to the ecology of these landscapes. The paper examines the process of green grabbing that is legitimised through the RE sector's moral imperative of climate action, along with the state's role in creating and perpetuating notions of 'wastelands'. The paper also examines what kinds of identities reinforce and are reinforced by such a categorisation. By subverting recognition of dependence and rights of use, the state replicates old injustices of the development state, while operating at the frontier of green capitalism. The paper argues that state policy (or lack of it) allows the RE sector to reproduce the same hegemonic control and profit motives that exist with industrial expansion, while invisibilising and neglecting both communities that practice climate-resilient livelihoods, such as pastoralism, and marginalised open natural ecosystems in the state of Maharashtra.

5. The Political Ecology of Green Hydrogen – Critical Perspectives on Regional Energy Transitions

Henk Wiechers, Brandenburg Technical University Cottbus-Senftenberg

My research focuses on a specific phenomenon in the field of green energy transitions: the emergence of 'hydrogen regions'. I define these as localised hubs of actors, infrastructure and policies dedicated to promoting hydrogen and related technologies as environmentally friendly alternatives to fossil fuels. The region of Lusatia in eastern Germany, currently undergoing a transition from coal mining, serves as my case study, highlighting the central role of hydrogen in regional narratives of decarbonisation and green energy. In my presentation, I propose a critical examination of this transition, drawing insights from the principles of Political Ecology. This lens allows me to highlight enduring power dynamics between regional actors and extractivist patterns of use of local water resources. It also provides a framework for contextualising these regional strategies within a global neo-colonial framework. Finally, I will highlight my upcoming research agenda, which focuses on transforming these critiques into a constructive approach. This involves actively engaging regional civil society actors in envisioning different scenarios for a non-fossil and non-extractivist energy future.

Panel 603: Claiming wetlands

Catalina Quiroga Manrique, Lund University

Spaces between water and land have increasingly become key ecosystems within environmental movements, local communities, and other public and private institutional actors. Spaces such as wetlands, marshes, mangroves, among others, have been gaining importance as arenas of dispute and joint construction where human-nature relationships reveal new scenarios for discussion and meaning-making. This panel aims to discuss the relationships between humans and nature in ecosystems where water and land are crucial and where different actors promote various initiatives in contested ecosystems.

1. Contested Mangroves: Climate Change Adaptation and Land Claims in the Wetland of La Virgen and Juan Polo in Cartagena (Colombia)

Catalina Quiroga Manrique, Lund University

Climate change is a phenomenon that has produced more socio-environmental inequalities and land grabs. At the local level, communities in both urban and rural settings have adapted, integrated, and transformed climate change policies in relation to their histories of dispossession and resistance. Disputes over mangrove geographies in the Colombian Caribbean show how the complex relationships between claims of agrarian justice and climate justice intertwine in contexts of exclusion produced by urban expansion over water bodies, lands, mangroves, and Black histories. The case study of the women mangrove planters in the Black community of Villa Gloria, Cartagena, Colombia, illustrates how local communities mobilize meanings and climate change projects, especially connected to adaptation, to ensure access to land and territory denied by urban expansion, racism, and criminalization in the city. We are interested in understanding how mangrove seedbed emerges as a local strategy to overcome everyday socio-environmental injustices through local forms of understanding adaptation. To achieve this, we delve into the articulations of land reclamation and mangrove reforestation and their role in shaping adaptation actions in a highly contested urban-rural setting. Through an ethnographical approach and analysis of official documents, we argue that in the implementation of climate change projects, negotiations and disputes over their meaning produce unequal relations that each actor mobilizes and adjusts to specific conditions.

2. The conservation state in a quagmire? Territorialization for conservation in wetland areas

Sören Köpke, University of Kassel

For a long time, wetlands were perceived as wastelands and were drained, depleted and developed. Only in the last half-century, wetlands were re-evaluated as important habitats for wildlife (i.e., migratory birds), as central elements for water management, and more recently, as carbon sinks. The Ramsar Convention, negotiated in the 1970s, signifies the global dimension of this paradigm shift. Wetlands have since become the sites of a

severely contested "ecologisation" (Mathevet et al. 2015) in which dominant conservation regimes are positioned against diverging resource uses. Wetland conservation can be understood, much like other instances of establishing protected areas, as a form of state-led territorialization (Vandergeest & Peluso 1995; Raycraft 2019; García & Mulrennan 2020; Sylvander 2021). This contribution problematizes the working rationale of the conservation state, here defined as the parts of the state apparatus dedicated to conservation, with regards to conflict over wetlands conservation. Through a comparison of cases from Mexico, Germany and Sri Lanka, the paper will highlight structural similarities in processes and discourses. It attempts to understand how wetland conservation is legitimized, implemented and managed in the face of contestation, investigating the role of other stakeholders like fisherfolk, farmers, conservation NGOs, extractive industries and developers.

3. Peatland Woes: Rehinking Property in a Just Transition

Otto Bruun, University of Eastern Finland

The Nordic rural peatland areas were during 2019-2023 facing what was termed "a sustainability transition driven crises". Nowhere is this more visible than in the Finnish region of Ostrobothnia where peatland farming, energy peat mining and peatland forestry (and raising of fur animals) are facing simultaneous calls for rapid transformations or phasedown due to harmful climate and biodiversity impacts. Utilizing this region and ongoing processes around peat as a case study based on interviews and ethnographic work in 2023-2024, this paper analyses the political ecology of ongoing rural sustainability transitions, focusing on how questions of property and ownership becomes redefined and articulated in a space where support for "just transition" was initiated and mobilized and the direction of transitions were established both nationally and in Europe. Whereas questions of redefining ownership have been raised with regard to fossil resources, the impact of property and debt on rural transition processes remain understudied. The local peat futures also became entangled with European debates of finance, nature restoration and climate regulation – making property a significant factor for understanding both local and transnational transition processes. The paper aims at showing the value added of an interdisciplinary socio-legal approach merging political ecology and environmental law.

Parallel session 2

Time: 13.00-14.30

Hybrid panel DO67: Experiences, issues and ethics of research and community engagement in protected areas in India

Akshay Chettri (Kalpavriksh, India) and Shruthi Jagadeesh, (University of Colorado Boulder)

Wildlife and biodiversity conservation in Indian Protected Areas (PAs) was born from laws and practices introduced with British colonization. Post independence, the management of PAs has largely continued to be the realm of the state, a model of biodiversity conservation that resembles many other former colonies. This, coupled with the lack of tenurial and access rights among local and land-dependent communities has created a range of issues around PAs which are multi-faceted, and largely discriminatory to local people. Conservation has thus been understood and experienced in different ways by different actors.

Critical conservation literature, especially that coming from political ecology, has bolstered community assertions that interventions in Protected Areas need to diversify beyond the state. This is also beginning to be reflected in global conservation policies, and in work by many BINGOs around PA conservation. Increasingly, a need has been felt to bring together diverse actors involved in these interventions so that there is a dialogue on approaches to management of protected areas. The issues are especially relevant to youth engagement in PAs as increasing importance has been given to ensuring youth perspectives and rights in Sustainable Development Goals and the recently institutionalised Kunming Montreal Global Biodiversity Framework, 2022. This need has also been highlighted by Indigenous communities and their allies around the world.

This workshop will seek to provide a space for different actors, including early career research scholars, academics, and young member of Non-Government Organizations to talk about their interventions in PAs in India, the issues and challenges they face, as well as their individual negotiating spaces and ethics as they approach these interventions.

The workshop will comprise of one 90-minute session. The first half will be a group discussion and sharing that will address specific themes and issues around:

(i) Non-recognition of rights of local people in Protected Areas and their criminalisation and dispossession
(ii) Interface of caste, race, religion, gender, age and ethnicity with conservation and its impacts
(iii) Relationships between wildlife, biodiversity and local communities, and the role of conservation laws in changing ecologies
(v) Reflections on ethics, responsibility and accountability with power hierarchies of doing research and working in Protected Areas

The second half will be a more open-ended discussion around the politics of working in PAs in terms of our own positionalities. This will include specific written inputs from lawyers, journalists and others who work in PAs in India. The final output of the workshop will be to *co-create a booklet or framework on ethics of work and research around protected areas* for a wider audience.

The unique opportunity of having this workshop in POLLEN in Tanzania and Lund, will allow for new perspectives, interventions, and collective thinking around how we can re-imagine interventions in conservation spaces around the world.

Co-hosts and discussion leads (name, designation and e-mail):

1. Ananda Siddhartha, Phd Scholar, Wageningen University,
   ananda.siddhartha@gmail.com

2. Anwesha Dutta, Senior Researcher, Chr. Michelsen Institute, Norway, anwesha.dutta@cmi.no

Panel 323: Political afterlives of ecological change II

Stine Krøijer, University of Copenhagen & Cari Tusing, University of Copenhagen and Austral University of Chile

Climate change not only affects global temperature and precipitation patterns, but also the intensity and frequency of extreme environmental events, such as forest fires, hurricanes, heat waves, floods, droughts, and storms. In the past political ecology approaches have mainly focused on identifying the broader political, economic and social factors that cause these environmental changes. This panel reverses the focus in order to understand the effects of fire and sudden ecological events on political processes. We are interested in how ecologies set politics in motion. The panel builds on ideas explored in the research project Fire and Political Alterity in Amazonia, but invites papers and participants willing to think about fire or other sudden ecological events as political actants that hold the capacity to alter social relations and (political) landscapes. We seek to trace their afterlives through different policy fields such as climate change and disaster preparedness, on land use and property rights or supply chain management. We are not only interested in what effects emerge, but also how such political afterlives play out and affect political cultures, create polarization or political alterities within public debates, in relation to private companies, among organizations and institutions also beyond local worlds. Like forest fires, political attention and controversies can flare or die, but sudden ecological events may also generate unintended, fleeting or long-lasting effects. The papers consider how are political processes set in motion by ecologies and sudden ecological events? How do such events affect the form of political processes? and what forms of political polarization or alterity emerge?

1. Translating Climate Models

Sophie Haines, University of Edinburgh

Amid the temporal horizons of anthropogenic climate change, extraordinary weather conditions and climatic variability punctuate unfolding socio-ecological relations, often troubling expectations, routines, and plans. Such disruptions have led to a wide array of anticipatory interventions, including but not limited to the development of predictive scientific models that seek to represent possible and probable future scenarios. Such models can be interpreted as attempts to 'tame' unruly futures by representing and quantifying uncertainty, framing calculative approaches to risk, and hence guiding more rational/efficient decision-making about ecological resources and hazards. But uncertainties and alterities proliferate: in the ensembles of possible futures envisaged in the models; via the plurality of meanings and uses of such projections; and through their encounters with other ways of knowing and relating to future economies and ecologies. This paper examines initiatives to co-produce, translate and apply seasonal climate forecasts in Belize and Kenya (involving meteorologists, drought managers, and

community representatives), attending to the political processes precipitated by efforts to anticipate and manage recalcitrant ecologies. Attention to questions of epistemic (in)justice shows how the operationalisation of technoscientific models can both limit debates, practices and possibilities, and point to openings for contesting and potentially reconfiguring political trajectories.

2. Afterlives of the Storm: Hurricane Katrina's Influence on Coastal Restoration Policies and Publics in Southeastern Louisiana

Michael Haedicke, University of Maine
This paper connects the Hurricane Katrina disaster of 2005 to the reconfiguration of coastal wetlands policy in southeastern Louisiana. Building on theories of strategic action fields (Fligstein & McAdam 2012) and eventful temporalities (Sewell Jr. 2005), I analyze the post-disaster trajectory of economic and political investment in a comprehensive land preservation and risk mitigation strategy known as the Master Plan for a Sustainable Coast. The paper uses data from 53 interviews and archival sources to describe three processes that channeled the disaster's political consequences in this direction: (1) the public framing of the disaster as a result of wetlands loss, (2) policy entrepreneurship at the state and federal levels and (3) the reconfiguration of administrative and organizational arrangements in the coastal zone management field. The paper also considers how the Master Plan has generated an "ontologically heterogenous public" (Bennett 2010) that did not preexist the Katrina disaster.

3. 'The day of fire' and its aftermath: remote sensing and political abstraction in Brazil

Stine Krøijer, University of Copenhagen

In August 2019, satellite images of more than 72,000 forest fires across the Amazon basin created an international public outcry about deforestation and an imminent collapse of the Amazon Biome. In Brazil, O dia do fogo came to epitomize this eventful panorama, as large landowners and supporters of President Bolsonaro allegedly ignited coordinated fires whose smoke darkened the skies in faraway São Paulo. By taking ethnographic point of departure in a visit to the Ministry of Environment in Brasilia and their newly established fire prevention program, this paper discusses how fire monitoring became the main initiative taken among public institutions, donors and NGOs in order to address the problem, even after a change of government. I show that fire monitoring, using remote sensing data generated by the Brazilian Space Institute's Amazonia1 satellite, not only continued to proliferate and extend, but also represent a particular way of knowing and relating to fire. In sum, remote sensing turned the forest fires into a particular kind of object that allowed legal and political responses to become 'abstracted', i.e. removed and separated from their contexts, and based on generalizing 'theories' with little bearing on concrete instances.

4. Burning Territories: Exploring Campesino rural futures in the conjunctures of agrarian extractivism and decoloniality in the Bolivian agricultural frontier

Frederik Andersen Tjalve, Aarhus University

The agrarian extractivist transformation of the lowland Chiquitano dry-forest of Bolivia has had multi-scalar consequences for ecologies, livelihoods, and rural communities. In the last decade, land fires, commonplace in refashioning and reinvigorating ecologies, have been appropriated, scaled, and run wild, spurring eco-political crises. Campesinos are 'hybrid' settlers in this landscape, entangled with yet at odds with extractivist processes and local indigenous territorial struggles. Often portrayed as Andean colonizers uncaringly spurring fires, these marginalized settlers stem from impoverished communities across high- and lowlands. They represent a de-territorialized, intercultural, and market-oriented indigeneity challenging settler-indigenous essentialisms. Rather than being just destructive 'aliens', 'hybrid' smallholder settlers across Latin America cultivate ecological ethics through long-term land tenures. In Bolivia, state exemptions to settler deforestation pave the way for emancipation through land tenure for campesinos by affording subsistence and participation in local and national agricultural economies. Nonetheless, cycles of debt and ecological degradation and an obtuse land titling system push campesinos toward maximizing profit and increasing sell-on value, curbing projects of agrarian sustenance. In this presentation, I explore how anthropogenically changing biophysical processes such as fires, deforestation, drought, and soil deterioration not only enact campesino territorialities, but reorient these toward particular futures.

Panel 185: Political ecologies of change: Degrowth as transformation I

Mine Islar & Lina Lefstad, Lund University Centre for Sustainability Studies

The degrowth scholarship argues for a multi-scalar transition beyond the growth-oriented economic paradigm to achieve social justice and ecological sustainability. Degrowth conceives the broad values of sustainability and justice as inseparable, requiring integrated strategies (Chertkovskaya 2022). In the literature, the most cited definition describes sustainable degrowth "as an equitable downscaling of production and consumption that increases human well-being and enhances ecological conditions at the local and global level, in the short and long term. The adjective sustainable does not mean that degrowth should be sustained indefinitely but rather that the process of transition/transformation and the end-state should be sustainable in the sense of being environmentally and socially beneficial" (Schneider et al., 2010: 512-513). Although degrowth definitions primarily emphasize the downsizing aspects of production and consumption, the concept of post-growth alludes to the vision of a society that can thrive or manage without relying on growth (Jackson, 2009). In this context, Parrique (2022) suggests that degrowth should be seen as a discourse of transition, while post-growth should be seen as a discourse of destination. The mitigation report mentions "GDP non-growth/degrowth or post-growth" as approaches allowing climate stabilization below 2°C (IPCC 2022). In addition to that, Values assessment of the Intergovernmental Panel for Biodiversity and Ecosystem services (IPBES 2022) also identifies degrowth as one of the suggested pathways to achieve a just and sustainable future, defining it as a strategy that reduce the material throughput of society and protect human wellbeing through equitable distribution of material wealth rather than economic growth. Within the same report, the environmental values associated with degrowth are presented as being based on the principles of strong sustainability where biodiversity, nature's contributions to people, and

core ecological processes are seen as irreplaceable by technology and built infrastructure. Based on these assessments, current models of societal progress that prioritize economic growth at the expense of biodiversity and ecological life support systems are incompatible with social and ecological sustainability.

1. Desiring Degrowth: Qualitative Transformations of Desire for a Post-Growth World

Mehmet Sencer Odabaşı & Adam Cogan, Universitat Autònoma de Barcelona

Degrowth transition demands a reduction in material consumption. Without eco-catastrophism or authoritarian interventions, this would necessitate people willingly reducing their consumption, implying a transformation of desire. A significant trend within degrowth tends towards quantitative desire transformations. This understanding sees individuals' drive to accumulate as a natural desire that has to be limited by society. We explore the role of desire in post-capitalist transformations, drawing on conceptions of illimitable desire in the works of Gilles Deleuze and Mark Fisher, among others, to propose the need for qualitative transformations of desire for a successful degrowth transition. We explore conceptions of desire as something not inherently dangerous, but rather potentially emancipatory and transformative, with the implication that it should be broken free from its subsummation under capitalism. Desire, though illimitable, can be directed away from capital accumulation and material consumption. We therefore consider notions of collective abundance and common wealth as containing the seeds of a post-growth, post-capitalist desire. We draw on feminist literature to suggest consciousness raising as a political strategy for re-structuring desire for a post-growth world. Ultimately, we posit desire as a site of political contestation, whereby degrowth transition is unlikely to come through desire limitation but through forming counter-desires.

2. Barriers to degrowth-inspired futures according to three peripheral communities

Adrien Plomteux, University College London

The academic degrowth movement has recently started to research how large-scale societies in line with degrowth principles could emerge. This paper carries on this endeavour by relying on the perspectives of three communities from the peripheries: two Maasai villages in Kenya and a remote village in Iceland that is part of the Cittaslow movement. All of them unintentionally live close to degrowth ideals in their own ways. This means that they hold valuable knowledge about how to build, live and maintain societies – albeit of small-scale – in accordance with degrowth values and practices despite existing in capitalist and imperialist times. Qualitative data was gathered in fieldwork in the three communities through interviews, participatory backcasting workshops and participant observations. Discussions focused on the barriers and enabling factors for Iceland and Africa, respectively, to move towards the community's own desirable vision of a 'society of frugal abundance' – a term that I used to talk about degrowth without explicitly using the term. In line with a critical realist ontology, the paper provides a preliminary theoretical redescription of this data drawing on literature in fields such as degrowth, decolonial studies, political ecology and anarchism, with epistemic justice in mind. The paper focuses on barriers preventing frugal abundance to emerge.

3. How community-led agrifood initiatives create local postgrowth food systems – perspectives from Ghana and Switzerland

Johanna Gammelgaard, University of Bern

This paper aims to improve our understanding of lived experiences of postgrowth across the global South and North and sets out to answer the questions a) how do community-led agri-food initiatives create viable alternatives to the dominant growth-dependent agri-food system in meeting local needs? and b) what role does 'commoning' play in the creation and persistence of such alternative systems? Alternatives are identified in the form 'prosumption' models, i.e., local forms of re-connectedness between producers and consumers that allow for food systems based on sufficiency, ecological care and living incomes for producers, as opposed to lock-ins of specialization, input dependency, and export orientation. The empirical contribution of the paper draws on two in-depth case studies of 'prosumption' models: a rural-urban solidarity network in Ghana and a community-supported agriculture initiative in Switzerland. In applying a postgrowth framework and the concept of 'commoning' to both cases, a comparative analysis sheds light on three aspects; 1) how postgrowth principles – of which there are many (e.g., care, regeneration, sufficiency, democracy etc.) – are practiced in lived and functioning systems on the ground; 2) the role that observed practices and patterns of self-organization play for the systems' ability to reproduce livelihoods; and 3) the differences and similarities in the learnings from two highly different geographical, historical and cultural contexts.

4. Degrowth, counter-hegemony, and societal transformation: a discursive logics approach

Joshua Hurtado, University of Helsinki

When discussing processes of societal transformation, degrowth's counter-hegemony has been conceptualised as a dialectical process where civil society and political society influence each other (D'Alisa & Kallis, 2020). In this context, degrowth envisions a counter-hegemonic formulation of multiple eco-social policies that break the economic growth imperative and bring about socio-ecological justice and wellbeing (Koch, 2020). While rich and insightful, these perspectives overlook a key component of degrowth's counter-hegemony: its capacity to articulate numerous groups and demands according to a specific context. I contend that this capacity of degrowth strengthens its transformative potential and can inform the strategies of various degrowth coalitions. In this article, I mobilise the insights of post-marxist discourse theory (Jacobs, 2018; Laclau, 2005; Laclau & Mouffe, 1985) to conceptualise degrowth as a discourse whose counter-hegemonic potential rests in its articulatory and mobilisation capacity: the capacity to link ideas, concepts, identities, objects and institutions into a partially-stable political project that increasingly gains force by structuring the affective investments of its supporters. Using the logics of critical explanation technique (Glynos & Howarth, 2007; Howarth et al., 2016), I show how degrowth brings together various ideas and movements in an antagonistic relationship to structural problems and has the potential to mobilise its supporters in moments and sites of counter-hegemonic contestation. In doing so, I argue

that degrowth's ideas can be adapted across contexts and help build translocal alliances that demand societal transformation.

5. Caring Systems of Provision: An Analytical Framework to Construct Sustainable Futures

Clara Dallaire-Fortier and Christie Nicoson, Lund University

Aiming beyond critique for climate justice and strong sustainability, this article proposes a conceptual analysis to guide constructive post-capitalist scholarship. We connect two streams of literature to investigate wellbeing within planetary boundaries. Our theoretical foundation operationalizes construction of caring provisioning systems for specific goods and services. The first literature, the System of Provision Approach, analyzes an economy's connections of agents, relations, processes, structures, and material cultures that shape who gets what goods and services, why and how (Bayliss and Fine, 2020). This novel approach opens the so-called black box between production and consumption. The second literature is feminist ethics of care, which concretizes and inspects practices and values of care (Tronto 2013). Here, ethics of care provides directionality in the building of post-capitalist futures while grappling with the shortcomings of care. It provides an architecture to investigate care giving, receiving and the absence of care by going beyond a positive assessment of care and accounting for (re)production of oppressions or discriminatory hierarchies of care. Engaging these literatures, we contribute new conceptual avenues for critical sustainability debates. The framework further opens for empirical analysis, speculative imagining, and practical efforts to realize just human and more-than-human wellbeing in post-capitalist societies.

Panel 265: Political Ecologies of carbon removal, net zero and climate delay II

Jens Friis Lund, University of Copenhagen

This second session in the stream of sessions entitled "Political Ecologies of carbon removal, net zero and climate delay" focuses on justice and equity dimensions of CDR. See the first session for a description of the entire stream.

1. New Kids on the Block: Technological Carbon Dioxide Removals, Offsetting, and Petro-Politics in Canada

Kate Ervine, Saint Mary's University

In 2021 the government of Canada passed the Canadian Net-Zero Emissions Accountability Act, pledging net-zero by 2050. A 2023 report from Canada's independent Environment and Sustainable Development Commissioner noted, however, that the nation's interim target of 40% below 2005 levels by 2030 will be missed, with Canada the only G7 nation to have higher emissions now than in 1990. Growth in the country's oil and gas sector is primarily responsible for this; in 2022 it was estimated that the sector's emissions were 15.5% higher than in 2005. Against this backdrop, this paper seeks to

critically interrogate the evolving policy landscape of carbon pricing in Canada, focusing specifically on the country's nascent tech-based carbon removals industry and its planned integration into the federal government's carbon pricing and offsetting regulations. By examining the discursive, material and financial construction of tech-based carbon removals as offsets, this paper explores how carbon management in Canada is evolving such that the tensions between prosperous oil and gas futures versus the immediate need for deep emissions reductions, can appear to dissolve. In doing so, it contributes to emerging research on CDR, the political ecology of mitigation deterrence, and global climate injustice.

2. From the rainforest to the fjords: Examining equity in CCS climate policy

Lina Lefstad and Natalia Rubiano Rivadeneira, Lund University

Science and politics have defined CCS as a critical climate change mitigation technology to limit global temperature increases in line with the Paris Agreement. In most mitigation scenarios, CCS plays an important role due to its potential to reduce emissions from energy and hard-to-abate industrial sectors, and the possibility of achieving negative emissions when combined with bioenergy (BECCS). This inclusion of CCS and BECCS in climate policy has often been justified by a cost-efficiency lens. However, while the Paris Agreement re-ignited interest in CCS, it also reaffirmed equity and the principle of common but differentiated responsibilities and respective capabilities as guiding principles for the implementation of climate action. But as interest in CCS grows, the equity ramifications resulting from net zero plans and CCS expectations remains uncertain. We conduct a comparative case study of Brazil and Norway, two countries leading the efforts to accelerate the development and deployment of CCS infrastructure. Through policy analysis we assess how these countries justify and make sense of their policy choices around CCS in the context of equity and the Paris Agreement. Our findings show that notions of equity are regularly evoked as strategies of delay in both countries.

3. Mining Decarbonization: Discursive Strategies of Dispossession in the "Post-Carbon Mine"

Matthew Archer and Filipe Calvão, Maastricht University

Despite the inherently dirty nature of extraction, mining companies are successfully positioning themselves as key figures in the so-called sustainability transition. Alongside their insistence that much more mining is necessary to produce the "renewable" energy the world needs to reduce greenhouse gas emissions, these companies have also worked hard to propagate an imaginary of the "future of mining," one in which mining is not only safe for workers, but also carbon-neutral. Through an analysis of documents from mining firms, management consultancies, industry publications, and governmental agencies, this presentation will trace the contours of an emergent socio-climatic imaginary (Milkoreit, 2017) of the post-carbon mine, emphasizing the kinds of futures that such an imaginary both imagines and forecloses. Building on work in political ecology/economy that establishes a clear link between both new and renewed forms of dispossession and global decarbonization efforts including both "renewable" energy development and the expansion of carbon offset markets, (Sovacool et al., 2021; Buller, 2022; Andreucci et al.,

2023), this presentation shifts attention to the various discursive strategies mining companies use to deny, minimize, and justify dispossession.

Panel 242: Participatory Visual Methods for Political Ecology I – Paintings

Emma Johansson, Lund University; Sofie Mortensen, University of Copenhagen; Francois Questiaux, University of Copenhagen.

Why do we need to engage with visual methods in science? And how do we use visuals for the production of place-based and local knowledge? How can visuals enable knowledge dissemination? Visual participatory research approaches can offer alternative ways to understand local perceptions and experiences of global and local changes, and also give insights into peoples' emotions, values, and aspirations of change. We arrange four panels and an exhibition in order to bring together photography, painting, comics and documentaries to showcase visual research methods and arts for investigating and imagining change and development. The panels consist of artists and researchers that apply participatory visual methods to explore and illustrate social-environmental change in contested spaces. This exhibition and panel will showcase a range of visual participatory methods for investigating and reimagining classic themes in political ecology in both the city and rural areas. Together, these visualizations and the accompanying narratives illustrate the power and diversity of arts-based research methods, as they help analyze ongoing processes, highlight marginalized perspectives, and imagine more equitable and sustainable futures.

1. Using participatory art to explore local perception of social and environmental space

Emma Johansson, Lund University

This presentation and exhibition will showcase participatory and creative approaches to learn about local perceptions of social-environmental change (past and present), and futures. I will focus on some of the challenges and benefits of engaging with art (paitings) throughout the research process, for knowledge co-production, synthesis and knowledge dissemination. I will give examples of engaging with art in various participatory and less participatory settings, with cases from Tanzania and Sweden. The contexts cover issues related agricultural development, from landgrabbing, agroecological intensification, to carbon farming.

2. Messy Landscapes of the Future - illusions, delusions, and solutions of participatory visual methods

Theo Aalders, University of Bonn

The presentation will focus on the awkwardness of nominally "participatory" approaches, offering honest reflections on the tension between messy processes and cleaned-up paintings that can be exhibited in academic conferences. However, instead of dismissing ambitions of participation and collaboration, we suggest to honestly and humbly engage with the tricky terrain of participatory art in academia. How does the collaborative process navigate economic interests of all participants (including the researchers)? What power dynamics are created through the encounter of different "jobs" during the workshop? How are awkward visuals translated by artist and researcher to create a palatable and "exhibitionable" end-product? How much agency do workshop participants really have in the depiction of their imaginaries vis-à-vis the artist and the researcher?

3. Drawing for Dialogue with Indigenous Knowledge: Visual tools as a door for intercultural dialogue with eastern descendants of the Anaconda multiethnic tribes in the Colombian Amazon

Carlos Vélez, Lund University

For more than 10,000 years the norther region of south America has been inhabited by diverse human cultures, nations, villages, tribes and peoples that have gathered immense and detailed knowledge of the vast socioecosystem currently named as the Amazon region. A part of this knowledge is still alive today, another is at risk of being lost and an immense part of it, has already been extinguished. In order to address the decline of this knowledge and avoid part of the historical power imbalances practiced with indigenous communities by external researchers, here we present part of the results gathered using Local Cartography and Circular Ecological Calendars created by local researchers of the Vaupes and Amazonas department in Colombia. This research focuses on Indigenous Knowledge of the sustainable use of Wildlife developed in a reiterative reflection and conversation of what local communities of the amazon know about their territories. Socioecological knowledge is drawn using local categories, symbols of objects and beings, as answers for questions around conservation through sustainable use. In a presentation using printed banners (1.50 x 1.50 cms) we present the seasonal and spacial knowledge of the biodiversity used the local participants, contributing to previous but still relatively unused participatory visual methods that can strength dialogues between different cultures and knowledges systems.

4. Exploring participatory land art as a tool in creatively oriented outdoor education together with children and youth in the Biosphere Storkriket

Sara Brogaard, Jasmine Cederqvist, Kerstin Jakobsson & Ann Åkerman, Lund University

When young people witness society's slow response in addressing fundamental sustainability challenges, it may create a sense of alienation and a need to find new ways to generate a better understanding and engagement in sustainability questions. Various forms of art-based learning can be a way to create embodied knowledge and a sense of coherence and meaning, as well as foster hope and engagement. Our presentation builds on recent experiences from a three-year project (Ung SciShop) working through the cultural dimension of sustainability and geographically placed in the biosphere candidacy

of Storkriket, in South Sweden. The overall goal of the project was to help in laying the ground for a more permanent platform for collaboration between the biosphere development, schools in the municipalities of Sjöbo, Lund and Eslöv, and Lund University students and researchers, in order to contribute to a more democratic engagement around sustainability challenges. The project is applying an approach of creatively oriented outdoor education, where land art methods have been a key dimension of the work. We build our reasoning around three main questions; Why did we work with this combination of methods? Which were the main outcomes from the work with three age groups ranging from 8 and 14 years? Which challenges did we encounter in the collaboration between artists, schoolchildren and their pedagogues, and university students? Finally, we reflect on how the different methods employed in the project could be used in future projects to enable young people to explore and process their thoughts around sustainability.

Panel 79: Geopolitical Ecology of Extractivist Empire-Making II

Nico Edwards, University of Sussex & Benjamin Neimark, Queen Mary's University of London

For many in the military-security apparatus, the Anthropocene is an era of approaching apocalypses and cascading 'threat multipliers' – from climate to migration chaos and war. Unsurprisingly then, as global temperatures skyrocket, military spending is also reaching record levels. This all comes in the backdrop of fresh conflict in Israel-Gaza, and protracted wars in Ukraine and Myanmar. While links between war, ecology and green 'extractive empire-making' – capital-intensive practices laid against both people and the planet, sometimes in the name of the 'green transition' – are more palpable than ever, the precise nature of those links, and how they intersect, need careful scrutiny. The following panels open the conversation about how the links between war, ecology and empire-making intersect, and how best to speak to them critically? What is at stake as they intensify, and what forms of resistance are they met with? What rigorous theoretical and empirical methods do we use to distinguish, deconstruct, and reconstruct narratives and evidence coalescing war, ecology and empire-making? We invite contributions that build on work across political ecology, political geography, international studies and cognate disciplines to explore the evolving modes of warfare and technologies of violence tasked with the enforcement of extractivist empire-making. What ecological aftermaths do these modes and technologies generate? What militarised environments spring up in their wake, shaping new forms of geopolitics? We especially want to build on theoretical and empirical papers by those with experience on the front line of green sacrifice zones and those defending environmental and social justice. This can range from studies in extractive zones, such as in Mexico, Germany and the Democratic Republic of Congo, all the way to the boardrooms and bases of Glencore, Northrop Grumman and the British Armed Forces.

1. Locking-in ecocide through forest offsets: The confluence of national security, Indigenous dispossession, and "green" development on Great Nicobar Island

Vijay Kolinjivadia, University of Antwerp & Ritwick Ghoshb, University of Denver

India's ruling BJP government amended the Forest (Conservation) Act in 2022 and 2023 with implications for compensatory afforestation regulation associated with forest diversions from development projects. The amendments limit regulation on projects deemed of "national security", reduce obligations for public deliberation and approval from village councils (i.e. gram sabhas), and may permit compensation to take place in states or jurisdictions outside those experiencing deforestation. This paper highlights how a developmental and economic aspirational narrative amplified through national security concerns from geopolitical relations is influencing environmental concerns in India. We do this by examining planned developments in the southernmost island of the Andaman and Nicobar Islands in the Bay of Bengal in the name of geopolitical, strategic trade, and aspirations to develop a touristic "Phuket" of India. The proposed projects strip two Indigenous communities of part of their territories through the deforestation of 131 km2 of pristine tropical forest on Great Nicobar Island for a transshipment hub development, international airport, solar energy and natural gas production, and "ecotourism" development. Through the example of the planned socio-ecological disruption on Great Nicobar Island, we highlight: a) how the Indian state invokes national security interests to silence opposition to environmentally harmful developments, b) how political, economic, and scientific technical expertise is actively assembled to frame social injustice and ecological harm through "win win" sustainable economic development, including through ex-post employment or new market opportunities, and c) how recourse to environmental offsets and compensatory afforestation are deployed to replace undervalued natures with commercially lucrative substitutes amenable to real-estate and venture capital. These connections between empire building, compensatory offsets, and the silencing of dissent highlight how both cultural erasure and ecological destruction get locked-in within a geopolitical economy of extraction.

2. Policing and militarism in defence of empire: a case for the abolition of policing

Andrea Brock, University of Sussex & Nathans Stephens-Griffin, Durham University

Policing and militarism each produce, enforce, and defend ecocide. All too often ecocide itself has become a weapon of war; against foreign armies, domestic insurgents, and protesters alike; from destruction of water bottles on the border to the uprooting of olive trees; from flooding marshlands to destruction of forest occupations. Meanwhile, toxicity, pollution, emissions and environmental degradation are also the side product of - and integral to - war and policing alike. But more importantly, we argue, policing and militarism are both integral to producing and securing an ecological social order; one that is extractivist and upheld by infrastructural violence. Policing and militarism are inseparable; they have been entangled, complimentary, and developed in parallel. Both protect and enforce this ecological social order that is innately hierarchical; an order that shapes ecosystems and social relations (from plantations to slavery); an order that is grounded in binaries and separation; and an order that defends the right to kill and the right to exploit, extract, and degrade ecosystems. Policing and militarism serve (imperial) state making, the very institutionalisation of hierarchy, the domination of humans and nonhumans, and the defense of property and growth. Despite suggestions to the contrary, neither militarism nor policing can be greened, because policing by its very

nature is enforcing ecocide, including under the name of green capitalism or green extractivism. To make this argument, we briefly explore three case studies: 1) the policing of coal and counterinsurgency in the Hambacher Forest in Germany; 2) the enforcement of green extractivism and eco-modernist dream-making along the HS2 train line in Great Britain; and 3) the interplay of colonialism, prisons, policing and white supremacy in Atlanta, Georgia, USA. To be actually sustainable, we argue, we need to not just break with militarism but fight for abolition of policing. Anti-militarist and 'environmentalist' modes of thinking need to be abolitionist, and abolitionist thinking needs to take ecological critique seriously.

3. Don't look back: Whither Causality in Climate Crises?

Jesse Ribot, American University

The word 'adapt' evokes the question 'how?' The word 'vulnerable' evokes the question 'why?' There is good reason that the climate community has chosen to label the need to adjust to or cope with climate change 'adaptation'. Adaptation does not enquire into causality – it merely asks for a forward-looking adjustment to what is to come. Vulnerability is a condition that requires explanation. Yet, explanation, the word 'why', poses threats. It asks for causes. When we seek the causes of losses or damages – whether in pre-enlightenment Christianity, theodicy or science – there is a moral weight to our findings. Leibnitz, Voltaire, Josué de Castro, Evans-Pritchard, Mary Douglas, Ulrich Beck and others understood this. Cause, when linked to pain and suffering points fingers of responsibility & blame. Adaptation does not. Like neoclassical economics, it does not question how initial distributions came about. But, there is cause behind the initial inequalities that place people on the cliff of precarity. Cause is evident. This article unpacks causes of climate-related, but political-economically rooted, vulnerabilities that are evident to Sahelian migrants. It will evoke the case of migrants from Eastern Senegal. Governments and donors may obscure cause, but affected parties are not blind. It is no wonder the word vulnerability has been reduced to an indicator of 'who' or replaced with the notion adaptation, resilience and 'how'.

4. Space Surveillance: Satellite Imagery and Environmental Destruction in the Russia-Ukraine War

Thijs Jeursen, University of Utrecht

Satellite imagery has been critical in the documentation of environmental destruction in recent wars: high-resolution images show burned forests, polluted rivers and soils, and flooded cities. These visualizations have incredible potential and prove to be crucial in holding governments, nonstate actors, and companies, accountable for their actions. Concomitantly, they also come with the risk of advancing military interests and intensifying forms of imperial knowledge production and mapping. Based on an investigation of how PAX, a Dutch NGO, documents environmental destruction in the Russia-Ukraine war, this paper offers a critical analysis of the potentials and pitfalls of satellite imagery as remote sensing, distant looking, or space surveillance. PAX is part of a growing community of open-source investigative experts who use satellite imagery to document war crimes, including environmental destruction in conflict zones. The

visualizations that satellites create contribute to a decentralization of information on the impact of warfare on the environment. Yet they also normalize and expand a militarized ecological consciousness and visuality. Using the satellite as an analytical point of departure, the paper brings debates on militarized environments in conversation with scholarship on the representation and aesthetics of environmental destruction, showing how the use of this technology in space is embedded in anthropocentric ramifications of planetary consciousness.

Panel 159: Political Ecology, Geopolitics and the International I

Rosaleen Duffy, University of Sheffield and Jan Selby, University of Leeds

This double panel explores the intersection between political ecology and International Relations (IR). Political ecology as a field and approach typically combines a 'place-based' approach to socio-ecological relations (Blaikie 1985) with analysis of how these locally specific relations are shaped by global resources, financial and epistemic structures and flows, thus operating with what might be called a 'global-to-local' ontology (Selby, Daoust & Hoffmann 2022). By contrast, political ecologists have traditionally not paid great attention either to the ways in which inter-state, inter-societal and geopolitical dynamics shape patterns of environmental degradation and environment-related vulnerabilities and inequalities, or to the theoretical or normative implications thereof; political ecologists often speak of 'global political ecology' (Peet, Robbins & Watts, 2011) but only rarely of an 'international' or 'geopolitical' equivalent. Yet recent research on 'geopolitical ecology' (Bigger & Neimark 2017; Masse & Margulies 2020) and 'international political ecology' (Selby, Daoust & Hoffmann 2022) suggests that fuller consideration of international and geopolitical dynamics is crucial both to understanding contemporary environmental crises and vulnerabilities, and to thinking through how they might be addressed, especially in an era of renewed geopolitical rivalries and ailing multilateralism. The two panels on these themes will build upon this recent work, as well as on intersecting work within international environmental politics and critical geopolitics (Dalby 2020,; O'Lear, 2018; Dickinson, 2022), and on 'environmental multiplicity' (Corry 2020), to examine substantive, theoretical, methodological and normative issues at the intersection of political ecology and IR. The first session explores the theoretical perspectives, while the second explores these themes through empirical analysis of specific green transitions.

1. The Geopolitics of Green Growth and Post-Growth

Ulrich Brand, University of Vienna; Jacob Hasselbalch, Copenhagen Business School; Matthias Kranke, University of Freiburg [corresponding and presenting author]; Matthew Paterson, University of Manchester; Svenja Quitsch, University of Kassel; Lena Rethel, University of Warwick; Matthias Schmelzer, University of Flensburg & Bernd Siebenhüner, University of Oldenburg

Geopolitical tensions and socio-ecological crises have escalated virtually in parallel. Yet in much scholarship on world order on the one hand and sustainability on the other, these two fundamental dimensions – geopolitics and ecology – are kept separate. By connecting them, this paper joins recent efforts to see global politics along ecological lines. Here, we start from Susan Strange's problématique of how world order can be stabilized, asking what a prosperous and just international system could look like at a time of mutually reinforcing ecosystem degradation or even collapse. Our multi-scalar analysis focuses on six core domains of geopolitical challenge (security, energy, finance, development, production, knowledge), all of which matter for global justice. To foreground the interplay between geopolitical and ecological dynamics, we contrast the strategies and implications of two competing sustainability programs: green growth and post-growth. On balance, we suggest that while mainstream green growth strategies tend to aggravate both geopolitical rivalry and ecosystem degradation, post-growth strategies are far more likely to effectively dampen conflicts and address contemporary planetary crises. Although we caution that post-growth may face its own problems and limitations, the paper indicates that it presents the safer route to global prosperity and justice in the long term.

2. For an International Political Ecology

Jan Selby, University of Leeds

This paper makes a case for a distinctively 'international' approach to political ecology, as against and compared with existing 'global' and 'geo-' political ecology approaches. It does this on three levels. First, drawing upon debates in International Relations and international political economy, the paper theorises 'the international' as a historically and spatially specific, if also constructed, reality that departs in important ways from 'the global' and 'the geo-political', and is crucial to understanding patterns of power, development and inequality under capitalist modernity. Second, and turning to political ecology, it both argues that the international is typically either neglected, or introduced in just ad hoc ways, in political ecology debates, and advances a general theoretical interpretation of the international as a – not the – key variable in understanding contemporary socio-ecological relations, vulnerabilities and crises. And third, the paper briefly illustrates these points empirically, by reflecting on political ecology accounts and representations of 1) water resource degradation and insecurities; 2) the origins of covid 19; 3) climate mitigation; and 4) degrowth. Political ecology, the paper argues, has all too often failed to integrate the international adequately into its analyses; an 'international political ecology', it is suggested, is needed instead.

3. The Colonial Geopolitics of Forests and War

Ariadne Collins, University of St Andrews & Esther Marijnen, Wageningen University

Recent scholarship in political ecology has sought to combine the field's traditional concerns with insights from global institutional politics, or geopolitics. This burgeoning literature productively engages with how actors often understudied in the field, such as the US military, sit at the intersection of capitalist political economies and environmental reshaping. Inspired by these debates, this paper examines how colonial forests in

multiple sites of the Global South were shaped by wars fought by Europeans both in European colonial centres and elsewhere. It then traces how colonial legacies inform conservation efforts led by the Global North to manage and map the remnants of these forests. Set against recent debates that attempt to depict war as good for the forest and thus for the climate, this paper engages with the colonial histories through which demand for resources in support of Western wars shaped the management of forests in their overseas territories. Focusing on cases in South America and Africa, the paper challenges the situated nature of conventional thinking on war in international relations by problematizing neat separations between scales. Consequently, the paper contributes to burgeoning geopolitical engagement in political ecology and deepens engagement with the environment in international relations.

4. Geo-Political Ecology 'Beyond the Global': Dialectical Geo-Politics as Related Metabolic Regimes.

Clemens Hoffmann, University of Stirling

Political Ecology has traditionally emphasised the political origins of human-nature relations. Global capitalism engages in 'borderless' exploitation of human and non-human nature alike, all within an indivisible biosphere. Not least Global Climatic Change illustrates the borderless nature of ecology. Questions of peace and conflict, by contrast, are mostly analysed locally in the form of resistance struggles against this borderless violence. Hence, the global meta-structure of capitalist accumulation and exploitation remains the central engine of this process. 'The international', or Geo-Politics are mentioned by Political Ecology literature in the context of global military emissions, or the securitisation of nature, but rarely as a dynamic outside of global processes of accumulation. The current paper seeks to revise and expand the understanding of 'Geo-Political Ecology' as a related, but independent dynamic. It understands geo-political relations as a key element in the human-nature metabolism. It argues that it's related to, but not identical with global processes of exploiting nature. Mobilising a materialist conceptualisation of 'geo-politics', it moves beyond understanding space as 'discourse', as well as an asocial topography. Instead, it re-interprets the idea of 'metabolic regimes' as an inter-societal nature-society dialectic. Historically specific, competing strategies of socio-ecological reproduction define, transform, and appropriate nature geo-politically.

Roundtable 249: Weaving Alternatives to Polycrises: The Global Tapestry of Alternatives

Global Tapestry of Alternatives

The Global Tapestry of Alternatives (GTA) is an initiative seeking to create solidarity networks and strategic alliances amongst all radical alternatives on local, regional and global levels. It locates itself in or helps initiate interactions among alternatives to the destructive hegemonic system. GTA is about creating spaces of collaboration and exchange, in order to learn about and from each other, critically but constructively challenge each other, offer active solidarity to each other whenever needed, interweave

the initiatives in common actions, and give them visibility to inspire other people to create their own initiatives. It could facilitate people seeking transformative change going further along existing paths or forging new ones that strengthen alternatives wherever they are, hopefully eventually converging into a critical mass of alternative ways that can support the conditions for the radical systemic changes we need. Through this session, we intend to share GTA's objectives, build connections, have critical dialogue and build connections. As a non-academic session, we invite all conference participants interested in the weaving together of radical alternatives to join us in an interactive session. We will begin with a short presentation of the GTA and voices of some the weavers. This will be followed by a discussion and reflection session where all participants contribute to building ideas collective for the global tapestry of alternatives process.

Panel 116: Meaty Futures: Political ecologies of meat and meat alternatives II

Sango Mahanty, Australian National University & Arve Hansen, University of Oslo

Globally, more than 80 billion animals are slaughtered each year to meet the growing demand for meat. The average consumer now eats twice as much meat as they did in the 1960s. This meatification of diets is enabled by a globally connected industrial meat complex (Weis 2013), with spatially differentiated production/consumption systems and entrenched inequalities. Meatification is a Green Revolution 2.0, ramping up long-standing environmental and justice questions while introducing new challenges for land justice, animal welfare, toxicity, zoonotic disease and climate change. Alternative proteins such as plant-based and lab grown meat are key alternatives to meatification as we know it, but bring their own dilemmas. As such, meat is a crucial window into the political ecology of contemporary food systems. This panel will advance the recent wave of research on meat, broadly defined, to assess the scope for more plural and just alternatives. Key themes include: - 'Meat as method' - what novel insights can be gained through meat as a lens into the political ecology of food systems? - The geographies of meat and meat alternatives - how do production/consumption systems operate across social and political-economic settings? - What prospects and challenges exist for alternatives to current meat production and consumption?

1. The global meat replacement complex and its geographies: production, provision, consumption

Arve Hansen, Jostein Jakobsen, Johannes Volden, University of Oslo & Jonas House, Wageningen University

Scholarship on the geographies and political ecologies of meat has demonstrated how the meatification of diets is a fundamentally capitalist phenomenon driven by geographically uneven processes of expansion and industrialisation. At the centre of meatification is an industrial meat complex that connects grains, oilseeds and animals in often distant localities and which feeds into and co-shapes the everyday geographies of

food. In recent years, the rapid expansion of both consumption of and investment in a range of plant-based meat substitutes has attracted much scholarly attention. As part of this process, scholars have pointed to the development of new forms of 'protein capitalism', often involving actors from the meat industry. Scholars have also analysed the narratives of many of these actors trying to position their products as solutions to environmental and public health issues. But less attention has been given to the practices, investments and commodities that together shape what we conceptualise as an emerging global meat replacement complex. Drawing on research on food systems and practices in Europe and Eastern Asia, this paper sets out to map and analyse the complex geographies of plant-based capitalism across scales, from global capital and commodity flows to everyday food practices.

2. What does it mean to replace meat? The ontological politics of meat substitution across cultural contexts

Jonas House, Wageningen University; Sigrid Wertheim-Heck, Wageningen University; Arve Hansen, University of Oslo

Conventional animal-based proteins, such as meat and milk, are damaging planetary and public health. Correspondingly, societal and scientific interest in meat analogues is increasing. These products – which closely simulate conventional meat-based equivalents – are intended to easily replace meat, fitting seamlessly into established diets. While increasingly popular in the 'West', is this mode of meat replacement feasible or desirable elsewhere? This paper argues that replacing 'meat' does not simply involve substituting one thing for another. Rather, it entails complete reconfiguration of a constellation of food provisioning and consumption practices, and attendant sociotechnical architectures. Prevailing ontological enactments of 'meat' differ across cultural contexts; because meat replacement strategies must necessarily align with such ontologies, they cannot be easily transposed. We explore meat-related food practices in Western Europe and Southeast Asia, drawing on qualitative fieldwork and research literatures. We elaborate what 'meat' is in both regions and how 'meat replacement' connects to this referent, reflecting on how meat is (un-)coupled with its relations of production across contexts. Focusing on the materiality of novel meat analogues to explore how meat replacement is 'done', we argue that such products have limited cultural-geographic applicability. We suggest that researchers conceptualise 'meat' as a practice, rather than a product.

3. From 'mock' to 'plant-based' meat: changing veg*n foodways in the sino-cultural sphere

Chih-Lan Song, Lund University

Although Chinese veg*n cuisine has pioneered meat replacement practices and technologies through soybean and gluten innovations for centuries, a renewed interest has arisen in tandem with a 'future foods' narrative advanced by contemporary plant-based food products. This development coincides with the rise of 'new' ethical, climate, and health motivated veganism promoted by a younger generation of advocates involved in mainstreaming vegan food and lifestyles. In view of these interconnected processes,

this paper posits that novel plant-based meats are involved in a process of 'translation' on two levels: material and semiotic. Materially, it discusses how technologies transform plant proteins into 'meat'. Semiotically, it explores how these new meats and their advocates capture a vision of foods and diets 'of the future'. Hence, this paper foregrounds the ontological transformation underlying veg*n foodways and the role of technology in this process where such diets go from 'meatless' religious practice to embody new moralities that are animal-friendly, environmental, and forward-looking.

4. Mediated foodways, contested emotions: advocating for plant-based dietary transition in China's online video platforms

Paul Chen, Stockholm University

China, one of the most rapidly meatifying countries, is now facing challenges in transitioning towards a more sustainable food system via reduced animal-based food consumption. Although China has a long history of plant-based food, its "meat culture" has been drastically reconfigured by its modernization that embraces the "Western eating pattern". Nowadays, the idea of reducing meat for sustainability or other reasons has not been widely embraced by the public. As the global north now acts as a key advocate for veganism, it is even emotively framed as a harmful Western threat in the media. In such complex political ecologies of meat culture, a community of online video content creators advocating for plant-based diets is surprisingly emerging at the margin. This research analyzes the emotive communication strategies of these plant-based diet advocates on China's video platforms in the last three years, following two questions: How do these advocates negotiate the diffusing discourses against plant-based diets? How do they reframe the meaning of eating and reconfigure the emotions attached to plant-based diets? This research showcases the necessity to communicate sustainable transition in a culturally intelligible way and celebrates the agency of local advocates who long for a just food future transcending Western-centrism.

Authors' roundtable 12: Hesitant energy transitions and exclusionary futures in Latin America

Gustav Cederlöf, University of Gothenburg and Cornelia Helmcke, University of St. Andrews

Abya Yala, Latin America has recently gained attention for its varied attempts of energy transition. From dam projects in the Colombian Andes to the future of Venezuela's troubled oil industry, from Ecuador's attempts to "keep oil in the ground" to the Cuban government's struggle to salvage its socialist revolution, these efforts partly redistribute, partly consolidate social and economic power.

In "The Low-Carbon Contradiction: Energy Transition, Geopolitics, and the Infrastructural State in Cuba" (University of California Press, 2023), Gustav Cederlöf examines Cuba's

period of low-carbon development following the Soviet Union's collapse, a period described by some as "a real-life experience of degrowth".

In "Engineering Reality: The Politics of Environmental Impact Assessment and the Just Energy Transition in Colombia" (Palgrave Macmillan, 2023), Cornelia Helmcke analyses the potential to turn the environmental impact assessment into a "political tool for justice and change".

In this Authors' roundtable, Cederlöf and Helmcke launch their new books and enter into conversation around Abya Yala's hesitant yet sought after energy transitions and their politics.

Panel 607: Crises, Resilience, and Care I

Diana Eriksson Lagerqvist, Lund University

We are facing a triple crisis of climate change, biodiversity, and environmental pollution. Thus, in this two-part panel, we will delve into the interlinked concepts of crises, resilience, and care. Through this, we can make sense of current socio-ecological crises, find ways to navigate these, and move towards socio-ecological transformation and futures.

In the first part of the panel, we turn the attention to how socio-ecological crises can be understood and reimagined through political ecology and feminist frameworks. In this part, we will be grappling with the following questions. How can we with feminist degrowth scholarship rethink resilience and how can such reconceptualization help understand what potential resilience holds for socio-ecological transformation? (Catia Gregoratti: Martina Angela Caretta, and Mikael Linnell) And how can matrescence – the transitional period of becoming mother – and thinking of nature as feminist politics help us understand ecologies of crises as relational and permeable? (Alice Hill-Woods)

In the second part of the panel, we ask ourselves how socio-ecological crises may be handled with care. By bringing the concept of environmental care to the fore, we will explore the following questions. How can we turn 'moments of crises' into 'moments of care' by thinking of crises as generative moments of rupture that might foster solidarity and new, very needed, visions for the future? (Chiara Camponeschi) How can environmental care and care ethics, when situated with holistic recognition of all beings' interdependence, be a critical tool to help us understand and interrogate reflective learning, temporality, and gendering expressed in care relations? (Christie Nicoson and Markus Holdo) And how can environmental subjectivity, care, and desire practised in an ecovillage help us understand how we can depart from socio ecological crises towards envisioning and enacting eco-utopian futures? (Diana Eriksson Lagerqvist)

1. Resilience: why should feminists care?

Catia Gregoratti, Lund University, Martina Angela Caretta, Lund University & Mikael Linnell, Lund University

Resilience has become a ubiquitous term. Individuals, communities and societies are increasingly called upon to be resilient and build resilience as a way to withstand and bounce back from climate-induced shocks and compound health and economic crises. While resilience has been commonly critiqued for being little more than a neoliberal technology of governance, in this paper we specifically turn our attention to the potential that resilience holds for socio-ecological transformation. We do so departing from brief theoretical cues found in recent literature in feminist degrowth and political ecology, which suggest that resilient communities nurtured by practices of care are indispensable for far-reaching socio-ecological change. Emplacing such insights in a wider body of multidisciplinary feminist research on resilience spanning over a decade, we identify concrete sites, agents and practices where resilience meets ecofeminist ends.

2. 'A network of scars': Crisis, Matrescence and Worldmaking

Alice Hill-Woods, University of Bristol

This paper centres on matrescence – the transitional period of becoming-mother – as a lens through which ecologies of crisis can be observed. Reading Split Tooth (2018), the debut novel by Inuk throat singer, Tanya Tagaq, reveals the cross-pollination of trauma – both on an individual level, as well as the legacy of broader colonial domination in the Nunavut Settlement of Cambridge Bay, Canada. The narrator's experience of motherhood forms a channel between her body and the spiritual world, emblemised by the powerful northern lights. Experimental strategies in language, including surreal imagery and genre-bending, demonstrate interconnectedness as lived experience beyond speculative theory. I take a position of reclaiming nature as feminist politics for thinking intersectionally about matrescence. I argue that Tagaq's delineation of mothering is critical for understanding crisis as porous – in other words, crisis is conceived not as a retentive entity, but as something that is relational and permeable. Nevertheless, practising connection heralds renewal and repair. I question how radical it might be to consider the extent of kinship across wonder, despair, violence and care, and then, despite it all, 'start again'.

Panel 111: The Politics of Invisibility in Conservation

Paul Thung, Brunel University London; Rosa Deen, University of Kent.

This panel wishes to explore the politics of (in)visibility in conservation and other socio-ecological landscapes. Conservation often relies on raising awareness and putting a spotlight on a certain species, ecosystem or even plight of peoples, but this framing always obscures other realities. Conservation 'crisis' narratives, for example, can obscure histories of colonial dispossession and enduring relationships of inequality and exploitation. Or, within situations referred to as 'Human-Wildlife Conflict,' a focus on 'problematic' wildlife precludes a broader understanding of dynamic relations between people and protected areas (e.g. Pooley, 2020), partly due to the visibility of predators. While political ecologists have produced many insightful studies on the omissions and limitations of conservationist representations (e.g. Igoe, 2021; Wahlén, 2014; West, 2006), such accounts tend to focus on media with large or faraway audiences. It is rarer to find detailed analyses of how different actors in conservation contexts manage their positions and relationships by hiding and revealing aspects of reality to each other, even

though this is an important aspect for understanding the production of (in)visibility and its effects. The panel therefore asks: what is made visible or invisible within the practices of nature conservation and environmental governance, and which consequences does this have for relations between different communities, organisations and authorities? The panel comprises primary research as well as theoretical contributions on the politics of (in)visibility, including analyses of dominant narratives and visual tropes, epistemic injustices, and performativity in conservation, and how these are embedded in broader histories, relationships, and inequalities. The panel further hopes to spark transdisciplinary discussion on decolonising knowledges and the role of different traditions of political ecology in this.

1. **From 'ghost dogs' to symbols of conflict - The politics of (in)visibility in the conservation of African Wild Dogs in South Africa**

Rosa Deen, University of Kent

In this presentation, the presence of the endangered African wild dogs (Lycaon pictus) across two different conservation landscapes in South Africa will be explored through the lens of the politics of (in)visibility. While conservationists in the Waterberg try to raise awareness for the last remaining free roaming, so-called ghost dogs' presence and mobility (Hodgetts & Lorimer, 2020), the increased visibility is a two-edged sword that can lead to prosecution. Their existence in the Waterberg region is contested by part of the game ranch farmers, and some deny they were ever there. While normalised and state sponsored in the past, the killing of wild dogs is illegal, and happens in secrecy ('shoot, shovel, shut up'). In contrast, in conservation landscapes across KwaZulu-Natal the reintroduced wild dogs are hyper visible when they 'break out' of fenced reserves. Their mobility influences the often tense relations between communities outside and the parks management. Additionally, in places, local extinctions led to the disappearance of wild dogs from living memory which is affecting views on the reintroduced packs. This talk (based on fieldwork observations, interviews and archival research) aims to further the understanding on how to both decolonise conservation governance as well as foster multispecies justice.

2. **Species recovery programmes: Making nature-culture relations (in)visible in the wake of wildlife disease**

Jasper Montana, Australian National University

On the ash-strewn Caribbean island of Montserrat, conservationists are hard at work saving the world's second largest frog from the brink of extinction. Elbow-deep in swarming cockroaches, they show me how they prepare the daily meal for the 20 or so remaining Mountain Chicken frogs held at a concealed enclosure somewhere on the island. The local consumption habits that gave the frog its name are no longer a conservation threat. Rather, a fatal fungal disease spread by the pervasive networks of international trade is now endemic to the island. The frog's capacity to persist is tied up with the continuation of emergent ecologies (Kirksey 2015) of feeding, testing, and treatment that constitute its new life support system. In this paper, I will explore and theorise the politics of (in)visibility in species recovery programmes. Through fieldwork-based accounts, I will consider the nature-culture relations that are rendered invisible by

plant and animal pathogens, and the resulting mission-driven sightlines of global conservation. More hopefully, I also find concerted efforts of local actors to re-visibilise and decolonise nature-culture relations beyond those that global conservation agendas can see.

3. The Geopolitics of Problematic Information: Epistemic Territorialization and Wildlife Conservation Volunteering in Namibia

Suzanne Brandon, Wageningen University

This paper describes how problematic information was constructed by two Namibia-based NGOs under the aegis of private property rights. What is accepted as true and real in conservation was produced by these NGOs online and through wildlife conservation volunteer experiences at their private facilities in Namibia. Embedded in every aspect of the volunteer experience was the practice, the theory, and the approach of the NGOs to control the conservation narrative, agenda, authority, and space. I conceptualize this process as epistemic territorialization. Epistemic territorialization describes how knowledge claims organize and consolidate geographic and virtual communities within epistemic territories. This process underscores the volunteer experience and extends through broader conservation communication online. Drawing from thirteen months of ethnographic fieldwork in Namibia and two years of data collection online, I map how the NGOs created the conditions for 'what can be known' in conservation by controlling geographic, spatial, and epistemic territories. The volunteer programs are illustrative of how problematically inaccurate information is circulated in ways that attempt to influence politics and power, masking the economic and political interests of the NGOs studied. By controlling geographic, spatial, and epistemic territories, the NGOs determine what knowledge, history, and experiences are made visible and which ones are not.

4. Pet keeping, orangutan rescue, and managing the risks of visibility in Indonesian Borneo

Paul Thung, Brunel University London

This presentation analyses the politics of visibility in the uplands of Indonesian Borneo, through the case of a baby orangutan, Sibo. For orangutan rehabilitation centres, instances of orangutan pet keeping provided the most up-to-date information about otherwise largely opaque patterns of orangutan killing. For inhabitants of Buluh Merindu, however, the invisibility of the village was a source of protection from a range of dangers associated with the outside world, and the intense attention that Sibo attracted was experienced as highly risky. Based on long-term ethnographic fieldwork, the case sheds light on the intricate relationships between local communities and conservationists in areas without active conservation presence. The ethnographic material will be put in relation to anthropological discussions on visibility, invisibility, legibility, and wilful blindness (Amster, 2008; Bovensiepen & Pelkmans, 2020; Bubandt et al., 2019).While academic discussions as well as conservation discourse often treat visibility and invisibility as conditions that are imposed by external actors, with the effect of either empowering or disempowering local communities, the paper argues for understanding visibility and invisibility as relational concerns, that are actively managed by differently

positioned actors in attempts to leverage the opportunities and alleviate the risks of village life in a rapidly changing world.

Panel 623: Local perspectives on energy transitions

Shayan Shokrgozar, University of Bergen

The session delves into the multifaceted complexities of contemporary energy transitions, offering critical insights from diverse geographic and socio-political contexts. Indigenous perspectives on energy transition participation confront tokenism and asymmetry, alternatives demand an inclusive decision-making processes. Meanwhile, in Sardinia's Sulcis region, industrial legacies intersect with new demands for decarbonization, highlighting the intricate negotiation between environmental concerns, economic imperatives, and local livelihoods. European community energy initiatives emerge as grassroots endeavors challenging conventional energy governance structures, prompting reflections on their potential to foster energy justice within capitalist frameworks. Globally, geothermal energy expansion faces socio-ecological hurdles and community resistance, emphasizing the need for its different dimensions in relation to energy transitions. Finally, exploring alternative energy futures in agrarian settings reveals the entanglements of energy, culture, and colonialism, suggesting the importance of pathways toward sustainable transitions rooted in diverse epistemologies and lifeways. Together, these contributions offer a nuanced understanding of the challenges and opportunities inherent in contemporary energy transitions, inviting dialogue on inclusive, just, and sustainable pathways forward.

1. Critical perspectives on Indigenous participation in energy transitions

Marta Conde, Autonomous University of Barcelona

Participation is touted as foundational to energy transition discourses. Rooted in environmental and energy justice, it highlights the importance of procedural justice through inclusive, transparent and informed decision making processes (McCauely et al., 2013). Concerned with potential social resistance, government officials and corporations increasingly engage with potentially affected communities in decision-making processes about large-scale mining or energy projects. These seemingly democratic processes in the form of consultations such as Free, Prior and Informed Consent (FPIC), or other territorial, management or financial agreements are fraught from the start imposing participation norms and rules on communities and reinforcing political and economic asymmetries (Hesketh, 2021). Communities experience racism, exclusion, and poor recognition of their knowledge and values that contribute towards social divisions and violent conflicts (Dunlap, 2018; Fjellheim, 2023; Schilling-Vacaflor, A., 2018). Increasingly, Indigenous peoples put forward alternative interpretations of participation that challenge prevalent state and corporate practices (Torres-Wong & Jimenez-Sandoval, 2022; Montambeault & Papillon, 2023). Engaging with emerging research that challenges environmental and energy justice frameworks, this paper deconstructs the participative component of energy transition, unpacking its promises, struggles and alternative demands, as experienced and perceived by local groups and Indigenous peoples. Drawing upon critical perspectives on participation from local and Indigenous groups and institutions in the

Arctic, Australia, South America and Africa we highlight emerging alternative visions and practices such as the Right To Say No, Indigenous controlled participation, local participatory institutions, and energy ownership models.

2. At the Frontline of Transition: Legacies of Industrial and Socio-Economic Crisis in the Decarbonization of Sardinia's South-Western Periphery

Rune Bennike, University of Southern Denmark

Multiple waves of deindustrialization have left the Sulcis area of South-Western Sardinia with some of the highest youth unemployment rates and the lowest per capita income of the country. Today, Sulcis sits at the very frontline of the energy transition. On the one hand, the area represents several of the "black" activities that we urgently need to move away from in to decarbonize the economy: the area has a long history of metal and coal mining and represents and heavy-industry exception to the otherwise service-oriented economy of Sardinian Island. On the other hand, the whole of Sardinia is currently experiencing a massive and increasingly contested international interest in renewable energy projects. This paper traces a longer history of energy transitions and recurrent industrial crisis in the sulcis area. From the forceful expansion of coal extraction under the 'autarkic' policy of 1930s Fascist Italy, through the post-war US-supported turn to oil, to current mining and industrial closure; reconversion plans and contested green investments. Through this arc of local history, the paper pays special attention to the role of labor and the various manifestations of the local and regional state in contentious negotiation between environmental and economic concerns.

3. Changing the politics of the energy system: Community energy in Europe

Roxana Bucata, Central European University

Community energy is a fast-spreading global movement of citizen-led projects aimed at taking control of energy production and distribution. Both an environmental and a political project which promotes clean energy and a collective type of governance, community energy has various expressions, from a small group of neighbors who produce and consume their own renewable energy to re-municipalization of the energy production. In my research, I focus on the energy cooperative model, looking at the social relations engendered by the production, distribution, and consumption of renewable energy in a system designed and controlled by citizens. Using the theoretical concept of commoning – extracting natural and man-made resources from the grip of capital – I am following the processes of organizing energy cooperatives in two different socio-economic contexts (France and Romania). Energy cooperatives are hybrid organizations that act at the same time as NGOs, companies, and social movements, by contributing to the energy transition goals, creating streams of revenue, and pushing for political change. In my research, I am following all three directions by studying a French and a Romanian energy cooperatives. The operations of the cooperatives are filled with contradictions derived from an alternative economic and political model functioning in a capitalist context. In my article, I plan to explore the contradictions in the system and the impact they have on the social outcome of the community energy. We already know that the current energy system

unfairly distributes the benefits and the negative consequences of the energy production, will community energy bring energy justice?

4. Deciphering the politics of geothermal energy expansion: Insights from Turkey, Chile and Sweden

Ethemcan Turhan, University of Groningen

Geothermal energy is receiving increasing global attention as a renewable source with its flexible baseload character and direct use benefits both in the global South and North. Despite its promise of stable generation and relatively less space-intensive form of energy development, geothermal energy has not been very visible in the debates on energy transition. As such, geothermal energy remains an understudied form of renewable energy from a political ecology / political geology perspective. Geothermal expansion, however, faces social, spatial, and geological limitations as well as backlash from local communities due to an overemphasis on technical expertise, shortcomings of legislative frameworks, and lack of benefit sharing. This, we argue, is due to a combination of geological, political, and financial limitations topped with key socio-ecological counter-arguments from local communities. In this paper, we present an overview of the geothermal energy expansion as part of the decarbonization strategy in three distinct contexts; Turkey, Chile, and Sweden. Using Q-methodology in a comparative perspective, we have deciphered different dimensions of the geothermal debate, which indicate a) the predominance of petrocultures, b) the ambiguity of subsurface knowledge, and c) a discourse on untapped potential.

5. "The Biggest Problem We Have Now, Is That Our Feelings Have Ended:" Conceptualizing Alternative Energy Futures for and with Agropastoralists

Shayan Shokrgozar, University of Bergen

The rise of energy as fuel during the industrial revolution marked a pivotal moment in the history of the concept. Various cultures, each with unique Ethico-Onto-Epistemological Approaches, contributed their interpretations—from the Stoics' Pneuma to the Chinese concept of Xi and the Indian notion of Prana. Understanding how energy, initially rooted in Aristotle's energeia as "being at work," evolved into a hegemonic ontology unveils a story intricately linked to colonialism and its pervasive influence on the ethnosphere. Much like how the transition from using human-power in the form of slavery to fossil fuels failed to democratize the generation of energy or its conceptual underpinning away from its industrial conception, in the absence of emancipatory struggles and politics, displacing fossil fuels in favor of renewables will yield similar results. Situated in political ecology and agrarian studies, this presentation articulated alternative energy futures that hold pluralizing episteme as a central element. Drawing upon 6 months of fieldwork in Rajasthan, India, I explore place-based energy praxes and imaginaries that uphold a commitment to agropastoral lifeways while enabling the displacement of fossil fuels in favor of lower-carbon alternatives.

Panel 601: Political ecologies of the oceans and marine environments II

Alexa Obando Campos, Helmholtz Institute for Functional Marine Biodiversity (HIFMB)

1. Discursive Contestations around the Sustainable Development of the Oceans: Shrimp Trawling in Costa Rica

Alexa Obando Campos, Helmholtz Institute for Functional Marine Biodiversity (HIFMB)

Since 2013, the cessation of shrimp trawling in Costa Rica has produced a significant conflict between fishing-related actors supporting the total closure of the fishery due to its socio-environmental impacts, and others advocating for its sustainable use to foster socioeconomic development. This conflict illustrates how the oceans are increasingly contested as spaces of environmental concern and, more generally, about what is considered to be a sustainable ocean. Through discursive practices, we analyze how the various actors involved in this conflict contested the degradation and depletion of coastal environments in Costa Rica, and how this process reconfigured governance, with unequal socio-material consequences. It shows how the discourse that institutionalized these new forms of governance framed new economically profitable activities in the Gulf of Nicoya as sustainable, while at the same time positioning the shrimp resource and its trawling as a productive activity that was unsustainable. The reconfigured governance has most negatively affected the most vulnerable actors, namely salaried fishers and their families, by exacerbating unequal class relations and criminalizing their livelihoods.

2. Histories, presents, futures and the 'fixing' and 'saving' of Anthropocene oceans

Paula Satizábal & Kimberley Peters, Helmholtz Institute for Functional Marine Biodiversity

This paper engages with de- and anti-colonial literature/thinkers in the context of marine governance debates and practices, including management, policy, and planning, to show that the 'fixing' and 'saving' of Anthropocene oceans – oceans harmed by some humans – requires a more thorough, deeper, attention to violent ocean histories, presents, and possible futures. Such a move is necessary to take seriously the formulation, operation and consequences of marine governance interventions, and to reflect on our role contributing to disrupt ongoing colonial violences as scholars of the sea. We critically explore the construction of past environmental harms produced by a collective 'we' that forms the context for 'fixing' and 'saving' the oceans. The paper then moves from the past to the present, to explore the question of who 'we' are, who is invited and involved in marine governance research now, and the power-infused neo/neoliberal colonial processes of incorporating 'other' voices into participating in dominant modes of 'fixing' and 'saving'. We question processes of governing, arguing that colonial pasts, presents and futures and their ongoing and multiple processes of resistance and struggles for the sovereignties of ocean peoples have had, and continue to have, everything to do with dominant approaches to marine governance.

3. Plurivocal poetics for ocean futures: a voice-centred approach for pluralising visions of the sea

Soli Levi, Helmholtz Institute for Functional Marine Biodiversity

Pluriversal futures require a diversity of voices and perspectives to flourish. This includes the plurality of voices within each of us that we use when speaking about our (eco)social realities, relations, and desirable futures. This paper introduces the Listening Guide (LG), a feminist, voice-centred approach to deep listening to individuals' inner subjectivities and emotional complexities, as a method for amplifying and meaningfully engaging with these plural voices, thus shifting from a pluriversal to a 'plurivocal' perspective. The LG consists of repeated iterations of 'listenings' to interviews from different perspectives, from listening for plot to sense of self to sociopolitical context. This paper will focus on the 'second listening,' which asks the researcher-listener to attend to the multiple voices and standpoints – I, you, we, they – people use to narrate their stories, and to construct 'voice poems' that reveal how individuals make sense of their (eco)social worlds and their place in it. I will conclude by sharing several 'voice poems' I constructed from interviews with environmental activists in Bantry Bay, Ireland, fighting against large-scale industrial seaweed extraction in their marine environment. In doing so, I hope to contribute a plurivocal perspective to conversations on pluriversal oceanic futures and political ecologies.

Parallel session 3

Time: 15.00-16.30

Panel 947: Political ecology of genocide

Alexander Dunlap, Boston University and Helsinki University, Salvatore Paolo de Rosa, University of Copenhagen; Vasna Ramasar, Lund University; Joshua Sabih, Roskilde University; Cansu Bostan, Lund University; Buthaina Shaheen, University of Copenhagen

At present, the world is far from short of what [Herman & Peterson (2010)](#) call 'theatres of atrocity'. One of them, the current military offensive of Israel onto the Gaza Strip and the settler colonial violence and expansion on the West Bank, has occupied a large share of attention in media, international relations, the broader society, and academia since October 2023. The International Court of Justice has admitted a lawsuit from South Africa against Israel arguing that the Palestinian people in Gaza must be protected from plausible acts of genocide ([ICJ, 2024](#)). University students in every continent have joined a global solidarity movement demanding boycott, divestment, and sanctions against the Israeli government and those aiding it. Given the historical moment in which the

POLLEN24 conference is taking place, we chose to open a panel discussion on the political ecology of genocide. In this panel, we will discuss the relationships between political ecology and genocide from three different perspectives: Palestinian, Kurdish, and pan-African.

There have already been many efforts to bridge genocide studies and political ecology. The genocide-ecocide nexus, for instance, is a term that has been coined to address the relationship between environmental destruction and social groups' cultural or physical existence (Crook et al., 2018; Crook & Short, 2022). Ecocide and genocide are entangled in multidirectional ways (Knittel, 2023). Natural resource extraction has been found to be "a significant contributor" to this nexus, particularly in relation to questions of anthropocentrism, identity, and intent (Dunlap, 2020). Specific forms of environmental conservation and climate change mitigation efforts have too been found to contribute to the configuration of socio-ecological relations that allow the very accumulation strategies that dispossess people of their land, threatening their cultural and physical existence (Crook & Short, 2023). Scholarship on colonialism also has a long tradition of connecting the extermination of social groups or social practices with environmental destruction and 'environmental' conflict (Blaser, 2013; Wolfe, 2006).

In the case of Palestine alone, the connection between ecocide and genocide surfaces from different instances in which the destruction of the environment and the extermination of the Palestinian people go hand-in-hand (Isaac & Hilal, 2011; Jaber, 2018). For example, Alkhalili et al. (2023) argue that the neutrality with which climate change mitigation and sustainable development are veiled obscures that behind sustainable development initiatives, human rights such as the right to self-determination are ignored. Another example is that the destruction of the life generating capacities of arable land via aspersion of herbicides by the Israeli military has been exposed as a tactic to increase visibility to fire at Palestinian targets (Molavi, 2024). Changes in land relations have been observed as logics of land-as-commons are replaced by individual ownership of land thus erasing ancient collective practices such as the Mushaa', are yet another example of the connection between ecocide and genocide in the case of Palestine (Alkhalili, 2017). Such connections have led not only Palestinian scholars but also other scholars such as Andreas Malm to argue that "the destruction of Palestine is the destruction of the Earth" or institutions like Forensic Architecture who affirm that there are "no traces of life" along the eastern perimeter of the occupied Gaza Strip.

Panel 96: Volatile rivers and the political ecology of infrastructure

Mira Käkönen, Australian National University, Anu Lounela, University of Helsinki & Anja Nygren, University of Helsinki

The recent infrastructural (re)turn in global development manifests itself in accelerated building of new dams, irrigation and flood-protection schemes, and other types of water works that have major implications on riverine environments and residents (Crow-Miller et al. 2017). This hydraulic infrastructuring re-organises human and non-human relations locking-in certain hydrosocial orderings, while disallowing others (Linton & Budds 2014). At the same time, the changing climate materialises through drastic alterations in the fluvial flows across the globe. Together the intensifying river engineering and changing

climate result in unruly waters that form a challenge, as well as an impetus, for efforts to produce more 'controllable' rivers. With the term volatile rivers, we seek to capture the increased likeliness of fluvial flows to change in sudden and extreme ways, and the new unruliness of the fluvial forces that results from the human-induced climate change and processes of riverine engineering (Käkönen and Nygren 2023, Krause & Eriksen 2023). The four papers of this panel address the political ecologies of interconnected crises by examining the interplay of volatile rivers and infrastructuring efforts, how it sets in motion new forms of vulnerabilities, injustices, and infrastructural violence as well as contestation and initiatives of repair.

Professor Jessica Budds (Universität Bonn) will act as an invited discussant for this panel.

1. Infrastructural events? Flood disaster, narratives and framing under hazardous urbanisation

Robert Coates, Wageningen University

'The river was moved too close to my house!' declared a soon-to-be-displaced resident following flood disaster in Brazil. Infrastructural engineering decades earlier had changed the river's course and led to the flooding of his home, yet the state now blamed a rainstorm for causing the disaster. The narrative of a natural event provided the pretext for urban governance based around evictions and further rounds of infrastructural engineering, nominally aimed at pre-empting a dangerous climate future. The presentation takes the circumstances of this case to trigger a conceptual discussion on governance of the disaster event, narratives, and the promise of infrastructure to mitigate alarming urban futures. I draw on urban political ecology, the sociology of the event, and social studies of infrastructure, while also questioning understandings of eventful nature in the post-human turn. Tackling urban disaster risk may depend on a reframing of disasters as infrastructural events – a reflexive process that reveals how risks are produced through longer temporalities of capitalist urbanisation. A focus on politicised infrastructures reveals and disrupts dominant natural hazard narratives that remain integral to hazardous urban expansion.

2. Inhabiting a transforming delta: volatility and improvisation in the Canadian arctic

Franz Krause, University of Cologne

Gwich'in and Inuvialuit inhabitants of the Mackenzie Delta, in Canada's Northwest Territories, have witnessed an eventful history in relation to colonialism and environmental transformation. Their current lives are characterized by mobility, mixing, and melting as they negotiate new and old livelihoods, continuity in traditions, and thawing landscapes. Approaching these lives in terms of volatility opens up an experience-near understanding of people's relations with perpetual, uncertain transformations. Differently situated delta inhabitants have different ways of dealing with these uncertain dynamics, but all are characterized by an improvisation that carries forth reputable activities and attitudes by new means. Dispositions like curiosity, playfulness, and risk-taking must not be seen as lacking resolve to confront transformations, but should be appreciated as skills for inhabiting a volatile world.

3. Restoration infrastructure in the making: Plans, hopes and uncertainties in drained wetlands

Anu Lounela, University of Helsinki

This paper discusses the designs for the restoration of drained peatlands through the case of wetland infrastructuring that mobilises action and hope (Knox 2017), but also uncertainty as it aims to return drained peatlands to wetlands in South Central Kalimantan, on the Indonesian side of Borneo (Lounela 2021). Infrastructure often mobilises promises and hopes that are not always realised or fail in the face of complex socio-economic and environmental situations (Harvey and Knox 2012: Larkin 2013). Rivers are an important foundation for the social and economic life of the indigenous Ngaju Dayak people of Central Kalimantan province. Since the 1990s, agricultural canal infrastructure has drained swampland, promising 'improved' livelihoods but also creating a disturbed and fire-prone peat landscape (Lounela 2021; Nygren and Lounela 2023). New models of repair and infrastructure design alter material landscapes and produce socio-natural relations and social orders when overlapping with other 'green' or extractive projects (Lounela 2021). The paper explores what kinds of promises are made by making nature into infrastructure, and what kinds of social and material volatilities and frictions emerge through these processes.

4. Infrastructural violence and the volatile rivers of Mekong and Grijalva

Mira Käkönen, Australian National University & Anja Nygren, University of Helsinki

In this paper we examine how infrastructure projects such as hydropower dams and oil extraction facilities shape hydrosocial relations and create new forms of injustices. The focus is on Mekong and Grijalva River Basins and the resonance between them in terms of patterns of river volatilities and infrastructural violence. With the concept of 'volatile rivers' we aim to capture the new unpredictability and unruliness of fluvial forces largely produced by climate change, river engineering, and extractive infrastructure projects. Our contribution also seeks to bridge developments from two research areas: work on the social and political life of infrastructure and the political ecology of hydro-social relations and vulnerability. With this conceptual work developed in close connection to empirical realities, the paper provides new insights into how compounding effects of extractivism and climate change are experienced in drastically altered waterscapes. The paper also highlights the challenges in repurposing large-scale infrastructure projects to serve climate combat.

Panel 185: Political ecologies of change: Degrowth as transformation II

Mine Islar & Lina Lefstad, Lund University Centre for Sustainability Studies

The degrowth scholarship argues for a multi-scalar transition beyond the growth-oriented economic paradigm to achieve social justice and ecological sustainability. Degrowth conceives the broad values of sustainability and justice as inseparable, requiring integrated strategies (Chertkovskaya 2022). In the literature, the most cited definition describes sustainable degrowth "as an equitable downscaling of production and consumption that increases human well-being and enhances ecological conditions at the local and global level, in the short and long term. The adjective sustainable does not mean that degrowth should be sustained indefinitely but rather that the process of transition/transformation and the end-state should be sustainable in the sense of being environmentally and socially beneficial" (Schneider et al., 2010: 512-513). Although degrowth definitions primarily emphasize the downsizing aspects of production and consumption, the concept of post-growth alludes to the vision of a society that can thrive or manage without relying on growth (Jackson, 2009). In this context, Parrique (2022) suggests that degrowth should be seen as a discourse of transition, while post-growth should be seen as a discourse of destination. The mitigation report mentions "GDP non-growth/degrowth or post-growth" as approaches allowing climate stabilization below 2°C (IPCC 2022). In addition to that, Values assessment of the Intergovernmental Panel for Biodiversity and Ecosystem services (IPBES 2022) also identifies degrowth as one of the suggested pathways to achieve a just and sustainable future, defining it as a strategy that reduce the material throughput of society and protect human wellbeing through equitable distribution of material wealth rather than economic growth. Within the same report, the environmental values associated with degrowth are presented as being based on the principles of strong sustainability where biodiversity, nature's contributions to people, and core ecological processes are seen as irreplaceable by technology and built infrastructure. Based on these assessments, current models of societal progress that prioritize economic growth at the expense of biodiversity and ecological life support systems are incompatible with social and ecological sustainability.

1. Weaving Degrowth and Buen Vivir – Sustainable Futures! Different realities?

Cyprien Brabant, Chalmers University of Technology

The global context of polycrises is enhancing the social and ecological struggles of northern nations: Wealthy nations grow unsustainable standards of living, boosted by the idea of development, fetishised by the head concept of capitalism. Degrowth proposes an alternative to this mainstream societal pattern but lacks ways to implementation. By bringing degrowth into discussion with the Latin American philosophy of Buen Vivir, we will see how the degrowth movement can build on existing philosophies of living. When most of the studies so far focused on the dissimilitude between Degrowth and Buen Vivir, I claim that transcending differences is needed in order to steer societies towards positive and sustainable futures. De-colonial positive ecosocial futures are to be designed locally, considering the various realities of a pluriversal approach. Values such as oneness, care and gentleness resonate far beyond the degrowth expertise and should be at the core of an alternative society's design. The exact frameworks of a degrowing society will follow naturally from a narrative based on those values that should be discussed fundamentally and democratically. Therefore, the need to consider degrowth as more than mere economic planning, but a multilayered life centred project is urgent.

2. Is there a place for philosophy in degrowth?

Oxana Lopatina, University of Ferrara

Degrowth calls for changing the existing growth-oriented capitalist socioeconomic system for a more ecologically sustainable and socially equitable one. According to the degrowth vision, this transformation will require both practical (e.g., technologies, material and energy use, institutions, policies, etc.) and cultural changes. In the past few years, degrowth-informed literature has put forward a range of practical and policy solutions offering pathways for translating the utopian vision into reality. At the same time, the cultural or philosophical dimension of degrowth, while remaining one of the recognised and often cited pillars of its theoretical framework (for example, through such key concepts as a good life for all and decolonisation of the imaginary), has received less attention and, as a result, is not sufficiently conceptualised. Based on a survey conducted at the 9th International degrowth conference in Zagreb and online (Lopatina& Asara, results are being prepared for publication), the value identified by the degrowth community as primary for ensuring a good life for all as per the degrowth vision is meaningfulness. However, such philosophical topics as meaning very rarely receive close attention in degrowth literature, predominantly remaining within the domain of mainstream philosophy, which more often than not fails to connect them to political, economic or ecological considerations. Drawing on this and other findings of the survey, in this contribution, I propose reflecting on the importance of creating more space for philosophical debates within degrowth.

3. Degrowth and beyond the state(s): in defence of anarchistic theory of the state(s)

Arnošt Novák, Charles University in Prague

This paper seeks to contribute to the debate in degrowth scholarship about the role of the state would play in the transformation to the degrowth society. In the article Degrowth and the State (2020) based on Gramscian theory of the state authors D´Alisa and Kallis argue for combination of grassroots and institutional actions. Because there is no outside the state there is not possible to ignore it, to abolish it or go beyond the state. So we have to effecievly use the combination both civil and political society. The state is not thing, monolithical, rational actor, is not politicians, bureaucrats and the administrative apparatus, but an integral, dialectical process between civil and political society with constant interplay of the battle for ideas and the battle for institutions of enforcement. In the paper I share their position that social change is amalgam of change in everyday practices, ideas (interstitial strategies) and enecentually institutions of coercion and enforcment (symbiotic strategies), but in their thinking I miss ruptural strategies from this amalgam. The ruptural strategies not as any „Big Events", but as everaday struggles to doing things by different way. The state is also social relationship, it is way of doing things as power-over in contrast to autonomous politics based on power-to or power-with. This is difference between centripetal and centrufugal tendencies in society, this is difference between centralization and decentralization of power, this is difference between public as stated governed form distance and above and commons (or rather commoning) as self-governed from below and by vernacular. We live inside the state(s) but doing things by different way we can go (temporarily) beyond the state. In the paper I share vision social change as amalgam, but I put emphasise on ruptural strategies in everyday practices. To

be to much symbiotic is risky that we would rely on state as a tool for social change and we get lost during the march thorough the instituions of state(s). The state(s) can´t be igonred, in a similar way as in the case of the guarantees of equality in the Declaration of the Rights of Man or the Civil Rights Act. But as James Scott told, this "achievements of the state are the achievements of the state with a pistol at its temple." We need amalgam strategies of social change and for rethinking about it some kind of the anarchistic theory of state could be useful and important.

4. Degrowth and masculinities

Pierre Smith Khanna, Coventry University

"Of the many fields in which degrowth scholarship has engaged, critiqued or drawn inspiration from, masculinities remains an under-developed area of study. At the same time, degrowth has long held that feminist critiques of growth as well as feminist values, lie at the heart of any degrowth project and that, as such, any objectives sought on the degrowth horizon would be incomplete if they did not include gender equality and a thorough re-evaluation of the sexual division of labour. Building on avid interest in masculinities expressed in recent degrowth conferences and publications, this paper seeks to bridge this gap by exploring non-hegemonic masculinities as a locus of transformation at the personal and collective level, which, I argue, can hasten the kinds of structural changes degrowth calls for.

5. How individuals make sense of their climate impacts in the capitalocene: mixed methods insights from calculating carbon footprints

Tullia Jack, Lund University

Many people want to play their part to tackle climate change, but often do not know where to start. Carbon Footprint (CF) Calculators pose potential for helping individuals situate themselves in climate impacting systems of which they are a part. However, little is currently known about whether and how individuals who complete CF calculators understand their CF in the context of climate change. This article explores how people make sense of their CFs and locate themselves in the capitalocene. It draws on theories of social practices, environmental ethics, valuation, and knowledge-use to analyse data from 500+ Danes who completed a CF calculator (https://carbonfootprint.hi.is) and interviews with 30 Danes who were asked to complete the CF calculator. In this article, we describe how Danes' CFs are impacted, looking at how survey respondents rate importance of mitigating climate change, importance of personal actions, and importance of public steering, as well as disposable income, living space, and family type. We also show how interviewees reflect over their consumption activities and possibilities. Those with high income nearly always had high CF but felt like they had little agency to change the system and rather justified their high-emitting practices such as flying, while those with low CF felt they had more agency in the system. The results show that high-CF individuals resist voluntary reduction of their emissions despite the presence of environmental ethics. Thus, we conclude that systemic solutions have the foremost capacity to reduce carbon emissions.

Panel 265: Political Ecologies of carbon removal, net zero and climate delay III

Kirstine Lund Christiansen, University of Copenhagen

This third session in the stream of sessions entitled "Political Ecologies of carbon removal, net zero and climate delay" focuses on carbon farming. See the first session for a description of the entire stream.

1. The Valorization of Ecosystem Services: The case of carbon farming

Johannes Fehrle, Humboldt-University of Berlin

This paper takes the concept of valorization (Inwertsetzung) proposed by Elmar Altvater (Altvater 1987) and expanded by Alvater and Mahnkopf (1999) to examine how carbon farming schemes valorize ecosystem services in novel ways. Originally developed to analyze the extraction of natural resources in "underdeveloped" regions of the globe such as Brazil in the 1980s, Altvater and Mahnkopf's multi-step model offers a tool for analysis of the different steps involved in the valorization process of a natural resource from its "discovery", its scientific description, and its definition as a valuable resource to its integration into the world market. In the case of carbon farming this involves the scientific understanding of carbon sequestration in soils and the measuring of carbon content and ends with the sale of CO2 certificates. The paper will introduce the steps of Altvater and Mahnkopf's model and describe how they can serve as a lens to identify the steps along the valorization process. At the same time, the model's origin as a tool to analyze more traditional extractivist activities, reveals the peculiarities of carbon farming (and by extension the valorization of other ecosystem services) as a business model that valorizes an ecosystem service without transferring any physically commodities.

2. The quest for carbon in farmland: mapping the emerging market for soil carbon credits

Emma Johansson, Lund University; Elina Andersson, Lund University and Klara Fischer, Swedish University of Agricultural Sciences

Carbon sequestration in agriculture, or carbon farming, is increasingly portrayed as a core climate mitigation strategy. Therefore, a wide range of carbon farming initiatives have recently emerged, offering ways for companies to offset or inset their emissions through carbon credits generated by farmers and sold through voluntary carbon markets. We map and categorise the actors behind carbon farming initiatives and analyze discursive framings of carbon farming, the specific activities incentivized, as well as the terms and conditions of participation. We find that carbon farming currently engages a combination of well-established agribusinesses actors, newly established agri-tech, and actors with no prior link to agribusiness or agri-tech. The vast majority of initiatives target commercial crop farmers in the Americas and Europe. Carbon farming is predominantly framed as a win-win solution for sustainable agriculture and climate change mitigation, through the

concept of 'regenerative agriculture'. In practice, initiatives fill this frame with varying, but generally limited, commitment to transform current farming systems. Based on our mapping and analysis of carbon farming initiatives, we outline what kind of farming that the market currently stimulates, and discuss the prospects for, and concerns about, making carbon farming a tool for climate change mitigation and sustainable agriculture.

3. On the Political Ecology of Carbon Farming

Sarah Hackfort and Tobias Haas, Humboldt University Berlin

Our paper focuses on the intersection of climate and agrifood politics by analysing carbon farming (CF), a 'new' nature-based solution for carbon removal. While there has been quite some critical research on forests and mechanisms of REDD+, the emerging schemes for CF in agriculture have not yet received much attention. We approach CF from a political ecology perspective through empirical research on the underlying political and technological infrastructure in Germany and the European Union. We address the following questions: First, who is driving this development, which actors benefit from it? What are their strategies and practices? Second, what kinds of private markets, public schemes and technical infrastructures have already emerged around CF and what kinds of environmental narratives and discursive promises are being made? Finally, what can be said about forms of delay, deterrence, and obstruction as a consequence of CF? Or how could CF be a transformative solution? What are the prospects for 'just' CF, where policies and programs are beneficial for a socio-ecological transformation including farmers? Our preliminary research findings suggest that existing inequalities and power relations are reproduced in the context of CF initiatives. In agriculture, each of the largest input and machinery firms offers a CF program. Using digital farm management platforms, the companies are able to direct data flows about seeds, soil quality, and farming practices directly into their platforms. Using CF programs not only locks farmers into existing economic and technological ecosystems. It also allows the firms to generate revenue from the collected data streams. Moreover, companies rely on high technology and science to confer credibility and legitimacy and make CF possible. Promises of precision and accuracy are invoked by industry and policy, while in reality the potential of digital technologies used to measure, monitor, and verify actual carbon levels is limited.

Panel 609: Food Sovereignty

Fizza Batool, University of Augsburg

1. Re-centering justice: food sovereignty and migrant labour on the island of Ireland

Rebecca Vining, Maynooth University

Food sovereignty aims to "transcend the neoliberal vision", challenging corporate globalisation by developing new models for agricultural production. This is about more than food access; it is the struggle for rights, dignity, and governance, requiring the complete transformation of socio-spatial relations. While food sovereignty has a growing

presence in Ireland, its more revolutionary elements have been neglected in mainstream media. This paper discusses a PhD project that aims to recentre discussions of socio-spatial justice in Irish and Northern Irish food sovereignty movements by studying the role of seasonal migrant labour in Irish horticulture. Previous work in Ireland and the UK has documented the abuses suffered by migrants in agriculture, but has not explained why they occur. This research investigates the experiences of employers, examining their role as agents in a neoliberal, globalised, system. By working alongside food sovereignty activists, migrant support networks, and farmers, the project aims to produce a model of how to achieve food sovereignty in Ireland while safeguarding the rights of migrant workers. The goal is to translate food sovereignty from the realm of the ideal to that of the implementable. This paper discusses experiences and progress thus far, one year into the project.

2. Appropriation of wild rice (manoomin): Processing plants as sites of concentration of colonial power

Jessica Milgroom, University of Cordoba

Erasure and appropriation of Indigenous foods was, and continues to be, a weapon of colonization. For centuries, the Anishinaabe people of North America, and others before them, have harvested the wild rice (manoomin) that grows in lakes and rivers. Colonization and capitalism radically reduced their access to and shifted their relationship with this sacred relative, plant and food. This historical research specifically explores the role of the wild rice processors in the appropriation of manoomin. The processing plants were mostly owned by non-native individuals and constituted a site of concentration of colonial power. This work is based on 5 years of intermittent ethnographic and historical archival research. As a descendant of white settlers of mixed European heritage, I am researching the entangled process of appropriation of manoomin in the Ojibwe territory of Turtle Island because my grandfather was instrumental in this process in the 1950s. This research is an act of reparations. I attempt to make my positionality explicit, stay within the frame of knowledge that I can lay claim to as a non-indigenous person and work as an ally to Indigenous food movements without centering whiteness.

3. Nothing to Eat but Cherries and Apples: Politics of Wheat Subsidies in Ishkoman Valley, Gilgit-Baltistan, Pakistan

Fizza Batool, University of Augsburg

This research investigates the untold story of wheat subsidies introduced in the region of Gilgit-Baltistan, Pakistan since 1970's. It attempts to understand the impact of the subsidized wheat on agrarian landscapes, local food systems and diet of people. My research offers empirically grounded ethnographic research in Ishkoman valley, Gilgit-Balistan, over past 8 months and engages with different actors and institutions, from state bodies to NGOs and the small farmers involved in the transformation of agriculture and food systems. I argue that the so-called food aid given in form of wheat subsidies has had a profound impact on the local agri-food system; different local grains such as barley, millet, broad peas, buckwheat, broad beans have disappeared from the local food

system. People have moved from diversity of grains to "wheatification" of diets. The ready availability, continuous consumption and cheap price of wheat have not only changed the diet but also erased the local knowledge of production, storage, and ways of consuming the traditional crops and have created a social, ecological, and epistemic rift, which is causing a decline in crop diversity and loss of species linked to these agrifood systems. In contrast to this, the continuous push of the state toward horticulture and cash crops has changed the existing patterns of farming to orchards and has created a total dependence on subsidized wheat and federal institutions. My approach draws on and connects political ecology and critical agrarian studies to understand the role of state in introducing this policy in the disputed territory of Gilgit-Baltistan.

4. Their, mine, your food sovereignty

Alejandra Guzmán Luna, CONACHyT/Universidad Veracruzana; Janica Anderzen, University of Maine/University of Vermont and Diana Luna-Gonzalez, Stockholm University

Agroecology and food sovereignty (FS) are transformative approaches for addressing environmental and socio-economic crises that affect our food systems. Both approaches build on a set of principles that can be adapted to different socio-ecological contexts, reflecting the knowledge, cosmovisions, desires, and needs of farmers and their communities. By offering environmentally sound and socially just solutions to pressing socio-economic crises, agroecology and FS share similar goals expressed in political ecology. However, there is relatively little documentation on how farmers' definitions of FS vary in different contexts. Do these definitions align with the commonly used understanding and framing of FS?

In this session, we aim to present an instance of FS self-definition from Mexico, and use this to inspire a dialogue amongst conference participants about their views, definitions, and experiences of FS and epistemic justice in other contexts. Smallholder coffee farmers of Campesinos Ecológicos de la Sierra Madre de Chiapas cooperative in Chiapas-Mexico defined their FS in focus groups, aided by popular education materials co-created by farmers and following agroecological and Participatory Action Research principles that support epistemic justice. These discourse/narratives were then contrasted with their actual food production and consumption practices, surveyed through household surveys over one year.

Panel 242: Participatory Visual Methods for Political Ecology II – Photovoice and Participatory Photography

Emma Johansson, Lund University; Sofie Mortensen, University of Copenhagen; Francois Questiaux, University of Copenhagen.

Why do we need to engage with visual methods in science? And how do we use visuals for the production of place-based and local knowledge? How can visuals enable

knowledge dissemination? Visual participatory research approaches can offer alternative ways to understand local perceptions and experiences of global and local changes, and also give insights into peoples' emotions, values, and aspirations of change. We arrange four panels and an exhibition in order to bring together photography, painting, comics and documentaries to showcase visual research methods and arts for investigating and imagining change and development. The panels consist of artists and researchers that apply participatory visual methods to explore and illustrate social-environmental change in contested spaces. This exhibition and panel will showcase a range of visual participatory methods for investigating and reimagining classic themes in political ecology in both the city and rural areas. Together, these visualizations and the accompanying narratives illustrate the power and diversity of arts-based research methods, as they help analyze ongoing processes, highlight marginalized perspectives, and imagine more equitable and sustainable futures.

1. Visualising a changing foodscape: lessons from conducting lived experience research of small-scales fishers in Indonesia

Michaela Guo Ying Lo, University of Kent

The transformation towards healthier, just, and sustainable fisheries and food systems, requires incorporating the lived experiences (LE) of small-scale fishers in science and policy decision-making, ensuring that actions taken reflect the lives of those most affected. Participatory visual methods in LE research are a powerful tool to amplify often marginalized perspectives, forging connections between individual lives and the broader context, all while remaining deeply pertinent to place. However, LE research, particularly through a participatory visuals approach, face scrutiny in a dominant 'positivist' scientific space with concerns around its ability to produce robust, objective and generalisable evidence that is digestible for policy makers. Here, we share our experiences of integrating participatory visual methods (participatory photography, collage making and LE mapping) to explore how small-scale fishers in Indonesia navigate changes in their foodscapes. We highlight its strength to generate meaningful and relevant evidence, prompting a deeper examination of its role (and form) in science and decision-making, and the values and knowledge systems they uphold. We further reflect on some of the challenges that were encountered - particularly working in collaboration with natural scientists, conservation NGOs, and the community themselves - how tensions were navigated, and the lessons we drew from these experiences.

2. Using photovoice to understand differentiated lived experiences of adaptation processes in fast-changing agrarian environments

Edwige Marty, Norwegian University of Life Sciences

Scientific research on climate change is often focused on quantifying climatic and environmental changes or seeking to assess progress made within adaptation or mitigation efforts. However, there is an urgent need to deepen our understanding of diverse local perceptions, knowledges, and experiences of climate change to support transformations towards equitable and sustainable futures. This presentation reflects on the use of photovoice to understand lived experiences of climate change adaptation

processes in a fast-changing pastoral environment in southern Kenya. Building on insights from feminist political ecology, photovoice was used to investigate emerging subjectivities tied to the uptake of alternative livelihood activities by Maasai pastoralists. While noting the challenges encountered when implementing photovoice, we reflect on the unique opportunities that such participatory visual methods provide to yield rich insights on changing local realities in the face of compounded stressors. In particular, the photovoice activity created a space and alternative mediums from which to discuss with research participants changing pastoral livelihoods, including the emotions, values and social aspirations shaping local understandings of what constitutes climate change adaptation. The process of setting up and conducting photovoice also allowed us to deepen our understanding of the intersectional power relations that shape differentiated lived experiences.

3. Extending the ethnographic toolbox: photovoice and everyday experiences of marginalized groups

Sofie Mortensen & Francois Questiaux, University of Copenhagen

This paper explores how photovoice can be used to understand the everyday life experiences of marginalised groups. We ask what kind of knowledge photovoice elicits and how this contributes to other ethnographic methods to enhance our understanding of subjective experiences. Based on two photovoice projects in Ghana/Burkina Faso and Thailand we show that participants generate aesthetic accounts of their everyday life that are both poetic and emotional. Drawing on feminist approaches to agency, we argue that the aesthetic construction of photos and stories permits us a different insight into how participants reflect on their conditions, perceive power dynamics within social structures and, in doing so construct (political) messages. Without overlooking the oppressive structures that they navigate, their accounts highlight their constrained agency and contrast victimizing accounts. As such, we extend the use of photovoice beyond a tool for empowerment to reflect on its contributions as a visual method to methodological and theoretical debates around everyday, emotional experiences and how these, as argued within feminist geography, are constituted on different scales.

4. Capturing Perspectives: A Critical Analysis of Photo-walks for Understanding and Valuing Localised Climate Knowledge, and Galvanising Climate Action in Glasgow

Florence Halstead, Ria Dunkley, Sarah Gambel & Beck Duncan

The NERC-funded GALLANT project, led by researchers at the University of Glasgow, seeks to create transdisciplinary and innovative pathways to sustainability in Glasgow. To address Glasgow's specific challenges, community collaboration stands at the forefront. In 2023, we collaborated with 37 locals through a suite of creative photo walks exploring GALLANT themes—flooding, biodiversity loss, vacant and derelict land, active travel, and sustainable energy. The photo walks were designed to connect with both people and place, gaining insights into local perspectives and issues, whilst informing community-led research for place-based mitigation and adaptation. The 12,000 photographs captured during these walks became powerful visual narratives, forming the basis of physical and online exhibitions, and the frame analysis process, informing the next steps taken within the project. GALLANT's approach, integrating arts-based research methods and deep

mapping, not only amplifies marginalised perspectives but has enabled citizens to imagine, and begin to enact, more equitable and sustainable futures. Our exhibition and panel contribution will highlight GALLANT's innovative use of these methods to understand and scrutinise the political ecology of climate change in the city and explore the transformative potential of visualisations and narratives in engaging with environmental challenges and inspiring action.

5. Identifying the main principles and challenges in academia and artists co-creation processes for sustainability

Noelia Zafra-Calvo, Basque Centre for Climate Change

Arts-based methods have significantly increased in academia and sustainability sciences in the last ten years. They can contribute to current social-ecological crises by grappling with landscape social-ecological dynamics and practices, shifting relationships to nature, and expanding epistemologies towards sensorial or spiritual realms; facilitating future visioning and transitions towards sustainability. Despite their enhancement, arts-based methods face challenges related to the knowledge co-production process that can guide how to deal with tensions across different views, knowledge and values in co-creation. We (academia, artists) address three main co-production issues identified in co-creation projects in relation to knowledge: a) how can scientists and artists work together to co-produce knowledge for sustainability, b) What are the main needs, expectations and principles for science to co-create with artists, and c) What are the main tensions that normally arise in their interactions and how to tackle them. To this end, we engage in an open discussion and reflection about each of these issues, identifying initial ideas for their identification and assessment in co-creation projects. Finally, we highlight first steps or initiatives to address challenges in academia and artists co-creation processes.

Authors' roundtable 352: Urban Natures. Living the more-than-human city

Lucia Alexandra Popartan, LEQUIA - University of Girona; Ferne Edwards, City, University of London & Ida Nilstad Pettersen, NTNU – Norwegian University of Science and Technology

The editors of the book 'Urban Natures: Living the More-than-Human City' (Berghahn Books 2023) will debate around the input of the publication to decolonizing knowledges by challenging human-centric urban narratives. Combining more-than-human perspectives, political ecology and critical urban design, the panelists will show the potential of reframing urban spaces as dynamic environments, where human and non-human interactions intensify, affecting urban rhythms, spatial forms, and materiality. Along with chapter presentations, each talk will briefly introduce one of the three sections of the book: 1) Making Visible Diverse Urban Natures; 2) Reconnecting Urban Natures; 3) Politicizing Urban Natures. Spanning across a variety of sectors, urban areas, species, and more-than-human methodologies, the session will challenge the audience to imagine and co-create a more plural urban future.

1. Making Urban Natures Visible. A focus on insects.

Ferne Edwards, City, University of London

After introducing the first section of the book, the talk engages with the concept of decolonizing knowledge by challenging the invisibility of non-human entities in urban environments and highlighting the importance of insects in ecological and human life. The chapter emphasizes the need to 'make visible' the crucial role that insects play in cities for biodiversity conservation and enhancing human-nature experiences which are often overlooked as urbanization intensifies. Edwards points out that making insects visible is not just about physical visibility but also about acknowledging their ecological roles and contributions to human life, thus elevating their status from marginal to central in the consideration of urban planning and design. The chapter also addresses the decolonization of knowledge by considering different ways of knowing and engaging with nature, which often go beyond traditional academic and scientific approaches. It explores initiatives such as insect festivals, citizen science, more-than-human mapping, and nature walks as methods to enhance human-insect encounters and appreciation. These initiatives serve to democratize the understanding of urban nature, inviting participation from various demographics and fostering a more-than-human interdependence. Edwards argues for a shift from seeing to caring, advocating for a more-than-human perspective that decenters human dominance and recognizes the rights, agency, and needs of non-human others, leading to a more inclusive and multispecies urban coexistence.

2. Reconnecting Urban Natures. A focus on street trees.

Hanne Cecilie Geirbo, OsloMet & Ida Nilstad Pettersen, NTNU – Norwegian University of Science and Technology

This talk reviews the second section of the book and then presents one chapter: 'There's a Strong, Green Wind Blowing' Drawing the Politics of Street Trees in Practice'. The authors look into the complexities of urban greening and street trees in Oslo, Norway. They engage with the politics of urban greening by examining how various urban design practitioners integrate and view street trees, using sketching as method to uncover differing perspectives. The chapter reveals that although the views differ, street trees are often seen from a human-centric perspective. They are valued for their ecosystem services or seen as obstacles to infrastructure, thus reflecting a colonial mindset that prioritizes human needs over more-than-human agencies. By challenging these views, the authors ask what it might take to recognize the trees' intrinsic value and their contribution to a multispecies urban environment, and shift the narrative to include non-human perspectives. The chapter emphasizes the importance of interdisciplinary collaboration in urban design and planning practices. The authors highlight the use of explorative drawing to engage different stakeholders in constructive dialogue, allowing for the emergence of new ideas that challenge traditional hierarchies. This approach promotes the inclusion of more-than-human considerations in urban spaces, suggesting that trees and other urban natures should not be limited by technical and human-centric scales but instead be integrated into design and planning based on their unique temporalities and sensory qualities. The chapter contributes to decolonizing knowledge by promoting urban practices that are inclusive of non-human nature and by advocating for urban spaces that reflect a multispecies coexistence.

3. Politicizing Urban Natures. A focus on edible cities.

Lucia Alexandra Popartan, University of Girona - LEQUIA

This talk introduces the third section of the book and showcases a chapter titled "I Don't Care about Tomatoes. Building Situated Urban Commons in Girona". The piece explores the concept of "situated commoning" within the urban gardening project Menja't Sant Narcís (MSN). Using participatory research and interviews, this chapter documents the emergence and consolidation of MSN, as an economic and tourist development strategy to a more complex platform for community empowerment and sustainable urban living. The initiative blends historical references with contemporary ecological and community-driven frameworks, which escapes rigid categorizations of what urban commons can or should be. Initiated by the municipality and managed by grassroot movements, MSN strives to overcome the internal tensions between inclusionary and exclusionary dynamics inherent in any community formation, no matter how idealistic its foundational goals. MSN reflects well what Kant famously called 'unsocial sociability': the ambivalence of human condition, torn between the propensity to enter society, bound together with a mutual opposition that constantly threatens to break up society. These processes are inescapable and yet are constantly escaped in the everyday practice of creating new collective, multispecies subjectivities.

Panel 627: Searching for sustainability in research and praxis I

Jamila Haider, Stockholm Resilience Centre

1. "Natural" does not imply that it is fair and sustainable: approaches to the artisanal work of bamboo and ecological care

Violeta Gutiérrez Zamora, Natural Resources Institute Finland

Over the past 25 years, scientists, engineers, and designers from various industries have shifted their focus toward finding, innovating, and incorporating renewable materials into their production processes. Natural materials and fibers, such as bamboo, rattan, jute, and sisal, have re-emerged as bioeconomic solutions for everyday use. There is a growing global interest in using bamboo as economically valuable non-timber forest products (NTFPs) and nature-based materials. Bamboo, among other NTFPs, has been recognized for supporting the livelihoods of rural communities in tropical and subtropical forests, providing both subsistence and income generation. In recent years, the uses of bamboo have expanded to include renewable and biodegradable materials, which has led to increased demand in global industries such as new textiles and bioplastics. International intergovernmental and non-governmental organizations have promoted several initiatives to improve the sustainable management of bamboo and add value to commodity chains under the frameworks of sustainable development and green economy transitions. This context of global demand and international interventions turns out to be fertile ground to investigate how bamboo and the work for its transformation is valued, not only economically but also culturally, aesthetically, and ecologically at different scales and geographies. Drawing upon a feminist political ecology approach, the manuscript focuses on and raises questions about how artisanal work and ecological care are interrelated in

sustainable development projects in Lao PDR. Theoretically, I take as a departure point the recent discussions within feminist political ecology that have urged scholars to consider the relations between human labor, subjectivity, and material matter in socio-ecological relations and practices. However, my methodological and theoretical perspective is deeply involved with an anti-colonial praxis where Other forms of being, knowing, and creating in technology and art are recognized as contributions of theoretical formation. By taking an anti-colonial perspective, the research examines critical research questions about the distribution of labor, recognition of values, and representation in decision-making in bamboo craftsmanship.

2. Reshaping the narratives of flying: Social movements protesting global air transport in Europe

Alexander Araya Lopez, University of Potsdam

Air transport is a powerful global industry that fosters worldwide connectivity and one that requires a network of complex spatial configurations. Dominant narratives about this industry underscore its role in driving economic growth and job creation, mainly in sectors such as tourism and e-commerce. Nevertheless, airports and airlines have been systematically contested due to their adverse local (e.g. noise, pollution, land grabbing) and global impacts (CO_2 and non-CO_2 GHG emissions), affecting both human and non-human environments. This analysis explores the global resistance against air transport from a historical and world-system perspective. The empirical data includes news articles, social media (Twitter), visual materials (photographs, boardgames, leaflets and stickers), reports created by the dissenting collectives/individuals, in-depth interviews, and participant-observation of these protest events in Europe. Instead of treating each conflict in isolation, commonalities among cases are identified, with a focus on four European airport conflicts: Bristol Airport, Berlin Brandenburg Airport, El Prat-Barcelona Airport, and Schiphol Amsterdam Airport. Through their creative and oftentimes radical political campaigning, these social movements advance alternative narratives apropos global air transport, considering airports as 'spaces of destruction', while demanding 'real' solutions such as aviation degrowth, frequent-flyer levies, restrictions on private jets and moratoriums on new air transport infrastructure.

3. Migrants as sustainability actors: contrasting nation, city and migrant discourses and actions

Claudia Fry, University of Exeter,

Although it is widely recognized that migration can have a substantial impact on societal transformations, potential contributions of migrants to sustainability are often overlooked in mainstream discourse on environmentalism and sustainability. Here we apply urban political ecology to an empirical case study of Malmö to identify current narratives of migrants and sustainability at scales 'in between' nation and city and actions of migrants. The study hypotheses that the lived experience of sustainability by migrants within urban destinations differ from dominant discourses of migrant populations within societies. We test and document divergence using data from 21 interviews with key stakeholders from the city and Swedish national level, an attitudinal survey of 895 migrants and non-

migrants in Malmö, Sweden; and a media analysis of local and Swedish national newspapers. The results confirm this divergence of perspectives culminating in new insights on the framing, making and barriers to migrants becoming agents of transformations towards sustainability. By exploring how migrants are embedded within local to national sustainability narratives in places, the study aims to illuminate the potential of migrants to play a transformative role in local and national sustainability policy and to construct ways towards more plural and inclusive approaches to sustainability.

Panel 159: Political Ecology, Geopolitics and the International II

Rosaleen Duffy, University of Sheffield and Jan Selby, University of Leeds

This double panel explores the intersection between political ecology and International Relations (IR). Political ecology as a field and approach typically combines a 'place-based' approach to socio-ecological relations (Blaikie 1985) with analysis of how these locally specific relations are shaped by global resources, financial and epistemic structures and flows, thus operating with what might be called a 'global-to-local' ontology (Selby, Daoust & Hoffmann 2022). By contrast, political ecologists have traditionally not paid great attention either to the ways in which inter-state, inter-societal and geopolitical dynamics shape patterns of environmental degradation and environment-related vulnerabilities and inequalities, or to the theoretical or normative implications thereof; political ecologists often speak of 'global political ecology' (Peet, Robbins & Watts, 2011) but only rarely of an 'international' or 'geopolitical' equivalent. Yet recent research on 'geopolitical ecology' (Bigger & Neimark 2017; Masse & Margulies 2020) and 'international political ecology' (Selby, Daoust & Hoffmann 2022) suggests that fuller consideration of international and geopolitical dynamics is crucial both to understanding contemporary environmental crises and vulnerabilities, and to thinking through how they might be addressed, especially in an era of renewed geopolitical rivalries and ailing multilateralism. The two panels on these themes will build upon this recent work, as well as on intersecting work within international environmental politics and critical geopolitics (Dalby 2020,; O'Lear, 2018; Dickinson, 2022), and on 'environmental multiplicity' (Corry 2020), to examine substantive, theoretical, methodological and normative issues at the intersection of political ecology and IR. The first session explores the theoretical perspectives, while the second explores these themes through empirical analysis of specific green transitions.

1. Hydrogen governance: How Germany's hydrogen geopolitics foster expansive bilateralism

Franziska Müller, University of Hamburg

Hydrogen technologies have advanced as a significant factor for green transformation strategies, with green hydrogen fostering decarbonisation in hard-to-abate sectors such as heavy industries. The expanding global hydrogen market is closely connected to a rapidly evolving global hydrogen regime, with global, regional, supranational, and national actors involved. Especially Germany has engaged in numerous strategic partnerships and memoranda of understanding, often with countries in the Global South such as Chile, Morocco, Namibia, or Saudi-Arabia. While many of these bilateral cooperations are promoted as 'win-win situations', providing green jobs, new export goods, clean energy, and industrial decarbonisation, severe socio-ecological risks prevail and underscore the need to underpin these cooperations with a norm set that emphasizes social and ecological justice. This paper explores the new forms of hydrogen governance and their normative underpinnings first by drawing back on polycentric governance to map the current constellations at the global and bilateral level. In a second step, I use the concept of "hydrogen justice" (Müller et al. 2022) to assess, how Germany's hydrogen geopolitics manifests in new constellations that foster an expansionist bilateral strategy, which downplays socio-ecological risks and promotes postfossil extractivism and green colonialism.

2. Green Capitalism after the 'Zeitenwende': The Ecological Conditions of Possibility of the German Energy Transition

Lukas Hüppauff, University of Hamburg

The premise of this paper is that the international political economy and ecology are dialectically connected and that integrating 'geopolitical ecology' leads to a deeper understanding of political-ecological dynamics and the conceptualization of IPE. While Political Ecology has accumulated a vast amount "of disparate, unconnected case studies" (Bakker 2015: 451), it lacks a systematic link between different political ecologies and formations of the global political economy. Simultaneously, "IPE has not quite fully come to grips yet with the question of how thinking ecologically transforms our understanding of what IPE is" (Katz-Rosene/ Paterson 2019: 4). First, it is argued that incorporating "ecological conditions of possibility" (Fraser 2022) of capitalism, makes a reconceptualization of the categories of IPE inevitable. Without integrating the political ecology of fossil energy, Neo-Gramscian IPE cannot properly describe historical shifts in hegemonic formations. However, without Neo-Gramscian theory, Political Ecology cannot explain why certain energy ecologies only manifest under certain political-economic formations. In a second step, it will be discussed how the environmental-geopolitical upheavals of the Ukraine war accelerates the move away from fossil capitalism to green capitalism. The German energy transition hints at the environmental-geopolitical, domestic, global, and ecological challenges to fossil capitalist hegemony.

3. Dam resistance, geopolitics, and the ecology in Southeast Asia

Kyungmee Kim, Stockholm International Peace Research Institute

Over the past two decades, geopolitical dynamics have played a pivotal role in shaping dam development in mainland Southeast Asia. The proximity to China's burgeoning dam building industry and the increased regional connectivity have facilitated a dam building

boom in the Mekong basin and Myanmar. The implications of large dams are profound for the environment, people, as well as inter-state relations. To comprehend the intricate connections between these varied impacts, a comprehensive exploration of multi-dimensional and multi-scalar approaches to researching dam resistance is essential. This article delves into geopolitics, identities, and class as main drivers of dam resistance at the regional, national, and community scales in the Mekong basin and Myanmar. Resistance drivers vary across scales and space, with river basins serving as symbolic spaces closely intertwined with these drivers. Emphasizing the validity of materialism in resistance across all scales, this study underscores that understanding how environmental changes wrought by dams are shaped requires not only a focus on water and politics but also a nuanced attention to materiality, transcending mere political economy considerations.

4. Unraveling Conservation Narratives Along the former Iron curtain between Finland, Russia, and Norway.

Ian Florin, École Polytechnique Fédérale de Lausanne

This presentation delves into the nexus of nature conservation and geopolitics through an investigation into the narratives surrounding ecological resurgence along the former Iron Curtain between Finland, Russia, and Norway. Examining the Green Belt of Fennoscandia, established in 2010 to create a protected area network across the borders of these countries, the study employs documentary research and nearly 70 interviews. It investigates how local communities use geopolitical discourse to advocate for conservation efforts, even within Russia. The study reveals two key findings. First, it demonstrates how narratives depicting Russia as both a failing state incapable of managing its environment and a partner in need of assistance in transitioning towards Western-style governance have been utilized to promote nature conservation. Second, it illustrates the dynamic shift in the discourse surrounding nature conservation as an alternative to geopolitical discussions following the 2014 annexation of Crimea. Amidst uncertainty in European policy towards Russia, this research offers key insights into the interplay between geopolitics and nature conservation. It challenges realist views on Russia in International Relations by emphasizing the connection between the two realms. However, it also cautions against idealizing nature as a universal platform for dialogue, noting its inability to entirely transcend political considerations.

Panel 633: Locating Social Identities in Political Ecologies of Urbanism

Subhadeep Das, University of Maryland

This panel explores the interconnected dynamics of urban development, redevelopment, gentrification, migration, marginalization, knowledge production, and environmental politics through the lens of social identities across the Global North and South. Drawing on analysis of case studies from Canada, India, and the Netherlands, the panel investigates how these processes create and/or shape urban spaces, identities, and power relations in the context of ecological changes. By employing ethnographic

methodologies and action-based research, the panel examines the narratives and experiences of diverse migrant and marginalized social groups to uncover the intersections between urbanization, displacement, subject formations, and environmental logics within a political ecology framework. Through collective discussion and engagement, the panel aims to foster dialogue among scholars, practitioners, and activists to promote more equitable and sustainable urban futures by challenging existing power structures and amplifying marginalized perspectives.

1. 'Cleaning up' the neighbourhood: The gentrification of queer ecologies in Toronto

Loren March, York University

This paper examines how processes of environmental gentrification disrupt queer urban ecologies, through a study of greening in several downtown neighbourhoods in Toronto, Canada. Following the 1990s, two decades of greening practices in the west end neighbourhoods of Wallace-Emerson, Bloorcourt, and Sterling Junction have produced geographies of exclusion wherein unruly 'toxic' beings have been vilified, policed, and targeted for removal. In this paper, fear is explored as a powerful affective force, used to justify various practices directed towards 'cleaning up' the neighbourhood. These practices serve to disrupt existing more-than-human relations, displacing and marginalizing inhabitants who are understood as 'invasive' outsiders and as part of an assemblage of waste that must be removed. A connection can be drawn between these longer histories of anxiety, fear, and displacement and more recent threats to queered communities of drug users, arriving in the form of the ongoing parks-led redevelopment project Reimagine Galleria. Reimagine Galleria posits the redevelopment of a local shopping mall and Wallace-Emerson Park into a so-called 'City Park Community,' excluding and threatening marginalized groups who identify and use the existing park as both a 'queer space' and a space of harm reduction.

2. "Are we living in a gas chamber?": The making of Millennial and Gen Z white-collar migrants' socio-environmental subjectivity to urban air pollution

Subhadeep Das, University of Maryland

India's National Capital Region (NCR) of Delhi has the world's highest air pollution levels. A combination of bourgeois urbanization, industrialization, and infrastructure development in and around Delhi-NCR has greatly contributed to extremely polluted air all year round, suggesting that urban air pollution is a product of urban "development." This bourgeois urbanism particularly offers diverse high-end economic opportunities as well as cosmopolitan "safe" spaces for people with different social identities. In exchange for these city-centric economic and social benefits, millennial and Gen Z (MGZ) white-collar migrants from various parts of India willingly pay the price for urban air pollution-related health hazards. Based on my lived experience in Delhi-NCR as a queer millennial white-collar migrant from a working-class family, I felt trapped in this air-polluted city because of the essentiality of my family's socioeconomic mobility and my queer freedom. Therefore, I ask, in which social and political processes do MGZ white-collar migrants' vulnerability and adaptive strategies for air pollution originate? By examining the life histories of MGZ white-collar migrants, I explore how India's bourgeois urban-centric development has

created "obvious" subjects of air pollution by shaping their ambitions, goals, and lifestyle choices, which can only be achieved in air-polluted urban settings.

3. Staging Urban Politics for Environmental Representation

Marian Counihan, University of Groningen; Marline Lisette Wilders, University of Groningen

Recently scholars, practitioners and activists have argued that the global response to climate change has been hampered by a crisis of (knowledge) representation. At the same time, political and urban scholars are increasingly identifying the 'repoliticisation' of the urban context, including the need to make use of urban context as a stage for civic activity which has global significance, reconstituting what - and whom - we consider as belonging to urban climate politics. In our contribution we present the results of action-based educational research addressing the question: how do we perform a politics of sustainability in the urban setting, and how can we do this in a way that overcomes the crisis of (knowledge) representation in responding to the climate emergency? We investigated how performance-based interventions in the public space are effective in magnifying marginalised voices, in response to climate and related social injustices. We analyse how this contributes to new forms of (embodied) knowledge production and communication, bringing new perspectives and ways of knowing from non-human, non-speaking or embodied sources into urban climate politics.

Authors' roundtable 605: Beyond precarious and colonial conservation

Ben Neimark, University of London and Ariadne Collins, University of St Andrews

Forests of Refuge: Decolonizing Environmental Governance in the Amazonian Guiana Shield, Uni of California Press. *Ariadne Collins, University of St Andrews*

Hottest of the Hotspots: The Rise of Eco-precarious Conservation Labor in Madagascar, Uni of Arizona Press. *Ben Neimark, Queen Mary, University of London*

Discussants: Anwesha Dutta (CMI - Chr. Michelsen Institute) and Robert Fletcher (Wageningen University).

Panel 155: Integrating ecology in political ecology research on agriculture

Klara Fischer and Fabian Bötzl, Swedish University of Agricultural Sciences

Agriculture is both a major contributor to, and significantly negatively impacted by, both climate change and biodiversity loss with implications for future food production and the

wellbeing of people. Agriculture is also an activity and land use where the social, political and ecological might be particularly intertwined. Research that aims to contribute to changes in global agricultural practices, and to build knowledge for more just and sustainable societies, requires both ecological and social science. As of yet, ecology, however, remains an underused discipline within political ecology as a field in general, as well as in agriculturally focused political ecology work. This panel engages with how to combine ecology with more traditional social science approaches to political ecology within the field of agricultural research. Based on presentations about pollination politics in the EU, soil fertility in Argentina and farmer autonomy in France we will discuss how ecological and social science approaches to agricultural systems and agrarian change might be theoretically and/or methodologically intertwined to produce knowledge for more just and sustainable futures. We will share experiences of successes and challenges in interdisciplinary work and hope to inspire further discussion on how to advance the integration of ecology with political ecology.

1. Soil nitrogen extraction and embodied nitrogen flows in Argentine soybean exports: A comparative study of three agronomic zones

Enrique Antonio Mejia, Stockholm University

The soybean is championed for its symbiotic relationship with nitrogen-fixing rhizobia as a potential solution to declining soil fertility. However, various nutrient budget studies at local, regional, and international scales have demonstrated, in the Argentine countryside, the obverse is true: soybean cultivation extracts soil nitrogen and these patterns are heterogenous within different agronomic zones. Additionally, the majority of Argentine soybeans are exported, which begs the question, where does extracted soil nitrogen go? Therefore, this study compares nitrogen flows from three case areas: the Southern Nucleus, Southern Córdoba, and the west of Northeastern Argentina. These cases not only represent varying degrees of soil nitrogen extraction via soybean agriculture, but also different local social-ecologies and histories of agrarian frontier expansion. By tracing nitrogen flows from the aforementioned cases to top importing countries and economic blocs, the results demonstrate that these processes need to be understood not as natural consequences of agronomic development, but as shifted costs within a political economy of asymmetric resources flows where negative social-ecological consequences are profoundly local. This study represents a novel interdisciplinary framework that draws from and complements existing nutrient budget studies while also interpreting these findings through a theoretical lens rooted in political ecological thought.

2. Whose pollinators? Whose pollination?

Florence Damiens, Klara Fischer, Riccardo Bommarco & René van der Wal, Swedish University of Agricultural Sciences

Observed biodiversity declines and degraded ecosystem services in agricultural landscapes have incited concerted ecological research, civil society campaigns and policy-directed efforts. This allowed wild pollinating insects to become a flagship for biodiversity conservation and food security. Despite these efforts, wild pollinators remain threatened. To shed light on this situation, we investigate the diversity of views on

pollinators at international, transnational and European scales. Building on interviews, documents, participant observation and the authors' background knowledge, we classify views on pollinators based on "life frames" (IPBES, 2022) embodied by key actors in policy spaces, including ecological scientists, NGOs, policy-makers, farming unions and businesses. We present how these views have emerged, with some institutionalised in policy over the past 30 years. We show how divergent views on pollinators reflect not only larger debates between diverse streams of biodiversity conservation, but also between conservationists and other actors competing over farmland-uses and farming systems. Using the European Union as example, we show how the institutionalised views reproduce a deeply ingrained nature-culture divide historically fostering industrial capitalism. In doing so, we shed light on some of the governance barriers that have limited imaginaries and the capacity to reverse wild pollinators loss, frustrating ecologists in the process.

3. Farmer autonomy as a bridging concept. Reflections from an interdisciplinary engaged research project in France

Floriane Clement et al. Dynafor, INRAE, Toulouse University

Several prominent agroecology scholars have called for transdisciplinary, participatory action-research to transform unjust and unsustainable food systems. We reflect on the methodological, theoretical and practical challenges such an approach raises, based on the case study of an interdisciplinary engaged research project on farmer autonomy and agroecology led in Southwest France. The project's focus on farmer autonomy aimed at re-politicising agroecology by paying attention to farmers' dependency relationships within dominant political, cognitive and economic structures and at engaging with a large diversity of farmers. Despite strong links between agroecology and autonomy, most studies on farmer autonomy have paid little attention to ecological processes. Based on qualitative primary data, we explore the relevance and limitations of farmer autonomy as a bridging concept between social and ecological science, as a boundary object among non-academic partners and as a rallying flagship for action. We therefore hope to contribute to several under-explored areas by political ecology scholars: better considering ecology while adopting a critical epistemological stance and conducting engaged research on farming systems in the Global north.

4. What is needed to integrate ecology and the social sciences on a theoretical level?

Klara Fischer, Giulia Vico and Riccardo Bommarco Swedish University of Agricultural Sciences

We were a group of social scientists and ecologists who were curious about how to find ways to work closer together and to learn about each other's fields. For this purpose, we initiated an interdisciplinary reading group on agriculture. The three of us who author this abstract initiated the reading group and also continued working together on a joint article. Conclusions from our collaboration include that ecologists tend to engage the social on an individual level, without engaging with social science research and that similarly, social science engagements with the natural often engage with nature without drawing on ecological theory. We also found that social scientists and ecologists studying the

same case are interested in, and see novelty, in very different aspects of that case. As a consequence, each discipline frames the other discipline as less central than the own for understanding relevant aspects of the case. This becomes a problem when such assumptions about collaboration remain unspoken. We concluded that time, humility and openness to other perspectives are key for fruitful collaboration.

Panel 607: Crises, Resilience, and Care II

Diana Eriksson Lagerqvist, Lund University

We are facing a triple crisis of climate change, biodiversity, and environmental pollution. Thus, in this two-part panel, we will delve into the interlinked concepts of crises, resilience, and care. Through this, we can make sense of current socio-ecological crises, find ways to navigate these, and move towards socio-ecological transformation and futures.
In the first part of the panel, we turn the attention to how socio-ecological crises can be understood and reimagined through political ecology and feminist frameworks. In this part, we will be grappling with the following questions. How can we with feminist degrowth scholarship rethink resilience and how can such reconceptualization help understand what potential resilience holds for socio-ecological transformation? (Catia Gregoratti: Martina Angela Caretta, and Mikael Linnell) And how can matrescence – the transitional period of becoming mother – and thinking of nature as feminist politics help us understand ecologies of crises as relational and permeable? (Alice Hill-Woods)
In the second part of the panel, we ask ourselves how socio-ecological crises may be handled with care. By bringing the concept of environmental care to the fore, we will explore the following questions. How can we turn 'moments of crises' into 'moments of care' by thinking of crises as generative moments of rupture that might foster solidarity and new, very needed, visions for the future? (Chiara Camponeschi) How can environmental care and care ethics, when situated with holistic recognition of all beings' interdependence, be a critical tool to help us understand and interrogate reflective learning, temporality, and gendering expressed in care relations? (Christie Nicoson and Markus Holdo) And how can environmental subjectivity, care, and desire practised in an ecovillage help us understand how we can depart from socio ecological crises towards envisioning and enacting eco-utopian futures? (Diana Eriksson Lagerqvist)

1. Turning Moments of Crisis into Moments of Care: An Integrative Approach to Polycrisis

Chiara Camponeschi, York University

We live in an age of polycrisis. Our communities, and our systems, are stressed by a growing number of concurrent threats. Whether it's the Covid-19 pandemic or accelerating climate breakdown, recent events show us with unmistakable clarity just how deeply interdependent we are. Yet this interconnectedness remains largely unacknowledged and misunderstood––if not outright dismissed––by our institutions. In recent years, calls for recovery and transformation have been at the heart of virtually every announcement made by governments and multilateral agencies, yet their action plans continue to be based on an idea of resilience that is out of step with the magnitude of the problems we face. In addition, the lens of crisis continues to be invoked to

reinforce a reactive stance to change––one driven by enclosure, disconnection, and austerity. This attitude erodes the ability of communities to protect themselves while amplifying feelings of hopelessness, burnout, and mistrust in society. To meet rapidly changing needs on a rapidly changing planet, we need new narratives, new conceptual frameworks, and new tools to guide the design and delivery of meaningful solutions. Through a place-based, use-inspired, and policy-relevant approach, this paper argues that crises can be richly generative moments of rupture that reveal contradictions, stimulate solidarity, and inspire new visions. It connects disciplines and practices that have much to contribute to the conversation about transformative change but that continue to be excluded from formal consideration, and it builds on the 'integrative resilience' model (Camponeschi, 2022) to answer a key question for the age of polycrisis: How do we shift from a culture that normalizes crisis to one that values care?

2. Environmental care: the critical potential and limits of the concept

Christie Nicoson & Markus Holdo, Lund University

Environmental scholarship needs conceptual tools for critical engagement with current policymaking and practices. In this paper, we explore the critical potential of the idea of "environmental care." Existing approaches to care within environmental scholarship vary. Some see care as instrumental to a universal 'good life'. However, for others, an ethics of care applied critically and reflectively politicizes the distribution of care responsibilities and envisions post-humanist kinships of care. Taking Hammond and Hauknost's call to move beyond the empirical conceptualization of "the environmental state" as a starting point, we ask: what can we demand from the concept of care as a critical tool? Engaging with previous research, we argue that a critical concept of environmental care begins with a situated and holistic recognition of all beings' interdependence. From here, we engage with questions around (1) reflective learning - building on failure, cycles of life, and decay involved in care relations; (2) temporality – engaging with prefigurations of sustainable ways of life; and (3) interrogating essentialized, gendered assumptions about care relations. When understood this way, critical environmental care visiblizes hitertho invisibilized labor and pluralizes needs, practices, and values; it also holds care advocates accountable to engaging with carefully contextualized places and moments of care.

3. Navigating Present and Future Utopia in the Ecovillage: The Politics of Environmental Subjectivity, Desire, and Care

Diana Eriksson Lagerqvist, Lund University

Recently, significant scholarly attention has been directed towards ecovillages and how these demonstrated sustainable ways of life practice utopias. However, few attend to the utopian Ecovillage at the level of subjectivity. Elsewhere, environmental subjects – subjects that 'care for the environment' – have been studied in the field of green governmentality but tend to focus on how subjects are produced in governmentalities while obscuring the subjects' agency in the subjectivation process. Based on ethnographic fieldwork in the Ecovillage Los Portales and by bringing together green governmentality, posthumanism, and utopian studies, I seek to attend to environmental subjectivity formation as technologies of the self shaped by the Ecovillage's regimes of practices. As I conclude, the self-governance of the Ecovillage is articulated as care for

the self and (non-human) others. In this, reducing carbon emissions is not the moral aspect of self-conduct, but rather 'living on resources' and sustaining the community. Through the three regimes of practices – circularity, self-sufficiency, and reciprocity, members' care is articulated as a common sense while anticipating and practising a desirable future. For volunteers, these regimes of practices offer to explore (environmental) desires, ways of life, and desirable futures. Thus, through the Ecovillage, present and future utopia can be navigated.

Panel 363: Building a Political Ecology of Education: Critical Dialogues on the Politics of Knowledge

David Meek, University of Oregon

Although the field of political ecology has thrived and evolved in multiple directions since its inception, its internal coherence and theoretical contributions have long been the subject of debate (Vayda and Walter 1999). Watts, for example, declares that political ecology has in "a sense almost dissolved itself…as scholars have sought to extend its reach" (Watts 2000: 592). Yet, the last several decades have shown that political ecology is not a "project in intellectual deforestation" (Greenberg and Parks 1994), but perhaps more akin to intercropping, where dynamic and complex systems are built by creating feedback loops between interconnected theoretical approaches.

This session seeks to highlight the contributions of, and connections between, two emerging areas of scholarship in political ecology: those of health and education. The political ecology of health perspective explores how political interests, economic forces, and ecological processes intersect to shape population health (Cutchin 2007; Hanchette 2008; King 2010). The political ecology of education focuses on how political economic processes, power and resistance structure educational opportunities about the environment, training in land management, and the landscape itself (Lloro-Bidart 2015; Meek 2015; Moore 2017). This session is grounded in the belief that unexplored linkages between these evolving perspectives might shed light on the role of political economic and ecological processes in shaping landscapes of health inequality, health interventions, and educational environments.

1. Rural School Closures and Socioterritorial Movements in Brazil: Agrarian Change and the Spatiality of Resistance

David Meek, University of Oregon; Bernardo Mançano Fernandes, State University of São Paulo & Nino Sobreiro do Filho, National University of Brasilia

Brazil's rural educational system is in tumult. Over the last twenty-five years, the Brazilian government has closed more than 70%, or 140,000, of its rural schools (Meek et al. 2023). Students from these rural communities are being bussed to urban centers, forcing rural-urban migration and upending livelihoods and social systems. Rural Brazilian social movements have decried these school closures, arguing that they are occurring disproportionately in Afro-Brazilian communities. These school closures are driving

processes of environmental degradation, as agroindustrial corporations are buying up vacated farms, creating monocultures as part of a systematic land grab. Through a combination of geospatial and qualitative research methodologies, grounded in fieldwork in three Brazilian Amazonian states, this presentation explores 1) What are the social, political, and economic forces driving these school closures?; 2) How do rural school closures impact local communities and ecosystems?; 3) How is civil society resisting these closures? By addressing these questions, our presentation makes a critical intervention in what agrarian studies scholars term "the agrarian question," a century long debate concerning the permanence of small-scale farmers in the face of expanding capitalism (Bernstein 1996; McMichael 1997; Akram-Lodhi and Kay 2012).

2. Expanding the Global Narratives of Environmental Education: A Critical Discourse Analysis of the Literature Highlights Next Steps

Lee Frankel-Goldwater, Department of Environmental Studies, University of Colorado Boulder

Environmental education (EE) practiced locally, and EE narratives shaped globally, are dynamic and in constant conversation. They influence each other across social contexts, leaving room for political, economic, and ideological power dynamics to influence how we practice, make decisions around, and study EE. As scholarship plays a critical role in these knowledge pathways, a critical awareness of scope and focus of current knowledge is necessary to overcome the marginalization of EE perspectives and practices that may not align with related global narratives (e.g., education for sustainable development [ESD]). To support this aim, I engaged in a critical discourse analysis of the EE scholarly literature using the political ecology of education as a lens. In doing so, I searched the titles and abstracts of ten major scholarly EE journals, drawing on keywords at the intersection of political ecology and EE. Through these methods, I identified 683 articles published between January 2005 and August 2022. I analyzed all article titles and abstracts using mixed qualitative and quantitative coding, as well as memoing, and identified a range of practices, contexts, forms of knowledge production, and knowledge motivations across the articles. A key finding was that EE in formal educational settings (e.g., students in schools) was highly-represented, while community-EE in non-formal settings (e.g., for livelihoods and disaster preparedness) was infrequently-represented. There was also a disproportionate representation of work focused on EE in the "global north." As many global EE narratives (e.g., ESD) focus largely on non-formal educational settings, this signifies a gap in the literature, particularly relative to essential EE practices which may benefit marginalized populations. Through the discussion, I suggest next steps for scholars seeking to better inform research and policy around critically aware EE.

3. Teaching It Differently? School Textbooks and the (Post-)Growth Debate

Matthias Kranke, University of Freiburg

Although post-growth arguments are bolstered by robust scientific evidence, pro-growth discourses have remained remarkably persistent among the wider public. Why is that so? Engaging with and extending the social science literature on school textbooks, we assume in this paper that socialization processes that frame economic growth as

desirable play a key role in shaping children's worldviews. Contributions to the textbooks literature have typically focused on issues of peace and conflict, but disregarded the presentation of competing growth and post-growth discourses. We provide first empirical insights into this matter using a comparative discourse analysis of high school textbooks from three countries from both the Global South and North: Ecuador, Germany and Jordan. We expect textbooks from Ecuador, where the notion of 'Buen Vivir' has become a structuring feature of policy-making, to exhibit contents that resonate with post-growth debates. By contrast, textbooks from Jordan are unlikely to do so given the country's commitment to neoliberalism. Textbooks from Germany, finally, should sit in-between in terms of their post-growth ambition. Our analysis speaks to academic and policy debates in political ecology and beyond on the politicization of education, the pluralization of knowledge, the everyday normalization of economic growth and the pace of socio-ecological transformation.

4. Zine-making as radical pedagogy: Critical insights from teaching political ecology in geography education

Adrienne Johnson, University of San Francisco

Zines, which are self-published, do-it-yourself booklets, have long been used as a tool to disseminate anti-racist and revolutionary information to the masses. Containing bold images and text, they allow for the creative expression of ideas often considered 'fringe,' and are often used in anti-oppression, environmental justice, and mutual aid movements. Tapping into the transformative, subversive yet playful potential zines can have in spaces of higher education, geographers have begun to employ zine-making techniques and pedagogy in the classroom, seeing them as non-traditional ways to inspire radical learning and living. This paper builds on recent calls from geographers to use experimental and creative methodologies in research and classroom activities to engage in difficult pedagogical conversations, communicate research findings to non-academic crowds, and decolonize knowledges within universities. In this paper, I present findings from a research project which examines the pedagogical value of zines in political ecology teaching and science communication. It centers experiences associated with a semester-long zine assignment in a university political ecology course in 2021 and 2022. The paper explores how zines can be used as effective radical classroom tools to inspire critical thinking and provoke reflective dialogue and meaningful action based on spatial thinking and public research dissemination.

Discussion panel 327: How can political ecology inform Global Sustainability Goals for the Global North post-Agenda 2030/ the United Nations SDGs?

Jessica Hope, University of St Andrews

Political ecology is a fast-expanding and exciting field that advances our understanding of how ecologies and environments are co-produced by politics, society and power. Our field

combines interdisciplinary critical theory with a focus on justice and praxis, making it uniquely placed to contribute to agendas for socio-environmental transformation in response to climate change and biodiversity loss.

The starting points for this workshop are first, that a key piece of work done by the United Nations Sustainable Development Goals (SDGs) has been to introduce organisations and individuals in the global North to the idea that development goals are for them. Second, that organisations and individuals in the global North now need specific sustainability goals to combat the global environmental decline being caused by actions in the global North

As a panel convenor or presenter at Pollen, you have the expertise to a) explore whether sustainability goals specifically for the global North are needed and b) what those goals might be. Please come along to this workshop. You do not need to prepare a paper or presentation, rather bring your expertise, ideas and critiques. During this workshop, we will also discuss the following questions:

1. How many goals do we need?
2. What should they focus on?
3. Who else should we ask?
4. What timeline and roadmap do we need?
5. Who should develop them?
6. Where would be a good institutional home (the United Nations? A university? A newspaper?)

Panel 628: Metabolisms and Planning in the Urban

Julia Neidig, Basque Center for Climate Change BC3

1. (Re-)Thinking Urban Metabolism from the roots – (Re-)Assessing Paolo Soleris unbuilt futures

Serge Leopold Middendorf, University of Augsburg

In response to the POLLEN 2024 call, I aim to contribute to the exchange on theoretical-conceptual debates within the German-speaking context of Urban Political Ecology. My contribution uncovers a (pre)thinker hitherto unknown in the German-speaking scientific community, who delved deeply into the profound questions of human-environment relationships and the dynamics between urban living spaces and the "natural" environment and also the social, political and economic implications in a radical manner. Paolo Soleri was an Italian-born architect and philosopher who fundamentally challenged mainstream architectural and planning trends of his time, advocating for a "reversal" of human activities expanding into (presumed) "natural" habitats. His concept of "Arcology," a portmanteau of "Architecture" and "Ecology," envisioned unique habitats predominantly situated in extreme settlement zones. Soleri's ideas stood in stark contrast to the

prevailing „Zeitgeist" of his time, yet from a contemporary perspective, he appears surprisingly relevant, especially in light of his anticipation of anthropogenic climate change. In addition to presenting the concept of Arcology, my contribution aims to elucidate the essential premises of Soleri's thoughts, critically questioning and abstracting his specific understanding of metabolism in the special concept of Arcology to enrich discussions surrounding the concept of urban metabolism and Urban Political Ecology.

2. Contesting Knowledge in Urban Environmental Governance: Post-politics and Power Dynamics in Brussels' struggle for Green Spaces

Kato Van Speybroeck, KU Leuven

In Brussels, the city's entrenched urban governance paradigm foregrounds housing developments, with Brussels' urgent need for affordable housing being used to legitimate the destruction of nature. Certain citizens mobilize against this paradigm by calling for the preservation of fallow lands. Knowledge about green spaces is pivotal, both for challenging the status quo and putting forward an alternative environmental reality. Central to post-political thought is a depoliticized urban governance caused by expertise and scientific knowledge-driven administration. However, the knowledge dynamics of preservationists' struggles are rarely investigated in much detail. By looking at how various forms of knowledge are employed in the environmental struggle, insights are gained into how knowledge dynamics shape the politics of green spaces, what forms of knowledge are legitimated, and by whom. The argument draws on case studies set in Brussels. Empirically, this article is based on interviews with administrators and citizens, as well as analysis of media and policy documents from local governments, planning agencies, and preservationist groups. The results show that the contestation of knowledge is directly related to questions of power and recognition and, therefore, contributes to consolidating hierarchies of authority and the production of dominant narratives about green spaces and urban planning more broadly.

3. Pluralizing environmental values for urban planning: How to uncover the diversity of imaginaries about socio-natures from Vitoria-Gasteiz (Basque Country, Spain)

Julia Neidig, Basque Center for Climate Change BC3

Cities have pushed forward re-naturing initiatives in local planning agendas. Rationales for such interventions tend to follow context-detached instrumental framings often narrowed down to the economic benefits of nature's contributions to people (NCP). Yet, diverse urban residents often connect to other socio-nature framings that are associated with a plurality of situated values held for nature, including relational, intrinsic, and instrumental values. We used Q-methodology to explore the perspectives of urban residents' diversity of values for urban greenery and broader human-nature relationships. We base our study in the Basque city of Vitoria-Gasteiz, Spain (2012 European Green Capital) where we identify four distinct perspectives. Urban residents mostly perceive positive values for NCP as directly connected to their wellbeing. Yet, NCP that impact social bonds within their social community are perceived differently across the four perspectives. We conclude that decision-makers should pay scrutiny to include partly

differing perspectives about plural values of (urban) NCP in policymaking processes to assure just and inclusive outcomes. We call for intersectional and participatory approaches to better take into account the needs and preferences of marginalized groups. Special emphasis should be put on integrating relational values as they can play an important role in creating place-rooted connections with urban landscapes and the community.

4. Pumwani, Nairobi: at the margins of urban planning - at the center of urban history and politics

Jacob Rasmussen, Roskilde University

The oldest designated neighbourhood for Africans in Nairobi is undergoing rapid transformations, characterised by capitalist property speculation countered by collective mobilisations and ghetto greening initiatives. The traditional mud houses in Pumwani are exchanged for cheap high-rises, while community activists defend the commons at the riverbanks: residents are divided on whether to seek profit or fight for the identity of the neighbourhood. However, struggles over property and right to the city is not a new phenomenon, since its formation in the 1920s, Pumwani has been at the margins of the planned colonial city but central to struggles over urban regulation. This paper traces the historical layers of resident driven negotiations and claims on housing and property in Pumwani: from the colonial era over liberation struggles and early post-independence, through periods of self-help informalisation and multi-party democratic struggles, to market driven speculative transformations and environmentalism. The paper draws on historical examples and original empirical material from 15 years of ethnographic engagement in Pumwani. The longitudinal view provides politically situated insights on how urban policies on growth, health, and security have institutionalised transformations, while simultaneously displaying how residents' practices challenge regulations and inform new legislative practices.

5. Power and Justice in the Urban Foodscape: a case of Malmö's food retail sector

Sitha Björklund Svensson, Swedish University of Agricultural Sciences

Of the many ills of the global industrial food system, the concentration of power is at the centre. In Sweden, the food retail sector is characterised by an oligopoly of three corporations owning 90% of the market. This research highlights how the uniform food retail sector constrains sustainable food systems transformation. The food retail sector is the main link between farmers and citizens in the industrial food system. While farmers feel trapped in the 'treadmill' of agribusiness, consumer demand is an insufficient tool to achieve profound change. As local and national policy and planning continuously prioritises dominating actors, hegemonic structures in the food system are protected. Through the lens of political agroecology, this research investigates how local and national policy and planning govern the food retail sector, how this sector influences the urban foodscape, and what that signifies for food justice in Sweden. Based on a qualitative case study of Malmö, the methods include field observations, a literature review, foodscape mapping, and interviews with key stakeholders. Emerging findings

suggest local planning and national policy are dominant barriers to diverse and just food systems.

Opening plenary session: Towards plural and just futures

Time: 16.45-18.15

The official opening of the POLLEN24 conference will be held as a joint hybrid plenary with hosts at each of the venues joining a call broadcasting from all three venues simultaneously. Participants at all three conference sites will be in plenary, for Q&A during the hybrid session.

During the opening plenary, we will invite one scholar at each of the sites to give a short reflection on their experience of political ecology research in their context and what are the exciting directions they see the field heading in.

To close the opening plenary, we have a final message from the local organisers (also including logistics).

The session will be moderated by Mathew Bukhi Mabele, Mine Islar and Maritza Paredes

Speakers

Anwesha Dutta

Anwesha is a political ecologist and critical social scientist focusing on biodiversity conservation, forestry, and conflict in South Asia, with emerging research in Eastern Africa and northern Europe. Her work has notably contributed to understanding soft and discursive green militarization practices; the implications of global conservation targets (especially target 3) in non-compliance contexts; the complex relationships between displaced people and their environments through the conceptualization of 'displacement ecologies'; and foregrounding gender and labor in conservation, among other areas. Anwesha is also engaged in research, policy, and practice related to transformative justice and decolonization, with a focus on global forestry and conservation policies, including REDD+ and nature-based solutions.

Adeniyi Asiyanbi

Adeniyi is an assistant professor of geography at the department of Community Culture and Global Studies, University of British Columbia, Okanagan Campus. His research focuses on the political ecologies of forests, climate change and development, including interests in forest conservation and carbon forestry in West Africa and the governance of wildfires in western Canada. He has a PhD in geography from King's College London. His works have been published in Annals of the American Association of Geographers, Political Geography, Geoforum, Journal of Political Ecology and Environment and Planning A.

Grettel Navas

Grettel Navas is a political ecologist working on toxic pollution, public policy and environmental justice. She is assistant professor at the Department of Political Studies at the School of government, University of Chile & Associate Lecturer of the interdisciplinary Master's Degree in Planetary Health from the Universitat Oberta de Catalunya (UOC) in Barcelona, Spain. Grettel completed her PhD at the Autonomous University of Barcelona being part of the ENVJustice project. She holds a Master Degree in Socio- Environmental Studies (FLACSO- Ecuador) and a Bachelor Degree in International Relations (National University of Costa Rica). She is an active member of the Latin American Political Ecology Group (CLACSO-Abya Yala) and part of the Direction and Coordination Group of the global Environmental Justice Atlas (EJAtlas) that documents environmental conflicts and resistance movements worldwide.

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JUNE

Parallel session 4

Time: 08.00-09.30

Panel 301: Towards a Political Ecology of Roma Environmental Vulnerability in Europe

George Iordachescu, Wageningen University/University of Sibiu & Anwesha Dutta, Chr. Michelsen Institute

Throughout Europe, Roma communities are increasingly affected by environmental degradation, extreme weather phenomena and climate change. Often pushed to the systemic edge, the livelihoods of Roma groups have been, in recent decades, negatively impacted by land alienation and land tenure disputes, which unsettled their socio-ecological lives (Filčák 2012). Many recent policy attempts to address environmental crime on the continent, such as illegal logging and poaching, target predominantly poor Roma groups who are highly dependent on natural resources for their livelihoods (Iordachescu & Vasile 2023). Often, they are labelled as scapegoats for a range of environmental crimes (Dorondel 2016) and are disproportionately affected by criminalisation attempts and environmental law enforcement (Neag 2022). Moreover, recent urban restructuring processes have pushed Roma communities to the margins (Vincze & Zamfir 2019), usually near wastelands (Heidegger & Wise 2020), depriving these people of essential services such as sanitation and clean water (Harper et al. 2009), and limiting their access to jobs, education and healthcare (Anghel & Alexandrescu 2022). Scholarship in environmental justice or urban studies shows that evictions (Lancione 2019) and environmental racism make Roma even more vulnerable to climate change (Alexandrescu et al. 2021). Moreover, throughout the European continent, ongoing and planned projects to expand protected areas are progressively impacting Roma communities (Iordachescu 2021), depriving or limiting their access to timber and non-timber forest products, which have often constituted the basis of their livelihoods (Dorondel 2009). Despite being increasingly affected by these socio-environmental conflicts, Roma people and their struggles have received little attention from political ecology and human geography research looking at European contexts and processes. This panel aims to advance discussions on the mechanisms of invisibilisation which intensify the vulnerability of Roma communities to climate change, to unpack the environmental racism associated with criminalisation and environmental law

enforcement, and finally, to explore pathways towards just conservation and restoration planning in Europe.

1. Logging for Life: The GreyZone of Environmental InJustice in Extractive Industries

Oana Rusu, University of Sibiu; Ioana Bunescu, University of Sibiu; Bogdan Vatavu, „Lucian Blaga" University, Sibiu; Alice Iancu, University of Sibiu & Irina Velicu, University of Sibiu/Centre for Social Studies, University of Coimbra

For over two decades, Romania has been a frontier of timber extraction in Europe. Social media and performing arts played a crucial role in exposing the depth of the problem of deforestation, dissecting the unruly coalitions and putting the forest crisis on the public agenda. Various socio-ecological injustices are associated with illegal logging: habitat destruction, loss of livelihoods, workforce precarization, energy poverty and the growing violence affecting a large rural population dependent on timber, especially vulnerable groups such as the Roma. Here, we use the concept of ´greyzone´ (or complex complicity) from transitional justice studies to analyze the increasing violence in conflicts over resources: we look at the theatre play ´Verde Taiat´ sifting murders in the forestry sector. We discuss the normalization of extractive violence in ´sacrificial zones´, often referred to in the literature on ´environmentalism of the poor' and associated with social/cultural and community corrosiveness or disarticulation/annihilation. While slow violence can be the ´invisible´ deadly accumulation of toxic pollution – so too, a 'vulgar banality' of suffering can remain hidden in plain sight, part of the routinized everyday life, pinning Roma people down below their actual mental and somatic potential through denial of basic needs. Contributing to ´emotional political ecology´ research, we engage with the political role of traumatic experiences and emotions in conflicts over resources.

2. From Planetary Mines to Planetary Slums: The ReProduction of Vulnerability in Dăroaia

Filip Alexandrescu (Institute for the Quality of Life, Romanian Academy), Ioana Bunescu (University of Sibiu), Gabriel Girigan (University of Sibiu), Ionut Codreanu (University of Bucharest), Oana Rusu (University of Sibiu), Bogdan Vatavu, „Lucian Blaga" University, Sibiu; Claudia Șerbănuță, „Lucian Blaga" University, Sibiu; Alice Iancu (University of Sibiu) & Irina Velicu (University of Sibiu/Centre for Social Studies, University of Coimbra)

The Roma community of Dăroaia located in the Western Carpathian Mountains is an emblematic case of transition and deindustrialization. Neighbouring a controversial open cast mining project, Dăroaia emerges as a ´planetary slum´ recently affected by a severe flood which displaced 200 of the 1000 residents. Such slow violence and structural vulnerability failed to be placed on the public agenda which led to further invisibilization, neglect, and vulnerabilization. We ask: how has environmental vulnerability and injustice in Daroaia been constructed historically and politically? What socio-political and economic factors contributed to it? The historical emergence and consolidation of vulnerability is captured in this paper through the registers of historically unequal distribution of environmental bads, of institutional (mis)recognition, the post-socialist erosion of (community) capabilities, as well as processes of racialisation and undervaluation of communities with lowered employability and adaptability to the free market. We also draw on recent research that distinguishes between individualist and

communitarian approaches to highlight little-explored dimensions of vulnerability. Methodologically, we build on archival research, interviews, surveys and ethnographic information on the Dăroaia community to develop an "extended case" of vulnerability formation. Our results show how the community emerged within a supra-local (mining) regime and how it paradoxically expanded at a time of neoliberal industrial abandonment. We also show how it was almost washed away during the July 2021 flood and was subsequently re-vulnerabilized. The latter takes place within an emerging gentrifying context that can further the invisible reproduction of vulnerability through stigmatisation, racialisation and exclusion of the Roma.

3. Mapping the Research on Roma Environmental Justice - Eastern European scholarship in focus

Claudia Șerbănuță, „Lucian Blaga" University, Sibiu & Bogdan Vătavu, „Lucian Blaga" University, Sibiu

Political ecology research looking at the struggles of Roma people for a healthy environment and secure livelihoods is still catching up with the already developed discussions in urban studies, sociology and social justice emerging from Eastern European contexts. This paper focuses on these ongoing discussions to bring to the fore issues of environmental injustice experienced by Roma communities by using the critical lens of Library and Information Science. Utilizing the Systematic Literature Review (SLR) methodology to synthesize existing knowledge in this context, we delve into the realms of funding, conducting research, types of publishing, and public outreach. Aiming to identify gaps and patterns of existing knowledge, our study comprehensively maps both theoretical developments, compelling empirical research and grey literature at the intersections of environmental justice with political ecology across Eastern European countries. We compile a thorough inventory of methods and directions employed by researchers, and we explore critically the geographies of knowledge formation engaging with the marginality of various Roma communities. This approach contributes to the development of a more nuanced understanding of the research practices in the context of environmental justice in Europe by contextualizing the complexities of knowledge formation. The research is part of the EcoJust research project, which explores tensions between conventional and alternative approaches to environmental injustice.

4. Confronting the "Nature" of Illiberalism: Environmental Justice and Roma in Hungary

Jutka Bari, Hiszako Indie Nonprofit Agency and Jonathan McCombs, University of Wisconsin Eau Claire

This presentation highlights the efforts of Hiszako Non-Profit to secure just living environments for Roma across illiberal Hungary. The centralization of power in the Fidesz regime presents challenges to realizing safe and healthy environments for Roma. This presentation details some existing cases of environmental racism experienced by Roma. The first is an ongoing lawsuit filed by plaintiffs from a Roma community living near a Unilever chemical plant. The Roma community organized to protest health hazards, citing higher than-average cancer rates. In this case, changes to the environmental protection law brought by the Fidesz government protected the economic interests of polluters, and

may prove to be a barrier to the realization of justice for the community. In Recsk, a small settlement in Northern Hungary, the government permitted a mine near the settlement, requiring exploratory blasts by the Fidesz-backed mining company. Not only were Roma houses damaged as a result of the blasts, but the mine also required tree-clearing, making the area more amenable to soil erosion. As a result, unexpected rainfall caused a mudslide in the area, filling the settlement with mud and damaging the living spaces of the Roma inhabitants. Both cases we argue highlight the difficulties of realizing environmental justice in Hungary. To remedy this, we describe Hiszako's efforts to promote democracy through environmental justice. Hiszako has developed the Green Platform to promote the interests of green democracy through participatory action research. They have also called for a litigation framework to challenge environmental injustice in Hungary.

Panel 617: Himalayan political ecologies

Dil Khatri, Southasia Institute of Advanced Studies and Swedish University of Agricultural Sciences

Despite being a younger geological formation of the earth, the Himalayas encompass a unique blend of geographical, ecological and cultural diversity. Yet, the region has also been a hotspot of poverty embedded in historical social inequality and geographical adversities. During the 1970s, there emerged a global debate about environmental degradation in the Himalayas and mainstream explanation established the relation between poverty and environmental crisis. The work of critical scholars including Pears Blaikie provided a political-economic explanation for the crisis and provided an alternative explanation (see Blaikie and Brookfield 1987). Such political economic explanations not only laid the ground for political ecology as a new theoretical field but also paved the way for people centric approaches to address environmental problems. The participatory approach taken in forest and water policies resulted in positive results in addressing the ecological concerns. As the contribution in this panel shows, the long-term political processes (decentralization policy and local institution development) were instrumental for positive environmental and livelihood outcomes. However, the region encounters new forms of challenges posed by climate change, developmental interventions and market penetration resulting in growing contestation over access to environmental resources such as water (Covacs et al. 2019) and forests (Khatri et al. 2022). In this panel, researchers examine these new challenges and contestations and their implications for equitable access to and distribution of environmental resources.

1. Military strategies under the climate security umbrella: rivers and forests under threat

Corinne Lama, International Institute for Social Studies, The Hague

Climate security discourses and practices are driven by a range of concerns, ranging from concerns for military deployment in a context of climate change to loss of life and livelihoods from extreme weather events. Climate security fuels an increased engagement of the military-industrial complex with climate change. An underexplored

element of this engagement relates to the fairly recent rise of military involvement in the protection of 'vital infrastructure'. This paper builds on empirical work in Nepal and foreseen empirical work in Myanmar. Involvement of the military in the protection of hydropower dams is commonplace in Nepal. The question is whether increased importance of forests in economic terms (carbon markets), as well as in mitigating climate change (carbon sinks) increases the strategic importance of forests, leading to additional involvement of the military. In turn, conservation actors and groups concerned with deforestation increasingly present forests as vital infrastructure, due to their contribution to carbon capture, economic benefits and human well-being. Similar tendencies have become common to conservation, such as in anti-poaching measures (Green Wars). In Myanmar the entanglement of the military and forest industry is a reality since decades; does Nepal, and do other countries, stand to bear a similar future?

2. From commons to commodity: how neo-liberal water management practices affect access to water by marginalized users

Kamal Devkota, University of Leuven

The initially predominantly state-centric water management and governance model in Nepal has gradually shifted towards community-based management practices. This is now gradually embracing the neoliberal framework through the commodification and privatization of services, facilitated by bigger infrastructures and institutional change. This profound shift has significantly altered the landscape of water access, especially within the rapidly urbanizing small towns. This study has delved into the process of neoliberalizing water in rapidly emerging towns in Nepal and critically examines its ramifications on water access by marginalized communities. The analysis encompasses three key dimensions—infrastructure, institution and distribution to discern how access to water is differentiated across socio-economic and geographic lines. The preliminary findings from two case study towns revealed that, the implementation of bigger water infrastructure introduces novel possibilities but simultaneously disrupts established norms and traditions related to water distribution. They do not only create indebted water users but also commodify water, thereby disrupting the fair distribution and weakening the institutional mechanism for water governance. The ensuing dynamics contribute to the inequality in water access, placing a disproportionate burden on marginalized communities, particularly the urban poor, periphery dwellers and communal tap users.

3. Discourses shaping Human-Wildlife Conflict in Farming Landscapes in the Himalayan Region

Binod Adhikari, Swedish University of Agricultural Sciences

The world is witnessing a critical loss of biodiversity, leading to significant consequences for both humans and wildlife. In Nepal, predominantly an agrarian country, the numbers of rare species are declining, while conflicts between humans and wildlife are growing, creating immense pressure on farm-based rural livelihoods. This has raised the crucial challenge of effectively governing human-wildlife interactions. Conservation actors often attribute conflicts to habitat disturbance, resource competition, and local intolerance, but our study aims to delve deeper. This paper analyses human-wildlife conflict discourses

and local perspectives using data from in-depth interviews, policy reviews, and stakeholder dialogues. By dismantling the discursive framing of conservation actors (state bureaucrats and non-state), we explore how their knowledge, power, and ideas shape and control the changing human-wildlife relationship. Our study reveals that the narratives about wildlife conservation propagated by conservation actors, heavily influenced by global conservation goals, obscure the perspectives, needs, and evolving socio-ecological circumstances of local farmers. The policy discourse is dominated by ecocentrism, rooted in the assumption that locals always pose a threat to wildlife. Our findings suggest that local communities play a central role in maintaining coadaptation with wildlife within the shared landscape, contributing to achieving longer-term goals, thus policy need to move beyond protectionists discourse.

4. Why institution development is important for long-term positive outcomes of restoration: Lessons from the history of Nepal's community forestry development

Dil Khatri, Southasia Institute of Advanced Studies and Swedish University of Agricultural Sciences; Govinda Paudel, Southasia Institute of Advanced Studies; Sajjan Regmi, Southasia Institute of Advanced Studies and Harry Fischer, Swedish University of Agricultural Sciences

Forest and landscape restoration has become a key environmental policy objective to sequester atmospheric carbon, preserve biodiversity, and support the livelihoods of rural populations. A growing body of literature argues for the importance of community participation (community institutions) to achieve positive ecological and livelihood outcomes of restoration interventions. Nepal's community forestry has been regarded as a successful example of decentralized forest governance, which research shows has resulted in both positive ecological and social outcomes. Yet, existing literature has paid limited attention to documenting the process of community institution development. We document a mutually influential relationship between forest restoration interventions and community institution development process drawing on the history of community forestry development in Nepal. Tree planting initiatives were undertaken during the 1960s and 1970s as a response to the wider concern of Himalayan Environmental Degradation (deforestation). With the initial failure of donor funding and government-led afforestation projects, donors began to channel interventions through community institutions. Agendas for restoration were thus central to the development of both community-level institutions as well as broader policy frameworks for community forestry in Nepal. In turn, the further strengthening of community forestry institutions from 1990 onward led to a positive long-term outcome in terms of recovery of the once degraded mountain landscapes along with meeting local livelihood needs. At the same time, community institutions with decision-making authority continued to redefine the local restoration priorities and direct interventions toward local needs. We argue that Nepal's experience of community forestry development provides important theoretical and policy insight for achieving people-centric restoration and supporting long-term positive outcomes for humans and the environment in the context of current global agendas for forest restoration and other nature-based climate solutions.

Panel 375: At the Intersection of Community Economies and Convivial Conservation I: Blue Economy

Elizabeth Barron, Norwegian University of Science and Technology; Louise Carver, Lancaster University/TBA21 Academy; Kevin St. Martin, Rutgers, The State University of New Jersey; Ella Hubbard, Sheffield University; Dhruv Gangadharan, Rutgers, The State University of New Jersey; Elaina Weber, Norwegian University of Science and Technology

The fields of diverse economies (Gibson-Graham and Dombroski 2020) and convivial conservation (Büscher and Fletcher 2020) focus on extant and emerging forms of economy that foreground ethical interactions among humans and nature, thus contributing to eco-social transformation. Diverse economies emerged from the feminist critique of political economy as "capitalocentric" (Gibson-Graham 1996) and an assertion that economy should be seen instead as a diverse field and a site for political engagement, transformation, and the liberation of economic agency "here and now" (Gibson-Graham 2006). Scholarship in the field has been increasingly attentive to the relationality between economies, nature and the effects of climate, biodiversity and ecological crises (Barron 2015, Gibson-Graham, Hill and Law 2016, Miller 2019, Barron 2023). Convivial conservation centres on liberating conservation from capitalocentrism (Büscher and Fletcher 2020), building on an expansive political ecology literature that traces neoliberal, and at times neo-colonial dynamics, of a conservation sector increasingly shaped by capitalist relations, mechanisms and logics (St. Martin 2005, Bakker 2010, Büscher, Dressler & Fletcher 2014). This two-panel session will explore the possibilities and challenges of a research agenda at the intersection of Diverse Economies and Convivial Conservation across marine and terrestrial contexts. We aim to create a space for thinking collectively about the possibilities and problematics (both diverse and convivial) which can be drawn between these two areas of scholarship, practice and activism.

1. Artistic Research Performing a Convivial/ Community Blue Economies

Louise Carver, Lancaster University/TBA21 Academy

Convivial conservation advocates for transformative change addressing structural drivers of the capitalist political economy that is both the root of biodiversity loss and constrains mainstream consensus in conservation policy. No doubt, neoliberalism shapes the dynamics between state-based conservation investments and wider economic development agendas. This is true of Small Island Developing States like Jamaica, which prioritises the growth of coastal tourism at substantial environmental cost under conditions of permanent austerity in a post-colonial 'plantation economy'. Coastal tourism is becoming re-valorised within the new investment and policy regime of the "blue economy", promoted by financial institutions and with concerning implications for coastal conservation, marine spatial planning and environmental justice. Yet notwithstanding the material components of these dynamics this research proposes the nascent "blue economy" is a concept worth struggling over and one in which already existing economic difference and diverse and community blue economies can be found. This talk presents emerging research in north east Jamaica with cultural and artistic partners that looks

towards performative acts of reading for (blue) economic difference that in part works to 'take back the (blue) economy'. It tentatively suggests that politicising, tracing and enacting diverse "blue economies" might simultaneously make possible more convivial marine conservation futures.

2. Resisting "Capitalism-at-Sea": The Ontological Politics of Shrimp in Tamil Nadu, India

Dhruv Gangadharan &Kevin St. Martin Department of Geography, Rutgers, the State University of New Jersey

Oceans are spaces of difference, e.g. in how coastal communities have maintained "other" fishing economies. Yet, such communities are subject to forms of enclosure in the "Blue Economy". Critical scholars point to developmentalist and fortress conservation imperatives of the Blue Economy, and how it recapitulates forms of economic expansion, coupled with environmental injustice. Moreover, an inevitable "capitalism-at-sea" is coming into analytical focus, displacing prior investigations into the other economic possibilities. We address this foreclosure with an approach that doesn't presume such capitalisms, and expose the contingencies of ongoing capital-centering practices in fisheries. We apply this to coastal shrimp aquaculture – a sector replete with community displacement and environmental impacts – in Tamil Nadu, India. Yet, competing discourses on shrimp from various actors represent different meanings of farmed shrimp as seafood and an alternative to wild-caught shrimp, foregrounding diverse relationships between shrimp, people and the sea. We investigate how shrimp are understood, beyond the ontologies of a global commodity, to disrupt the singular trajectory of "shrimp aquaculture" and create openings for the enactment of other (ontological) politics. We argue that seafood as such remains an unmarked terrain of struggle that might animate coasts in ways that broaden the horizon of blue economies.

3. A Blue Doughnut: Indigenous Culture Supporting a Safe and Just Space

Crystal Drakes, University of the West Indies-Cavehill, Barbados.

Small island developing states rely on marine environments to sustain livelihoods. Tensions between infinite economic gains and vulnerable, finite ocean resources suggest a paradigm shift away from economic growth is needed to achieve sustainable blue economies. This study developed a 'Blue Doughnut' (BD) for Barbados showing the island has overshot most of its marine ecological limits while leaving many unmet social needs. Scenario systems model for an agnostic growth future showed bringing the BD back within a safe and just space is supported by specific climatic, socio-political, and economic conditions — low global emissions, shared power structures (governance) and cooperative economic systems. In the absence of growth, strong indigenous culture was a dominant system driver promoting healthy ecosystems. Overall, the agnostic growth lens helps imagine new ways of social organization for sustainability. Moreover, the safe and just scenario underscored the role local culture plays in restoring marine habitat loss, addressing ecological overshoot and the potential for convivial conservation. The scenario shows how trust, reciprocity, and sacredness, integrated with social power, community economies and post-capitalist subjectivities are reinforcing socio- ecological system design elements. Indigenous culture appears to be a critical, yet overlooked aspect to how regenerative and distributive economies can be organized.

4. Discussant: Sebastian Linke, University of Gothenburg

Panel 265: Political Ecologies of carbon removal, net zero and climate delay IV

Wim Carton, Lund University

This fourth session in the stream of sessions entitled "Political Ecologies of carbon removal, net zero and climate delay" focuses on barriers and opportunities to achieve net zero in a just manner. See the first session for a description of the entire stream.

1. An agenda for a progressive political economy of carbon removal

Duncan McLaren and Sara Nawaz, UCLA

As the failures of forest-based offsets continue to make headlines, it is increasingly recognized that a market model for carbon removal is deeply flawed. Yet, with a growing set of novel, more durable carbon removal technologies garnering venture capital funds, it appears that this sector may be poised to repeat previous errors. But if not via markets, how else might a carbon removal sector grow? This paper presents findings of an expert dialogic deliberation conducted in June 2023 that aimed to map possible 'progressive' configurations of a carbon removal sector. Experts drew from a range of academic, policy, creative and community organizing backgrounds—although geographic diversity was limited, with all participants from the Global North. Results suggest three sets of priorities for a more just, democratic, and effective long-duration carbon removal sector. These include (1) incentivizing carbon removal for the right reasons and scale (e.g., transparently linking removals to what is truly 'hard to abate', as defined via participatory processes), (2) moving beyond markets and private ownership (e.g., creating 'pooled' mechanisms for accounting for removals), and (3) making carbon removal a tool for procedural, distributive and reparative justice (e.g., implementing carbon removal as a form of climate reparations).

2. Greenwashing and its preconditions: A critical approach to the study of green claims

Andreas Roos, Lund University

Studies have shown how 40% of green claims concerning commodities and technologies can be characterized as greenwashing. While there are numerous definitions of greenwashing, there is currently no approach to researching greenwashing anchored in the philosophy of science. The purpose of this paper is to offer a realist account of greenwashing. This account is coupled with a methodological approach for not only exposing corporate- and government claims but also to situate such claims as part of a broader social and ecological dialectic in history. Drawing on critical realism, I use retroduction as a mode of inference to identify three preconditions for greenwashing. These are i) the separation of – and the relation between – transitive and intransitive

objects of knowledge, ii) conflicting forms of valuation and their resulting social relations, and iii) the modern human-environmental relation characterized by ecological instability and crisis. I briefly demonstrate the significance and dynamic interplay of each of these preconditions in the case of the oil corporation Preem's greenwashing campaign(s) in Sweden. The approach is intended to be used and further developed by political ecologists in collaboration with activists, indigenous peoples, and/or NGOs.

3. Biochar as logistics: The political economy of carbon removal development in Denmark

Nikolaj Kornbech, University of Amsterdam

Political ecologies of carbon removal are co-produced by scientific and engineering practices, which are in turn affected by the political economy of innovation regimes. How current innovation regimes condition carbon removal development towards particular technical and economic outcomes is not well understood. This paper presents a case study of the ongoing development of pyrolysis plants and the wider biochar value chain in Denmark, which is central to the government's 2030 climate plan for agriculture. Drawing on interviews, conferences, and published documents, and inspired by recent theory on the role of logistics in the capitalist production of nature, I analyse the development of biochar as a logistical operation. I show how the search for profitable business models leads developers to link existing technologies in ways that reconfigure flows of biomass across the energy, agricultural and waste treatment sectors. Under the Danish state's innovation regime, which funds private sector biochar development yet fails to plan for financial, infrastructural and legislative conditions that would make it serve explicit socio-economic goals, biochar systems become shaped by attempts to embed them in existing infrastructures, appealing to the speculative possibility of increasing the value of potentially stranded assets such as industrial-scale manure treatment, fossil-fuelled cargo ships and gas pipelines. In this specific political ecology of biochar, the pursuit of narrowly framed mitigation targets depends on a revaluation of fixed capital that reproduces the extractivism inherent to capitalism's current production of nature.

Panel 32: The Pluriverse of transitions I

Carlos Tornel, UNAM, the Global Tapestry of Alternatives & Alexander Dunlap, Boston University and Helsinki University

Claims of 'sustainability,' 'renewability' and 'energy transition' from corporate, academic, and policy sectors are continually being debunked. Lower-carbon development projects (e.g. wind, solar, hydrological and biomass projects) are increasingly recognized for their coercive impositions (Sovacool, 2021), necessitating violence and social pacification for their construction (Dunlap, 2018a; Ulloa, 2023; Tornel, 2023a). This coercive imposition is justified by policies relying on reductive models, narrowly bounded research, severe data gaps and, consequently, misleading findings (Dunlap & Marin, 2022; Dunlap, 2023). This coincides with the documented harms of producing so-called "transition metals" (Sovacool et al., 2020; Dunlap, 2021a), which relates to quantity of materials needed, the abhorrently low recycling rates and existing levels of material-use (Bolger et al., 2021;

Dunlap, 2023). Finally, 'energy transition' itself, despite the rapid spread of low-carbon infrastructures, is an addition and accumulation of, and not a transition away from, existing modalities of extractivism and the current grid energy-mixes (Franquesa, 2018; Dunlap, 2021b). The question emerges, if what is being marketed and sold as 'sustainable' and 'renewable' is not what it claims, then what actually is? This proposed panel session (and special issue) seeks to organize a collection of articles exploring real practices of socioecological sustainability and renewability.

This exploration into real sustainability, renewability or regeneration we recognize comes from the pluriverse and postdevelopment praxis (Kothari et al., 2019). In addition to looking for examples of real sustainability and renewability, or attempts working in this direction, we can reformulate this question to ask: What does anti-colonial/capitalist energy transition look like? 'Transition', we recognize, has become a pacification device (Dunlap, 2023) or, in Gramscian terms, a passive revolution (Newell, 2019; Hesketh, 2021), generating a spectacle that (re)affirms extractivist and colonial legacies, but more so justifies increasing mining and its corresponding violence of the present and future. Energy transition, or the green economy in general (Dunlap, 2023), legitimizes dispossession by promoting a 'green', 'just' or 'fair' deployment of low-carbon infrastructure that leaves capitalist modernity unchallenged (Reyes, et al., 2022). While a number of scholars have contested the use of the term 'transition' by governments and corporate interests (cf. Barca, 2011; Bonneuil & Fressoz, 2016; Franquesa, 2018; York & Bell, 2019; Dunlap, 2021b), critical research seems to have been reduced to critiques and denunciations of this framework with little else to show for it. These panels, and future special issue, call for an exploration into the pluriverse of transitions.

While international governance bodies and governments across the world promote, or acquiesce, to ecological modernism and green growth (Mastini et al., 2021), urban and rural peoples—Indigenous, peasant and other oppressed humans (and implicitly non-humans)—have begun to reorganize their relations with the territory and resist extractive impositions. The abstraction and commodification of energy that seeks to (re)formulate territorial relationships is being resisted through solidarity, direct action, mutual-aid and other(ed) knowledges (Dunlap, 2018b; De Onis, 2021; Post, 2023; Tornel, 2023b). These communal alternatives 'from below,' while different in scale and reach, constitute multiple forms of resistance and struggles for re-existence revealing other horizons of the possible (Escobar, 2020; Gutierrez Aguilar, 2020). This panel seeks to present case studies of alternative, autonomous and insurrectionary transitions from 'below.' Said simply, it offers an exploration into postdevelopmental transition(s) and a glimpse into the pluriverse of energy transition.

1. Resisting the Plantationocene: a case-study of the community project Favela da Paz, Brazil

Rebeca Roysen, University of Basel; Lasse Kos, University of Basel; Nadine Bruehwiler, University of Basel; Guilherme Moura Fagundes , University of Sao Paulo & Jens Koehrsen, University of Basel/University of Oslo

Slum dwellers are a vast sector of the Brazilian population that live in a situation of insecurity due to poor housing conditions and "serious constraints in terms of

employment, healthcare, sanitation, education and other components that characterize the basic social rights of citizens" (Kowarick, 2004, p. 4). They are those who are denied a dignified existence and a share of the world by the Plantationocene, the colonial mode of inhabiting the Earth (Ferdinand, 2022, p. 32). In this paper, we present a project of resistance and re-existence that emerged in the slums of São Paulo, Brazil. The Institute Favela da Paz (IFP) is an urban ecovillage created by slum-dwellers that develops projects and courses on renewable energies, urban permaculture, healthy food, music and arts. It locally produces biogas for its community kitchen and it has São Paulo's first micro-generator of solar power in a slum. According to one of the founders, the most important work underneath their projects is that of keeping humans sensitive by strengthening community ties, healing traumas of violence, and creating a space of trust and mutual empowerment. Based on a 6-week fieldwork in IFP, we analyze their activities through Ferdinand's (2022) decolonial ecology framework. This framework understands the degradation of the environment and the degradation of a vast part of the world's population as two sides of the same phenomenon: the colonial mode of inhabiting the Earth. We also address the potentialities and the challenges of IFP in promoting decolonial sustainability transitions from below. Keywords: Sustainability transitions, decolonial theories, urban studies, pluriverse, ecovillages, grassroots innovations

2. Dead Carbon; Live Carbon: The Ennore Fishers' Struggle for Wetlands as Insurrectionary Transition from Below

Nityanand Jayaraman, University of Waikato

For more than 50 years, traditional fishers who derive their livelihoods and identity from the tidal wetlands of Ennore in Chennai, India, have battled the state-led transformation of the backwaters into an industrial wasteland. Today, the region hosts the densest concentration of fossil fuel infrastructure in South India. More than 1000 acres of wetlands are smothered in coal ash; other portions of the sprawling waterbody have been obliterated to accommodate coal yards, coal ash dykes, coal conveyor corridors, power plants, electricity transmission towers and oil and gas pipelines. Deploying a combination of public and legal strategies, however, the fishers have finally managed to shift the discourse from "industrialisation is good" to "wetlands are better." In 2022, the fishers won a major legal victory: the court directed the government to notify Ennore as a critical wetland and prepare a plan for its restoration. Emerging from the bottom of caste hierarchy, Ennore's fishers have stalled more than 2.7 gigawatts of new coal power plants, defeated proposals for a megaport expansion, a petrochemical park, and redefined areas marked for fossil fuel infrastructure in a port masterplan as wetlands slotted for eco-restoration. The Ennore fishers' struggle offers a case of insurrectionary transition from below where energy as electricity and dead carbon infrastructure of power plants and hydrocarbon installations is countered not by "decarbonising" and RE-electrifying, but by recarbonising and re-energising with live carbon infrastructure in the form of a living wetland with a vibrant life energy circulation sustaining human- and non-human lives.

3. 'Zero Carbon Islands:' Contesting national net-zero imaginaries from below in Scotland's Outer Hebrides

Cornelia Helmcke, University of St. Andrews

The Scottish Government aims to deliver world-leading net-zero strategies by 2045, while promoting rural regeneration. Carbon credits incentivise landowners to restore their peat and woodlands to mitigate national carbon emissions. But the connected recent land rush is running counter community initiatives, such as building community owned, onshore wind turbines. This paper will produce novel insights into the local realities that net-zero policies encounter and shape. Special attention will be granted to the potentials and challenges of direct democracy enacted on community owned land in contesting national net-zero ambitions 'from below'. I posit ecological democracy as a concept which centres on the knowledge and decision-making capacity of local communities to guarantee human and other-than-human wellbeing. To develop the concept, this research will closely engage with two case sites in the Scottish Outer Hebrides which are community owned and experience fuel poverty, while being targeted by renewable energy investments and carbon offsetting schemes. Pursing a participatory methodology, I will analyse how these communities have contested and reimagined strategies surrounding climate change mitigation, and what aspects for building a "sustainable" future on the land are not considered in the public framing of net-zero solutions. Coproducing knowledge between different stakeholders will offer novel insights into the current challenges faced by communities and what alternative, pluriverse transitions are envisioned on the ground.

4. Epistemic Justice as Energy Justice: Reflections from a Transnational Collaboration on Hydropower and Indigenous Rights

Nadine Lorini Formiga, Dartmouth College

We here analyze a 15-year-old transnational hydroelectric power development conflict involving Indigenous rights in Mapuche-Williche territory, Chile. We seek to advance the field of energy justice methodologically and theoretically by evaluating injustices in this transnational conflict. At the heart of the conflict is a threatened Ngen Kintuantü (the spirit guardian Kintuantü), which is part of a ceremonial and pilgrimage site of utmost importance in Williche territory. Statkraft, a Norwegian state company, owns the hydroelectric projects. We argue that epistemic justice – the radical inclusion of different ways of knowing – can be a central tenet to understanding and redressing the harms connected to energy development. The right to consent for energy projects, –which is informed by FPIC and Chile's codification of a less stringent Indigenous consultation – is limited by its formation within liberal legality. We suggest the epistemic gap between Indigenous lifeworlds and liberal legality expresses itself in multiple ways in contemporary energy conflicts. Drawing from a solidarity network of research across the Global South and North, we find that existing tools like FPIC can and must be strengthened through Indigenous and local guidance, but that justice, in a broader sense, cannot be achieved without returning land and broader legal reforms.

Panel 627: Searching for sustainability in research and praxis II

Jamila Haider, Stockholm Resilience Centre

1. Seen and Unseen: The politics and potentials of spatial machine learning and development

Mark Hirons, University of Oxford

There is burgeoning interest in utilising the tools associated with artificial intelligence (AI) in the pursuit, and monitoring, of progress towards sustainable development. Alongside growing enthusiasm and investment in this area, there is mounting concern about the potential risks associated with artificial intelligence. These range widely, from questions concerning transparency and safety in specific contexts to its role in evolving geopolitical dynamics and conflicts. Navigating this complex terrain requires a robust understanding of both what the tools of AI can help illuminate and, critically, what they cannot. Here we approach this issue using the lens of multi-dimensional poverty and look specifically at spatial machine learning to shed light on the potential of these tools to shed light on multi-dimensional poverty, and its relationship with the environment. We demonstrate that there is considerable potential for AI tools to enhance capabilities associated with mapping dimensions of poverty with strong visual cues such as housing, but that there remain important limitations with respect to dimensions of poverty without strong visual clues (such as schooling) and in understanding the institutions (such as land tenure) which mediate the relationship between poverty and the environment. As work on AI and sustainable development evolves it will important to situate AI within a broad suite of interdisciplinary approaches required to develop effective and equitable responses to sustainability challenges.

2. Reclaiming reflexivity to embrace the uncomfortable: Navigating the entanglements of knowledge and action in sustainability science

Viola Hakkarainen, Helsinki Institute of Sustainability Science

The trajectory of the current socio-ecological crises is not improving. Several scholars have suggested that sustainability scientists should engage more actively in the sustainability transformations their work demands of broader society. Possibilities for action include individual advocacy and activism alongside more radical demands for their academic institutions to lead the transition. Yet, dominant perspectives at the science-policy-society interface place pressure on researchers to remain neutral to the politics of real-world. As a result, sustainability scientists exist in a 'double reality', in which they produce evidence supporting the need for transformative change but feel a lack of individual agency to act. In this paper, we aim to explore the uncomfortable space created by this double reality. We first propose that from a (critical) complexity worldview, the complex nature of sustainability challenges deems all research practice as situated intervention, offering an opportunity for a more nuanced discussion about how sustainability scientists can take responsibility for their position in broader society. From this view, we unpack three sources of discomfort in the entanglements of knowledge and action: the resistance to confronting our own subjectivity in relation to others and our

institutions; disorientation from getting lost in pluralism; and the fear of intentional engagement with power and politics. We then suggest that reclaiming the political and provocative roots of reflexivity can better equip researchers and their institutions to deal with the normative, plural, and political complexities that surface at the science-policy-society interfaces, thereby enabling a more critical and action-oriented approach to sustainability science.

3. From reflexive co-production to diffractive co-becoming: What New Materialism can do for Sustainability Science

Jamila Haider, Stockholm Resilience Centre

Climate change and biocultural diversity loss are defining intersecting crises of the Anthropocene, resulting in part from dominant cartesian modes of thinking which separate mind-matter, object-subject, and social-ecological systems. Sustainability Science aims to address these crises, but is likely to fall short of delivering transformative solutions if it remains committed to the onto-epistemological commitments upon which it is founded. In this paper, I draw on empirical material of a multi-year collaborative ethnography with small-scale alpine farmer Präa Sepp, and liken the transformation needed in science to the re-peasantization of modernist agriculture. Drawing on new materialism, in particular Karen Barad and Jane Bennett's work on political ecology of things, I unlearn my training as a sustainability scientist. Instead, I realize myself as deeply entangled in the phenomena, in the worlds, I seek to understand. Instead of seeing sameness in routine farming practices, I see the difference – and the changes that emerge from differentiation. My senses heighten, and as I say 'yes' to living of this world, as opposed to creating boundaries around it, I let go of research conventions that constrain me. Through my farming work, I show how reflexive practices turn to diffractive processes and co-production of knowledge becomes a co-becoming.

Panel 310: Governing, producing, and negotiating reindeer landscapes – towards fair and sustainable use of land

Kathrine I. Johnsen, Norwegian Institute for Water Research

The panel discusses ways to minimize land-use conflicts and co-produce knowledge about approaches to more inclusive and comprehensive management of contested landscapes considering societal needs in the transition to a low-emission society. The papers presented will shed light on different knowledge systems for understanding coupled human-nature systems with a focus on Norwegian management regimes for habitats of wild and domestic reindeer (reindeer landscapes). Sound management of these landscapes is crucial for the conservation of Europe's wild reindeer, indigenous Sámi reindeer livelihoods and culture, and biodiversity in general. Yet today, these landscapes are under increasing pressure from a variety of land-uses, as well as environmental and climate change. Local right-holders simultaneously argue that their

knowledge and concerns are often excluded in land-use management. There is only one species of reindeer, but the management of reindeer and its landscapes engages different sectors, discourses and regulations, and are informed by different research communities and knowledge systems, depending on whether the landscapes are inhabited by 'wild' or 'tame' reindeer. The papers presented in this panel discuss this paradox and the practical consequences of the divide through the lens of political ecology.

1. The governance of different reindeer landscapes: actors, power and knowledge systems

Aase Kristine Lundberg, Nordland Research Institute

In this paper, we examine and compare the similarities and differences between the two governance systems of wild and domesticated reindeer landscapes. There is only one species of reindeer (Rangifer tarandus); yet, in the Norwegian public management of the reindeer, there is a "wild-tame" divide between the reindeer herds that are hunted and those that are herded. The two governance systems are fragmented with different actors and sectoral barriers, and they are informed by different research communities and knowledge systems, depending on whether the reindeer is understood as 'wild' or 'tame'. Through a systematic literature review, we present an overview of previous research on the governance of these two landscapes. We find few comparative studies; thus, we seek to contribute with new knowledge about how these two governance systems frame policy goals and decision-making of these landscapes. We draw on a combination of policy analysis of official documents and interviews with key actors in the management system. In the analysis, we map out the main actors, legal frameworks and regulations that govern these landscapes. We discuss the consequences the two governance systems have for decision-making, knowledge-needs and power relations at the national level.

2. Exploring the knowledge base of decision-making in the management of wild and semi-domesticated reindeer in Norway

Camilla Risvoll, Nordland Research Institute; Birgit Pauksztat, Nordland Research Institute; Aase Kristine Lundberg, Nordland Research Institute & Frode Sundnes, Norwegian Institute for Water Research

This paper explores the role of scientific and experience-based knowledge in the management of wild reindeer in southern Norway and semi-domesticated reindeer of Sámi reindeer herders in northern Norway. Previous studies show that including different ways of knowing in decision-making requires the parties involved to deal with epistemological as well as practical and political aspects of relating to different knowledge spheres. However, while previous studies focused on cases where both scientists and locals had extensive knowledge, we know little about the use of scientific and experience-based knowledge in decision-making concerning new phenomena, where a legitimate knowledge base still needs to be established. The purpose of this paper is to explore the use of scientific and experience-based knowledge in decision-making, comparing a case where both types of knowledge exist and a case where both types of knowledge were initially lacking. The two cases are the management of threats from large carnivores (where both scientific and experience-based knowledge exists) and the

management of Chronic Wasting Disease (CWD), a recent threat, where initially little knowledge was available in either knowledge system. Data derive from workshops and interviews with local landowners and reindeer herders, document analyses, and interviews with government authorities at different levels.

3. Disrupting mapped lines: Sonic geographies of policy and place in Jotunheimen National Park

Lovisa Ulrica Molin, Norwegian University of Life Sciences

Environmental policy is dominated by narratives about quantifiable numbers – from species abundance or decline to emission rates, financial costs, and benefits. These narratives of numeric values are often explained through standardised geographical maps. Species habitats are delineated, emissions sources explicated, and debts of nation-states alleviated. Research in critical cartography has shown how maps change as we interact with them, shape our knowledge and sense of place, and exercise power by controlling how knowledge about space is socially inscribed. Mapmaking is entrenched in scientific rationality that marginalises alternative ways of relating and caring for places. Listening to sounds is a way of becoming attune to what borders on a map are unable to contain. Thus, incorporating sound in policy research disrupts epistemic privileges and assumptions about what is worthy of care. I study place-relations shaped by policy maps in Jotunheimen National Park, Norway. Being in the mountains is a marker of Norwegian identity and history, and intimately tied to practices of the Indigenous Sámi population. I explore the multiple layers of policy and place through stories that move in-between real and imagined sonic geographies. Sounding stories of more-than-human relations can reshape what is deemed policy-relevant knowledge.

4. Reindeer and landscape narratives and their implication for governance practices

Frode Sundnes, Norwegian Institute for Water Research; Inger Marie G. Eira, Sámi University College; Kathrine I. Johnsen, Norwegian Institute for Water Research & Svein D. Mathiesen, International Centre for Reindeer Husbandry

This paper aims to investigate the narratives about reindeer in Norway, and how these influence land-use decisions affecting reindeer landscapes. Firstly, we explore how different actors (including Sámi reindeer herders) understand and value 'wild' and 'domesticated' reindeer and identify similarities and differences between the narratives. To nuance the findings in the Norwegian context, we address how 'wild' and 'domesticated' reindeer are framed in other places in the Circumpolar North, especially among indigenous reindeer herders. Secondly, the paper identifies how the narratives explain the main threats to reindeer and reindeer landscapes, and how these threats should be addressed to ensure the wellbeing of the reindeer. We ask: Which values and whose perspectives are highlighted or marginalized in defining 'proper' reindeer and landscape management? Lastly, with a focus on Hardangervidda as a core area for wild reindeer and Finnmarksvidda as a core area for Sámi domesticated reindeer, we examine what narratives and whose values are reflected in land-use decisions.

5. Conservation performance payments and the wickedness of human-wildlife conflicts: The Swedish lynx and wolverine protection

Josef Kaiser, Humboldt University Berlin

This study examines conflicts associated with a conservation performance payment program in Northern Sweden that compensates indigenous Sámi communities practicing reindeer husbandry for reindeer losses caused by lynx and wolverine. The findings of the case study, based on a systematic literature review and semi-structured interviews, reveal a wide range of direct and indirect conflicts. Direct conflicts include, for example, uncertainties and mistrust regarding the annual predator inventory, inadequate payments, and high predator-caused losses of reindeer in many communities. Indirect conflicts are related to cumulative effects, such as the negative effects of forestry and mining projects on reindeer husbandry, the lack of comprehensive environmental policies, and the perceived lack of respect for reindeer husbandry as a culturally important livelihood. In the discussion, we argue that conflicts over uncertainties in predator and reindeer loss numbers substitute for broader underlying conflicts. We suggest that high predator-related reindeer losses in combination with indirect conflicts hinder the successful implementation of the program. Nevertheless, all interviewees appreciated the basic design of the program and its potential. However, realizing this potential requires acknowledging the wickedness of human-wildlife conflicts and adequately addressing long-standing ecological and socio-cultural root conflicts by developing comprehensive, cross-sectoral, and inclusive conservation policies.

Panel 293: Just Transitions and Rural Environmental Justice in Europe I

Mathilde Gingembre, University of East Anglia and Brendan Coolsaet, UCLouvain

This (two-session) panel explores the articulations between rurality and environmental justice in the context of green transition policy and processes in Europe. Despite the central place of rural land in pursuing net zero and biodiversity protection targets (afforestation, rewilding, landscape restoration, transition to organic farming, renewable energy development, etc), little consideration is given to spatial justice in "just transition" debates. While environmental economists have established the relevance of the rural/urban divide in informing people's perceptions of climate policies, recent empirical environmental justice studies are highlighting the plural and contentious character of justice claims within rural spaces in transition. Are there "rural justice" claims, narratives, and conflicts (re)emerging in response to climate mitigation and conservation agendas? What dimensions of rurality and injustice do they stress? Who promotes them and how?

1. Forests, Climate, Rurality and Justice: Framing justice in the European scientific and political discourse on land-use policy

Daniel Di Marzo & Auvikki de Boon, University of Freiburg

This paper explores the intersection of rural areas, climate policy, and environmental justice within the context of the European Green Deal, scrutinising understandings of 'a just transition for all'. The investigation narrows its focus, looking at the EU's forest land-use policy sector against a backdrop of rising tension between rural communities and policymakers. Adopting an environmental justice framework, analyses of scientific and political discourse are conducted to investigate the claim that the EU's response to climate change is disproportionally burdening rural areas. The paper reviews the framing of justice in scientific literature on EU forest land-use contestation in the past 5 years across 4 regions of Europe, identifying case studies that state climate change response as a driver for land-use change. the same frame analysis is then conducted on EU's Land Use, Land-Use Change, and Forestry Regulation (LULUCF) and associated EU dialogue as a way of comparing the current political discourse. Through this triangulation, the paper examines the emergence of 'rural justice' claims, highlighting the central role of rural areas in environmental and climate policy regimes and the need for their inclusion of place-based and deliberative policy processes. Preliminary findings suggest that while rural communities bear the brunt of the green transition, their participation in policy development remains limited, raising broader questions of justice in the EU's climate action strategy.

2. Rewilding Animals and People in Rural Landscapes: the case of the Danube Delta

Mihnea Tănăsescu, University of Mons

Rural areas are contested sites of nature conservation. So, in thinking about just rural transitions we must consider the relationship between rurality and conservation. Recently, rural Europe has become subject to rewilding. But it is ambiguous how this interacts with just rural transitions, who defines goals and means, how ideas of what rurality means clash or work together, and the extent to which loaded histories of conservation are avoided. To explore these, I discuss the case of back-breeding Aurochs, and their introduction to the Romanian Danube Delta. There, Rewilding Europe and the Tauros Foundation partnered with local farmers to interbreed Aurochs-in-the-making with local cattle. The goals were habitat restoration, animal recreation, and economic benefits. This rural space is simultaneously a biosphere reserve (subject to classic conservation), home to culturally distinct populations with specific forms of husbandry, and the site of other rewilding efforts. The case shows how imaginaries of transition stumble over different ideas of justice, domestic or wild, what rural spaces are for, and what the role of locals may be. Who gets to decide these issues is crucial. In discussing this case, I link the rural politics of conservation with the wider context of environmental justice.

3. What is the future of pastoralism in the context of climate change? An environmental justice analysis of the justifications of livestock farming in the French Pyrénées

Lisa Darmet (INRAE Toulouse), Prof. Cécile Barnaud (INRAE Toulouse) and Prof. Brendan Coolsaet (UCLouvain)

Climate transitions are likely to transform rural landscapes, which are tied to rural identities and livelihoods, potentially generating environmental injustices. This issue is particularly salient concerning the evolution of pastoralism in Europe. Indeed, for the past

few decades, pastoralists have been hailed as environmental stewards for maintaining open landscape biodiversity through meadow grazing. At the same time, livestock farming is considered to be the largest contributor to climate change in the agricultural sector. To what extent is climate change reshaping the environmental justifications of pastoralism? This paper draws on interviews conducted in the Arac Valley in the Pyrénées through the JustScapes research project with a diversity of stakeholders (farmers, elected representatives, agricultural institutions…). It shows the ways in which climate change issues are sometimes used to legitimize already existing discourses and interests in relation to pastoralism and agricultural land use. While each type of discourse concerning climate change and the evolution of pastoralism is tied to different environmental justice claims, we find overarching environmental justice narratives, such as a lack of procedural justice and recognition and a fear of dispossession of rural practices and livelihoods in the name of climate change mitigation.

4. Rural Sovereignty in the Green Transition: The Case of Subsistence Turf Cutting in Ireland

Criostóir King, Maynooth University

Ireland's bogs are sites of contestation between traditional energy subsistence practices and encroaching (green) capitalist frontiers. While the practice of state-led turf extraction, initiated as part of a project of sovereign national development post-independence, has ceased, subsistence cutting for domestic use continues on a small scale. Increasingly, there are attempts to restrict these practices in the name of sustainability, and to redirect land-use towards projects of conservation and renewable energy which are removed from actually existing relations with and valuations of the bog. It is important to understand these changing socio-ecological relations in the context of rural Ireland's (semi-)peripheral position within the capitalist world-ecology: Ireland's postcolonial and neoliberal ecological regime subordinates rural ecologies to the interests of the core. Furthermore, projects of environmental modernisation based purely on an abstract counting of emissions fail to differentiate between peripheral subsistence production and the excessive production of Northern capitalism, while ignoring questions of energy poverty and access to alternatives. Taking inspiration from degrowth and critical development studies, this paper examines how rural sovereignty and environmental justice can be achieved on Ireland's bogs in the context of global and national green transitions.

Panel 343: A World Ecology of Development, Disasters and 'Economic/Environmental Offshoring' in the Making of East Asian Regionalism

Carl Middleton, Chulalongkorn University & Takeshi Ito, Sophia University

In the age of economic globalization, 'economic offshoring' has become the dominant mode of production on which virtually every aspect of social, economic, and political life is now dependent. It connotes how capital and production has been relocated from countries of the North to the South to access cheap labor and environmental resources

(Urry, 2014). Economic offshoring has been enabled by global commodity chains (GCCs) and their associated flows of trade and investment, and supported by international political agreements and overseas development aid. In East Asia, industrialization connected to economic offshoring has been central to economic growth, while uneven development, environmental degradation and inequality have been exacerbated. Economic development as part of a longue durée of industrialization has reworked nature-society relations primarily for the drive towards capital accumulation at the expense of environmental integrity (Steffen et al, 2015). World-Ecology understands species' life-making and environmental-making in dialectic relations, and explores how nature's work is transformed into value, namely: "the relations that co-produce manifold configurations of humanity-in-nature, organisms and environments, life and land, water and air" (Moore, 2015, p. 5). Here, capitalism is not simply a human activity that draws on nature, but rather it is 'humanity-in-nature' relations (i.e. a capitalist World-Ecology). A World Ecology reading of East Asian regionalism also reveals how economic offshoring connects localities and entwines their nature-society relations (Middleton and Ito, 2020). Environmental governance associated with GCCs and industrialization at sites of production has expanded from ensuring the availability of resource-related factors of production (land, raw materials, water, energy) and labor to ensuring the factors of production's 'security' so as to make economic offshoring resilient to disasters. This shift can be understood as 'environmental offshoring', namely the entwining of economic offshoring with environmental governance and disaster governance. In this interlinked globalized world, attaining sustainable development has also been increasingly connected to the ability to manage disaster risks. The impacts of disasters on biophysical systems, critical infrastructure, and global supply chains have put at risk systems of human provisioning, such as for food, water and energy. In East Asia, paradoxically, as development has proceeded, the region has become more rather than less prone to 'natural disasters', even as there are efforts to mitigate these risks (Beck 1992, Oliver-Smith & Hoffman 2020). Examples range from the vulnerability of delta floodplain cities to sea level rise, cyclones and flooding, to air pollution caused by industrial and agricultural activity, to infrastructure disasters such as large dam breaks. This panel explores the dialectic relationship between economic offshoring, development and disaster as making the history of economic and ecological connectivity in East Asian regionalism, and its implications for sustainable and just futures. Historians of regionalism have tended to narrate East Asian regionalism as primarily a human affair, punctuated by (geo)political and economic landmarks. By contrast, this panel explores how human-more-than-human entanglements have reworked East Asian regionalism rather than human action alone.

1. Producing East Asian Regionalism through Disaster Governance: An Analysis of Japan's Influence through Economic and Environmental Offshoring

Carl Middleton, Chulalongkorn University & Takeshi Ito, Sophia University

In a rapidly changing and interlinked world, attaining sustainable development has been increasingly understood as connected to the ability to manage disaster risks. In Japan, natural disaster has been an unfortunately common occurrence, resulting in an accumulated experience of disaster management related expert knowledge that prevents and mitigates disasters' impacts (Bosai). Building from this experience, Japan's government has sought to demonstrate leadership in international disaster governance,

leading to the Sendai Framework for Disaster Risk Reduction. In this paper, we examine how Japan's leadership in disaster governance has interacted with strategies for economic offshoring including aid, trade and investment into Southeast Asia via 'environmental offshoring.' We conceptualize environmental offshoring as discourses and associated knowledge production that problematize and propose solutions on how economic offshoring is disrupted by disastrous events such as flooding. It is materialized in environmental governance frameworks—e.g., the Sendai Framework, and through projects that promote 'business continuity management', 'build back better' and 'quality infrastructure investment'. Drawing on expert interviews conducted in 2023 and discourse analysis of key documents, we argue that environmental offshoring is a 'fix' for capital associated with economic offshoring when contradictions emerge due to the growing impact of disasters on global commodity chains.

2. Economic Offshoring, Palm Oil plantations, and Plural Futures in Dayak Iban-Orangutan Relations in Boreno, Indonesia

Hanna Nur Afifah Yogar, Chulalongkorn University

The expansion of palm oil plantations in West Kalimantan Province, as part of Indonesia's development initiatives, serves the dual purpose of meeting global demand and contributing to the national economy. However, this economic strategy raises significant concerns due to its environmental and social impacts. Despite global commitments to address environmental issues, regional political economies, particularly in the relationship between Indonesia and Japan, seem to contradict these efforts. The bilateral cooperation between Indonesia and Japan involves the supply of palm oil shells from Indonesia to support Japan's renewable energy production. This economic collaboration, while lucrative for both nations, has severe consequences for the local ecosyst ems and communities, particularly the Dayak Iban and Orangutan populations. The rainforests of West Kalimantan Province, once the habitat for them, are now transforming into vast palm oil plantations. This paper delves into the intricacies of the Indonesian palm oil economic and environmental offshoring relationship, shedding light on the challenges it poses for multispecies life, local communities, and the environment. The analysis aims to provide a comprehensive understanding of how national development agendas, global economic demands, and regional partnerships can impact both the ecological landscape and multispecies life.

3. Economic Offshoring meets Environmental Offshoring and Disaster: Reworked Farming Lives and Human-in-Nature Relations in Bang Ban Subdistrict, Ayutthaya Province, Thailand.

Thianchai Surimas, Chulalongkorn University

The '2011 Great Flood' in Thailand inflicted a huge cost on people and the economy in Thailand and disrupted global commodity chains. Subsequently, Thailand's water policy prioritized preventing disasters and mitigating risks especially for urban areas and industrial estates for domestic and foreign investment through physical infrastructure and revised institutional arrangements. A key policy was to identify and establish farmland water retention areas that would absorb flood water protecting industrial

estates and urban areas. Bang Ban subdistrict was one of the newly created retention areas, established without meaningful local participation and causing harms to farmers livelihoods and wellbeing. Farmers in these communities – who have long lived with controlled seasonal flooding – were forced them to change their farming practices, as without consultation government agencies set deadlines for harvesting before the area was flooded. In response, farmers have organized to challenge the authorities through conducting local research, and lobbying bureaucrats and politicians. Living in an unnatural flood that is partly natural and partly manmade disaster has reorganized human-environment relations. The water retention policies and farmer response reveal a crisis of climate uncertainty, imbalance of power, and environmental injustice in Thailand at the intersection of environmental and economic offshoring.

4. Eroding the infrastructures of future disasters: SEZs, rivers, and ideological frictions along the Mekong River

Huiying Ng Rachel Carson Center for Environment and Society, LMU Munich

This paper addresses the Golden Triangle Special Economic Zone in Bokeo, Laos PDR, as a confluence of financial flows and longue durée historical political phenomena connected by a river that flows through 3 countries: Laos, Thailand, and China. On one side of the river, grey market workers' mobilities and capital accumulation trajectories show how development finance and imposed economic underdevelopment in the Mekong region has created a generation of mobile workers. On the opposite side, networked observation-intervention capacities that a network of river NGOs have created along the Mekong provide a glimpse into how the "capitalization" of land (Hirsch, Woods, Scurrah and Dwyer 2022) in a time of intangible heritage and conservation strategies is contested by state and non-state actors. Expanding the concept of "economic offshoring", 21st Century environmental disaster in East and Southeast Asia is argued to be a product of Chinese economic offshoring, interacting with long-term development finance in Southeast Asia. Environmental externalities caused by new forms of capital accumulation are exacerbated by remnants of communist-capitalist ideological frictions. This presentation situates this SEZ as a precedent for struggles around greenwashed landgrabs and examines the role civil society actors play by complicating these frictions.

Panel 613: Political ecologies of islands in the Anthropocene I

Matthias Kowasch, University College of Teacher Education Styria, Austria / Inland Norway University of Applied Sciences, Norway & Heide K. Bruckner, University of Graz, Austria

While small island developing states generally produce low levels of greenhouse gas emissions, they are on the frontline of climate and environmental changes—facing rising sea levels, and more frequent cyclones or hurricanes. These occur concurrently to a rise in extractive industries, including mining activities (on land and deep-sea) and logging. While older Western narratives considered islands as backward, remote and irrelevant places, within Anthropocene scholarship, islands have become salient in conceptualizing

both the uneven impacts of climate change and for imagining possibilities for climate-resilient futures (Chandler and Pugh, 2021). As opposed to passive sinking places in need of 'saving' (DeLoughrey, 2019), islands and island thinking (diverse epistemologies and relational forms of human-nature entanglements) are being productively re-centered in scholarship on the Anthropocene (Haraway, 2016; Tsing et al., 2019). For example, research on traditional knowledge and community-based adaptation to the climate crisis have gained significant international attention (e.g. Clarke et al., 2019; Granderson, 2017). Referring to the concept of island metabolism, Bahers et al. (2020) showed how the political economy in small extractive island industries reinforce social, environmental, and economic vulnerabilities.

Nonetheless, political ecology has been largely absent from island scholarship, and islands themselves are infrequently centered as such in political ecology literature (Brown et al. 2021; Manglou et al. 2022).

In this panel, we therefore ask how thinking with and across islands can complicate and enrich existing discussions on political ecology related to territory, natural resource management and mining governance (including of marine 'commons'), climate justice and carbon colonialism, indigenous knowledge systems and epistemologies, and a 'more-than-wet' ontologies (Steinberg and Peters, 2019) that emerge when thinking through land/sea intersections in changing environments.

1. Urbanite migrants on Miyakojima: The making and remaking of socio-ecological space

Sarah J. Clay, Freie Universität Berlin

The Okinawan Miyako Islands are in Japan best known for their emerald sea with healing (iyashi) properties. Miyakojima is the only official 'Eco Island' in Japan, yet experiences since 2015 a sharp increase in the number of domestic and foreign tourists, urbanization, soaring housing prices, and significant environmental destruction. This trend of what could be called 'island gentrification' dovetails with an increase in relatively young emigrants who move to Miyakojima to live in harmony with the natural world. In this paper, I explore the environmental activities carried out by the migrant community on Miyakojima. Based upon hybrid ethnographic data, my main argument is that migrants' narratives on nature and place largely originate elsewhere, yet have far-going consequences on the ground as they fundamentally shape the islands' social and natural environments. As such, the historically uneven relationship between Okinawa Prefecture and the rest of Japan is reflected in and reproduced through migrants' environmental interactions. Showing how the social categories of in- and outsider become pillared on human-nature relationships, I contribute to debates within the environmental humanities on the situatedness of environmental thought. Moreover, by presenting a case from the Japanese context I aim to provide insights into the ambiguous and complex realities of environmental protection on islands in the global north.

2. Impacts of "sustainable" projects on local communities and the environment on Shetland islands

Erin Rizzato Devlin, University of the Highlands and Islands

Since the mid-20th century there has been a rapid expansion of marine activity in the Shetland Islands, including oil and gas exploration, aquaculture, marine renewables and the controversial creation of marine protected areas (MPAs). This expansion has been facilitated by a technocratic and market-driven way of thinking which is in stark contrast to the local knowledge employed by traditional fisheries and seafarers. Concern has been expressed that traditional users and communities are being pushed aside by new development activities. This paper seeks to show how the diverse knowledges within these communities can inform solutions that are both sustainable and aligned with the realities of island living. While tackling the questions of what knowledges gain epistemological privilege in the governance of marine resources, and what counts as 'indigenous knowledge' in Shetland, the political ontology of these seascapes will be considered along with questions of culture, equality, legitimacy and exclusion. More specifically, this paper will look at how extractivist and market-driven forces are affecting local communities and the environment in the development of projects framed as 'sustainable', such as renewable energy and MPAs. By recognising ontological pluralism, and its politics, as embedded in these islands, lessons will be drawn for sustainable ocean governance.

3. A political ecology view on the sustainable energy transition in Barbados

Carmen Séra-Penker, BOKU University

While islands are among the most vulnerable states affected by the climate crisis, they also are among the most committed to becoming more resilient. As many of them have extensive experience with colonial exploitation and oppression, structures of the political economy show still today where power is concentrated and who influences visions of the future. This contribution investigates the sustainable energy transition in Barbados. Often called a model for other Small Island Developing States (SIDS) – or rather Large Ocean States, as proclaimed by supporters of a Blue Economy – Barbados pursues a very ambitious strategy to achieve carbon neutrality by 2030, sharing many characteristics that impact its energy transition with its neighbours. The study explores divergent views on development in SIDS related to the energy transition. For instance, when land is needed for wind parks then there is less available for agriculture, just as ongoing dependence on oil imports or ventures into marine commons require the examination of governance practices. Focussed on island thinking for decolonization, this study draws on regional thinking by Girvan, Beckles, Baptiste and Ferdinand by analysing different sustainability pathways related to the sustainable energy transition through a multi-perspectivity approach to enable the co-existence of different epistemological traditions.

4. Plastic waste accumulation in Reunion Island

Mélissa Manglou, CNRS

As part of the former French colonial Empire, the French Overseas territories embody the complex and diverse forms which post-coloniality has taken since the middle of the twentieth century. It is noteworthy that the territories which have remained under French rule are all islands, with the exception of French Guyana. In the era of the Plantationocene, these islands deal with the toxic legacy of colonization while being on

the frontline of global changes. While these territories have provided numerous case studies for "parachuting" natural scientists, they remain relatively absent from the main corpus of political ecology – yet they are not silent. My PhD thesis proposes to look at the issue of plastic waste accumulation in Reunion Island through the lens of political ecology. Using "follow the thing" methodologies and the study of socio-environmental metabolisms, I demonstrate that a key epistemological and political issue in French post-colonies today is to investigate the historical link between colonization and the way the "waste problem" emerged, as well as between (post-)colonialism and the dominant ecologies which are practiced locally. My paper will present the main results of my thesis and share reflections as to the complexities of knowledge production in French academia as a young researcher coming from Reunion and working in France.

Panel 641: Examining the many meanings of geopolitics

Ruth Trumble, Lafayette College

1. The Contested Meanings of Geopolitics and Multi-Scalar Political Ecologies

Steven Farquhar, Queen's University Belfast

Although geopolitics is often used as a synonym for international politics, it refers in the classical tradition to "how international relations relate to the spatial layout of oceans, continents, natural resources, military organization, political systems and perceived territorial threats and opportunities" (Sparke, 2009: 301). I compare classical, critical, and new materialist approaches to geopolitics - which emphasise analysis of the real world, discourses of 'the real world', and the material-discursive co-constitution of 'the real world' respectively – to emphasise the contested ethical, epistemological, and ontological basis of geopolitics. I advocate for a new materialist geopolitics that attends to the Earth over the international (Gibbs, 2018). I contend that there should be further engagement between geopolitics and political ecology, but that this should involve consideration of non-realist epistemologies and a flat ontology of scale which problematises emphasis on the large-scale (Marston, Jones, and Woodward, 2005). I draw upon fieldwork in Belfast Harbour to explain how small-scale, non-statist geopolitics works in practice, with particular emphasis placed on the territoriality of non-humans. I demonstrate how the various territorial assemblages (of which humans are at most only a part) of the landscape are entangled across multiple scales.

2. Geopolitical ecologies of unexploded ordinances: Logics of protection in post-conflict landscapes

Ruth Trumble, Lafayette College

Within political ecology, there is a burgeoning focus on unexploded ordinances (UXO), such as landmines, and their relationship to the environment. Here, I explore a key logic in protecting people from contaminated and suspected minefields. I explore how a precautionary logic, namely the marking off of suspected minefields, is utilized by the state and international organizations with the discourse of protecting the population. Despite the fact that landscapes with UXO contamination are never safe until all UXO are removed, major actors—such as state and inter-governmental organizations—aim to control suspected hazardous areas by forbidding people's engagement with that land. I argue that the implementation of this logic alone is flawed because it relies on two false assumptions. First, an assumption that the landscape, around which the signs and tape are placed, is static—that the land, water, and other elements are unchanging. The second assumption is that populations will find ways to survive without access to the marked off land. I provide examples from UXO contaminated southern Serbia to support this argument. I conclude by calling for more scholarship to trace how the long afterlife of UXO contributes to external and internal policing of those who must engage with these contaminated places.

3. Towards Sustainable Natural Resource Management and Peacebuilding in the Sahel Amid Intertwined Crises

Asmao Diallo, Doshisha University

Natural resources, though essential for human development, have become a source of conflict and instability globally. This research proposal addresses the intricate challenges surrounding the utilization and management of natural resources, with a specific focus on central Mali in the Sahel region of Africa. The escalating conflicts over finite resources in this area highlight the complex interplay between sustainable resource management and peacebuilding within social groups. The study aims to comprehensively understand the root causes and consequences of conflicts arising from resource scarcity, utilizing case studies, historical analyses, and an examination of current geopolitical trends. By engaging critical scholarship, the research investigates the multifaceted background conditions contributing to and perpetuating the entwined crises and injustices associated with resource conflicts. The focus on central Mali allows for insights into distinct patterns of access and control over resource flows, identity creation, and recent violence in neo-colonial Mali. Ultimately, the research aims to contribute to the broader discourse of political ecologies, emphasizing the importance of fostering harmonious coexistence between diverse social groups and the environment. The findings aspire to inform policies and practices that mitigate conflicts and promote sustainable resource use in the Sahel region and beyond.

Panel 610: Struggles over Land and Livelihoods in West and East Africa

Linda Engström, Swedish University of Agricultural Sciences and Maureen Kinyanjui, University of Edinburgh

This session brings together presentations addressing the complex issues of land tenure, land fragmentation , livelihood and socio-cultural practices, displacement related to agro-investment and conservation in East Africa. The panel aims to provide a comprehensive understanding of the ongoing struggles and changing dynamics affecting rural communities in Kenya and Tanzania. Inequalities in access to land, displacement, and land fragmentation dispossession are driven by political discourses and conveying promises of green futures and growth through, for instance, conservation and investment oriented agendas. However, the implementation of these agendas often comes at the expense of those they are meant to benefit, raising critical questions of environmental & land justice.

1. Displaced without Compensation - 30 years of Struggle for Environmental Justice around Kenya's Masinga and Kiambere Dams

Arne Rieber, University of Bonn

Kenya's hydrosocial cycle (Linton & Budds 2014) is prominently shaped by past mega-dam developments and a current resurgence of 'dam fever' under President Ruto's green growth vision of 1000 new dams across the country. The political ecology of dams has provided a useful perspective for analysing the interplay between altering ecosystems and exercising social power while pursuing modernist visions of development. In the 20th century, the first wave of dam fever in Kenya was evidently implemented at any cost. To date, the people living around Kiambere and Masinga dams on the Tana River have not been compensated for the losses they suffered in the 1980s and early 1990s. This non-compensation has led to a situation where communities still consider themselves the rightful owners of the submerged lands and buffer zones around the dams. Today, overlapping claims by local residents and government institutions continue to fuel conflict and protest, and have led to repeated evictions on questionable legal grounds. The case illustrates how the failure to provide compensation during displacement not only leads to significant loss of land holdings, livelihoods and household assets, but also to decades of struggle for justice and inclusion in the benefits of infrastructure development. The paper contributes to the discourse on the temporalities of infrastructure by revealing an interplay between infrastructural contestation and the operation, ruination and decay of infrastructure.

2. Dead deals? Exploring land access regimes in a post-investment context

Linda Engström, Swedish University of Agricultural Sciences

Proponents of large-scale agro-investments in rural Africa suggest that such investments will provide a more efficient land use through "unlocking the potential of Africa's idle or low productive land", poverty reduction and rural development. However, evidence is mounting that this development agenda does not hold up against evidence; most such land deals never materialize as planned; they never start, are stalled, scaled back or closed down altogether. Within development bodies, such cancelled land deals tend to simply be treated as if "nothing happens" while focus is turned elsewhere. Furthermore, in academia, we understand little so far about the socio-economic impacts on local communities in such a post-investment setting. Based on two stalled and later cancelled

land deals in Tanzania, this paper aims to increase our understanding of such impacts, with an explicit focus on the dynamics of land tenure regimes in such as post-investment setting. Based on 130 qualitative interviews, this paper presents an analysis of who accesses and uses land in a post-investment setting and the underlying rationale for staying on or moving into such "land in limbo". We discuss these findings in relation to the larger dynamics of land scarcity and land justice in rural Africa.

3. When Community Falls Apart. Conservation Aid as an Instrument of Land Fragmentation and Control in the Rangelands of Kenya

Francesca Di Matteo, French Institute for Research in Africa

This paper discusses the property and political effects of conservation aid as it shapes meanings of community, making it a fictive homogenous unit, recipient of the conservation aid, de facto instrumental to land fragmentation and political control in the rangelands of Kenya. The analysis reflects on development discourse promoting participatory, indigenous, localized or community-driven conservation projects against the background of Kenyan land tenure reform processes, promoting land individualisation and privatisation since late colonial times, but recently opening up to the possibility of rethinking community ownership and group rights via the Community Land Act of 2016. The implementation of this law provides excellent sites of observation as it spurs a debate on the future of community's land and shared life, especially by calling for a redrawing of the community's contours and membership. This paper argues that aid conservation narratives and programmes provide legitimacy and material means to networks of powerful actors operating to convey one particular vision of both the law, the community and of the land's future in the rangelands of Kenya, which essentially favours their economic and political interests.

4. "We cultivate crops but remain without food": The emotional political ecologies of human-elephant coexistence in a rapidly changing world

Maureen Kinyanjui, University of Edinburgh

In resource struggles and environmental conflicts, emotions and power dynamics often intersect, exacerbating existing vulnerabilities. Emotions are tightly intertwined with power, shaping people's subjectivities in these conflicts. Using the Sagalla community in Southeast Kenya as a case study, we explore the emotional political ecologies of human-elephant coexistence in shared conservation landscapes. We focus on the daily challenges people face as they navigate the presence of elephants and confront the emotional and material aspects of resource access, management, and use. These challenges are further compounded by climate change (specifically, drought), elephant threats, rising living costs, and conservation initiatives. Drawing from two years of data collection involving 40 focus group discussions and 41 semi-structured interviews, we demonstrate how these interacting social-ecological changes disproportionately increase vulnerabilities and injustices, particularly for single women in the community. Moreover, we illustrate how conservation efforts to foster human-elephant coexistence lead to diverse conservation subjectivities and affect individuals' and groups' sense of dignity, self-worth, security, and well-being. Consequently, adaptation to social-ecological changes

and participation in conservation activities become more challenging. This presentation underscores that achieving human-elephant coexistence in a rapidly changing social-ecological landscape is not merely a matter of conservation management but a complex emotional and political process.

5. How do jihadists adjudicate land-use conflicts? A case study from central Mali

Tchello Kasse, Norwegian University of Life Sciences; Tor A. Benjaminsen, Norwegian University of Life Sciences (NMBU) ; Boubacar Ba, Center for Analysis and Governance and Security in the Sahel, Bamako, Mali; Shai André Divon, Norwegian University of Life Sciences (NMBU)

Groups referred to as 'jihadists' are currently controlling large parts of rural Mali, particularly in the Inland Niger Delta, a vast floodplain characterized by an intricate network of overlapping land use. Since 2015, an armed group known as Katiba Macina has governed this region and has been involved in addressing numerous enduring land-use conflicts.
Our objective is to examine the approach of Katiba Macina to resolve land-use conflicts, emphasizing its distinction from the state's system, which is notorious for its corruption and rent-seeking tendencies. To initiate our research, we conducted a thorough analysis of 151 land-use conflicts documented in a 1995 inventory by two French researchers (Olivier & Catherine Barrière, 1995). Among these conflicts, we identified 20 cases in which Katiba Macina intervened, providing new adjudications between 2018-2022.
Our research indicates that local Muslim scholars, known as Quadis, have replaced the modern legal system inherited from the French colonial period. These Quadis derive their rulings from ancient documents called tarikhs, which provide accounts of family histories and land-use practices dating back to the Macina Caliphate, also known as the Dina (1818-1862). The Dina was a jihadi and Sharia-based Muslim Califate, highly regarded in Mali, especially among the Fulani. Notably, a significant portion of the peasantry perceives these rulings as highly effective, legitimate, and free from corruption, in contrast to the state's governance.
However, although decisions predominantly rely on tarikhs and witnesses, two notable exceptions to this general rule exist. Firstly, in cases where rights based on the Dina conflict with older rights, the Dina rights take precedence. Secondly, the rights of nomadic pastoralists are given priority over sedentary pastoralists.

Panel 634: Power, subjectivity and agency

Nanna Rask, University of Gothenburg

1. Meta-agency as transformation: Reverse engineering Foucault's governmentalities towards agential subjectivities

Sierra Deutsch, University of Zurich

Foucault's concept of 'governmentality' is a helpful tool for understanding how power permeates societal institutions to transform societies. Governmentalities in action are

therefore critiqued for the role they play in transforming people into neoliberal subjects, as are the closely related 'environmentalities.' At the same time, 'transformative change' intentionally aims to create new subjectivities through the fundamental alteration of "paradigms, goals and values" (IPBES 2019: XVIII). As such, it risks promoting the engagement of governmentalities, but without naming, critiquing, or reflecting on them. Here, I argue for a (re)evaluation of the role of governmentalities in transforming society, with a focus on agency. If the opposite of exercising power is the expansion and recognition of agency, how can we use our own agency as society's (appointed) knowledge producers to promote such agency? In other words, how can we reverse engineer governmentalities to allow for 'agential subjectivities' to emerge? To explore this, I use Fletcher's (2010) environmentalities typology (neoliberal, discipline, sovereign, and truth) to consider how each could operate to expand agency by promoting diversity, inclusivity, and community. I argue that making the intentions and goals of such enviro-/governmentalities explicit and transparent are key to achieving the plural and just futures we seek.

2. The potential of a fossil vs. a green capitalism: hegemony projects in the multiple crisis of the German society

Hendrik Sanders, Institute for European Urban Studies

In the proposed paper it is argued that in face of the current socio-ecological transformation conflicts about the handling of the multiple crisis four hegemony projects (reactionary, fossil-conservative, green-capitalist, emancipatory) have emerged in the German society affecting the shaping of societal relationships with nature. From the perspective of a historical-materialist policy analysis hegemony projects are understood as condensations of actors with converging strategies that strive for societal hegemony. Firstly, the author illuminates which potential the single hegemony projects have in the German bourgeoisie as well as in different factions and milieus of the subaltern classes. Secondly, the author analyzes how the competing strategies materialize in political long-term programmes elaborated by central state apparatuses as well as in rather short-term elections, party politics and governmental policies. It is shown that a green capitalism has the greatest opportunities to establish as a new hegemonic project in German society despite many contradictions. Finally, the findings regarding the German case are contrasted with the international debate on fossil and green capitalism and the societal dynamics in other societies.

3. Hegemony, counter-hegemony and nature: understanding forestry practices in Carpathian woods

Maciej Grodzicki, Jagiellonian University in Krakow

Increasing tension between timber extraction and ecosystems sustainability can be observed in Carpathian region of Poland, as identified by the multiple conflicts between the public institution State Forests, the wood industry, local communities, and the ecological movement. The intensified logging in old-growth forests in mountains is a subject to growing criticism. The paper aims to contribute to understanding forestry practices in state-dominated socioeconomic systems by seeing the problem through the

lens of concepts of the social metabolism of nature and Gramscian theory of hegemony. We investigate power relations, social practices and ideas in two mountain locations in Polish Carpathians, Zawoja and Bircza, and conduct a relational comparison of them, as embedded into a broader socioeconomic system (hierarchies and circuits of capital). Based on a combination of quantitative data with insights from in-depth interviews, we demonstrate how hegemony of market rules and State Forests infiltrates traditional, customary practices. Local ecological conflicts are mostly of distributive nature, and relate to shifting of costs and benefits of timber extraction. Conversely, reproductive conflicts are enacted by external actors, and a such are easily maintained by the hegemon. The potential for counter-hegemonic protectionist logic, though limited, exists and is conditioned on its embeddedness in local institutions of ownership and social provisioning.

Parallel session 5

Time: 10.00-11.30

Hybrid panel DO27: Political ecology of connectivity and conservation I

Ananda Siddhartha, Wageningen University & Sayan Banerjee, National Institute of Advanced Studies – hybrid from Dodoma

One of the impacts of human actions on the environment has been the division of landscapes and natural systems into spatially isolated parts, commonly referred to as fragmentation (Hobbs et al. 2008). Such fragmentation has been detrimental to the mobility of wildlife (Bennett 1998, 2003) and pastoralists (Said et al. 2016). To counter further fragmentation, 'connectivity conservation' has now become a widely used conservation tool and buzzword, especially in countries with high densities of humans and wildlife. To protect or restore connectivity for wildlife or pastoralists, one has to engage with and account for changes in land use and associated tenurial regimes. Agriculture is often identified as a common threat to both the mobility of wildlife and pastoralists. While the idea of restoring connectivity is captivating, how one goes about it can prove to be challenging (Crooks and Sanjayan 2006) considering the implications to the various actors in a landscape labelled as important for conservation or pastoralism, and who will benefit and who will lose in the process. Through this panel we aim to bring together researchers and activists who are critically looking at the politics of connectivity conservation for wildlife and pastoralists and its relation to land use for agriculture.

1. Fix'ation: exploring multiple fixes in an elephant corridor in South India

Ananda Siddhartha, Wageningen University and Research – hybrid from Dodoma

The increasing interest and importance given to corridors and connectivity for biodiversity conservation has led to a variety of ways by which land is set aside for them, through easements, acquisition or other means. While doing so is no easy task, it often discounts how these landscapes have been 'fixed' over time for different forms of capital accumulation. Using developments in what is now notified as the Sigur elephant corridor in Tamil Nadu, South India as an empirical case, this article uses David Harvey's idea of the spatial fix as a point of departure to explore multiple fixes in this landscape. It highlights how different conceptions of conservation, land and resource use during the colonial period and in independent India have shaped and continue to shape this landscape. Among the uses of this landscape over different periods have been timber extraction, agriculture, a cattle-based economy and wildlife tourism, which have overlapped in interesting ways. Recently, judicial intervention through a ruling by the Supreme Court of India brought about a new dimension to this landscape that appears to have privileged its ecological value over capital accumulation. This article will unpack what impact this recent ruling in favor of an elephant corridor has had on agriculture and tourism-based livelihoods in the landscapes.

2. Community-based wildlife conservation and the production of a rural actor in southern

Lucius R. Mugisha, University of Dar es Salaam – hybrid from Dodoma

The manner in which community-based wildlife conservation (WCBWC) interventions have shaped thoughts, actions and practices of rural people in southern Tanzania is not clear. CBWC in Tanzania is actualized through Wildlife Management Areas (WMAs)—which are part of the village land earmarked as wildlife corridors, connecting different ecosystems. This article is based on ethnographic data collected from village communities around Mbarang'andu and Kimbanda WMAs—which form part of Selous-Niassa Wildlife Corridor, connecting Selous Game Reserve in Tanzania and Niassa National Park in Mozambique. Evidence indicates that, although framed around the narrative of community participation, WMAs reproduce conventional views which represent rural people as traditional, homogenous and less productive as a conducive condition for fortress conservation. This assumption has two important implications for rural subjects. First, is a wish by experts to produce rural conservation actors who would abandon conventional productive activities—livestock keeping, crop farming, charcoal burning, bush meat hunting, etc.—in favour of conservation friendly activities for ecotourism and basic income payment (BIP). Secondly, are the struggles by rural actors to retain their identity by (re)claiming access to conserved yet very productive land for crop farming and livestock keeping. It concludes that rural actors in southern Tanzania are both conservation actors and producers of livelihoods through crop farming, livestock keeping, hunting etc. CBWC interventions therefore ought to optimize both rather than choose conservation of ecosystems over production of livelihoods.

3. 'Connectivity' for whom? Narrating the gendered dynamics of conservation corridors in (post)conflict Karamoja

Natalie Carter, University of Cambridge – hybrid from Lund

With Target 3 (aka 30x30: the commitment to protect at least 30% of land and sea by 2030) enshrined in global biodiversity commitments, countries are seeking to expand localised forms of area-based conservation and enhance the 'connectivity' of conservation spaces through corridors. The gendered implications of connectivity conservation are frequently overlooked and understudied. This leads to lack of a nuanced and situated understanding of intersecting inequalities, which may in turn compound and produce uneven topographies of vulnerability in mixed-use landscapes. Research is particularly warranted in (post)conflict Karamoja in north-east Uganda, where embodied experiences of human-non-human relations also intersect with a history of protracted conflict and manifold forms of violence. Adopting feminist political ecology as a central lens, this paper will describe plans for research into the operation of gender (and other intersecting inequalities) in the mosaic of boundaries that makes up the 'Kidepo Critical Landscape' corridor. I plan to map the position of gendered actors in this corridor and how they shape it from within, remaining alive to the politics of defining 'boundaries' and whether those that align with connectivity ambitions are relevant to (semi)pastoralists' spatial lives. This will involve narrating the affective geographies of life in the corridor, paying attention to the history of violence and increased vulnerability to human-wildlife conflict. With an ambition to use creative ethnographic and archival research methods, this research seeks to make visible the dynamics involved in corridor creation, challenging dominant imaginaries of connectivity conservation and whose interests it shapes.

4. Centering social and ecological uncertainties in conservation prioritization modeling in East Africa

Ryan Unks, Institut de Ciencia i Tecnologia Ambientals ICTA-UAB, Univ Autonoma Barcelona – hybrid from Dodoma

Ecological models of wildlife habitat connectivity and carbon sequestration have been at the center of spatial planning in landscape approaches to conservation practice in pastoralist lands in East Africa. The increasing prevalence of modeling and other spatial prioritization practices raise a number of new concerns because past conservation interventions have commonly overlooked pastoralists' values, relations with, and knowledges of wildlife and land. I examine the uncertainties and gaps that wildlife conservation prioritization models produce and reproduce in spatial representations of complex socio-ecological relationships. I present a synthesis of these uncertainties and gaps in the most commonly applied data and modeling practices alongside analysis of scientific publications and conservation practitioner grey literature, and describe the ways that models have been used to inform spatial planning in East Africa. I highlight the implications of spatial planning practices, and the data, models, and analyst choices they rely on, for procedural, distributional, and recognitional aspects of interventions that have taken place in different contexts where pastoralism is the primary livelihood of communities. I discuss the politics of how models are deployed in planning at different scales, and modeling as an interface between transnational actors and pastoral communities.

Panel 232: Political Ecology of Glacierized Environments

Mayank Shah, Lund University Centre for Sustainability Studies (LUCSUS)

Glaciers Stream Glaciers are not just geographical features; they are integral components of global ecosystems and sociopolitical landscapes. The political ecology of glacierized environments represents a multidisciplinary domain where environmental changes intersect with societal structures and power dynamics. Mountain regions face a multitude of crysopheric-associated perils (Hock et al. 2019) and the anticipated decline in the cryosphere is expected to bring about alterations in the occurrence, severity, and geographical extent of these hazards. Around the world, glaciers have been retreating at unprecedented rates. Their retreat, as underscored by the Intergovernmental Panel on Climate Change (IPCC) in their Special Report on the Ocean and Cryosphere in a Changing Climate (2019), is both emblematic of global warming and a harbinger of environmental transformations. Glaciers affect people and societal relations worldwide on many levels, whether by influencing mountain ecosystems, providing water for drinking and agriculture, generating hydroelectric energy, determining safety for downstream communities, or driving tourism economies and other types of livelihoods. Glacier retreat also affects the mobility of rocks and incidence of glacial lake outburst floods (GLOFs) and exacerbates the risk of flooding and water shortages associated with climate change. A recent example is the rockslide disaster that took place in Chamoli in Uttarakhand India, where hydropower energy infrastructure was destroyed, and hundreds of people died as glacier ice and rock collapsed and led to unusual debris flow in the valley. To provide a comprehensive analysis for changing glacial environments, there is a need to broaden the scope of research in glaciology. In this context, this paper panel's main purpose is to connect political ecology studies with studies of glacierized environments across the world. We aim to explain the effect of glacier retreat on land use, energy infrastructure, and other livelihood aspects in glacier-affected or glacier-dependent communities from a political ecology perspective. Political ecology has an explicit goal in identifying power relations within and across communities based on ethnicity, caste, gender and age. Mountain/Glacier communities are experiencing notable demographic expansion while concurrently undergoing transformative shifts in land utilization along with their constant tryst with rapidly changing modernity and engagement with powerful structures cutting across social, religious, political & geopolitical lines. This transition is notably exemplified by the rapid proliferation of essential infrastructure (whether to enhance tourism economies or secure international boundaries), encompassing roads and hydropower projects, which are progressively permeating the intricate tapestry of mountain terrains (Pörtner.H.O et al, 2019). The dynamic interrelation among natural perils, human habitation, and infrastructure constitutes a pivotal factor, capable of markedly amplifying the consequences of events akin to the Chamoli flood. Specific questions on land ownership, migration patterns and alternative livelihoods can be part of glacier studies by emphasizing 'who gets what' and 'who loses how and where.' Such a differentiated approach can inform policy makers in adaptation planning and holistic disaster risk management. Glacier-dependent communities, especially those with Indigenous and local knowledge, play a pivotal role in this narrative. Their insights into glacial behavior, adaptation strategies, and observations of environmental change offer invaluable contributions to the understanding of glacierized regions (Gagne, 2018).

These communities, as stewards of these environments, are often on the frontlines of climate change impacts. Their experiences and responses form a central component of the political ecology discourse (Molden et. al, 2021). Moreover, the political ecology of glacierized environments is deeply intertwined with questions of environmental justice. The distribution of benefits and burdens, access to resources, and the ethical dimensions of resource allocation are brought to the forefront. Thus, political ecology serves as a compass for unraveling the intricacies of power structures, conflicts, and cooperation that underpin human interactions with glaciers and the broader implications for society and the environment.

1. From apocalypse to economic growth: glacier melt in popular media discourses

Mine Islar, Sahana Subramanian and Carmen Marigotta, Lund University

Glaciers around the world are retreating at unprecedented rates that has triggered, and exacerbated, a range of environmental and societal issues relating to glacial lake outbursts (GLOFs), flooding, energy production, hazards and disasters, agriculture, downstream livelihoods, and stability of mountain ecosystems (ICIMOD, 2023). One aspect of addressing these issues requires understanding the discourse surrounding glacier retreat, evident in influential reports like the IPCC Special Report on the Ocean and Cryosphere in a Changing Climate (2019) and ICIMOD's literature assessment (2023). Additionally, popular media's role in shaping public discourse on glacier retreats is crucial. Through discourse analysis, and drawing on climate communication and critical studies, this study aims to analyse newspapers to investigate how glaciers are framed in popular discourse. Our dual objectives are to compare local and global framings across North America, Northern Europe, Latin America, South Asia, and Southern Europe, and to identify the thematic contexts of glacier reportage in media. By examining the localisation or globalisation of glacier reportage and discerning thematic inclusions and omissions, this research bridges gaps in understanding how media representations contribute to public discourse and contemporary discussions on glacier melting and its ensuing socio-ecological impacts.

2. Conservation & adaptation minus rights: Contestations around commons in a Trans-Himalayan valley of Himachal Pradesh

Manshi Asher, Himshi Singh and Prakash Bhandari

Himdhara Forest 'degradation' in the Himalayan region has been a preoccupation of conservation policies. Though 'joint forest management' gained prominence in the late 1980s, the thrust of mainstream Himalayan conservation initiatives, implemented through the State forest department, had been to 'reduce the pressure' on forests placed by mountain populations and their livelihood practices. This colonial top down approach was evident not just in implementation of these programs but also because legal access to forest resources remained fraught for indigenous communities. While the sustainability of these initiatives has also been critiqued, in the trans Himalayan Lahaul valley, the Himachal Pradesh government in recent years has claimed success of its JFM programs reporting forest cover growth and attributing it to the afforestation initiatives undertaken in collaboration with local women's collectives. This study examines this claim through local narratives, especially those of the women's collectives, around forest land

dependence, access and governance. We found that women's collectives or Mahila Mandals in upper Lahaul reported self-regulatory measures initiated in the wake of commercial pressure on forests after the formation of the district. While a massive avalanche in 1979 triggered this initiative in a few villages, the same spread to other parts of the valley, in particular for regeneration of the culturally invaluable Juniper forests. We highlight testimonies of failure of afforestation schemes in the region, barring few successes where community was involved. We found that the old willow plantations in the valley were part of the traditional agroforestry practices to cater to fodder and fuel needs. The paper documents indigenous people's concerns around the non-implementation of the Forest Rights Act, 2006, that recognizes the legal tenure of local right holders over forest land and provides institutional mechanisms for community led forest conservation. Juxtaposing state policy narratives with diverse grassroots voices, reveals FRA's potential and challenges. We critique contemporary climate adaptation strategies for reproducing power asymmetries of mainstream conservation by sidelining the FRA as a legal constitutional mechanism for a community led approach to climate risk reduction in the region.

3. Exploring land in refugee resettlement: perspectives from the Himalayas

Hanna Geschewski, Chr Michelsen Institute and University of Bergen

In the context of refugee (re)settlement, land is primarily discussed as a productive asset for refugees to attain self-reliance and livelihood security through activities like farming, gardening, or raising livestock. But the significance of land in displacement and resettlement is complex, encompassing material and ideational dimensions that shape processes of emplacement, refugee-host interactions, local integration, and well-being, among others. This presentation discusses the complexities of land in protracted displacement contexts, building on theoretical and empirical insights. In the first half, I will share findings from an interdisciplinary literature review on refugee-land relations. I will (1) outline some of the modalities of land (access) provision in displacement-affected communities, and (2) delve into the multiple roles, meanings, and values associated with land beyond its productive and ecological capacity. The second half will focus on empirical findings from recent fieldwork in Tibetan refugee settlements in central and northern Nepal. This segment will include a discussion of how land was made available to and has been used by Tibetan refugees, followed by an exploration of three dimensions of land: land as meeting place, land as contested, and land as sacred.

4. Scaling Pastoruri: Claiming Justice in a Fragmented landscape

Mattias Borg Rasmussen, University of Copenhagen

Conservation continues to be a key challenge in a world of multiple and overlapping crises. 'Scaling Pastoruri' tells the story of the intersections of two of these - climate and biodiversity – and their particular political and territorial effects in an attempt to reimagine conservation in a glaciated landscape under transformation. Situated in Peru's Cordillera Blanca, the presentation examines the deep relationality of territory and identity of a comunidad campesina as they struggle to maintain control over their resources. In particular, it aims to unpack the scalar politics of glaciers as an area of

contestation between the community and the Huascarán National Park. I suggest that the encounters around the Pastoruri Glaciers and the attempts to define the proper scale of its governance in the context of climate change demonstrates how a socially just conservation entails the recognition of relational autonomies, knowledge systems and rooted regimes of value.

Roundtable 263: A movement of many movements. How we build convergence between struggles in a world on fire

Salvatore Paolo De Rosa, University of Copenhagen

Our world is traversed by compounding crises that foreshadow dystopian futures. Climate and ecological devastation result from, and intensify, other crises of inequality and precariousness, war and displacement, gender, racial, and colonial violence. Capitalism is not going to save us. Rather, this conjuncture calls for radical social movements to address the question of how to effect systemic change, by cultivating a radical politics of collective emancipation towards desirable futures. Creating global counter-power imposes a politics of convergence between different struggles. A degree of strategic unity across radical social movements remains necessary for any transformative political project. Climate justice has arisen as a potential platform for a mass movement rooted in frontline communities and class-based and emancipatory struggles. However, different interests and contextual challenges often prevent common articulation. These complexities impact on potential connections and obscure possibilities for solidarity. What is required is the creation of a common horizon of struggle. In this roundtable, we aim to open a strategic discussion on the prospects for building a "movement of many movements" and on the processes to sustain its realization, focusing on the Nordic countries. Concurrently, we want to inspire political ecologists to engage more with theories and practices of radical transformation.

Panelists:
Laura Horn, Scientists Rebellion and Roskilde University
Nikoline Borgermann, Activist and University of Copenhagen
Jonas Algers, Lund University
Vasna Ramasar, Danish collective against environmental racism & Lund University

Panel 265: Political Ecologies of carbon removal, net zero and climate delay V

Wim Carton, Lund University

This fifth session in the stream of sessions entitled "Political Ecologies of carbon removal, net zero and climate delay" focuses on how CDR is brought into being through

discourses, standards, and accounting procedures. See the first session for a description of the entire stream.

1. Counting on Peatlands: Contingencies of Carbon Accounting in Peatland Restoration

Roosa Rytkoenen and Nye Merrill-Glover, University of Birmingham

This paper problematises the category of carbon removal by exploring carbon accounting in peatland restoration. We draw on initial insights from a Leverhulme Trust funded research project (2023-2026), Carbon Futures in the Mire?, which studies controversies surrounding peatland restoration in Estonia and the UK. Natural peatlands serve as significant carbon stores, holding more than twice as much carbon as all forests globally. At the same time, emissions from historically-drained peatlands – and still ongoing peat extraction – remain strikingly high, especially in many European countries. Accordingly, large-scale rewetting of degraded peatlands is increasingly being pursued as a potentially powerful solution for climate change mitigation and an essential component of 'net zero' transitions. However, the metrological procedures for the evaluation of peatland emissions and their incorporation into national GHG inventories are socially, politically and scientifically contested. The ecological diversity of European peatlands and the fragmentary nature of existing data sets, further complicates efforts to 'scale-up' peatland restoration as a 'natural climate solution'. In response to the conference call, the paper examines: 1) how peatland ecosystems intrinsically resist straightforward categorisation as carbon sources or removers; and 2) how the promise of active carbon sequestration is nonetheless mobilised in ecological restoration to create new peat-based carbon economies.

2. Restoring trust, enabling supply: visions of digital monitoring, reporting and verification

Kirstine Lund Christiansen, University of Copenhagen

The voluntary carbon market (VCM) faces a crisis of trust amid accusations of greenwashing, just as companies worldwide increasingly rely on it to achieve their net-zero targets. To address the criticisms, digital technologies to improve the monitoring, reporting and verification (MRV) process of nature-based carbon projects are envisioned to provide greater transparency and thus restore the legitimacy of the market. This study analyses narratives and visions developing around digital MRV, building on public communication from digital MRV enterprises and observations at industry events. Drawing on literatures of green capitalism, I argue that digital MRV enables a vision of large-scale nature restoration. Yet, as the technologies are largely used to render nature legible to economic and financial logics by producing more carbon credits which are also considered more trust-worthy, I suggest that digital MRV entail a kind of non-disruptive disruption. Digital MRV largely serves to solve two issues in the market, namely that of buyers facing reputational risks and expected supply constraints. Thus, the promises of digital MRV relegitimises ongoing carbon offsetting practices.

3. Establishing a Certification Framework as a site of Collective Experimentation? The case of the European Commission Policies on Carbon Removals

Paul Wunderlich, University of Vienna

This paper examines the case of the Carbon Removal Certification Framework (CRCF), highlighting the socio-material practices of the policy process as a market in the making (Callon, 2009). Drawing on science and technology studies and the social studies of finance, I conceptualize the CRCF as a site of real or collective experimentation and examine how the development of its methodologies serves as a contested testing ground for the creation of a voluntary market for carbon removals. Using the documents underlying the European Commission's adoption as well as the open consultation process as my empirical material, I aim to address critiques of de-essentialized and optimistic visions in performative economic studies (e.g. Blok, 2011 & Mirowski and Nik-Kah, 2019). Exploring the role of NGOs and other concerned groups in carbon marketisation processes could help to reframe performativity as part of a broader political ecology, and deepen understanding of contested eco-sciences and their influence on market design politics.

4. The Zonal Politics of Net Zero: Carbon Forestry and Reimagined Agrarian Futures in San Martín, Peru

William Lock, University of Sussex

Net zero promises and policies have boomed in recent years, leading to the expansion of mapping and zoning programs that seek to transform forested regions into sites of carbon removal. New systems of land management strictly delineate areas for differing levels of extractive activity or conservation, often transferring power from local or national politics to a coalition of actors and novel public/private partnerships acting under the aegis of 'sustainability'. Drawing on theoretical insights from political ecology and ethnographic fieldwork in San Martín, Peru, I argue that, as with the proliferating free trade areas and special economic areas that have underpinned neoliberal extractive activities, the growing net zero economy relies on its own spatial technologies. Analysing how carbon removals are promoted alongside tourism and 'ethical' consumption – but also extraction on forest frontiers – highlights how discourses of net zero are reinforcing and legitimising a specific zonal politics of carbon removal. In Peru, the resulting zones of carbon removal partner a devolved state with a planetary private sector in a form of 'extrastatecraft' that, through a combination of securitisation and spectacle, reimagines rural landscapes, livelihoods and aspirations for investment. Rather than offering transformative change, these zonal politics narrow the field of political engagement and, ultimately, restrict 'possible' agrarian futures.

Panel 32: The Pluriverse of transitions II

Carlos Tornel, UNAM, the Global Tapestry of Alternatives & Alexander Dunlap, Boston University and Helsinki University

This is the second session of a triple panel. For the full panel description – see the first session. In this second session, we continue to engage with the question, if what is being marketed and sold as 'sustainable' and 'renewable' is not what it claims,

then what actually is? The abstraction and commodification of energy that seeks to (re)formulate territorial relationships is being resisted through solidarity, direct action, mutual-aid and other(ed) knowledges. These communal alternatives 'from below,' while different in scale and reach, constitute multiple forms of resistance and struggles for re-existence revealing other horizons of the possible. This panel seeks to present case studies of alternative, autonomous and insurrectionary transitions from 'below.' Said simply, it offers an exploration into post developmental transition(s) and a glimpse into the pluriverse of energy transition.

1. Williche reparations from the Land: Political ontology in the channels of southern Chile

Pablo Aránguiz Mesías, Fundación Wekimün Chilkatuwe, Consejo General de Caciques Williche del Archipiélago de Chiloé, Chile

This proposal is situated in the context of the fjords and channels of Chiloé archipelago, Chilean Patagonia, where the consequences of historic and ongoing colonial environmental injustice (Sultana, 2021), dispossession from traditional lands (Correa, 2021; Molina & Correa, 1996), and disconnection from cultural practices have disproportionately impacted Indigenous Williche youth and their communities (Aránguiz et al., 2022a, 2022b). Moreover, since 2000 the archipelago has been transformed into a laboratory of socio-technical energy transformation experiments ranging from the installation of mega wind farms, giving rise to new sacrifice zones (Duran, Mondaca, Natho, 2018; Aránguiz, 2020), to the implementation of oil-based energy projects in small island communities (Sannazzaro et al., 2018). In this scenario of ecological precarity (Pérez-Orellana et al., 2020), exacerbated by climate coloniality (Sultana, 2022), a series of practices of resistance, remediation and mutual care have emerged with/in the Williche Indigenous people, generating reparative processes and/or initiatives for transformations of damaged ecologies and communities. For instance, in 2018, members of the Williche community of Weketrumao documented a process of repairing an old water mill of Spanish origin through a series of mingas (collective forms of work) creating the documentary film 'El Molino del Abuelo Juan' (Grandfather Juan's Mill). It is through this environmental kin study (Kanngieser & Todd, 2020), and from a series of episodes born over more than twenty years that I have been alongside the Williche people (from their own institutions and lately from academia) in their territorial struggle against the Chilean State that I will: i) frame a notion of Reparation from the Williche land-based knowledge system and its contribution to Buen Vivir or Küme Mogen.; ii) reflect on the notion of Wenüywen (alliance) as militant research and a practice of solidarity with territorial struggles from inside the university; and iii) contribute to the discussion that advances an anti-colonial definition of the energy transition.

2. Autonomy as a precondition for creating pluriversal energy futures: the case of Ladakh, India

India Neelakshi Joshi, Leibniz Institute

In Ladakh, an ecologically complex trans-Himalayan region of India, two visions of energy transition are in conflict. The first embodies a place-based, indigenous, and socio-ecologically rooted understanding of transition, emphasizing low-impact passive energy

lifestyles as a model for both regional and global climate action. The second is a top-down technocratic approach, as envisioned by the Government of India, aiming to open up Ladakh to large-scale solar farms, geothermal and green hydrogen explorations, and critical mineral mining, with the aim of transmitting "renewable" energy to high consumption centers. At the intersection of these contrasting visions lies the pivotal question of autonomy and statehood for Ladakh. This would grant the local indigenous population, along with their political representatives, control over their lands and resources. Taking a series of protests organized in early 2023 by Ladakhi climate activists as a point of departure, I argue that land autonomy is a crucial precondition for safeguarding and showcasing alternative visions of sustainability and transition. My analysis draws from ethnographic experiences of living and working in Ladakh, complemented by key-informant interviews, public speech transcripts, published reports, and newspaper articles. The call for land autonomy challenges extractive notions of transition that perceive places like Ladakh as peripheral and potential sacrifice zones for the modernist energy transition. The Ladakh case not only presents a functional vision of an alternative low-carbon future within local socio-ecological boundaries but also contends that land autonomy is indispensable for realizing pluriversal visions of energy transition.

3. Energy sovereignties from below: Visions and practices of socioecological transformation in Puerto Rico and Catalunya

Gustavo García López, University of Coimbra; Jaume Franquesa, University of Buffalo & Diego Andreucci, Universitat de Barcelona

In this paper, we put forward the notion of "energy sovereignties from below", in order to reflect on the visions and practices of territorial movements mobilizing around corporate energy projects and for reclaiming control over the definition, modalities and scales of a just socioecological transition. Based on a comparative engagement with the cases of Puerto Rico and Catalunya, first, we explore how movements organize to challenge the undesired impacts of energy projects, paying specific attention to how their struggles are grounded in the defense of land/territory and in anticolonial claims. Second, we examine their energy self-provision initiatives, including community-owned renewable energy projects — as concrete manifestations of energy sovereignties from below — in order to understand how and to what extent these contribute to empower movements, create solidarities, and provide viable alternatives to corporate controlled transitions. Comparing these two cases provides opportunities for a South/North dialogue around the meaning of energy sovereignty, the commonalities and differences in conditions and priorities for struggles, and the complexities of applying a framework of "energy colonialism/sovereignty" in global North countries.

4. "Un mundo en el que quepan muchos mundos": exceeding coloniality of power through economic alternatives, contested epistemologies and political ontology

Miria Gambardella, Universitat Autònoma de Barcelona

Inspired by decolonial and postdevelopment theories applying political ontology, this study analyzes – from an engaged anthropological perspective – strategies implemented

by Zapatista coffee producers and solidarity activists to build economic and epistemic alternatives to current capitalist society, commodified and ruled my market values. Conscious that "it is not possible to dominate the world if one does not dominate ideas" (EZLN 2017), the research aims to investigate how native, social and ethical criteria need to invade, penetrate the economic arena in order to make trade possible. Observing how international solidarity activities are narrated, the politics of coffee and knowledge production are investigated as they build opportunities for action within a highly politicized economic sphere. Coffee is a source of income but also an instrument of struggle in which perspectives of change towards possible pluriverses are reified. The flows in which it circulates are built around solidarity connections crystallized in the coffee as an object of exchange as well as a radical space of conflict. The meanings conveyed by the product are constructed on a symbolic level, making coffee a relational political arena in which the legitimacy of transactions is built epistemically, ethically and aesthetically.

Panel 618: Engaging with 'waste'

Mads Ejsing, University of Copenhagen

1. Space matters in diverse circular economies for food waste in cities

Sue Huang, The University of Melbourne

Circular economy (CE) has been widely touted as a new economic order, premised on regenerative use of resources. While mainstream CE have been critiqued for its value-extractive logics, there is emerging academic attention on CE as alternative, progressive spaces of politics and practice (Bassens et al., 2020), that powerfully rethinks the relationship between waste, economies, and ecologies (Hawkins & Healy, 2023; Schindler & Demaria, 2020). Less theorised in these value-nature frameworks are the socio-spatial configurations and materialities shaping the possibilities and limits of revaluing waste (Millington & Lawhon, 2019). I explore this with food waste recycling practices in Malaysia across various scales: community urban farms, corporate retailers, and food rescue charities. Drawing from fieldwork interviews and secondary literature, I find that spatial relational factors shape the revaluing of food waste. Food waste is difficult to valorise and produces intense aversion due to its abject materiality. In cities, urbanised ideals of sanitation and proximity to human habitats limit the food waste accepted for recycling. For food waste to be tolerated and moved at scale, processes of displacement are required and that infrastructuralise waste. Land use, planning and property markets influence the form of, and access to, social and technological infrastructures for mobilising food waste. Despite these spatial, scalar and material limitations, strong convivial cultures of waste management exist in urbanised environments, based on non-financial socio-ecological goals and realised in ethical practices of gifting and care. My case studies show how spatialities and materialities shape the limits of waste as a resource and reveal the enabling (emergent) conditions for a post-capitalist revaluing of waste.

2. Valuable and non-valuable fractions: (re)presenting a discarded CD-player from Accra

Julie Nygaard Solvang, University of Copenhagen & Celeste Knirke, Freelance Photographer

At Kpone, the biggest dumpsite in Accra, discarded electronics are collected, as they can be dismantled into pieces that are worth money on the global mineral market. For the untrained eye, it is hard to distinguish one thing from the other in the scrap pile, even if you can sense that they have been carefully sorted according to categories. From this pile, a CD-player is retrieved, and components are highlighted because of their metals. The CD-player is given to us as a gift. The informal scrap and waste management sector is a big part of the urban infrastructure of Accra, employing an estimate of 21,000 people in the capital alone. To backtrack the itinerary of secondhand electronics from Europe, we take a point of departure in the CD-player. This found object has thus been taken out of the system and returned to its European sender. With a (re)presentation of the object, we decode its complex itinerary, life span, and valuable fractions. Combining ethnographic methods with photography and installation art, we narrate this value to explore how electronic waste becomes resources and substreams of waste are left scattered on the Ghanaian ground polluting air, water, and human bodies in the process.

3. Exploring the embodied experiences of managing menstrual waste among sanitation workers in Kisumu, Kenya

Sara Gabrielsson, Lund University

Sanitation workers play a pivotal role in the urban sanitation management system of many low-income countries (LICs) to meet the sanitation and waste needs of unserved urban populations. Simultaneously the use of disposable menstrual pads is increasing among menstruators across LICs, but prevailing taboos still compel many users to throw their menstrual waste into toilets and pit latrines. In this paper, we consider how the embodied experiences of manual pit latrine emptiers can add to our understandings of sanitation access and decent work in urban areas of LICs . Drawing on a survey with 120 sanitation workers and 18 in-depth interviews with manual emptiers working in Kisumu, Kenya we analyze the embodied experiences of an already stigmatized group, who now face an even more precarious work life, due to increased exposure to injury, environmental pollution, stigma, and uneven work-life balance. Gained insights from this working community is both valuable for the Kenyan public, by challenging prevailing norms and stigma surrounding the occupation, but also for policy makers to inform about ways to increase social protection policies and health support for sanitation workers and contributing towards decent working conditions raising the status of the occupation.

4. Toxic Displacements: An Environmental Justice Perspective from a Chemical Waste Site in Denmark

Mads Ejsing, University of Copenhagen

This article is concerned with a particular type of environmental problem, namely that of toxic waste. We explore this problem through the case of a generational chemical waste

site at Harboøre Tange on the west coast of Denmark – one of the largest environmental scandals in Danish history. The case entails a dramatic and complex story that brings us, first, from a Copenhagen suburb to a small rural community in Harboøre to the region of Punjab in India. Along the way, chemical traces and toxic histories pose pressing questions of environmental justice in the time of the Anthropocene. Drawing on qualitative interviews and ethnographic fieldwork, we show how environmental harms and inequalities in the area are sustained over time through a series of 'toxic displacements' that make the consequences of chemical waste less seen and felt. Thus, the article adds to existing environmental justice theories about problem displacement by demonstrating how such displacements take place along both spatial, temporal, and cross-species dimensions.

5 . Historicising agrarian climate politics in Sri Lanka's north-central dry zone: from colonial waste lands to hotspots of vulnerability

Harry Quealy, The University of Manchester

As the climate crisis gives rise to de-politicised and de-historicised technical fixes, this presentation seeks to illustrate how engaging with histories of colonialism and uneven agrarian development can provide the necessary foundations for imagining alternative agrarian futures under climate change. Drawing on Gidwani's (2008) dialectics of waste and capitalist value, and recent engagements with climate politics among critical agrarian studies scholarship, I investigate the ways in which legacies of colonial capitalist development continue to influence agrarian climate politics in Sri Lanka's north-central dry zone. Through a reading of the colonial archives, related secondary resources, and 8 months of ethnographic research carried out in 2023, I unpack the evolving imaginative geographies of the north-central dry zone; from colonization of 'waste lands' in need of development under British colonization, to contemporary 'hotspots of vulnerability' under climate change. I explore the continuities between the imaginative geographies of waste and vulnerability and consider their consequences for agrarian climate politics in Sri Lanka's north-central dry zone. In drawing attention to the ways in which histories of colonialism and uneven agrarian development permeate climate politics in Sri Lanka, I argue the need for more historically situated understandings of climate politics, in Sri Lanka and more broadly.

Panel 119: Territory, Ecology, and Violence in Latin America I

Gregory Thaler, University of Georgia

At the nexus of interconnected crises of climate catastrophe, the loss of biocultural diversity, and a rise in violence against environmental human rights defenders, Latin America is also a crucible of creative resistance, subsistence, and survival. The concept of territory grounds critical analysis and political praxis in the midst of these crises, and offers a foundation for understanding Latin American ecologies of governance,

production, violence, and emancipation. Papers in these panels explore political ecologies of interconnected crises in Latin America.

1. The geographies of the energy transition in the Global South: reflections from the Ecuadorian mining frontier

Diana Vela-Almeida, Utrecht University and Karolien van Teijlingen, Radboud University

Current policies and initiatives for the transition towards a decarbonized future largely lean on the replacement of fossil fuels by renewable energy sources and the rapid electrification of transport and industry. While these technologies will arguably reduce carbon emissions, they will also lead to a dramatic increase in the demand for particular minerals, such as lithium, cobalt, copper and rare earth elements. This increased demand for minerals is pushing new commodity frontiers into resource-rich regions in the global South. Here, they concomitantly redraw landscapes and life-worlds in ways that reproduce global and local colonial forms of violence, curtailing a truly just global energy transition. Drawing on literature on critical geography and green colonialism, this article explores these reconfiguring geographies resulting from the energy transition in the context of the recent push for mining in Ecuador. Based on a cartographic exploration of the expansion of large-scale mineral mining and an analysis of the discourses and governance interactions that emerge at this frontier, we contend that the growing global demand for minerals is fueling socio-environmental conflicts, violence and injustice. Over the past few years, Ecuador has seen a notable increase in the use of public forces, especially the military, to intervene in mining conflicts and press for the entrance of mining companies into territories inhabited by (indigenous) peasants. We conclude that the rush on transition minerals and the related "accumulation by militarization" are worrisome developments that show the shortcomings of current decarbonization policies and that hamper a truly just energy transition.

2. Territorialising the 'toxicity continuum' in a Chilean mining 'sacrifice zone': Memory, uncertainty, and anticipation

Armando Caroca, University of Manchester

In Latin America, the term 'sacrifice zone' has been increasingly used by the media, NGOs, academia and authorities to describe highly degraded areas around extractive sites that are largely neglected by the state, or under a prolonged 'slow violence'. It is well known that 'sacrifice' alone does not cover the range of scenarios experienced by affected communities. Instead, it has been proposed to broaden the range of scenarios to include ignorance, confusion, and mobilisation, among others, and to organise them along a 'toxicity continuum' formed by material, discursive and knowledge-based dimensions. This paper incorporates a spatial account of the above continuum in which matter, people and multiple narratives are enrolled and spatially distributed to produce new geographies of extraction, sacrifice and mobilisation. Furthermore, drawing on fieldwork at a large-scale copper mining waste 'sacrifice zone' in Chile, this paper highlights the specific role of collective memory, uncertainty, and anticipation of future catastrophes in the production and characterisation of extractive territories. In doing so, this study complements the account of structural, large-scale processes involving the

state, mining companies, and hegemonic economic and political regimes, with a more nuanced account of local narratives and everyday struggles.

3. Everyone decided to declare war on the forest": Violence, conflict, and territorial peace beyond the trees in the Putumayo, Colombia

Juan Antonio Samper & Torsten Krause, Lund University

In post-peace agreement Colombia, everyone decided to declare war on the forest. In regions like the Putumayo, this war takes its own particular form. The forest, in the Putumayo, is the Andean-Amazon: a rainforest t, mostly to those who claim to know it, and a selva to those who inhabit it. We argue in this article that the "war on the forest" has several components, some material and others discursive, and that what they all have in common is that they are all wars against the selva. We draw on a mix of empirical material to analyse how the war on the forest has manifested in this Andean-Amazonic territory, providing useful insights about some connections between conflict, peace, violence, and territory. We find that both deforestation and the military and criminalizing responses to combat it are two sides of the same war on the forest. Furthermore, we draw on the territorial peace concept to discuss how discourses of peace building are ambivalent, both legitimizing the continuation of the wars on the forest but also opening spaces for the defence of territories. This approach allows us to elucidate how the war on the forest is manifested through specific forms of violence that hampers historical political ecological struggles in the Putumayo to defend the Andean-Amazon selva. We conclude with a final reflection about what territorial peace means for the defence and becoming of the Andean-Amazon selva.

4. Colombia's long road towards peace – Implications for Environment and Human Rights Defenders

Torsten Krause, Juan Antonio Samper, Ana Maria Vargas Falla, Fariborz Zelli and Britta Sjöstedt, all from Lund University

Human rights defenders, social leaders and environmental and indigenous activists fight for political, cultural, social, economic and environmental rights and often face intimidation and violence as a consequence. In this article, we provide evidence on how the implementation of the peace agreement between the government of Colombia and the FARC-EP guerrilla group since 2016 led to an increase in levels of violence against Environment and Human Rights Defenders (EHRD) in Colombia. Despite the expectation of a more peaceful future, EHRD have faced increased intimidation and violence, with Colombia becoming the country with the most killings of EHRD annually on a global scale. We seek to understand this counter-intuitive development through Fraser's theory of social justice that stresses the need for integrated measures to address economic, political and cultural injustices in parallel. The theory argues that a focus on correcting cultural misrecognition and political misrepresentation of vulnerable groups may, paradoxically, mask or even facilitate further injustices, if that focus is not matched by sufficient efforts to address economic maldistribution. The fate of EHRD since the peace agreement reflects such an imbalance in justice priorities. Drawing on data from secondary sources, ethnographic interviews, and an analysis of policies and laws, we find

that, since the peace agreement was signed, new forms of maldistribution have emerged and solidified in the country, including land grabbing, displacement of local populations, resource extraction and illicit economies, which are strongly related to the growing influx of drug cartels. Despite the increasing advocacy of international organizations and regional legal agreements to protect EHRD, they are, thus, caught in precarious roles between cultural recognition and political and economic abandonment by state institutions and are affected by the global trade in illicit products and the demand for land, agricultural products and minerals. This finding, we argue, warrants more research into the imbalance of addressing local and global injustices during peace processes and its fatal implications for EHRD in Colombia and globally.

Hybrid panel LU135: Contested imaginaries? Eclectic pathways of agrarian change I

Irna Hofman, University of Oxford & Michael Spies, Eberswalde University for Sustainable Development – hybrid from Lund

In debates on agricultural development, imaginaries of agricultural futures tend to be polarised. On the one hand, state actors and powerful corporate, as well as quasi-private organisations favour technology-intensive, scientific modes of agriculture, labelled 'modern' and 'advanced.' Other actors, for instance social movements, counter such narratives and dogmas by promoting smaller-scale, autonomous (sovereign) and less input-demanding modes of farming. However, at times, they have also been criticised of idealising the local. Both groups of actors aim to take on a role as architects of agrarian futures with their own ideals and couch their ideas in terms of resilience and sustainability, particularly in the context of climate change. Who owns the control over, and who governs, future production pathways? How and where do farmers position themselves in these debates, and how do they make sense of these contrasting visions? Whilst some farmers may follow advice of specific actors decisively, others may selectively adopt advice, resulting in a 'middle ground' or 'bricolage' of knowledges. How can scholarly research contribute to account for and appreciate the heterogeneity of agrarian imaginaries? In a hybrid double panel (two panels à four papers), we critically examine these questions. The empirically-rich papers presented in the panel are diverse, spanning the globe: South America; Central Asia; Africa; Southeast Asia; Middle East; and, Europe. The panellists adopt political ecology lenses yet differ in the level of analysis. Thematically, the papers' foci are unique and timely and range from research centred on the digitalisation of agriculture in Ethiopia to a policy analysis regarding the envisioned transformation to plant protein diets in the Netherlands. Cumulatively the panels address and engage the diversity of actors that are implicated and/or involved in the making of agricultural futures, and with what result.

1. (Constrained) imaginaries of smallholders: Perspectives from South Punjab, Pakistan

Mehwish Zuberi, Eberswalde University for Sustainable Development – hybrid from Lund

In December 2022, twelve farmers in Multan district, Pakistan, convened to appraise public agricultural strategies for modernizing and intensifying agriculture. Despite initial skepticism about modernist approaches for smallholder farmers, the participants later mirrored policymakers' paradigms in their proposed alternative strategies. This phenomenon is explored through the lens of "constrained spatial imaginaries". Spatial imaginaries are understood as collective sense-making processes, particularly in constructing stories about spaces and the material practices that frame shaping agrarian production pathways. These imaginaries, influenced by factors like resource scarcity and historical contexts, often align with the logic of industrial agriculture, reflecting the region's Green Revolution legacy.

Focused on South Punjab, Pakistan, the study addresses smallholders' imaginaries, their determinants, and challenges in proposing alternative farming strategies. A mixed methods approach is applied that includes long-term qualitative fieldwork and participatory workshops. The presentation delves into dominant policy paradigms in the region vis-à-vis farmers' perspectives. Results reveal how historical, structural, and livelihood vulnerabilities constrain farmers' imaginaries, leading to pragmatic strategies within existing systems rather than challenging them. We emphasize the need to understand and overcome these constraints to foster agricultural innovation and sustainability in smallholder communities.

2. Ambiguous ecologies: Exploring the in-betweenness of agro-alternatives in India

Arianna Tozzi, Manchester University and Enid Still, University of Passau – hybrid from Lund

Across India, smallholder and marginalised farmers are experimenting with alternative forms of agriculture as a response to livelihood uncertainties and ecological damage wrought by commercial and chemical intensive agriculture. Sendriya sheti in Maharashtra and maruntu illai vivacāyam in Tamil Nadu, both loosely translated as no-chemical farming, involve a plurality of methods, ethics and politics that farmers employ to cultivate different relationships with the land and one another. Yet, while one would imagine that such changing relations position farmers on a path towards 'natural' or certified organic farming, we find that they involve a constellation of seemingly contradictory practices whereby farmers adapt agro-alternatives to make them work for their circumstances. In this paper, we problematise the idea of 'contradiction' in relation to pathways of sustainable transformation, which implies a norm against which 'more ethical' farming is measured. Instead we engage with these practices as ambiguously entangled with the ecologies that sustain them, their sedimented histories and the ethico-temporal constraints of building more liveable livelihoods on the ground. By analysing this ambiguity, we illuminate the in-betweenness of agro-alternatives as spaces of agrarian heterogeneity that are often obscured by simplistic hegemonic discourses on chemical and organic agriculture.

3. The politics and practices of avocado cultivation: Exploring contested agrarian imaginaries in Palestine/Israel

Fadia Panosetti, University of Cambridge – hybrid from Lund

This paper explores the politics and practices of avocado cultivation in the Palestinian/Israeli context. In the northern rural highlands of the West Bank, vegetables and citrus trees have been increasingly replaced over the past decade by avocados destinated for foreign markets, especially in the Arab World. The Palestinian Authority, together with international organizations, has promoted the cultivation of this high-value crop by presenting it as an opportunity to delink from the Israeli economy and resist settler colonial land dispossession. However, participant observation and semi-structured interviews conducted in the summer 2023 have shown that while some farmers have embraced this narrative and transformed their farm production systems into avocado monocultures in the hope of obtaining higher land returns, others have rejected it. For the latter, opposing settler colonial processes of dispossession and de-agrarianization means restoring agroecological farm production systems where avocados are grown alongside other fruits and vegetables. Centering the voices of farmers with regard to their avocado farming practices, this paper shows how agrarian spaces and subjectivities change not only in relation to state and capital interventions but also to the ways in which heterogenous Palestinian rural communities interact, oppose, and navigate these processes, thus making choices for their future.

4. Pragmatic progress? Understanding seed choice in a context of rural uncertainty in Tajikistan

Irna Hofman, University of Oxford and Michael Spies, Eberswalde University for Sustainable Development – hybrid from Lund

Since the 1990s, an increasingly diverse and growing number of international and domestic actors has become involved in Tajikistan's seed sector. The imperatives driving their engagement, their objectives, as well as their activities, differ widely, and so do the seeds they propagate and value. As a result, Tajikistan's farming population has been exposed to various seed varieties promoted by these actors that align with specific paradigms of the future of farming: Open pollinated, indigenous seeds to strengthen resilience of the agricultural economy, national seed sovereignty, and food security, to high yielding hybrids that boost output and therewith the commercialisation of farming. How do farmers navigate these pathways? Based on in-depth fieldwork in lowland Tajikistan, we examine the diversity of actors involved, the polarised ideologies, and farmers' seed choices, with a focus on maize and cotton. Many Tajik smallholder farmers adopt a pragmatic approach as they select seeds that generate profits on the short term. While they have to consider a variety of factors, their precarious socio-economic status does not allow them to invest with a long term in mind. Indeed, their pragmatism has to be situated locally; understanding seed choice rationales require contextualisation in a political ecology of uncertainty.

Panel 600: Political Ecologies of Conservation in Namibia

Suzanne Brandon, Wageningen University

1. The different shades of green and the apocalypse: discourses in the Okavango River Basin fail to envision a decolonized human-nature relationships

Stéphanie Domptail, Justus Liebig University of Gießen; Dorothee Hensgens, Justus Liebig University of Gießen

Ideals about sustainable development aim to solve the difficulties of concomitantly doing justice to the societal goals of conservation and growth. In practice, the tension is increasing as solutions appear to be increasingly formulated from seemingly opposed worldviews: an ontological war. This landscape of tensions around the meaning of nature/natural resources and the related power struggles will shape the policies for land use of the close future. Our study investigates this ideological landscape for the river basin of the Okavango river using a discourse analysis based on transcripts of interviews with 20 stakeholders of the river basin. We show the seven different discourses that co-exist in the river basin, and highlight the specific meanings of natural resources and development in each of them. From a decolonial perspective, we then discuss assumptions about the human-nature relation. We show that most discourses fail to develop a decolonized relationship to nature, while the extractive view continued to dominate the landscape. The data from 2012 and 2013 reveals a specific discourse of anguish in front of a social collapse, that we see today concretize with the increasing dissatisfaction in conservancies, the non-respect of the national park of Bwabwata and the increased poaching.

2. Environmentality and Epistemic Domination: How Conservation NGOs Culturally Produce Indigenous Identities in Namibia

Ruben Schneider, University of Aberdeen

This paper contributes to debates on epistemic injustices in biodiversity conversation by examining the hidden processes that allow global conservation NGOs to manipulate local identities. Drawing from ethnographic fieldwork in Namibia, the paper analyses conservation NGOs' discourse and practice to reveal how they produce a unitary, culturally essentialised indigenous identity, called 'local environmental guardianship'. The paper shows how each dominant environmentality (neoliberal, disciplinary, and sovereign) employed by NGOs goes hand in hand with a particular cultural construct of local communities as neoliberalised, disciplined, and devolved-sovereign environmental guardians, respectively. The identity conjured by the 'global' to represent and reify the 'local' ultimately creates an appearance of local support and legitimacy for the top-down integration of indigenous Africans into global visions of conservation, security, and development. Conservation NGOs cultural production is conceptualised as an unconscious, but instrumental anti-political cultural weapon that obscures indigenous Namibians' variable self-concepts and heterogenous identities. The paper challenges epistemic domination and injustice by highlighting communal area residents' agency and power to re-imagine, adapt, and resist dominant cultural prescriptions and to envision alternative socio-ecological futures. This research underscores the complexity, unpredictability, and risks involved in the conduct of dominant environmentalities through the cultural (co-)production of local identities.

3. Conservation, commodification and costs of wildlife: a social metabolic analysis of biomass and money flows in conservancies in Namibia

Stéphanie Domptail, Justus Liebig University of Gießen; Jenny Fuhrmann, Justus Liebig University of Gießen; Sakeus Kadhikwa, Justus Liebig University of Gießen

Community-based natural resource management schemes such as conservancies in Zambezi region of Namibia are area connecting conservation parks in the transboundary park of the KaZa. In this context, several villages were encouraged by state and NGOs to form a conservancy, for which a large land use and resource use plan was developed in collaboration with the state. In our case study of one functioning conservancy, we look at how this land use plan affects the biomass appropriation of the conservancy, of the constituting villages (close to far from the park) and of individual households (wealthy, less wealthy). We also compare the biomass appropriate to the money flow that conservation generates through tourism. In this way, we look at how the monetization of resources in the conservancy shapes the biomass and power relations in the conservancy. We use a social metabolism approach and account for occurring biomass and monetary flow, based on data collected on the ground, based on anthropological field techniques. We hope thereby to show how quantitative ecological measurements and analyses can support our understanding of dynamics of livelihoods and power in the conservancy, as an instance of any institution to manage natural resources.

4. Cheetah Empires: Mapping a single-species within the Conservation-Industrial Complex

Suzanne Brandon, Wageningen University

Cheetah conservation is a global affair and Namibia an epicenter for cheetah conservation across the world. By communicating, circulating, and amplifying spectacular narratives around cheetahs' #RaceAgainstExtinction, Namibia-based NGOs have been able to align global audiences, corporate sponsors, conservation experts, and international governments in remarkably effective ways. How conservation NGOs become entwined in social and political systems bolster a profit economy in conservation creating the 'conservation-industrial complex' conceptualized in this paper. Threats of extinction are used by the NGOs to consolidate global authority, money, resources, and power in a way that sustains an effective global cheetah 'empire'. In this paper I conceptualize the conservation-industrial complex through which a global cheetah empire arose. Drawing on thirteen months of ethnographic fieldwork in Namibia and two years of social media research, I examine how certain conservation NGOs are gaining global monopolistic influence and power over economic, political, and ideological spaces of conservation due to the profitability of saving globally valued, individual charismatic species. Cheetahs are an example of how the focus on individual species by conservation NGOs works to create and sustain a profit economy in conservation wherein individual threatened species compete for global attention and money as well as epistemic power and authority.

Panel 293: Just Transitions and Rural Environmental Justice in Europe II

Mathilde Gingembre, University of East Anglia and Brendan Coolsaet, UCLouvain

This (two-session) panel explores the articulations between rurality and environmental justice in the context of green transition policy and processes in Europe. Despite the central place of rural land in pursuing net zero and biodiversity protection targets (afforestation, rewilding, landscape restoration, transition to organic farming, renewable energy development, etc), little consideration is given to spatial justice in "just transition" debates. While environmental economists have established the relevance of the rural/urban divide in informing people's perceptions of climate policies, recent empirical environmental justice studies are highlighting the plural and contentious character of justice claims within rural spaces in transition. Are there "rural justice" claims, narratives, and conflicts (re)emerging in response to climate mitigation and conservation agendas? What dimensions of rurality and injustice do they stress? Who promotes them and how?

1. Governing Green Transitions in Europe's Rural Areas: Rurality and Land Pressure as Blind Spots of Just Transition Approaches

Mathilde Gingembre, University of East Anglia

Just Transition discourses have moved from a narrow focus on the labour rights of fossil fuel workers to a comprehensive paradigm calling for the concomitant pursuit of social justice and sustainability objectives across all sectors. Is the formal recognition that green transitions may have adverse impacts beyond heavily industrialised regions, and that these need to be anticipated and mitigated, reflected within local governance circles in Europe? Is the land-based nature of the green growth economy and net zero paradigm acknowledged by state officials? Drawing on a comparative analysis of institutional discourses in three European countries (the Czech Republic, France and Scotland), this paper explores the consideration given to the spatial justice dimensions of green transitions by those in charge of rolling out climate and environmental policies. Combining a critical policy mapping exercise with semi-structured interviews with state officials from three regional governments (South Moravia in the Czech Republic, the Highlands of Scotland and the Occitanie region in France), the research established that, to the exception of Scotland, insufficient recognition is given to the shifts in patterns of land access and control that are triggered by climate action and to the challenges these may generate, particularly for rural areas.

2. Protecting Or Reviving? Rural Protests and Environmental Justice in the Context Of Natural Resource Governance in The Finnish Green Transition

Johanna Leino, Tuija Mononen, Jukka Sihvonen, Sonja Kivinen, all from University of Eastern Finland

In Finland, the green transition objectives exert increasing pressure on rural areas holding most of the essential natural resources. Conflicts over the governance of these resources have been increasing, demonstrating the tensions between the green transition and justice goals. In 2021 the concept of environmental justice was introduced in the Finnish rural policy program, addressing the contention between the transition objectives and rural realities, and acknowledging the significance of the spatial dimension in just transitions (Garvey et al. 2022). While environmental justice and just transitions in rural areas have remained underexplored and lacking concreteness (Pellow, 2016), we propose a framework synthesizing rural perspectives with environmental justice and rural protests (Woods, 2003). Our study, based on data from seven Finnish rural municipalities with recent conflicts related to critical minerals, and hydro, wind, and solar power plants, presents insights from interviews (n=15) and a survey (n=590) conducted in winter 2023. This research sheds light on rural perspectives regarding the opportunities and risks associated with the green transition. The paper highlights the cruciality of recognizing the rural perspectives in the often city-led decision-making and contributes to the conversation about the rural justice consequences and tensions of the green transition.

3. Identifying Barriers to Just Rural Transformations through the Lenses of Futures Thinking

Zuzana V. Harmáčková, Czech Academy of Sciences and National Institute SYRI and Barbora Nohlová, Charles University in Prague and Charles University Environment Centre

Climate change impacts urgently require transforming current development trajectories. Consequently, a series of policies and economic instruments has been designed to transform rural agricultural landscapes in Europe. However, transformative changes can be met with resistance of rural populations due to local values, knowledge, norms and local understandings of well-being. This contribution explores the relationships between people's willingness to implement landscape-related transformative measures, the perception of their environmental justice, and local understandings of well-being in agricultural landscapes of Czechia, Eastern Europe. We build on a multi-year transdisciplinary Just Transformation labs process, applying an integrated futures- and justice-based lens. The process engaged a multi-actor group and included a stakeholder analysis, field stays, semi-structured interviews, co-design workshops and creative writing workshops. Through these interactions, we identified how various actors conceive local well-being and environmental justice of potential transformative changes, how these plural conceptions are contested within particular places and what normative concerns act as barriers to the shared vision. The results illustrate how creating a long-term safe space for collective learning and building shared understandings can benefit collaborative envisioning and planning for rural transformations. We also demonstrate the great importance of addressing rural justice issues when working with various stakeholders towards sustainability transformations.

4. Rural Justice in A European Green Internal Periphery. Contesting the Uneven Geographies of the EU's Conservation Vision

George Iordachescu, Wageningen University and University of Sibiu

The current EU's conservation vision expressed in the Strategy for Biodiversity links post-pandemic economic recovery with the urgency to expand strict protection. It promotes a shift from extraction towards strict protection by creating people-free areas for natural processes to develop independently of human management. I use a political ecology approach to explore how these strictly protected spaces become frontiers of conservation intervention. Within this process, historical underdevelopment and recent rural decline spur unequal ecological exchange between marginal but biodiverse rural areas and more industrialised and urbanised regions benefiting from the post-pandemic economic recovery. The paper centres on an emerging European conservation frontier taking place in the Fagaras Mountains of Romania. The area witnessed a spur of changes in the governance of natural resources coupled with intense extractivism, illegal logging and contested mining. Currently, these mountains are reimagined as Europe's last 'wilderness' stronghold for developing ambitious conservation projects, emblematic national parks, private wilderness reserves, and rewilding projects. Here, ongoing land abandonment, outmigration and the social marginalisation of local communities accentuate rural injustices. The paper contributes to the emergent discussions around the uneven and unjust geographies of EU's environmental policies by spotlighting the lived realities of conservation in Europe's 'left-behind' rural areas.

Panel 375: At the Intersection of Community Economies and Convivial Conservation II: Commoning & post-capitalist politics

Elizabeth Barron, Norwegian University of Science and Technology; Louise Carver, Lancaster University/TBA21 Academy; Kevin St. Martin, Rutgers, The State University of New Jersey & Ella Hubbard, Sheffield University; Dhruv Gangadharan, Rutgers, The State University of New Jersey

The fields of diverse economies (Gibson-Graham and Dombroski 2020) and convivial conservation (Büscher and Fletcher 2020) focus on extant and emerging forms of economy that foreground ethical interactions among humans and nature, thus contributing to eco-social transformation. Diverse economies emerged from the feminist critique of political economy as "capitalocentric" (Gibson-Graham 1996) and an assertion that economy should be seen instead as a diverse field and a site for political engagement, transformation, and the liberation of economic agency "here and now" (Gibson-Graham 2006). Scholarship in the field has been increasingly attentive to the relationality between economies, nature and the effects of climate, biodiversity and ecological crises (Barron 2015, Gibson-Graham, Hill and Law 2016, Miller 2019, Barron 2023). Convivial conservation centres on liberating conservation from capitalocentrism (Büscher and Fletcher 2020), building on an expansive political ecology literature that traces neoliberal, and at times neo-colonial dynamics, of a conservation sector increasingly shaped by capitalist relations, mechanisms and logics (St. Martin 2005, Bakker 2010, Büscher, Dressler & Fletcher 2014). This two-panel session will explore the possibilities and challenges of a research agenda at the intersection of Diverse Economies and Convivial Conservation across marine and terrestrial contexts. We aim to create a space for thinking collectively about the possibilities and problematics (both

diverse and convivial) which can be drawn between these two areas of scholarship, practice and activism.

1. Subsistence matters: biocultural alliances on the other side of the Anthropocene

Nina Isabella Moeller, University of Southern Denmark & Coventry University

Subsistence is widely regarded as a primitive condition to be overcome. Attacked, outlawed and undermined across the world for centuries, the originary human mode of life-making is either decried as drudgery to be escaped or ridiculed as romanticised fantasy of noble savagery. Drawing inspiration from debates on social reproduction, agrarian change, and the enclosure of commons, alongside the insights of 'historical ecology' (Balée 2006), I propose to reconceptualise subsistence as biocultural alliance-building : a mutually enhancing metabolic relation between humans and non-humans, and a form of habitat co-creation. On the basis of an action research project on ancestral forest gardens with indigenous communities in the Ecuadorian Amazon, I present subsistence as life-enhancing engagement with habitat and co-habitants. I argue that this conceptualisation not only aligns with the practices, analyses and demands of many indigenous and agrarian social movements, but also points to the 'other side' of the anthropocene. Here lie possibilities for radical transformation of dominant economic relations as well as collective strategies for socio-ecological reparation and regeneration. These possibilities urgently need seizing to replace the hollow paradigm of sustainable development and find pathways to more plural and just futures.

2. Restorative commoning: staying in place and doing otherwise

Stefan Laxness, ETH Zurich

The paper explores the practice of restorative commoning in community-led landscape transformation projects in Europe. It investigates a rural indigenous community in Galicia ecologically restoring its common land in response to the encroachment of Eucalyptus monocultures and mining. Putting in dialogue the concepts of patchy Anthropocene and autonomous design, the paper will argue that restorative commoning at a landscape scale grounds an alternative environmental rationality for groups operating in areas ontologically occupied by resource extraction. Intertwining ethnographic field observation with the regional development trajectories, the paper will contribute to the political ecologies of interconnected crises and pluralizing desirable futures.

3. The shock of the old: how a local currency's transition from digital to paper technology ignited monetary conscientization

Ester Barinaga, Lund University School of Economics and Management

"Now that it doesn't come from the phone, where is the money coming from?" asks a member of Wazee Hukumbuka during one of the farmer-cooperative's community meetings. Silas, a local leader knowledgeable about community currencies answers swiftly. "As Wazee Hukumbuka, you are paying members for their seeds from a sort of cooperative fund. That's where the money is coming from. It's just that you are not aware

of it." Soon after, members excitedly discuss activities and goods to include in the rules governing the creation of their local money: waste collection and up-cycling into fertiliser, a member's honey, the labour of plowing and weeding the land. They have become intuitively aware that how their local currency is issued shapes the social, political and material space in which they live. The presentation builds on empirical material from the process of monetary learning ignited by the transition from digital to paper of a community currency in Aboke, rural Kenya. Parallel to "monetary silencing" (Feinig 2022) and inspired by Paolo Freire's Pedagogy of the Oppressed, the paper develops the concept of "monetary conscientization" as the process that expands the agency of money users. In Aboke, monetary conscientization was provoked by the transparency of old technologies, which visualised for money users how to relate to money politically as money issuers and environmentally as a tool for caring for nature.

4. Theorizing postcapitalist politics/economic possibility from the Global East

Lilian Pungas, University of Duisberg-Essen; Markus Sattler, Leibniz Institute for Regional Geography; Ottavia Cima – University of Bern
Diverse and community economies (DCE) scholarship is increasingly prominent in debates on postcapitalist developments. While the specific Anglophone social context was the source of the emerging diverse economies scholarship, we argue that the further advancement of postcapitalist debates critically depends on insights and knowledge obtained from as wide a diversity of contexts as possible. The endeavour to open diverse economies scholarship to theoretical and conceptual inputs from a wider range of regions and angles is important both practically and epistemologically.
In this paper, we seek to fulfil this cognitive project by arguing for fuller inclusion of the DCE's major blind spot - the Global East - in this scholarship and related efforts advancing transformative economic visions.
The paper highlights examples of community economies already contributing to the well-being of more-than-human communities in the Global East and elsewhere. It brings to the fore some preliminary theoretical lessons from this region concerning temporality, the interdependence of diverse economic forms, and the fluid and diverse economic subjectivities. The paper thus underlines the need for a more thorough exploration of economic difference with more nuanced theorizing, geographical relevance and epistemic inclusivity.
This contribution is the result of an intellectual exchange, mutual care and stimulating writing process by the whole 'Polička collective'.

Panel 613: Political ecologies of islands in the Anthropocene II

Matthias Kowasch, University College of Teacher Education Styria, Austria / Inland Norway University of Applied Sciences, Norway & Heide K. Bruckner, University of Graz, Austria

While small island developing states generally produce low levels of greenhouse gas emissions, they are on the frontline of climate and environmental changes—facing rising sea levels, and more frequent cyclones or hurricanes. These occur concurrently to a rise

in extractive industries, including mining activities (on land and deep-sea) and logging. While older Western narratives considered islands as backward, remote and irrelevant places, within Anthropocene scholarship, islands have become salient in conceptualizing both the uneven impacts of climate change and for imagining possibilities for climate-resilient futures (Chandler and Pugh, 2021). As opposed to passive sinking places in need of 'saving' (DeLoughrey, 2019), islands and island thinking (diverse epistemologies and relational forms of human-nature entanglements) are being productively re-centered in scholarship on the Anthropocene (Haraway, 2016; Tsing et al., 2019). For example, research on traditional knowledge and community-based adaptation to the climate crisis have gained significant international attention (e.g. Clarke et al., 2019; Granderson, 2017). Referring to the concept of island metabolism, Bahers et al. (2020) showed how the political economy in small extractive island industries reinforce social, environmental, and economic vulnerabilities.

Nonetheless, political ecology has been largely absent from island scholarship, and islands themselves are infrequently centered as such in political ecology literature (Brown et al. 2021; Manglou et al. 2022).

In this panel, we therefore ask how thinking with and across islands can complicate and enrich existing discussions on political ecology related to territory, natural resource management and mining governance (including of marine 'commons'), climate justice and carbon colonialism, indigenous knowledge systems and epistemologies, and a 'more-than-wet' ontologies (Steinberg and Peters, 2019) that emerge when thinking through land/sea intersections in changing environments.

1. More-than-food mangroves: (re)conceptualizing mangrove forests for Pacific Island food sovereignty

Heide K. Bruckner, University of Graz

Pacific Small Island Developing States have faced increased threats to their food and nutrition security evidenced by rising rates of malnutrition and diet-related disease over the last three decades (Vogliano et al. 2021). At the same time, critical perspectives from political ecology and food sovereignty are needed to contextualize shifts in food and diet in consideration of the rise of foreign-owned extractive industries (like logging) which threaten food livelihoods, economic precarity through global trade, and food system risks exacerbated by climate change. In this paper, I discuss the role of foods from mangrove forests, occurring at the intersection of land and sea, for Solomon Islander food systems, through the lens of political ecology of the body. Through attention to the everyday, embodied socio-material aspects of mangrove food systems, I extend scholarship on indigenous food sovereignty for 'collective continuance' (Whyte, 2017). While food studies and agri-food research in political ecology has focused primarily on land-based agriculture, fisheries and seafood gleaning are often missing from scholarship on the theory and practice of food sovereignty (Levkoe et al. 2017). Furthermore, when fisheries are included, they are framed within marine policy literature or as community resource management, with less emphasis on the role of sea AND land-based food system for enactment of indigenous islanders' identities, worldviews, and meaningful livelihoods. Based on qualitative research in the Solomon Islands, I advocate for a re-framing of agri-

food sovereignty to include the cultural, every day, and embodied aspects of mangrove food systems. This research is placed in conversation with the rising interest of conservationists in mangroves for carbon sequestration—which I argue runs the risk of sidelining, or ignoring, the critical role that food systems in liminal land/sea zones have for food security and cultural practice for Pacific Island communities.

2. Chalk on the white wall of coloniality

Charlotte Weatherill, The Open University

Islands are places that are identified through their vulnerability. As highlighted by Teresia Teaiwa, it is the 'fantasy of continentalism' (Teaiwa 2007) that allows vulnerability to be Othered in this manner, by the global continent of colonial Europe. As Europe is the definitively safe place, islands are the definitively unsafe places. Overcoming this binary is of absolute importance for overcoming the coloniality of climate change. This paper shows how the relationship of climate vulnerability to 'development' is strong, and explores this relationship historically, arguing that it relies upon early assumptions about the distribution of climate effects. These assumptions have prevailed in political discourse despite various interventions that have complicated this early idea of vulnerability. The politics of this framing becomes clearest when thinking about islands. Islands are deemed both safe and unsafe depending on their development status. The designations of SIDS and LDCs as the most vulnerable, and definitively undeveloped categories shows how this link is made institutional. This paper brings together Pacific and critical literatures to show the coloniality of how climate change vulnerability has been folded into development discourses, making the importance of mitigation disappear, like 'chalk on a white wall'.

3. Adapting to what? Epistemic conflicts and strategies in acquiring finance for adverting, minimizing and addressing loss and damage in Vanuatu.

Johanna Tunn, University of Hamburg

Climate change is a Pacific reality. In the Pacific Ocean Republic of Vanuatu, slow-onset events such as sea-level rise are threatening coastal communities and infrastructures, food security and cultural practices, while extreme weather events are increasingly occurring. These impacts pose major financial challenges to pay for climate-related adaptation measures and recovery from losses and damages. To address these challenges, Ni-Vanuatu stakeholders rely on foreign capital from multilateral funding schemes. However, the lack of industrialized countries' mitigation efforts and support for adaptation measures, the 'climate finance gap' including commitments to compensate for climate-related losses and damages, and inequalities in the distribution of climate finance raise pressure on many Global South governments to receive much needed climate finance. Through the lens of postcolonial Science and Technology Studies and Political Ecology, the paper draws attention to the following question: are current funding instruments enabling Vanuatu to adapt to climate change, or are Ni-Vanuatu stakeholders rather adapting to funding conditionalities and knowledge systems set by the funders? I argue that epistemic conflicts affect material access to climate finance, and hierarchizing conditionalities around access to climate finance continue amidst the

justice-driven loss and damage agenda. The paper draws on document analysis as well as interviews and participant observations from two field studies in Vanuatu.

4. Geographies of New Caledonia-Kanaky

Matthias Kowasch, University College of Teacher Education Styria / Inland Norway University of Applied Sciences; Simon Batterbury, University of Melbourne

With this paper, we want to discuss an edited, multidisciplinary volume, published in early 2024, the first to appear in English for many years, which appeals to scientists, students and policy makers across the environmental, social and political sciences. The open access book "Geographies of New Caledonia-Kanaky" provides a unique overview of geographical, historical, political and environmental issues facing the French overseas territory New Caledonia, also called "Kanaky" by the Indigenous Kanak people, who outnumber citizens of European and Asian origin. New Caledonia has seen a long and complex struggle for decolonization, but is still on the United Nations' list of "Non-Self-Governing territories" and there is little sign of change following three referendums and extensive negotiations with France. The archipelago possesses around a quarter of the world's nickel deposits, giving it additional strategic importance when demand for the mineral is strong. The islands have unique biodiversity, and Caledonian coastal lagoons have been listed as UNESCO world heritage sites since 2008. The book offers detailed insights into the environmental and human geographies of the archipelago, we thus deal with various topics of the panel including marine environments, Indigenous epistemologies, decolonization and mining governance.

Panel 614: Resisting extractivism, envisioning just and sustainable futures

Nina Djukanović, University of Oxford

1. Beyond and After Green Extractivism: Alternative Visions of Sustainable Futures from the European Semi-Periphery

Nina Djukanović, University of Oxford

This paper examines the alternative visions of sustainable futures that emerge from the resistance to what was set to become Europe's biggest lithium mine – an element widely understood as crucial for the green transition for its use in batteries of electric vehicles and other "green" technologies. The Jadar lithium project in Serbia led by the mining corporation Rio Tinto was officially cancelled by the government in January 2022 following a series of environmental protests. The mass local resistance thus marked a critical point of contestation of the green transition where dominant climate strategies fundamentally rely on the logic of green extractivism. The paper investigates these challenges to green extractivism and attends to the alternative perspectives on

sustainability, rooted in the profound connection that local communities, primarily small-scale farmers, maintain with their land and soil. Foregrounding organic agriculture over mining, the local communities oppose green extractivism as both an economic development model and a path to sustainability. This paper contributes to the growing literature on green extractivism by attending to the ways in which its logic is being challenged while opening up the space for imagining alternative visions of sustainable futures.

2. Global environmental justice based on the case of bauxite trajectories in France, Guinea, and Spain.

Pablo Corral-Broto, Valérie Deldrève and Mody Diaw, INRAE – Bordeaux / Reunion Island University

As Jarrigue and Le Roux argue, aluminium is the iconic metal of the 20th century (Jarrigue & Le Roux, 2020). Its ease of use for countless products contrasts with the pollution generated throughout the process. Environmental health has revealed conflicts between farmers and foresters over fluoride emissions and between residents and industry over red mud (Deldreve & Metin 2019). However, the French industry, led by Pechiney, and the Canadian industry, led by Alcan, quickly 'relocated' certain production processes to Spain and Guinea, creating a trajectory of colonial modernity for bauxite. What environmental justice emerges in this trajectory, and what Local-to-Global nexus frames it? We aim to study socio-environmental conflicts along this bauxite trajectory: from the mines to the primary aluminium industry. We will ask what types of socio-environmental conflicts have taken place along this trajectory, which actors and which mobilisation strategies have been deployed, whether there has been an alliance between the actors, what the terms of these alliances have been and their limits. To answer these questions, we will use the methods of environmental history and sociology in the study of environmental conflicts and political ecology and, in particular, with the workers involved in the bauxite trajectory.

3. Bridging Justice Struggles: A Political Ecology of Translocal Alliance Building against Extractive Industries

Hannah Porada, University of Amsterdam

This paper investigates the idea of translocal bridge building – related to ideas of networking, coalition, and alliance-building – between groups involved in environmental and social justice struggles. It examines the potentials and promises but also pitfalls and challenges of connecting place-based struggles against extractive industries. It theoretically moves beyond normative-idealized ideas of networks and alliances and roots in non-romanticizing accounts of translocal justice networks, particularly tying it into critical geography and social movement scholarship on movement networks. Empirically, the paper draws on field research with groups struggling against extractive industries, grounding the idea of bridging in place-based struggles against extractive industries across Germany, the Netherlands, and Guatemala. The paper's argument regarding translocal and cross-cultural alliance building is twofold: On the one hand, it highlights the tension between harnessing the potentials of translocal bridging while warning not to

compromise aspects of power, difference, unevenness, space, and scale. On the other hand, it emphasizes that bridging may contribute to empowerment but also risks perpetuating power imbalances within and among translocal movements. The papers insights can inform researchers and social movements alike, highlighting the potentials and challenges of multi-scalar, multi-actor, translocal and cross-cultural alliances.

4. Contesting impact: the power relations of knowledge production in Chilean lithium mining

Mirko van Pampus, University of Amsterdam

The global energy transition has dramatically increased the demand for raw materials, including lithium. The largest global reserves of lithium are situated in the salt flats of the Atacama Desert in Chile and the current boom is expected to result in an increase in production. Local communities and environmental NGOs fear a degradation of the vulnerable ecosystem of the salt flat. The extractive companies on the other hand refute such claims and present scientific studies to support their narrative of limited impact. In this paper, this epistemological contradiction is further analysed and interpreted through a literature study and interviews with representatives of different stakeholders on location. What is observed is an unbalanced and possibly incomplete field of knowledge production, due to a power disequilibrium between the involved stakeholders. As the state takes a passive role in the neoliberal environmental governance model, a lot of initiative lies with the lithium companies. Their privileged access to measurement equipment and data gives them a dominant position in the scientific debate on the impact of extraction. Without addressing root causes of the socio-environmental conflict, this 'scientisation' of the impact debate depoliticises fundamental contradictions between the different interests in the region.

5. Imagining the future: transition, justice and extraction in the Peruvian Andes

Sayuri Andrade, KU Leuven

The concept of energy transition has become a buzzword (Dagnino, 2017) in recent years, amid the perverse confluence between the climate emergency and the permanence of the capitalist mode of production. The growing demand for critical minerals and the imposition of the international (climate) cooperation agenda of the global north, generate pressure on indigenous organizations and its territories. Peru is one of the most vulnerable countries to climate change in the world (Carey, 2010), the second largest producer of copper worldwide, and where the sixth largest lithium deposit (recently discovered) is located. However, for many local communities, 'transition' is just another word for labeling extractivism: "It is replacing oil with lithium". This paper aims to decenter the concept of transition to approach how it is interpreted /contested/ embodied in local communities, through their political and organizational practices. To do this, I will apply a comparative study between the construction process of the 'just energy transition' agenda promoted by the indigenous women's organization ONAMIAP and the imaginaries (Barandarián, 2019; Hecht, 2009) deployed by the indigenous community of Corani (Puno) in the face of the future extraction of lithium that is expected on the margins of their territories.

625: More-than-human political ecologies

Steven Farquhar, Queen's University Belfast

Political ecology has often been critiqued for its anthropocentrism. In this panel, we explore how more-than-human theory – which "is open to the agency of nonhumans and recognises the material and affective interlinkages that cross between humans and nonhumans" (Lorimer, 2009: 344) – can undermine this anthropocentrism and contribute to improved understandings of the socio-material world around us. Drawing upon several disciplines and analysing a range of empirical examples from edgeland, rural, and outer-space environments, we highlight the important roles that biotic and abiotic non-humans play in political processes and events. What does an interdisciplinary and more-than-human perspective bring to political ecology?

1. Art as political ecology/Political ecology as art?: Exploring emotions and the ontological politics of the Mekong River

Johanna M. Götz, Chulalongkorn University & University of Helsinki

In recent decades, the Mekong basin has undergone significant changes from a largely free-flowing, locally mostly predictable river to one impacted by socio-ecological changes – due to large hydropower dams and climate change, among other factors – that have transformed life with and along the river. Plans and practices of 'development' in the Mekong basin have been subject to various in/formal debates. These have included the critical viewpoint of political ecologists and a range of contemporary artists who have often allied with impacted riparian communities. The strength in their approaches lies in calling attention to the very politics embedded in the causes, processes, and consequences/outcomes of changes along the Mekong River. Thereby, the relationality of human and more-than-human is increasingly being re-centered. What remains less explored, however, is the role emotional dimensions play within these human-more-than-human processes from everyday being-with-the-river, to more formalized Mekong River politics, and how it influences art and research praxis. Based on empirical illustrations, the paper argues for the potential of deeper engagement between political ecologists and contemporary art/ists to explore (re)conceptualizations around emotions/affects as well as ontological politics of water/s to imagine plural and more just futures.

2. More-than-human Anarchism and Biodiversity Conservation in the Edgelands of Belfast, Ireland

Steven Farquhar, Queen's University Belfast

In this paper, I develop a synthesis of anarchism and more-than-human theory that draws upon the assemblage theory of Deleuze and Guattari (1980) to analyse the politics of

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biodiversity conservation and urban (re)development in the edgelands of Belfast Harbour. Although these places are often derided as wastelands, they are highly biodiverse and particularly obvious sites of more-than-human territoriality. I explore how the edgelands of Belfast came to be formed and why they are of conservation importance, drawing upon self-reflexive observation, semi-structured interviews, and archival material. Particular attention is paid to human and non-human acts of (de/re)territorialisation and how non-humans can be considered as (geo)political actors. I discuss the local and international historical influences on the emergence of the edgelands, consider how being in the landscape influences understandings of it, and discuss the contested ways of knowing the edgelands. This involves a critique of the neoliberal model of conservation and emphasis on the development of Belfast Harbour, along with the specific biopolitical practices involved. Through synthesising anarchism and more-than-human theory, I argue for an alternative approach to the edgelands of Belfast Harbour that will benefit the non-humans of the edgelands more effectively.

3. Political ecologies of food systems: what place for care ethics in times of crisis? An analysis of local food policies in Nouvelle-Aquitaine (France).

Margaux Alarcon, National Research Institute for Agriculture, Food, and the Environment

In a context of multiple crises, where current food systems are failing to ensure quality food for all and are degrading ecosystems, it is essential to take account of the environmental and social inequalities in access to food, in order to transform food systems. In this perspective, redefining our relationships with more-than-humans may provide a lever for social justice and food justice. This paper examines how relationships of attention to shared vulnerabilities between humans and more-than-humans appear locally, and what is the governance of these relationships. Qualitative analysis of local food policies in Nouvelle-Aquitaine (France) within areas dominated by intensive agriculture, between March 2023 and May 2024, highlights inequalities in the legitimization of relations to the environment on territories. The current crises legitimize the theoretical frameworks of food systems' resilience and sustainability. These frameworks reactivate productivist discourses on the environment, particularly soils, in order to implement food autonomy locally. These dominant frameworks erase other visions of taking environmental issues into account in food issues, based on care, attention and responsibility towards more-than-humans. These less visible, minority visions have thus little political support.

4. Understanding consequences: Reflections from the Planet Arrakis

Sebastian Purwins, University Augsburg

The Environmental Humanities aims to explain the intricate interconnections among ecological, social, and cultural systems, thereby enhancing our comprehension of environmental issues and human-environment relationships. This interdisciplinary approach delves into the cultural, historical, philosophical, ethical, and social dimensions of environmental challenges. Scholars within this domain investigate how human societies conceptualize and interact with the natural world, analyzing the representation of environmental issues in literature, art, and culture. Likewise, I will take the discussion

about living in planetary times to another planet: Arrakis. The planet is the main location the book 'Dune. First published in 1965 by Frank Herbert and lately adapted as a movie by Denis Villeneuve, the desert planet Arrakis makes us think about ecology and the connections to exploitation across time and scale in different ways. The city of Arrakeen, isolated and adapted to the harsh desert climate, winds, and heat, is embedded in a system of colonization and exploitation. Therefore, something that appears locally resilient or adapted can yet (re-)produce the resilience of an undesirable system. But 'Dune' also invites us to reflect on science and knowledge production, symbolized by the ecologist Dr. Liet-Kynes, who lives with the indigenous population (Fremen). Even though he dedicated his life to the science behind how ecosystems work and remain in balance, he ultimately fails in the plan to create a self-sustaining cycle. Moreover, Dune invites us to reflect on the nature of the self, the danger of excess, and that thinking must be multidimensional and open to change. Approaches that even sixty years later are reflected in current debates and struggles about climate change and teach us, what we can learn form engagement with environmental humanities.

Authors' roundtable 636: Aiming for justice in global agricultural supply chains

Timothy Raeymaekers, University of Bologna; Matthew Archer, Maastricht University

Global agricultural supply chains involve the movement and storage of vast quantities of products, money, and people. How these supply chains are governed requires us to view them from different perspectives, from racialized migrant workers on monocrop plantations to corporate managers in sterile office buildings. In this authors' roundtable, Timothy Raeymaekers and Matthew Archer present findings from their new books written from the different "ends" of global value chains. Using different conceptual and empirical vantage points, both Raeymaekers' The Natural Border (Cornell University Press, 2024) and Archer's Unsustainable (NYU Press, 2024) show how the construction and management of global supply chains rely on and reinforce hierarchies of race, gender, and class mediated through complex bordering infrastructures. Based on an in-depth analysis of the way value is entrenched in labor, and in markets, their works offer a different vision on sustainability that aims to be both more politically effective, and more ecologically and socially just.

Parallel session 6

Time: 13.00-14.30

Hybrid panel DO27: Political ecology of connectivity and conservation II

Ananda Siddhartha, Wageningen University & Sayan Banerjee, National Institute of Advanced Studies – hybrid from Dodoma

One of the impacts of human actions on the environment has been the division of landscapes and natural systems into spatially isolated parts, commonly referred to as fragmentation (Hobbs et al. 2008). Such fragmentation has been detrimental to the mobility of wildlife (Bennett 1998, 2003) and pastoralists (Said et al. 2016). To counter further fragmentation, 'connectivity conservation' has now become a widely used conservation tool and buzzword, especially in countries with high densities of humans and wildlife. To protect or restore connectivity for wildlife or pastoralists, one has to engage with and account for changes in land use and associated tenurial regimes. Agriculture is often identified as a common threat to both the mobility of wildlife and pastoralists. While the idea of restoring connectivity is captivating, how one goes about it can prove to be challenging (Crooks and Sanjayan 2006) considering the implications to the various actors in a landscape labelled as important for conservation or pastoralism, and who will benefit and who will lose in the process. Through this panel in we aim to bring together researchers and activists who are critically looking at the politics of connectivity conservation for wildlife and pastoralists and its relation to land use for agriculture.

1. Vital Connections: Exploring connectivity conservation and wildlife corridors in Tanzania

Annette Green, University of Cambridge – hybrid from Lund

Where protected areas were once considered self-contained and standalone conservation investments, for some decades the focus has shifted towards networks of connected protected areas at landscape scale. The idea of the conservation corridor has emerged in parallel as a tool or strategy for supporting ecological connectivity – in its simplest, most intuitive incarnation, a stretch of land under some form of protection connecting two existing areas of conservation value, often with a focus on facilitating wild animal movement. In this paper, I make connections between the discursive construction of the corridor for conservation in the abstract, and the impacts of on-the-ground corridor projects on the people who live with (or within) them. Drawing from empirical research on a village-scale wildlife corridor project in the Kilombero region of Tanzania, I show how multiple elements – including the 'mappability' of the corridor, state-sanctioned spatial planning mechanisms, profit-making motivations of an international volunteer tourism company, and ideas about wild and immutable nature – combine to result in an ecologically questionable but socially intractable conservation space. I argue that corridors for connectivity conservation are not products of the straightforward 'application' of scientific knowledge to a landscape. Rather, they can be understood as an assemblage – a confluence of diverse human, non-human and non-living actors – shaped by diffuse and relational power. This analysis helps explain the burgeoning hegemony of the corridor approach, and highlights the need to interrogate intuitively

appealing ideas in connectivity conservation in light of grand global visions such as 30x30 and Half Earth.

2. Kaziranga National Park: unravelling social injustice in landscape conservation model

Eleonora Fanari, Instituto de Ciencia i Tecnologia Ambiental (ICTA), UAB – hybrid from Lund

Following the international discussion on regenerate and reconnect otherwise fragmented habitats, in the last decades new form of biodiversity managements started emerging under the idea of 'landscape conservation'. India, with a network of 1014 protected areas, have also shifted its focus from a strict fortress conservation model towards what Baruah (2022) calls 'zonation model'. This resulted in the establishment of eco-sensitive zones around PAs as well as the notification of wildlife corridors to enable the safe movement of animals, particularly charismatic species such as tigers, elephants, and rhinos. A move that coincided with an increase in frontline personnel in security, who are assigned to patrol outside of protected areas. This paper critically examines the Kaziranga National Park, a Rhinoceros and Tiger Reserve in the northeast Indian state of Assam, to investigate how connectivity conservation is at odds with the needs of local people who inhabit these spaces, raising issues of recognition, justice, and violence. It will do this by unveil the history of spatial injustice experienced in the area, from being a game reserve for the British royals to a rhinoceros and tiger landscape for the largely tourist audience. Looking at these corridors as a green techno fix to solve anthropocentric issues of biodiversity management, it will highlight how connectivity is part of the larger politic of territorial and biopower control, tracing a thin line between post-colonial and neoliberal conservation. Through stories of resistances emerging in the space the research intends to illuminate the economic interest and the hegemonic structures underlying these spatial changes, and the resulting injustices.

3. Legal and Policy Interpretation of Connectivity Conservation in India

Ishika Patodi and Akshay Chettri, Kalpavriksh Environment Action Group – hybrid from Dodoma

While the need for wildlife corridors has been identified in order to establish and maintain connectivity between habitats, in the context of conservation laws and policies in India, the definition, interpretation and implementation of laws and policies pertaining to 'connectivity and corridors' is still ambiguous. India follows a protected area approach to conservation, and has focused on conservation of flagship species, such as 'tigers' and 'elephants'. Their habitats have been earmarked for conservation, and statutory protection is provided through the Wild Life (Protection) Act, 1972 (WLPA) and other such laws. A critique to existing laws and policies has been that they have, to a large extent, overlooked landscape connectivity, as the focus has been towards securing pocketed habitats through the creation of National Parks, and Wildlife Sanctuaries. However, there are specific legal and administrative provisions under the WLPA, Scheduled Tribes and Other Traditional Forest Dwellers(Recognition of Forest Rights) Act, 2006, Biological (Diversity) Act 2002, and Environment (Protection) Act, 1986, and various guidelines by the Ministry of Environment, Forests, and Climate Change (MoEF&CC) that are seen as

tools for securing habitat connectivity. This paper looks at the definition and interpretation of the laws and policies have taken to wildlife connectivity in India and what are the available legal spaces that facilitate such conservation. It also dives into the interface with various stakeholders in conservation, primarily in terms of use, access and management of such areas. The paper also looks at how the Indian judiciary has played a role in interpreting connectivity conservation.

4. Unveiling Ecological Dynamics: The Role of Pastoralism in Wildlife Conservation Corridors

Rashmi Singh, Institute of Development Studies – hybrid from Dodoma

Within the realm of wildlife conservation and pastoralism relations, recent research has predominantly focused on the social and ecological implications of conservation policies. Drawing from a case study in the Sikkim Himalaya, this paper reveals the transformative effects of a grazing ban in the region. The findings challenge existing narratives by highlighting those pastoral practices, rather than being detrimental, actively contribute to maintaining open spaces for both faunal and floral diversities. On one hand, the ban altered the ecological dynamics of pastures, while on the other, it led to an escalation in human-wildlife conflicts due to the closure of 'open corridors' inside the forest. This study offers a unique perspective to the panel, emphasizing that pastoralists and their livestock play a pivotal role in creating wildlife corridors essential for long-term conservation. This research advocates for a nuanced approach in conservation policies, urging the integration of pastoralists' traditional knowledge into rangeland management. By doing so, it not only emphasizes the importance of pastoral use for sustaining grasslands but also underscores the indispensable role of pastoralists in fostering wildlife corridors vital for biodiversity conservation.

Panel 616: Decolonizing ecologies

Pinar Dinc, Lund University

1. Ecological Racism and Olive Tree Destruction in North and East Syria and Palestine

Pinar Dinc, Lund University

A common understanding of environmental degradation as threatening the future of life on Earth often obscures its unequal impact. This inequality is particularly evident when environmental degradation occurs in areas inhabited by marginalised groups. Such cases often go unnoticed or are justified by hegemonic powers who see these areas as their rightful land, sources of natural resources, or hideouts for insurgent groups. As dominant states continue to use environmental degradation as a weapon against oppressed groups, oppressed groups and their associated insurgent or armed movements have begun to include demands for environmental justice and various resistance activities in their agendas. In this paper, we discuss how the concepts of environmental/ecological racism and ecocide can help to expose these differences by focusing on the destruction of olive trees in North and East Syria (Rojava) and Palestine, as well as tree planting

activities by marginalised groups to combat environmental degradation on their lands. Our empirical information comes from document analysis of reports and interviews with key informants. Overall, the article offers a comparison of Palestine and Rojava, discussing the destruction and extraction of olive trees through the theoretical frameworks of settler colonialism, ecocide and ecological racism.

2. Red Dust and Dying Green Fields: Decolonizing Sustainability in Iron Ore Mining in Eastern India

Deeksha Sharma, Swedish University of Agricultural Sciences

This article critically investigates a troubled relationship between sustainability discourse and rising environmental degradation on the one hand, and social injustices on the other, within iron ore mining operations of Odisha state, India. Historically, the state has observed periodic surges in private and public sector investments for setting up mining activities in the iron ore-rich northern parts of the state. However, affected Adivasi groups have been raising concerns over the state-supported capitalist takeover of their land and the environmental degradation caused by mining activities. Through a case study of iron ore mining in northern district of Odisha, the paper explores the gap between present-day sustainability discourse and historically rooted, colonial origin exploitation of Adivasi and Dalit communities. Drawing on decolonial theory and an environmental justice approach, this paper critically engages with the concept of recognition understood from different responses of three different Adivasi communities to iron ore mining, which continues to shape present day sustainability outcomes. Lastly, the article argues for a deeper understanding of recognition in terms of the experience of historical injustices and voices, concerns of Adivasi and Dalit communities and their local knowledge of nature and living with nature as central to a meaningful understanding of sustainability.

3. Decolonizing Ruins

Mariya Hamada, The University of Manchester

While processes of ruination can help understand urban ecologies and make sense of today's urban nature, ruins as dynamic entities rather than objectified matters are still absent from past and present ecological narratives. By engaging with the ruins of 19th century Manchester, known as Cottonopolis, that was paradoxically a botanical field of study and site of pleasurable excursions (Grindon 1859) while transforming as an industrial city of polluting mass production (Mosely 2008), it will be possible to seize ruination from its industrial to de-industrial form as an instrument to unravel architectural, botanical, environmental, and ethical disengaged stories of unnoticed but constructed ruin. However, these stories will be narrated by plants, trees, soil, lichens, and others as both invisible actants and legal witnesses of the city's industrial ruination. The research project investigates multidisciplinary archival material, aiming to disentangle the colonial practice and knowledge underlying ruination indicated by native and neophyte plants. This will allow first the construction of a just eco-historical narrative of the ruin in its architectural discourse and beyond, and then, potentially to ideate on ways of bringing together disciplines (architecture/architectural historiography and

ecology/political ecology) and practices to provide future ruins with epistemic ecological agency.

Roundtable 378: Bridging Perspectives: Locating the Synergies Across Political Ecology and Agroecology for Transformative Food System Futures

Michelle Nikfarjam, University of Vermont; Martha Caswell, University of Vermont; Catherine Horner, University of Vermont; Janica Anderzén, University of Maine/ Institute for AgroecologyUniversity of Vermont; Andrew Gerlicz, University of Vermont

Agroecology is gaining significant momentum in debates around food system transformations. Yet, support for agroecology remains insufficient, partially due to the diversity of contexts, approaches, and epistemologies that constitute it, as well as substantial barriers presented by the global political economy. In this roundtable, we explore how political ecology can deepen the material enactment of criticality within agroecological research, practices, and social movements as they intersect with our work on five distinct, yet, interwoven dimensions of agroecology: soil health, agroforestry, livelihood diversification, financing and agricultural economies, and education. We ask, how can issues central to political ecology support coalition building across diverse social-ecological contexts? And, on the other hand, how can political ecology learn from agroecology's attempt to simultaneously engage and connect science, practice, and movement? To explore these questions, we share experiences of engaging multiple ways of knowing and grappling with the tensions inherent to doing as researchers in hopes to simultaneously engage and integrate diverse types of knowledge. In exploring the intersections of political ecology and agroecology, our discussion centers several key collective themes including epistemic justice and pluralism, social-ecological sufficiency, re-distribution and commoning of natural resources, and mental models as a tool to identify complementarity across distinctive approaches to radical systems change.

Panel 265: Political Ecologies of carbon removal, net zero and climate delay VI

Kirstine Lund Christiansen, University of Copenhagen

This sixth session in the stream of sessions entitled "Political Ecologies of carbon removal, net zero and climate delay" focuses on how CDR hits the ground and the variety of practices that take place in its name. See the first session for a description of the entire stream.

1. Green Finance in Murky Waters. An Analysis of Public & Corporate Financing in the Decarbonisation of the UK's Industrial Clusters

Guy Finkill, University of Manchester

This study provides a comprehensive examination of financial flows in initiating the low-carbon transition of the UK's industrial clusters, currently responsible for 8% of the nation's emissions. Green bonds assume a pivotal role in mobilising capital required to underwrite substantial infrastructure modifications to reach legally binding net-zero commitments. These green bonds adhere to frameworks, dictating the allocation of proceeds, thereby shaping the criteria for what constitutes 'best practice' in financing low-carbon transitions. The concept of what can be perceived as 'green' is influenced by the creation and management of these frameworks. Findings indicate that certain principles lay the basis for finance frameworks representing public green expenditures as well as public and private green bonds. These principles pave the way for the financing of projects such as Energy from Waste and blue hydrogen facilities under the premise of 'pollution prevention and control'. Such facilities can draw critique of being illusory tools of climate mitigation as they deliver avoided or reduced emissions rather than long-term removals. This analysis in the paper places significant emphasis on the material outcomes resulting from both public and corporate bond issuances linked to the decarbonisation of the UK industry. It investigates the tailored business models employed by the UK to support and hasten industrial reconfiguration. The study contributes to the body of literature concerning sustainable finance and offers insight into the evolving socio-technical landscape of industry's low-carbon transition.

2. The sociotechnical dynamics of blue carbon management: Testing typologies of ideographs, innovation, and co-impacts for marine carbon removal

Sean Low, Aarhus University

Blue carbon, the preservation and enhancement of marine and coastal ecosystems for carbon removal, is projected as a pillar of potential development of marine spaces through the "blue economy," as a potentially cost-effective way to capture and store carbon, generate community co-benefits, and implement conservation and climate agendas. Moreover, blue carbon ecosystems have critical connections to planetary health and food security. Based on extensive field research and document analysis, this study examines three innovation spaces surrounding blue carbon: coral reef preservation in Australia, seagrass restoration in the United Kingdom, and macroalgae (seaweed) cultivation and deep ocean storage in the United States. It asks: What are the overarching goals and which are the envisioned deployment pathways of these options, here explicated through a typology of ideographs? How is science or research done, examined with a typology of innovation styles? What consequences could it have, connected to a typology of co-impacts? Topically, the paper offers one of the first assessments of the blue economy and blue carbon to be undertaken through a lens of sociotechnical dynamics, and which draws on substantive evidence from field research, with expert interviews, site visits, and document analysis undertaken over late 2022 and 2023.

3. The political ecology of carbon removal through building with biomass

Jan Gilles, London School of Economics and Political Science

As modern practices have socialised the carbon cycle by entangling societies with the use of fossil carbon reserves, societies all over the world become increasingly exposed to the consequences of the climate crisis. Besides emission mitigation efforts, various political ecologies of carbon removal have emerged that configure the relationship between carbon and society differently. Whilst many CDR methods have a reductionist and instrumental understanding of removal as a technical process allowing for the creation of the abstruse imaginary of reversing climate change, in this paper I focus on a more integrated and underrepresented approach to removing carbon from the atmosphere: building with biomass. Bridging the antagonistic critiques of technological solutionism on the one hand, and lacking durability of photosynthesis-based carbon removal on the other, storing carbon in the build environment entangles carbon and social life in ways beyond markets and technology. Based on ethnographic data and interviews with practitioners advocating for wood as a building material, my paper explores the socio-material imaginary of the timbered city as a carbon sink. From configuring a forestry-construction-pump to exploring care and maintenance practices towards wooden houses, building with biomass raises questions of how to think carbon removal beyond the instrumentalist understanding of climate change as a challenge of residual emissions in net-zero scenarios.

Panel 32: The Pluriverse of transitions III

Carlos Tornel, UNAM, the Global Tapestry of Alternatives & Alexander Dunlap, Boston University and Helsinki University

This is the third session of a triple panel. For the full panel description – see the first session. In this third and final session, we continue to engage with the question, if what is being marketed and sold as 'sustainable' and 'renewable' is not what it claims, then what actually is? The abstraction and commodification of energy that seeks to (re)formulate territorial relationships is being resisted through solidarity, direct action, mutual-aid and other(ed) knowledges. These communal alternatives 'from below,' while different in scale and reach, constitute multiple forms of resistance and struggles for re-existence revealing other horizons of the possible. This panel seeks to present case studies of alternative, autonomous and insurrectionary transitions from 'below.' Said simply, it offers an exploration into postdevelopmental transition(s) and a glimpse into the pluriverse of energy transition.

1. Caring about energy transformations: lessons from the Atacama Desert

Daniela Soto Hernández, University of Sussex

The hegemonic energy transition continues to follow a techno-managerial approach to sustain capitalist Development (Escobar, 2012). The 'addition and accumulation' of low-carbon infrastructures promises to open new frontiers for ongoing racist colonial capital and state-led accumulation, maintaining current systems of oppression. As such, notions of energy transition assume a world that carries out by itself (Law, 2015) as a concern, rather than questioning the role of caring about energy transformations and broader

issues of socio-natural relationships. In contrast, Lickanantay communities in northern Chile have been producing the Atacama Desert as an abundant and sacred 'desertscape', offering other ways to understand how to care about energy transformations. By drawing on these worlds and on anti-colonial frameworks (Quijano, 2000; De la Cadena and Blaser, 2018; Rivera Cusicanqui, 2018) and feminist political ecology (Ojeda et al., 2022), this paper aims to contribute to thinking about how the notion of 'matters of care' (Puig de la Bellacasa, 2017) and the Indigenous Andean understanding of vincularidad (Mignolo and Walsh, 2018) challenge the ways in which energy transitions are thought and practiced. I will argue that caring about energy transformations and the interconnections that sustain them, offers a pathway from below to put forward the relationalities needed to work towards a pluriversal emancipatory transformation in which many socionatural worlds fit.

2. Decolonising energy justice and situating energy citizenship in local representations of Positive Energy Districts

Minh-Thu Nguyen & Susana Batel, ISCTE- IUL

To mitigate human-induced climate change, the EU commissioned a decentralised energy system to districts and neighborhoods that autonomously produce more renewable energy than they consume, namely Positive Energy District (PED). Despite its human-centric principles to design and implement inclusive and just PED, who is included or excluded in the PED-making process and what implications it has for energy justice are represented inconsistently between institutional sphere (policy, mediating actors) and consensual sphere (the public, citizen groups). This paper, therefore, presents a case study of how local citizen groups in Torres Vedras, a PED-in-the-making town in Portugal, reproduce, negotiate and contest the hegemonic, neoliberal governmentality of PED in institutional discourse. Through focus group discussions (n=3) with diverse demographics in the region, participants collectively brought up their experiences and reflections on the existing and potential impacts of PED's interventions. As energy injustices and social inequalities are shared problems locally and globally, it helps citizens to make sense of energy justices for PED from their situated knowledge. The focus groups show citizens' critical thinking capacity to decolonize energy justice by nuancing Global North's concern for preserving an unsustainable, electricity-dependent modern way of life borne out of the capitalist, fossil-fuel based and undemocratic energy system. Reformulating the normative topics of energy justice in western scholarship such as energy poverty and green gentrification, participants prefigure an energy citizenship in solidarity with Global South and marginalized groups by local alternative practices based on indigenous, ecofeminist lens, ethics of care and place-based approach.

3. Women's care work against energy transition: towards energy justice in Mexico

Jéssica Malinalli Coyotecatl Contreras, UC Santa Barbara

Previous and current administrations in Mexico have supported the construction of mega energy-transition infrastructure Comprehensive Morelos Project (Proyecto Integral Morelos [PIM] in Spanish) since 2012. In this process, indigenous and peasant communities opposing to PIM in Central Mexico have documented and denounced

multiple (para)state sanctioned violent events against them, from incarceration and torture to assassination, intended to guarantee PIM's implementation. Although the direct targets of violence are mostly men, I follow the political ecology that highlights the collective and more-than-human suffering that results from this violence (Barca 2011; Gutiérrez Aguilar et.al. 2016; Moore 2015), and the feminist economists (Fortunati [1981] 2019; Pérez Orozco 2014) that focuse the material and emotional labor that allows for the continuity of life. By centering the caring practices women perform during and after these episodes of violence and how they require and promote collective action and organization, I argue that they effectively counteract the neo-colonial extractivist logics of energy megaprojects that seek to destroy their territories and, in doing so, they illuminate the path towards a liberatory energy justice system. In this paper, I focus on the experiences of the women in Morelos and Puebla who have responded to the incarceration (2014 and 2019) and assassination (2019) of their partners and comrades. Methodologically, I use archival and ethnographic research: public statements, legal process, and journal coverage; as well as interviews and participant observation. This research draws on a militant ethnography I have conducted since 2012 with men and women organized against PIM in the region.

4. Enercoop as an alternative project

Maryse Helbert, University of Groningen

Climate change is one of the society's most existential challenges in scale and scope. Decarbonizing the energy system is one of the key measures to address these challenges. However, it has been shown that the unsustainable dynamics of dominant approach to the energy transition impedes its ability to offer a Just model hence a call for an alternative model (Hickel and Kallis 2020).
This study wants to explore Enercoop, a network of cooperatives, and its transformative practices as an alternative model. Divided in 10 cooperatives dispatched in 10 regions in France, and created in 2005, this network was developed as an alternative model when the EU member states opened national electricity and natural gas markets to competition. The members of the network wanted to offer a project different from the market-based, profit making dominant energy system. The research will analyse how the network's governance is embedded in transformative practices: Overall, the energy production and consumption is commonly owned and shared by its members. At the local level, its governance framework is based on the concept of Holacracy, which values the individual participation of its members. Additionally, It spatially brings together the production of renewable energy and consumption with an emphasis on energy vulnerability, efficiency and sobriety. Content analysis and interviews will be used to assess the challenges in setting up an alternative model.

Panel 242: Participatory Visual Methods for Political Ecology III – Comics and documentary

Emma Johansson, Lund University; Sofie Mortensen, University of Copenhagen; Francois Questiaux, University of Copenhagen.

Why do we need to engage with visual methods in science? And how do we use visuals for the production of place-based and local knowledge? How can visuals enable knowledge dissemination? Visual participatory research approaches can offer alternative ways to understand local perceptions and experiences of global and local changes, and also give insights into peoples' emotions, values, and aspirations of change. We arrange four panels and an exhibition in order to bring together photography, painting, comics and documentaries to showcase visual research methods and arts for investigating and imagining change and development. The panels consist of artists and researchers that apply participatory visual methods to explore and illustrate social-environmental change in contested spaces. This exhibition and panel will showcase a range of visual participatory methods for investigating and reimagining classic themes in political ecology in both the city and rural areas. Together, these visualizations and the accompanying narratives illustrate the power and diversity of arts-based research methods, as they help analyze ongoing processes, highlight marginalized perspectives, and imagine more equitable and sustainable futures.

1. Visualizing Life on the Land in Myanmar's Spring Revolution

Hilary Oliva Faxon, University of Montana

Since the 2021 military coup, Myanmar's countryside has been rife with violence and off-limits to researchers. Drawing on a participatory research project that employs feminist visual methods to understand gendered experiences of war in agrarian landscapes, this short talk will present a graphic novel and journal article that offer complementary accounts of violence and resistance in Myanmar's countryside. I reflect on the collaborative processes of participatory photography, critical mapping, analysis, and illustration that produced these artistic and academic products, as well as their circulation and reception. Integrating art-based methods not only enables new understandings but also engages new audiences, grounding the political ecology of war in embodied experience.

2. Teaching Energy Justice – One frame at a time

Henner Busch, Vasna Ramasar and Eric Brandsted, Lund University

In this presentation, we present artwork from a research project entitled "Navigating Justice Claims: Between Riots, Strikes and Business as usual" which ran from 2019 to 2023. The artwork was part of a workshop methodology. During the workshops, stakeholders discussed justice conflicts related to low carbon energy transitions in Sweden. We developed the artwork together with a Malmö-based artist by the name of Saskia Gullstrand. Saskia drew short comics (6-8 frames) about three fictitious cases. Each frame depicts a justice claim that we identified from public debate on similar cases in Sweden. In the presentation, I will reflect on the process of creating the art, how and why it failed as a tool during the workshops and how we are using it now very productively in teaching. All this is the content of an article which we currently write that looks at how teachers can use comics in teaching and problematising theories of energy justice to high-school and university students.

3. Assembling Water: The Prefigurative Politics of Land Futures in Argentina

Mattias Borg Rasmussen, University of Copenhagen

As in other areas of Argentina, residents from the Norte Neuquino in the northwestern reaches of Patagonia are concerned about the recent manifestation of extractivism in territories. Projects to extract wealth from mineral deposits, waterways and volcanic formations add to the broader sensation of people in the province who have lived with the promise and prerils of the large scale fracking enterprise at Vaca Muerta. Like other places in Argentina, concerned citizens have self-convened in socio-environmental assemblies to contest not only the concrete project but also the underlying political structures. Their analysis is clear: the environmental crisis is directly linked to a democratic one, and they engage in a wide range of actions to envision and enact alternative futures. To understand their prefigurative politics, this presentation discusses the production of the documentary 'Abrazando al Agua' (Embracing Water), which the authors made in collaboration with one socio-environmental assembly and a local filmmaker. We show how the making of the documentary came to be not only a representation of the socio-environmental assembly, but a situated narrative that became deeply implicated in its reproduction and ongoing mobilization. 'Abrazando al Agua' thus enabled a shared analysis of the entwinement of struggles, art and love that make up the labor of the assembly, and allow us to discuss the new grammars of politics, the expansion of its limits, and the proposals for alternative world-making projects that are enacted to counter the advancement of extractivism onto these territories.

4. Agros: a feminist perspective on agrarian change in Greece

Eleni Pappa, University of Copenhagen; Julen Ugartetxea, University of Copenhagen

Economic crisis, sanitary crisis, inflation… Against all odds, women small-holder farmers in Epirus, one of the poorest regions in Greece and in Europe, keep producing veggies stubbornly. At the small food market, they sell their fresh produce directly to consumers every single day, surviving a fierce competition with international supermarket chains that keep mushrooming in town. From the din of the market to the calm of the field, their everyday life is an emotional roller-coaster, but they pull through with pride and humor.

5. Film-based sociology as a data analysis approach and research dissemination tool. The case of foreign workers in Quebec slaughterhouses

Blandine Emilien, University of Bristol & Catherine Lemercier

From 2018 to 2021, Blandine Emilien conducted exploratory research to better understand the experiences of foreign workers hired within industrial slaughterhouses in the Canadian province of Quebec. The exploratory approach was designed to help data emerge from the stories of workers who operate in a workplace that favours distance and concealment (Pachirat 2011)[1], thus marginalising this form of work. The approach allowed the researcher's choice of using a digital camera to render such work and

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[1] Pachirat, T. (2011). *Every twelve seconds: Industrialized slaughter and the politics of sight*. Yale University Press.

experiences less visible, to emanate at a certain point in time. In 2023, the film-based sociological approach culminated into the production of a 25-minute documentary that presents a research-informed construction of three workers' narratives. The narratives emerged from thematic coding and three main codes, namely, the recruitment process and workers' arrival in Canada, hardship in the workplace and socio-cultural implications of such employment. These narratives help reflect upon managerial and capitalist practices allowed by enactments of systemic racism in the Canadian institutional context. The film, co-directed with Montreal-based film-maker Catherine Lemercier, is available to the public audience via the CRIMT[2] website (https://www.crimt.net/en/2023/06/19/documentaire-terre-promise/) and if relevant, can be used for the exhibition. In a panel presentation, I intend to discuss both the film-making process and the research data.

Panel 119: Territory, Ecology, and Violence in Latin America II

Torsten Krause, Lund University

At the nexus of interconnected crises of climate catastrophe, the loss of biocultural diversity, and a rise in violence against environmental human rights defenders, Latin America is also a crucible of creative resistance, subsistence, and survival. The concept of territory grounds critical analysis and political praxis in the midst of these crises, and offers a foundation for understanding Latin American ecologies of governance, production, violence, and emancipation. Papers in these panels explore political ecologies of interconnected crises in Latin America.

1. Post-conflict cattle ranching expansion in northwestern Colombian Amazon. Functional connectivity changes based on time-series analysis.

Jesica López, Lund University

The deforestation and related degradation in the forests and savannahs of the northwest Amazon region of Colombia is alarming and there is an urgent need to understand relevant processes and consequences of the land transformation dynamics, where cattle ranching is the main driving force of land use change. The purpose of our research is to map the areas where pastures for extensive cattle activities are located or expanding, and the related land transformation patters in important tropical ecosystems like the Yarí savannas towards the National Natural Park Chiribiquete in the arc of deforestation in the region. The National Natural Park Serranía de Chiribiquete is the largest national park in Colombia and the largest tropical rainforest national park in the world with an area of 43 000 km2 and declared a World Heritage Site by UNESCO in 2018. Using a timeseries

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[2] Interuniversity Research Center on Globalisation and Work.

analysis from 2016 (when the national peace accord was signed) until 2021, the area and distribution of cattle ranches and herds and their cumulative effects in protected area jurisdictions will be mapped, considering effects in the functional connectivity of forest and savanna lands, necessary for spatial planning and sustainable forest/agriculture management in tropical ecosystems.

2. Saving a Rainforest and Losing the World: Conservation and Displacement in the Global Tropics

Gregory M. Thaler, University of Georgia

To save tropical forests, we must change tropical agriculture. For two decades, this idea has dominated tropical forest conservation. Agricultural expansion drives forest clearing, so to end deforestation, we must make existing agricultural lands more productive. This approach is known as land sparing, since it claims that agricultural intensification can "spare" land for nature. Land sparing policies transform landscapes and livelihoods with the promise of reconciling agricultural development with environmental conservation. But that land sparing promise is false. Through research carried out over the course of six years in Indonesia, Brazil, and Bolivia, I explain why land sparing appears successful in some places but not others, and I reveal that success as an illusion, achieved by displacing deforestation to new frontiers. "Sustainable development" is a false solution to the environmental crisis: land sparing cannot save tropical forests, and capitalist development cannot save our global ecology.

3. Frontier-making in the Bolivian Amazon: Clashes of Postcolonial Logics with Local Resistance

Rebecca Froese, University of Münster; Claudia Pinzón, Free University of Berlin Diana Figueroa, Free University of Berlin; Janpeter Schilling, Berlin School of Economics and Law; Regine Schönenberg, Heinrich Böll Foundation Brazil

Throughout history, gold extraction was one activity generating major profits for the colonial powers in Bolivia. Today, colonial continuities in Bolivia remain and are reflected in the entanglement between the ecosystem and the social and economic fabric, that (re)produces exclusion, polarization, and systemic power asymmetries. In this paper, we explore, how postcolonial logics and resistance manifest in the frontier making, re-making, and de-making in the northern Bolivian Amazon. Focusing on the Manuripi National Amazonian Wildlife Reserve, we trace historic frontier making and re-making processes and corresponding resistance dynamics and entangle how these processes shape current political ecologies of small-scale gold mining and projected industrial gold mining on land in the reserve. While the majority of the reserve's population depends on collecting Brazil nuts, we identify the re-frontierization as an expansion of the 'commodity frontier' which generates new dynamics of violence against people and nature building on systemic power asymmetries and reproducing colonial relations and dependencies across scales.

4. Climate coloniality, green grabbing and dispossession in the Colombian amazon rainforest. A reflection from a feminist decolonial approach

Valentina Lomanto Perdomo, Lund University

Political Ecology scholars have highlighted how climate change mitigation programs are producing green grabbing (Fairhead et al 2012) and multiple forms of violence and dispossession (Camargo y Ojeda 2017, Osborne 2013) towards populations that have least contributed to the climate crisis. The predominance of a biophysical and technical approach in official narratives of climate change, and specifically in global approaches regarding mitigation and adaptation, has produced an understanding of the problem (as well as the measures aimed at confronting it) that ignores the culture, social relations and power relations that are interwoven in the territories prioritized from the global cartography of climate change (Ulloa 2013). It has been highlighted how climate change policy, both internationally and in the Colombian case, has been characterized by a high degree of depoliticization of the crisis, as well as an apolitical interpretation of the causes and effects (Dietz 2013). This proposal will focus on analyzing the effects of two climate change mitigation initiatives that have been implemented in the Colombian amazon rainforest. Both respond to processes that take place at different scales and reflect the predominance and imposition of the conception of the forest merely as carbon sink, deriving effects in terms of uneven power/knowledge dynamics and environmental justice for local indigenous and peasant populations in a differentiated way. By focusing on the implementation of the court ruling that recognized the Colombian amazon as subject of rights as an outcome of the first climate litigation case in Latin America and in the growing cases of REDD+ implemented in the Colombian amazon, I propose a reflection from a feminist decolonial perspective on the local mobilizations and the differentiated effects such climate change mitigation programs can have in local populations, reproducing the colonial and gendered violence that is at the very root of the current crisis.

Hybrid panel LU135: Contested imaginaries? Eclectic pathways of agrarian change II

Irna Hofman, University of Oxford – hybrid from Lund & Michael Spies, Eberswalde University for Sustainable Development – hybrid from Lund

In debates on agricultural development, imaginaries of agricultural futures tend to be polarised. On the one hand, state actors and powerful corporate, as well as quasi-private organisations favour technology-intensive, scientific modes of agriculture, labelled 'modern' and 'advanced.' Other actors, for instance social movements, counter such narratives and dogmas by promoting smaller-scale, autonomous (sovereign) and less input-demanding modes of farming. However, at times, they have also been criticised of idealising the local. Both groups of actors aim to take on a role as architects of agrarian futures with their own ideals and couch their ideas in terms of resilience and sustainability, particularly in the context of climate change. Who owns the control over, and who governs, future production pathways? How and where do farmers position themselves in these debates, and how do they make sense of these contrasting visions?

Whilst some farmers may follow advice of specific actors decisively, others may selectively adopt advice, resulting in a 'middle ground' or 'bricolage' of knowledges. How can scholarly research contribute to account for and appreciate the heterogeneity of agrarian imaginaries? In a hybrid double panel (two panels à four papers), we critically examine these questions. The empirically-rich papers presented in the panel are diverse, spanning the globe: South America; Central Asia; Africa; Southeast Asia; Middle East; and, Europe. The panellists adopt political ecology lenses yet differ in the level of analysis. Thematically, the papers' foci are unique and timely and range from research centred on the digitalisation of agriculture in Ethiopia to a policy analysis regarding the envisioned transformation to plant protein diets in the Netherlands. Cumulatively the panels address and engage the diversity of actors that are implicated and/or involved in the making of agricultural futures, and with what result.

1. Recurring discourses and actor's diverse perspectives on the pathways of Argentina's agricultural sector

Anna-Maria Brunner, University of Innsbruck – hybrid from Lund

Against the backdrop of Argentina's recent political shift towards an anarcho-capitalist presidential candidate, the vision of Argentina as the granary of the world—a viewpoint putting forward an economy centered on conventional, export-oriented agriculture and policies aimed at eliminating what is by this political party considered 'inefficient' family farming—has regained prominence. Amidst these changes, robust social movements have emerged in recent years, coalescing around a vision for the agricultural sector based on agroecological principles. The landscape of future agricultural imaginaries, however, is far from a simple dichotomy; rather, it encompasses numerous shades of grey. This paper embarks on an exploration of this spectrum of visions, revealing shared perspectives both within and between actor groups (e.g., farmers, consumer-activists, researchers, governmental actors, and economic entities), and delves into the underlying (hegemonic) discourses and shaping power relations. Specifically, this research aims to investigate visions regarding the perceived possibility/necessity of co-existence between conventional large-scale farming and alternative niche projects and its implications for visions of a convivial future. This study employs Q-Methodology for a quantitative analysis of actors' imaginaries. Additionally, the paper explores the potential of enhancing traditional quantitative Q-Methodology through a more qualitative analysis to unveil the diverse arguments behind actors' imaginaries.

2. Exile agricultures: Navigating agrarian change among Tibetan refugees in India and Nepal

Hanna Geschewski, Chr. Michelsen Institute (CMI) and University of Bergen – hybrid from Lund

While agrarian societies of 20th-century South Asia largely shifted from traditional to conventional high-input agriculture in the wake of the Green Revolution, this century is marked by a partial reorientation towards alternative approaches, including organic, natural or agroecological farming (Kinkaid, 2019). These recent trajectories are often portrayed as a return to traditional, local and/or indigenous knowledges and practices,

grounded in peasant communities' historical connections to land, environment, and resources, which had been suppressed by "modern" industrial agriculture (Giraldo, 2019). But how do agrarian transformations and the search for sustainable agrarian futures play out in communities that do not have long-term ties to and knowledge of the land they now inhabit and cultivate, such as resettled refugees? Drawing on fieldwork in three agrarian Tibetan refugee settlements in South India and Nepal established in the 1970s, I explore transitions in Tibetan agricultural practices over time, with a particular focus on recent organic farming initiatives and how these have been perceived by the refugee communities. Using a political ecology lens, I examine the complex interplay of actors, knowledge systems, discourses, and experiences that shape how refugee farmers navigate and negotiate agricultural practices, decision-making and aspirations, extending beyond traditional-conventional, local-global, and refugee-host binaries.

3. Data for development or development for data? Investigating the push towards digital agriculture in Ethiopia

Matthew Schnurr, Dalhousie University; Maywa Montenegro, University of California-Santa Cruz; Glenn Stone, Sweet Briar College; Helina Yeglitu, Independent Researcher – hybrid from Dodoma

The pandemic has intensified calls for a new Green Revolution built around digital agriculture, a suite of disruptive technologies that seeks to modify and improve farmer behaviour via the flow of intensive farm-level data. This paper presents preliminary findings from a study investigating the impacts of digital agriculture in the Oromia region of Ethiopia. We use the lens of political ecology to analyze over twenty expert interviews undertaken with government officials, digital agriculture start-ups, development donors, and extension agencies, with a particular focus on understanding the vision for how digitizing extension services can impact farmer decision-making. We focus in on two case studies of digital extension services currently underway in Oromia: The 8028 Hotline, initiated by the Gates-funded Agricultural Transformation Institute, and Lersha (which means 'for agriculture' in Amharic), a domestic start-up seeking to establish itself as a one-stop-shop for digital service provision. Finally, we share some preliminary insights from a three-phase farmer-based methodology that includes a demographic survey, focus groups, and transect walks to showcase farmer perspectives on these new technological platforms. This paper seeks to unravel the complex system of individuals and institutions that come together to privilege digital extension over other agricultural possibilities.

4. The political geographies of the Dutch national protein strategy

Willem Boterman, University of Amsterdam – hybrid from Lund

The supply chains of animal-based foodstuffs (meat and dairy) are completely globalized and constitute a complex web of interrelations, connecting geographies of protein rich crops, such as soya, with geographies of intensive life-stock farming. In the wake of increasing geopolitical tensions and the disruption of supply-chains, food security is back on the agenda in the European Union. As much of food security revolves around the circulation of key nutrients, such as proteins, the EU has asked member states to develop a national protein strategy. This paper investigates the national protein strategy of the

Netherlands, an important producer and global exporter of meat and dairy products that largely relies on the import of plant-based proteins from across the globe. Through interpretative policy analysis of policy reports, white papers, and transactions of workshops involving different stakeholders (policy makers, interests groups, industry), this paper traces the origins and legitimations of the protein strategy. Through critical content analysis of (social) media of national and local politicians it situates the national protein strategy in the wider context of agrarian change: the protein transition, and explores how this transition is linked to processes of political and spatial polarization.

Open Space 65: What might it mean to take ecology seriously?

Sara Löwgren, Linköping University; Mihnea Tãnãsescu, University of Mons; Freja Marie Hegelund, Lund University

In which watershed is your field site located? What is the bedrock underneath your interlocutors like? What species other than humans are living in your study areas? The question of 'where is the ecology' is not new in political ecology, but the imperative to take ecology seriously remains difficult and at the same time crucial when conducting critical research at a time of climate crisis, extractivism, and mass extinction. Adding to the complexity are questions about decolonization, the role of Western European science, and different kinds of knowledge. But the fact that something is tricky does not mean we, as political/human ecologists, should not try. We, a group of human ecologists in Europe, invite you to join us for a conversation about how we might incorporate ecological as well as other knowledge of the more-than-human world into our research without being experts. This session will take the form of an Open Space where you will be invited to share, listen, explore, and discuss experiences with others. While you do not need to submit anything beforehand, we ask you to prepare by thinking about examples of how you, or someone you know of, has attempted to or would like to take ecology seriously in your research. We need you to stay for the full session, if possible. We envision this session as a supportive, inspiring, and regenerative space, and welcome you to join us!

Panel 375: At the Intersection of Community Economies and Convivial Conservation III: Agricultural livelihoods & Reflective Panel

Elizabeth Barron, Norwegian University of Science and Technology; Louise Carver, Lancaster University/TBA21 Academy; Kevin St. Martin, Rutgers, The State University of New Jersey & Ella Hubbard, Sheffield University; Dhruv Gangadharan, Rutgers, The State University of New Jersey

1. Balancing Conservation and Commerce in Andean Foodscapes: Comparing the Agrobiodiversity Zone and Participatory Guarantee System in Apurímac, Peru

Sarah Steinegger, University of Bern; Sarah-Lan Mathez-Stiefel, University of Bern & Christoph Oberlack, University of Bern

Food-producing landscapes in the Peruvian Andes are crucial for biocultural heritage. However, commodification processes have altered land-use, impacting agrobiodiversity, social practices, and situated knowledge. Commons-based governance frameworks for convivial conservation, such as the Agrobiodiversity Zones (ABZ) and the Participatory Guarantee System (PGS), have been suggested to address these issues. ABZ supports local contributions to agrobiodiversity as in situ conservation, while the PGS is an agroecological farmer-to-farmer certification scheme. We assessed how these frameworks balance economic considerations with environmental, social, and cultural dimensions of Andean foodscapes without prioritizing commodification. A comparative qualitative case study in Apurímac examines conflicting and productive tensions between the institutional logics advocated by farmers, public authorities, NGOs, and other market incentives. It was found that particularly female semi-subsistence farmers promote the various dimensions of Andean foodscapes through the food sovereignty logic. In contrast, market-oriented farmers primarily enact the commercialization logic. Moreover, national authorities promote the commercialization logic with agricultural policies and market incentives favoring organic farming, restricting the success of the studied governance frameworks. The article argues that integrating conviviality and community economies through the commoning of foodscapes highlights challenges and opportunities for concrete pathways towards conservation that allow for social, environmental, and economic sustainability.

2. The Farm Dari – and its (convivial) relations of sustenance

Andrea Mathez, University of Lausanne

Here I tell the story of the farm 'Dari' in Morocco through the lens of 'ecological livelihoods' (Miller 2019) to explore agricultural livelihoods at the margin of state planning and agro-industry. Two years of ethnographic research with over fifty farms in Switzerland and Morocco explored 'alternative agricultures' – small-scale mixed farming, preferring 'convivial tools' (Illich 1973) over heavy, energy-intensive, and digital ones, and using agroecological synergies. Research traced the complexity of farmers' economy – understood here, in line with Gibson-Graham's community economies approach as the ongoing management and negotiation of human and nonhuman sustenance. This farm highlights the intersection of three co-constitutive processes of making a living, making a living for others and being made by others (human and nonhuman). This broadens the scope of 'economic' activities to include the vast range of relations and interactions shaping the life of this farm. It also echoes literature on 'conviviality', highlighting our more-than-human interdependencies (Given, 2018; Leung, 2021) while evoking post-capitalist and non-dichotomous human-nature approach (Büscher and Fletcher, 2019). Exploring a 'relational thinking and ethics of how we live together' (Gibson-Graham, 2006), I also show how 'convivial' relations of interdependencies are not only ones of symbiosis and collaboration but also competition, tension, and conflict.

3. Convivial conservation and diverse economies: Theoretical intersections for eco-social transformation

Elizabeth Barron, Norwegian University of Science and Technology; Louise Carver, Lancaster University & TBA21 Academy; Kevin St. Martin, Rutgers, The State University of New Jersey; Ella Hubbard, Sheffield University; Dhruv Gangadharan, Rutgers, The State University of New Jersey & Elaina Weber, Norwegian University of Science and Technology

Theorizing eco-social transformation is an active area of geographical scholarship, where acts of world-making and re-making of human and more-than-human relations, agency, commons, power and knowledge are at play with debates on environmental governance, conservation, economy, and community. Diverse economies and convivial conservation focus on extant and emerging forms of economy that foreground ethical interactions among humans and nature, contributing to eco-social transformation. Diverse economies emerged from the feminist critique of political economy as capitalocentric, and an assertion that economies are diverse sites for political engagement, transformation, and the liberation of economic agency. Convivial conservation centres on liberating conservation from capitalocentrism, building on an expansive political ecology literature that traces neoliberal, and at times neo-colonial dynamics, of a conservation sector increasingly shaped by capitalist relations, mechanisms and logics. It proposes a transformative agenda characterised by the spatial reintegration of people and nature and the development of alternatives. Diverse economies and convivial conservation therefore converge on a shared desire to locate and foster alternative, emancipatory, and interdepenent ecologies and economies. This paper reviews the possibilities and challenges of a research agenda at the theoretical intersection of these fields, and provides empirical examples which contribute meaningful and actionable insights.

4. Reflective panel: A conversation on the possibilities and problematics for integration

Bram Büscher, Wageningen University; Elizabeth Barron, Norwegian University of Science and Technology; Maris Boyd Gillette, University of Gothenburg

Panel 347: Political Epistemologies and Ontologies I

Fabio Gatti, Wageningen University & David Ludwig, Wageningen University

From its inception, political ecology has focused on the (unequal) access to, distribution of, and power relations associated with the management of natural resources. While a vast literature on "values of nature" recognizes that diverse valuations of nature are sometimes incompatible, these investigations usually rely on a political economy analytical lens. In recent times, however, a growing body of scholarly interventions has suggested that environmental conflicts often extend beyond mere disputes over the material allocation of resources. What this literature shows is that material conflicts are frequently entwined with epistemological disputes concerning the production and use of knowledge, as well as ontological clashes regarding heterogeneous ways of representing and relating to the world. At the same time, many of these accounts often neglect the materiality inherent in conflicts over the management of the natural environment. While "forests [might] think" (Kohn, 2013), they remain embedded in a complex web of (inter-)dependencies, constrained within global political economy forces, deeply material power dynamics, and embodied ecologies. As part of the Global Epistemologies and Ontologies

(GEOS) research initiative, this panel brings together scholars from different academic disciplines (environmental anthropology, political science, human geography) to stimulate a conversation around the under-explored and sometimes tense relationship between political economy, political ecology, political epistemology, and political ontology.

1. Grounding groundwater: the negotiated realities of knowledge in action.

Tanvi Agrawal, Wageningen University

This paper investigates ontological and epistemological understandings of groundwater in the Kaveri delta, along with their material hydrogeological bases and societal implications. It is set in Devangudi, a deltaic village dotted with tubewells for year-round paddy production. While such intensive cultivation earns the delta the title of the 'rice bowl of the country', its material consequences manifest through increasing groundwater salinities, particularly degrading drinking water supplies for marginalised communities. Groundwater is always in the making, entangled in networks of material and discursive co-production between human and more-than-human actors. We therefore ask how groundwater is constructed and negotiated by diverse actors for its continuous material production. We also explore how groundwater flows, societal norms and individuals' actions make and re-make the subjectivities of societal actors themselves, particularly looking into daily lives and livelihoods in terms of drinking and agricultural water. Groundwater abstraction sets into motion systemic processes and feedbacks on human, biophysical and ecological actors – to understand these, we measure and map groundwater flows within the larger waterscape. Along with qualitative methods, this helps uncover how 'hitchhiking' upon water molecules called upon by the political economy of intensive rice production, salt ions from deeper strata percolate through boreholes and mingle into shallow aquifers. The result is a classed, casted and more-than-human entanglement of aquifers, tubewells and water flows, expressed in swollen limbs and kidney stones of dalits who cannot afford water filtration.

2. "Tu'uk yë' moojk" – "The maize is one": (dis)respecting seeds through calculation and quantification in the Mixe community of Tamazulápam del Espíritu Santo.

Gabriel G. Roman, Université Libre de Bruxelles

Tamazulápam del Espíritu Santo is a Mixe indigenous community located in the Sierra Norte of Oaxaca. Its inhabitants have traditionally produced maize for self-consumption in milpa intercropping systems. Despite the intensification of emigration processes in the last two decades, native seeds continue to be cultivated and hold centrality to Mixe cosmology. Drawing on ethnographic data from an 18-month stay in Tamazulápam, this presentation will attend to these human-seed relations and explore the way cultivators strive to build respectful relations with their seeds and other more-than-human entities. Central to this paper is the Mixe concept of jëntsë'ëjk'ëny, translated as respect, as it relates to seeds. I argue that, for the Mixe milpa to flourish, an ecology of respect needs to be fostered among cultivators, workers, crops, animals, and deities. In the second part of the presentation, this notion of jëntsë'ëjk'ëny will be articulated in one case of ontological disagreement: maize calculations and quantifications. This case will be explored through comparisons of respectful and disrespectful ways maize is counted,

namely in ritual practices and in calculations of productivity. Finally, the paper reflects on how these ontological conflicts are affected by contemporary challenges brought about by capitalist integration, government extension services, and migration.

3. Self-limitation and the Ulchi worldview: from a subsistence economy to capitalism.

Oxana Lopatina, University of Ferrara

The Ulchis are small-numbered Indigenous nation living in the Khabarovsk Krai, in the Russian Far East. Having traditionally relied on fishing and hunting for sustenance, the Ulchis developed a worldview that reflects this strong relationship with the land and is centred around the concept of self-limitation. However, today, the Ulchis find themselves at the frontier of industrial resource extraction and ecological destruction. Like many other Indigenous communities around the world, they struggle both to practice their traditional lifestyle and to thrive in the capitalist economy. Based on literature and in-depth interviews carried out within the Ulchi community, this contribution aims to explore how the traditional Ulchi worldview, and, particularly, the ecological values, transformed under changing economic systems — from a traditional subsistence economy, to the plan-based Soviet economy, to modern-day capitalism. The objective is to look at the complex reality of an Indigenous community trying to survive under the changing politico-economic circumstances, sometimes preserving the traditional worldview, sometimes giving up on it and sometimes using it as a political tool. Through the lens of the experience of the Ulchi community, this contribution also offers a reflection on the conceptualisation of the Indigenous worldview by the dominant cultures, including Western environmental movements.

4. Hybrid ontologies in defence of place: the blending of Vhavenda indigenous cosmologies and bioconservation in grassroots social movements.

Emile Kwa and Yves van Leynseele, University of Amsterdam

Modernisation projects in the Venda region of South Africa such as mining, industry and commercial agriculture, provoke resistance by indigenous social movements seeking defence of their land and protection of their sacred sites. Not only the materiality of forests and bushvelds is at stake in this conflict through commodification and loss of land rights, but also the knowledge sustaining indigenous cosmologies. Based on five months of embedded fieldwork research with the grassroots social movement Dzomo la Mupo, this article discusses how a grassroots environmental movement combined a place-based ontology as an activist practice with a more Westernised discourse of bio-conservation. By unpacking the particular and situated instances of hybridization, and its emergent properties, we aim to contribute to a conceptualisation of the political ontology of community resistance that looks beyond the incommensurability of these approaches to environmental conflict, and rather incorporates fluidity, strategic essentialism and the blending of developmentalist and indigenous ontologies. The incorporation of western frameworks enables social movements to extend partnerships and build alliances with organisations that predominantly operate within these frameworks. In conclusion, this article explores the potency of hybridisation of ontology in a political and activist space as a strategy for the protection of indigenous land.

Panel 611: Resistance and transformation I

Nafisa Mirzojamshedzoda, Eberswalde University for Sustainable Development/ University of Fribourg

1. Irrigation and environmental change in the Fergana Valley: Colonial continuities and discontinuities under the Russian Empire and the Soviet Union

Nafisa Mirzojamshedzoda, Eberswalde University for Sustainable Development/ University of Fribourg

Environmental change affects access to natural resources and amplifies their unequal distribution across borders. Research from different fields and disciplines, including political ecology, has been conducted to understand the environmental factors driving conflicts between communities in the Fergana Valley shared by Kyrgyzstan, Tajikistan and Uzbekistan. The objective of the paper is to shed insight into the historical determinants and path dependencies that have influenced irrigation systems and cross-border water sharing in the Ferghana Valley since the Russian conquest. It is claimed that contemporary patterns of emerging and existing environmental challenges in regional water management are linked to extractive colonial practices and a conceptualised notion of society-nature interaction during the Russian Empire and, later, the Soviet Union. The following questions will be addressed throughout the presentation: What does the relationship between water and territorial divisions reveal about the changing understanding of nature and the environment? What impact does the notion of resource ownership across borders have on the use of water as a common good?

2. Sustainable currencies? Design, transformation and the promise of special-purpose money

Florencia Radeljak and Alexander Paulsson, Lund University

Money and the desire for it is often seen as destructive for the environment, but money is also seen as necessary for funding large-scale investments in decarbonization. So, how can money be understood in relation to a socio-ecological transformation? In this paper, we conceptually explore money and how money may be designed to foster a socio-ecological transformation. Drawing on the newly forming field of critical studies on design, we unpack the notion of design by problematizing the elements (concepts, logics, fundamentals) that a design of a special-purpose money must include for it to contribute to a socio-ecological transformation. Unlike general-purpose money, which maintains an unsustainable economic system that globally fosters social as well as environmental inequality and devastation, special-purpose money in various places have been designed to articulate ambitions and actions oriented towards creating more just and sustainable societies. Building on these experiences and on our conceptual discussion, we contribute to ongoing debates about design, money and socio-ecological transformations.

3. "Renovables sí, pero no así": Energy conflicts and alternatives to internal colonialism in Spanish territory

Alejandro Pedregal, Aalto University & Alberto Coronel Tarancón, Complutense University of Madrid

Energy conflicts in Spain have their origin in the Franco dictatorship (1939-1975), during which the energy-oligopoly was built around coal, nuclear energy, and hydroelectric power. In the 1980s and 1990s, the oligopoly passed from state control to the private sector, but its structure remained intact. Thus, for example, one of the most important companies of the dictatorship, Hidroeléctrica Española (Hidrola), merged with Iberduero, giving rise to the giant Iberdrola, one of the companies that today drive the accelerated implementation of renewable energies. At the current situation, when the urgency for an accelerated decarbonization is seen as a market opportunity by large multinational capital, environmental movements in Spain are divided over the implementation of renewable energy infrastructures due to both their territorial impact and their speculative dynamics, led by the energy oligopoly. In this context, the phrase "Renewables yes, but not like this" (Renovables sí, pero no así) has become an emblematic motto of social movements and communities that have denounced the dynamics of internal colonialism, especially in the territories most affected by depopulation. As these struggles go beyond unsupportive protectionism and are rooted in forms of chronic inequality, this paper offers a genealogy of energy conflicts in Spain and a panoramic view of the resistance and democratic initiatives that have arisen in the heat of those conflicts.

4. Don Quijotian struggle? Fishery and the contestation of offshore winds in Northwestern Spain

Iselin Åsedotter Strønen, University of Bergen

Offshore wind is widely considered a main alternative energy source in the global quest to reduce fossil fuel dependency. The EU's European Wind Power Action Plan aims to reduce time spent on permitting processes and to make capital more accessible to developers. However, development plans are frequently facing resistance, not least by the fishing industry, who fear that offshore wind installation will not only reduce or cut off access to fishing grounds, but also cause unpredictable consequences to fish stocks, winds, and waves by altering fragile ocean ecosystems as well as material- and sound pollution. This paper examines how offshore wind development plans in northwestern and northern Spain have been met with opposition by the artisan fisher fleet. Based on ethnographic fieldwork in the autonomous province of Galicia, one of the most important fishery areas in the EU, I will examine the conflict between on the one hand, developers and the State's authorities, and on the other hand the fishery fleet, ecological groups and other opposing stakeholders. The paper will explore how discourses about ecology, energy justice, fishery and climate change are mobilized by different parties to justify or oppose offshore wind development, and the opposing parties' resistance strategies.

Panel 139: Animal Political Ecologies: Blindspots and novel approaches I

Rosaleen Duffy, University of Sheffield

The panel is chaired by Rosaleen Duffy but the outline of the panel is the result of the collective thinking of the participants. The presenters include early career permanent staff, PhD students and postdoctoral researchers. This panel focuses on animal political ecologies in the Global North. Doing so opens an opportunity to reimagine the world with the interests and worth of individual animals as central to creating that world. Doing so allows us to move beyond human exceptionalism that underpins global capitalism, perpetuating social injustice, speciesism and ecological degradation. There is a growing interest in and use of novel approaches that require wholesale redesign and replacement of nature, including de-extinction, rewilding and gene editing technology. The lives of animals – as active agents in the redesign and building of novel forms of nature are central to these new visions of nature. Political ecology has not addressed the role of animals in creating social natures. The ecologies and ethologies of animals themselves, the way they forge lives and experience change, remains unaddressed within political ecology; as a result the field does not offer adequate intellectual tools for this key moment of multispecies thinking. Recent work on animals in the social sciences and environmental history has paved the way for political ecologists to consider why non-humans are subjects and historical actors worthy of social inquiry. Further, the ways that political ecology centres capitalist relations, race, class, gender and sexuality, and can meaningfully and critically engage with ecology and other natural sciences, could address some of the problematic omissions of animal studies, especially when unjust politics are enacted in the name of nonhuman life. The papers in this panel draw on a novel mix of political ecology, environmental humanities and animal studies to develop ways of thinking that centre the lives of individual animals. The papers interrogate a series of questions: Why centre nonhuman animals, and how does this challenge political ecology? Does breaking down binaries between human and animal create new ways of thinking about interspecies justice? How does the serious consideration of individual animal lives, as opposed to viewing them as collectives, unsettle conventional approaches in both political ecology and the natural sciences? How does centring animals assist/hinder in moving away from hegemonic/Western scientific knowledge systems? How does this intersect with decolonising knowledge? What conceptual frames and methodological approaches might allow political ecology to begin to understand the experiences and ecologies of animal subjects? How might de-centring the human in political ecology create new ways of understanding human-animal relations? And how can doing so tackle shared vulnerabilities of people and animals? In what ways do animal political ecologies build on or differ from approaches anchored in more-than-human, post-human or animal geographies? How can political ecology's tradition of situating and critiquing scientific narratives and concepts be applied to understanding the lives of animals? What perspectives are neglected in political ecology when specific animals are excluded from established conceptualizations of nature? And what valuable insights can be gained by including animals not conventionally thought of as part of nature?

1. The political ecology of habituation

Hanna Pettersson, University of York and Tom Fry, University of Cambridge

In recent years, there has been a marked shift in efforts to increase coexistence between people and wildlife, including within movements for collaborative and convivial conservation, rewilding, and species reintroductions, aimed at bolstering biodiversity within mixed-use landscapes. Such efforts increase the potential for human-wildlife encounters. The spectrum of human-wildlife interactions and their associated outcomes have been well-documented in both the social and natural sciences. Often defined as ranging from negative to positive interactions, there has been a historical bias in the conservation literature toward exploring the negative, or conflict, side of interactions. Habituation as a concept has suffered a similar fate. In this presentation, we will illustrate that habituation has been narrowly defined and under-discussed within conservation science and practice, resulting in misaligned and unjust outcomes for both people and wildlife. By examining current narratives and trends within the literature and incorporating contemporary examples from across the world, we make the case for a broad reframing of habituation within the context of human-wildlife coexistence in a way that acknowledges the reciprocal and contextual nature of human-animal encounters and agency. Our paper argues for a more open, relational conception of habituation, that can encompass the multiplicity of ways in which it is understood amongst different social groups, forms through which it is practiced, and outcomes it can have for humans and non-humans. It demonstrates that doing so requires accounting for the agencies and experiences of both humans and non-humans in the habituation process, and critically situating this process within broader political ecological contexts.

2. From harms to harmony: Using empathetic narratives to understand the lived experiences of wildlife crime

Alison Hutchinson, Newcastle University,

Examining wildlife harms through the joint lens of green criminology and political ecology brings an attentiveness to the drivers of wildlife, environmental, and human exploitation; and provides space to recognise these combined injustices as perpetuated by global imbalances in power, participation, and representation. Yet, our understanding of wildlife crime all too often falls short of capturing the full scope of harms experienced - by wildlife victims directly, by those humans entangled in extractive-capitalist animal relationships, and towards the wider environment and natural world. To bridge this gap, this presentation takes marine species who are commercially exploited as food-resources as a point of departure and attempts to unravel the complex relationships between wildlife harm, crime, desire, and control. The discussion is guided by a non-speciesist and animal narratology position, which situates the imagined-lived realities of wildlife victims within the context of parallel and supporting socio-political and economic systems. By taking empathetic leaps to recognise the victimhood of exploited wildlife, attention may be drawn to the ever-present, culturally normalised, and politically motivated harms that jointly oppress and marginalise wild species, people, and the natural world. I question whether an animal narratology position - that champions inherent value over instrumental utility - can meaningfully add to the ongoing discourse in human-wildlife relations to address and rectify the shared vulnerabilities of animals and people.

3. Foie gras and animal lives: the risk of using care as a 'frame of reference' for industrial animal agriculture

Guillem Rubio-Ramon, University of Edinburgh and Felix Clarke, University of Edinburgh

Examining how humans and non-humans are entangled in caring relationships is a central feature of disciplines, including political ecology, that, influenced by ecofeminist and post-humanist philosophies, study human-animal relations. Focusing on care can help to ontologically decentre the human, a core aim of these fields. However, this does not necessarily equate with a political centring of non-humans. To explore this tension, we examine scholarly work from (a) human-animal studies and cognate fields on foie gras and (b) from political ecology on industrial animal agriculture (IAA) and care. We follow Puig de La Bellacasa who argues that "the work of care can be done within and for worlds that we might find objectionable" (2017, p.6). Rather than using the work of care as a starting point, we begin our analysis with objectionability, in this case of industrial foie gras production. While foie gras is an atypical example of IAA because of its association with elite consumption, its scale and production methods are nevertheless typical of IAA. We argue that when studying IAA, including foie gras, there is a danger in using care as a 'frame of reference'. Which, while useful for understanding certain aspects of human-animal relations, comes at the expense of recognising the power relations and political economies which configure the particular settings of care. Thus, a restricted analysis of 'care' can have a flattening role, whereby care ceases to be a space for ethical and political contestation, inhibiting scholarship that seeks to improve the lives (individual) animals can live.

4. Rewilding contested landscapes: three short stories about renewing coexistence with Red Kites in Northern Ireland

Dara Sands, Norwegian University of Life Sciences

Throughout human history, people have modified the ecologies and landscapes of the world through the practice of moving and introducing animals, either deliberately or accidently. Today, rewilding and related ecological restoration initiatives involving the reintroduction of locally extinct wildlife represent an equally intriguing pathway for reimagining contemporary and future landscapes. Yet, returning unfamiliar animal species to human-dominated landscapes brings complex socio-ecological challenges centred around 'renewing coexistence' (Auster et al. 2022). To examine and better understand these formidable challenges, this presentation will advance three short stories offering partial accounts of important issues that have influenced efforts to renew coexistence with Red Kites in Northern Ireland. Motivated by an interest in exploring storytelling's potential for promoting alternative visions of human-wildlife interactions and conservation (Harris 2021; Fernández-Llamazares and Cabeza 2018), the presentation will demonstrate how efforts to renew coexistence can be undermined by both long-standing and novel contestations linked to rural livelihoods, social conflicts and environmental governance. Further, the stories illustrate how centring the lives of Red Kites can shed light on the colonial-capitalist relations that perpetuate disharmony and conflict, as opposed to coexistence.

Panel 626: Thinking and enacting plural futures

Vasna Ramasar, Lund University

1. Political waters, ridiculous epistemologies: An absurdist, multidirectional lexicon of political ecology

Lindsay Vogt, University of Zurich

This presentation shares an absurdist theoretical lexicon of political ecology, focusing particularly on water. The lexicon is bidirectional and presents, on one hand, key theories that drive current discussions in political ecology, derived from a meta-analysis of recent publications, and, on another, concepts that originate from the Global South that might be used instead. The lexicon is a self-consciously absurdist exercise that seeks to re-compose a common organizing principle of academic knowledge production – that of analyzing subjects in the Global South via theories and educational centers from or in Europe and North America. In its para- and meta-movements, as opposed to anti- or counter-movements, this project and the theoretical-analytical re-mixing that it is based on attempt to subvert, as they pervert, deeply (neo)colonial circuits and feedback loops of knowledge production and their compound layers of institutionalization. This project seeks to re-view the conceptual canons that construct academic knowledge and illuminate its tilts and blind spots. The lexicon, fundamentally partial and in-process, will be accompanied by a zine and interactive webpage to facilitate audience participation in both building the lexicon and reflecting on how such absurdist re-shaping of theoretical canons might be pursued ethically and earnestly in practice.

2. Back to the future. How capitalism separated us from nature and each other and how a new rurality will save us

Luis Del Romero Renau, University of Valencia; Núria Salvador, University of Valencia

A large part of the population, especially in big cities, seems stressed by a constant race of obstacles and overloaded professional or family commitments schedules. The imperative of work and efficiency and overexposure to social networks and the internet are separating us from everything and everyone. We are more (digitally) interconnected, more technological and advanced than ever, but also more distant and separated than ever: from family, friends, our rural roots and even the neighbour who lives next door. This is just one more consequence of the world's hegemonic neoliberal turbo-capitalism, with its imperative of infinite growth, increasing efficiency and reducing production costs at all costs imposed by internal and external colonialist dynamics, which threatens to destroy us as a society while at the same time further degrading the environment on which we depend. In the face of this globalised and hegemonic urban capitalist society that is causing an unprecedented ecological collapse, we propose a return to a healthy, environmentally friendly and socially just rural life. This presentation proposes a new rurality paradigm far from old times' nostalgia containing fragments of former community

life and a more balanced relationship with life and nature, but looking to a hopeful post-capitalist future.

3. Exploring the Pluriverse: Understandings of crisis and alternatives from the global south

Vasna Ramasar, Lund University

The world is going through a crisis of unprecedented global scale created by a dominant regime that has resulted in deepening inequalities, increasing deprivation in old and new forms, the destruction of ecosystems, catastrophic climate change, ruptures in socio-cultural fabrics, and the violent dispossession of living beings. However, there is an increasing emergence and visibility of an immense variety of radical alternatives to this dominant regime. These range from initiatives with a specific focus like sustainable and holistic agriculture, solidarity and sharing economies, worker control of production facilities, resource/knowledge commons,and inter-ethnic peace and harmony, to more holistic or rounded transformations. Alternatives also include the revival of ancient traditions and the emergence of new worldviews that re-establish humanity's place within nature, as a basis for human dignity and equality. The Global Tapestry of Alternatives (GTA) is an initiative seeking to create solidarity networks. In this paper, we share the findings and process to bring the voices from the global south together in both conceptualising the crises and responding to it. The aim of the conversations was to examine what different groups understand as alternatives for systemic transformation and how they have worked towards this through their own processes and organising. The paper presents the findings from in-depth and co-created conversations carried out with GTA weavers in Mexico, India, Colombia, and South East Asia. The specific worldviews; social mobilisations and cosmologies guiding alternatives in each of these contexts is presented along with the practices carried out to live in a world where many worlds are possible.

4. Reparative transformations and the 'ecological debt': Proposals from civil society organizations

Denisse Rodríguez & Erin Fitz-Henry, University of Melbourne

Discussions of the socio-ecological transitions required to get us to net zero by 2050 perpetuate and engender new forms of climate coloniality. These approaches often fail to attend to the histories of expropriation and exploitation that have accompanied previous energy transitions. They fail to fundamentally challenge the dynamics of neo-colonial extraction that continue to characterize relationships between the Global North and Global South – relationships that have deep, long, and painful histories. In this paper, we argue that without wrestling with the diverse demands for historical accountability and redress for past expropriation, which are currently being developed by civil society organizations, these transition strategies will deepen and exacerbate, rather than rectify, a range of ecological debts owed to the Global South. Juxtaposing two proposals – one from the YASunidxs collective in Ecuador and one from the National Black Justice Alliance in the United States – we explore holistic ways to conceive, implement, and, importantly, finance transition policies that seek to better honor these socio-ecological debts. By

engaging with how these CSOs are thinking about the role of 'reparations', and proposing how to finance the required compensation that will be critical to more 'just' futures, we explore how responsibility for historical injustice can be more fully operationalized to create or deepen plural and autonomous transition pathways.

Audio-visual performance (637): Bark as Armour

Rik(ke) Jespersen performing as Juniper, Lund University

I will do a live performance at the conference, prefiguratively portraying inter-species care ecologies of the future as an attempt to contribute to the sub-theme 'Pluralizing Desirable Futures'. I will search for a suitable barc prosthesis in Söderåsen and make sure to deliver it back to the forest after the performance. During the performance, I will challenge and destabilise my sense of self as well as my skin as delimitation via the act of wearing bark as armour. I will mic-up the bark with piezo mics to generate soundscapes for the performance. This fall I live performed Bark as Armour during the DIALEKT Nordic Residency Exchange at Eastern Bloc, Montreal. Bark as Armous is a culmination of theory and practice co-developed with my performance collective Becoming Species. Documentation from the performance is available here: https://www.instagram.com/p/CkagGPUoklR/?img_index=1 and here https://www.instagram.com/p/CkwOw0JITwc/?img_index=1

Parallel session 7

Time: 15.00-16.30

Hybrid panel LU315: Diverse Ways of Knowing the Climate: Towards Epistemic Climate Justice I

Johanna Tunn, University of Hamburg – hybrid from Lund

Climate knowledge – knowledge on the actual and predicted effects of global warming, on the causes and responsibilities for climate change and on transformation pathways – strongly influences climate politics. Reliable climate knowledge plays a crucial role for mitigation and adaptation strategies, and it builds the basis for climate activism, contestations of existing socio-economic structures and claims for climate justice. The dominant mode of climate knowledge production, however, has for the most part neglected issues of epistemic justice and ways of knowing beyond the scientific tradition of the West. Most climate knowledge is produced in narrow technocratic and managerial settings (Knox-Hayes and Hayes 2016), excluding Global South scholars (Tandon 2021) and obfuscating power dynamics and colonial histories (Álvarez and Coolsaet 2020). Based on the premise that diverse ways of knowing and knowledge-making are crucial for

climate justice, this session seeks to critically evaluate current forms of climate knowledge production and to advance the debate on more diverse, inclusive and decolonial practices.

1. Charity or polluter-pays? The discursive struggle about climate justice in the operationalization of the new fund on Loss & Damage

Marie Fischer, Universität Augsburg; Angela Oels, Universität Augsburg & Rasmus Noeske, Universität Augsburg – hybrid from Lund

The Conference of the Parties (COP28) to the UN Framework Convention on Climate Change in 2023 celebrated the operationalization of the Loss & Damage fund just one year after its creation. Amidst conflictual understandings of 'burden sharing', our paper asks: Which climate justice discourse prevailed in the operationalization of the Loss & Damage (L&D) fund and funding arrangements? We trace which understandings of climate justice were re-iterated or lost during the five negotiation sessions of the Transitional Committee (TC) between COP27 and COP28. Inspired by Dean's (2010) analytics of government framework, we study the visibilities, subject positions, knowledges, and technologies of government on L&D finance. Our data includes interviews with TC members and negotiators, party submissions, transcripts of relevant passages of the TC meetings and participant observation at COP27 and COP28. The preliminary findings suggest the dominance of two opposing climate justice discourse coalitions: polluter-pays versus capability-based. We show that the final decision text on the L&D fund and funding arrangements is a setback for climate justice understood as historic responsibility of polluters. The fact that contributions to the L&D Fund are voluntary reduces L&D payments to charity. It is the prevalence of the capability-based understanding of climate justice that underlies the governing of multilateral finance for L&D.

2. Embodying and resisting urban heat injustice: migrants' vulnerabilities and grassroots adaptations in el Raval, Barcelona

Panagiota Kotsila, Institute of Environmental Science and Technology, Universitat Autònoma de Barcelona (ICTA-UAB); Valeria Cuenca; Manuel Franco; Lourenço Melo & Sam Pickard – hybrid from Lund

Heat is becoming a central health concern for many European cities whose efforts for adaptation tend to reproduce inequities, sidelining the needs and concerns of those mostly affected. Applying Photovoice participatory photography and in-depth interviews in the central neighborhood of El Raval, in Barcelona, Spain, and through a feminist approach that centers the everyday embodied knowledges of racialized migrant residents, we show how heat vulnerabilities are deeply intersectional. We find labor and housing precarity as well as the limited accessibility to public spaces of heat relief, as principal factors shaping urban heat inequities, which for Majority World migrants are not only driven by the effects of neoliberal urbanism and class-based inequalities, but also the institutionalized discrimination and racism that these groups experience in European cities. In response, we see self-organized spaces and community networks of solidarity emerging as social infrastructures of care conducive to urban climate justice. We thus

argue for an urgent redefining of adaptation as a critical metaphor for change, which must address the underlying drivers of injustice that inform it.

3. Discursive Contestations in Political and Local Community Narratives on Coal Phase-Down and Clean Energy Adoption in Zimbabwe

Achieford Mhondera, University of Zimbabwe – hybrid from Dodoma

Discourses on energy transitions become a vital battleground in the Global South. This complexity is particularly pronounced in Zimbabwe, where coal remains a significant component of the country's energy production. To navigate the intricacies and dynamics of energy transition processes, it is essential to examine how various stakeholders construct narratives around the phase-down of coal and the adoption of alternative energy sources. This paper employs a qualitative methodology to uncover the diverse and often marginalized perspectives within political and community narratives. It emphasizes the potential of subaltern knowledge to shape alternative discourses that challenge dominant narratives perpetuated by powerful actors in the international energy sector. The study compares political narratives on coal phase-down and clean energy adoption with the narratives of local leaders in the coal-dominant regions of Hwange and Binga in northwestern Zimbabwe. The findings reveal a complex interplay of power dynamics and contestations within the coal phase-down and clean energy adoption narratives. Subaltern knowledge emerges as a crucial force in destabilizing hegemonic discourses, promoting inclusivity, and advocating for a just energy transition. Local communities, often marginalized in decision-making processes, possess valuable knowledge and perspectives that challenge dominant narratives and offer alternative pathways to sustainable energy transition in Zimbabwe.

4. The expert epistemology of climate finance: re-visiting the depoliticisation critique

Jonathan Barnes, University College London – hybrid from Lund

The response to climate change is orchestrated by international organisations, reflecting the shared, global nature of the issue and requirement of a collaborative response. There is an established critique that these institutions are depoliticised (Louis & Maertens, 2021) – where institutions, policies, discourses foreclose or discourage participation in the political sphere. This entrenches hegemonic global minority knowledge at the centre of the climate response. This paper explores the downstream effects of this. When it intersects with national planning. I nuance the concept of depoliticisation, drawing on the South African experience with the Green Climate Fund. I argue that there is an urgency framing, underlaid by scientific and financial rationales, which is willingly enacted by domestic actors. This limits the scope and participation in climate finance, empowering unevenly, rather than voiding politics. This is demonstrated by bringing together the depoliticisation literature with civic epistemology, to clarify how the epistemic geography of climate change in South Africa formulates, contests and deploys knowledge. Certain technical knowledges are privileged, foreclosing political contestation. Equally, there is re-politicisation within the limits of urgency. Other actors dispute or reject the frame, which de-legitimates climate finance. This resistance is missed in depoliticisation literature but made visible using civic epistemology.

5. Islanding as reimagining: how oceanic fiction challenges dominant narratives of climate doom

Charlotte Weatherill, Open University – hybrid from Lund

Fiction by European artists has long romanticised and sexualised the islands and people of the Pacific, the colonial gaze coding islanders as "exotic, malleable and, most of all, dispensible" (Teaiwa, 1994). This romanticisation is reproduced in climate narratives of the 'sinking island paradise', where islanders become the perfect charismatic victims of rising seas (Weatherill 2022). Against and despite these narratives, Pacific authors / scholars / poets have created their own fictions and narratives, of survival and resistance. This paper argues that locating Oceanic counternarratives in fiction and poetry as well as activism and scholarship reflects the power of storytelling in politics. Starting from the argument that climate politics is all based upon imaginaries of future worlds, I argue that looking beyond the stories being told in the centres of colonial power is of fundamental importance for challenging the dominant narratives of climate doom and sacrifice.

6. Steward or spectacle? Indigenous knowledge, nature-based tourism and climate change

Stasja Koot, Gijsbert Hoogendoorn, Moses ||Kumûb and Raki Ap from Wageningen University and University of Johannesburg – hybrid from Lund

Indigenous peoples are often presented in a spectacular way as 'stewards of nature and of the climate' from whom outsiders can learn how to live sustainably. This image has especially been promoted in nature-based tourism. Based on ethnographic research among the San of southern Africa and an analysis of the 30x30 project—in which 30% of the Earth should be preserved for biodiversity conservation by 2030—we show that indigenous peoples and their ecological knowledge are positioned to further elitist conservation agendas based on a neoliberal discourse promoting economic growth through global nature-based tourism. We address two important contradictions: first, while indigenous peoples are presented as knowledgeable stewards of the climate, they are among the least powerful to address climate change. Second, many institutions using this image simultaneously promote nature-based tourism, often including imageries of 'authentic' indigenous peoples. Most nature-based tourism, however, remains is a strong contributor to climate change because of the high levels of consumption included in tourism, including aviation. Based on these two contradictions, we argue that the position and knowledge of indigenous peoples in the climate debate is merely a new step towards spectacularisation derived from their colonially built-up image as stewards of nature.

7. Blue carbon (in)visbilities and (un)certainities.
Yvonne Kunz, University of Hamburg

Scientists and the international community agree that if the aim to limit the temperature increase to 1.5° Celsius above pre-industrial levels, emissions must be reduced while additionally removing carbon dioxide from the atmosphere. Carbon dioxide removal is often included in climate models producing future scenarios (Boettcher et al. 2021;

Hansson et al. 2022). This solution, though already included in models, is challenged by an immature technological system as well as a lack of knowledge regarding social-ecological settings. Blue carbon, understood as carbon stored in and through coastal vegetated ecosystems seem to be appear as the least controversial marine way to capture and store considerable amounts of carbon. On its website, the probably biggest German-based project researching Blue Carbon, sea4soCiety, states that it aims to "improve competence for the assessment of potential and feasibility, risks and societal acceptance". With empirical fieldwork on German and Indonesian coasts, this paper seeks to ask the question, whose competence is going to be improved, by whom and through what kind of knowledge (Kunz et al. 2023)? What risks are considered and how can societal acceptance of blue carbon initiatives diminish these risks for the sake of carbon sequestration. We follow the term blue carbon from the international level where the term was coined, to national levels where enabling frameworks are to be established, to the local level where coastal vegetated ecosystems might have been valued way before blue carbon has been "discovered" by scientists. This journey can hint towards false assumptions, in the climate models as well as in the perception of the role of societal acceptance of blue carbon projects.

Hybrid panel DO42: The lives, afterlives, and resurgence of nature-based solutions

Adeniyi Asiyanbi, University of British Columbia Okanagan – hybrid from Dodoma

"Nature-based solutions', particularly tropical forest conservation linked to carbon offsetting, have become a leading policy intervention for climate-change mitigation. From the global scale to the local and back again, the trajectory of land-based carbon offsetting has been uneven and complex. Some projects under the rubric of REDD+ exist mainly on paper, with few ground-level changes in how land and resources are demarcated, valued, and used. Others have recruited land users into new livelihood or conservation-related activities (Huff, 2023; Kansanga and Luginaah, 2019). Some have entailed increased control by central governments or have engendered or empowered local organizations and alliances among state and non-state actors (Astuti and McGregor, 2015a, 2015b; Kashwan 2015; Setyowati, 2020). Many projects that prioritize carbon sequestration have curtailed resource access by local communities; more than a few have involved violence and dispossession, though the type of local impacts depends on the nature of the domestic political economy (Kashwan 2017; Milne et al., 2018). Even abandoned projects have afterlives that manifest as problematic consequences for local communities, redirecting of state institutions and resources, continuing emission-reduction claims, and greenwashing of extractive industries along the commodity frontiers of the global South).

Political ecologists have been investigating these projects for some time (Cavanagh and Benjaminsen, 2015; Chomba et al., 2016; Fletcher et al., 2017; Lund et al. 2017; Lund and Asiyanbi, 2020; Leach and Scoones, 2013; McAfee, 2015). Recent quantitative evidence from conservation scientists vindicates what political ecologists have been arguing: that the climate benefits of most land-based carbon-sequestration projects are greatly exaggerated or nonexistent (Haya et al. 2023). Amplified by press accounts of deception, conflicts of interests, and human rights abuses in forest-carbon projects,

these revelations have left nature-based offsetting in disrepute. Many NGOs, academics, and peasant and Indigenous peoples organizations have denounced offsetting. Corporations, wary of bad publicity or legal liabilities, held back from buying "nature-based" carbon credits in 2023, sending traded offset volume tumbling in the voluntary carbon market. Yet forest-carbon offsetting appears to be resurging as states and nonstate actors jostle for net-zero carbon credibility, and as the offsetting of development impact becomes entrenched. Alliances of financiers and conservation organizations hope to rescue the tottering voluntary carbon market by reforming offset certification standards and weeding out "junk" carbon commodities. State actors such as the UAE traverse Africa securing carbon rights on large swaths of territory. Cash-strapped global-South governments seek their share of the promised multi-billion dollar carbon credit trade. The practices and logics of carbon offsetting find renewed application in the trading of biodiversity credits. Emissions-trading interests seek to expand transnational offset trading as a UN-sanctioned climate strategy, even if governments are at loggerheads over rules for this under Article 6.4 of the Paris Climate Agreement.
In this panel, we bring together empirical and theoretical contributions that present local, national, international, or comparative analyses to advance the debates about the political economy and political ecology of nature-based climate interventions.

1. The (In)visible Hands of Carbon Markets. The Political Economy of Regulating Carbon Markets in Brazil

Claudia Horn, Brandeis University – hybrid from Lima

Carbon offset markets and Payments for ecosystem services (PES) continue to rise as Global South countries like Brazil regulate them at greater scales, despite the technical and human rights issues critics continue to raise. Political ecology critiques emphasize that market mechanisms displace the burden of climate mitigation to Global South countries, increasing and greenwashing rather than curbing big polluters' gains. They focus on project-level resistance to nature commodification but less on the politics of regulating national carbon markets. This study uses the lens of environmental justice and critical state literature to investigate the extent to which Brazil's national legislation incorporates collective socioenvironmental demands or reproduces the dominance of polluting sectors. When carbon offsets emerged in the 2000s, Brazil's federal government and rural social movements opposed the mechanism, while Amazon state governors and conservation NGOs promoted it. Back then, PES seemed to primarily be directed towards local communities. In opposition to the right-wing anti-environmental backlash, political elites have now embraced market principles almost unequivocally as a "rational" alternative to populism. While Brazil's 2009 Climate Policy included a national carbon market, the latter was only approved in 2023. The mechanism excludes and, at the same time, benefits the agribusiness sector, which is responsible for three-quarters of the country's emissions. This study examines archival, interview, and media sources to understand the struggles around regulating the carbon market. It considers which interests dominate this process and to what extent marginalized rural actors engage in it to defend socioenvironmental justice demands.

2. Shifting forest governance regimes: India's "Green Credits" Programme and the birthing environmental markets

Vijay Kolinjivadi, Aditi Vajpeyi, Ritwick Ghosh & Manshi Asher, University of Antwerpen – hybrid from Lund

In October, 2023, the Government of India under Prime Minister Narendra Modi, launched the Green Credit Programme (GCP), which permits an environmentally damaging development activity to be canceled out by the purchase of a "Green Credit" – obtained by a private individual or corporation engaging in an environmentally "positive" action elsewhere around the country and across one of the eight sectors, ranging from tree plantation, water conservation, sustainable agriculture, air pollution reduction, mangrove restoration, and waste management. To understand the institutionalization of the GCP, we examine legal and policy documents, media sources and other archival information to situate the GCP within changing forest governance architecture in India. We look to understand the specific factors driving the program and how ideas of markets, private innovation, technological interfaces and scale feature in the narratives and institutionalization. The GCP contributes to increasing contestations over land and significant changes in forest governance institutions, namely the Forest (Conservation) Act 1980 and the 2006 Forest Rights Act. We argue that the GCP: a) introduces new language and private actors, complicating already existing burdens for communities demanding recognition of forest rights; b) has a tenuous ecological foundation, and c) contributes to a shrinking trend of democratic governance spaces in India. We conclude that the GCP should be understood as part of a larger governance agenda to shift environmental and social concerns from the State's responsibility to its citizens to a lifestyle choice of private individuals, while also leveraging funding and rhetoric around nature-based solutions for domestic regulatory compliance and to show face in multilateral environmental arenas.

3. Political trees – the Great Green Wall and reforestation in Ethiopia

Detlef Müller-Mahn, University of Bonn; Matiwos Bekele, University of Bonn – hybrid from Lund

The paper takes the pan-African Great Green Wall Initiative and reforestation in Ethiopia as examples to investigate the fabrication of green imaginaries in political discourse. In this context, the image of the tree is presented as epitome of desirable green futures – a world in harmony with nature. Yet, the reality of the Great Green Wall and tree planting campaigns in Ethiopia looks quite different. The positive image of the tree is strategically used to camouflage the negative consequences of tree planting, such as forced labour, dispossession, eviction, human-wildlife conflicts, and disturbed livelihoods. From the perspective of local communities, the „green" future that is promised by these projects is not at all desirable. Explaining this contradiction requires a closer look at the power of green imaginaries, and a critical review of what is meant by „desirable futures": What makes these futures desirable, for whom? The paper presents findings of an ongoing collaborative research project in several countries of the Great Green Wall, with a focus on Ethiopia.

Panel 360: Ecologies of Crisis: Anthropological Perspectives on the Governance of Environmental Resources under Compounding Crises

Madeline Brown, University of Maryland; C. Cameron Walker, University of Maryland; Kathryn Lafrenz Samuels, University of Maryland/The Catholic University of America & Joshua Samuels, University of Maryland/The Catholic University of America

Anthropological approaches to political ecology depend on a holistic perspective that centers the joint human-environmental co-construction of ecological crises, as seen through pluralizing epistemologies garnered from inductive fieldwork. This holistic framework moreover places both the past and present on equal analytical footing for their value in transcribing future possibility. In this session we interrogate the governance of environmental resources under interconnected crises through three granular studies drawn from anthropological fieldwork in the United States and Italy. These papers consider how individual adaptations, pluralism in crisis prioritization, and the intersection of cultural and natural resource conservation collectively shape discourses and material realities in socio-ecological systems. The format of this session will begin with brief presentations for each paper, with most of the session time devoted to a roundtable discussion following these presentations. The discussion will be structured around pre-circulated questions as well as questions from the audience, with the aim to use the papers as a springboard for discussing broader themes and interventions in the arena of compounding crises.

1. Socio-ecological considerations in trail work on US public lands

Madeline Brown, University of Maryland

Building and maintaining trails are important parts of managing and ensuring access to public lands. These protected areas may emphasize cultural and natural resource values and be managed by institutions ranging from local to national scales. Moreover, in some cases volunteers and nongovernmental organizations are the ones working to enact conservation and recreation goals on public lands under government regulation. In US public lands, this patchwork of protected areas is both a strength and a challenge for tackling contemporary socio-ecological crises such as climate change and wildfires, as well as issues related to environmental justice and financial constraints for conservation efforts. Drawing on ethnographic fieldwork in California and Nevada, as well as interviews with individuals involved in trailwork from across the US, this paper asks how trail building expertise and ecological knowledge are integrated into the process of trailwork on public lands. In particular, this study highlights how on-the-ground decision-making and the physical labor of trailwork involves simultaneous engagement with multiple social and ecological values and constraints. Finally, the paper considers the implications of trailwork as a way of knowing and advancing environmental conservation within the context of increasing social, political and environmental challenges.

2. Entangled Colonial and Ecological Pressures in Eighteenth-Century Coastal Georgia

C. Cameron Walker, University of Maryland

I highlight zooarchaeological research (the study of archaeological animal/faunal remains) on the Musgrove Cowpens and Trading Post, a rural property central to a colonial economic system that brought deerskins and cattle to the thriving urban markets in Charleston, South Carolina, and Savannah, Georgia. Mary Musgrove (born Coosaponakeesa) was a half-Creek and half-white woman who owned and operated this property on Georgia's coast between 1732-1738 and 1742-1746. As an interpreter, trader, and rancher, Mary was central to economic ventures reliant on political relations between indigenous communities and colonial agents. The Musgrove site embodies a colonial landscape wherein competing strategies- the deerskin trade and cattle ranching- co-existed. Over 70,000 faunal specimens from Musgrove show temporal changes in species representation from an array of resources to an economic strategy more reliant on cattle. This reflects what is known historically—where livestock, over-hunting, and increasing colonial settlement impacted available species, especially coastal deer populations. Zooarchaeological evidence shows continuing animal-human relationships that demonstrate indigenous ecological knowledge's importance to early- "capitalistic" strategies. The economic and subsistence changes shown at Mary's property indicate how change often results from the colonial effects on available resources and landholdings—providing meaningful inference to modern capitalistic impacts on local ecosystems.

3. Political Economies of Crisis-on-Crisis in Agricultural Heritage Landscapes

Kathryn Lafrenz Samuels and Joshua Samuels, University of Maryland/The Catholic University of America

Climate change and biodiversity loss are dual crises that mark the sheer scale of environmental and social devastation of our present era. While the two crises supercharge one another, their drivers and dynamics are not wholly shared or subsidiary. Amongst other epistemic tools, the lens of heritage offers a useful means for disentangling such "ecologies of crisis" to better understand the specific points of reinforcement, their common conditions and legacies, as well as their sometimes contradictory and perverse impacts. In this paper, we examine the intersection of climate change and biodiversity loss in the specific area of agriculture. Based on anthropological fieldwork in three regions in Italy since 2018, we study how traditional agricultural practices and agricultural regions designated as heritage landscapes are reacting and adapting to climate change including, critically, the impacts of climate change on agrobiodiversity for a value-laden crop. Our research focuses specifically on viniculture as a harbinger of agricultural futures in a changing climate. Moreover, each of the three vinicultural landscapes are managed under different types of heritage designation, as regulatory instruments with varying protections and adaptive management responses for safeguarding agriculture and agricultural heritage. As such, these different heritage regimes play out the compounding crises of climate change and biodiversity loss in varying ways, with significance for the prefigurative politics and economics of building just futures.

Panel 316: Political ecologies of the post-extractive landscape

Patrik Oskarsson, Swedish University of Agricultural Sciences

This panel explores political contestations over land and other resources in post-extractive landscapes of the Global South with a specific focus on India. As the first generation of vast, open pit coal mines established in the 1990s start to close due to exhausted reserves, this panel seeks to understand the ways in which future landscapes, tenure patterns, and resource rights within these landscapes are shaped and negotiated at the intersection of energy justice, land rights and impending climate change. With a view to stimulating rapid decarbonation of Indian energy, we seek bottom-up perspectives on how to ensure a transition away from damaging coal energy which accounts for millions of informal and marginalised coalfield communities.

1. Coal closures and the extractive continuum: changing land values and land use in decarbonising India

David Singh, University of Copenhagen & Vasudha Chhotray, University of East Anglia

The future of post-mining landscapes in a rapidly changing energy world is crucial for a just transition, considering the irreversible social changes operated by the continued extraction of coal in unequal agrarian societies. Coal mining has produced contrasting temporal and spatial experiences of dispossession for populations living on mining lands. Contending with enclosure, these populations have blended questions of access to resources with questions of identity, indigeneity, and authenticity. Land relations and other pre-existing agrarian inequalities have facilitated the emergence of fragmented and hierarchical classes of labour and furthered processes of power differentiation in the new coal economy, as not everyone held the same capacities for negotiating coal dispossession. How these long-term historical effects and experiences shape the vision that coal communities have regarding a future beyond coal is not really understood. This paper contends that the possible end of coal is a continuum of ongoing extractive activities, and any emerging visions of carbon futures fundamentally engage both the past and present. Relying on an extensive literature review of (post-)mining landscapes in India and abroad, we situate the forthcoming closure of coal mines in India within a broader discussion on social changes, identity and morality, state formation and political dynamics.

2. Mine closure policy and elusive just transitions in a central Indian coalfield

Patrik Oskarsson, Swedish University of Agricultural Sciences

Land dispossession in India is a highly politicised topic with always ongoing debate and contestation, and yet mine closure is virtually a non-issue in spite of its possibilities to restore and return land to the dispossessed when mining ends. While international programs on just transitions are yet to make an impact in Indian coalfields, some of the

first wave of large, open pit coal mines established in the 1990s are starting to close due to exhausted coal reserves. This opens up for possibilities to examine Indian mine closure policy and its implementation. In this paper we review Indian mine closure policy set against international best practice and mine-specific closure plans to understand intended post-extraction land use outcomes. Our analysis shows that mine closure policy mainly reuses closed mines for industrial or forestry purposes and, in places, create smaller tourism areas for middle class households. The rural poor are in this manner excluded from present plans intent on continued privatisation and industrialisation. Opening up mine closure policy for renewed community land and forest use could start important discussions about desirable and feasible land futures missing at present for mined out landscapes in most of the Global South.

3. Interrogating the future of land in coal regions: Mine closure and just transition planning in India's energy centre

Sarthak Shukla, Swedish University of Agricultural Sciences & Radhika Krishnan, International Institute of Information Technology

As the global community rally behind the idea of a just energy transition, future of coal remains unclear, especially in the Global South. Globally, initiatives by international organisations such as the World Bank and the UNDP promote just transition in various countries along with government-backed Just Energy Transition Partnerships (JET-Ps) in for example Indonesia, South Africa and Vietnam. A JET-P like deal and several proposals on just transition are being considered by India as well. However, such initiatives seem to stay away from adequately considering land futures as an element of a just energy transition. Simultaneously, national mine closure policies and legislations are being implemented in various coalfields across the country. A closer look at these, however, reveals significant gaps between future land uses in the coalfields and global and national plans and policies. In this article we interrogate global just transition initiatives, national policies and debates around just transition and how these translate into developments on the ground in Indian coalfields. It appears that there exists significant gap between global and national plans, while considering land futures in just transition planning. It is clear that just transition programs are yet to land on the ground in Indian coalfields.

4. Mining for power: the political economy of authoritarian state building, accumulation and dispossession on India's coal frontiers

Saba Joshi, University of York

In recent years, India's Prime Minister Narendra Modi has accelerated domestic production of coal, with the purported aim of building India's 'self-reliance'. While championing the transition to renewable energy in global forums such as the G20 summit 2023, the Modi administration has simultaneously sought to triple its coal output by 2028. In this paper, I argue that expansion of extractive capitalism in contemporary India must be understood in relation to two interconnected processes—accumulation by dispossession of its indigenous Adivasi citizens and authoritarian state-building aimed at crushing social movements, dissent and civil society alliances. I explore these twin

dynamics using the case study of Chhattisgarh, a central Indian state with a sizeable Adivasi population (34 percent) and home to vast coal reserves that lie under fragile forested landscapes. Drawing on fieldwork in northern Chhattisgarh (2021, 2022), this paper explores the ongoing struggles over the Hasdeo Arand forest—the largest contiguous stretch of dense forest in central India— and unpacks the dynamics of neoliberal extractivism, land grabbing and resistance in India's expanding coal frontiers. In turn, this paper contributes to our understanding of state-capital relationships in enabling land dispossession in the Global South, and the evolving dynamics of local resistances.

Hybrid Panel LI64: Decolonising the normative foundations of political ecology I

Ana Alicia Watson Jimenez, University of Calgary – hybrid from Lima

Political Ecology is undergoing a big revolution. It is meeting the claims of marginalized groups, along with its critique of the legacies of imperialism and colonialism, challenging an abstract and scientific approach to understand nature. The interminable debates about the nature and scope of environmental rights or the proper metric for a universal distributive justice seem increasingly parochial, privileged and unrepresentative of different environments and the normative contexts in which socio-ecological conflicts develop. Today's Intertwined crisis is asking for solutions beyond sociotechnical imaginaries and hegemonic human-nature relationships, yet decarbonization and biodiversity conservation remains deeply connected with colonial approaches and exclusionary strategies linked with capital accumulation even under the era of "inclusive sustainable development". However, Indigenous, and local populations are resisting and fighting marginalization from different fronts and various strategies. Emphasizing the significance of decolonizing both researchers and the research process, in this session we question the sustainability of current narratives of decarbonization as well as the emerging regime of enclosure and coercive conservation model and uneven development interventions. By exploring the case studies, the aim of this session is to unpack the complex linkages between resource and territorial governance, grassroot identities, as well as between western and indigenous/marginalized epistemologies.

1. Unlocking the Potential of Seagrass Ecosystems Through Locally-led Valuation Approaches

Chloe King, University of Cambridge – hybrid from Lima

Blue carbon ecosystems, such as seagrass, mangroves, and tidal marshes capture and store high quantities of carbon dioxide. They also provide a range of other benefits to coastal communities by supporting fisheries, sheltering coastlines, and filtering water. Yet these ecosystems continue to be underfunded and insufficiently represented in marine management policy. Employing the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) value typology framework, the research take a political ecology approach to exploring challenges and opportunities for valuing,

financing, and managing seagrass ecosystem services through a systematic map of 56 studies and surveys and interviews with 84 conservation professionals. Results show that in both literature and in practice, monetary and biophysical ecosystem service (ES) value indicators are more prevalent than socio-cultural indicators; instrumental values prevail over intrinsic and relational values; and academic and anthropocentric knowledge systems and worldviews prevail over Indigenous, local, or ecocentric perspectives. The lack of diverse valuation approaches has led to an over-emphasis on carbon sequestration benefits, despite the infeasibility of carbon financing for small-scale seagrass projects. If seagrass conservation efforts are to succeed at scale, then a range of innovative valuation approaches will be necessary to address equity and justice concerns in enabling community-led initiatives.

2. Decarbonized and De-Commonised? Anticipating Unjust Transition in Western Rajasthan

Suraj Pratap Singh Bhati, Asmita Kabra and Budhaditya Das, Ambedkar University Delhi – hybrid from Lund

The Indian government has signaled an imminent shift towards renewable energy in the coming decades. The energy map of India is gradually expected to shift from coal in Eastern India towards wind and solar energy in Southern and Western India. In the coal regions of India, fossil fuel development ushered in industrialization, but also engendered widespread displacement, human rights violations and environmental destruction. This paper examines whether energy transition towards renewables carries risks of impending dispossession and injustices in these new energy frontier landscapes. The development of renewable energy in the Thar Desert area of Western Rajasthan is based on a perception of these lands as empty, barren or waste. This perception has a long history, whereby the colonial and postcolonial state justified projects of nation-building, development and improvement. Thus, the Thar region has been transformed through state projects like firing ranges, nuclear testing sites, canal systems and conservation areas. These have gradually transformed the livelihoods of the local agrarian and pastoral people, for whom the landscape carries deeply textured social, cultural and economic meanings. This paper seeks to explore the social justice implications of a newer form of green grabbing, deriving from climate change mitigation by using the region as 'green' energy hubs. Using a political ecology approach, this paper explores how establishment of solar and wind energy units has resulted in the transformation of the landscape in rural Jaisalmer. The entry of 'green' energy is creating newer configurations of social and environmental injustices through the grabbing of commons by state and corporate actors. Decarbonisation projects have begun to decommonise the landscape, and are destabilizing existing cultural norms and resource management practices governing these landscapes. In turn, communities are responding through newer alliances and discursive tools to legitimize their prior claims on the commons.

3. Amidst Carbon Frontiers: Balancing Conservation and Social-Ecological Inequalities in Northern Kenya

Evelyne Atieno Owino - Bonn International Centre for Conflict Studies – hybrid from Lima

Despite the region's struggle with fragile ecosystems, ethno-political violence, and marginalisation, the emergence of carbon frontiers in Northern Kenya is significant for its development. These economic frontiers aim to combat climate change by promoting conservation and sustainable land use practices through carbon offset projects. Efforts to secure large areas for carbon sequestration can sometimes displace indigenous pastoral communities who rely on these resources for their livelihoods. This can result in the removal of traditional land rights, land use restrictions, and exacerbation of existing inequalities. These considerations raise concerns about the social and environmental consequences of external interventions. The study utilises a qualitative approach to incorporate indigenous perspectives and provide insight into the relationship between conservation efforts, dispossession of land and resources, inequalities, and their impact on socioeconomic vulnerabilities and violence among these communities. The aim is to provide essential knowledge for making informed policy decisions and ensuring that environmental initiatives do not perpetuate injustices as recognising indigenous perspectives in conservation efforts is essential for achieving the intended outcomes while mitigating unintended consequences.

4. Implementation of industrial ecology principles by manufacturing industries for a Circular Carbon Economy in Tanzania

Felichesmi S. Lyakurwa - Mzumbe University – hybrid from Dodoma

Manufacturing industries are the main polluters of environment with emission of Greenhouse Gases (GHGs) that contributes significantly to the global climate change. Studies revealed the main emitters of GHGs to be the construction, manufacturing, cement production, food and mobility industries which posses high concentration of people, and huge use of limited resources. These industries face a multitude of growing pressures from different stakeholders specially citizens, politicians, and the government who are primary drivers for the industry to improve its environmental performance. Many studies have established that industries facing pressures from stakeholders adopts a more comprehensive environmental management systems including industrial ecology. Hence, collaboration between the industry and primary stakeholders mainly government institutions is critical. It is the interest of this study t to uncover several questions pertaining to the industrial sustainability like to what extent does the 4Rs framework have been employed by manufacturing industries? What roles played by government institutions towards implementation of Carbon Circular Economy (CCE) principles? The study intends to: 1) determine the degree of implementation of the 4Rs framework for industrial sustainability, 2) establish drivers for implementation of CCE principles, and 3) examine governments' motivation on implementation of Carbon Circular Economy principles by industries in Tanzania.

Panel 242: Participatory Visual Methods for Political Ecology IV – Screening of documentaries

Emma Johansson, Lund University; Sofie Mortensen, University of Copenhagen; Francois Questiaux, University of Copenhagen.

1. Assembling Water: The Prefigurative Politics of Land Futures in Argentina

Mattias Borg Rasmussen, University of Copenhagen

As in other areas of Argentina, residents from the Norte Neuquino in the northwestern reaches of Patagonia are concerned about the recent manifestation of extractivism in territories. Projects to extract wealth from mineral deposits, waterways and volcanic formations add to the broader sensation of people in the province who have lived with the promise and prerils of the large scale fracking enterprise at Vaca Muerta. Like other places in Argentina, concerned citizens have self-convened in socio-environmental assemblies to contest not only the concrete project but also the underlying political structures. Their analysis is clear: the environmental crisis is directly linked to a democratic one, and they engage in a wide range of actions to envision and enact alternative futures. To understand their prefigurative politics, this presentation discusses the production of the documentary 'Abrazando al Agua' (Embracing Water), which the authors made in collaboration with one socio-environmental assembly and a local filmmaker. We show how the making of the documentary came to be not only a representation of the socio-environmental assembly, but a situated narrative that became deeply implicated in its reproduction and ongoing mobilization. 'Abrazando al Agua' thus enabled a shared analysis of the entwinement of struggles, art and love that make up the labor of the assembly, and allow us to discuss the new grammars of politics, the expansion of its limits, and the proposals for alternative world-making projects that are enacted to counter the advancement of extractivism onto these territories.

2. Agros: a feminist perspective on agrarian change in Greece

Eleni Pappa, University of Copenhagen; Julen Ugartetxea, University of Copenhagen

Economic crisis, sanitary crisis, inflation… Against all odds, women small-holder farmers in Epirus, one of the poorest regions in Greece and in Europe, keep producing veggies stubbornly. At the small food market, they sell their fresh produce directly to consumers every single day, surviving a fierce competition with international supermarket chains that keep mushrooming in town. From the din of the market to the calm of the field, their everyday life is an emotional roller-coaster, but they pull through with pride and humor.

3. Film-based sociology as a data analysis approach and research dissemination tool. The case of foreign workers in Quebec slaughterhouses

Blandine Emilien, University of Bristol & Catherine Lemercier

From 2018 to 2021, Blandine Emilien conducted exploratory research to better understand the experiences of foreign workers hired within industrial slaughterhouses in the Canadian province of Quebec. The exploratory approach was designed to help data emerge from the stories of workers who operate in a workplace that favours distance and

concealment (Pachirat 2011)[3], thus marginalising this form of work. The approach allowed the researcher's choice of using a digital camera to render such work and experiences less visible, to emanate at a certain point in time. In 2023, the film-based sociological approach culminated into the production of a 25-minute documentary that presents a research-informed construction of three workers' narratives. The narratives emerged from thematic coding and three main codes, namely, the recruitment process and workers' arrival in Canada, hardship in the workplace and socio-cultural implications of such employment. These narratives help reflect upon managerial and capitalist practices allowed by enactments of systemic racism in the Canadian institutional context. The film, co-directed with Montreal-based film-maker Catherine Lemercier, is available to the public audience via the CRIMT[4] website (https://www.crimt.net/en/2023/06/19/documentaire-terre-promise/) and if relevant, can be used for the exhibition. In a panel presentation, I intend to discuss both the film-making process and the research data.

Panel 119: Territory, Ecology, and Violence in Latin America III

Diana Vela Almeida, Utrecht University

At the nexus of interconnected crises of climate catastrophe, the loss of biocultural diversity, and a rise in violence against environmental human rights defenders, Latin America is also a crucible of creative resistance, subsistence, and survival. The concept of territory grounds critical analysis and political praxis in the midst of these crises, and offers a foundation for understanding Latin American ecologies of governance, production, violence, and emancipation. Papers in these panels explore political ecologies of interconnected crises in Latin America.

1. Landscape and Territorio. A dialogical analysis of climate change geographies in the Colombian Caribbean

Catalina Quiroga & Martina Angela Caretta, Lund University

Landscape is a fundamental concept within Anglophone geography. The same can be said for territorio in Spanish speaking geography. In this proposal, we will bring these two concepts and geographical traditions together in a dialogical analysis of climate change geographies through a case study of mangroves restoration projects in the Colombian Caribbean. We will show how geographies of climate change are characterized by the integration of projects and policies in contexts with pre-existing socio-environmental inequalities. There, local communities, especially Black and Indigenous communities in

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[3] Pachirat, T. (2011). *Every twelve seconds: Industrialized slaughter and the politics of sight*. Yale University Press.
[4] Interuniversity Research Center on Globalisation and Work.

the Colombian Caribbean, have historically transformed and advocated for their right to the territorio. These landscapes, we argue, embody power and labor in space and, following, territorios emerge in contested spaces, dialogue, and resistance in context of urbanization or agricultural frontier expansion. Departing from these two concepts we examine the historical dimensions, power dynamics, and actors to show that to understand these geographies, it is necessary to advance in a dialogical analysis between concepts that, from different traditions, can allow for a more attentive and comprehensive analysis to address the challenges that arise with the transformation of spaces in the context of climate change in Latin-American and the Caribbean.

2. Peasant legal mobilization in Eastern Caldas, Colombia: the road from the opposition to the hydroelectricity project El Eden to the claim for territorial autonomy

Ana Maria Arbelaez, Wageningen University and Research

Peasant communities mobilizing against hydropower challenge the claim that such projects are a source of green energy with little environmental and social impact. These communities must face the tension between maintaining free-flowing rivers and rural economies or satisfying the demands for producing 'clean energy' to sustain economic growth, which is presented as urgent action in the context of the climate crisis. Hydroelectricity promoters use the production of 'clean energy' as an argument to justify appropriations of rural land, transforming the rules and authorities for land and water use (Fairhead et al., 2012). This situation sheds light on the intertwined relationship between multiple crises and the processes of 'green grabbing', 'land-water grabbing' and top-down water governance, and nature commodification. In response to this "green violence", grassroots mobilizations for rivers' defence bring forward social and environmental demands, going beyond discussions about water access (Boelens et al., 2022). This paper seeks to contribute to a better understanding of how riverine communities respond to these entwined crises and injustices. To do so, it analyses the legal strategies of an environmental-peasant movement from the East of Caldas, Colombia. Their movement started as an anti-hydroelectricity campaign and has become a broader movement for peasant territorial autonomy.

3. Thinking with Rivers for Environmental Peacebuilding: Community strategies for the defense of four rivers of the Magdalena-Cauca macro-basin in Colombia.

Laura Betancur Alarcon, Humboldt Universität zu Berlin

Colombian rivers are spaces where the reproduction and destruction of life overlap. On the one hand, rivers face multiple crises driven by the armed conflict, extractivist development models, and structural inequalities. On the other hand, riverine-dwelling communities defend and care for rivers by living with and from them but also by engaging in socio-legal strategies to safeguard their waters, fish, sediments, and free flow. Since the Colombian Peace Agreement (2016), human-environment relations have been reconfigured in many rural areas, especially in the Amazon rainforest. However, the transformations and challenges in the Andean rivers and their connection with multiple forms of violence have not received the same political attention or academic interest. Our project brings together ribereños (riverine dwellers) grass-roots organizations from La

Miel, Dormilón, Cauca, and Sogamoso rivers in the Magdalena-Cauca Macrobasin, the most important in the country. Together with them, in an engaged research exercise, we analyze and formulate plural socio-legal defense strategies for these rivers. At POLLEN, we will present preliminary learnings of our collective envisioning of thinking with rivers for environmental peacebuilding. We highlight rivers' agential capacities to shape social-ecological alternatives and the relevance of understanding riverine practices and spaces as embedded in the violent legacies but also with the potentiality of enhancing peacebuilding.

4. Repair without Reparations: Structural Violence, Healing, and Resistance in Pernambuco's Afro-Brazilian "Traditional" Communities.

Shelly Annette Biesel, University of Maine

Pernambuco's Afro-descendent "povos tradicionais," or traditional communities, have lived off the land, mangroves, and oceans for generations. But without formal land rights, these communities are regularly expropriated for development initiatives. In recent years, Brazil's large national development program known as the Growth Acceleration Program (Programa de Aceleração do Crescimento) funded the expansion of a mega-port industrial complex that dispossessed 26,000 coastal residents from the fishing villages of Cabo de Santo Agostinho and Ipojuca. My research illuminates how the expropriation of Pernambuco's Afro-descendent fishers and shellfish collectors is linked to centuries of racial inequalities that preclude Afro-Brazilian communities from land ownership and control. Despite vast socio-ecological injustices, many Cabo and Ipojucans maintain extraordinary capacity for resilience and strength. Some devote themselves to community organizing, others draw upon regional identity and cultural traditions to carve out personal moments of healing and repair amidst overwhelming structural hardship. Afro-Brazilian spiritual cosmologies emphasizing dance, music, and more-than-human sociality provide vital moments of autonomy and relationships of care that poor Afro-Brazilians do not experience from the state. Thus, through these profoundly personal practices of healing and repair, Afro-Brazilians in Cabo and Ipojuca fortify themselves for collective struggle against structural oppression and state-sponsored socio-environmental injustices.

Hybrid panel LU305: Infrastructure Sabotage as Future-Making I: De-/Constructive Infrastructure Sabotage

Theo Aalders, Bonn University – hybrid from Lund

This double panel invites interventions that engage with infrastructure sabotage on the assumption that it cannot be fully understood as a purely destructive practice directed against what the targeted infrastructure produces materially and symbolises immaterially. As infrastructure produces particular visions of the future, infrastructure sabotage is often implicitly understood as an un-making of that future. We therefore invite contributions that explore infrastructure sabotage as a form of future-making in its own

right; not as something diametrically opposed to the construction of infrastructure, but rather as a strategy employed by marginalised groups that allows them to enter or alter the political arena in which infrastructure is negotiated. This can include cases around climate justice movements as discussed by e.g. Andreas Malm, but also more generally about infrastructure sabotage as a strategy of constructive destruction employed by marginalised people around the world and throughout history around topics relevant to political ecology. Potential questions may include: - What are the reasons for social movements to target infrastructure specifically? What are the characteristics of infrastructure that constitute it as an arena of political struggle? - What is the relation between infrastructure sabotage as a material and as an immaterial or discursive practice? Are acts of infrastructure sabotage merely symbolic, or do they have the potential to also directly create material change? - What kind of constructive futures do saboteurs and their supporters connected to the ostensibly destructive practices of infrastructure sabotage? - Under what circumstances does infrastructure sabotage contribute to constructive future-making practices? - What are lessons from historical examples of infrastructure sabotage from across the world? - What are the dangers of infrastructure sabotage as a political strategy, such as fetishization or negative public receptions?

1. Weapons of Resilience: Marginalized Voices and Everyday Sabotage in Climate Adaptation Strategies

Ana Maria Vargas Falla, Ebba Brink and Emily Boyd, Lund University – hybrid from Lund

This paper delves into the intricate ways in which residents of marginalized neighborhoods, specifically situated in the swamp of La Virgen in Cartagena, Colombia, employ everyday acts of sabotage as tools of resilience against exclusionary climate adaptation planning imposed upon them that translate into "protection for the rich, eviction for the poor". Focusing on the residents' lived experiences, we explore how they strategically expand their neighborhoods by filling swampy land with discarded materials, connecting illegally their houses to electricity and water resources, and quietly subverting the official risk maps that designate their areas as high climate risk and "unadaptable" zones. Our study draws on extensive ethnographic observations, interviews, surveys, and focus groups conducted within the community. By engaging directly with the voices of the marginalized, we aim to provide a nuanced understanding of their acts of resistance and resilience in the face of environmental injustice. We argue that residents' sabotage of risk maps emerges not merely as an act of defiance but as a strategic response to navigate the challenges imposed by external climate adaptation policies. Through these narratives, we shed light on the often-overlooked agency of marginalized communities and challenge conventional notions of vulnerability. The paper contributes to the discourse on climate justice by highlighting the creativity and resourcefulness employed by these communities to confront and shape their own destinies within the context of climate change adaptation. In doing so, we advocate for a more inclusive and participatory approach to climate governance that respects and integrates the knowledge and strategies of those at the forefront of environmental challenges.

2. Breaking Infrastructure: Acts of Sabotage against Privatization in Colombia

Julián Gómez-Delgado, The New School for Social Research – hybrid from Lima

Together with national attempts elsewhere, the Colombian State created multiple state-owned enterprises in the early and mid-twentieth century that mediated the experience of citizenship. Like no other, the Empresa Nacional de Telecomunicaciones or Telecom (1947-2003) and the Caja de Crédito Agrario or Agrarian Bank (1933-1999) nurtured a distinctive socio-technical experience connecting citizens to the state through a vast range of artifacts, technological devices, and infrastructures—like local branches and telephone switchboards. This presentation draws on oral history interviews and archival research that I have conducted to explore the changing technopolitics of statecraft in Colombia by charting the role of iconic public institutions as they transformed from state-owned entities in the 1930s–40s through their incremental privatization in the 1970s. The presentation will focus on "Telecom," a company that "reached even where the Catholic priest did not," as one ex-worker told me. I will provide insights into the material and immaterial promises, the acts of formal and informal sabotage, and the expressions of nostalgia from multiple actors – including public sector workers to politicians and social movement members – who reacted, adapted, and contested the incremental dismantling of this infrastructure and who resignified the process of ruination that resulted from it. For this conference, I will focus on the acts of sabotage carried out against privatization. Among others, I will explore in detail a workers' strike in the early 90s, in the words of one of my interviewers, "one of the first technical and political acts of sabotage in Colombia." During this strike, communications were suspended for about 13 days, and, with them, financial transactions, governmental, and other operations were put on hold. The right-wing government of the time brought engineers from other countries who could not "fix" this situation and were also amazed by the "local" knowledge used to break the telecommunication system. The strike was the response to attempts in the 1990s to privatize the company, and it offers lessons about how sabotage has been historically used creatively to (1) negotiate with the state against the privatization of state-owned companies and (2) advance other interests from the labor movement. In a way, and only momentarily, this sabotage was able to postpone another act of sabotage for over a decade –but this one from above, namely, the complete privatization of telecommunication in Colombia fostered by state officials and the capitalist class. Therefore, this presentation aims to theorize sabotage both as a tool and a site with multiple and sometimes contradictory meanings. Following acts of sabotage, this presentation explores the case of telecommunications to illustrate the changing relations among technology, politics, and economic orders to understand the making and the unmaking of infrastructures in the context of the uneven neoliberal transformation.

3. Resistance, Remonstrance, and Infrastructure Sabotage in Balochistan

Bramsh Khan, Syracuse University – hybrid from Lima

In this paper, I draw attention to the contemporary social movement, "Gwadar Haq Do Tehreek (Give Rights to Gwadar Movement)," which emerged as a response to the failures of China Pakistan Economic Corridor's (CPEC) infrastructural project in Gwadar, Balochistan. Central to my inquiry is the thematic examination of the waterways of Gwadar, instrumental in uncovering the underlying grievances of Baloch that fueled the movement. Through this analysis, I identify and elaborate on two critical structural processes that are essential for understanding the dynamics of such an unprecedented movement. First, I demonstrate how Pakistan, through the application of neoliberal

theories and research conducted by state-led economic institutions, effectively normalized and depoliticized the infrastructural project of CPEC. This led to the privatization of both the project and Gwadar's natural resources, particularly its waterways, disconnecting the local communities from their generational livelihood sources. Second, I delve into the importance of comprehending the movement beyond the mere failure of CPEC. By delving into the complex interactions between the waterways of Gwadar, the livelihoods of its local communities, and their collective resistance against the impact of transnational infrastructure project, I highlight that the infrastructure sabotage orchestrated by the movement speaks of the deep-rooted intersectionality between the historical mistrust of Baloch towards the state and the prevalence of regionalism in Pakistan. These dynamics have historically justified the intervention of an authoritative state and military enterprises under the pretext of infrastructural development or security of the future urban hub, the port city of Gwadar, from what is perceived as the 'uncivilized' and 'uneducated' native Baloch.

4. Beyond Anti-politics Machine: A Case of Gwadar Haq dho Tehreek and Failure of CPEC

Noor Bakhsh, Yorck University – hybrid from Lima

The main question of this article revolves around questions that James Ferguson's raised in Anti- politics machine "Are the 'instrument-effects', the unintended political outcomes or "side effects" of development projects - that serve as instruments for the state to exercise power, control bureaucracy, and intervene in issues such as poverty or other socioeconomic problems- a common and consistent global pattern within development projects? Is the ''anti-politics machine'' unique to Lesotho, or is it a typical or even inevitable consequence of ''development'' interventions?" I analyze these questions in my article by focusing on the case of China Pakistan Economic Corridor (CPEC) and Gwadar Haq Do Tehreek (Give Gwadar Rights Movement) as a political response of local people against CPEC in Balochistan which has a conflictual history within Pakistan. The aim of this paper is to go beyond the anti-politics machine because this framework, though unique, does not discuss the political response of natives after a project fails. Much like the situation in Lesotho, CPEC failed to enhance the lives of residents Gwadar. But what is the aftermath of a failed development project, especially in terms of political response and social movements? is where I depart from Ferguson's idea. Because, indeed, the failure of developmental projects paves way for the state intervention, but it also creates a ground for a political consciousness among the locals which further leads to a "resistant movement." By examining the failure of CPEC and the birth of political movement Gwadar Haq dho protests I highlight "collective political consciousness" as one of the potential outcomes of infrastructure projects. This resistance against the ever-existing state oppression, control, and militarization can be theorized as the potential unintended outcome of infrastructure projects.

Hybrid panel LI23: Questioning the ecological and justice outcomes of NbS I

Jean Carlo Rodriguez de Francisco, German Institute of Development and Sustainability – hybrid from Lund

Nature-based solutions (NbS) refer to working with nature to tackle societal challenges, intending to benefit human well-being, climate and biodiversity (NBSI, 2022). However, some critical research has questioned the effectiveness of NbS as a concept because of its vague and all-encompassing framing as a "solution", which may obscure its negative or unintended impacts. This panel will examine the ecological and justice outcomes of NbS, specifically in area-based conservation, forest landscape restoration, and ecosystem-based management, using case studies from Brazil, Colombia, Ecuador, Spain and the Global Biodiversity Framework negotiation. The panel will draw lessons for creating more just and plural futures by applying the lens of political ecology and environmental justice.

1. A Critical Methodological Approach to Analyzing Nature-based Solutions: Exploring the Intersection of Political Ecology, Environmental Justice, and Ecological Economics

Vanessa Empinotti, Federal University of ABC) and Bruno Puga, University of Paraíba Valley - UNIVAP – hybrid from Lima

Critical readings on Nature-based solutions (NbS) have underscored its limitations in addressing societal challenges. Even though NbS may enhance ecosystem services provision, particularly in the context of soil and wastewater decontamination, its social cost is often disregarded. To contribute to the development of a critical methodological approach to NbS, this paper aims to discuss the potential contributions of political ecology, environmental justice, and ecological economics in analyzing NbS programs focused on payment for environmental services and water in Brazil. On one hand, political ecology delves into how inequalities and conflicts are produced through socio-environmental relations, highlighting the processes and power asymmetries shaping access to natural resources. On the other hand, the environmental justice framework offers critical lenses for analyzing NbS, considering distributional justice, procedural justice, and recognition. This sheds light on the social dimensions of such interventions, in addition to the ecological aspects. Finally, ecological economics contributes to a critical examination of normative aspects within NbS, including ecosystem services, mechanisms for valuing benefits, and the trade-offs associated with different choices. Thus, these three perspectives, in addition to contributing individually, collectively illuminate the human-nature framing of NbS and its caveats regarding power imbalances, fairness, and equity issues.

2. An environmental justice perspective on the everyday politics of water ecosystem conservation and restoration in the Ecuadorian highlands

Juan Pablo Hidalgo-Bastidas, Wageningen University – hybrid from Lund

In recent years, increasing global attention has been given to the conservation and restoration of fragile water-ecosystems. Ecuador's páramos are of no exception, as they are both fragile and strategic ecosystems for water storage and production. Various nature-based water protection schemes - a variant of payment for ecosystem services - have emerged from conservation NGOs, local governments, financial institutions, private

and public water companies and international development agencies. Among the schemes that have been portrayed as successful models are the financial mechanisms known as water funds. Despite their rapid proliferation throughout Latin America and globally, water funds have received relatively little attention in critical research. Through conducting ethnographic research and adopting an environmental justice perspective, this article presents a critical analysis of the Fondo de Páramos de Tungurahua, a flagship programme that has been running for almost two decades. The focus is centered on two indigenous communities in central Ecuadorian Andes, both located within the Fondo's intervention area. From the local communities' perspective, the article examines the historical and contextual complexities, actors and power dynamics that influence the recognition of local visions and practices around páramo conservation, as well as decision-making processes and the distribution of socio-environmental benefits and burdens.

3. What counts? Who counts? Recognizing Indigenous peoples' and local Communities' conservation contributions

Cat Clarke, University College London – hybrid from Lima

Target 3 of the Kunming-Montreal Global Biodiversity Framework commits Parties to conserve 30% of the world's lands, inland waters, and coastal and marine areas by 2030. This is to be achieved through expanding existing protected areas, establishing new protected areas, and reporting "other effective area-based conservation measures" (OECMs). The final wording of Target 3 invites Parties to achieve this objective while "recognizing Indigenous and traditional territories". Taking this final wording as a point of departure, our paper focuses on unraveling the global and (sub-)national tensions associated with "recognizing" the conservation contributions of Indigenous peoples and local communities. Through a combined critical recognition and conservation data justice lens, we bring local perspectives into dialogue with global processes. To this end, we present a case study of La Cocha Lake, Colombia – a site identified as a potential OECM, but later discounted for not meeting OECM essential criteria. This is complemented with an analysis of Target 3 negotiations at CBD COP15, Montreal, where we explore the perspectives of Indigenous peoples and local community representatives concerning OECMs. Bringing these two scales into dialogue, we contribute to recent discussions on the political ecology of recognition, considering the role of extra-statal self-recognition in realizing global goals.

4. Landscape for biodiversity, ecosystem services and human well-being: Liberia's conservation efforts

Malavika Hosahally Narayana, independent researcher & Shadrach Kerwillain, University of Munich – hybrid from Lund

Nature and human well-being are interlinked. Biodiversity supports many provisioning, regulating, cultural and supporting ecosystem services, which are critical to ensure long-term human well-being. Understanding ecological connectivity and its importance for biodiversity and people support decisions for the scale and location for implementing conservation interventions. Effective spatial planning strengthens ecosystem service and

reduces the risk of zoonotic disease spillover. For better ecosystem management and species conservation, it is critical to establish a long-term monitoring of biodiversity changes. Conservationists and local communities should work together to address biodiversity and socio-economic needs in protected areas and beyond. For an effective and equitable outcome, engaging all relevant local stakeholders to foster ownership, empowerment and well-being as stewards in shaping the landscape is critical. For example, in Liberia, conservation organisations promote a rights-based approach in protected and conserved area establishment and community-based natural resource management. Such interventions will facilitate adaptive management in mitigating biodiversity threats and modifying interventions based on environmental and socio-economic changes. This paper discusses Liberia's conservation efforts to promote community-driven conservation initiatives to improve protected area management and monitor biodiversity changes while working with communities to promote sustainable development.

Panel 211: More-than-Human Mappings: Cultural and Domestic/Everyday Perspectives I

Ferne Edwards, City, University of London

Maps have traditionally been dominated by powerful human groups and interests. In recent years, coinciding with technological advancements, the map and mapping have gained wide application. Alternative map-making techniques, such as counter-maps, have become popular for revealing embedded power structures while conveying collective, ethical and subjective perspectives (Awan, 2016). Characteristics of this movement includes a "relational or processual turn in cartography" that encourages "multiple, diffuse, and unpredictable ways" of mapping towards remaking diverse knowledges and truths (Harris & Hazen, 2009: 52, 53). However, a gap remains to extend the democracy of this new wave of western map-making to more-than-human worlds. This panel is situated in the city - home to diverse natures, many of which remain hidden, marginalised or vilified. It seeks to shift map-making towards a more-than-human perspective that recognises the agency, ethics and rights of nonhumans towards more just, lively and convivial spaces of human / nonhuman coexistence. Such a shift is not without conflict, where new maps must counter traditional perceptions of the city as anthropocentric, neoliberal, individualistic, partitioned and stable (Edwards & Pettersen, 2023). This panel asks; what do map-making practices need to consider in shifting to a more-than-human city? This session focuses on maps/mapping practices in and of indigenous communities around the world, followed by papers exploring the politics and ethics of domestic human/nonhuman exchanges through mapping.

1. Wind and historicity in Mapuche communities in Mendoza, Argentina

Tobias Etienne-Greenwood, Ecole des Hautes Etudes en Science Sociales (EHESS)

During sensibility mapping sessions conducted in 2022, members of the Mapuche communities of Mendoza province chose to depict the wind. In the workshops,

participants felt it necessary to represent the mewlen, a harmful wind. We propose to address this cartographic element and more-than-human entity in order to understand how the wind operates as a vector of plural meanings. What place does the mewlen represent in the epistemic, historic, and biographical arrangements of individuals and communities? How do the actors interpret its origin and effects? In the two cases we examine, the mewlen is used both to give meaning to the historical experience of the local Mapuche nation and to explain the wanderings of a specific community, tossed about at the whim of the mewlen's blast and associated with issues of property and land tenure. Thus, the wind appears as a scalable object: from the zeitgeist that expresses the drama of Latin American modernity and its colonial condition, to a factor that contributes to the formation of a 'meteorological self' tenuously attached to the phenomenological world, and through its effects on communities.

2. Following the paths of terreiros: black ecologies in Manaus, Brazil

Luiza Dias Flores, the Federal University of Amazonas

Manaus, a city located in the heart of the Brazilian Amazon, carries with it the imagery, propagated by the country's internal geopolitics, of the absence of black populations in the Amazon. However, formulations like these render such populations invisible, despite their presence on a larger scale since the turn of the 19th to the 20th century. These formulations also deny them the right to memory and social participation in the city. In 2022, we initiated a project with the terreiro communities - African-rooted religious communities that worship Orixás, Voduns, or Inquices (deities that came with Africans people in the slave trade) - and entities like encantados and caboclos (indigenous spirits). These deities and entities inhabit landscapes and constitute forces present in what we conventionally call 'nature.' Through collaborative work with four terreiros in the region, we focused on exploring the relationship these communities establish with the green areas of the city and its surroundings, where they perform their rituals and gather leaves for their practices. Following the paths and relationships they establish in the landscapes allows us to visualize the places where bonds are formed and broken, which we aim to present here. A counter-cartography of Manaus emerges.

3. Walking with the river Poddle in Dublin: what you learn from walking with a river

Laure Tymowski, Maynooth University

The proposed presentation draws from my PhD research assessing urban environmental justice in Dublin from the perspective of one of its rivers, the river Poddle. It is to focus on one of the methods used in the research to map the river, namely river walks. River walks have been determinant in mapping the partly open, partly culverted river as much as in identifying the many forces driving its management, from land speculation to flood concern. 'Official' mappings of the river are numerous and divergent and river walks have been a productive way to locate the 'made-to-disappear' watercourse. However, most importantly, river walks have generated a transformative shift in my interactions with the river Poddle: from being 'a researcher working on a river', I, the researcher, went on to 'follow the river', 'learn from the river', 'walk with the river'. In turn, the unexpected ontological/epistemological shift has opened the path to ongoing reflections, challenging

the coloniality of my mapping technics as well as my positionality as a researcher vis-à-vis both human and more-than-human research participants.

Panel 347: Political Epistemologies and Ontologies II

Fabio Gatti, Wageningen University & David Ludwig, Wageningen University

From its inception, political ecology has focused on the (unequal) access to, distribution of, and power relations associated with the management of natural resources. While a vast literature on "values of nature" recognizes that diverse valuations of nature are sometimes incompatible, these investigations usually rely on a political economy analytical lens. In recent times, however, a growing body of scholarly interventions has suggested that environmental conflicts often extend beyond mere disputes over the material allocation of resources. What this literature shows is that material conflicts are frequently entwined with epistemological disputes concerning the production and use of knowledge, as well as ontological clashes regarding heterogeneous ways of representing and relating to the world. At the same time, many of these accounts often neglect the materiality inherent in conflicts over the management of the natural environment. While "forests [might] think" (Kohn, 2013), they remain embedded in a complex web of (inter-)dependencies, constrained within global political economy forces, deeply material power dynamics, and embodied ecologies. As part of the Global Epistemologies and Ontologies (GEOS) research initiative, this panel brings together scholars from different academic disciplines (environmental anthropology, political science, human geography) to stimulate a conversation around the under-explored and sometimes tense relationship between political economy, political ecology, political epistemology, and political ontology.

1. Is knowledge power? Epistemic justice and understanding knowledge politics in Forikrom, Ghana

Branwen Peddi, University of Gent

In a move for more decolonial approaches to research and development, the importance of a pluriversal approach cannot be overstated. What this looks like in practice is a debate that is also held within the field of agriculture and food, where a need arises to align existing food systems with the needs and knowledges of local communities. Nevertheless, Indigenous and local knowledges, adapted to specific localities and rooted in cultural traditions, have often been sidelined by researchers and development workers. The knowledge politics that come into play in these processes have a significant impact on how these are shaped, and why democratic and just involvement of Indigenous-local actors is key. A case studying a food system's knowledge politics within the transition zone of Ghana, where different ecologies and social groups meet, is described: Forikrom community. In this qualitative research, we use a co-creative approach in bringing diverse farmers together and stimulating processes of knowledge exchanges, while paying attention to Indigenous agricultural practices and how these are placed alongside other knowledges. With this, we gained insight into hierarchies of expertise and ways of

facilitating endogenous development. Finally, we provide recommendations into creating more inclusive and epistemically just environments for knowledge exchanges.

2. A Crack in White Geology – On onto-epistemological collaborations at the face of permafrost thaw

Hanna Oosterveen, The University of Manchester

Geologists define permafrost as ground that has remained below freezing for at least two consecutive years, projecting assumptions about its permanence and frozenness even as it thaws at unprecedented rates. A stable conception of permafrost justified infrastructure development and concomitant colonisation across the permafrost-laden Canadian North, demonstrating the entwined relationship between statist geology and colonialism. Today, those who live in the Canadian North, over half of whom are Indigenous, face adaptation challenges as the permafrost underlying their communities thaws. In the context of decades of Indigenous activism, the need for communities in Northern Canada to adapt is repositioning geology in the region. Rather than an unquestionable authority of knowledge, geology is increasingly a resource Indigenous communities can draw on, complementing local knowledge. However, geology is also central to prospecting for mineral resources that are more accessible as permafrost thaws, threatening socially vital ecosystems. Therefore, the relationship between geology and justice depends on the knowledge politics at play. Based on fieldwork in collaboration with the Vuntut Gwich'in First Nation, this paper aims to highlight local relationships to permafrost beyond geology in Old Crow, Yukon, while exploring the possibility of and hindrances to onto-epistemological collaborations between local knowledge holders and non-local-geologists.

3. Rising on behalf of the Piatúa River: ontological politics and the power of multispecies imaginaries in river defence initiatives.

Carlota Houart, Wageningen University

This presentation is based on a paper on ontological politics and multispecies imaginaries at the core of river defence initiatives, which is being developed as part of the author's doctoral research. It introduces the case of the Piatúa River in the Ecuadorian Amazon. The Piatúa has been threatened since 2014 by a project to build a hydroelectric dam, which was met with immediate resistance by members of local Kichwa communities, through grassroots mobilization and cross-scalar activism. These initiatives are centrally based on multispecies imaginaries of the river and of the relations binding it and its inhabitants together. Such imaginaries lead the defenders of the Piatúa to claim that they are rising up on behalf not only of themselves but also, fundamentally, of the river itself and of its biodiverse communities. This demonstrates the inherently political dimension of ontologies and the political power of imaginaries: they can directly lead to political affection; deeply inform environmental struggles for justice; and have the potential to transform power relations within and across species boundaries. From a political ecology perspective, I argue that any critical analysis of ontologies or the "ontological turn" must explicitly engage with the political, power-laden dimensions of environmental struggles for justice.

4. From a dialogue of knowledges to a dialogue of livings: Political ontology as a pedagogy for the pluriverse.

Carlos Tornel, UNAM, the Global Tapestry of Alternatives

The work of Joan Martínez-Alier has been essential to shift political ecology to other knowledges and practices that surround ecological distribution conflicts. The many 'languages of valuation' surrounding these struggles has marked the emergence of a dialogue of 'subjugated knowledges' challenging the universalization of a modern ontology (or the idea of a One World World) defined by the adoption of a 'god trick' or a 'view from nowhere' that presumes a totality of the gnosis and the episteme emerging from the West. Political ontology (PO) unsettles these presumptions by providing not only multiple perspectives of reality, but signaling towards other ways of 'worlding' or being in the world. PO enables the possibility of addressing antagonisms that would otherwise be incommensurable for both political economy and ecology, bringing attention to that which is either reduced to a cultural difference – i.e. through the liberal fantasy of recognition – or to the space of a 'reasonable politics'. PO entails the basis of a pluriverse – a world where many worlds fit – that places radical relationality and the dialogue between these worlds as a horizon of the possible, breaking with the dominance of a western proposed universality (i.e. development). Drawing on the experience of the Global Tapestry of Alternatives, this intervention seeks to a) question the 'black box' that defines western ontology, arguing that the role of non-indigenous cannot be reduced to a default 'ontology of separation', and, b) that the dialogue of knowledges is still limited by a radical incommensurability between cultures, which can only be approached through what Gustavo Esteva called a 'dialogue of livings'

Panel 611: Resistance and transformation II

Vera Cancel Nielsen, Wageningen University and Johanna Kocks, Philipps-University Marburg

1. Enacting the Future – Environmental Activism, Resistance and Transformative Knowledges

Johanna Kocks, Philipps-University Marburg

Climate change exacerbates global inequalities. Environmental activism hence raises the question how a socio-ecological transformation can be achieved and what it should look like. At the forefront are marginalized communities that, historically, have resisted the destruction of their habitats and ways of life due to colonialism. This paper asks to what extent imaginaries of change are inherent to these struggles in socio-environmental conflicts around land and water. Building on the case of the artisanal fisherwomen of the Quilombo of Ilha de Maré in Salvador de Bahia/Brazil, it shows possibilities of socio-ecological transformation. I do this by tracing women's resistance against a petroleum supply chain and the intoxication of their land and water. The paper points to the importance of marginalized onto-epistemologies of those in resistance against environmental destruction. Using an ethnographic approach, it makes notions of socio-

ecological change in everyday forms of resistance visible and draws attention to transformative knowledge, embodied forms of resistance and the interconnected globality of environmental destruction and activism against it. The paper adds to debates within feminist political ecology and is connected to archives from Black, Indigenous Latin American and Caribbean scholars working on climate justice and their critique of colonial continuities and global capitalist structures.

2. "Sin río no hay monte" (Without the River there is no Forest): Territoriality of Kukama Women

Mirella Pretell, Syracuse University

This article draws on 18 months of ethnographic work conducted in the Northern Peruvian Amazon (Loreto), working in partnership with the Kukama Indigenous Women's Organization Huaynakana Kamatahuara Kana, whose base communities are settled along the Marañón River and have coexisted with oil extraction since its discovery in 1971. Resource extraction has impacted their territories (including rivers, forests, and more-than-human entities), lives/bodies, and cultural identity. This article examines the ontological collision between what the Peruvian State conceives as territory and how Indigenous Peoples reconfigure this conception. I explore the epistemological transition from what the State mandates, through legality and customary land tenure, to an ancestral worldview, belonging, and use of the territory linked to the broader discussion of the Rights of Nature and its intrinsic value. Foregrounding Indigenous women's knowledge, this article addresses what entails defending the territory (means of resistance) beyond the boundaries set by the State from an Indigenous women's perspective – imbricated with the notion of care – and how this sets a critical epistemological shift on the construction of territory vis a vis resource extraction. Introducing Indigenous women's countermapping, this article focuses on the unique relationship of Kukama Indigenous women with the territory and all entities (karuara, people of the river in Kukama worldview), building upon their lived experiences that transcend generations and their everyday lives' material practices.

3. After the Occupation: Activist experiences of leaving the forest

Vera Cancel Nielsen, Wageningen University

Forest occupations in Europe present an antagonistic case to the (capitalist) hegemony of our current societies. They are sites of direct action in which formally powerless actors physically disrupt the conversion of forest lands into new infrastructure or sites of resource extraction. At the same time the occupations are seen as autonomous communities, which experiment with prefigurative practices based on ecological and anti-authoritarian values.
Few scholars have studied the lived experience of people that go in and out of these counter-hegemonic spaces. Taking an embodied political ecology approach, I explore what lived experience can tell about the complex and ambivalent individual process of resisting a hegemonic system. Through the life stories of activists, I unpack their experiences and responses to living in the forest occupation, "returning" to the hegemonic society and negotiating between these different socio-ecological systems through life choices. This thesis aims to add knowledge to the role of counter-hegemonic

spaces in sustainability transitions beyond capitalism, specifically related to their impact on individuals. Besides presenting my thesis, I am excited to exchange reflections on how to balance activism and academia.

4. Relinking resistance: Intimate urbanization and the planetary

Janette Kotivirta, University of Helsinki

The geographies of the Latin American commodity boom have been increasingly understood through the frame of planetary urbanization to explore the geographies of capitalism and capitalist urbanization, bearing the risk of excessive abstraction. Uruguay's largest foreign and public investment to date, a new pulp mill in the centre of the country and a connected 273 km long railway to increase primary exports, have emerged as one of the country's most contested environmental issues. Using the conceptual and methodological frame of Cindy Katz's counter-topography the paper examines the intimate scale of geographies of extraction through the study of grassroots organization along the railway, by and with the grassroots movement No al Tren de UPM. Incorporating feminist critiques of planetary urbanization, the study places the quotidian and intimate experiences and stories along the railway as its focal point to understand the political economy of extraction and global forestry. Departing from the intimate the paper explores the emerging resistance and mobilization along the railway, placing its focus on the formation of new political subjects activated through the expansion of extractivist infrastructure. Through its relational study the paper offers valuable theoretical and empirical contributions to feminist perspectives of the study of planetary urbanization.

Panel 139: Animal Political Ecologies: Blindspots and novel approaches II

Rosaleen Duffy, University of Sheffield

The panel is chaired by Rosaleen Duffy but the outline of the panel is the result of the collective thinking of the participants. The presenters include early career permanent staff, PhD students and postdoctoral researchers. This panel focuses on animal political ecologies in the Global North. Doing so opens an opportunity to reimagine the world with the interests and worth of individual animals as central to creating that world. Doing so allows us to move beyond human exceptionalism that underpins global capitalism, perpetuating social injustice, speciesism and ecological degradation. There is a growing interest in and use of novel approaches that require wholesale redesign and replacement of nature, including de-extinction, rewilding and gene editing technology. The lives of animals – as active agents in the redesign and building of novel forms of nature are central to these new visions of nature. Political ecology has not addressed the role of animals in creating social natures. The ecologies and ethologies of animals themselves, the way they forge lives and experience change, remains unaddressed within political ecology; as a result the field does not offer adequate intellectual tools for this key moment of multispecies thinking. Recent work on animals in the social sciences and

environmental history has paved the way for political ecologists to consider why non-humans are subjects and historical actors worthy of social inquiry. Further, the ways that political ecology centres capitalist relations, race, class, gender and sexuality, and can meaningfully and critically engage with ecology and other natural sciences, could address some of the problematic omissions of animal studies, especially when unjust politics are enacted in the name of nonhuman life. The papers in this panel draw on a novel mix of political ecology, environmental humanities and animal studies to develop ways of thinking that centre the lives of individual animals. The papers interrogate a series of questions: Why centre nonhuman animals, and how does this challenge political ecology? Does breaking down binaries between human and animal create new ways of thinking about interspecies justice? How does the serious consideration of individual animal lives, as opposed to viewing them as collectives, unsettle conventional approaches in both political ecology and the natural sciences? How does centring animals assist/hinder in moving away from hegemonic/Western scientific knowledge systems? How does this intersect with decolonising knowledge? What conceptual frames and methodological approaches might allow political ecology to begin to understand the experiences and ecologies of animal subjects? How might de-centring the human in political ecology create new ways of understanding human-animal relations? And how can doing so tackle shared vulnerabilities of people and animals? In what ways do animal political ecologies build on or differ from approaches anchored in more-than-human, post-human or animal geographies? How can political ecology's tradition of situating and critiquing scientific narratives and concepts be applied to understanding the lives of animals? What perspectives are neglected in political ecology when specific animals are excluded from established conceptualizations of nature? And what valuable insights can be gained by including animals not conventionally thought of as part of nature?

1. Przewalski's Horses: Hoofing the Trail of Wildlife Conservation History

Monica Vasile, Maastricht University

Despite the undeniable role of animals in wildlife conservation, existing perspectives within political ecology, history, and social sciences depict conservation efforts as solely human-driven, sidelining the critical aspect of animal agency. In these depictions it is humans who do the conservation work: they manage, protect, patrol borders of national parks, breed endangered species, and cull predators. Such portrayals often obscure the labour, skills and behaviours of animals. This presentation endeavours to bridge this gap by drawing upon insights from the field of animal history. It argues for a paradigm shift, positioning wildlife conservation practice as a result of complex human-animal relations, a co-production where animals actively contribute to their own conservation. Specifically, I analyse the reintroduction of the extinct-in-the-wild Przewalski's horses, from zoos to the Gobi Desert – a celebrated success story. I show how despite the conservation staff's strategies to manage and control the horses' adaptation, the animals proved anything but manageable. They responded in surprising ways. For instance, a stallion displayed intense aggression, killing other reintroduced stallions. A mare jumped fences to give birth. Some horses resisted independence, returning to paddocks, while others ventured far afield. These diverse behaviours challenged and changed planned strategies. Ultimately, it was the animals' actions that steered the conservation project towards a perceived success. By tracing individual horse biographies, drawing from interviews, scientific reports and archival materials, I explore moments where animal behaviours

disrupted human expectations. I ask how did individual animals, their embodied ways of being, knowing and becoming, drive their conservation journey?

2. The life of 'the vixen': Commensality and the emergence of urban animal subjects

Tom Fry, University of Cambridge

Whether through the direct feeding of wildlife, or animals taking advantage of human surplus, urban areas are beset by commensal relations between humans and non-humans. Widely used in biological and ecological sciences, the term 'commensality' defines a relationship of proximity and interaction in which one species shares resources or gains benefits from another, literally "eating at the same table". Through the sharing of food, commensality can fundamentally alter the ecologies and ethologies of animals, which in turn can reshape their relations with people. This paper argues that urban commensality should be considered not simply as the transferal of resources, but as engendering the emergence of particular urban subjects. It tells the story of one individual red fox termed 'the vixen', the people she lives alongside, and the means by which she forges a life in an inner-city neighbourhood of London. 'The vixen' is typical of many urban foxes: she is an adult who, unlike her rural counterparts, did not disperse when she reached adolescence, instead staying in her parents' territory and increasing her chances of survival in the city. For 'the vixen' it was her sharing of space with particular humans, and their provisioning of food for her and her cubs, which underlined her survival, and so her life as an urban fox. Through her story this paper argues that understanding the impacts of commensality means being attentive to how it shapes the forms of inhabitation of individual animals, and the relations and arrangements that sustain them. London is a city where, unlike the countryside, commensality means foxes like 'the vixen' survive, and so are produced as particular urban subjects. But this survival is fragile and contingent, dependent on a complex composition of her own behavioural ecology, the environmental subjectivities of her neighbours, and wider political economies that shape urban habitat.

3. Bears' lives in focus. Thinking about conservation through animal biographies

George Iordachescu, University of Sibiu

In various regions of Europe, brown bear populations are either recovering due to successful reintroduction programmes or maintaining a favourable conservation status after governments adopted stricter measures for their protection. Nevertheless, bears' fate might not be as auspicious as it seems, as their recent strong comeback poses significant challenges to imagine the future of large carnivore management on the continent. Within an increasingly divided political environment that leans towards delisting the species as a first step to mitigate human-bear conflicts, brown bears are on the verge of turning from a subject in need of protection, to an object of game management once again. This paper turns this conundrum upside down by centring bears as compelling actors to think with, while trying to make sense of the changing landscape of conservation governance. It uses bear biographies as beastly tales to recentre bears' lives in conservation practice. Instead of favouring an anthropocentric perspective that renders them as an object of intervention, this methodological option

allows for seeing bears as political actors who live their lives regardless of administrative boundaries or legal protection status. The intervention builds upon the lives of three bears to critically approach processes such as habituation, dealing with trauma and seasonal adaptive responses in an attempt to illuminate how bears respond to multiple environmental harms such as deforestation, wildlife trafficking, pollution and habitat destruction.

4. Understanding the bird trade economy in Indonesia: a multispecies perspective

Sicily Fiennes, University of Leeds

The legal and illegal wildlife trade (IWT) poses a "wicked problem" in conservation, involving hundreds of thousands of species from many different taxa. The songbird trade in Southeast Asia, where wild birds are sought for singing competitions and as pets, is a wicked problem where diverse actors interact across socioecological and political systems. The magnitude of trade precipitated the declaration of the Asian Songbird Crisis by the IUCN in 2017, though songbirds remain culturally and economically significant. A (solutions-focused, multispecies) political ecology approach, which promises to capture this complexity, has yet to be applied to the bird trade.
I conducted a short, multispecies ethnography at urban bird marketplaces on the island of Java in Indonesia and Pontianak, Kalimantan, from January to June 2023. This ethnography was coupled with focus groups with conservation and law enforcement agencies and semi-structured interviews with conservation agents and academics.
The data revealed diverse attitudes to wildlife trade that often contradicted the IUCN's crisis narrative. Learning from this interdisciplinary methodology, I aim to inform effective, just strategies to manage bird trade while considering the broader ecological, social, and cultural dimensions of the songbird trade in Indonesia and contribute to multispecies justice approaches in other wildlife trades.

Exhibition 642: Making Methods and Sense Together – an installation

Barbara Schroeter, Leibniz Centre for Agricultural Landscape Research

We present a sensorial and explanatory installation with pictures, videos and drawings elaborated in workshops, fieldwork and event ethnography in Brazil, Colombia and Indonesia. Being different in content and methods, all attempt at rethinking research in partnership with the people who are the core of the different and complex realities composing the social effects of global supply chains expansion. All of them point to the potential of conversation, engagement, representation and creativity to think and reflect upon challenges to biodiversity and climate change in these places and to the livelihoods, cultures and lifeways permeated, blocked, improved or 'chained' by global supply chains.

Plenary session: Dialogues, encounters

Time: 16.45-18.15

As political ecologists, we recognize that all research is political. The field of political ecology has developed in conversation with the world - through learning from social movements and activists. Contributions include (1) highlighting the political nature of socio-ecological relations; (2) through transdisciplinary and participatory action research to have real-world and real-time impact; and (3) through an evolving understanding of how different knowledges and lived experiences need to shape political ecology theorising. This plenary seeks to acknowledge and honor the voices of communities living political ecology through their everyday defense and creation of life. We invite three indigenous speakers to reflect with us on why political ecology can and should matter to creating the world we want to live in.

The session will be moderated by Vasna Ramasar, Deborah Delgado and Iddi Mwanyoka.

Speakers:

Marisol García Apagueño is a Kichwa leader from the Tupac Amaru Indigenous community and currently serves as President of the Federation of Kichwa Indigenous Peoples of Chazuta Amazonas (FEPIKECHA). She also previously served on the board of the Coordinator for the Development and Defence of Indigenous Peoples of the San Martin Region (CODEPISAM), a regional Indigenous federation part of AIDESEP.

Endeko S. Endeko from the Hadzabe (hunters and gathers) community. Endeko is a community representative under the auspices of the Ujamaa Community Resource Team (UCRT). He has been a human and land rights activist/campaigner in his community for quite some time now.
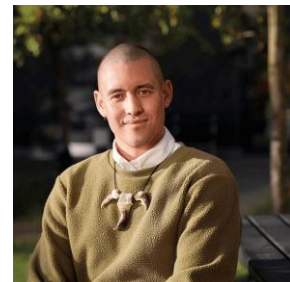
Michael Bro is Inuit, born and raised in Ilulissat Nunarput. Michael Bro is an activist, champion of indigenous rights and active in the debate on the decolonization of Kalaallit Nunaat (Greenland). Bro is a representative of the young generation as Permanent Participant for the Inuit Circumpolar Council in the Arctic Council Youth Network and delegate participant at the Arctic Peoples Conference in 2023. Michael is currently studying Arctic Studies at the University of Copenhagen.

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JUNE

Parallel session 8

Time: 10.00-11.30

Hybrid Panel DO35: Putting Critique into Practice: Political Ecologists as Change Agents in Global/Local Wildlife Conservation Practice

Sayan Banerjee, National Institute of Advanced Studies – hybrid from Dodoma

Political ecology has been instrumental in thinking and theorising how power and power-full actors' interplay in the global/local wildlife conservation practices. Political ecology has rightfully critiqued certain kinds of conservation regimes (top-down PA-centric fortress conservation) and developed new ideas of conservation (rights-based, convivial conservation). An increased focus on social science in conservation projects and organisations has also brought political ecology into mainstream conservation narratives. On the other hand, the discipline often remains an academic exercise as the traditional 'power-full' conservation actors carry on business-as-usual global/local wildlife conservation practice with limited or questionable integration of rights, social justice and actual empowerment. The rise in neo-protectionist regimes against the community-led conservation is another testimony that the critiques from political ecology are getting limited reception into the practice of conservation. Here, in this regard, question arises on whether political ecologists can become effective change agents in species conservation efforts. If yes, through what kinds of pathways? Can political ecology principles and political ecologists independently drive global/local species conservation action? What trainings, organisational work and collaborations are necessary for putting the political ecology into practice of conservation? What could be the challenges and limitations to such endeavours?

1. Political ecology for a decolonial conservation future: impact through partnership

Robin Roth, University of Guelph – hybrid from Lund

Political Ecologists have made important contributions to documenting the colonial history and present of conservation practice and policy, clearly outlining how mainstream conservation such as wildlife laws and protected area strategies are implicated in the ongoing dispossession, marginalization, and devaluation of Indigenous Peoples, their

practices, and knowledge systems. The critique has been important but critique alone does not result in a more just, sustainable, and biodiverse future. The transformation of mainstream conservation towards a practice more firmly rooted in Indigenous laws, worldviews, governance, and knowledge systems requires an approach that weaves together Indigenous peoples, political ecologists, and conservationists to learn and then act in ways that bring about change. This paper discusses the Conservation through Reconciliation Partnership (CRP; conservation-reconciliation.ca) in Canada as one model of a partnership that can help catalyze the momentum necessary to support Indigenous-led conservation and the transformation of mainstream conservation practice. Specifically, I show how the CRP has embraced key tenants of political ecology: power is relational and multi-scalar, the social and natural are co-constituted, accepted categories of modernity need to be destabilized and transformative change is necessary. Drawing on an analysis of how the CRP works with its conservation partners, specifically Parks Canada, I discuss how politically informed intervention can help stimulate change and support the creation of a 'new normal' of Indigenous-led conservation in Canada. While the goal of a decolonial conservation future is still far from being realized, putting political ecology into practice has moved us towards Indigenous self-determined futures.

2. Practicing social change: Transforming colonial conservation in Canada

Allison Bishop, University of Guelph – hybrid from Lund

In Canada, political ecologists have critiqued the ways in which Crown Governments and environmental non-governmental organizations (ENGOs) have used colonial conservation discourse, practice, and structures to obtain land and advance settler goals while legitimizing the state. In 2018, an Indigenous advisory body to the federal government released an influential report advocating for the advancement of Indigenous Protected and Conserved Areas (IPCAs) as "lands and waters where Indigenous governments have the primary role in protecting and conserving ecosystems through Indigenous laws, governance, and knowledge systems" (pg. 35). The report also called upon ENGOs to partner with Indigenous governments in the design, implementation, and management of IPCAs. Today, nearly 70 Indigenous governments have declared IPCAs in their territories, and several national ENGOs have positioned Indigenous-led conservation as central to their mandates. However, a recent report found that most ENGOs are just beginning to learn how to engage with Indigenous governments in ways that "do not reproduce colonial relations and practices" (pg. 7). In response, this paper shares the preliminary results of a participatory action project in which five large-scale national conservation organizations are contributing to an institutional ethnography study that provides a detailed analysis of: • Specific institutional practices conservation organizations are employing, • How these practices may open and/or foreclose possibilities for decolonizing conservation, and • The interventions conservation organizations are attempting to disrupt historical and ongoing colonial harms and their effects. Co-created with ENGOs and Indigenous practitioners, this study produces actionable recommendations to advance decolonial conservation practices amongst settler conservation organizations.

3. Role of political ecologists in bringing together multi-interest groups to mitigate human-elephant conflict in North Bengal

Akashdeep Roy and Shalini Sharma, Indian Institute of Science Education and Research (IISER), Pune – hybrid from Dodoma

The most common method to address human-wildlife conflict is rooted in environmental economics – through compensation against loss. This public money can be significantly reduced and used for village development if the critiques of political ecologists (PEs) are implemented. This project focuses on energized fences and rice beer as they shape the human-elephant conflict (HEC) in the North Bengal region of India. Half the locals who died due to elephant attacks were found to be intoxicated with some form of alcohol. Traditional local alcohol, such as haria and chullu, attracts not only tired tribal workers but also elephants. The state excise department regularly raids the production sites to counter competition and generate state revenue. However, there's no coordination with the forest department. Similarly, the decision-making process of installation of energized fences rests with the locals and the forest department officials. Still, they seem unaware of the historical corridors and the spillover effects of HEC to the nearby areas – showing complete failure in planning. Another example is the land transformation as a result of individual agency. To escape HEC, locals often convert their paddy fields to tea gardens. However, this action brings leopards closer to their households, increasing human-leopard conflict in the landscape. These scenarios are interlinked through systems theory, where every decision-making agency (individual or state) can be brought together on the same table through workshops, pedagogy, and seminars to work synchronously. Such workshops also discuss alternate livelihood options that do not conflict with other social groups or nonhumans.

4. Does securing land rights lead to better human-wildlife conflict management? Experiences from Northeastern India

Sayan Banerjee, National Institute of Advanced Studies – hybrid from Dodoma

Political ecological analysis of human-wildlife conflict across global South and North show that broader political economic forces across scales and time produce situations where people and wildlife spaces and needs overlap significantly. In the global South, such as India, these overlapping spaces majorly contain historically marginalized communities, such as Scheduled Tribes, Scheduled Castes and Other Backward Classes. Their vulnerability and adaptability towards wildlife related damages often stem from life insecurities such as low levels of financial, physical and human capitals. Having land rights majorly impacts these insecurities for these populations. Thus, as political ecologists, it is common sense to advocate for securing land rights for these marginalized populaces so that their vulnerability towards shocks and damages, including from wildlife can be minimized and on return, human-wildlife coexistence is achieved. In this paper, I discuss two cases of human-elephant conflict, both from northeastern India to show that such linear connections between securing land rights and better human-wildlife conflict management can be challenged. One case centres around the Adivasi/Tea Tribe community of Assam who are socio-politically disenfranchised, land-insecured in an ethnically heterogenous, but hierarchical society. The other case looks into the Naga tribes of the Nagaland state who belong to a politically strong, homogenous, land-secured community. Though both the community experience elephant-related damages, the Adivasi/ Tea Tribe community perceives less conflict than the Nagas and are willing to coexist with the elephants. This work-in-progress article presents this complexity and explores how a political ecologist could work in this situation.

Panel 362: Ecologies of speculation - Imagining environmental and spatial justice beyond interconnected crises

Kristine Samson, Roskilde University & Louise Fabian, Aarhus University

Global cities are places where a multitude of socio-environmental and political struggles take place and intersect. Urban marginalization, real estate speculation, green colonialism and environmental extraction form part of larger political ecologies. For instance, urban marginalization are often directly a consequence of real estate investment with speculative interest in land extraction with severe consequences for the environment, the destruction of land and nature ressources and of indigenous ways of cultivating and relating to the land. The panel will work with the ecologies of speculation pointing to the intersection of environmental, social and spatial injustices. While the panel work with a critical, decolonial analysis, it at the same time promotes a reworlding of the current ecologies as we seek to reimagine places and spaces by reaching beyond current colonial-financial ecologies of speculation. We are for instance interested in the prefigurative politics of marginalized communities and gardening activism, how the relation to land and urban spaces is articulated as embodied and material practices, and how collaboration across cultures and places can initiate worldmaking practices. We are interested in the ecologies of speculations where the boundaries between fictions and realities become blurred, and where prevalent hegemonies are contested by imagining otherwise. With an explorative approach to ecologies of speculations, the panel also intends to contest the epistemic injustice, colonialism, and socio-cultural discrimination inherent to much academic research and practice. Instead, the panel will propose a space for transdisciplinary dialogue between artists, researchers and activists across places and struggles. Hence, we seek to practice academic-activist-artistic worldmaking where cooperation and the sharing of diverse knowledges are put to the center. As such the panel will enact alternate knowledge ecologies bringing in diverse expressions and materials from listening, film production, architecture renderings, speculative fictions and gardening activism.

1. Aesthetics of the (un)desired: "Ghetto laws" and Speculative futures of Danish common housing

Iben Holck, Roskilde University

From the archipelago of inhabitation in Denmark, a patchwork emerges of houses on soil that the market can't reach, and no one profits on. Of houses organized in neighborhoods, with hundreds of other neighborhoods, in circular economies that makes each resistant to debt when facing renovation. And of neighborhoods that the inhabitants have direct influence on through local councils. The soil, houses and neighborhoods are Denmark's public housing sector, where about 20% of the population live. In Danish, this inhabitation is called "common housing", a political-societal approach to the housing question that surfaces from the post-war construction of Denmark's welfare state. Since early 2000, a coalition of the market and the state has started to encroach on the land and homes. Through its so-called "ghetto legislation", the state targets more and more

common housing areas through a political categorization system based on ethnic and class profiling and demands extensive demolitions, evictions, and selling of public houses and soil to the market in these areas. The market doesn't follow order, it must be attracted. In this paper, as a site of political struggle, I engage spatial imaginaries of the historical welfare state in dialogue with those present in the computer visualizations of the development projects of marketized housing in targeted areas. What happens in the cracks between the ideological speculative commons of housing and the financial speculation in housing commons?

2. Embodied speculations on urban futures in Bixiga neighborhood, Sao Paulo

Rodrigo Andreolli, Teatro Oficina

Bixiga is one of the oldest and most culturally diverse areas in the city of Sao Paulo. Facing the ongoing speculative urban development in the city center of Sao Paulo, the 65-year-old theater company, Teat(r)o Oficina in Bixiga has managed to embody discussions concerning the cultivation of spaces for social and political existence. Through performative actions, reenacting indigenous, marooned and immigrant knowledge inherent to the history of the neighborhood and the diverse queer cultures of the theatre, the community contests current hegemonies in speculative urban development. Performing a politics of resistance though as an aesthetic movement, activists and performers reflects upon the struggles related to property, culture and the scars of colonial processes. Through visual material, the presentation will enact and discuss diverse speculations around the future of futures for Teat(r)o Oficina and the Bixiga neighborhood. Among them the speculative futures of an urban park reopening a river underneath the ground, and welcoming the multilayered urban ecologies where social, environmental and cultural (hi)stories intersect. The presentation asks what pluriversal publics are emerging from the political and cultural ecologies of Bixiga, and what role can performance theatre play in enacting alternate urban futures?

3. Permaculture Urban Gardens: between prefiguration of environmental futures and green colonialism?

Kristine Samson, Roskilde University

Gardening Activism is a community garden In Lundtoftegade, Copenhagen. In the neighborhood, residents have endured territorial stigmatization from shifting Danish governments and their stigmatizing "ghetto laws". No longer on the "ghetto list", the neighborhood is still characterized by high-rise buildings with few places to meet. Gardening Activism is a three-year art project by artist and permaculture designer Skye Jin, which connects artistic practice and methods within permaculture to establish a forest garden. The edible garden is emerging by the help of the community as the gardeners work to arouse children's and adults' curiosity in relation to biodiversity, food cultures, and food sovereignty. At the same time, the garden will become a green oasis that awakens the senses and invites people across social and cultural divides to interact and co-create through self-organized workshops. In the gardening activism project, ecologies of environmental and social justice are at play, and the project seeks to addresses broader planetary inequalities in cities where marginalization of people often

equals vulnerabilities to climate change and unequal access to green areas. The presentation argues that while urban permaculture gardens enact utopian ideals of a just urban and planetary futures, they also risks becoming part of a new green colonialism neglecting existing environmental, social and cultural ecologies.

4. Other Story: 'Plant me in you' A video portrait of Nariman Tamimi, The West Bank, Palestine (2019) By Other Story

Madeleine Kate McGowan, Other Story

Opening voice and presence for 'the pluralistic expressions of human' that hold an alternative to the mono-narrative that is currently being told about humans through the geological term the Anthropocene (that man has now touched and influenced everything on this planet). What is being told with the Anthropocene is that the qualities of humans are made up of everything that has laid the foundation for this term – greed, dominance, unbridled progress, and mechanical extraction of natural resources. But these qualities are specific consequences of certain people's way of organizing themselves, at specific moments in time, inside concrete rooms – colonialism, capitalism, and patriarchy. It is not qualities that define all people's way of organizing themselves. Because there are precisely people who have actively chosen to live differently, who have devoted themselves to a resistance to colonialism (the Palestinians), people who have demanded respect for animals, mountains, rivers, and demand that seven generations be considered forward in time (the Lakota people). There are settings which tell something else about the human life and the workings of humanity. About us, as humans, getting to know ourselves in a pluralistic manner. And this 'getting to know', is something I unfold through a practice supported by a microphone, a camera and focused attentive listening.

Discussion panel 203: How can Biosphere Reserves be Places of Environmental Justice? I

Fanny Frick-Trzebitzky, Institute for Social-Ecological Research; Katja Malmborg, University of Bergen; Hernán Bobadilla, Department of Mathematics, Politecnico di Milano; Neelakshi Joshi, Leibniz Institute of Ecological Urban and Regional Development; Kewan Mertens, Center for the Sociology of Innovation (CSI), Mines ParisTech, Université PSL, Paris; Rossella Alba, IRI THESYS and Geography Institute, Humboldt-Universität zu Berlin; Karin Snel, University of Twente; Letícia Santos de Lima, Universitat Autònoma de Barcelona

The session is part of an interactive panel discussion that spans over two sessions (part 1 and 2). We ask all panelists and participants to join both parts.

Research on sustainability transformations aims for developing solutions towards just development by bringing together multiple forms of knowledge, e.g., in transdisciplinary research (TD) (Vogel & O'Brien, 2021). However, TD as it is practiced today often neglects to account for justice. Furthermore, tensions evolve around normativity. Researchers are

themselves embedded in a web of power relations and often witness sensitive situations. They have to constantly reflect on being analytical observers, enablers, and participants in social transformation processes. A range of reflexive approaches and methods have been developed to address this particularity. They address situations of plurality in visions, forms of anticipation, and of multiple values (Rawluk et al., 2019). Nonetheless, it is a matter of continuous debate whether these approaches adequately address aspects of justice in processes of transformation (Bennett et al., 2019). Here, critical analyses in Political Ecology (PE) provide key insights on how sustainability crises are reproduced. For instance, Menton et al. (2020) emphasize the contradictory effects of different approaches to justice in sustainability agendas. These analyses, nonetheless, rarely lead to solution-oriented conclusions. In this session, we use Biosphere Reserves (BRs) and the Man and the Biosphere Program (MAB) as a starting point for a broader conversation about TD and PE. UNESCO strives to promote sustainable development, e.g., through its programmes on World Heritage and BRs. BRs are places for experimentation with "sustainable development at all levels, integrating economic, social and environmental aspects and recognizing their vital interlinkages" (UNESCO, 2017). In particular, BRs are places for experimentation with environmental sustainability and justice which allow for pluralizing visions. Frequently, TD is mobilized in these areas to involve both researchers, local land managers, and inhabitants in social transformation processes. What can we learn about the complicated relation between experimentation, transformation, and justice by looking at the particular context of BRs and MAB? And how could we define environmentally just futures? In this session, we will discuss empirical enquiries in past and ongoing initiatives, through reflexive, participatory, and observational approaches. While the concept of justice is broad and evolving, we focus on two kinds of justice, namely environmental and epistemic justice. In turn, each one of these forms of justice is operationalised through tenets of procedural, distributive, and recognitional justice. We will explore key moments of experimentation in BRs in a discussion between researchers working on visions, their historical genesis, and epistemic justice in knowledge integration, both in BRs and in MAB. Along these themes, we will bring TD and PE perspectives into engagement, look for synergies and differences, and ponder the value of maintaining plurality in how we conduct research for environmentally just futures.

1. Visions of Latin-American Delegates in the early years of UNESCO, and how they did (not) shape UNESCO and the MAB program (PE / historical perspective).

Caroline Meier, Augsburg University and Eberswalde University for Sustainable Development

In its early years, UNESCO was shaped by a dominant, Eurocentric discourse driven by delegates from the global North and South, limiting the space for alternative visions, knowledge and worldviews. Even though there were critical voices from the Global South, especially from Latin America, these voices and their visions could hardly prevail. I explore the extent to which UNESCO's historical legacy continues to influence the MAB program today, focusing on the question how alternative visions are integrated/interwoven on the conceptual MAB level.

2. What happens when there is a disharmony in plural visions? (PE Perspective).

Neelakshi Joshi, Leibniz Institute of Ecological Urban and Regional Development

What do we do when e.g. proposals to build renewable energy infrastructure in BRs (an example from the Elbe Valley BR) or if there are external economic pressures (e.g. Absolut Vodka in Kristianstads Vattenriket BR). How do we navigate this? What do we do when one justice is pitched against another?

3. Visions for future landscapes in the Nordhordland BR from the perspective of local youths (TD perspective).

Katja Malmborg, University of Bergen

In this ongoing research collaboration with the Nordhordland BR in western Norway, we are co-creating positive visions for a sustainable and just future together with local high school students. In workshops, we develop visions for the local landscape and trace potential pathways towards those visions. We will track learning and impact among the students through observations, surveys and interviews. In addition to research outcomes, these workshops are part of the students' studies in geography and biology, and the resulting visions will contribute to a planned future dialogue process about sustainability and strategy development for the BR.

4. Deliberative mini-publics in two Swedish BRs (TD perspective)

Fanny Möckel, Uppsala University

One important aspect of BR management entails an active inclusion of local communities/citizens into governance and management questions. While this inclusive notion is widely acknowledged, much is to be learnt about the particular ways of such engagement processes. I am in the process of organizing, implementing and observing deliberative citizen engagement processes (namely, deliberative mini-publics) in one already established, and one to be nominated BR area in Sweden. I am curious to learn more about what such citizen engagement processes can contribute to the governance of such multifunctional landscapes, and how their specific design contributes to environmental justice.

5. Epistemic justice in transdisciplinary collaboration within the Palatinate Forest and North Vosges BR - how to make just knowledge integration work (TD perspective).

Stefanie Burkhart, Institute for Social-Ecological Research (ISOE)

The concept of the MAB program implicates the integration of social and environmental aspects for sustainable development. This, in turn, requires the integration and inclusion of different actors and their knowledge plurality. How does the MAB program allow for knowledge integration to address aspects of epistemic justice - conceptually and on the ground? I will share some important hands-on requirements (structural, procedural but also interpersonal) that I have found in my desktop and empirical research so far.

6. Knowing and handling rapid environmental change by creating a new Biosphere Reserve in France?

Kewan Mertens, Center for the Sociology of Innovation (CSI),

Local managers of the Parc Naturel Regional (PNR) de Brière in western France have recently engaged in the process of creating a new Biosphere Reserve (BR) in the region to address issues raised by ongoing rapid environmental change and climate disruption. This BR overlaps with existing (formal and informal) institutes that facilitate the management of natural resources and relational attachments to the environment in the region. So why do park managers feel the need for an additional structure? What ways of knowing and handling the environment come with BR, and how are these different from existing institutions? And how does this modify existing power dynamics in the region? The narrative of rapid change comes with a need to develop and experiment with new ways of living with the environment. This motivates the creation of a new BR in the region. The BR thus comes with specific visions on the future of the region, but these visions are contested.

7. Epistemic justice in climate adaptation (Philosophy perspective).

Hernán Bobadilla, Department of Mathematics, Politecnico di Milano

Local knowledge plays a valuable role in the management of BRs and overall governance for climate adaptation. However, its integration into problem-framing and decision-making is often frustrated by stringent temporal frameworks. This is evident in the EU Strategy on Adaptation to Climate Change, which calls for implementing systemic changes together with faster adaptation. There is a significant trade-off between enabling local knowledge to inform problem-framing and decision-making and aiming for faster solutions. Furthermore, it has been argued that the proper integration of local knowledge may improve the actionability and implementation of ensuing proposals.

Panel 265: Political Ecologies of carbon removal, net zero and climate delay VII

Jens Friis Lund, University of Copenhagen

This seventh and final session in the stream of sessions entitled "Political Ecologies of carbon removal, net zero and climate delay" focuses on community and indigenous justice concerns over CDR. See the first session for a description of the entire stream.

1. Amid brokers and political imagination: Carbon removal in the communal forests of Mexico

Noé Mendoza, NMBU

Market-based conservation tools rely on novel economic-political imaginations to attach new economic and cultural values to nature. One of the most salient examples has been the program Payment for Ecosystem Services (PES), which policymakers in Mexico eagerly embraced in the early 2000's making it 'arguably the world's largest and most complex' (McAfee and Shapiro 2010; 580). Mexican PES relied on communal land tenure institutions (ejido and comunidad) and while conveying moderate environmental outcomes - although highly disputed - it renovated enduring clientelist relations between the State and communal institutions. In recent years, a new wave of market-based conservation tools is percolating Mexican communal forests linking forest carbon sequestration at the local level with carbon offsetting in international markets. The new mechanisms of carbon politics intend to involve novel interactions between communal land tenants, local political brokers (notably forestry technicians), governmental actors, and international agencies of multiple sorts. In this article we examine the political imaginaries that accompany this new wave of carbon politics in the Yucatan Peninsula, how local actors interpret and engage with the discourses behind carbon sequestration tools, and we inquire the ongoing pathways of adaptation and transformation in the power relations between communal land ownership and political brokers.

2. The political ecology of Canada's net-zero imaginary

Emiliano Castillo, Universität Trier

This paper examines how Canada's net-zero imaginary is framed, imposed, and contested. Canada — one of the world's largest oil producers—has pledged to achieve net-zero in the oil industry by 2050 through carbon neutrality technologies, particularly carbon capture and storage. In doing so, Canada frames net-zero as a desirable energy transition pathway. Yet, fossil fuel-related emissions in Canada keep rising and the existing and potential impacts of net-zero projects are often downplayed or ignored. Connecting research on energy future imaginaries and political ecology of energy, this work explores how the Canadian government discursively legitimizes a net-zero future and attempts to materialize it through the construction of "carbon neutral" infrastructures on Indigenous Peoples' lands. Simultaneously, this paper looks at how Indigenous/environmental groups challenge this future vision by mobilizing climate justice and Indigenous self-determination claims. Through critical discourse analysis, it investigated specific storylines within competing discourses that (re)produce and (de)stabilize the power relations underpinning the net-zero imaginary. While the findings show that net-zero obstructs climate action by justifying land dispossession through fossil fuel development, they also point to existing efforts to address the colonial and capitalist logics that shape net-zero. This analysis thus contributes to emerging discussions on the tensions, contradictions, and limitations of the net-zero transition.

3. Carbon, Communities or Conservation? Analysing trade-offs in five 'best-case' carbon forestry projects in Uganda and Tanzania

Flora Hajdu, SLU; Klara Fischer, SLU; Linda Engström, SLU; Ronald Ndesanjo, University of Dar es Salaam and David Tumusiime, Makerere University

Calls for large-scale landscape restoration and tree planting projects, especially in the Global South, have become ever more urgent in order to meet the needs for carbon removal created by continued carbon emissions mainly in the Global North. More recently, such efforts are also called for in order to counter biodiversity loss. A triple-win narrative is now common, where projects are presented as beneficial both carbon storage, conservation as well as having positive impacts on local communities in the Global South. In reality, there are trade-offs between these three objectives. Also, the way local communities are viewed in this discourse is simplistic and builds on problematic narratives that have been criticized in social science research on rural development and nature conservation for decades. This paper builds on case studies with five potential 'best-case' projects in Uganda and Tanzania - three that engage with local farmers to plant trees, one that encourages cheap and simple restoration of trees and one that works with community land use planning to protect existing forest. Through interviews with project designers, implementers and farmers as well as analysis of documents and websites, we explore how the five projects differ in how they navigate the trade-offs between carbon, conservation and community needs – as well as the trade-offs between various community members' different and sometimes conflicting needs. We find that underlying core motivations behind projects, and project designer's backgrounds, affect project design and how trade-offs are negotiated. We argue that we need to build on social science insights when designing carbon removal projects, and discuss trade-offs as key concerns rather than framing them out of a simplified triple-win discourse.

4. Integrating sense of place into net zero industrial transitions

Huei-Ling Lai (Lynn), University of Exeter & National Sun Yat-sen University

Deploying technologies such as hydrogen, and carbon capture, and storage for industrial decarbonization will affect the meanings and feelings people assigned to the places where these facilities are located along with changes in the bio-physical environment. How these place changes are seen and experienced by the affected communities has significant implication for just transitions and for people's perceptions of these decarbonization projects. However, this socio-cultural dimension has been largely missing in policymaking and in the literature on low-carbon industrial transitions, which often regard place as a container of industrial activities or a destination for investment. To address this gap, we developed a Net Zero Sense of Place framework, based on research findings from a document analysis, 33 interviews with government and industry stakeholders, 6 focus groups with local communities, and 3 multi-stakeholder workshops in three industrial heartlands/clusters in the UK. We propose studying and designing technology deployment from a place-based perspective with 6 inter-related place themes: encouraging pride in place, recognising place changes, grounding benefits, engaging place visions, and building trust and reciprocity. We argue that recognising communities' existing emotional bonds to place and their current/past experiences with industry is essential for a fair and effective net zero industrial transition.

Panel 107: Political ecologies of 'green' authoritarianism I

Noémi Gonda, Swedish University of Agricultural Sciences & Peter Bori, Central European University

Across the planet, the urgency of addressing climate change seems to be overriding concerns for democracy. And yet, undemocratic dimensions cut across the global stage on which climate action, energy transition, biodiversity conservation and other 'sustainability' and 'green development' efforts are taking place.

Evidence from authoritarian, illiberal and other undemocratic settings illustrates how the rush for low-carbon energy projects overshadows how Indigenous rights are trampled, environmental activists are suppressed and how political elites exacerbate ecological challenges through land grabbing and corruption. Land grabs increasingly dispossess the poor in the name of renewable energy and carbon sinks, making 'climate justice' a floating signifier backing green(-washed) neoliberal, market-led transition efforts (Mookerjea 2019).

Meanwhile, authoritarian regimes around the world have an often complex relationship with both disadvantaged communities and environmental narratives (Gonda 2019, Gonda and Bori 2023, Atkins and Menga 2022, Lubarda 2020) – a relationship that cannot be reduced to mere antagonism, or simply to 'those left behind'. Because authoritarians easily mobilise these tropes of disadvantage, pro-poor environmental policies, projects and narratives can morph into their opposite, enabling continued oppression and environmental degradation (Jiglau 2020).

Current political ecology scholarship lays the groundwork for tackling socio-environmental injustices (e.g. Svarstad and Benjaminsen 2020, Bouzarovski 2022, Neimark et al. 2019) but more work that specifically engages with democratic challenges is needed. The latter needs to go beyond concerns for e.g. equal representation; civil rights and liberties; rule of law; separation of powers; and multi-party elections. In particular concerns for self-determination of Indigenous and other marginalised people as well as human and non-human rights need to be better included in this debate on democracy.

To contribute to this effort, this panel strives to re-centre the political question of democracy in political ecology by gathering a multiplicity of perspectives to inform visions and theories of democratic futures in ways that are culturally relevant for addressing sustainability; and respectful of the interdependence between humans and non-humans.

This requires understanding what more democracy would entail for just environmental politics and low carbon futures, and how historical legacies and ongoing challenges of colonialism, socialism, patriarchy etc. shape different visions and knowledge claims about democracy in environmental justice. In an era of climate change and burgeoning authoritarian regimes, we find that this is a key endeavor.

1. Ecologies of Solar landscapes: Manufacturing public consent in solar energy projects in India

Denise Fernandes, University of Colorado-Boulder & Mridula Chari, Independent Journalist

In 2020, newspapers, social media platforms, and WhatsApp messages roared aloud- "Prime Minister Narendra Modi is to inaugurate Asia's largest 750-MW Rewa Solar Park." While a nationalistic and patriotic rhetoric flooded the media and communication landscape, local communities living around this World Bank funded solar landscape were left in the dark about the details of the project. Most of them were not even aware about the setting up of such a project. In the climate change discourse, renewable energy projects are often depicted as less exploitative and extractive than legacy energy sources like coal or oil. However, a closer look at these solar energy sites showcases a more familiar energy story: the loss of access to land and livelihood. As its politicians like to say, India is the mother of democracy. But the most alarming aspect of the Rewa solar park is "coerced consent" that facilitated its set up. Despite India's climate justice rhetoric at the international level, the ground realties are different. In this paper, we argue that the sidelining of the constitutional provisions of public consent and the weakening of impact assessment studies and other democratic practices has excluded historically marginalized communities like Dalits, Adivasis, and women from low carbon futures. We interviewed impacted communities in Rewa and analyzed publicly available project and legal documents to understand how public consent was manufactured to set up these solar parks. Through this paper, we hope to re-center the idea of "democracy" in environmental justice conversations both within and outside academia.

2. Zapping the Jeepneys: The Politics of Dread and Authoritarian Environmentalism in Post-Duterte Philippines

Juneseo Hwang, University of Hamburg & Bam Baraguir, Independent Consultant

Democracy is being increasingly challenged by authoritarian and illiberal regimes and practices as the planetary crisis accelerates. The proliferation of authoritarianism is much more visible in Asian countries, especially where the legacies and spectre of authoritarian regimes are lingering. Focusing on the Philippines, a country with a complex political system that is characterized by a mix of democratic and authoritarian elements, our presentation explores the interplay between the politics of dread, democratic struggles, and environmental sustainability in implementing a sustainable transportation policy. In particular, this paper tackles the Jeepney Modernization Program (JMP), a government-launched initiative which aims to replace old and outdated jeepneys with newer and more environmentally friendly models. Using the JMP as a case study, we provide insight into how policy reform is negotiated along the lines of authoritarian environmentalism. It also highlights the utilization of dread through the practice of red-tagging to silence dissenters and intimidate activists, human rights defenders, and members of progressive organizations who are critical of government policies and actions. This paper aims to explain how the interplay between the politics of dread and democratic struggles highlights the complex and contested nature of democratic governance in the Philippines, particularly with regard to transportation policies that have significant implications for the economic livelihoods and social well-being of marginalized groups. In the end, the paper contributes to the growing literature on the politics of dread and how it is employed to create a political landscape where environmental authoritarianism can permeate society.

3. Circular frontiers: the race to appropriate secondary materials in circular economies

Feja Lesniewska, University of Surrey

The circular economy offers new frontiers for appropriation and wealth accumulation to those who can access and acquire user rights over anthropogenic materials. The circular economy concept is portrayed by advocates as a reconfiguration of the economic system from a linear take-make-waste one to one that is closed loop in which materials are valorised throughout their lifecycle decoupling growth to meet SDG responsible production and sustainable consumption goals. Valorising waste creates resources which can be exchanged in new markets that have to be created by new laws, regulation and standards. The promissory value from new circular frontiers is driving investments in innovative technologies by established actors (corporations and governments) who already control material supply chains for high end materials such as critical raw materials. Ensuring value capture throughout a materials' lifecycle is already leading to geopolitical tensions. This paper will firstly set out how the EU employs the circular economy concept to strategically capture critical materials for its techno-eco-modernist net zero transition policies. Next both political and legal responses by raw material and product manufacturer exporter states (DRC and China) to the EU strategy will be analysed.

4. Localist far-right environmental activism: practices, motivations and affective attachment to place

Lise Benoist, Uppsala University

My research brings into conversation the fields of human geography and the political ecologies of the far right to contribute to a better understanding of the new exclusionary geographies brought about by the rise of the far right and climate change and ecological degradation. Far-right localism constitutes an example of mutating far-right ecological discourses and strategies on the denialism-ecofascism spectrum that further promotes far-right ideology under a 'green' banner. Far-right localism advocates a nativist rootedness in an exclusionary local, upheld as a prerequisite for effective environmentalism. Such a strategy affectively mobilises a reactionary conceptualisation of place and revolves around an identitarian, naturalist and organicist understanding of ecology typical of far-right environmentalism, as well as the wish to supplant the left/right divide with a global/local one. But who are these far-right environmental activists, what are they actually doing and why? The presentation will draw from in-depth interviews with far-right environmental activists, field observations, and the analysis of communication material from selected far-right environmental organisations in France and Belgium. I am to contribute to the investigation of the complex affinities between ideologies of nature, identity (re-)production and belonging, in relation to place-based environmental resistance.

Panel 299: Biodiversity conservation and the value turn I

Marco Immovilli & Bram Buscher, Wageningen University

In biodiversity conservation, there is an increasing amount of talks around value, creating space for diverse ways of valuation in mainstream debates and policy. These developments present a salient opportunity for political ecologists, particularly because mainstream debates have so far failed to incorporate critical discussions that understand value as a central component of capitalism. By linking value to capitalism, we see two ways political ecology can contribute to these discussions. Firstly, it can highlight the limits of mainstream approaches and the risk of turning the "diversity of value agenda" in yet another venue for capital expansion. Secondly, it can support new and radical understandings of value that can support concrete options for post-capitalist approaches to conserve and living with nature. In order to accommodate the many abstracts we received, we propose two sessions under a double panel to bridge the gap between critical thought and mainstream debates on biodiversity conservation and value. The two sessions combine theoretical presentations with empirical case studies from conservation and agriculture and include different theoretical approaches and disciplines: political ecology, philosophy, STS, anthropology and critical discourse analysis, ethnographic work and others.

1. The "diversity of values agenda" within biodiversity conservation. A critical analysis.

Marco Immovilli & Bram Büscher, Sociology of Development and Change, Wageningen University

In this paper, we explore the rise of the concept of "value" in biodiversity conservation and connect it to the establishment of what we call the "diversity agenda" within academia (and possibly beyond): the political strategy to criticize policy-making for narrowing its interest and attention to the sole economic value of nature and, as a solution, the invocation of an inclusive approach towards diverse (non-economic) values of nature in decision-making. We theorize that an approach to transformation emerges from this agenda that we call "transformation by inclusion". Through the case of IPBES (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services) work on values of nature, we analyze how this political agenda theorizes (or fails to) the "economic value of nature" and whether and to what extent academic discourses around transformation-by-inclusion challenge the structures of power embedded in capitalist economic value.

2. Value, values, and nature – territorial values, power, and the political question of diversity (biological and otherwise).

Luis Andueza, Department of International Development, King's College London.

This paper considers how a turn to 'value' as organising concept might illuminate current discussions on biodiversity, conservation, and power. Building upon different streams of scholarship, the paper first outlines a theoretical framework for an understanding of value as a key concept to approach socio-ecological relations under capitalism. Drawing on a Marxist understanding of value as social form, it critically revisits the notion of the 'production of nature', explores the relation between value and values, and the role of the concept of use-value in a critical understanding of capitalist ecologies and contradictions. The paper then illustrates this argument through an examination of different case studies in Latin America on the historical production of subaltern territorial values, state-formation, and biodiversity, critically engaging with the concept of 'bio-cultural diversity' as developed in Mexican ethnographic literature.

3. Biologists of the World Unite? Politicization in IPBES

Daniel Chiu Suarez, Middlebury College

This paper presents long-term organizational ethnographic research conducted inside IPBES during its first work programme (2014-2018). Specifically, this paper will analyze these materials to consider the inchoate politics, imaginative horizons, and latent possibilities surrounding types of expert subjects whom Noel Castree (2017) evocatively characterized as "unfree radicals." He identifies a growing acknowledgement, and what he takes to be an incipient radicalization, among global change scientists reeling at the bewildering political and economic implications increasingly apparent in their findings. Despite many barriers, and catalyzed perhaps through new alliances with critical scholars, Castree wonders whether the collective work of such scientists could be redirected toward "something more just, egalitarian, and imaginative than the rapacious capitalist world whose perpetuation it is so deeply implicated in." Throughout my research, I observed IPBES becoming a dynamic site of struggle where provisional answers to precisely these sorts of possibilities were getting awkwardly, tentatively worked out: where concepts like "natural capital" were being subverted, sometimes fiercely contested, and repeatedly remade in ways that, at times, and from certain angles, even started to resemble Castree's speculations. I focus, in particular, on the maneuvers of a cast of "epistemic dissenters" who were operating from inside the process to dislodge more dominant understandings of ecosystem services valuation and to create openings for heterodox, subaltern, and critical perspectives. To my surprise (and often theirs too), I saw them repeatedly succeeding at this task. I contend that these attempts to "judo flip" ecosystem services—to pry it from its more problematic, epistemically narrow, and politically lamentable "mainstream" expressions, and salvage others from it—signal the prospect of re-appropriating its framework, and re-enrolling its practitioners, around a far more critical (and realistic) understanding of power, political economy, and social struggle.

4. Do bees produce value by conserving the forest? A Marxist contribution to value pluralism

Noé Mendoza Fuente; Norwegian University of Life Sciences (NMBU)

I revisit the discussion on whether Labour is exclusively a human activity or whether it should encompass non-human agencies. I analyze the case of honeybee producers in Mexico whose hives are installed inside the Calakmul Biosphere Reserve in the state of Campeche. These beehives are allowed to operate within the buffer zone of the Reserve given the alignment between organic honeybee production and conservation objectives. Based on interviews and secondary sources I gather qualitative and quantitative data to operationalize two methodologies: a pluralist nature-valuation method, where bees' work can be considered Labour vis-à-vis the methodology of the praxis of value transfers, which considers labour as exclusively human. The methodologies analyze the same case running through two scenarios: an initial state of 'traditional' production that experiences a technological upgrade in the honeybee production process. The differential outcomes of each methodology illustrate the limitations and complementarities between different notions of Labour and the importance of keeping focus on the political and economic consequences of human-nature interactions and conservation policies. The findings stress the need to further involve Neo-Marxist epistemology in the debate on value pluralism to transcend an otherwise merely ontological dilemma between human-nature distinction versus entanglement.

Panel 271: Smart and climate just housing I

Melissa García-Lamarca, Lund University and Carina Listerborn, Malmö University

Housing is increasingly becoming a target for green transition strategies, across both the Global North and Global South. This panel seeks to critically explore approaches to "smart" and energy efficient housing solutions in different contexts, reflecting on what urban futures they are contributing to. How are solutions addressing urban and social inequalities towards more egalitarian, green and just worlds?

1. Climate smart housing. Consequences for tenants of climate smart renovations.

Carina Listerborn, Malmö University

Smart housing and its consequences for tenants is still a largely absent field in smart city and housing research. This article is situated at the intersection of critical housing studies, 'actual smart cities', and smart housing, the purpose of which is to enhance climate transition in housing. Departing from the EU-funded project GrowSmarter, 2015 – 2019 and a renovation project of a 1960s housing complex in southern Stockholm, the paper aims to illustrate how home is affected by climate-smart city discourses and practices. It presents the argument that the top-down approach of EU-funded climate-smart city interventions leave minimal space for different stakeholders to steer the process and limits the tenants' role and influence on the outcome. Knowledge about smart city brandings and innovations needs to include the material- and social outcomes, not least in the context of housing and people's homes. To be fruitful, the implementation of climate-smart solutions must acknowledge tenants' everyday challenges as well as housing companies' regulatory frameworks, which are of particular importance in relation to the current energy crisis.

2. Grounding the politics of energy smart housing in Global South geographies

Syeda Jenifa Zahan*, Polytechnic of Turin*

This paper focuses on the politics and implications of energy related interventions in the housing sector in Delhi. With the proliferation of the "smartness mandate" (Halpern, Mitchell, and Geoghegan 2017) in cities like Delhi, housing as a sector is coming under increased smart interventions from the State in partnership with private companies. Interventions such as solar panels, smart meters, rainwater harvesting, building technologies that allow for better natural light and air flow are some of the interventions in the sector which lead to claims of making housing energy efficient, global and futuristic. Yet, many of these interventions are led by "elite governmentalities" (Basu 2019). Focusing on housing interventions that aim to enhance energy efficiency in Delhi, this paper argues for the need to **ground** such interventions within broader experiences of southern cities, where informality, poverty, lack of adequate access to energy *and* housing continues to be major struggles. What does it mean to live in an energy efficient city where one has to struggle for electricity connections? How does one embody this energy efficient city while remaining in housing precarity? These are some of the questions that this paper focuses on. Drawing on ethnography inspired multi-sited fieldwork and interviews with city officials, activists and residents of Delhi, this paper argues that energy related interventions are rooted in epistemic erasures and further peripheralisation of those considered to be outside the urban norm. In turn, energy efficiency – as a discursive and material intervention – needs to be grounded in the realities of the 'majority' urban dwellers whose claims to the city, energy and housing remain marginal, if an energy just city is to be achieved.

3. No one foresaw that we needed to pay electricity": Experimenting with digitalization-as-urbanization in Tequila, Mexico

Claudia Fonseca Alfaro, Independent researcher

In 2014, José Cuervo, the largest Tequila producer in the world, partnered with IBM and local government to transform the town of Tequila, in western Mexico, into a *smart* village by 2020 and a smart *city* by 2040. The ambitious project, Smart Tequila, was a city-branding strategy and a "preventive model" meant to forestall chaotic urban growth. The aims were to harness big data to improve mobility and public safety in the short term. In the long term, the project promised to address issues related to sustainability and public health. By 2016 though, as a key actor described, the "project only existed on paper" as high running costs put a stop to the project. Inspired by critical interventions that ask us to pay more attention to the sociopolitical embeddedness of smart cities and postcolonial approaches that aim to unpack Eurocentric practices underpinning "smart" interventions, this paper seeks to explore the interplay between space, power, and colonial remains in Smart Tequila. I do so by putting in conversation epistemic violence and "digitalization-as-urbanization" to argue power manifests through depoliticized decision-making practices and colonial-infused visions of modernity. With this, I am to shed light on lived experience in a context of corporate-led governance.

4. Surveillance, nudging, and gamification in Swedish housing

Fredrik Torisson, Lund University

When landlords set out to measure, monitor, and influence their tenants' behaviour through deploying various 'smart' technologies, we see a use of technology that is fundamentally different from the leisure- and convenience-oriented 'smart home' where surveillance keeps a polite distance, handing the user control over the functions even though the technology is basically the same. This paper outlines and highlights some of the ethical dilemmas of behavioural modification in Swedish smart housing, where the objective is to 'nudge' tenants into specific behaviours. In this paper, I aim to: 1) open a discussion on smart housing and its specificity in distinction from smart homes or intelligent buildings; 2) highlight power relations in housing in the smart technology context, and more specifically how the tenant constitutes a different subject than the consumer.

Hybrid panel LU255: Green transition as decolonization? I: Disrupting legacies of colonial power?

Inge-Merete Hougaard, Stine Krøijer, Kathrine Dalsgaard & Lone Kristensen, University of Copenhagen – hybrid from Lund

In our time, scientists, policy makers and activists cast climate change and environmental degradation as existential threats, rendering green transitions imperative to ensure that human activity is sustainable in the long term. In response, governments, state agencies and civil society associations around the world have embarked a range of initiatives for nature conservation and restoration, resource optimization and climate mitigation. These projects have both anticipated and unanticipated impacts on local landscapes and human livelihoods, and some may even disrupt long-held assumptions and modes of governing land and life. Green transition, and nature restoration projects specifically, may for example entail deliberate human withdrawal from or abandonment of areas of larger or smaller extension. They may involve rewilding of nature and removal of infrastructures associated with industrial agriculture and forestry such as dikes, drainage pipes and other landscaping elements that have historically enabled agricultural expansion and colonization of new lands. Such projects appear as reversals of historical processes, going against a growth paradigm and its reliance on expansion and intensification of production. They may also imply the remaking of relations within state bureaucracies, between statutory institutions, private companies, farmers, foresters and local populations, and between human beings and other species, making room for other forms and genres of knowledge to flourish through the co-creation of future landscapes. This may challenge settler colonial and imperial knowledge hierarchies and ways of understanding what nature and nature management is about. This panel will look at green transition, nature restoration, for example of forests, peat and wetlands and open-ended approaches to nature management through the lens of decolonization theory. It explores cases that involve biophysical, infrastructural and landscape changes, and associated attempts to challenge knowledge hierarchies, historical narratives and engrained perceptions of change. We are interested in the extent to which such

processes entail a disruption of legacies of colonial power and processes of settler colonization. Taken together, the panel seeks to create a dialogue about knowledge, decolonization and relations of power in the green transition. The first session in the panel will focus on the decolonization of conservation and management practices, whereas the second asks how we disrupt legacies of colonial power.

1. Historicizing the carbon forest: colonial rule, scientific forestry and the making of 'Nigeria's last rainforest'

Adeniyi Asiyanbi, University of British Columbia – hybrid from Dodoma

This paper argues that the conditions of possibility of carbon forestry in 'Nigeria's last rainforest' are tightly linked to the uneven colonial production of forests across Southern Nigeria. Drawing on archival research, ethnographic fieldwork and analysis of program documents and academic literature, the paper develops a historical geography of forest conservation in Cross River area. Focusing on the promise of novelty in carbon forestry and the development of colonial forestry in Southern Nigeria under British colonial rule, the paper traces the historical-geographical constitution of 'Nigeria's last rainforest' in Cross River as both the material site and the mobilizing rationale for carbon forestry in the country. It found that the material and discursive conditions of possibility of carbon forestry in this region are tightly linked to three interconnected processes: i) the colonial reservation and regulation of forests across Nigeria, ii) scientific forestry's production of forests in Nigeria mainly as timber and, iii) the failure of colonial forest production in Cross River. As such, 'Nigeria's last rainforest' represents what Collins (2019) calls the 'colonial residue' in a literal sense. The paper concludes by reflecting on some of the implications of these findings for debates on decolonization.

2. Limits to wilderness? - negotiations of open-ended nature management in Denmark

Kathrine Dalsgaard, University of Copenhagen – hybrid from Lund

In response to the biodiversity crisis new nature management paradigms are currently to reverse and disrupt the established ways of governing the commons of Denmark. The Danish Nature Agency - which manages the state forests and natural areas – introduces nature projects with the aim to recreate wild nature by so-called untouched forests and 15 nature national parks. A decade-long nature management focused on anthropocentric utility, exploitation, and ideals of effective care of nature is now replaced by an open-ended approach to nature understood as a dynamic, self-managing actor. Within this context the paper examines the attempts of the Nature Agency to ungovern Danish nature. Various conventions and acts oblige the Agency to involve citizens in their projects on the commons and I explore whether citizen involvement and inclusion of local knowledge put a limit to the rewilding of nature. I find that open-ended nature management challenges dominant enactments of nature and ways of knowing among Nature agency professionals and among citizens who are now threatened as one out of many species in the sparce public spaces of Denmark. This way the reconfiguration of nature also gives rise to debates on which species and life forms to protect and grant welfare.

3. Community-based natural resources management as conservancies in Namibia: rights are devolved but conservation concepts remain imposed

Stéphanie Domptail, Charity Masole, Sakeus Kadhikwa & Martin Petrick, University of Giessen – hybrid from Lund

Community-based natural resource management (CBNRM) schemes enact the will to move away from enclosure types of conservation and shift rights and responsibilities of wildlife management from the state to local populations since 30 years in Southern Africa. This effort was rooted in the recognition that local institutions and population can manage resources sustainably: an effort of territorial, and knowledge system decolonization. In our case study of two conservancies in Zambezi, Namibia, we argue that the way conservancies are implemented perpetuates colonial power structures and shifts costs of conservation to the local population. In particular, we claim that the concepts of community, conservation and human-wildlife conflicts are rooted in a colonial worldview. Their meaning is not necessarily shared by the traditional authorities (kingdom structure) currently in place as administrators of natural resource use in the absence of conservancies. We look more closely at the case of two conservancies in the Zambezi region. Interview data with traditional and statutory authorities involved in the implementation and management of the CBNRM illustrates our point. As conservation is failing to reach satisfactory livelihood-ecological outcomes, our results shall feed the reflection on alternative philosophical grounds to a collective and sustainable co-existence within nature.

4. South-South Technology Transfer and decolonial approaches to knowledge exchange

Carmen Séra-Penker, BOKU University – hybrid from Lund

Sustainable energy transitions are central to climate mitigation as to reduce CO_2 emissions it is necessary to change to more renewable forms of energy. To enable sustainable energy transitions also in the Global South, technology transfer is needed. Therefore, the Global South has been demanding for decades that conditions for technology transfer have to be improved. This contribution looks into South-South Technology Transfer, taking a decolonial approach to the exchange of knowledge. Does the fact that technology transfer is implemented by South-South partnerships mean that the exchange relations are more equal? How do controversies between different types of knowledge surface? Based on preliminary findings from a qualitative systematic literature review, it is analysed if South-South Technology Transfer leads to a disruption of legacies of colonial power and Western domination of science and technology and if South-South Technology Transfer challenges existing knowledge hierarchies through collaborative processes as it changed the direction that knowledge about technology is exchanged in. Drawing on epistemologies of the South and decolonial theory to create dialogue about knowledge, decolonization and relations of power in this example of green transitions, the contribution aims at rethinking relations between states and other institutions as well as local populations involved in technology transfer.

Panel 223: Interrogating ontologies and epistemologies through co-creation of diverse knowledges: (Decolonial) Political ecology meets political ontology in the Global South and North

Tatiana Sokolova and Bartira Fortes, Södertörn University

The hallmark of modern ontology is that it reduces nature and people to resources to be extracted, promoting capital accumulation and colonial exploitation. To critique modernity from the ontological position, political ontology was developed as an analytical framework concerned with the status of the non-modern (Blaser 2009). The history of political ontology as a field of study is intricately connected to political ecology, insofar as both explicate the relationships between nature and society through attention to power (Escobar 2017), seeing territorial struggles as ontological.

This critical project is impossible without a close examination of epistemologies we engage with as researchers. Despite a growing body of co-production and decolonial methodologies, little attention has been devoted to complex and non-dualistic positionalities of researchers as they engage with non- (often anti-)Western-centric epistemologies. Theoretical work addressing the problematic of the politics of knowledge in post-colonial contexts and the contexts of marginalisation is comprised, among others, of the works of decolonial and feminist scholars (Tuhiwai-Smith, Harding, Longino, Alcoff, Oreskes), including those inspired by Paulo Freire (bell hooks) and science and technology studies (Haraway), and more recently scholars bridging the decolonial and STS strands (Subramaniam, Khandekar). However, critical methodological reflections on the practicalities of working between and across epistemologies remains scarce.

This session seeks to explore ontologies and epistemologies of 'green transitions' in the Global North, as well as their ripple effects in the Global South, as well as the methodologies of engaging, from various positionalities, with non-academic actors: local communities, Indigenous peoples, artists, social movements, and other-than-human entities – in the co-production of research.

1. Insights from practice in the Global South: challenges and successes of knowledge brokering for climate justice advocacy

Siri Lijfering and Ruth van de Velde, The Broker (South Africa/Netherlands); Charlotte Scott and Tiffany Chalmers, SouthSouthNorth (South Africa); Adriano Maneo, IEB (Brazil); Moni Bareiro, Emancipa (Paraguay); Bob Aston, Arid Lands Information Network (ALIN) (Kenya); Yuni Setyaningsih and Mohamad Taqiuddin, C4Ledger (Indonesia).

Knowledge brokering can be an important strategy in climate advocacy, bringing indigenous and local perspectives on climate change into decision-making and amplifying the voices of marginalised communities to change policy and practice. Existing research largely takes a Northern perspective and insights about the role of knowledge brokering

for climate advocacy and the related challenges for organisations brokering knowledge in the Global South are still under-researched. This paper highlights the opportunities and barriers for CSOs in the Global South by sharing insights from practice in Indonesia, Brazil, Paraguay, Kenya and global advocacy in spaces such as the UNFCCC.

It draws on experiences from 5 CSOs active in the [Voices for Just Climate Action (VCA)](#) alliance. Across different contexts, each CSO aims to amplify marginalised knowledge and voices while strengthening the capacity of networks of CSOs to utilise knowledge mobilization for climate justice advocacy. As part of a mutual capacity strengthening and learning journey, insights from the last 3 years of practice have been collectively synthesised, elucidating common challenges and successes of navigating knowledge mobilisation for advocacy in practice. It highlights successful strategies such as storytelling and inclusive communication for community engagement and partnership building as well as successes and challenges of multi-stakeholder participation in evidence building. Collectively, it presents important lessons learned, future knowledge questions and gaps in this field.

2. Observing the ontology of the 'green transition' in the Global North in North-South research collaboration 'for sustainable development'

Julia Wiethüchter, University of Münster

North-South Science, Technology and Innovation (STI) collaborative projects "for sustainable development" funded by the Global North employ a particular conception of what the essence, the organisation and the terminology of the green transition is and is to be. The undertaken research considers how this conception is apparent in these projects. It further shows how individual researchers working in the Global North and the Global South and the Northern funding program representatives contribute to or deconstruct these ontological notions and ultimately promote or prevent epistemic injustice in global science. It is therefore a contribution to the discourse on partnerships that are frequently pointed out as highly significant for the green transition in STI, as well as advancing the field of political ecology by connecting questions of ontology, economics, politics and technology in the context of the socioecological transformation through collaboration. Qualitative methods were used to uncover the ontological dimensions of the projects. Interviews were conducted with researchers working in the Global North and South who were working on joint research in formally funded collaboration projects, as well as with the representatives of the funding bodies. Three different German funding programs were considered and a total of 32 interviews were analysed. Additionally, the funding calls were analysed. The results show that the projects promote an understanding of the green transition that is in line with thoughts stemming from modernity and coloniality, which is conceptualised as 'The One-World World' by John Law (2011). It is apparent that these projects are laced with historic power structures and hinder the recognition of alternative ways to understanding ecological transformation but that individual actions do offer "pockets of hope".

3. Slow down and listen to the voices of those living down the Hill: Cultural heritage sites and the question of contemporary forms of Indigenous Belonging

Maud Sebelebele, University of the Western Cape & Lerato Thakholi, Wageningen University

Heritage conservation landscapes have been criticized for their colonial approach to conservation where they 'preserve' history by freezing and illuminating aspects of a preferred historic regime or idolized era. The effect of this western approach to conserving heritage of a landscape is that it tends to overlook and consequently invisibles other-indigenous socio-ecological transformations of the landscapes. By illuminating the preferred historic era, the Belonging of Black communities that currently occupy the landscapes is not recognized. This paper topologizes the concept of Belonging for black communities that live in or next to protected areas in South Africa. The overall intentions of this paper are then to visibilize contemporary forms of Black Belonging in cultural heritage sites. We place focus on the Mapungubwe Cultural Landscapes that are located in Limpopo Province, South Africa. We reflect on how we applied a slow methodology approach and immersed ourselves in the landscapes in search for nuances and concept of Belonging from black communities that are located under the shadows of the Mapungubwe hill. We reflect on life histories of individuals that have ancestral claim to the landscapes, and those share a confluence of bloodlines from the region with a defined Belonging that pushes beyond sovereign borderlines. We also reflect on individuals that migrated to in the region seeking jobs, or a new life, and then ultimately found a sense of belonging in these landscapes. The ultimate goal the paper is to reflect on the concept of Belonging as an insightful tool for researchers that seek to explore or challenge heritage injustices perpetuated by colonial approaches to conserving heritage.

4. Who gets to imagine a just transformation towards a fossil-free future? Co-production of knowledge and political ontology in action-oriented research

Tatiana Sokolova, Södertörn University

'Just green transitions' focusing on technological aspects have been criticised for being insufficiently green or just. Effective climate governance perceived as just by societal actors demands structural transformations affecting the entire fabric of modern societies. This paper argues that such transformations necessitate democratic interfaces between knowledge and governance, informed by ontological and epistemic pluralism. The paper analyses how researchers at one such knowledge-governance interface (the Swedish action-oriented research programme Fairtrans) bridge two opposing political ontologies of 'green modernity' and 'resistance' through a third – that of 'planetary boundaries'. The paper reveals knowledge production as a political process: engaging multiple actors in ontological politics. The theoretical framework of political ontology reflects the imperative to deepen the discussions on the green transitions to include questions 'beyond technical fixes': the meaning of a good life, well-being, and the reconnection between land and those who live on it, including the recognition of the Swedish colonial legacy on its own territory. The paper shows how interactions between political ontologies, understandings of justice and transformation, climate governance strategies and knowledge-action models inform a constitution of a knowledge-governance interface created with the aim to advance democratically legitimate policy of green transitions.

5. Alternative narrative to Communal Sustainable Development - Belonging and Involvement

Taís Sonetti-González; Mairon Bastos Lima; María Mancilla García & Ana Paula Dutra de Aguiar.

The Sustainable Development Goals (SDGs) embody a global aspiration to achieve equitable and sustainable development by 2030. While they are inclusive in scope, there are concerns about their 'one size fits all' and top-down approach, which may lead to a disconnection between global objectives and local realities. Furthermore, Agenda 2030 tends to overlook the unique cosmovisions and lived experiences of indigenous and other traditional communities, potentially reinforcing socioecological inequalities and power imbalances. In light of decolonial and post-development theories, this paper critically examines the limitations and negative consequences of a development model that has historically marginalized these groups. Employing Vygotsky's 'unit of analysis' and the concept of 'betweenness,' we explore the complex interplay of cultural identities, practices, nature, and the dynamism of these relationships, which are constantly evolving, fluid, and often contested. This study presents an alternative narrative to sustainable development based on the experiences and perspectives of indigenous and other traditional communities in the São Francisco Basin, particularly in West Bahia, Brazil. Our research, conducted over two years, involved a collaborative process using the 3H-CLD methodology, focus groups, and vivencias, and was analyzed through Reflexive Thematic Analysis. Our findings offer a different narrative on sustainable development. They highlight what is missing in the SDGs from this perspective and explore why alignment with the SDGs could be a strategy of resistance for indigenous and other traditional communities. Ultimately, this research contributes to pluriversal thinking, embracing a variety of worldviews and acknowledging their complex, ever-changing nature.

6. In search of emancipatory epistemologies for societal transformations: The challenges of knowledge co-production from complex positionalities

Bartira Fortes, Södertörn University; Tatiana Sokolova, Södertörn University and Juliana Porsani, Linköping University

In the face of seemingly insurmountable challenges in sustainability governance across the globe, researchers turn towards Indigenous ways of knowing and living as sources of inspiration, direction and resistance to systems locking societies in unsustainable patterns. Thus, the academic impetus to co-produce knowledge with Indigenous peoples has an instrumental nature; but it equally is informed by considerations of social justice. However, this push towards knowledge co-production between academia and various groups or stakeholders, including Indigenous peoples, has been subject to concerns over the potential (if alleged) loss of academic freedom, as well as critical attention to power relations and politics inherent in co-production processes. Furthermore, the push for collaborative knowledge creation with Indigenous groups renders visible complexities associated with the diverse positionalities of researchers along the continuum between outside, in-between, and inside perspectives in their relationships with Indigenous communities. Addressing this diversity in positionalities is particularly important in the context of the increasing presence of Indigenous people within academic, traditionally

colonial, settings. This shift underscores the challenges faced by academia, which has been structured to accommodate specific epistemologies. The aim of this paper is to explore the various methodologies of engaging, from various positionalities, with Indigenous peoples in the co-production of research. We find this discussion critical since, although there has been a growing body of co-production and decolonial methodologies, less attention has been devoted to complex and non-dualistic positionalities of researchers as they engage with non- (often anti-) Western-centric epistemologies. We take on the challenges of epistemic power as they play out in the context of sustainability transitions, post-colonialism and decoloniality. The paper's contribution lies in the analysis of the specificities of decolonial co-production, providing insights for new takes on action research in the context of polarised political landscapes of sustainability transitions and transformations.

Roundtable 181: What is the role of academics in the current wave of capitalist driven green extractivism?

Marta Conde, Institute of Science and Environmental Technology, Autonomous University of Barcelona

Critical scholarship on the energy transition has blossomed in the last five years, and rightly so. Several scholars point to the socio-environmental impacts, dispossession, violence and sacrifice zones, the massive deployment of low carbon infrastructure and the extraction of so-called 'transition minerals' is causing (Allan et al., 2021; Avila, 2017; Sovacool, 2021; Siamanta and Dunlap, 2019; Dunlap, 2023a, Church and Crawford, 2018; Bonelli et al., 2022; Batterbury et al., 2020, to mention a few). We know decarbonisation plans are concerned with saving capital rather than the planet. Concepts like 'decarbonisation by dispossession' (Ojeda, 2014; Sovacool et al., 2021), 'decarbonization consensus' (Bringel & Svampa, 2023) or 'green extractivism' point to a capitalist driven, predatory, neo-colonial and extractivist logic (Bruna, 2021, Dunlap and Riquito, 2023b; Andreucci et al., 2023). Whilst all these works clearly help situate this new phase of capitalist driven colonial expansion, and importantly highlight particular struggles on the ground. We cannot help but ask, who is this work reaching? How is it challenging this dynamic? These questions become particularly relevant as pluriversal alternatives to development are rooted in transformative actions on the ground, often led by the everyday lives of ordinary people resisting and rejecting the terms of extractive capitalism (Tornel, 2023). The proposed discussion will attempt to address some of the following questions: What is our role as academics in this renewed phase of capitalist extractivism? How can our research contribute towards less dispossession? How can our research benefit communities in the struggle? How can we avoid reproducing colonial extraction and navigate privilege in our research? Is showing support and solidarity enough, or should we turn to other forms of action including militant support and direct involvement? How can we combine our research and militant support? What limitations do we face and what strategies can we use to overcome them?

Panelists:
Julia Loginova, University of Queensland
Alexander Dunlap, Boston University and Helsinki University

Carlos Tornel, UNAM, the Global Tapestry of Alternatives
Simon Batterbury, Melbourne University
Andrea Brock, University of Sussex

Panel 612: Livelihoods and adaptation in Bhutan I

Tshering Zangmo, Royal University of Bhutan

1. Economic impact of human-wildlife conflict on farmers' livelihoods in Northwestern Bhutan

Tshering Zangmo, Royal University of Bhutan

The majority of human-wildlife conflict incidences transpire within and around protected areas in many agrarian nations including Bhutan. Despite acknowledged risks posed by dispersed settlements close to protected areas, there is significant research gap concerning economic dimensions of the conflict. The study surveyed 319 households in three agro-ecological zones using simple random sampling. Approximately 98% of households experienced crop damage, while 52% experienced livestock loss. Average annual crop loss per household was valued at US$ 87.49 and livestock loss at US$ 157.67 in dry subtropical zone, while in cool temperate zone average crop loss was valued at US$ 294.27 and livestock loss at US$ 138.48. Alpine zone did not experience crop loss. However, livestock loss was highest in alpine zone valued at US$ 514.9 attributing to their semi-nomadic livelihood. The overall average loss of income was approximately 16% of annual income, with highest in cool temperate zone (20%), followed by dry subtropical zone (16.6%), and alpine zone (10.3%). Farmers primarily use barriers, night guarding and deterrents as adaptive measures. The study underscores the need for region-specific strategies recognizing unique challenges in varying environmental conditions. Further studies across all agro-ecological zones in Bhutan can enhance understanding of human wildlife interaction dynamics.

2. Crop Diversity as Climate Change Adaptation in Western Bhutan

Sonam Wangmo, Royal University of Bhutan

Climate change and climate variability influence smallholder farmers' effort to increase agricultural productivity and food security in developing countries. Crop diversification is a widespread strategy practiced by farmers to cope with environmental variability and adapt to climate change. This study examined influence of climatic variability on crop diversification in Punakha and Gasa districts. A total of 272 smallholder households were surveyed. Smallholder farmers are diversifying crops as a risk management strategy to counter challenges of climate variability and to enhance crop production and productivity. Data was analyzed using panel data model on households and meteorological data of 30 years to examine the effects of climate variability and change in crop diversification among smallholder farmers in two study areas. The study found that increased temperature was positively associated with increased crop diversification in lowlands and

highlands. Results further showed that smaller farm size, limited use of inorganic fertilizer, low household income and limited access to off-farm livelihood options influence the decision to diversify crop production.

3. Community Responses to Climate Variability across Various Agro-ecological Zones of Bhutan

Priyanka Rai, Royal University of Bhutan

Climate change has emerged as one of the most pressing challenges in the Himalayan regions. A comprehensive understanding of the observed parameters of climate change and community's perceptions is essential in enhancing resilience within the farming communities. This study assessed community perceptions, climate variability trends, and adaptation strategies in dry subtropical, cool temperate, and alpine zones. A total of 392 households using simple random sampling were interviewed. Data analysis was conducted using descriptive and inferential statistics. Perceived rainfall patterns exhibited no significant difference, while there was a significant difference (p<.001) between the change in temperature across the agro-ecological zones. Approximately 97% of the respondents in alpine zone, 87% in cool temperate zone, and 67% in dry subtropical zone perceived increase in temperature, corroborating with historical climate data. The increase in temperature has contributed to crop diversity in the cool temperate zone and alpine zone. Climate change impacts reported were increased crop harvest damage, pest infestation, weed pressure, and water reduction. In response, community implemented adaptive strategies encompassing crop diversification, integrated farming, off-farm activities, availed credit, and community awareness. Therefore, formulating region-specific adaptation strategies can enhance the resilience of farming communities in the changing climate.

Panel 619: Political ecologies of water

Atal Ahmadzai, St Lawrence University

Water is not just an essential requirement for sustaining life on the planet, it's also a crucial element of humans' social and political organization. In the age of the Anthropocene, shifts in the hydrological cycle, on the one hand, alter multiscalar power dynamics. On the other hand, these changes appeal to transformative interventions at local and global levels. Such power-driven imperatives of the changing hydrological cycle merit applying the political-ecological approach to critically examine the power and epistemological dynamics underlying the prevailing crisis. This panel discusses the political ecology of historical and contemporary cases of water issues in different regions.

1. Between crisis and control: Local narratives on water in Germany

Sabeth Häublein, University of Freiburg

The global water crisis has reached Germany: A country of formerly abundant water resources has recently endured severe summer droughts with consequential forest cover

losses. We conducted onsite interviews and focus group discussions with local actors from forest, water, and agriculture in order to analyse their take on the current water crisis. Based on Stone's (1989) theory of narratives of decline and control, we could show that narratives of scarcity follow mostly the logic of decline, or as we argue, crisis, and narratives of abundance follow the logic of control. We found that the narratives of scarcity/crisis are most prominent amongst foresters, who have recently experienced devastating damages to their resources. Narratives of control/abundance are mostly put forward from sides of water actors. We argue, that a narrative of scarcity is newly evolving and only slowly challenging the dominant narrative of water abundance in Germany, and whence restructuring infrastructures and legislation. Beyond the narratives of abundance and scarcity, we found that all actors told us a story of their delegitimization, where the crisis was itself defined by losing control over their land – to climate change, to industrial actors, and to higher levels of decision making.

2. Justice in institutional literature on groundwater in the EU

Jakob Kramer, University of Freiburg

Groundwater levels are sinking in a lot of regions in the EU which influences the possibility to access water leading to potential conflicts and injustices. Institutions lie at the basis of water governance and decide over the inter- and intragenerational distribution of water, participatory processes and which groups are recognized in distributional as well as procedural questions. In this contribution, I explore which conceptualisations and manifestations of justice are relevant to the institutional literature on groundwater governance in the EU. For this, I conduct a comprehensive systematic review following the PRISMA framework. Preliminary findings showcase that institutional literature oftentimes only implicitly includes justice questions in their analysis. Discussions of justice mostly occur along the lines of participation and in critique of a market-based governance mode and its distributional effects, nearly exclusively focussing on the sector of agriculture. In the Mediterranean for example, powerful farmers often 'outpump' smaller farmers, leading to sinking groundwater levels and a threat to livelihoods. Overall this contribution aims to highlight that justice issues are not only relevant in discussions in the global south, but are also integral to the forming of institutions in the EU and should be framed as such in the institutional literature.

2. Water allocation in Ceará, Brazil: Knowledge and participation in the distribution of uncertain waters

Daniela Henriquez Encamilla, UMR G-eau / CIRAD / Institut Agro Montpellier

Ceará is a state historically impacted by droughts in the northeast of Brazil. To face them, public agencies have developed a dense network of large dams that became the basis of water supply. Despite this large infrastructure, a new drought in the 90s challenged water security and the state decided to implement a new water governance model, embracing international mainstream recommendations. Engineering dam knowledge was mixed with an integrated, decentralized, and participative management model and a water rights system, while emergency water transfers from the hinterland to the capital were implemented. This first large transfer generated substantial conflicts and the state had to

convene several meetings with water users which, over time, became an intersectoral instance to decide the allocation of dam water. The study focuses on this so-called "negotiated allocation", an open and well-legitimated space where technicians propose different "modelling scenarios" of water release each year and participants discuss the distribution of the water stored in the dams. While facing uncertainty in water recharge, sophisticated calculations try to elucidate the most "secure" alternative in the context of climate change, the probable but indeterminate arrival of "El Niño" and partly unknown water complexities in closed basins. The study reflects on how climatologic and hydraulic knowledge of water shape participatory instances and how actors display different and unequal strategies to get – or not - water. What place for collective action and dissensus facing an apparently neutral knowledge of water that usually has already decided the distribution scarcities?

4. Large Dams a Continued Violent Legacy of Colonialism

Atal Ahmadzai, St Lawrence University

Contemporary large dams must be understood in the context of their colonial past. The way nature and human-nature relationships were treated during the colonial era still affects contemporary hydrological and ecological understandings. Ignoring the colonial powers' use of science and technology for control and domination leads to misleading narratives of contemporary dam projects. European colonial powers built dams to commercialize irrigation and boost cash crop production, which allowed them to extract valuable resources and assert their dominance. However, this centralized approach led to significant socio-environmental changes, with farmers losing control over local water supplies and giving up their land rights. Historically, colonial powers used their preconceived imaginaries to materialize their interventions and reinforce political control. Their aim was to regulate the socio-ecological landscapes for extracting resources of colonized regions to supply the markets of the metropolis. However, this approach encountered obstacles due to the complexities of navigating and managing hydraulic landscapes. In response, colonial powers turned to "scientific" claims and experimentation, ultimately leading to advancements in hydraulics and civil engineering that improved the efficiency of their exploitation tactics. The hydraulic-induced domination of the hydrological landscape became scientific orthodoxies that were used for ontological and ideological dominance, heavily influenced by Euro-centric racial/cultural understandings. The same orthodoxies still drive large dam enterprises in developing countries.

5. (Re)Turning Terrestrial: Climate Protective Infrastructure and Territorialisation in Semarang, Java

Muhammad Soufi Cahya Gemilang, Legal Lab Anggraeni and Partners, Jakarta; Johannes Herbeck, University of Bremen

In the face of rapid coastal inundation, protective mega-infrastructures are being built to protect the coastlines in Java's northern littoral cities. In many cases, this infrastructuration of coastlines entails larger hydro-social transformations and distinct futurities of growth-centred economic development. Our study focuses the case of the Multifunctional Dyke in Semarang, Central Java as protective mega-infrastructure that

also serves as a form of speculative engineering design against climate change. The multifunctionality of the dyke refers to its capacity to serve as a toll road, also protecting the existing lands, and reclaiming the already submerged lands. It is also supposed to re-shape the city's hydrology by creating water retention capacities and smoothen the run-off of torrential rains. Highlighting the reclamation dynamics, we investigate the political-economic dimension of a speculative climate infrastructure and its impacts and conflicts with existing claims to submerging coastal lands. We argue that the dyke is a mode of hydro-social reconfiguration and territorialisation of coastal Semarang that follows the logic of coastal dispossession.

Panel 629: Framing and discourse in political ecology

Sara Löwgren, Linköping University

1. Who has the right to speak about forests?

Philipp Mack, University of Freiburg

Since large-scale forest damage due to heat, drought and related bark beetle outbreaks in 2018, the future fate of German forests is being (re)negotiated politically and publicly. This situation has brought to light the deeply entrenched conflict between forestry and nature conservationists. While actors have instrumentalized the climate crisis to emphasize the urgency of their proposed measures, they mostly depoliticize its causes. In this context of interconnected crises, nature conservationists are challenging the forest sector's traditional claim of access and control over forests. Applying a discourse analysis with a focus on polarization, I seek to reveal the hegemonic narratives and underlying knowledge claims in the political and (social) media discourse. As the analysis of problematizations shows a more differentiated picture, I argue that the process of polarization is mainly explained by group-related affective and perceived polarization, rather than issue-driven ideological polarization. Especially self and other positioning as well as simplifications of the (opposing) narratives reinforce the perceived cleavage of an "us vs. them" conflict. Understanding these processes is crucial to facilitate a pathway towards just and pluralized futures of the forests by critically reflecting hegemonic claims and respecting the complexity of interconnected crises.

2. Tracing the rural for the past 50 years

Sara Löwgren, Linköping University

In my dissertation I will use ethnography and participatory methods to understand how people in shrinking areas in rural Sweden relate to and respond to climate change. But as a starting point, I study how the state has constructed the rural for the past 50 years. The construction of the rural is important as it may influence how rural residents see themselves, how they are seen by others, and how power and resources are distributed. Despite its importance, the state's construction of the rural has not been adequately

studied in Sweden. In the first chapter of my dissertation, I thus trace how the state's construction of the rural by thematically analyzing official government reports (Statens offentliga utredningar) from the 1970s until the present. I find that the construction of the rural largely reflects the overall contemporary political development, and that the rural is understood as a place where multiple crises – such as population decline, youth disillusionment, farm crisis, and climate change – as well as solutions to crises – such as green industrialization, diversification of farms, and entrepreneurship intersect. In light of my overall dissertation's focus on everyday people, I analyze the construction of the rural from a governmentality perspective.

Workshop 638: Care (against) the Anthropocene. How to make kin in the ruins of Climate Change

Sophie von Redecker, Kassel University and Ania Spatzier, Europa-Universität Flensburg

In the midst of current multiple crisis, binary ideas of and between humans and nature persist to some extent even in supposedly progressive contexts, such as the climate movement, critical sciences or organic agriculture (contexts in which the speakers operate), and questions of care remain unsolved. Nevertheless, this intervention aims to highlight contexts in which queer human-nature relationships flourish and will thus focus on care-relations (both between humans and in more-than-human contexts). Against the backdrop of the global depletion of human and non-human "resources", a case is made for entering into new radical kin relations without, however, serving essentialist narratives like e.g. mother-earth images. The questions with which we are therefore entering this workshop are thus: How can we still take care of each other in a breaking world? How can we care for the world when we ourselves are at the point of exhaustion? How can this world out there continue to care for us? Does recovery make sense when everything is disappearing? Who is this "we"? And which relationships are needed right now? Based on these considerations, which will be exchanged in an interactive format, the speakers will provide theoretical reflections on counter-hegemonic human-nature relationships and care from political ecology, queer ecology and decolonial approaches. The workshop is intended to facilitate an interactive exchange at the interface between science and activism and aims to take particular account of the cross-continental context of the conference in the discussion of content. It is aimed at conference participants with and without care-responsibility for and in this world.

Parallel session 9

Time: 13.00-14.30

Panel 602: Amazonian struggles over resources

Adriana Ressiore, Wageningen Universit & Carlos Tello, Hamburg University

1. Can gold mining be sustainable? Empirical insights on equity and power in the Colombian Amazon

Paula Andrea Sanchez Garcia, Leibniz-Centre for Agricultural Landscape Research and Stockholm Resilience Center

Many contemporary sustainability challenges, such as the climate and biodiversity crises, are inherently connected to issues of equity and power. Solving sustainability challenges requires an analysis of how equity and power are interlinked, how inequity and power imbalances are understood by societal actors, and how to foster more inclusive decision making. In this paper, we present a discourse analysis around narratives of sustainable gold mining in the Colombian Amazon. Our findings indicate that actors have conflicting epistemological imaginaries of sustainable mining, leading to conflicts and occasionally violence. We argue that initiatives aimed at addressing mining conflicts must consider empowering local actors. We conclude that the ongoing Western epistemic domination must be recognized and decision-making processes and practices decolonized to better understand the role of gold mining in a transition toward a more equitable and sustainable future.

2. Narratives of Care and Conflict: Babassu Breakers and Mother Palm Trees

Adriana Ressiore, Wageningen University

In Brazil, the women-led Interstate Movement of Babassu Breakers (MIQCB) conquers space to speak up, built political ability, and sanctioned laws. While these achievements appear as ambitious or unachievable goals to outsiders, MIQCB exists, resists, and thrives, moving between struggles, care, and conflict. Through insights from fieldwork, this research critically explores the co-existence of care and conflict while the Movement endures destructive development projects. Narratives about (a) relations of women-daughters and palm-tree-mothers, (b) caring and conflicting existence, and (c) caring and conflicting resistance are woven together with the knowledge and practices of MIQCB women, existing literature about the Movement, and academic productions on feminist care and utopia literature. This article addresses the need for contextualized readings of care by situating it in the Global South. The co-existence of care and conflict provides insight into how utopia and prefiguration are part of and built on everyday practices. The insights from this research also build on and extend existing scholarship on socio-environmental movements that counter modern development projects that threaten humans' and non-humans' plurality of lives—providing hope and concrete examples from care to political ecology.

3. Between local and global discourses: Rural producer's narratives on the agricultural frontier

Carlos Tello, Hamburg University

The Brazilian Amazon rainforest faces numerous socio-environmental dynamics that shape its land use and change. These dynamics include the ongoing expansion of the agricultural frontier, land disputes, and the ever-present problem of deforestation, among other relevant factors. Due to the region's global scope, these multi-dynamics bring potential challenges and implications for climate change, ranging from localized to global scales. These challenges give rise to many discourses aimed at mitigating associated climatic risks, predominantly dominated by government entities and the media. These discourses primarily support top-down socioeconomic initiatives designed to reinforce conservation and sustainable management of its resources. Unfortunately, these initiatives have been criticized for their limited inclusion of local stakeholders in their development and implementation, resulting in an absence of socio-environmental justice. This study responds directly to this pivotal concern by examining predominant narratives and discourses among rural agricultural producers in Novo Progresso, Pará. A municipality positioned strategically at the intersection of a commodity corridor, this region is characterized by the convergence of activities such as mining, logging, land appropriation conflicts, and the expansion of the agribusiness sector. This research uncovers the diverse perspectives of local farmers concerning these socio-environmental dynamics and their resilience to external pressures. It contributes to a more complete understanding of the challenges, injustices, and opportunities in this complex socio-ecological region.

Discussion panel 203: How can Biosphere Reserves be Places of Environmental Justice? II

Fanny Frick-Trzebitzky, Institute for Social-Ecological Research; Katja Malmborg, University of Bergen; Hernán Bobadilla, Department of Mathematics, Politecnico di Milano; Neelakshi Joshi, Leibniz Institute of Ecological Urban and Regional Development; Kewan Mertens, Center for the Sociology of Innovation (CSI), Mines ParisTech, Université PSL, Paris; Rossella Alba, IRI THESYS and Geography Institute, Humboldt-Universität zu Berlin; Karin Snel, University of Twente; Letícia Santos de Lima, Universitat Autònoma de Barcelona

The session is part of an interactive panel discussion that spans over two sessions (part 1 and 2). We ask all panelists and participants to join both parts.

Research on sustainability transformations aims for developing solutions towards just development by bringing together multiple forms of knowledge, e.g., in transdisciplinary research (TD) (Vogel & O'Brien, 2021). However, TD as it is practiced today often neglects to account for justice. Furthermore, tensions evolve around normativity. Researchers are themselves embedded in a web of power relations and often witness sensitive situations. They have to constantly reflect on being analytical observers, enablers, and participants in social transformation processes. A range of reflexive approaches and methods have

been developed to address this particularity. They address situations of plurality in visions, forms of anticipation, and of multiple values (Rawluk et al., 2019). Nonetheless, it is a matter of continuous debate whether these approaches adequately address aspects of justice in processes of transformation (Bennett et al., 2019). Here, critical analyses in Political Ecology (PE) provide key insights on how sustainability crises are reproduced. For instance, Menton et al. (2020) emphasize the contradictory effects of different approaches to justice in sustainability agendas. These analyses, nonetheless, rarely lead to solution-oriented conclusions. In this session, we use Biosphere Reserves (BRs) and the Man and the Biosphere Program (MAB) as a starting point for a broader conversation about TD and PE. UNESCO strives to promote sustainable development, e.g., through its programmes on World Heritage and BRs. BRs are places for experimentation with "sustainable development at all levels, integrating economic, social and environmental aspects and recognizing their vital interlinkages" (UNESCO, 2017). In particular, BRs are places for experimentation with environmental sustainability and justice which allow for pluralizing visions. Frequently, TD is mobilized in these areas to involve both researchers, local land managers, and inhabitants in social transformation processes. What can we learn about the complicated relation between experimentation, transformation, and justice by looking at the particular context of BRs and MAB? And how could we define environmentally just futures? In this session, we will discuss empirical enquiries in past and ongoing initiatives, through reflexive, participatory, and observational approaches. While the concept of justice is broad and evolving, we focus on two kinds of justice, namely environmental and epistemic justice. In turn, each one of these forms of justice is operationalised through tenets of procedural, distributive, and recognitional justice. We will explore key moments of experimentation in BRs in a discussion between researchers working on visions, their historical genesis, and epistemic justice in knowledge integration, both in BRs and in MAB. Along these themes, we will bring TD and PE perspectives into engagement, look for synergies and differences, and ponder the value of maintaining plurality in how we conduct research for environmentally just futures.

1. Visions of Latin-American Delegates in the early years of UNESCO, and how they did (not) shape UNESCO and the MAB program (PE / historical perspective).

Caroline Meier, Augsburg University and Eberswalde University for Sustainable Development

In its early years, UNESCO was shaped by a dominant, Eurocentric discourse driven by delegates from the global North and South, limiting the space for alternative visions, knowledge and worldviews. Even though there were critical voices from the Global South, especially from Latin America, these voices and their visions could hardly prevail. I explore the extent to which UNESCO's historical legacy continues to influence the MAB program today, focusing on the question how alternative visions are integrated/interwoven on the conceptual MAB level.

2. What happens when there is a disharmony in plural visions? (PE Perspective).

Neelakshi Joshi, Leibniz Institute of Ecological Urban and Regional Development

What do we do when e.g. proposals to build renewable energy infrastructure in BRs (an example from the Elbe Valley BR) or if there are external economic pressures (e.g. Absolut Vodka in Kristianstads Vattenriket BR). How do we navigate this? What do we do when one justice is pitched against another?

3. Visions for future landscapes in the Nordhordland BR from the perspective of local youths (TD perspective).

Katja Malmborg, University of Bergen

In this ongoing research collaboration with the Nordhordland BR in western Norway, we are co-creating positive visions for a sustainable and just future together with local high school students. In workshops, we develop visions for the local landscape and trace potential pathways towards those visions. We will track learning and impact among the students through observations, surveys and interviews. In addition to research outcomes, these workshops are part of the students' studies in geography and biology, and the resulting visions will contribute to a planned future dialogue process about sustainability and strategy development for the BR.

4. Deliberative mini-publics in two Swedish BRs (TD perspective)

Fanny Möckel, Uppsala University

One important aspect of BR management entails an active inclusion of local communities/citizens into governance and management questions. While this inclusive notion is widely acknowledged, much is to be learnt about the particular ways of such engagement processes. I am in the process of organizing, implementing and observing deliberative citizen engagement processes (namely, deliberative mini-publics) in one already established, and one to be nominated BR area in Sweden. I am curious to learn more about what such citizen engagement processes can contribute to the governance of such multifunctional landscapes, and how their specific design contributes to environmental justice.

5. Epistemic justice in transdisciplinary collaboration within the Palatinate Forest and North Vosges BR - how to make just knowledge integration work (TD perspective).

Stefanie Burkhart, Institute for Social-Ecological Research (ISOE)

The concept of the MAB program implicates the integration of social and environmental aspects for sustainable development. This, in turn, requires the integration and inclusion of different actors and their knowledge plurality. How does the MAB program allow for knowledge integration to address aspects of epistemic justice - conceptually and on the ground? I will share some important hands-on requirements (structural, procedural but also interpersonal) that I have found in my desktop and empirical research so far.

6. Knowing and handling rapid environmental change by creating a new Biosphere Reserve in France?

Kewan Mertens, Center for the Sociology of Innovation (CSI),

Local managers of the Parc Naturel Regional (PNR) de Brière in western France have recently engaged in the process of creating a new Biosphere Reserve (BR) in the region to address issues raised by ongoing rapid environmental change and climate disruption. This BR overlaps with existing (formal and informal) institutes that facilitate the management of natural resources and relational attachments to the environment in the region. So why do park managers feel the need for an additional structure? What ways of knowing and handling the environment come with BR, and how are these different from existing institutions? And how does this modify existing power dynamics in the region? The narrative of rapid change comes with a need to develop and experiment with new ways of living with the environment. This motivates the creation of a new BR in the region. The BR thus comes with specific visions on the future of the region, but these visions are contested.

7. Epistemic justice in climate adaptation (Philosophy perspective).

Hernán Bobadilla, Department of Mathematics, Politecnico di Milano

Local knowledge plays a valuable role in the management of BRs and overall governance for climate adaptation. However, its integration into problem-framing and decision-making is often frustrated by stringent temporal frameworks. This is evident in the EU Strategy on Adaptation to Climate Change, which calls for implementing systemic changes together with faster adaptation. There is a significant trade-off between enabling local knowledge to inform problem-framing and decision-making and aiming for faster solutions. Furthermore, it has been argued that the proper integration of local knowledge may improve the actionability and implementation of ensuing proposals.

Roundtable 28: Global resource governance and agrarian labour (re)production

Alin Kadfak, Swedish University of Agricultural Science & Diana Vela Almeida, Utrecht University

Dynamics of labour and work are gathering increasing attention in the political ecology scholarship on contemporary global supply chains. While industrialized labour regimes have been a central research focus in sociology and political economy, agrarian forms of work are mostly addressed as a matter of political and humanitarian concern: think for instance of the debate on modern forms of 'slavery' in agrifood, fishing regimes, and 'dirty' gold. Although international legislation and policies are gathering pace to address these concerns through industry led, third party standards and trade regulations, little is known about the way these interventions also deeply transform supply chains configurations and labour dynamics on the ground. Even less research is devoted to the contextual comparison of different agrarian working conditions across the land and the seas. This roundtable considers some key questions about the ways in which current crises of labour and labour reproduction manifest in different parts of the world across

Europe, S.E. Asia, West Africa and Latin America, and across different commodities - fish, gold, and tomatoes. We will discuss how the current efforts of resource supply chain governance across these agrarian contexts land on the ground and reconfigure labour dynamics and reproduction in these contexts.

Panelists:
Muriel Côte, Lund University
Timothy Raeymaekers, University of Bologna
Vanessa Jaiteh, University of Bern
Alin Kadfak, Swedish University of Agricultural Science
Diana Vela Almeida, Utrecht University

Panel 624: Climate Change, Human Rights, and Colonialism

Ana Maria Vargas, Lund University

1. 'Operation Hurricane': Narrating climate change as part of the 'imperial mess' and colonial violence wrought in the Pacific

Charlotte Weatherill, The Open University

In 'Two Hundred and Fifty Ways to Start an Essay About Captain Cook´, Alice Te Punga Somerville writes about colonialism in Aotearoa and the Pacific as a story that can be told in endless different ways, each way having its own message. Number 223, 'In Montebello Islands', discusses the British nuclear weapons testing programme. The tests were called 'Operation Hurricane', and Te Punga Somerville writes, "It is tempting to call the whole imperial mess of the past five centuries 'Operation Hurricane'" (Te Punga Somerville 2020,42). From this prompt, this paper asks what happens if you tell the story of climate change in this way: as Operation Hurricane. In doing so, the colonial history becomes the present, where coloniality and resistance entwine, and the 'way out of the mess' has to be found in a fight against the whole imperial operation. In this paper, I retell the history of colonial violence in the Pacific region, framing it as part of the same historical politics of disposability, all of which has a counter history of resistance and solidarity. The violence of climate change is confronted and defied through new stories and a rejection of the fantasies of invulnerability upon which coloniality relies.

2. Climate Crisis and Psychosocial Distress: An Emotional Political Ecology Perspective from Coastal Kerala

Carol Wilson, Jawaharlal Nehru University

Climate Change projections have undeniably warned about the impact of a warming planet in countries of the global south. Communities situated in fragile, marginal

ecologies, with existing socioeconomic vulnerability and limited adaptive capacity, are the most vulnerable to the health impacts of the climate crisis. In such contexts, the theoretical underpinning of emotional political ecology provides a critical lens for understanding the lived experiences of environmental transformations that structure the indigenous experience of psychosocial distress. The interdisciplinary framework of emotional political ecology enables research on emotional distress to be placed within the context of local environmental changes and macro dimensions of climate change. Drawing from the findings of an ethnographic research conducted with a coastal community in Chellanam, a village on the southwestern coast of India, this paper highlights the interlinkage of socio-political, economic, and ecological factors that expose a historically marginalized community to the impacts of environmental crisis. Sandwiched between the Vembanad estuary and the Arabian Sea, Chellanam endures slow disasters of tidal flooding and coastal erosion in their everyday life. The newly emerging coastal consciousness of the community is embedded in the conflicts on accessing common wetlands, dwindling income from the sea, and the discrepancies in the state project of 'development', along with the uncertainties of a sinking island. Infrastructural damage and health issues emerging from increased salinity due to sea level rise add to the miseries of the already overburdened lives. This paper thereby foregrounds the necessity to locate emotional health as intertwined with already existing socio-economic vulnerabilities to address the overall health of communities at immediate risk of climate change impacts.

3. Indigenous Karen ontologies of climate change in an uncertain world

Justine Chambers, Danish Institute for International Studies

Across the world, the acceleration of climate change, biodiversity loss, deforestation and the depletion of natural resource is making Indigenous and agrarian livelihoods more difficult and increasingly precarious. For Indigenous Karen communities in the highlands of southeast Myanmar, these challenges are compounded by a violent civil conflict and air strikes, which has displaced many people from their homes. In this article I examine climate change as a relational phenomenon, understood in connection to people's everyday (im)moral actions and the increasing violence which Indigenous communities understand as making the weather and land 'hot'. For Indigenous Karen, changes to the weather and the environment are seen and understood as a temporal deterioration in social relations with the owners of the land – relationships which it is possible to respond and repair. Rather than viewing changes to the climate and weather across a unitary conception of time towards humanity's potential collapse, I contribute to recent work in human geography and anthropology which examines climate change as relational and patterned phenomena, co-constituted through relationships with the land and the environment. I ask, how Indigenous Karen understandings of climate change can contribute to decentering hegemonic knowledge production in climate-related interventions and contribute to more just policies in conflict affected spaces.

4. Insult on Injury: Blaming the Victims for Climate Change in Kenya and Senegal

Ana Maria Vargas, Lund University and Jesse Ribot, American University

In semi-arid Kenya and Senegal, global initiatives to support climate mitigation and adaptation are leaving peasants with the idea that climate change is caused by their acts of cutting threes, polluting the air, and throwing away garbage. Peasants believe their own acts affect climate. They are not told of, or knowledgeable about, the global emissions that are responsible. Our 2023 fieldwork in Machakos, Kenya and 2024 interviews in Tambacounda, Senegal show similar patterns of blaming the victims for climate change. In both cases, peasants are wrongly blamed for two things. First, they are being told that their tree cutting is causing the local weather patterns. Yet, tree cover in semi-arid zones does not affect the weather. Second, they are being told that they are causing climate change by cutting trees. Yet, in both cases, the tree cutting is so trivial (and may even be a net zero, given regeneration) that their tree cutting cannot be said to have an effect on global climate change. Indeed, while they are being told that they need to stop deforesting, they are not the ones doing the deforestation, which is being done by others — in the case of Senegal it is by merchants who have licenses and permits from the forest service. In Machakos, it is likely large landowners and developers, if it is even really happening (and there are reasons to believe it is not). This paper compares these two cases and the implications of mitigation/adaptation initiatives for peasants' sense of responsibility, hope and of future.

Panel 299: Biodiversity conservation and the value turn II

Marco Immovilli & Bram Buscher, Wageningen University

In biodiversity conservation, there is an increasing amount of talks around value, creating space for diverse ways of valuation in mainstream debates and policy. These developments present a salient opportunity for political ecologists, particularly because mainstream debates have so far failed to incorporate critical discussions that understand value as a central component of capitalism. By linking value to capitalism, we see two ways political ecology can contribute to these discussions. Firstly, it can highlight the limits of mainstream approaches and the risk of turning the "diversity of value agenda" in yet another venue for capital expansion. Secondly, it can support new and radical understandings of value that can support concrete options for post-capitalist approaches to conserve and living with nature. In order to accommodate the many abstracts we received, we propose two sessions under a double panel to bridge the gap between critical thought and mainstream debates on biodiversity conservation and value. The two sessions combine theoretical presentations with empirical case studies from conservation and agriculture and include different theoretical approaches and disciplines: political ecology, philosophy, STS, anthropology and critical discourse analysis, ethnographic work and others.

1. An ontological method for organizing the coexistence of nature's multiple values: the example of rewilding

Gane Arnaud, UCLouvain

The question of nature's value lies at the heart of the crisis facing biodiversity conservation. The "natural capital" value approach, promoted by several programs and institutions to satisfy a quantifiable, managerial vision of nature, contains a fundamental contradiction: it claims to apply to nature the capitalist principles of accumulation and movement. In opposition to this approach, two alternative visions of the value of nature have emerged. The first is the theory of nature's intrinsic value. Formulated by Callicott as an extension of the Kantian categorical imperative, it has the limitation, in our view, of not being able to settle "conflicts of use" between humans and nature. The second approach relies on the relational value of nature. It is based on an anthropological relational metaphysics and highlights the differences between the forms taken by the human/nature relationship across the diversity of humanity (Descola, 2005). This approach gives us hope that cultural changes in society can modify our behaviour towards nature (Morizot, 2020). However, following its core principle, this approach also presents a limit: it does not allow us to think about the need for a space for a radical independence of nature, and to prioritize between more or less harmful human/nature relationships. In order to go beyond these limits, Tristan Garcia has proposed an ontology that aims at accepting and organizing the existence of various metaphysics. It is based on a non-authoritarian principle of letting be of competing metaphysical approaches, and on an anti-authoritarian organizing principle of making powerful - which consists in making certain metaphysics more powerful by rejecting authoritarian ones. Building on this approach, we suggest that multiple values must be alternatives to the disenchantment of the world. We propose to apply this theory of multiple values to the case of European rewilding.

2. Biodiversity, necropolitics, and disvalued life

Megan Maurer, University of Copenhagen

Biodiversity conservation entails decisions not only about what should live, but what should die. 'Invasive' species are torn up and hunted down to protect 'native' wildlife. Pest species and disease vectors are 'managed' through culling and eradication campaigns. These and many more decisions like them are taken on the basis of values assigned to different kinds of life. Critical approaches to valuations of life and their deep imbrication with political and economic relations are well-established (e.g. biopower, bare life, etc.). But decisions about what lives and dies are not only about which lives are valued, but which beings are killable or can be allowed to die. This necropolitics has received far less attention but is no less relevant. Environmental fields have begun to recognize concepts like ecosystem disservices and the disvalues of nature and their relevance to urban climate adaptation efforts like nature-based solutions. Yet theorizations regarding the politics of death and dying in urban ecology and biodiversity conservation remain lacking. As a heating planet drives heated conversations about who should and should not be supported in living and thriving in cities, such a politics has never been more desperately needed. In this paper I bring together work on urban biodiversity conservation and species management, critical philosophical and environmental humanities scholarship regarding death and dying, and original research on perceptions of ecosystem disservices in New York City and Copenhagen to lay the conceptual groundwork for a research program focused on the politics of death and dying in urban ecology. In so doing, I mobilize the concept of 'necropolitics' and associated literatures to explore how values-based frameworks obscure the political work of deciding

what lives and what dies and what work these 'hidden' politics do in upholding anthropocentric and capitalist logics of biodiversity conservation.

3. Unraveling Nature's Values in Agricultural Policy: A Critical Discourse Analysis

Iven Froese, Leibniz Centre for Agricultural Landscape Research (ZALF)

Agriculture plays a dual role as both a key driver of biodiversity loss and a potential solution. Farmers are therefore key actors in maintaining habitats and preserving biodiversity. The mainstream policy valuation of nature through the lens of ecosystem services tends to oversimplify farmer-nature-relationships, often creating unintended outcomes and limiting policy options. This omission of value plurality presents a hindrance for just and effective biodiversity conservation. Acknowledging the EU Common Agricultural Policy's (CAP) substantial influence on farmers and environmental strategies, this study utilizes Critical Discourse Analysis to examine nature values in policy documents across the EU, Germany, and Brandenburg. Using both deductive and inductive coding, it explores four pathways – Green Economy, Degrowth, Earth Stewardship, and Nature Protection. These pathways represent a spectrum of values and ideologies, from anthropocentric to eco-centric conservation strategies. Guided by Fairclough's (2013) three dimensions – description, interpretation, and explanation – the study examines language and rhetoric, stakeholder interests, and social realities rooted in the discourses. The study thereby also explores power relations among policy stakeholders and discusses potential recognition injustices faced by farmers. By operationalizing recent findings on nature's values, this research contributes to agricultural and environmental policy discourse analyses, challenging the hegemonic logic that dominates current policy approaches. The findings aim to inform policymakers at various levels, advocating for a paradigm shift towards more just and pluralistic approaches in agriculture and conservation. It represents a critical step in rethinking biodiversity conservation strategies, emphasizing the importance of embracing value pluralism to foster sustainable, equitable futures in agriculture.

Panel 271: Smart and climate just housing II

Melissa García-Lamarca, Lund University and Carina Listerborn, Malmö University

Housing is increasingly becoming a target for green transition strategies, across both the Global North and Global South. This panel seeks to critically explore approaches to "smart" and energy efficient housing solutions in different contexts, reflecting on what urban futures they are contributing to. How are solutions addressing urban and social inequalities towards more egalitarian, green and just worlds?

1. A multi-scalar exploration of housing retrofits in Spain: Toward just transitions or deepening housing inequalitie

Melissa García-Lamarca, Lund University

Housing renovations to improve energy efficiency and liveability in the face of climate change are one of many actions at the heart of NextGenerationEU's Recovery and Resilience Facility, the largest stimulus package in European history. As one of the main member states benefiting from these funds, Spain has set a national goal to renovate half a million homes by 2026 with 3.4 billion euros in subsidies to homeowners. This paper explores the shifting political, economic and social relations emerging from the NextGeneration funds directed to housing renovation in Spain, focusing on socio-spatial implications in Catalonia. I ask: How are funds being disbursed, and who seeks to benefit? From a theoretical framing around relations of green value and rent capture, housing (in)equalities and just transitions, I draw from two dozen interviews with public, private and community sector actors and document reviews to highlight emerging contradictions. I propose that while some interventions appear to hold promise for just housing transitions, others are set to entrench inequalities between different classes of property owners and between homeowners and tenants. Furthermore, as the more just transition interventions will ultimately generate higher green housing value and/or rent for working-class homeowners, the longer-term implications for precariously housed tenants remains to be seen.

2. Future-proofing: Profit and Pricing Everyday Transition Risk in Multi-family Housing

Julia Wagner, Clark University

There is much uncertainty in the emerging decarbonization market for housing, with a rapidly shifting landscape of regulations, public and private financial mechanisms, and technological innovations. Such uncertainty yields speculation about systemic crisis, as the financial sector pushes for policy to right-size the climate risks of failing to act and the transition risks of acting too soon with real estate assets. This paper analyzes how policies to "de-risk" decarbonization with attempts to future-proof the profit margins of real estate assets leads to risky implications for low- and moderate-income (LMI) residents in New York City. Where the financial sector seeks to minimize risks to profitable assets, residents face lived risks in transition, creating potentially incompatible imperatives when private finance sponsors energy transition. I argue that public climate policy must consider the cost implications of energy transition for everyday consumers to ensure a more just transition. A finance-centric de-risking approach fails to address generational disinvestment issues in LMI buildings and perpetuates energy burdens for LMI residents. With de-risking as the dominant mode of organizing a decarbonization market, I argue that the state misses a vital opportunity to explicitly direct need-based climate investments, perpetuating climate and cost risks in LMI communities.

3. 'Retrofitting in a housing crisis: an introduction to the Just Housing project'.
Fiadh Tubridy Maynooth University and Patrick Bresnihan Maynooth University

Our aim in this presentation is to provide an introduction to the Just Transition for Housing (JustHousing) project and identify points of shared interest with other researchers in this field. Similar to other European countries, there are new large-scale retrofitting programmes in Ireland which raise important questions regarding housing and climate justice. This project is investigating the justice and equity implications of residential retrofits in Ireland across different forms of housing tenure, including

social/public and owner-occupied housing and the private rented sector (PRS). These range from unequal access to (costly) retrofitting schemes for homeowners, the disparity between chronic disrepair of social housing stock and new funding for retrofitting, and the spatial inequalities between rural and urban contexts. The presentation will then highlight emerging issues and areas for further research regarding retrofits in the PRS in Ireland. The PRS is central to Ireland's ongoing housing crisis and questions of investment and disinvestment in rental housing must be viewed from this perspective. We identify emerging issues and areas for further research including the possibility of renovictions and rent increases while also highlighting the specific context of an underregulated and fragmented rental market which differs significantly from other paradigmatic instances of displacement linked to retrofits.

4. Prototypes for addressing the housing-energy-nexus

Guy Baeten, Malmö University

European societies are confronted with an interlinked housing and energy crisis that is challenging social cohesion. As access to affordable housing becomes limited, inflation and accelerating energy prices pinpoint that energy poverty and housing inequalities mutually reinforce. Within this context, the deep renovation of the existing housing stock is promoted as key policy action. However, despite policy efforts from the EU to the local state, there are growing concerns that the transformation of housing markets may further aggravate the existing housing inequalities and energy poverty. To offer more equitable pathways to the green transition, PREFIGURE puts the spotlight on existing and emerging individual and collective efforts of policy, market, and social innovation. The project aims at identifying, tracing, analysing and networking emerging and active 'prototypes of change' with regard to the housing-energy efficiency/energy poverty nexus. Research objectives are to: (i) offer understanding of how practices of innovation contribute to affordable housing renovation schemes that disrupt existing housing inequalities and energy poverty; (ii) identify how housing policies trigger sustainable housing and energy transitions, how financial incentives for energy-efficient buildings are accessed by different types of owners and tenants, and how different user groups perceive sustainable housing and energy transitions, with a particular focus on income and wealth polarisation consequences on vulnerable groups; and (iii) mobilise knowledge about innovative practices for sustainable housing and energy transitions and co-create evidence-based policy solutions. Method innovation relies on fusing transformative qualitative and quantitative with technological and real-laboratory research to co-create and up-scale knowledge and practices that signal the green transition.

Panel 340: Exploring transitions for marine environmental governance

Ida Wingren, Lund University and Sebastian Linke, University of Gothenburg

Facilitating the potential of communities and bottom-up governance for transitions to sustainability (T2S) sparks key questions of political ecology. Marine environmental governance exposes such challenges relating to environmental changes like ecosystem degradation or fish stock depletion and socio-economic problems of marginalization, injustice, and conflicts of interest around declining resources or spaces. Existing ocean and coastal governance does not deliver on established sustainability goals, neither ecologically, economically nor socially. Policy agendas for fisheries and marine governance expose antagonisms for T2S between increased exploration and exploitation relating to blue growth and blue economy paradigms and a focus on blue justice, degrowth, environmental (convivial) conservation and socio-economic wellbeing. As a result, the notion of sustainability becomes entrenched and challenged on a structural level, hence depicted as a "flawed concept" for fisheries management due to misdirected objectives like Maximum Sustainable Yield. This panel explores these challenges and opportunities for T2S in fisheries and marine governance by focusing on institutions, objectives and practices relating to existing unsustainability and addressing new imaginaries for T2S. We therefore draw on theories and concepts like co-management, community or diverse economies research and degrowth as well as on empirical cases that underline existing problems and showcase possible alternatives.

1. Collective self-limitation as an alternative and emancipatory pathway to sustainability: Insights from community-based fisheries co-management in Catalunya, Spain

Borja Nogué Algueró, Institute of Environmental Science and Technology, Universitat Autònoma de Barcelona (ICTA-UAB)

Debates around transitions to sustainability (T2S) have questioned the dominant paradigms in environmental governance and fisheries management in particular. Building upon previous work on alternative pathways to fisheries sustainability, I examine the theoretical shift towards viewing resource limits as collectively self-determined rather than externally imposed natural boundaries, and discuss its political implications. Based on a case study of community-based small-scale fisheries (SSF) co-management initiatives in Catalunya, I explore the emancipatory potential of collective self-limitation projects for T2S, as well as their limitations and challenges, such as those arising from structural market forces and power inequities. While emphasizing the potential of bottom-up and more democratic governance processes to achieve better social and ecological outcomes, I will also explore the obstacles they face in articulating structural change at a higher sociopolitical level. How can the values and practices of sufficiency, collective prosperity, and autonomy be promoted as countermeasures for market-driven competition and resource exploitation? Can the locally circumscribed experiences of the Catalan SSF co-management plans be scaled up (or widened) to incorporate larger regions or other segments of the fishing fleet? Are such initiatives useful for informing T2S in other spheres of environmental governance?

2. Tracing the assumptions of peripherality and imperatives of mobility in coastal places

Kristen Ounanian, Aalborg University

Coastal communities are often characterized as 'peripheral' through formulations overlaying physical geography; social, economic, and (geo)political structuring; and cultural imaginaries. This paper develops a typology of mobility imperatives in coastal communities based on Urry's (2007) five interdependent mobilities and how those reinforce or upend constructions of peripherality. Mobility imperatives allow us to recognize the drivers of why people, goods, and even ideas and images are called to move via policies, structures, and discourses and the controversies within those imperatives. Moreover, these mobility imperatives become even louder in the wake of fisheries management and governance dividing—or even severing—marine resources from the shore. Empirical work of the past 10 years in coastal communities in North America and Europe will evidence the typology. The paper also reflects on transitions and implications for those living in and visiting coastal communities and the differentiated experience and privilege among different population segments. The paper aims to synthesize and advance the concepts of peripherality, mobility, and transition with Gibson-Graham's diverse economies.

3. 'Fjord guides' in west coast Sweden: An empirical study of a blue public-private partnership

Juliana Bennett, University of Gothenburg; Maris Gillette, University of Gothenburg; Eva Maria Jernsand, University of Gothenburg

The "blue economy" is a new governance buzzword. Public and private actors view coasts as offering sustainable development potential. Coastal tourism is a growing sector of the EU Blue Economy and Sweden views coastal fisheries tourism as a growth area. In Sweden's "action plan" for fisheries tourism, the sector contributes to implementing the ecosystem approach while also making Sweden's food industry competitive. We investigate a west Sweden fisheries tourism initiative called "fjord guides" supported by the EU rural development fund and coastal municipalities which is part of a national pilot project for implementing the ecosystem approach in Swedish fisheries and marine management. We examine the 'fjord guides' as types of 'ecopreneurs' tasked with contributing to national goals for sustainability, asking how public officials and the 'ecopreneurs' themselves appraise the guides' contribution to improving social and marine conditions. Through interviews, we seek to understand what informs this partnership and how stakeholders negotiate and define the role of fisheries tourism in marine sustainable development, which to-date is a debate filled with murky and disparate evidence. This study offers an empirical contribution to scrutinizing blue public-private partnerships, which are increasingly part of environmental governance and are seen as "key" to developing the blue economy.

4. From the bottom up: How to involve coastal communities in sustainable fisheries governance?

Sebastian Linke, University of Gothenburg & Ida Wingren, Lund University

Many of today's fisheries governance systems are regarded unsustainable with respect to ecological, socio-cultural as well as economic outcomes. It is suggested that the application of the concept of sustainability in fisheries management is deeply flawed in

current economic and political systems and hence needs to be overhauled for finding alternative procedures and objectives to existing pathways and targets like maximum economic yield (MSY). Important questions characteristic for political ecology can be asked about this sustainability failure: How did the problem of unsustainable natural resource management emerge and what are the driving factors behind it? Why have existing management objectives for fisheries like MSY and institutional and legal frameworks like the EU's Common Fisheries Policy not achieved their objectives of sustainable fisheries? In this paper we first explore some of the underlying reasons for the existing unsustainable politics of fisheries governance with a focus on the Baltic Sea and Sweden. We then suggest a search for alternative modes of fisheries governance that accounts for the development and wellbeing of coastal fishers and their communities. Ultimately, we relate our findings to the chief governance challenge how to align bottom-up with top-down processes for transforming fisheries governance for more holistic sustainability outcomes.

5. Local wellbeing fostering global degrowth? A study of knowledge gaps in theory and small-scale fishing in practice.

Embla Ekström, Department of Marine Sciences, Centre for Sea & Society, University of Gothenburg

Conventional sustainability discourses repeatedly fail to jointly address the political, economic, and ecological dimensions of environmental problems. This calls for social sciences to analyse and discuss the globalising economical connections produced by market exchanges and new technological advances. Moving beyond current academic discourses that fail to challenge contradictory policies and create blindness for the obstacles and policy implementations required for a truly sustainable future, a new approach is suggested – the one of 'degrowth'. My research examines the degrowth approach by focusing on two main questions: How will social well-being in coastal communities be affected by an adoption of blue degrowth? And what is hindering degrowth initiatives at local levels to act as an enabler of transformative change? I therefore critically examine how degrowth is depicted in academic literature, whilst detangling practices of degrowth in local contexts where 'blue growth' is promoted and supported. I then analyze findings of two case studies on small-scale fisheries, where examples of degrowth have been successfully implemented on a local scale. Connecting a critical literature review and case studies will lead to suggestions pointing to the gaps that need to be filled in order to support the concept of degrowth to scale up.

Panel 17: Urban Frontiers. From Illegal Land Occupation to Legalized Property

Kasper Hoffmann, University of Copenhagen

Property development in the Global South often starts out in illegality and only subsequently becomes legal. It happens when people code and re-code access to land and then conjure up legality for facts already existing on the ground. The panel explores how this happens. The issue is urgent. The world's population is increasingly urban.

Across the globe, cities struggle to accommodate the growing demand for land, housing, and public services. Yet, mainstream research on land and urbanization in the Global South is characterized by two shortcomings. First, questions on rural and urban land and property seem to live separate lives. Rural land is seen as a productive resource, and competition and land grabs as foundational conflicts in human development. Urban land, by contrast, is seen in technical terms of rapid urbanization, and the challenges of providing sufficient housing, infrastructure, and service. Yet, if we fail to understand the significance of institutional transformation of urban land, we will not understand the future political landscape in the Global South, as landed property is a key pivot around which government and citizenship turn. With this panel, we seek to bring these important analyses on the institutional dynamics of rural property to town. Second, the work on urban land has an unfortunate focus on the distinction between formal/informal, and legal/illegal. These distinctions are diversions and conceal more than they reveal. They create a simplistic dichotomy where the urban poor are confined to informality and reproduce colonial categories. Yet, these categories are not fixed or stable, and they are not created by governments. Instead, when people attribute the qualities of law and legal to decisions, settlements are understood to be legal and have that effect. Consequently, by imitating and emulating law as they imagine it to be, people effectively contribute to its construction and become law makers in the process alongside government. In other words, law is being made from below as well as from above. Over time, non-legal settlements may become 'established facts,' too difficult and expensive to undo. This creates a paradox: Much of urban development does not follow official legal plans. Instead, real urban development is made to appear legal when land users and public authorities dress up mere access and possession as property. In other words, it becomes legalized. Such processes are contentious to the hilt because key questions of property, identity, and public authority ride on them. Hence, the image of the law as a source of universal justice and order obscures its actual operations. Rather than a source of universal justice, the law legitimates the actual distribution of rights, resources, and privileges. The call welcomes papers that examine how different actors create law, fragment by fragment, constructing what they believe to be already there and the consequences of these processes. Moreover, they are but the latest episodes of long-term historical processes. Therefore, we invite papers that explore the legacy of colonial processes of legalization on contemporary processes of rule-making. In short, we are interested in: -How different spontaneous urban settlements legalize, i.e., become legal in the eyes of the population and government? -How landholders and public authorities institutionalize access to land? -How does legalization of urban land affect social and environmental justice?

1. The gendered implication of urban redevelopment in global south cities: the case of Central Kumasi, Ghana

Philipa Akuoko, University of Bern and International Centre for Tax and Development

The discussion of informality in global south cities centres on the work and livelihoods of women. Efforts towards urban sustainability in these cities adopt neoliberal policy recommendations for development, which often result in evictions, displacement, and relocation of informal workers. Consequently, infrastructure (re)development has become a tool for destabilising, if not destroying, established survival strategies for work and livelihoods relying on informality in urban space. In this paper, we explore the gendered

implication of public space (re)development in the guise of sustainable urban development through an in-depth qualitative case study of a women-dominated marketplace in Kumasi, Ghana. Informed by a feminist political ecology perspective, we ask: 1. How does the redevelopment of public space affect the livelihoods of women working in public spaces? 2. How does the redevelopment of public spaces contribute to urban sustainability outcomes in the global south? Our findings suggest that urban public space redevelopment in Ghana increases gendered inequalities that disproportionately affect vulnerable women. This paper contributes to efforts towards an understanding of women's livelihoods which are differentiated based on intersectional positions affecting access to workspace, working conditions, and income generation possibilities. The reality of the neoliberal redevelopment projects from Central Kumasi underscores shortcomings in achieving urban sustainability objectives.

2. "Everyday Property-Making: Land Rights and Precariousness in Urban Congo

Kasper Hoffmann, Mariève Pouliot, Alice Mugoli Nalunva, Christian Lund, Stanislas Bisimwa Baganda, Bienvenu Wakusomba Mukungilwa, Jérémie Byakumbwa Mapatano, Christian Chiza Kashurha, Josaphat Musamba and Godefroid Muzalia

We explore the distribution, institutionalization, and consequences of property precariousness in urban conflict settings. Drawing on original qualitative and quantitative research, we argue that despite protracted armed conflict and fragmentation of public authority, discourses of the state and the law, are central to the production, distribution, and institutionalization of property rights and precariousness in Bukavu, a city situated in eastern Congo. Indeed, we show that, paradoxically, legalization of property claims simultaneously produces property precariousness. Legalization of property claims takes place through what we call everyday property-making; that is, daily negotiations and power struggles between landholders and land authorities setting the price of a land title. Everyday property-making enables wealthy, well-connected, and well-educated households to acquire and hold on to property. However, it simultaneously renders marginalized households' property rights highly precarious and pushes them to buy plots or build on sites, which are prone to natural hazards and fires due to congestion. Hence, property rights in Bukavu are fraught with inequality.

3. Pumwani, Nairobi: at the margins of urban planning - at the center of urban history and politics

Jacob Rasmussen, Roskilde University

The oldest designated neighbourhood for Africans in Nairobi is undergoing rapid transformations, characterised by capitalist property speculation countered by collective mobilisations and ghetto greening initiatives. The traditional mud houses in Pumwani are exchanged for cheap high-rises, while community activists defend the commons at the riverbanks: residents are divided on whether to seek profit or fight for the identity of the neighbourhood. However, struggles over property and right to the city is not a new phenomenon, since its formation in the 1920s, Pumwani has been at the margins of the planned colonial city but central to struggles over urban regulation.

This paper traces the historical layers of resident driven negotiations and claims on housing and property in Pumwani: from the colonial era over liberation struggles and early post-independence, through periods of self-help informalisation and multi-party democratic struggles, to market driven speculative transformations and environmentalism. The paper draws on historical examples and original empirical material from 15 years of ethnographic engagement in Pumwani.
The longitudinal view provides politically situated insights on how urban policies on growth, health, and security have institutionalised transformations, while simultaneously displaying how residents' practices challenge regulations and inform new legislative practices.

4. The coproduction of law and legality in Nairobi's informalized water sector

Maja Dahl Jeppesen, Aarhus University

This paper is about how state and non-state water service providers strive for and produce legitimate claims to water. I examine the attempted formalization of water provision in the slum of Kibera, where the state-owned water service provider has installed a water system, the so-called 'chamber, aimed to combat the unauthorized water diversion from the grid and extend the reach of their services. The 'chambers' have failed to regulate and formalize the water provision in Kibera but play a central role in structuring the water provision system in the settlement. I show that the interactions between the state and non-state service providers facilitated by the chamber produce a localized legality and 'rule of law' that draws on the language of the state and the appearance of the formal rule of law. This localized legality is simultaneously operationalized by 'illegal' activities and the direct transgression of formal state law. Therefore, legitimacy and legality for service providers is co-produced between state and non-state actors and between the ideal of law and the practical norms constituting a 'functioning governance'.

5. Infrastructural Frontiers – The Limits of Political Order-Making in Eastern Democratic Republic of the Congo

Julian Neef, Institute of Development Studies

Since the 1990s, Eastern Democratic Republic of the Congo (DRC) has been the place of protracted crisis and conflict. International donors and multilateral organisation often see dilapidated infrastructure as a reason for the prevalence of conflict and poor economic development. Today, in eastern DRC, all-weather infrastructures are largely absent or in disrepair and infrastructure development is often perceived of as means to (re-)establish stability and political order through enhanced access to remote regions. In this light, the park management of Virunga National Park claims that investments in road infrastructure and hydropower around the national park would create new jobs and argues that young men of local communities who have thus far enrolled in armed groups that trouble the East of the country, will refrain from violent actions as a consequence of better economic opportunities. In doing so, they create new infrastructural frontiers which are frequently and quickly integrated into the political economy of eastern DRC. That is, they are controlled by non-state actors. Based on extensive fieldwork in Lubero territory, I argue

that in the local political context, infrastructure projects realised by Virunga National Park even inhibit an expansion of political order mediated by the state and show that infrastructure is also developed by a range of non-state actors. Thereby, I call into question the notion that built infrastructure can be used as a proxy of state power and political order. Instead, I expand the concept of infrastructures into the non-material and contend that built infrastructural frontiers concurrently become social and political frontiers.

Panel 339: Social-ecological crisis and rural resistances in mountain peripheral areas: emergent emancipatory political subjects in the Catalan Pyrenees (NE Spain)

1. Emancipatory politics and radical imagination in the Catalan Pyrenees: the project RERURP

Camila del Mármol (University of Barcelona) and Federica Ravera (University of Girona)

The "left-behind places" concept cognates the idea of peripheric and underdeveloped territories with the spreading of austerity policies, since the 2008 crisis (Pike et al. 2022). As a red flag, these discourses are projecting specific phenomena developing in concrete settings as a wider understanding of geographical inequities. On the contrary, the project RERURP (www.rerurp.cat) will focus on the unfolding of an array of initiatives that plant the seed for novel ideological pathways to imagine alternative futures, born by the convergence of complementary social mouvements, such as the Indignados, the ecofeminism and the degrowth mouvements, among others. We first review the literature on social mouvements and commons. Based on the case of the Catalan Pyrenees, in North-East Spain, we map the social mouvements and analyze the changing conditions, i.e. barriers and catalysers, for the emergence of an emancipatory political subject in this European periphery. Inspired by Gibson-Graham (2006, et al. 2016) definition of a new "politics of the commoning" we document the efforts to land into practices new territorial economics models based on inclusion, cooperation and social justice (Kawano et al 2009; Grasseni 2013; Saffri 2015; Utting 2015). Specifically, we discuss the transformative potential and limitation of what we refer as "rural resistance" using the example of a wider array of actors who came together to confront the governmental proposal to celebrate the Winter Olympics, identified as the income of the dominant extractive model of economic production based on tourism, posing instead unorthodox developmental paths. This movement acted as a trigger for the promotion and coming together of diverse projects and initiatives developing within the frames of the Social and Solidarity Economy, the new commons, and agroecological praxis.

2. Collective exploration of energy conflicts and resistances in the Catalan Pyrenees through *cuerpo-territorio* methodology
Maria Borràs Escayola (University of Girona), Catalina Quiroga (University of Lund), Marta Rivera Ferre (CSIC- Ingenio), Maria Heras (Universitat Oberta de Catalunya) and Federica Ravera (University of Girona)

The multiple and overlapping crises that bring together the climate and social emergency have become evident not only at an analytical level, but also through a specific awareness among the local population. Social and environmental justice demands are rising through movements opposing extractive projects exploiting natural resources. Research indicates the necessity of experiential and embodied climate understanding for transformative change, emphasizing the use of innovative methodologies to connect with these experiences. This research places emphasis on the encounter between bodies and their emotions in relation to the conflicts arising from the implementation of public policies to tackle climate change. The term "*cuerpo-territorio*" inherently conveys the inseparability of the individual body from the collective body and the interconnectedness of the human body with both the territory and the landscape. Theater as artivism serves as the methodology in workshops to incorporate the body and emotions while also disseminating these ideas in society, aiming to inspire alternative narratives on climate change. Conducted in the catalan Pyrenees, the research applies semi-structured interviews and a participatory workshop with the use of theater and *cuerpo-territorio* mapping that investigate the socio-environmental conflict around energy transition vs sovereignty. The paper discuss the occurrence, representation, and articulation of resistances in the territory, and the potential future solutions as perceived by the involved collectives and subjects.

3. Reimagining modern politics in the European mountains: confronting the traditional commons with the neo-rural conception of the common good
Ismael Vaccaro (CSIC), Oriol Beltran (university of Barcelona), Camila Del Marmol (University of Barcelona)

Since at least the 1970s, the countryside of Western Europe has been the site of a myriad of "new" communal initiatives. Rural areas that were abandoned during the last century have witnessed the arrival of new inhabitants. These newcomers often flock to the mountains escaping urban lifestyles characterized by individualism, mass-oriented livelihoods, and isolation. Many of these individuals move to areas like the Catalan Pyrenees, where common property and communal institutions have had a strong historical presence. In embracing rural life, these new inhabitants are looking for a more integrated social life in which the commons are, on the one hand, a form of collective private property, and, on the other, represent a more egalitarian way of life in which contributing to the collective effort is not only an efficient way of dealing with particularly harsh ecological conditions, but also an ideological statement that defines the community as something different: an alternative to urban capitalism. Two definitions of the commons are colliding in these mountains; two longstanding lines of political thought are converging and establishing a dialogue that is not always easy: (1) traditional ideologies of land ownership that defined common property over the centuries, not based on economic equality, but on private property and locally shared responsibility on the economic base of the community; and (2) utopian anti-capitalism that views the commons as an alternative mode of social organization and ownership based on egalitarianism.

4. Territorial conditions for local development and social mobilization in the mountain municipalities of the Catalan Cross border Space.
Jaume Feliu (University of Girona), Mita Castañer (University of Girona), Javi Martín-Uceda (University of Girona), Joan Vicente (University of Girona)

Recently, a complete territorial diagnosis of the Espai Català Transfronterer (ESCAT), a cross-border area of the Pyrenees formed by the Spanish Province of Girona and the French department of Pyrenees Orientales, has been presented. The diagnosis has been commissioned by regional institutions on both sides of the border to guide future public policies and manage cross-border cooperation funds of this Cross-Border Functional Area. The work, based on data at municipal level, interviews with local actors and citizen surveys, allows us to observe the characteristics and potential of a territory with great contrasts between mountain municipalities and urban and coastal areas. Many of the inland municipalities are in process of demographic emptying, decrease in services, feeling of abandonment and a lack of economic capacity to reverse the situation. One of the interesting readings of the work is to see how, in an apparently similar territory on both sides of the border, very different dynamics are established due to the territorial planning options, distribution of services in the small regional capitals, the proximity of a large city and its dynamics, etc. All this features condition the opportunities of the mountain territories in a very different and relevant way.

Panel 612: Livelihoods and adaptation in Bhutan II

Monika Sharma, Carleton University

1. Green House Technology for Vegetable Cultivation for Nutrition Security in Alpine Zone in Bhutan

Purna Chapagai, Royal University of Bhutan

Farmers in high altitude regions encounter challenges in growing vegetables due to harsh climatic conditions. Protected farming techniques such as trench greenhouses maintains geothermal energy and traps higher solar energy. Therefore, this study aims to evaluate feasibility of vegetable production in a trench greenhouse made of polycarbonate in Laya. It is located in alpine zone at an altitude of 3700 meters above sea level where farmers traditionally rely on procuring vegetables from lower altitudes. The trench greenhouses are constructed in three villages of Laya and data loggers were installed for recording the temperature and relative humidity. Various types of vegetables such as chilli, beans, cucumber, slippery gourd etc. were grown and yield data was collected. The result showed that the mean temperature for three greenhouses recorded from October to January was 14.2℃ and humidity of 78.9% as compared to outside temperature and relative humidity of 6.5℃ and 45% respectively. Independent t-test revealed a significantly (p<0.05) higher yield of vegetables under protected cultivation, demonstrating the effectiveness of this technology. Therefore, protected cultivation emerges as an efficient alternative for vegetable production in mountainous regions. The study recommends adoption of this technology in similar high-altitude regions and environmental conditions to improve nutrition security.

2. Multispecies Relatedness and Multispecies Ethics in the Light of Political Ecology in Phobjikha Valley

Monika Sharma, Carleton University

Multispecies relatedness and multispecies ethics lie within and across the imagined division of environmental and social domains, which is either diminished or magnified depending on the political, economic, and social dimensions of multispecies entanglement. This paper explores multispecies ethics in shared worlds between people and black-necked cranes (Grus nigricollis) in Phobjikha Valley, located in the Wangdue Phodrang district in Bhutan. Sociocultural beliefs and practices of local people that help in the preservation of the natural environment and the protection of black-necked cranes are supported by government legislation and the development philosophy of Gross National Happiness (GNH). The valley attracts a large number of eco-tourists, domestically and internationally, contributing to the economy but at the same time leading to the destruction of natural vegetation due to infrastructural development and increased waste. Government legislation, combined with climate change effects, local practices, and socio-economic development in the valley creates a space for investigating the possibility of success (or failure) of multispecies ethics within the scope of political ecology. This paper illustrates the complex relationship between humans and black-necked cranes in the era of the Anthropocene, which makes the need for impactful implementation of government legislation, aligned with local planning, all the more urgent.

3. Determinants of organic farming conversion in Bhutan

Tulsi Gurung, Royal University of Bhutan

Agriculture in Bhutan is highly integrated and low input based. Therefore, transitioning to a fully organic nation is the country's vision. Various programs are implemented to promote organic agriculture since 2006. However, there is a rising trend in semi-commercial agriculture utilizing agrochemicals. Therefore, this study assesses motivations and challenges experienced by organic growers, and perceived barriers hindering conversion for non-organic growers. Data were collected from 130 organic and 262 non-organic farmers across 12 villages in three agro-ecological zones using semi structure questionnaires. Principal component analysis showed three main components as motivational factors (i) increasing market (ii) reduced external inputs and environment sustainability, and (iii) mandate. Similarly, three major components were delineated regarding barriers to organic conversion, (i) lack of market and premium price (ii) farming challenges and (iii) cost of production. Further, Chi-square test indicated no significant association between gender, household member, and education on consideration of organic farming. Moreover, only 11% of the non-organic and 38% of the organic growers consider pursuing organic farming in future. It indicates that farmer's understanding of organic farming is for commercialization. Therefore, Bhutan needs to either focus its investment in assuring market or promote organic as a way of life with multiple benefits.

Panel 620: Political ecologies of agriculture

Karolin Andersson, Swedish University of Agricultural Sciences

Smallholder farmers across the world experience a range of marginalizations in the wake of multi-scalar development and governance processes. This panel investigates these processes with a critical eye for socio-ecological justice. The panel aims to explore how farmers in various contexts perceive, contest, and adapt to ongoing socio-ecological change derived from historical and contemporary injustices. It does so by presenting four political ecologies of agriculture in urban as well as rural contexts and through, for instance, decolonial, emotional and intersectional lenses. While all panel contributions analyze exclusion, marginalization and vulnerability in relation to governance and development on national and global level, the center of attention remains on the lived experiences of smallholders and their possibilities for emancipation. Based on empirical findings from Ivory Coast, Ghana, Ethiopia, Rwanda, and Brazil, the four papers shed light on challenges as well as opportunities of smallholders in light of changing socio-ecological and political conditions. Combined, they constitute a basis for critically constructive discussions about smallholders' struggles for justice and equality in contexts of socio-ecological change.

1. The expectation of un(der)paid adaptation labour in Global South smallholder agriculture

Victoria Maguire-Rajpaul, Anglia Ruskin University

Paulo Freire identified how well-adapted people suit the oppressors' needs. Contemporary climate adaptation is fraught with myriad power imbalances, encompassing tangible resource disparities and narratives that perpetuate procedural inequities over who governs whom. Within Global South agriculture, adaptation is distributively inequitable whereby the adaptive burden is shifted onto resource-poor (and often blameless) smallholders who are conditioned to accept, internalise, and carry out adaptation. Well-adapted Global South smallholders are rarely paid for their additional adaptation work. Furthermore, this already marginalised class of farmers is expected to undertake adaptive efforts without adequate support. Conceiving of adaptation as adaption labour reflects broader power dynamics and inequities that exploit the labour and resilience of vulnerable populations to suit oppressors' needs. 'Adaptation as labour' performed by marginalised actors is invisible within mainstream discourse and policymaking. Well-adapted smallholders' contributions to adaptation strategies are frequently disregarded, thereby perpetuating cycles of vulnerability and injustice. This presentation analyses structural factors that perpetuate the expectation of un(der)paid adaptation labour, including: historical legacies of colonialism, ongoing coloniality, and racialised capitalism. When exploring potential pathways for recognising, valuing, and compensating adaptation labour performed by resource-poor, marginalised smallholders, I advocate for community-driven and dialogical approaches to adaptation that prioritise dignified livelihoods, equity, and climate justice.

2. Agriculture, marginalization, and informality in Addis Ababa's 'emotional food-waterscapes'

Annapia Debarry, University of Bonn

This work explores gendered urban struggles and marginalization in Ethiopia's capital Addis Ababa by looking at (informal) urban agricultural practices through the lens of

feminist political ecology. Agricultural practices along the city's largest river have a long but not well-documented history. Urban food production has recently gained political momentum in Ethiopia, which is reflected in ideas of modern agriculture and innovation. Rivers, in turn, have lately received growing attention through large-scale urban planning and infrastructure projects by the government. These visions of infrastructure development along rivers could threaten agricultural practices and, on a larger scale, disrupt the urban food system about which so little is still known. It is within these tensions that we place our research. We take the river as an entry point to explore the larger food system of Addis Ababa, and "follow the river", and beyond, to document multiple and gendered lived experiences, using ethnographic methodology. Conceptually grounded in emotional political ecology and embodied approaches in urban political ecology we seek to capture and understand how these struggles in relation to the tensions and transitions around the river and the urban food system of the city continue to produce "emotional food-waterscapes".

3. Intersectional inclusions and exclusions in the city - a feminist political ecology of urban agriculture in Kigali, Rwanda

Karolin Andersson, Swedish University of Agricultural Sciences

This paper contributes a timely, if not overdue, analysis of the processes of inclusion and exclusion of Kigali's numerous farmers in the context of extensive state-led social, spatial, and ecological transformation in Rwanda. Drawing on qualitative interviews and observations with farmers in Kigali, I present a feminist political ecology of how urban and peri-urban farmers' intersecting and differentiated socio-spatial positionalities shape their adaptive responses to changes derived from contemporary governance of urban agriculture. I find that government-led urban farmland reduction and the prohibition of livestock in urban areas engender responses that are variously shaped by intersections of gender, age, education, place, health, and physical ability, which recast and reinforce positions of marginality and relative privilege. I argue for urban planning and development in Kigali to reconsider the range of marginalizing effects and outcomes that contemporary governance of urban agriculture has for the city's urban farmers. In so doing, I aim to contour an approach to urban agriculture in Rwanda that put urban social inequality and unequal power relations at the center of its problem analysis.

4. Financing Transformative Agroecology

Andrew Gerlicz, Institute for Agroecology at the University of Vermont

This article responds to the disproportionate amount of public-sector and philanthropic funding allocated to reinforce modernized conventional agricultural systems that exacerbate our climate, biodiversity, and socio-ecological crises. Recent research casts a light on the grant-making community's meager investment in efforts to scale up alternative agroecological approaches, which would not only regenerate natural resources, but also address social inequalities within food systems. Furthermore, the limited funds that are ultimately directed towards agroecology tend to support narrow and incremental transitions rather than larger transformative change. Rightly, such well-intentioned funding models have been criticized as perpetuating outdated development paradigms. Our analysis synthesizes perspectives from eleven interviews and four focus

groups with actors deeply involved in financing agroecological initiatives. We explore their theories regarding the scaling of transformative agroecology and how grant-makers' day-to-day operations and decision-making can align with the principles of plurality (i.e., diverse ways of knowing and being), as well as justice and liberation. Key themes include prioritizing specific types of initiatives, integrating decolonization in funding decisions, and crafting evaluations that respect diverse perspectives. This paper contributes insights for (and inspires healthy debate on) the use of philanthropic and public resources to foster just ecological and social restoration within agricultural landscapes and food systems.

Panel 630: Political Ecologies of Land and Conservation

Julia Smachylo, University of Connecticut

Conservation is political. Our conceptual understandings and decisions made in practice span competing goals and different ideologies. Its implementation negotiates different local contexts, scales (temporal and geographic), and governance systems. In bringing diverse approaches, the ways in which one understands the conceptual borders and methods involved impact how conservation is both theorized and applied. The goal of this panel is to complicate current conservation narratives in terms of who and what has agency, and reveal the many inherent contradictions connected to acts of environmental care. Within practice what do we learn from implementation and how might case studies in turn inform theory? How does our understanding of a site's history, people, perspectives, and value systems become translated into a landscape approach? In contributing to these questions, this panel focuses on the complex entanglements at play in the political ecologies of land conservation. Our panelists will discuss the heterogeneous character of conservation practices in local communities, the need for interconnected analysis that bridge silos to further understanding of complex power dynamics, and the pluralism of relationships between human and non-human nature towards more ecologically sane and just futures.

1. Hierarchies and claim-making in conservation: Assertions of local communities in Kaziranga National Park and Tiger Reserve

Ng Sourav Singha, Indian Institute of Technology, Guwahati

Literature on conservation and displacement tend to perceive claim-making through a lens wherein local communities are assumed as homogeneous entities. The paper argues that claim-making emerge from heterogeneous socio-economic characteristics of local communities that stem from diverse historical and material conditions. It is based on an ethnographic study of villages existing in the periphery of Kaziranga National Park and Tiger Reserve in Assam, India, which have been engulfed in the new 'Additions' to the Park's area. Through assertions, they make claims over their land and livelihood system against forces that deny these and cause marginalisation through the formation of the identity of an 'encroacher'. Assertions are made through organised resistance in the form

of public protests or legal battle, or through lobbying with the ones in power, or through everyday forms of resistance like grazing cattle in lands which the Park claims. The paper will contextualise these assertions in the power hierarchies that exists within and amongst the communities, in terms of their historical relations with the land, livelihood pattern, land tenure system, social identity, social structure and relation with the natural space. These hierarchies determine access to different claim-makings; creating spaces of assertions for some and denying for others.

2. Ecological Conundrums: Conservation, Pastoralism, and Injustices toward Maldhari Communities in the Gir Forests, India

Smit Rajshekhar Patel, Environmental Planner and Independent Research Scholar

The Maldhari pastoral communities, cohabiting with the Asiatic lions in India's Gir forests for at least two hundred years, have played a crucial role in the ecosystems' conservation. However, forest conservation initiatives like the India Eco-Development project, adopting a mechanistic egocentric stance, overlook the nuanced and pluralistic attributes of human-animal-nature relationships within pastoralism. Situated within a 'cultural landscape' framework, this study explicates the human-environmental relationships in the Maldharis of Gir forests and lays the groundwork for identifying injustices arising from forced resettlement programs, emphasizing socio-spatial, epistemic, and ontological dimensions, The study draws theoretical insights from political ecology, decoloniality, and environmental philosophy, especially the conflict between egocentric and ecocentric worldviews. An ethnographic approach is employed, encompassing informal conversations, participant observation, and socio-spatial documentation during a week-long stay in the forest. Using the collected data, a visual analytical framework-cum-infographic was developed, showcasing the intricate entanglements in the pastoralists' relationship with the forest's landscape. The framework unravels how forced resettlement programs could dismantle the holistic existence of the pastoralists, leading to profound epistemic and ontological injustice. The study offers a novel approach to inform forest conservation policies, laying the foundations for a political ecology-based praxis in the pursuit of pluralistic and just futures.

3. Stewarding Collective Capacities

Julia Smachylo, University of Connecticut

This paper investigates the rise of incentivized environmental governance applied to the conservation of different landscapes across urban-rural interfaces on private lands. Set within neoliberal approaches that govern nature-society relationships, the paper highlights the political economy of incentives with particular emphasis on the use of legal and fiscal frameworks associated with private landowner management. The goal of the paper is to make visible, and foster critical engagement with, existing processes of incentivized management, planning, and design towards more just futures. Rather than completely embracing market mechanisms as the way forward, case studies are used to highlight different ways of working with and against these programs. The cases highlight various interpretations of the relationship between policy and practice informed by diverse values, ways of knowing, and site contexts. This research embraces the notion

that there are multiple realities in which these incentivized landscapes exist, and draws lessons from observed practice and interviews with those engaged in environmental stewardship, planning, and design to propose speculative pathways through which to navigate capitalist growth.

4. Politics of transboundary conservation of migratory birds in relation to hunting tourism

Stella Portelli; Wageningen University

The intersection of hunters' mobilities and migratory birds' mobilities across geographic unevenness adds complexity to an already complex politics of transboundary conservation. This can be particularly seen from investigating Maltese bird hunters on hunting trips in Egypt. Malta finds itself at the fringe of the Global North, both metaphorically and geographically, as it struggles to uphold bird conservation approaches while facing criticism that it is not upholding bird conservation approaches expected from 'modern European societies'. As it experiences increasing pressure from EU institutions to align with EU legislation, enforcement of stricter hunting regulation has supported displacement of hunting pressures to other countries with less stringent regulations, through hunting tourism. Consequently, rather than resolving unsustainable hunting, supranational pressure at EU level appears to support hunting pressures trickling outside of EU territory and responsibility, such that conservation shortcomings in the Global North are masqueraded as conservation achievements. Meanwhile, conservation actions in the Global South, are confronted with displaced hunting pressures. During this presentation I will be discussing the tensions stemming from the encounter of conservation efforts and hunting tourism to offer insight into the politics of transboundary conservation of migratory birds.

Parallel session 10

Time: 15.00-16.30

Hybrid panel LU315: Diverse Ways of Knowing the Climate: Towards Epistemic Climate Justice II

Johanna Tunn, University of Hamburg; Juliane Schumacher, Leibniz Zentrum Moderner Orient – hybrid from Lund

Climate knowledge – knowledge on the actual and predicted effects of global warming, on the causes and responsibilities for climate change and on transformation pathways – strongly influences climate politics. Reliable climate knowledge plays a crucial role for mitigation and adaptation strategies, and it builds the basis for climate activism, contestations of existing socio-economic structures and claims for climate justice. The dominant mode of climate knowledge production, however, has for the most part

neglected issues of epistemic justice and ways of knowing beyond the scientific tradition of the West. Most climate knowledge is produced in narrow technocratic and managerial settings (Knox-Hayes and Hayes 2016), excluding Global South scholars (Tandon 2021) and obfuscating power dynamics and colonial histories (Álvarez and Coolsaet 2020). Based on the premise that diverse ways of knowing and knowledge-making are crucial for climate justice, this session seeks to critically evaluate current forms of climate knowledge production and to advance the debate on more diverse, inclusive and decolonial practices.

1. Critical heat: a re-examination of thermal ontologies and epistemologies through encounter, embodiment and evaluation in the age of global heating

Elspeth Oppermann (Rachel Carson Center, LMU) & Nausheen Anwar (IDS, Sussex) – hybrid from Lund

This paper lays out a research agenda that opens up understandings of the thermal in the context of global heating. It critiques the limitations of dominant environmental and meteorological ontologies and epistemologies of the thermal, prompted by the contemporary moment in which lived encounter and embodied experience with heat extremes is challenging the adequacy of such approaches to examine and communicate the breadth and intensity of thermal meaning. This approach is complemented by a decolonising of thermal ontologies and epistemologies through a foray into other ways of knowing the thermal, drawing on traditional knowledges and local contemporary practices from Pakistan. We will bring these alternative ways of knowing heat into conversation with the latest developments relating to the thermal across multiple disciplines, notably: new materialist philosophies to engage seriously with scientific and analytical understandings of matter/energy dynamics (Walker 2021); recent developments in media studies that examine how the thermal transgresses the physical and conceptual/matter and meaning aspects of communication (Starosielski, 2021); and, literature on embodiment, weathering and the elemental as alternative ways of knowing the thermal (Vannini et al., 2012). Finally, we will position our contribution to refine and expand the conceptualisation of the emerging field of critical heat studies.

2. Epistemic injustices in hegemonic narratives on environmental im/mobilities in Chile

Hanne Wiegel, CR2 – Centre for Climate and Resilience Research, Universidad de Chile – hybrid from Lima

The figure of the 'climate migrant' has become emblematic of the severe consequences of climate change, discussed in alarmist tones in media, policy and academia. In these narratives, however, the voices of those most affected tend to be silent, if not altogether absent. I explore the knowledge production on environmental im/mobilities in two cases from Chile. One is rural Monte Patria, called the 'home of Chile's first climate migrants' in national media. Here, the community emphasizes the agricultural industry, structural water scarcity, and uneven resource access – rather than climate change – as reasons for engaging in labour mobilities. The second case is Patagonian village Villa Santa Lucía, heavily affected by a mudslide in 2017. Here, the community rejects relocation policies, justified as risk reduction measures, based on a fundamentally different risk assessment

grounded in context-specific social representations of nature and human-nature relations. Central to my analysis are affected communities' sense-making of their environmental im/mobilities, how these differ from and are silenced by hegemonic narratives on 'desolate climate migrants' or 'necessary relocation for adaptation', and the political and socio-economic consequences of this discord. I end by reflecting on means for decreasing such epistemological injustices as central to enhancing climate (and) mobility justice.

3. Digitalising climate futures? A digital justice framework to appraise the platformization of climate adaptation

Giovanni Bettini, Lancaster University; Giovanna Gioli, Bath Spa University & Sian Sullivan, Bath Spa University – hybrid from Lund

Despite the global pervasiveness of digital climate services and 'climate smart' development, the digital turn in climate change adaptation remains underexplored and undertheorised in scholarship on the governance and politics of adaptation. We situate the digitalization of adaptation within the long haul of neoliberal failures to financialize nature and aid. Drawing on examples gathered by the Digital Climate Futures project, the paper scrutinizes digital 'good practices' that have become a staple for actors at the intersection of climate adaptation, evelopent and disaster risk reduction, through a novel theoretical approach addressing the non-neutrality of digital interventions and adaptation, as well as the coloniality of their epistemological underpinnings. Digitalization practices often reflect a single epistemological authority that perpetuates long-standing forms of inequality and skewed power relationships. These concerns resonate with critical approaches to adaptation, which emphasise the need to re-embed discussions on adaptation into power relations, avoiding the trap of techno-managerial approaches and the erasure of the role played by colonial histories in shaping vulnerability in the first place. We bring together insights from Political Ecology, Science and Technology Studies, and Decolonial Studies in order to devise a novel framework to study the climate justice implications of adaptation, including in its digital and cognitive dimensions.

4. Contested futures of the Elbe Estuary: knowing, modelling and narrating socio-ecological transformation

Jonas Hein, German Institute of Development and Sustainability – hybrid from Lund

The inner delta of the Elbe estuary south of Hamburg's city center forms a vast terraqueous zone. Land reclamation, dredging of shipping channels and port basins have transformed the delta into an industrialized port landscape. The most recent deepening of the Elbe was designed through complex modelling exercises and declared a 'water-level-neutral development' by Hamburg Port Authority (HPA) and the Federal Waterways Engineering and Research Institute (BAW). Both agencies argued that impacts will be neither visible nor measurable. In contrast, NGOs using counter-modelling claimed that interventions will lead to increased sedimentation, expansion of saltwater-zone, impact biodiversity and increase storm surge risks. While experiential knowledge of few remaining fisher largely confirmed the counter-models from NGOs, the German

Administrative Court legitimized the 'water-level-neutral development' concept and underlying hydrological models of BAW and HPA. Based on interviews with actors who were involved in, observed or fought against the intervention, and on content analysis of press articles and webpages, we unravel the complex relations between political economy, modelling-based knowledge production and performativity which characterize future making in the Elbe Estuary. We argue that power asymmetries and discursive selectivities explain why certain environmental knowledges become dominant and shape socioecological transformations whereas others might even disappear.

5. Epistemic Justice and Critical Minerals– Towards a Planetary Just Transition

Ronghui (Kevin) Zhou, University of Warwick & David Brown, University of Warwick/University of Cambridge – Hybrid from Lund

Global transitions to low-carbon energy systems are heavily reliant on the large-scale extraction of critical minerals (e.g. cobalt, lithium, rare earth elements), key components in in green technological developments such as wind turbines, solar photovoltaics and electric vehicle motors. However, research has highlighted the multifaceted social and environmental costs of critical mineral extraction and processing across marginalised parts of the Global South, evidencing significant impacts on local people's health, livelihoods, human rights and land-based resources. This paper centres on the role of epistemic justice in a 'planetary just transition', an under-explored dimension of just energy transitions. Through the analysis, we identify three main forms of epistemic injustice in the critical mineral industry: discriminatory epistemic injustice, distributive epistemic injustice and formative epistemic injustice. Building upon multi-scalar and multi-dimensional conceptualisations of environmental justice, we highlight the importance of incorporating epistemic justice into a more comprehensive and inclusive approach to just transitions. Through bringing new insights on knowledge equity in the context of critical minerals, we recommend building upon Education for Sustainable Development framework to tackle the challenges and contribute to extended understandings of a 'planetary just transition'.

6. Making (certain) climate futures: Knowledge, power relations and justice in climate models

Juliane Schumacher, Leibniz Zentrum Moderner Orient – Hybrid from Lund

 Climate models have been studied from a social science and Science and Technology Studies perspective, for example in relation to their material basis or the question of how to deal with uncertainties. The temporalities and spatialities of these models and the inequalities they relate to, in contrast, have not received much attention. These, however, show the situatedness, the contingencies and the power relations build into these models and the knowledge they are based on. Also in the UN context, current practices of producing and selecting climate models and scenarios have been discussed critically, pointing to the economic and normative assumptions they are base on, the forms of climate knowledge the foster and the alternatives they exclude. This contribution will deal with these questions in an explorative manner: Which technologies, practices and forms of knowledge to play a role in 'making' climate models? What is included, what excluded? Which spaces do these models create, and how are they related to historic or actual

power relations? And how can be dealt with these issues from a critical and emancipatory perspective – which alternative ways exist of creating knowledge on different pathways of global warming, without reducing the future to a few narrow scenarios?

Panel 255: Green transition as decolonization? II: Decolonizing conservation and management practices

Inge-Merete Hougaard, Stine Krøijer, Kathrine Dalsgaard & Lone Kristensen, University of Copenhagen

In our time, scientists, policy makers and activists cast climate change and environmental degradation as existential threats, rendering green transitions imperative to ensure that human activity is sustainable in the long term. In response, governments, state agencies and civil society associations around the world have embarked a range of initiatives for nature conservation and restoration, resource optimization and climate mitigation. These projects have both anticipated and unanticipated impacts on local landscapes and human livelihoods, and some may even disrupt long-held assumptions and modes of governing land and life. Green transition, and nature restoration projects specifically, may for example entail deliberate human withdrawal from or abandonment of areas of larger or smaller extension. They may involve rewilding of nature and removal of infrastructures associated with industrial agriculture and forestry such as dikes, drainage pipes and other landscaping elements that have historically enabled agricultural expansion and colonization of new lands. Such projects appear as reversals of historical processes, going against a growth paradigm and its reliance on expansion and intensification of production. They may also imply the remaking of relations within state bureaucracies, between statutory institutions, private companies, farmers, foresters and local populations, and between human beings and other species, making room for other forms and genres of knowledge to flourish through the co-creation of future landscapes. This may challenge settler colonial and imperial knowledge hierarchies and ways of understanding what nature and nature management is about. This panel will look at green transition, nature restoration, for example of forests, peat and wetlands and open-ended approaches to nature management through the lens of decolonization theory. It explores cases that involve biophysical, infrastructural and landscape changes, and associated attempts to challenge knowledge hierarchies, historical narratives and engrained perceptions of change. We are interested in the extent to which such processes entail a disruption of legacies of colonial power and processes of settler colonization. Taken together, the panel seeks to create a dialogue about knowledge, decolonization and relations of power in the green transition. The first session in the panel will focus on the decolonization of conservation and management practices, whereas the second asks how we disrupt legacies of colonial power.

1. Rethinking Peatland Management in the Atacama Desert: A Critical Physical Geography Perspective

Manuel Prieto, Universidad de Tarapacá

In the highlands of the Atacama Desert, one can find the bofedales, high-altitude peatland that defy the extreme aridity of their surroundings. Despite being considered "natural" from a traditional scientific perspective, many of these bofedales have been managed by Andean communities dedicated to herding since pre-Hispanic times. These communities have "cultivated" and used the bofedales as a permanent source of food for llamas and alpacas. This approach has not only challenged conventional notions of ecological sustainability but has also debunked "neo-Malthusianism," demonstrating that sustainable coexistence between human communities and fragile ecosystems is possible. This presentation focuses on the role played by these communities in the conservation of the bofedales, challenging traditional conservation perspectives based on exclusion. Through a critical physical geography approach, we seek to explore the socioecological transformations in these ecosystems in relation to issues of extractivism, climate change, and the intersection of environmental racism with ecological degradation. This presentation aims to shed light on the complex interaction between management practices, bofedal conservation, and the contemporary challenges faced by this unique region. Through a critical analysis, we hope to contribute to a deeper understanding of the coexistence between indigenous communities, nature, and industry in the Atacama Desert.

3. Damaged drainpipes as decolonization?

Inge-Merete Hougaard, Stine Krøijer & Lone Kristensen, University of Copenhagen

Colonisation and capitalist expansion have historically been aided by landscape interventions such as drainage, dams and dikes, whereby the power to control water and engineer landscapes have supported the creation of states and nations. Ordering space has not only governed the movement of people and resources, but also resulted in displacement and disruption of ecological relations between human and non-human nature. To address global ecological crisis, governments and private actors are increasingly turning towards new environmental management practices, including attempts to decenter the human and create space for other species. In Denmark, the parliament aims to rewet 100,000 ha of previously drained agricultural land, to mitigate climate change and improve biodiversity. By damaging drainpipes and ditches to restore 'natural hydrology', such efforts resemble a reversal of historical colonial landscape interventions. However, the planning and execution of such landscaping projects require a number of modelling, measuring and engineering practices to ensure that water both can flow freely, but also be controlled and not result in unintended flooding in neighbouring fields. Thus, while projects may seem to reverse colonization processes, they reproduce modernist management logics. Yet, resulting landscapes are never fully under control, indicating the partial and patchy nature of decolonizing processes.

2. Historical possibilities for action? Land use changes and policies in 20th century Denmark

Nina Toudal Jessen, University of Copenhagen

Between 1860 and 1960, Danish agriculture intensified, specialized, and spatially shaped the landscape according to its needs. Peatland and heaths were reclaimed, and fields drained through state supported funding schemes, in what can be characterized as an internal colonization. Today, rewetting and rewilding schemes attempt at reversing this process, however often only slowly or even fail. This paper addresses land use and landscape changes in 20th century Denmark by examining what was possible, permitted, and desired at a certain time and place. By looking specifically at the possibilities for action, it argues for a historically sensitive understanding of how this internal colonization developed because of a wide array of intersecting interests and policies, and in junction with an increasingly specialized knowledge production.

4. Decolonizing Energy Transition in Thar: Imagining alternatives to existing approaches towards just transition

Suraj Pratap Singh Bhati, Ambedkar University Delhi

The Indian government has signaled an imminent shift towards renewable energy in the coming decades. The energy map of India is gradually expected to shift from coal to wind and solar energy. In the coal regions of India, fossil fuel development ushered in industrialization, but also engendered widespread displacement, human rights violations and environmental destruction. The Thar desert in Western India is the most densely populated desert in the world. The landscape has acted as a frontier for multiple ruling clans and was further situated as unruly, with the arrival of colonialism in India. This along with newer narratives of desertification, climate change and conservation have put the landscape as a point of their amalgamation, which is also visible in the efforts towards green transition that have come up in the landscape. This paper examines whether energy transition towards renewables in the landscape carries risk towards strengthening the existing concerns and create a new wave of localized re-colonization. I argue that the state interventions in form of energy transition are a result of the historical understanding of these regions, derived from the colonial state. The paper aims to situate and analyze alternatives towards decolonizing existing energy transition approaches.

Roundtable 319: Exploring alternative futures by reflecting on the value frameworks that have shaped 15 years of PES history

Pierre Merlet, Institute of Development Policy, University of Antwerp; Gert van Hecken, University of Antwerp & Vijay Kolinjivadi, University of Antwerp

Payments for Ecosystem Services (PES) has emerged as a prominent 'solution' to ecological challenges. PES entails land users adopting green practices in exchange for conditional payments from beneficiaries of so-called ecosystem services. PES evaluations often focus on aspects related to institutional design, additionality, or cost-benefit distribution, neglecting broader cultural, social, political and economic drivers of land-use change This session builds on the PES-AID (Actors-in-Dialogue) global roundtable which serves as a forum for dialogue and reflection on the deep power asymmetries that shape value framings in PES contexts, between participants, practitioners, scholars, activists,

and other directly and indirectly involved actors. The session discusses the findings of a large-scale systematic analysis of peer-reviewed literature on PES research (the "ePEStemology" database, www.epestemology.com), which identifies how different epistemologies and uneven power geographies influence assessments of PES 'success' or 'failure'. During the session, we will briefly present some of the main findings of a large-scale meta-analysis, and immediately open the floor for dialogue with all participants to look into the implications of this work on the future of PES and related conservation programmes research. We hope such a discussion will result in concrete decisions for new strategies that go beyond seeking to forever "improve" PES and related schemes.

Panel 107: Political ecologies of 'green' authoritarianism II

Noémi Gonda, Swedish University of Agricultural Sciences & Peter Bori, Central European University

Across the planet, the urgency of addressing climate change seems to be overriding concerns for democracy. And yet, undemocratic dimensions cut across the global stage on which climate action, energy transition, biodiversity conservation and other 'sustainability' and 'green development' efforts are taking place.

Evidence from authoritarian, illiberal and other undemocratic settings illustrates how the rush for low-carbon energy projects overshadows how Indigenous rights are trampled, environmental activists are suppressed and how political elites exacerbate ecological challenges through land grabbing and corruption. Land grabs increasingly dispossess the poor in the name of renewable energy and carbon sinks, making 'climate justice' a floating signifier backing green(-washed) neoliberal, market-led transition efforts (Mookerjea 2019).

Meanwhile, authoritarian regimes around the world have an often complex relationship with both disadvantaged communities and environmental narratives (Gonda 2019, Gonda and Bori 2023, Atkins and Menga 2022, Lubarda 2020) – a relationship that cannot be reduced to mere antagonism, or simply to 'those left behind'. Because authoritarians easily mobilise these tropes of disadvantage, pro-poor environmental policies, projects and narratives can morph into their opposite, enabling continued oppression and environmental degradation (Jiglau 2020).

Current political ecology scholarship lays the groundwork for tackling socio-environmental injustices (e.g. Svarstad and Benjaminsen 2020, Bouzarovski 2022, Neimark et al. 2019) but more work that specifically engages with democratic challenges is needed. The latter needs to go beyond concerns for e.g. equal representation; civil rights and liberties; rule of law; separation of powers; and multi-party elections. In particular concerns for self-determination of Indigenous and other marginalised people as well as human and non-human rights need to be better included in this debate on democracy.

To contribute to this effort, this panel strives to re-centre the political question of democracy in political ecology by gathering a multiplicity of perspectives to inform visions and theories of democratic futures in ways that are culturally relevant for addressing sustainability; and respectful of the interdependence between humans and non-humans.

This requires understanding what more democracy would entail for just environmental politics and low carbon futures, and how historical legacies and ongoing challenges of colonialism, socialism, patriarchy etc. shape different visions and knowledge claims about democracy in environmental justice. In an era of climate change and burgeoning authoritarian regimes, we find that this is a key endeavor.

1. The Role of Authoritarianism in the Waste Trade between Turkey and Europe

Burcu Binbuga, Bremen University

Governments across the world are now facing significant challenges in dealing with the dramatically increased volume of waste. Some countries treat the waste trade as a tool for managing this challenge. It has become a global trend for countries of the Global North to ship their waste to the Global South. Among them, Turkey has become Europe's top waste trade destination and one of the world's largest plastic waste importers following China's decision to ban most waste imports in 2018. Regarding waste imports from European countries as an economic opportunity, Turkey fails to address the ecological consequences of waste trade, which mostly ended with dumping and burning in the southern part of Turkey. On the contrary, the governing party AKP presents waste trade as contributing to the green-circular economy through recycling and waste reduction. This waste trade not only highlights the janus face of Turkish politics, but it also reveals the workings of the political economy in current authoritarian Turkey and how they are bound into global trade relations. In this research, I will discuss the role of authoritarian regime in waste trade between Turkey and Europe, and its implications for environmental justice.

2. Political ecology in the authoritarian era: where is democracy?

Noémi Gonda, Swedish University of Agricultural Sciences

Political ecology is at a crossroads: discussions about socio-ecological (in)justices (e.g. distribution of costs and benefits of socio-environmental changes, marginalisation of certain sections of society) often forget about democracy. Yet for rethinking socio-ecological justice as part of a broader question of democracy, more attention needs be given to self-determination; non-human rights, as well as; socio-ecological struggles that challenge authoritarianism and reclaim the public sphere. Setting out to decipher the democracy-related challenges that emerge in socio-ecological changes, my paper aims to build an emancipatory theory of democracy in socio-ecological justice. I start from the hypothesis that the rise of authoritarianism across the planet hampers socio-ecological justice, but the precise ways through which this occurs requires better political ecology engagements with democracy. I bring together decolonial, feminist, and anti-far-right political ecologies to engage with democracy not necessarily as a form of government but as an emancipatory process that builds on socio-ecological struggles for justice. By

relying on empirics in three countries positioned differently on the authoritarianism – democracy spectrum (Nicaragua, Hungary and Sweden), my aim is to illuminate the entanglements between 'just' environmental initiatives and power processes conducive to the shrinking of democratic spaces. Specifically, I map struggles over hegemonic knowledge in energy-transition and climate change adaptation initiatives, probe how theories of socio-ecological justice can change when also accounting for democracy, and discuss how to enhance democratic dimensions in political ecology.

3. Slow resistance, gender and 'behind the scenes' anti-dam activism

Zali Fung, University of Melbourne

In authoritarian contexts where overt protest entails risks and repercussions, we develop the notion of "slow resistance" to account for a range of temporal-political strategies that emerge against unjust developments over time (Fung and Lamb 2023). To do so, we draw on over a decade of fieldwork in the Salween River Basin, where dams and diversions have been proposed, and resisted, since the late 1970s. In this paper, we draw on insights from feminist political ecology to examine women's food preparation efforts for large anti-dam gatherings. We reveal how such 'behind the scenes' work is crucial for sustaining longer-term civil society movements and more overt actions such as protest, especially by young people. Using a critical temporal and gendered lens, our work expands conceptualisations of resistance by highlighting how different forms, temporalities, and generational strategies of resistance support one another.

4. Who owns environmentalism? How the appropriation of environmental narratives by authoritarian regimes affects the emergence of emancipatory ecological movements

Peter Bori, Central European University

The growing urgency presented by climate change and environmental degradation and a renewed right-wing and populist moment has brought forth a rich body of scholarship investigating the co-constitutive relationship between contemporary far-right, authoritarian populist and illiberal movements on the one hand, and environmentalism and ecology on the other. However, there is little known about how the uptake of environmentalism by such movements affects the political landscapes in which they operate - especially if they hold positions of power: does it open up space for the emergence of more radical and emancipatory ecological stances, which until now would be considered politically unviable? Or on the contrary, does it, through the process of mainstreaming actually appropriate green thought and alienate more radical ecological solutions? This paper conceptualises 'the environment' as a floating signifier, whose meaning is under a constant hegemonic struggle between global liberal environmentalism, progressive ecologism, far-right ecologism, authoritarian appropriations of environmental narratives and other forms of more-or-less radical environmental movements. By using the case study of Viktor Orbán's Hungary and the politico-environmental impacts of the emergence of authoritarian environmentalism, it attempts to showcase the ways in which more emancipatory ecological politics may emerge in repressive authoritarian contexts.

Hybrid panel LI64: Decolonising the normative foundations of political ecology II

Ana Alicia Watson Jimenez, University of Calgary – hybrid from Lima

Political Ecology is undergoing a big revolution. It is meeting the claims of marginalized groups, along with its critique of the legacies of imperialism and colonialism, challenging an abstract and scientific approach to understand nature. The interminable debates about the nature and scope of environmental rights or the proper metric for a universal distributive justice seem increasingly parochial, privileged and unrepresentative of different environments and the normative contexts in which socio-ecological conflicts develop. Today's Intertwined crisis is asking for solutions beyond sociotechnical imaginaries and hegemonic human-nature relationships, yet decarbonization and biodiversity conservation remains deeply connected with colonial approaches and exclusionary strategies linked with capital accumulation even under the era of "inclusive sustainable development". However, Indigenous, and local populations are resisting and fighting marginalization from different fronts and various strategies. Emphasizing the significance of decolonizing both researchers and the research process, in this session we question the sustainability of current narratives of decarbonization as well as the emerging regime of enclosure and coercive conservation model and uneven development interventions. By exploring the case studies, the aim of this session is to unpack the complex linkages between resource and territorial governance, grassroot identities, as well as between western and indigenous/marginalized epistemologies.

1. Rural Political Ecology and the Dynamics of Extinguishing Commons in Chitral, Pakistan: A Case Study of Shifting Pastoralist Livelihoods

Abdul Wahid Khan, University of Oxford – hybrid from Lima

This study employs the lenses of Rural Political Ecology and More-than-Human Geography to examine the evolving pastoralist livelihood in the mountainous region of Chitral, Pakistan with a specific focus on commons. Investigating the transformation brought about by factors such as formal education, urban migration, and land privatization, this study reveals the impact on land ownership, societal perspectives, and resistance among pastoralists. The discourse surrounding climate change, perpetuated by educated elites, NGOs, and governmental bodies, contributes to dispossession through conservation initiatives. The paper advocates for recognizing the depth of pastoral knowledge in addressing local issues and highlights the environmental hazards of neoliberal livelihood practices compared to traditional pastoralism. Simultaneously, it delves into the dynamics of commons in Chitral called muzhayo, challenging the dominant Western perspective by drawing on local experiences of agropastoral communities managing their commons and the relationship of the locals with more-than-humans. Exploring the power dynamics related to gender and clan systems, the study critically examines the impact of neoliberal green-grabbing projects and nationalization on the cultural fabric, livelihood, and diverse ecological entities of Chitral through the lens of Rural Political Ecology.

2. Frontier Narratives and the Construction of a Sense of Belonging Among Conservation Practitioners in the Manu National Park, Perú

Eduardo Salazar Moreira, Victoria University of Wellington – hybrid from Lima

The management of protected areas is often seen as an enterprise guided by objective knowledge and technical criteria. Even when many conservation practitioners see themselves and their work in these terms, the influence of these experts' subjective views on conservation interventions is revealed by a growing body of research. The Manu National Park (PNM) in the Peruvian Amazon is a conservation space regarded as 'legendary' and 'mythical' by biodiversity enthusiasts worldwide, despite its problematic relations with Indigenous communities. Grounded in this case study, my research unpacks conservation practitioners' narratives about the PNM and their experiences in it. Through a critical analysis of online interviews, archival material and participants' photographs, and of my experience as a conservation practitioner, I explore how the discourses and practices of conservation affect these experts' subjectivities. My research shows that, behind a veneer of good intentions and hard work to protect non-human nature, conservation experts' stories can also reproduce colonial notions of frontier heroism, sacredness and belonging that appropriate Indigenous spaces and erase inconvenient histories. I argue that justice could be fostered in conservation spaces if more conservation practitioners engaged with a process of self-, collective and cross-cultural reflection focused directly on these issues.

3. Understanding contemporary neoliberal mechanisms of forest conservation: A case study on Jaldapara National Park, Duars, West Bengal

Priyadarsini Sinha, Jenia Mukherjee and Amrita Sen, Indian Institute of Technology Kharagpur – hybrid from Lund

Neoliberal conservation mechanisms are transforming the approaches of conservation to forests while driving forest-dependent communities towards a market-strategic livelihood through its institutes of forest and wildlife conservation. In the context of our work, Jaldapara National Park (WB, India) was enclosed as a "Game Sanctuary" in 1941, and then under the Wildlife (Protection Act), 1972 in the year 2012. Jaldapara National Park has been a major part of Duars' trajectory of colonial extractive capitalism. It has been providing as an ecological resource for the forest communities. The forest villages taken in the study are Kodalbasti, North Khairbari and Salkumar comprises of heterogenic ethnic forest-dwelling communities. Ever since its enclosure as a Protected Area, it has been promoting as a major tourism hotspot, moving away from the initial potential of livelihood generation, tourism here is giving way to the state agency benefits. These forest-dependent communities are thus being excluded, thus depriving them of their livelihood rights to the forest. This study asks "who benefits from forest conservation and at the cost of what?" This ethnographic study using historical political ecology approach explores through the empirical evidence, the emergence of socio-economic-political deprivations around livelihood opportunities being produced through forest conservation institutions.

4. Unfortunate times. The apocalyptic scene and the future of extractivism in a Posthumanity

Raúl Villarroel, Universidad de Chile – hybrid from Lima

Modern capitalist and extractivist industrial civilization are setting the world on fire and turn it into a "scorched earth." The passage to a post-capitalist and post-human world may already be very close, just a few decades away. A catastrophic extinction threatens us like never before. To harbor expectations of overcoming or even an eventual reversal of such situation, innovative visions and, above all, a very determined political commitment will be required, in such a way as to readjust citizen life, finding new patterns of approach to individual, family, social and technical uses and customs, so naturalized today. However, will it be possible to think about the apocalypse without thinking apocalyptically? Certainly yes. The specific methods of humanities, which include practices of consultation, consent, dialogue, criticism, deliberative attitudes and most of all close reading practices, shared reflective exercises, to read extinction in terms of, for instance, biology, conservation sciences, philosophy and technology; and even literature, can be tools for a more accurate understanding of the world's existential or apocalyptic risks, while resisting them. Here some theoretical-philosophical proposals in this regard will be analyzed.

Roundtable 276: Racing to climate justice: exploring the temporalities of just sustainability transformations

Tatiana González Grandón United Nations University-Institute for Environment and Human Security (UNU-EHS) Bonn; Hernán Bobadilla, Politecnico di Milano;

PanelistsChristine Milchram, Karlsruhe Institute of Technology; Rossella Alba, Humboldt-Universität zu Berlin; Fanny Frick-Trzebitzky, Institute for Social-Ecological Research (ISOE); Geronimo Gussmann, German Environment Agency; Claudia Heindorf, University of Göttingen; Johan Holmén, Chalmers University; Neelakshi Joshi, Leibniz Institute of Ecological Urban and Regional Development; Letícia Santos de Lima, Institut de Ciència i Tecnologia Ambientals, Universitat Autònoma de Barcelona (ICTA-UAB); Karin Snel, University of Twente.

This interactive session explores relationships and tensions between the urgency and justice of sustainability transformations. The unprecedented extent of anthropogenic climate change requires urgent action to maintain liveability on this planet. Academics and civil society alike highlight that climate change impacts and the capacities to adapt to these are unevenly distributed, globally and within countries. Low-income and historically marginalised people continue to be disproportionately impacted. Therefore, this calls for just transformations. This in turn requires inclusion, critical engagement, and participation, processes that need time.

In this interactive session, we draw from the Theater of the Oppressed as a creative method to understand and disentangle the relations between time and justice, as well as their potential tensions. We invite all participants to actively explore and transform these relations. Through this, we aim to explore how the bodily experience in theater can offer alternative and unusual solutions that go beyond the rational analytical approaches, which are so common in academic work.

Please note that this activity is limited to 20 people due to its interactive character, with access based on first come first serve. Thank you for your understanding.

The session is co-organized by a group of researchers that, for the last two years, have been engaging with the temporalities of sustainable and just transformations as part of the 5th cohort of the Postdoc Academy for Transformational Leadership (Robert Bosch Stiftung).

Panel 377: Manufactured super creatures for damaged environments

Barbara Van Dyck, Université Libre de Bruxelles & Anneleen Kenis, Brunel University London – hybrid from Lund

From the establishment of slave plantations to the introduction of artificial fertilisers and pesticides, from industrial breeding techniques to the robotisation of agriculture, the modernisation of agriculture has known a long and often destructive history. Now, this history is taking another major step. This time techno-scientists will 'optimise' agricultural environments via massive data extraction, data repackaging and by correcting Nature itself through new forms of genetic engineering. The promise is that gene-edited super plants will fight off diseases or produce toxins to eliminate insects. The 'knocking out' of genes in fish, sheep, cows and pigs will create super muscled 'high yield' animals. Super micro-organisms and super trees will make industrial processes more efficient. Super root systems will enable plants to capture carbon more efficiently. Or at least, that's what we are told. But in what ways are these super organisms really superior over other co-earthers? How do the destruction and creation of biodiversity relate to each other practically and ontologically? What do farmers and others who are supposed to live and work with these new creatures say, think or feel about them? And, how can political ecology help us to better understand the worlds that 'super creatures' are born from and help shape?

1. "Climate-Smart" Poplars and the Carbon Plantation: Genomic Forestry in the Anthropocene

Amedeo Policante, Nova University of Lisbon & Erica Borg, King's College – hybrid from Lund

Since the 1940s, poplar plantations have rapidly expanded apace with larger socio-economic processes of modernisation, industrialisation and globalisation. Since the 1970s, research efforts on GM poplars have mostly focused on traits that would better

serve traditional plantation models: herbicide tolerance, pest resistance, drought and salinity tolerance and improved growth rate. Focusing on the recent commercialisation of carbon credits produced by genetically modified "climate-smart" poplars developed by the biotech platform company Living Carbon, we discuss some of the new frontiers of capital accumulation opened by the molecular engineering of forest trees in the Anthropocene. The newly emerging GM forests are molecularly designed to operate as a living "carbon sink" for the Anthropocene, but also as a source of carbon credits to be traded in specialised financial markets. Guided by the financial incentives provided by carbon finance, biotech companies are turning the poplar tree into a bio-fin-tech infrastructure, whose metabolic activities are purposefully designed to accelerate its growth and increase its carbon capturing capacities. The complex histories of monocrop plantations, carbon trading and genetic engineering intertwine in the arboreal root systems of these "living infrastructures", opening up a number of questions concerning the convergence of biopower and infrastructural power in the Anthropocene.

2. Manufactured plants for climate resilience? How biotech-firms play the climate card.

Anneleen Kenis, Brunel University London & Barbara Van Dyck, Université Libre de Bruxelles – hybrid from Lund

This paper analyses how climate goals have been strategically mobilised to convince European politicians and citizens of the need to deregulate new genetically modified organisms. As the paper shows, this reframing is the result of an orchestrated lobbying campaign which, after decades of failure to sell genetically modified food to the European public, aimed at presenting it in an entirely new day light. The first step was to rename the techniques involved. A coalition of biotech researchers and firms launched terms like gene-editing and precision breeding, avoiding any association with the contested term of genetic modification. Second, biotech researchers and firms argued that their processes are not really different from what happens in nature, but just an advanced version of it. Third, these strategic coalitions mobilised the climate emergency to claim that less stringent regulation would boost urgently needed innovation. As we will show, this well-thought-through lobbying campaign brings the story of the sorcerer's apprentice to the heart of the debate on genetic modification again, though this time in a twisted way. Maybe more than any other case, it's mobilisation of key scholarly debates on nature, technology and the Anthropocene shows us where political ecology has gone wrong, to paraphrase Giorgos Kallis, as well as ways to move beyond this predicament.

4. Colonial futures? The modernity of 'New Genomic Techniques'

Barbara Van Dyck, Université Libre de Bruxelles; Saurabh Arora, University of Sussex & Anneleen Kenis, Brunel University London – hybrid from Lund

Deploying so-called 'new genomic techniques' like CRISPR-Cas9, a wide range of 'super-creatures' are being developed and promoted by powerful corporations, influential scientists, modern nation-states, and international governance institutions. These 'super-creatures' include big muscular animals, toxin-releasing plants, and biomass-boosting carbon-storage crops. They are argued to be essential for realising climate resilience and sustainability. Reviewing patent applications, academic presentations and promotional

materials, we analyse the narratives developed by promoters of super-creatures in terms of the practical worlds they aim to engineer. A range of social movements and activists criticise genetic engineers' and promoters' focus on individual organisms to build resilience and sustainability. Criticisms focus on the neglect of organisms' ecological embeddedness and of radical uncertainties. Focusing on individual organisms is also seen as directing attention away from the wider political formations that need transforming in struggles for sustainability. Critical among such formations are considered agro-industrial complexes, socio-technical regimes, and plantation capitalism. It is to this conceptual mix that we add colonial modernity as a globally hegemonic formation to be transformed for sustainability (Arora and Stirling 2023). We show how the worlds aimed through the development of super-creatures assume comprehensive superiority of 'modern' ways of knowing over others, appropriate cultural privileges, assert military supremacies, extend imaginations of control, expand toxic extractions, and enforce gendered dominations. Without dismantling such constituting dimensions, we argue, modernity will keep engineering colonial 'super-futures' to marginalise alternative sustainabilities.

Hybrid panel LU305: Infrastructure Sabotage as Future-Making II: In-/Visible Infrastructure Sabotage

Theo Aalders, Bonn University – hybrid from Lund

This double panel invites interventions that engage with infrastructure sabotage on the assumption that it cannot be fully understood as a purely destructive practice directed against what the targeted infrastructure produces materially and symbolises immaterially. As infrastructure produces particular visions of the future, infrastructure sabotage is often implicitly understood as an un-making of that future. We therefore invite contributions that explore infrastructure sabotage as a form of future-making in its own right; not as something diametrically opposed to the construction of infrastructure, but rather as a strategy employed by marginalised groups that allows them to enter or alter the political arena in which infrastructure is negotiated. This can include cases around climate justice movements as discussed by e.g. Andreas Malm, but also more generally about infrastructure sabotage as a strategy of constructive destruction employed by marginalised people around the world and throughout history around topics relevant to political ecology. Potential questions may include: - What are the reasons for social movements to target infrastructure specifically? What are the characteristics of infrastructure that constitute it as an arena of political struggle? - What is the relation between infrastructure sabotage as a material and as an immaterial or discursive practice? Are acts of infrastructure sabotage merely symbolic, or do they have the potential to also directly create material change? - What kind of constructive futures do saboteurs and their supporters connected to the ostensibly destructive practices of infrastructure sabotage? - Under what circumstances does infrastructure sabotage contribute to constructive future-making practices? - What are lessons from historical examples of infrastructure sabotage from across the world? - What are the dangers of infrastructure sabotage as a political strategy, such as fetishization or negative public receptions?

1. Mining Infrastructure in Kenya

Catherine Amayi Mosi, Kenyatta University – hybrid from Dodoma

In 2016, the Kenyan government gazetted the Mining Act 2016 to oversee the mining infrastructure in Kenya. This scaled up what was already an aggressive campaign by Western multinationals to explore and extract mineral resources across the country from titanium and coal along the Kenyan coast to oil in northern Kenya to gold in western Kenya and tones of other minerals across the country. While this law gave these mining multinationals the space and the legitimacy to expand their infrastructure, it exploited and invisibilized the communities that live in these lands thus dispossessing them while also causing irreversible ecological harm. This work will address the sabotage of mining infrastructure in Kenya as a radical and essential framework for creating desirable futures. It will explore the history of mining in Kenya, including the work by anti-mining movements and the critical role they played in disrupting the coal infrastructure despite the militarized response from state, and local mineral brokers and mining companies. The work will highlight some of the resistance actors, for instance, "DeCOALonize movement", which is a Kenyan grassroots anti-mining movement that sabotaged plans to install a coal plant in Lamu, Kenya. Despite the danger and the state's militarized campaign to stop them, they used all resources at their disposal to stage protests, move petitions, litigation and importantly, they disrupted the state's plans, leading to total abandonment. This work will dismiss the idea that infrastructure sabotage is a destructive practice, but rather, a necessary protector of the collective desirable futures, including crucial marine biodiversity as argued by DeCOALonize. Ultimately, the work will explore how sabotaging mining infrastructure has produced and pluralized material change for marginalized communities as it allows them to assert their power within the physical and political landscape.

2. Subverting Propaganda: Lützerath, Infrastructure Sabotage, and a Political Ecology of Media Manipulation

Elena Salmansperger, independent scholar – hybrid from Lund

One year has passed since the demolition of Lützerath, a squatted village and autonomous zone in Germany. For over 2 years people blocked the expansion of an opencast lignite mine, among other tactics through sabotaging pumping stations, electricity pylons, and police/ eviction vehicles. Despite claims of "sustainability" industrial mining remains socially and ecologically devastating on multiple levels. Looking at the intersection of ("green") mining infrastructure and resistance, this paper argues that a political ecology of media manipulation contributes to better understanding infrastructure as a terrain of political struggle and sabotage as political participation. Building on ethnographic research in Lützerath and an analysis of local news production through Herman and Chomsky's (1988) "Propaganda Model" this paper explores corporate media as a crucial infrastructure in the production, dissemination, and imposition of (green) capitalist visions of the future, which secure capitalist expansion in the present. Hereby, studying news production and contrasting dominant media narratives to realities from within Lützerath unpacks claims of "symbolism" and "dangerous left extremism" as distractive social management technologies which function

through imperial discourse. Understanding the production and delegitimizing function of dominant media narratives around Lützerath's defense may prove useful for further engagement with socio-ecological struggle and sabotage.

3. Sabotaging Knowledge-Infrastructure: Challenging hegemonic understandings of colonisation in Aotearoa New Zealand

Kyle Matthews, He Whenua Taurikura, Te Herenga Waka – Victoria University of Wellington – hybrid from Lund

I step away from normative concepts of infrastructure sabotage by presenting a case study of an Indigenous group in New Zealand that sabotaged knowledge-infrastructure by defacing a display at the national museum. The display presented two versions (Māori and English) of the Treaty of Waitangi – New Zealand's founding constitutional document. The sabotage of the English text of this display by Te Waka Hourua – an Indigenous climate activist group – highlights two important elements of the way that this group approached its act of sabotage. The first is the understanding that how political and ecological futures are built depends on our understanding of the past. By defacing the English version of the Treaty the group highlighted the differences between the two. These differences raise important constitutional questions about New Zealand's history of colonisation, and whether a colonial government is the vehicle to guide Indigenous and settler peoples into New Zealand's future. The second is that these activists, by targeting knowledge-infrastructure - thought in broad rather than specific terms. The infrastructure that they sought to sabotage was not a material instance of environmental damage, such as government institutions, corporations, or fossil fuel infrastructure. Instead, by targeting a display at the national museum they should to shift public understandings – largely hegemonic - of colonisation and settler rights to land, economic activity, and to do environmental damage. I use this act of sabotage as a springboard to explore the value of radical acts – such as sabotage - to social change. I argue that radical acts disrupt, shift, and fracture the colonial hegemonies that drive colonisation. These three dynamics provide a model for activists and scholars to theorise in practical ways how radical acts advance social change.

4. Infrastructure Sabotage as Future-Making: Constructive Destruction and Visibilities around the "Game Galana" Dam Project in Isiolo, Kenya

Eric Mutisya Kioko, Kenyatta University & Theo Aalders, Bonn University – hybrid from Lund

In this intervention we make the argument that in order to understand why marginalised people commit infrastructure sabotage, we need to understand infrastructure as a political strategy, rather than as apolitical vandalism. This also means to understand infrastructure sabotage not only as a destructive practice, but also as a constructive practice of future-making. Infrastructure construction projects are understood as "constructive", as opposed to "destructive" sabotage. We show that the construction of the Game Galana Dam was perceived as a destructive intervention, while the sabotage of the dam was part of a strategy to "construct" a future for marginalised groups in the area.

Based on a case-study in Isiolo, Kenya, we show that infrastructure makes power concrete, but also assailable and thus subject of contentious politics.

Hybrid panel LI23: Questioning the ecological and justice outcomes of NbS II

Jean Carlo Rodriguez de Francisco, German Institute of Development and Sustainability – hybrid from Lund

Nature-based solutions (NbS) refer to working with nature to tackle societal challenges, intending to benefit human well-being, climate and biodiversity (NBSI, 2022). However, some critical research has questioned the effectiveness of NbS as a concept because of its vague and all-encompassing framing as a "solution", which may obscure its negative or unintended impacts. This panel will examine the ecological and justice outcomes of NbS, specifically in area-based conservation, forest landscape restoration, and ecosystem-based management, using case studies from Brazil, Colombia, Ecuador, Spain and the Global Biodiversity Framework negotiation. The panel will draw lessons for creating more just and plural futures by applying the lens of political ecology and environmental justice.

1. The Misiguay Forests case in Colombia: The environmental justice of area-based conservation

Jean Carlo Rodriguez & Mirja Schoderer, German Institute of Development - Sustainability-IDOS – hybrid from Lund

Nature-based Solutions (NbS) are increasingly used to promote water security, biodiversity conservation, climate action and human well-being. However, NbS can likewise marginalize community livelihood strategies, favor dominant interests, and create or reinforce existing inequalities. The paper examines how (in)justices are created in designing and implementing area-based conservation and how their environmental justice implications can be assessed in an interdisciplinary, participatory manner. It focuses on the interlinkages between its three dimensions (distributional justice, procedural justice, and recognition) and disentangles how their (lack of) consideration affects NbS design and implementation. The paper does so in the context of the Misiguay Forests Natural Park in Santander, Colombia, where environmental authorities declared a regional protected area to ensure water provision and biodiversity conservation after its previous informal management by local farmers had succeeded in well-preserving 95 % of the forest area and its extraordinary biodiversity. The paper concludes by underscoring the potentially negative impact of NbS on communities and their social acceptance and reflects on how these communities can be meaningfully included in equitative research that serves their interests and supports environmental justice action.

2. Groundwater conservation and Nature-based solutions. The case of springs in La Palma (Canary Islands, Spain)

Noelia García-Rodríguez, Universidad de La Laguna – hybrid from Lund

Water is a vital resource that guarantees life in any environmental context. In insular areas, this statement becomes even more crucial. The subsistence of local populations, the sustainability of the economy, and the conservation of island ecosystems depend on the wise management of available water resources. It is essential to have an appropriate mix of soft measures, such as policies and management strategies, and hard measures, such as technologies and infrastructure, to ensure efficient water management. In this presentation we will talk about the case of La Palma, an island where the springs have been seriously affected, especially since the 1970s, by the extraction of groundwater through galleries (water tunnels) for irrigation of banana farms (an export crop). Many water springs have disappeared, and others have lost a significant portion of their historical flow. Throughout history, the island has relied on its water and other natural resources, which have been protected in various ways. Also, conflicts related to controlling water and other resources have been frequent in recent history. We will focus on one of the strategies that have been developed to protect and recover them: the construction of closures in the water galleries, an example of a Nature-based solution.

3. Towards transformation? Closing down and opening up opportunities for democratic participation in the pursuit of Nature-based Solutions

Caitlin Hafferty, University of Oxford; Caitlin Hafferty, University of Oxford; Mark Hirons ,University of Oxford; Emmanuel Selasi Tomude, University of Nottingham; Constance McDermott, University of Oxford – hybrid from Lund

Nature-based Solutions (NbS), hailed as holistic approaches to the biodiversity and climate crisis, face challenges due to prevailing hegemonic framings. Dominant perspectives risk sidelining sustainable alternatives, neglecting socio-cultural viewpoints, reinforcing a people-versus-nature dichotomy, and promoting the neoliberalisation of nature. Consequently, this impacts knowledge politics and the marginalisation of local knowledges, new forms of exclusion and inequality, and missed opportunities for advancing meaningful democratic participation. Calls for more plural framings of NbS persist, yet there is a lack of research that critically examines the interplay between the governance of NbS, participatory democracy, and how this influences equitable outcomes. Drawing from semi-structured interviews and a survey questionnaire with UK practitioners involved in NbS projects, our findings explore how different NbS framings and governance models open up and close down plural, participatory, and empowering outcomes. Despite strong messages and well-intentioned efforts for more holistic and diverse framings of NbS, we find that prevailing narratives - especially those prioritising technocentric, market-focused, top-down and control-oriented forms of intervention - often impede transformative outcomes by diverting attention from critical discussions about power, equity, and justice. We advocate for an urgent critical reassessment of NbS, emphasising meaningful democratic participation for genuinely transformative and just outcomes.

4. Knowledge and authority in the Rights of Nature

Cristina Espinosa, Universidad de Friburgo – hybrid from Lund

Rights of Nature (RoN) have gained ground vis-à-vis mainstream environmental governance around the Globe. These rights are expected to shape more environmentally just, sustainable, and epistemically diverse futures in which traditionally marginalized and racialized subjects are empowered. The question of what sorts of knowledge and expertise are relevant in RoN frameworks, however, has been contested. Some scholars maintain that scientific input is eminent for the effectiveness of these laws. Others contend that because RoN movements are often driven by and based on knowledge emerging outside of academic disciplines, transdisciplinary input is also necessary, and stresses RoN's appeal to indigenous knowledge as an alternative sphere of argumentation. To date, however, the interactions between different knowledge systems revolting around RoN have not been thoroughly investigated. Underscoring that knowledge production, use, dissemination and contestation are constitutive of power relations in societies, in this contribution, I offer an initial classification of 4 interfaces between knowledge and authority that emerge with RoN and discuss their implications regarding the politics of representing "Nature". The analysis is based on a systematic literature review of scholarship that touches upon knowledge systems and their interactions in connection to this category of legal developments.

Panel 211: More-than-Human Mappings: Cultural and Domestic/Everyday Perspectives II

Ferne Edwards, City, University of London

Maps have traditionally been dominated by powerful human groups and interests. In recent years, coinciding with technological advancements, the map and mapping have gained wide application. Alternative map-making techniques, such as counter-maps, have become popular for revealing embedded power structures while conveying collective, ethical and subjective perspectives (Awan, 2016). Characteristics of this movement includes a "relational or processual turn in cartography" that encourages "multiple, diffuse, and unpredictable ways" of mapping towards remaking diverse knowledges and truths (Harris & Hazen, 2009: 52, 53). However, a gap remains to extend the democracy of this new wave of western map-making to more-than-human worlds. This panel is situated in the city - home to diverse natures, many of which remain hidden, marginalised or vilified. It seeks to shift map-making towards a more-than-human perspective that recognises the agency, ethics and rights of nonhumans towards more just, lively and convivial spaces of human / nonhuman coexistence. Such a shift is not without conflict, where new maps must counter traditional perceptions of the city as anthropocentric, neoliberal, individualistic, partitioned and stable (Edwards & Pettersen, 2023). This panel asks; what do map-making practices need to consider in shifting to a more-than-human city? This session focuses on maps/mapping practices in and of indigenous communities around the world, followed by papers exploring the politics and ethics of domestic human/nonhuman exchanges through mapping.

1. To Map an Intricate Dance of Heat

Serena Dambrosio and Nicolás Díaz, FADEU Universidad Catolica de Chile/FAIR - Futures of Artificial Intelligence Research/EARQ Universidad Andres Bello

Every day, a water droplet navigates the cooling system of a data center, a labyrinth teeming with heat-emitting servers. Pumped through pipes, it absorbs the heat, safeguarding digital processors from overheating. This heat exchange is vital for our insatiable demand for data, occurring in the tangible "data cloud" infrastructure. We are often told that the data cloud transcends geographical limitations but the physical location and materiality of data matters. Our digital perspective tends to harbor a frictionless, distant, and limitless spatial bias when observing this non-human actor. During the last few years, Quilicura has become a privileged location for data center projects promoted by big tech multinationals. While their implementation brings back a renewed promise of development and socio-technical progress to Chile, it also implies an environmental impact on their wetland ecosystem that has not yet been mapped. Water in Quilicura is much more than an intricate dance of heat; it relates to the growth of Totora used in traditional weaving techniques, to the Coipo, the Poyoya, the Becanina, and many more species. The paper analyzes the cartography made during the project "Wetlands Enmeshment: Water, Cables, and Data in Quilicura," a set of activities during January 2024. It involved architecture, geography, sociology, anthropology, art academics and students, representatives of local communities, and public institutions to understand, rethink, and map together the relationship between wetlands and data centers: water and data.

2. What prohibits and promotes biodiversity-inclusive planning? Planners' view on using multi-species diversity mapping as non-human stakeholders' voices

Jing Lu, José Antonio Manzanera, Universidad Politecnica de Madrid & Li Li, Xi'an Jiaotong-Liverpool University

Cities, recognized as novel ecosystems, increasingly influence global biodiversity conservation. The Kunming-Montreal Global Biodiversity Framework (GBF) calls for biodiversity-inclusive urban planning to enhance native biodiversity and contribute to inclusive and sustainable urbanization. Bridging the knowledge gap and fostering collaborations among ecologists and built environmental professionals are critical challenges in this context. While ecologists advanced knowledge and developed tools for spatial biodiversity prioritization, planners and designers seek insights from non-human species to redesign a more-than-human urban future. However, integrating biodiversity data into urban planning remains a challenge, necessitating a cohesive approach between disciplines. This research explores the knowledge and value awareness, perceived barriers and incorporating or integrating approaches of infiltrating biodiversity science advances and involving local biodiversity as non-human stakeholders to inform urban planning and design decision- making. We use citizen-science data and the Maximum Entropy (MaxEnt) algorithm for urban multi-species diversity mapping to exemplify inclusive urban planning and design (BIPD). To understand how built environment professionals perceive BIPD, we employ Q-Methodology, analyzing attitudes towards the MaxEnt model among Global North and South professionals. Our study aims to identify subtle barriers and potential coping strategies in fostering more effective collaborations for a multi-species biodiversity-inclusive urban future.

Panel 632: The politics of disaster and risk

James White, Lund University

The ways in which societies define, represent, prepare for and respond to disaster and risk are intrinsically political. In an increasingly globalised and interconnected world, natural hazards, including disease outbreaks, appear to be on the rise. But exposure and vulnerability to these risks is unevenly distributed, as is the power to say when their impact constitutes a disaster. Social inequalities and complexities raise new challenges for the study of environmental risk. How are the partial visibilities and representations of disaster response bound up with state-making? How do the slowly unfolding effects of climate change condition the possibility for preparation? How do containment practices and other mitigation measures trigger cascades of adverse human rights impacts? The papers in this panel address these questions from legal, sociological and anthropological perspectives, drawing on geographically diverse examples and exploring how societies might respond differently.

1. Cyclone Mocha as a Theatre of Power: Competing State-making in Post-Coup Myanmar's Climate-Vulnerable Landscape

Justine Chambers, Danish Institute for International Studies

On 14 May 2023, a devastating category 5-level cyclone struck Myanmar's northwestern Rakhine state, causing widespread destruction and loss of life. The Rohingya, already a stateless and historically oppressed population, bore the brunt of the disaster. Strikingly absent from the military-controlled media was any acknowledgment of the Rohingya's plight, as the focus remained on celebrating the junta's disaster response, donations, and purported care for civilians. Despite this reality of violence and oppression, the junta strategically utilized Cyclone Mocha to project power through orchestrated displays of generosity and efficient disaster management. In a parallel effort, the ethnic armed organization, the Arakan Army, and its civilian wing independently conducted disaster preparedness and relief operations. The parallel National Unity Government (NUG) also made efforts to fundraise for victims of the cyclone. This paper delves into the appropriation of a 'natural disaster' by both an authoritarian regime and opposing movements. We posit that this competitive appropriation serves as a manifestation of pluralised state-making, wherein responses to climate change-induced crises become inherently politicised. Within the context of Cyclone Mocha, this politicization is deeply entwined with the broader conflict between the junta and resistance groups, each contending for state-like control over people and territories.

2. The continuum of disaster: feeling, perceiving and anticipating more-than-human change at Europe's periphery

James white, Lund University

Climate change becomes readily apparent through sudden and unexpected events such as natural hazards. These undo the patterns of ordinary life, revealing and exacerbating existing social and material inequalities, and placing the most vulnerable at tremendous

risk of harm and violence. More incremental manifestations of climate change tend not to gain such notice, however, hindering corrective and anticipatory collective action. Inspired by concepts of slow violence, slow disaster and the continuum of violence, we here think through the temporalities of climate-induced harm, how more-than-human change is perceived, and how incremental change becomes the basis for action in the here-and-now. The paper draws on empirical research in far-north Sweden and south-west Turkey, where a nearness to and in-depth knowledge of nature, land and landscape underscore recognition of the damaging effects of climate change. Rather than define disaster according to periods of before, during and after, these reflections from Europe's periphery prompt its reconceptualisation as something experienced continuously in different ways, more as a continuum than an event. We argue that sensitivity to the uneven and interwoven temporalities of climate-induced harm allow for greater breadth of corrective and anticipatory action, a preparation through slow solidarity.

3. Cascading risks, interdependent rights, and the progression of vulnerability in the context of pandemic containment measures: Implications for anticipatory action and the humanitarian-development nexus

Matthew Scott, Raoul Wallenberg Institute of Human Rights and the Humanitarian-development nexus

This paper articulates a human rights-based approach to addressing cascading risks in the context of pandemic containment measures. It sets out to highlight how the principle that human rights are interdependent and interconnected, reflected in normative standards articulated by human rights treaty body mechanisms, can inform anticipatory action and work at the humanitarian-development nexus. Grounding a human rights-based approach in the political-ecological understanding of the progression of vulnerability, it considers interconnected impacts of lockdown on the right to liberty of movement, the right to the highest attainable standard of physical and mental health, the right to work, the right to social security, the right to adequate housing and the right to water and sanitation. The paper outlines specific entry points for integrating this approach at points along the humanitarian-development nexus continuum, grounded in an appreciation of the progression of vulnerability. The paper calls for pilot studies to explore the impact of an integrated human rights-based approach to cascading pandemic risk.

Panel 606: Carbon offsetting and biodiversity

Megan Evans, University of New South Wales; Mark Hirons, University of Oxford; Liisa Varumo, Finnish Environment Institute; Florence Damiens, SLU University

1. Biodiversity finance as a technology of power: Discourses of innovation and regulation in an Australian case study

Megan Evans, University of New South Wales

Scholars have examined neoliberal conservation for at least two decades, yet such approaches are enjoying their latest zenith in the form of 'biodiversity finance'. The endurance of neoliberal conservation is grounded in a discursive space, rooted in often unseen negotiations of knowledge and power, rather than in substantive potential for it to deliver material benefits. Here we seek to understand the state of play of biodiversity finance from the sites of its discursive production in Australia, a country that has long embraced marketized environmental policy. Drawing on transcripts of 29 semi-structured interviews, we identify two key discursive themes: The Innovative Spirit and Regulation. Commodification of nature was seen as impossible, but inevitable – with biodiversity credits being the primary object of innovation. Profit signifies an existential benchmark with biodiversity as subordinate, either implicitly or explicitly (as a 'co-benefit'). Complexity and temporality are key discursive strategies, often employed to maintain and sure-up various power dynamics. Enabling and de-risking the market was seen as the key regulatory purpose, yet the data also revealed initiatives such as the Taskforce for Nature-Related Financial Disclosures as a source of fear – highlighting one of several opportunities for disruption, that is, pathways for materially better outcomes for biodiversity.

2. Are Nature Markets better than nothing? How would we know?

Mark Hirons, University of Oxford

Nature markets are burgeoning as a response to growing concerns related to biodiversity loss and climate change. Proponents of nature markets claim that they offer a politically feasible, flexible and efficient way to scale-up expenditure on activities which will restore nature and mitigate climate change. There are, however, widespread critiques of nature markets. These revolve around the economic logic, political impacts, social inequities and ecological effectiveness associated with nature markets. Nonetheless, a key argument in legitimising nature markets is that they are 'better than nothing'. In this paper, we seek to review the key threads of debate around nature markets and reflect on how to more robustly interrogate the claim that nature markets are better than nothing. In doing so we highlight what kinds of alternatives already exist and the range of approaches that could be used to assess potential counterfactuals. We hope this work will serve as a provocation to research communities and practitioners to articulate more comprehensively alternatives to nature markets to enrich deliberations about how to address interlinked biodiversity, climate and social crises.

3. Deconstructing biodiversity offsets: An exploration of ontological conflicts and alternative approaches to conservation in Finland and Colombia

Liisa Varumo, Finnish Environment Institute

Market-oriented conservation policies, such as biodiversity offsetting (BO), are designed and implemented through institutions that perpetuate Eurocentric power structures and the hegemony of Western sciences. This often hinders their ability to recognise the required local adaptations and onto-epistemic pluralities necessary for them to become socially just. This paper explores local consequences of BO and how different values,

ontologies and knowledge systems collide on the ground through collaboration, resistance and offering of alternative approaches in BO and conservation. Through two case studies implementing offsets, Cerrejón coal mine in Colombia and the Sakatti mine in Finland, the ontological and epistemological dimensions of the politics of BO are scrutinized. Both offsets impact local indigenous peoples, the Wayúu in Colombia and the Sámi in Finland. Applying a political ontology perspective, interviews with stakeholders, field observations and environmental permit applications and company documents are analysed to reveal how BO are an example of the 'modern ontology' (Blaser, 2016) in action reproducing epistemic injustices. BO policies enable and encourage diverse strategies to collaborate with or marginalise local communities in conservation practices. Strategies to overcome these injustices and decolonize conservation practices are deliberated by exploring the alternative approaches that local communities provide in biodiversity conservation.

4. Are we over-focusing on neoliberalism? Radicals, Prometheans and long-term biodiversity offset politics in Victoria, Australia

Florence Damiens, SLU University

Biodiversity offsetting – the compensation for biodiversity losses due to authorized development via the production of offset gains – has become a major instrument in biodiversity conservation governance, while remaining controversial. The critical literature has associated offsetting with the neoliberalization of conservation but has provided little explanation for changes in offset policies across time. Here, I conduct a genealogy of biodiversity offsetting in the context of Victoria, Australia, considering the settler-colonial foundations of the state. Using a corpus of policy texts, 26 interviews and a Foucaultian understanding of discourse and environmentality, I analyze the discursive struggles at play behind mundane changes in offset technologies over 1990s-2010s. Offsetting emerged prior to neoliberalism, as part of a 'vegetation panopticon' constructed by conservationists, including radicals, to arrest colonial practices of land clearing and discipline Promethean land clearers. Yet, the neoliberal revolution of the 1990s, but also waves of Promethean backlashes over 1990s-2010s, have progressively transformed offsetting into hybrid assemblages of sovereign and neoliberal technologies made to ensure development certainty. This study highlights the importance of considering context, long-term struggles and technical details when analyzing offset politics, with these having moved at the level of technologies such as maps, models, 'like-for-like' rules, metrics and gain calculations.

Panel 621: Agrarian transformations

Judith Müller, Heidelberg University

Different alternatives to the dominant paradigm of corporate industrial food production are negotiated on a smaller or larger scale worldwide. The climate and biodiversity crises impose an ever more urgent need to rethink hegemonic ways of farming. Critical agrarian studies, yet, not only ask for environmental but also social justice in the farming sector.

Three different case studies interrogating the transformative potential of agrarian alternatives from Australia, Tadjikistan, and Germany are discussed in this panel.

1. Exploring the transformative potential of permaculture: framing the movement for social and environmental justice in Australia

Giuliana Fiore, University of Queensland

Human-induced climate change is causing severe environmental, social, political, and economic impacts in Australia and across the globe. In response to these challenges, diverse community and land-based solutions and social movements are emerging, offering a range of sustainable and resilient responses. One such response is permaculture, a movement that originated in Australia in the 1970s and has since spread globally, creating socio-environmental projects in urban, peri-urban, and rural areas. However, in Australia, the mainstream understanding of permaculture has largely been confined to gardening techniques, resulting in the oversight of its transformative potential in other dimensions of society beyond gardening. This paper presents preliminary findings from PhD research that explores how people within the permaculture movement in Australia use permaculture ethics and principles to frame narratives and practices for social change. Drawing from social movement theories and three months of ethnographic fieldwork, including 30 interviews and participant observation, the research highlights the dynamic process of framing the permaculture movement in relation to social and environmental justice. By constantly reviewing and discussing the meaning of permaculture, the movement is transforming the way people think about and engage with the environment and society. This research contributes to political ecology by shedding light on the potential of permaculture as a tool for social and environmental justice in a changing world.

2. Cultivating Justice – "Solawis" as a pathway to agrarian transformation?

Judith Müller, Heidelberg University

This paper explores the potential of Community Supported Agricultures, labeled "Solawis" (Solidarische Landwirtschaft) in Germany, as catalysts for socio-ecological change in the agri-food sector. Adopting an intersectional perspective inspired by feminist political ecology (Rocheleau et al. 1996), the research analyzes how Solawis function as spaces for a just agrarian transition and are meanwhile structured by social categories. The study takes place within the context of the Research Group Food for Justice, which critically examines inequalities and injustice in the global food system (Motta 2021). Vegetable cultivation has a long tradition in the Heidelberg region (Germany) due to favourable climate and soil conditions. However, disruptions in the sector characterize the last years. This research first investigates the reasons for the decline of (peri-)urban small-scale farming. Second, it asks how CSA initiatives contribute to filling this growing void as agricultural alternatives. Third, it examines from an intersectional perspective how social categories shape social dynamics in the Solawis. These questions are addressed through interviews and participatory observation. The Heidelberg case is exemplary for similar dynamics in Germany and beyond. Results are interrelated to multiscalar processes within the agri-food system, e.g. against the background of capitalist agri-food dependencies between the Global North and South.

3. Organic dreams, unequal realities: Challenges and benefits in Tajikistan's organic cotton

Aksana Zakirova, Eberswalde University for Sustainable Development

This paper explores the adoption of organic cotton farming by smallholder farmers in the Khatlon region of Tajikistan through a political ecology lens. Drawing on case studies from two cotton-growing districts in the southwest of the country, we analyze the intricate interactions between ecological, economic, social, and political factors influencing smallholders' decisions to transition to organic practices. In addition to shedding light on the critical role of smallholder farmers in sustainable agriculture and rural development, we aim to address the following research question: How do power relations, institutional frameworks, and market dynamics influence the adoption of organic cotton by smallholders, and what are the implications for local communities? By delving into these aspects, we highlight the necessity for supportive policies and inclusive market mechanisms. Furthermore, this study recognizes the vulnerability of smallholder farmers to the volatility of the global market for organic cotton, influenced by external shocks such as pandemics, wars, and natural hazards. Considering the absence of domestic markets for organic agricultural produce in Tajikistan, we emphasize the reliance of smallholders on turbulent external markets, underscoring the urgent need for resilient and diversified market linkages to safeguard their livelihoods. The findings contribute to a nuanced understanding of the intricate dynamics of organic cotton adoption, aiming to inform strategies for promoting sustainable agriculture in developing regions.

Panel 631: Geopolitics, conflict and justice in conservation

Anwesha Dutta, Chr Michelsen Institute

1. Conservation Conflict: A Political Ecology Meta-Synthesis of East Africa

Daniel Di Marzo, University of Freiburg

Protected areas (PAs) are often seen as a solution to the biodiversity crisis, however, such conservation intervention can drive environmental change and conflict. Despite being presented as neutral and technically informed, PA establishment is highly political, often concealing social, economic, and political factors. Political ecology research examines how dominant narratives shape PA establishment, helping to better understand multi-layered conflicts involving often marginalized communities, conservation actors and wildlife in East Africa. This paper presents a meta-synthesis of PA expansion in the region, revealing the intricate relationship between conservation and conflict. The analysis identifies four key themes: 'commodification of wilderness', 'the war for biodiversity',

'community marginalization on the periphery', and 'conservation biopolitics'. By novel utilization of meta-synthesis methodology, this paper contributes twofold: themes provide nuanced regional understandings of the processes driving conservation conflicts while drawing theoretical insights from case study research which reveal the general applicability of findings from political ecology research.

2. Characterizing forms of green and blue colonialism: insights from an international comparative analysis of marine protected areas

Jean-Eudes Beuret, Institut AGRO

Political ecology has played an important role in revealing the images, discourses and paradigms that are taken for granted by those who design conservation policies. Using the comparative analysis of 13 case studies spanning 5 continents, we expand on this research by demonstrating the existence of a generic model of the Marine Protected Area (MPA), applied everywhere, mostly tacit, that results from these assumptions. Analyzing the trajectories of MAPs and the conflicts they cause enables us to identify 7 components of this model: they concern the actors (who decides), what legitimizes the decision, the decision's temporalities and vectors, and then, in action, the relationship with the space, with nature, with exchange and with the action's format. Laying bare this model makes it possible to explain the misunderstandings that arise and the problems in acceptance at the root of many inefficiencies. Analyzing the model's deciding factors and vectors leads us to associate it with forms of green (Blanc, 2020) and blue (Ros, 2021) colonialism based on specific mechanisms that we characterize. We then make proposals after observing forms of local adaptation or reinvention of the model and analyzing the requirements for its global redesign.

3. The Global Biodiversity Framework: 'Considerations' on power and epistemological inequalities and potential for justice

Alison Hutchinson, Newcastle University

The Kunming-Montreal Global Biodiversity Framework (KMGBF) is the latest global attempt to coordinate conservation efforts to collaboratively tackle the biodiversity-loss crisis. However, tensions have long been present in the Convention, stalling implementation progress, as differing visions of equitability from biodiversity and nature collide (Zinngrebe, 2023; Morgera & Tsioumani, 2010). This presentation examines how the 'Considerations' within the Framework interact with the established Goals and Targets; and highlights how a plurality of worldviews, knowledge systems, and diverse values are presented. Despite the introduction of ecocentric (nature-centered) approaches within the Considerations, market-based and business-orientated valuations of nature run through the seams of the Framework. These contrasting approaches produce challenges for interpretation and implementation and speak to longstanding geopolitical power and knowledge divides – and the privileging of Eurocentric and Global North practices and norms in biodiversity governance. Calls for transformative change highlight how business-as-usual responses are no longer an option if we are to seriously address species loss and biodiversity decline. I suggest that a greater emphasis on the more progressive and holistic elements within the Considerations can encourage a shift

in in the way nature is valued within biodiversity governance and support more meaningful transitions to (non)/human, intergenerational, and multi-species justice.

4. Uncaged Conservation: an inclusive audio-visual exploration of wildlife marketplaces

Sicily Fiennes, University of Leeds

In Southeast Asia, wild birds are sought for singing competitions, prayer release, and as pets, a form of multispecies exploitation. Songbirds and their trade remain culturally and economically significant in Indonesia, a trade hotspot. Responses to bird trade can be problematic due to the region's colonial and oft-violent relationship with conservation biology. Indonesia's conservation laws are colonial derivatives and feed into a classic neoliberal carceral ecosystem.
Here, we present a transdisciplinary exercise, 'Uncaged Conservation,' a community and online platform that will creatively represent the realities of a bird market in Indonesia, focusing on the sensory experience. Along with an academic presentation, we also want to demonstrate the use of the website, where attendees will get a chance to explore the project and immerse themselves in it.
Fundamentally, we aim to fuse multispecies justice with an abolition ecology approach. To us, abolition ecology seeks to dismantle oppressive structures within ecological and environmental contexts. Through this project, we aim to critique the prison system's use for conservation purposes with its underlying inequalities and impacts on economically disadvantaged people. Lastly, we draw parallels with the caging of birds to counter the absence or rejection of abolitionist arguments within the wildlife conservation community.

Panel 639: Unravelling the Political Ecology of Technologies and Digitalisation in the Agri-food System

Sarah Hackfort, Humboldt-Universität zu Berlin; Cynthia Gharios, University of Münster, Germany and Cornell University, USA

Over the past decades, a convergence of multiple crises, including the 2007/08 food crisis and other socio-ecological crises, brought to the surface awareness of the fragility of the global food system and raised concerns regarding future access to food and its availability to feed the world's growing population without exacerbating the negative environmental impacts of current food production. New farming techniques, developed along the lines of technological innovations and the digitalisation of agriculture, currently occupy a growing place in the agriculture field. Described by some as the fourth agricultural revolution, these techniques are being promoted by a variety of actors as a solution to feed a growing global population with less (as well as more precise) and thus more sustainable use of inputs.

While some attention has been given to the digitalisation of agriculture in social science research including science and technology studies and critical food studies, the scholarship has so far given limited attention to the intersection between the material and discursive practices around technology, digitalisation, and innovation, and its intersection with the policies and discourses on environmental politics. Particularly lacking are historical studies on the digitalisation of agriculture, and whether or not this "revolution" and its environmental impacts are different from previous ones (such as the Green Revolution or the industrialisation of agriculture).

In this panel, we want to put forward the important insights that can be gained from adopting a political ecology perspective in addressing technological innovations and the digitalisation of agriculture, topics that have so far rarely been addressed from a political ecology perspective. We aim to bring together conceptual and empirical contributions from a variety of geographical areas. We invite abstract submissions that analyse the materiality and narratives of technological innovations and the digitalisation of agriculture as they relate to environmental politics, as well as historical analyses on these topics.

1. Feminist Political Ecologies of Agrarian Technologies: Knowing the Digital Differently

Hilary Faxon, University of Montana; Ingrid L. Nelson, University of Vermont & Melf-Hinrich Ehlers, Agroscope, Tänikon, Switzerland

As digital technologies become increasingly ubiquitous on and around the farm, we need to update how we approach the relationships between technology and agriculture. Critical agrarian studies offers some in-depth analyses of digital technologies, but they rarely engage feminist perspectives, risking the repetition of problematic old assumptions about scale, subjectivity and power relations. Feminist Political Ecology (FPE) scholars have long considered various technologies and the politics of their co-production of knowledge in agrarian and other contexts. This heterodox approach can help us to redefine and understand digital agricultural technologies from the spectacular to the mundane. We draw from the strengths of FPE, including attention to situated knowledges, gendered labor, and emotional intersectional and interspecies relations, to think through three digital technologies—remote sensing satellites, agricultural advice apps, and automatic milking systems (AMS)—that are transforming agrarian policy, practice, and social life. In doing so, we demonstrate how FPE compliments and expands emerging work within critical agrarian studies on the digital by encouraging ways of knowing agricultural technologies differently.

2. Where to go from here? Urban, Martian, and cyber food imaginaries in controlled-environment agriculture and the digital twin

Gwendolyn Moiles & Peter Feindt, Humboldt-Universität zu Berlin

Controlled-environment agriculture (CEA) is promoted as a solution to food insecurity in a hungry, ever-growing, and ever-urbanizing world. The ability to grow food in carefully-calibrated environments buffered from climatic variation conceptually removes food production from material constraints: food can now be produced virtually anywhere, from city centers to the far reaches of outer space. The conceptual decoupling of food production from place has been further deepened by the concept of the digital twin – a

simulation of a CEA farm used for real-time system optimization. This paper examines the concept of the digital twin and its contribution to a possible further erosion of geographical/material meanings of place in scientific-technological imaginaries of food production. Based on an analysis of scientific publications and science communications, it explores how food system transformation rhetoric is deployed and transformed via the digital twin, which is simultaneously enabled by place-based material, social, and financial infrastructures. By "unravelling" the relationships and dynamics (re)produced by CEA and digital twin imaginaries, this paper discusses the ideational origins and traditions that validate and reinforce certain agri-food imaginaries. The research contributes to a dissertation that explores alignments and frictions between the CEA sector and place-based dynamics in urban settings.

3. "A lot of mess in the space… a lot of facade": grand claims vs. realities in the digitalization of agriculture in Ghana

Fabio Gatti, Wageningen University; Sam Nicholas Atanga, Erasmus University Rotterdam & Oane Visser, Erasmus University Rotterdam

In the past few years, digital technologies have entered the rural space as a triple-win solution capable of achieving, at the same time, food security goals, reducing farming's environmental impact, and enhancing farm profitability or - in the global South - lifting smallholder farmers out of poverty. However, with the exception of some sociological inquiries in the Global North, empirical studies looking at Global South contexts, often the main target of donors and international development agencies' discourses, remain scarce. Our research aims at filling this gap. By looking at discourses around digitalization of agriculture in Africa, in combination with in-depth field research in one the major African digital innovation hubs (Ghana), our paper discusses the tensions between the grand claims of international donors and some of the material enactments of digital farming technologies on the ground. By highlighting 1. the limited accessibility of most of these technologies for small scale farmers; 2. the ambiguous and complex role of these technologies in empowering smallholder farmers in their daily practices and 3. the often overlooked importance of farmers' data for value extraction in most AgTech companies' business models, we contend that the discourses of policy makers, tech companies and international donors around the digitalization of agriculture in Africa must be carefully scrutinized.

4. Equality and Solidarity in Food System Transformation

Emma Haske, Vrije Universiteit Amsterdam; Jelena Visković, Oregon State University/ University of Novi Sad & Marko Stepančev, Coworking Hub Mokrin House

Traditional knowledge is a concept widely used to highlight the body of knowledge of less dominant knowledge-holders. Despite this common use, the implications of framing people as 'traditional' in relation to the goal of reaching equality in food system transformation is underexplored. 'Tradition' as a concept is most often used to denote a dichotomy with what is 'modern', Western, scientific, technological, and urban. This article addresses the case study of a project in Serbia which has the goal of digitalizing agriculture and modernizing a village. Narratives of digitalization and modernization are

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constructed as naturalized, inevitable futures for food system transformation among the academics and large-scale agricultural institutions involved. On a rural level, digitalization and modernization are both experienced as desirable and as fostering inequality. We show how constructing farmers as 'traditional' serves as a justification to neglect the role of inequalities in political and economic systems, and as a legitimization of promoting the modernist digitalization narratives, despite their negative consequences on small-scale farmers. This article proposes the concept of solidarity (1) as an empirical outcome, revealing struggle and resistance related to modernist narratives and digitalization, (2) to serve as an analytical lens to study the relation between actors with access to digitalization and actors without, and (3) to serve as a theoretical stepping stone to more equality in food system transformation, challenging linearities, dichotomies and hierarchies in modernist thought, and of framing people as traditional.

5. Continuities and Ruptures from Green Revolution to Climate Smart Agriculture: The Case of Water Management in Pakistan's Agriculture

Isbah Hameed, Erasmus University Rotterdam

Unravelling the Political Ecology of Technologies and Digitalisation in the Agri-food System Climate Smart Agriculture (CSA) has been proposed as a promising solution to improve agricultural productivity in contemporary climatic challenges, particularly in countries of the Global South. Also, in Pakistan, considering the impending threats of water and climate security to the agriculture sector, integrating CSA (particularly technologies like drip irrigation, sprinkler and bubbler) with irrigation practices has lately emerged as the central focus of the state's agriculture and water policies. The broad manifesto of this emerging approach, however, resonates much with the widely acclaimed green revolution in the 1960s in Pakistan that drastically transformed not only the water consumption patterns but also caused ecological degradation and increased rural class differentiation in the region (Glaeser, 2010; Gadi, 2003). It is, therefore, imperative to revisit the consequences of the previous interventions to anticipate the outcomes of current strategies. This paper intends to look critically at the continuity of the dominant inclination towards technical solutions in Pakistan's agricultural water management by drawing a historical analysis between the Green Revolution and CSA and conducting an empirical study in South Punjab (Pakistan). It has emerged that the techno-fixes proposed in policy discourse are not commensurate with the specific needs of the farming communities as well as the extensively prevalent socio-political challenges faced by communities in the region.

Closing session

Closing plenary session: Just and Plural Political Ecologies: Traditions and Futures."

16.45-18.15

Over the last 30 years, the field of Political Ecology has grown rapidly as a result of emerging socio-ecological challenges, actions by social movements, conceptual and methodological innovation, and the diversification of voices, especially from the Global South. Three journals in political ecology – The Journal of Political Ecology/Grassroots, Ecología Política, and the Journal of the Geographical Association of Tanzania (JGAT) – invite contributions to an open conversation about "Just and Plural Political Ecologies: Traditions and Futures."

As a run-up to the POLLEN 2024 conference, the Journal of Political Ecology - Grassroots has published a set of short statements about "just and plural political ecologies; traditions and futures". The original call for papers can be found here.

The authors of these statements intend to generate and "open conversation" that will continue through the POLLEN meetings, and afterward. It is the first step in an effort to publish a special volume on the conference topic in three journals: The Journal of Political Ecology; Ecologia Politica, and the Journal of the Geographical Association of Tanzania.

These statements are posted on the website of the Journal of Political Ecology - Grassroots, You may find the statements HERE. We encourage participants in the upcoming conference to review these statements and engage with the ideas in any way they feel appropriate. Although the initial deadline has passed for these short statements, we welcome and will receive additional statements up until the conference dates. However, we may not be able to publish them on the website before the conference.

At the POLLEN 2024 conference, the three abovementioned journals will participate in a plenary session on "publishing for just and plural political ecologies," commenting on major themes from the conference and the role of our journals in disseminating knowledge. Journal editors will form a plenary panel on the last day where they will discuss issues identified across the three locations at the meeting:

1) dominant and emergent tendencies in the field, and the promise of just and plural futures emerging from the knowledge practices of political ecology.

2) the role of publishing to nurture plural and just socio-ecological futures, and the challenges to advancing a pluralization of knowledge and practice within political ecology.

3) the kinds of submissions the journals would like to receive that would promote ecosocial justice and advance the pluralization of practices and knowledges.

After the conference, the journals will emit a Call for short statements as well as article-length manuscripts for a jointly published Special Volume on the topic of "just and equitable political ecologies."

We are excited to engage with activist and academic colleagues in this process of collaborative knowledge production.

Closure of Pollen24 in Lund

18.15-18.30

Moles reporting back

Closure of Lund conference