

Shifting power through climate research

Applying decolonial methodologies



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Key messages

- Colonial legacies and unequal power in Global North-South relationships continue to shape climate impacts, and to influence how climate research is conducted.
- Researchers can aim to shift rather than reinforce imbalances in Global North-South
 power relationships across three stages of a research project: project design, project
 implementation and dissemination of findings.
- Climate and environment researchers should recognize colonial legacy-related power relations in their research, and work towards incorporating the well-established decolonization literature within their own work.
- Researchers should aim for collaborative and co-productive methodologies that center
 on the needs of the communities where they conduct their research. Researchers
 should also ensure equitable engagement with partners from these communities and
 regions. Early and meaningful engagement at every step of a project is necessary so
 that such partners and groups can help set the agenda and shape research questions
 and priorities.
- Structural barriers present challenges for researchers to shift power individually.
 The international community of researchers, research institutions and funders must work together to spur meaningful, long-term changes in dominant funding models and established practices and norms.

Purpose

This discussion brief aims to provide insights into ways that individual researchers can aim to shift rather than reinforce unequal power relations in climate and environment research that disadvantage marginalized communities and the Global South. It seeks to launch wider discussions and actions on the subject to rectify colonial-era legacies that continue to affect power dynamics, detrimentally skewing research and its uptake.

We focus on climate change research, but the ideas put forward here apply to scientific practices on other subjects. We draw on the longstanding literature on decolonialism to discuss how power dynamics affect research practices. We draw on aspects of knowledge co-production processes to present practical ways that researchers can challenge existing practices in the design and implementation of projects, and in the dissemination of findings.

This is not a how-to guide. We discuss considerations that researchers can and should bear in mind. The applicability of these considerations depends heavily on the contexts in which researchers work. The brief aims to seed work exploring these and other ideas to foster change.

IMAGE (ABOVE): Awassa, Ethiopia © TYLER STABLEFORD / GETTY

Context

The climate crisis is fraught by unequal power dynamics. The world's most economically developed countries are historically the largest emitters of carbon emissions that are a main cause of climate change (Carbon Brief, 2021; Center for Global Development, 2015); yet the brunt of the impacts of climate change is likely to be borne by the poorest communities around the world who have contributed the lowest emissions (Okereke, 2010). Climate impacts are linked to centuries of colonial exploitation. The wealth and resources expatriated through colonialism provided fundamental pillars for industrialization and the resultant rise in carbon emissions. Those who are most vulnerable to climate change are marginalized groups and former colonies and colonized peoples, particularly Indigenous Peoples, countries in the Global South and small island developing states (SIDS) (Sealey-Huggins, 2017). The continued rise in carbon emissions has been enabled by an economic system that has been supported through colonial appropriation of developing countries; the situation contributes to what has been termed "modern-day coloniality" in the form of globalization, neoliberal capitalism and imperialism (Schulz, 2017). As such, this history continues to shape the development trajectory of the Global South. Such history is a force that perpetuates a cycle of dependency and is a factor in countries' debt crises, which further limit them from pursuing their development goals (Sealey-Huggins, 2017).

Changes must also take place in the cultures, paradigms and mindsets at research institutions.

Colonial legacies, unequal power dynamics and economic disparities also continue to impact dominant knowledge systems on the environment and climate change (Bachram, 2004). International institutions, such as the Intergovernmental Panel on Climate Change (IPCC) and the United Nations Framework Convention on Climate Change (UNFCCC), govern current knowledge production and framings of climate research, and they are dominated by the Global North (Thomas, 2018). Northern researchers and institutes are also overrepresented within academic publications that dominate the climate-knowledge economy and the setting of related research agendas (Biermann & Möller, 2019; Blicharska et al., 2017; David-Chavez & Gavin, 2018). More broadly, these power dynamics also influence the extent to which the marginalized groups, local communities and Indigenous Peoples that are most affected by the climate crisis are involved in shaping climate research and the "solutions" that it proposes. As argued by Boaventura de Sousa Santos, the struggle for climate justice includes the search for epistemic justice (Barreto, 2014; de Sousa Santos, 2018).

Power relations play out between Western and non-Western countries, between Northern countries and their former colonies, and in North-South relations, even for countries that were not colonized. They also unfold on smaller scales, through the privilege and positionality of researchers and different actors. Moreover, going beyond European colonialism, colonialism in the Asia-Pacific and Americas comes with different histories of relationships that have evolved over time. Though contexts differ, the ramification of colonial legacies in the global knowledge-production system provides a common starting point for researchers' self-reflections. Therefore, we use the framework of shifting power through research, referring to imbalances in power and equity in North-South and/or post-colonial contexts and research approaches that challenge, rather than reinforce, existing power dynamics. We refer to the Global South as "a sociopolitical and epistemic space that extends beyond geographical lines and represents those who are at a disadvantage due to unjust sociopolitical and economic structures regardless of where they are placed in the world" (Albornoz et al., 2020; de Sousa Santos, 2016). This definition therefore includes marginalized communities and Indigenous populations based in the Global North.

Considerations for researchers at three key phases of the scientific process

Project design

Unequal power dynamics must be addressed from the start: when researchers apply for funding. Existing funding mechanisms often perpetuate power imbalances that enable and cement the dominance of research and researchers in the Global North in knowledge production and dissemination (Gaillard, 2019; Neylon, 2020). For example, research often serves the agendas of funding institutions (such as development banks or international aid agencies), which may or may not always be aligned with the agendas and priorities of developing countries or local communities (Lewis, 2003; Sealey-Huggins, 2017). Moreover, the existing funding landscape is already unequal, with more resources for researchers in the developed world (Istratii & Demeter, 2020).

In the proposal-development and funding-application phases, researchers can aim to critically examine the call for proposal and/or grant-application mechanisms. The eligibility criteria, proposal review procedures, application deadlines, project life cycles, and evaluation schemes may, intentionally or not, discourage or limit applicants from developing countries and/or indigenous communities (Istratii, 2019). Research institutes could initiate a discussion on such funding mechanisms, and collectively consider concrete ways for funders to improve their calls, or to address these issues and biases in the proposal. Of equal importance is finding ways to finance research partnerships with in-country research partners to account for legal or capacity differences (Istratii and Lewis, 2020). As examples, flexibility in the contracting processes can allow partners to select a payment schedule that best fits their financial needs, or to undertake collaborative budgeting with a view to ensure the most beneficial cash flow and exchange rates for research partners (Istratii and Lewis, 2020).

Researchers should be cognizant of local contexts and histories.

Secondly, shifting power at the design phase also involves considering who is involved in a particular research institute or project team. Considerations of diversity and inclusion should inform hiring practices for research staff, project team formulation and advisory board selection. For example, research projects could prioritize hiring research staff and interns based in the countries or local contexts where they are conducting research. This could give them greater autonomy to provide input based on their local knowledge. Importantly, institutions should internally assess whether their structures have existing barriers that prevent certain groups from being hired. Such assessment should also include internship practices, with a spotlight on related compensation. It seems reasonable to consider fair wages and working conditions as the backbone of diversity and inclusion in a workplace.

Thirdly, power imbalances should also be considered when selecting research partners. Priority for partnerships could go to working with people and organizations that have a collaborative, respectful relationship with local communities, rather than selecting partners largely on pre-existing connections or strategic relationship building per se. Moreover, institutions in developing countries are often positioned as secondary to their counterparts in the Global North when designing a research consortium. This risks reinforcing unequal power dynamics that penetrate the research process (Vincent et al., 2020). Besides, research priorities from the Global North may differ from those of the "host country" (Baker et al., 2019). These unequal research practices may result in limited intellectual contribution from local scientists, and an over-reliance on scientists based far away (Pettorelli et al., 2021). Instead, an equitable design process could be embedded from the very beginning of the project, moving away from the norm of having a "lead" institution, and instead setting up equitable decision-making processes that include all partners (Vincent et al., 2020).

Finally, power considerations should also be central in making decisions about methodologies selected and the designs that determine how research is conducted. These considerations should apply across different research activities, such as fieldwork, modelling

and policy analysis. Researchers could promote inclusion and engagement of research partners and participants as early as possible in the process. This early engagement is essential for building trust and to ensure that research partners can co-shape relevant research questions beneficial to everyone, which may lead to more meaningful and non-extractive engagement. In this way, research partners can define the research topic, agenda and purpose to ensure alignment with priorities and needs on the ground. A partnership approach to research can also be emphasized, which will likely increase the relevance of research questions, potentially leading to faster uptake of evidence into practice driven by local world views and cultural values of those with and for whom research is undertaken. Importantly, researchers should aim to move away from the typical division of labour that puts Global North members in the lead and uses Global South researchers as collectors of data; instead arrangements should aim co-produce knowledge in ways that involve local partners in more respects, such as shaping the overall design and implementation of a research project (Alatas, 2003; Baber, 2003; Fast, 2019).

Project implementation

During project implementation, it is important to recognize that researchers are not separate from the field in which they undertake research (LaRocco et al., 2020). Once in the field, the relative privilege of the researcher shapes how data are collected and what kinds of knowledge are produced. Soedirgo and Glas (2020) recommend that researchers engage in active reflexivity in the field to be constantly aware of how their positionality affects their research and research participants. This involves researchers iteratively reflecting and discussing how they might be "read" by participants and how that might shape their interactions. Published findings could incorporate the reflexivity processes that researchers used. This would allow readers to get an idea of how the positionality of the scientists have shaped the research (Berger, 2015).

Unequal power dynamics must be addressed from the start: when researchers apply for funding. Active reflexivity is also necessary to identify cases when the presence of a researcher in the field might create tensions that have nothing to do with the immediate actions of the researchers but everything to do with their status as researchers. Conducting fieldwork in such situations requires the researcher to be sensitive to the aspirations of the community and their goals/perspectives when interacting with a participant. The researcher could, for instance, be upfront with the community about the possible benefits of the research to community members. The researcher could also aim to return to the field site to share findings, making sure they follow through and do so if they have committed to this in discussions with local communities. Budget could also be set aside at the project design stage to ensure that returning to the field would be feasible.

Overall, research needs to be conducted in a manner which respects local ownerships of knowledge, methods and cultures and aspirations of the communities being engaged. For example, LaRocco et al. (2020) observe that marginalized communities are often "over-researched", with the same community members cherry-picked and potentially overburdened by research demands. Such practices could risk upholding extractive relationships between researchers and communities.

Shifting power considerations also apply when working with secondary data. Researchers should consider the sources of the data and what kind of knowledge a project's work builds on. A first way forward could be to recognize and include different system of knowledges, creating an ecology of knowledges [see the concept of ecology of knowledges as in (de Sousa Santos, 2007; Trisos et al., 2021)]. A second way forward, in the context of a preliminary literature review, is to actively include indigenous schools and scholars from the Global South for future citation. Scholars from the Global South seldom receive the same recognition as scholars from the Global North, even for studies on climate change in the Global South (Schipper et al., 2021). More generally, it is important to recognize that secondary data sources are representative of the methods used to collect, store and analyse

the data – which are also shaped by underlying political dimensions (Ruppert et al., 2017). Blindly using data without understanding the power relations embedded within the data risks perpetuating inequities. Ensuring that data are representative of marginalized and underrepresented populations is not enough. Researchers should aim to carefully consider where and how data were collected, and by whom. What purpose did the gathering of the data aim to serve? The answer to this fundamental question is essential for ensuring that research is not simply magnifying already powerful voices within communities and groups over those that are marginalized.

Dissemination of findings

Dissemination constitutes the tip of the research iceberg. It is the most visible phase of research; thus, fair acknowledgment and co-production are particularly important in this final stage. A key consideration should be answering the question, "Who are you writing for?" Any research products about a community should be developed to serve that community.

Power considerations should be central in making decisions about how research is conducted. Regarding publications, research partners should be included and acknowledged in the paper unless otherwise indicated when planning the research. Roles and responsibilities for preparing and publishing research outputs should be shared among research partners. Local communities and research participants should be given the option to co-author outputs, and to be involved in the writing and review process if appropriate (Barnes, 2018). This option allows them to have an equal say in how, where and to whom the work is presented.

The journal publication system itself presents structural issues that relate to colonial legacies. It is a business dominated by Global North institutions, with publication standards defined by Global North institutions (Czerniewicz, 2013; Schipper et al., 2021). Moreover, publication records in prestige journals are often the basis of researchers' career advancement in both the Global North and South. This offers little space for multi-language and unorthodox methodological approaches (SOAS, 2020). Nevertheless, researchers can consider submitting publications in regional journals and open access journals (Schipper et al., 2021).

Regarding policy recommendations, researchers also need to ensure that "solutions" recommended to combat the climate crisis acknowledge colonial roots and offer alternatives to shift away from these trends and power dynamics. For example, Ober and Sakdapolrak (2020) note that "simplistic vulnerability framings can have deep roots in postcolonial histories". Resilience framing as a "solution" has been criticized for preserving the status quo and reinforcing existing colonial political and economic structures (Moulton & Machado, 2019). To help shift power, researchers should aim to investigate and recommend solutions that build resilience and adaptive capacity by addressing the root causes and underlying drivers of vulnerability. Such an approach would raise more radical and decolonial solutions (Tuck & Yang, 2012), such as recommendations for debt relief and reparations as forms of climate finance from developed to developing nations (Moulton & Machado, 2019).

Climate change is as much a social issue as a physical one. Thus, it is imperative to understand local contexts, history and social power structures where research is being conducted, and to ensure that policy recommendations resulting from research consider the potentially inequitable impacts of climate "solutions". In some contexts, climate solutions, such as new hydropower dams or carbon offsets, threaten to displace Indigenous or local communities and to negatively affect their livelihoods (Parker et al., 2006). Policy recommendations should provide locally relevant findings and thoroughly investigate the trade-offs of any solution recommended, including what communities would be most negatively impacted.

Researchers could also opt for non-academic outputs. One approach could be publishing key findings in local media that directly reach local communities, such as local newspapers.

Innovative mediums and platforms of dissemination are also multiplying, such as story-telling or visual and artistic practices that center research communication around local and Indigenous voices and practices (Rosenow, 2019; Trisos et al., 2021).

Most importantly, researchers should ensure that research is communicated back to research partners and local communities (Datta, 2018). Research must be communicated clearly in ways that are actionable and beneficial to the participating communities. This could involve participatory workshops and dialogues in which researchers go back to the field to initiate wider discussions on the usefulness of findings to local communities. The ability to act on these findings may require the kinds of support that could be provided by the international community. Moreover, participants could also be invited as presenters of research; however, the potential for such invitations to lead to research fatigue and or to demand too much from participants should also be considered.

Key takeaways

By discussing certain inequalities embedded within climate research, we have attempted to craft a concrete set of considerations for how researchers can aim to shift, rather than perpetuate, existing, unequal power dynamics in their work. Table 1 summarizes our proposed considerations. We hope that this can contribute to efforts to challenge views that have assumed that dominant research practices that underpin the modern scientific endeavour are neutral to the issues of the past.

Whilst these reflections are focused on researchers as responsible agents of change, we also acknowledge that research institutions in and of themselves uphold and embed unequal power dynamics. We therefore hope that this work can help bring the wider research community together to challenge these structures, and to work towards more long-term institutional change. Changes must also take place in the cultures, paradigms and mindsets at research institutions. Researchers must ask themselves important questions. What research and research practices are appropriate? How must research practices change? As a next step, there is a need to ensure that proposed considerations are cognizant of local contexts and histories, including "long histories of place-based anti-colonial and anti-racist struggle" (Trisos et al., 2021).

Table 1: Key considerations for reflection and action through a project cycle (not an exhaustive checklist)

Project design

- Critically examine calls for proposals for barriers to genuine involvement of partners and local communities.
- Initiate discussions with funders to address funding biases and barriers.
- Consider built-in contract flexibility to account for legal or capacity differences.
- Consider collaborative budgeting for the most beneficial cash flow and exchange rate for local partners.
- Apply diversity and inclusion to hiring processes and project team composition.
- Ensure fair wages and working conditions to all project team members, including interns.
- Prioritize hiring research staff and interns based in the regions of research.
- Prioritize partners that have a collaborative and respectful relationship with local communities.
- Move away from having a "lead" institution; provide for equitable decisionmaking through co-governance, or by shifting entirely to research being led by local groups when appropriate.
- Engage early with local partners and research participants to build trust and co-shape relevant research questions and key issues to address.
- Ensure meaningful engagement, with ideals of co-production when appropriate.

Project implementation

- Respect local ownerships of knowledge, methods and aspirations of participants.
- Account for local power relations and conflicts.
- Engage in active reflexivity on the impact of one's positionality on research and research participants.
- Include reflexivity process when publishing research.
- Consider also publishing on platforms and journals that encourage reflexivity in their methodologies.
- Take into account marginalized and underrepresented populations in collected and secondary data.
- Carefully consider where secondary data was collected, but also how, by whom and why it was collected.
- Actively include scholars from the Global South and Indigenous scholars in literature reviews and in citations.

Dissemination of findings

- Communicate findings back to partners and communities.
- Include and acknowledge partners in the publication when appropriate.
- Consider co-authoring with local communities and participants when appropriate.
- Submit publications to regional and openaccess journals.
- Acknowledge and address the (neo) colonial root causes and underlying drivers of vulnerability in any solutions that are recommended.
- Contextualize findings to local social power structures and history.
- Investigate the inequitable impacts of any climate solutions that are recommended.
- Consider publishing findings in local newspapers or other local media.
- Use innovative mediums that center research communication around local voices and practices.

Whilst we present these reflections in a very actionable and practical manner, we recognize that no checklist can undo unjust systems worldwide. However, existing scholarship and activism from impacted places within the Global South and among marginalized communities around the world have already led efforts to undo historical and ongoing systems of oppression over many generations and in many arenas. We therefore call on other climate and environment researchers to do their part in their own fields by recognizing colonial legacies and power relations in climate research, and to work towards incorporating the well-established decolonization literature and existing expertise and its insights within their own work.

Finally, we see these reflections as a first step on a long learning journey for us as researchers when it comes to shifting research practices. We are therefore very keen to learn from researchers and institutions – particularly those in the Global South – that aim to incorporate decolonial approaches in ways that can address these issues. We ask interested partners to reach out to us for fruitful and constructive engagement!

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