

Southern Agency: Navigating Local and Global Imperatives in Climate Research

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Abstract

Researchers in the Global South are geopolitically distant from the places and people influencing global climate change debates. Their contribution in terms of academic publication is not large. Yet, by examining a South African research center, we show that these researchers negotiate their marginalization, optimize their local advantage, and navigate between national and global imperatives. Climate change requires global action and is a site of activism for Southern countries, which also face urgent developmental challenges requiring applied research. Climate change mitigation has to be addressed with attention to inequality. Our Southern soft-funded research center valued applied research and immediate policy impact over conventional peer-reviewed journal outputs. Impact assessment that relies on research metrics, such as citation counts, may miss some of the accomplishments of Southern institutions such as this one. These Southern researchers actively make choices and pursue agendas and are not just the victims of inadequate resourcing and Northern domination.

In this study of a university-based research institution in South Africa, the Energy Research Center (ERC) at the University of Cape Town (UCT), we examine how it negotiates a combination of constraints and priorities to make an impact in the climate change arena. The ERC is fully aware of its Global South location. It contends with national imperatives to contribute to climate change policy as well as engage with local development needs. As a research institution, it is also mindful of the need to address global scholarly audiences. We argue that its record of engagement demonstrates a conscious sense of Southern agency, far from the derivative role sometimes ascribed to Southern scientists. Critiques of knowledge production in the South include the argument (contained in the concept of extraversion) that knowledge produced there adheres to Northern standards and is produced to meet Northern, rather than local intellectual and developmental, needs (Hountondji 2002).

The activities of the ERC occur against a backdrop of geopolitical knowledge inequalities. Despite being credible and making a contribution locally and internationally, the ERC has low publication rates and online visibility. Part of the explanation for this lies with its soft-funding regime, which doesn't fund publication. However, the ERC's choices reflect more than a shortage of

resources. Developmental priorities and the desire to contribute to local and national solutions are important factors behind the ERC's decision to invest its energies in activities, such as policy development and engagement with industry, that do not necessarily increase online visibility or publication output.

The ERC's choices are informed in part by its Southern position, characterized by its politics (that of an activist, antiapartheid history and orientation, with a desire to "make a difference"), its attention to inequality and development, a focus on process, and Southern consciousness (Marquard 1999). Many of the ERC's concerns reflect its Southern location, including the local history of recent political change, an attention to poverty and development, and an eschewal of Northern prescription. We suggest that a contextualized way of understanding its work offers a challenge to standard (publication and Internet based) evaluations of impact: the ERC shows how multiple and locally informed ways of raising consciousness and shifting policy can be effective. Such achievements may not necessarily be detectable using standard publication metrics. We cannot generalize these findings to other cases of Southern research groupings, but the single case can legitimately raise questions for conceptual debates on impact and in research on other policy-focused groupings.

Our article focuses on the ERC to better understand how Southern characteristics influence its work and how it organizes its research and publication practices. We begin by locating our work in debates about global knowledge production. We then describe our methodology before focusing on the Energy, Environment, and Climate Change (EECC) Group within the ERC. Here we analyze various aspects of its work, including visibility, research productivity, and research choices. We conclude by critiquing the view that bibliometric research measures are the only or most reliable indicator of research impact by examining the EECC's approach to collaboration and its responsiveness to place and circumstance. The article's focus on Southern agency is vital for global environmental politics both in acknowledging global inequality but also in its possibilities for (unexpected) agency—and how this might be missed using conventional indicators of impact.

Southern Knowledge Production

The concept of *Southern knowledge* is receiving attention across a range of disciplines and research areas. Writers who use this term generally see themselves as researching on, or from, the Global South to emphasize the particularity of their research context; to question the assumptions underlying theories or concepts that, through their abstraction, do not seem to "fit" in all parts of the world; and to critique, shift, or replace processes and outcomes of knowledge production that may be regarded as "mainstream" or "international" within their discipline. Southern theorists often express a consciousness of place-difference, which informs their work, and use this to challenge what they see as wider global processes of knowledge production, often originating in or from the Global North,

that achieve and maintain a high degree of dominance (Connell 2014a). We use the term *Global South* as more than a metaphor for underdevelopment, which has been its dominant usage. "It references an entire history of colonialism, neo-imperialism, and differential economic and social change through which large inequalities in living standards, life expectancy and access to resources are maintained; and opens new possibilities in politics and social science" (Dados and Connell 2012, 13).

Analyses of the geographical distribution of publications worldwide show the dominance of Anglo-American publishing as a marker of significant inequality in knowledge production between Global North and South. For example, a 2015 study by Geonet at the University of Oxford of submission data from SAGE journals breaks down contributions by geographic location of authors. Their analysis reveals the dominance of Europe and America in both journal submission and acceptance rates:

A few broad patterns are apparent here. First, we see way more academic content coming from the Global North than from the Global South. Africa in particular is notable for its absence. Most countries on the continent fail to register even a single journal article submission.

Second, there are only two countries that register a consistently large number of submissions in every category: the UK and the US. (Graham 2015)

Paasi (2005) refers to a wide range of studies that support this view across both natural and social sciences, although he cautions against the use of simplistic binaries, such as Anglophone versus rest-of-the-world publishing, given the heterogeneity within both these categories. His own analysis of the Institute for Scientific Information (ISI)-listed journals shows a heavy dominance of US and UK publications, with most journals based in English-speaking countries. Citation patterns are also uneven, and the tendency of authors from around the world to cite highly ranked journals and eminent scholars from prestigious institutions (both usually Anglo-American based) leads to a global circulation of certain ideas over context-dependent ideas, which are seen as less important. As Paasi points out, the notion of what "international ideas" are is essentially the hegemonic discourse of journals and scholars located in Anglo-American regions of the world.

Knowledge inequalities arise from historical processes, especially colonialism and imperialism, which secured economic and political dominance and maintained metropolitan hegemony in global knowledge production. They are created by factors such as a limited capacity for funding work or training and retaining researchers in the South, or an inability to compete with expensive large-scale computer models in fields such as climate change or economics, which then limit the ability to engage in independent data modeling. This is a pattern that exists in other disciplines and fields: for example, in a study of published works in the domains of HIV/AIDS and gender, a recent study

showed the dominance of the US and the UK, which together in 2013 accounted for 58 percent and 43 percent of the publications, respectively (Collyer 2015). In the North, the tacit assumption has been that the “global South produces data and politics, but doesn’t produce theory” (Connell 2014b, 520). Paasi (2005) also points to the role of one US-based company, the Thompson ISI, in perpetuating inequalities given the increasing regard of this index, in a globalized and marketized knowledge economy, as the “gold standard” to evaluate and rank journals, institutions, and scholars.

In the field of climate change science and policy work, a recent analysis of 137,129 publications between the years 1980 and 2013 revealed US dominance (Collyer 2015). Other countries from the Global North (Canada, Germany, England, and France) are also consistently in the top seven countries. Research on the sources of contributions to the Intergovernmental Panel on Climate Change (IPCC)—the authoritative voice of scientific knowledge on climate change—shows similar patterns. While the participation of developing country expertise mobilized by the IPCC assessments was raised as a concern in the early 1990s, Hulme (2010) notes that this has barely changed. The percentage of authors, review editors, and expert reviewers from the OECD countries remains between 80 percent and 82 percent. However, an analysis of publication authors’ institutional affiliations and career trajectories using social network analysis (Corbera et al. 2016) shows a more complex picture. Analysis of Working Group III’s assessment of mitigation for the Fifth Assessment Report reveals author dominance from the US and UK, but coauthoring analysis shows strong EU–BRICS collaboration and relative US isolation from other regions. EU collaborative networking may reflect research funding criteria and institutionalized incentives to link with developing and emerging economies. Overall, the analysis shows that there has been some improvement in Global South participation, although such participation is uneven. Southern authors, mostly trained in Northern institutions and located in Brazil, India, and South Africa, are more connected to these Northern networks than to other Southern regions. Corbera et al. (2016) argue that while this author homogeneity may allow for easier consensus in IPCC reports, it also papers over conflicts and political choices to be made in climate mitigation policy, especially in Southern regions of the world.

Other authors have identified the negative impact of Northern theory and policy dominance on local and context-specific understandings of climate change and policy. Dauvergne and Clapp (2016, 9), in this journal, have noted a pattern of Northern dominance in article contribution, as “the overwhelming majority of the journal’s published articles over the past fifteen years have come from scholars based in North America and Europe.” This has had the effect of erasing geographical sensibility and diversity of voices in the field. Lack of diversity relates both to theoretical orientation and the raising of issues such as poverty and inequality, which are key in Southern analysis and policy work. Less than 10 percent of articles in this journal focus on inequality and development. They note: “The increasing complexity of theories and intricacy of

modeling and statistical methodologies risk disconnecting contemporary scholarship from the earlier goals of problem-focused, policy-oriented, activism-linked research" (Dauvergne and Clapp 2016, 3). A consequence has been for debate to be skewed to reflect methodological advances at the cost of attention to context and activism.

In the field of environmental change, Hulme (2010, 559) expresses concern for the "erasing of geographical sensibility in the making, mobilization and consumption of knowledge ... downplaying cultural difference or ignoring spatial relationships of power." He is concerned about two forms of abstraction of knowledge, both of which ignore local contextual difference: *universal knowledge*, which claims to be true irrespective of scale and place (the view from nowhere), and *globalized knowledge*, which erases geographical and cultural difference and collapses scale to the global, hence offering the "view from everywhere." This, Hulme suggests, makes knowledge more amenable to centralized power and control. He argues instead for knowledge making that is "spectral" (incorporates a wide range of expert beliefs) and recognizes geographical and cultural difference.

What are the Southern differences that influence climate change policy work and tend to make Southern researchers relatively invisible in the conventional global research metrics of success? In a *GEP* special issue devoted to the work of Marion Miller, Williams (2005) highlights Miller's concern with the role of colonialism and imperialism in shaping the "Third World," leaving these countries with distinctive socioeconomic characteristics and development trajectories. In particular, Miller identified the tension between environmentalism and development as a central political issue. Williams (2005) concludes that a number of factors shape Southern policy work: the need to push for financial resources from developed countries for environmental programs; the need for technological assistance for researching, monitoring, and implementing programs; assistance in capacity building; and the need for longer time frames in policy implementation. These Southern differences continue to underlie deep political divisions between North and South but play out in forums (such as the IPCC) where Northern dominance in knowledge production is well recognized.

Methodology

This case study is part of the larger "Global Arenas of Knowledge" research project,¹ which investigated work in a range of recent knowledge domains in Australia, South Africa, and Brazil. The ERC, based at UCT in South Africa, was identified for study. The Center was an appropriate research site because

1. The "Global Arenas of Knowledge" project was funded by the Australian Research Council (DP130103487), with Raewyn Connell and Fran Collyer (University of Sydney) as the Australian principal investigators and Joao Maia (Social Sciences and History School, Fundação Getulio Vargas, Rio de Janeiro) as the Brazilian partner.

of its location in South Africa, a country with a well-developed research sector based in and beyond universities. In research terms, it is the most productive and prominent country on the continent and has strong global and continental links (Mouton 2010). It has scientists who have the training and skills to undertake climate change research. The country itself faces acute development problems characteristic of much of the Global South. The ERC thus engages climate change research from this vantage point.

The ERC was chosen for its credibility and profile. UCT is Africa's top-ranked research university,² adding to the credibility of the Center. The ERC permitted the authors research access, and UCT granted ethical clearance for the study.

The ERC is a multidisciplinary energy research center within the Department of Mechanical Engineering, focusing on technology, policy, and sustainable development research, education, and capacity-building programs at local and international levels. Its stated goals on its website include undertaking research of both national and global interest and contributing to sustainable development at national, regional, and global levels. It consists of five research groups with concerns ranging from energy, poverty, and development to energy efficiency, renewable energy, energy systems analysis and planning, and climate change.

One of these groups, the Energy, Environment and Climate Change group (EECC), was the focus of our research. It was chosen as it is the more "political" and higher-profile research group at the Center and is the largest group, with ten members out of almost thirty at the ERC. The group's web page³ states that the research focus is "the intersection between energy, local environment and global climate change. It aims to contribute to minimizing impacts of energy use and production, from social, economic and environmental perspectives." The staff has international experience. Out of ten researchers interviewed, six were South African and four were from other countries: Britain, Germany, Spain, and Zimbabwe. All the South African researchers had lived or traveled outside of South Africa.

The research was conducted by one of the authors of this article. He had no prior relationship with the organization, nor was there any conflict of interest. It was based on repeat interviews over the course of a year (August 2013 to June 2014) with ten researchers and Harald Winkler, the Center's director (with an update interview in 2017), as well as observation of the social and academic activities of the staff and analysis of their research output, largely from the website.⁴ The interview questions, emanating from the central Global Arenas project, focused on the everyday work practices of researchers and aimed to paint a holistic picture of the work culture of the Center and of the EECC group in

2. UCT rates in most measures of global university rankings as South Africa's and Africa's highest-ranked university, although some measures rank the University of the Witwatersrand as higher. https://en.wikipedia.org/wiki/Rankings_of_universities_in_South_Africa, accessed April 25, 2017.

3. www.erc.uct.ac.za/groups/eecc.

4. www.erc.uct.ac.za/.

particular. Researchers were asked questions on “the everyday knowledge production practices that constitute texts and information that will enter the global arena of knowledge: the chains of activity, the organizational rationalities, the use of resources, and the involvement of personnel” (Connell and Collyer 2012). We quote from the interviews, but other than the ERC director, we do not identify the individual interviewees.

While it is not permissible to generalize from one case such as this to all other cases, a single case can shed light on, or open up areas of inquiry on, concepts, theories, or generalizations. It can provide evidence for trends observed or hypotheses proffered and generate new ideas, which then need to be tested on other cases to see if they hold true (Yin 2012). It will be important for further research to be done on other research units in the South to see how typical the experience and performance of the ERC may be.

The next section presents our main findings from the research, focusing on how the Southern location of the Center influences its ability to be internationally visible and influential and affects its approach to work practices and knowledge production in the field of climate change.

The EECC Group Within the ERC

Local and International Visibility

In some respects the Center and group have good international visibility and influence. The Center’s director, who also works in the EECC group, was a member of the South African delegation to the negotiations under the United Nations Framework Convention on Climate Change from 2004 to 2015 and has been lead author on the IPCC Fourth and Fifth Assessment Reports from 2004 to the present. He is locally rated as an “internationally acclaimed researcher” and is on the editorial boards of five international journals. He has informed energy and climate policy at the national level and in multilateral negotiations, leading the research work underpinning South Africa’s Long-Term Mitigation Scenarios (LTMS). From 2010 to 2015, he codirected a large program called Mitigation Action Plans and Scenarios (MAPS), sharing the LTMS experience with governments, researchers, and facilitators in other developing countries. He publishes in international journals and coauthors with Center staff as well as with authors in the Global North. In January 2017, the director was made one of two editors in chief of the highly ranked journal *Climate Policy*.⁵

Other researchers in the group are much less visible in terms of academic rankings and publication. Where the director has an h-index of 33 on Google Scholar, the next highest ranked scholar in the EECC group has an h-index of 5, followed by another researcher at 3. The other eight researchers had no user

5. “News from the ERC,” *Faculty Newsletter*, Faculty of Engineering and the Built Environment, University of Cape Town, April 2017, 2.

profile at all on Google Scholar. Similarly, where the ERC website records the director as having “over 50 articles in peer-reviewed journals (mostly international),” the ten other group members have about twenty published articles between them. Overall, the ERC averaged about six published papers a year over the period 2004–2015, from a staff of approximately thirty researchers.

Following observations by Paasi (2005) and Corbera et al. (2016) that co-authoring analysis may reveal stronger Southern publication presence than may be at first apparent, we looked at international collaboration in journal publication at the center from 2010 to 2015. Collaboration with Northern authors occurred in two out of the six years and with Southern authors outside of South Africa in four years in the period. Overall, 19 percent of authors were Northern and 17 percent were Southern outside South Africa. However, these figures for the period are influenced by one year with very high Northern collaboration, in 2014, with 65 percent of authors from Europe or the US. This is the result of a three-part series published in *Climatic Policy*, each authored by the same eight to thirteen collaborators. The overall publication pattern indicates strongest collaborations within the ERC and South Africa, with a roughly even split between Southern and Northern international collaborations. Most of the ERC authors are EECC group members, and the Center’s director appeared as an author on all papers with international collaboration.

The Center’s director is clearly an outlier in terms of international academic visibility and was spoken of by other researchers as someone who has the personal motivation to drive academic productivity, in contrast to the generally lesser attention to academic publication at the Center. The reasons for this and their different research priorities are discussed in the next section of this article.

The EECC produces a large number of working papers and policy documents as well as articles in the peer-reviewed journal the Center itself publishes: the *Journal of Energy in South Africa*. However, this is not enough to make it internationally or even nationally prominent in terms of academic visibility or more widely visible online.

A study by Czerniewicz et al. (2017) on the global visibility and online discoverability of the EECC group, using Google Scholar, found that when the key words “climate change” were used in the search, there were no results in the top ten by any South African authors or authors linked to South Africa, Africa, or any other developing countries. When the key words “climate change South Africa” were used, the EECC group did not show up on the first page, and climate science scholars had dominance over mitigation-related researchers.

Czerniewicz et al. (2017) scanned Google and various online media platforms, including Facebook and Twitter. Online presences were uneven: two of the ten researchers interviewed had a Google Scholar presence, five used Twitter, and five had an Academia.edu account; none of the team used blogs, YouTube, Flickr, or Vimeo. At the same time, researchers agreed that a stronger presence online would contribute to recognition.

While a researcher commented that with “a lot of work you always try and think, timing-wise and content-wise, could we get it out and peer reviewed in time to get picked up by these well-regarded literature review processes,” in reference to the IPCC reviews, they acknowledged that this doesn’t happen enough.

What Contributes to the Peripheralization of the ERC and Its EECC Group?

Our research identified a number of reasons why a research group like the EECC finds itself on the edge of the world climate change stage. We argue that some of these reasons relate to the limitations of their location in a Southern university and on a Southern continent, but others relate to the different developmental priorities that researchers in resource-poor countries find hard to ignore.

The main reason researchers frequently cite for the group’s low rates of academic publication is that they are soft funded. Although based at UCT, they do not receive funding from the university and must generate income from clients, ranging from government departments to NGOs, industry, and grant funders. Clients seldom require academic papers, preferring instead reports, working papers, and policy briefs. The proportion of working papers and reports to published papers from 2004 to 2015 reflects this: the Center averaged ten reports per annum compared to six publications.⁶

The production of nonacademic outputs accords with the researchers’ objectives: they see the audience for their work as policy makers (with one wondering “if policy makers read academic papers?”) and aim to produce immediate outputs to influence those with hands on “a lever for change.” “We don’t spend time doing proper research papers because we know we need the policy brief that the policy makers can read and apply immediately, because they have to act now. We have the feeling that academic research will have an impact in the long term, but we need short-term action,” commented a researcher; however, the researcher also recognized the dangers in the lack of depth that can result from focusing only on immediate reports.

Staff members are frustrated by the inability of the academic system to credit this kind of work, and some even question the Center’s university location. One researcher described frustration that the researcher’s work adapting a large-scale economic model from a Northern institution to incorporate Southern developmental objectives alongside mitigation actions, while cutting edge, resulted only in a “manual” that has received no academic credit. Another commented, “People are producing lots of stuff, building models, running workshops, producing reports, but as far as the measures by which we’re evaluated, we didn’t do anything.... None of that counts. It’s a massive problem, and part of a much bigger question if this is the right place for the ERC.”

6. The ERC website is www.erc.uct.ac.za/outputs/.

Where academic papers are not a deliverable on a project, the researchers' time to convert study findings and take them through to publication is not funded. It is left to individual researchers to find the time and motivation to write papers.

Some researchers strategize around allocating project funding to convert findings into publishable papers: for example, one successfully asked a funder if the researcher could use surplus budget to convert a lengthy report into an article. Another described unsuccessfully attempting to convert a report for publication: coauthored by researchers from five Southern countries, it was difficult to coordinate across time zones. The first draft was returned with significant revisions and a tight time frame for resubmission. With no guarantee of publication, and other work pressures, the researcher wasn't able to do it.

The lack of funding to support academic research was viewed by at least one EECC researcher from Europe as a Southern constraint, noting the lower levels of funding available to support in-depth research as a downside to working in South Africa. A major difference between a northern European country and South Africa, the researcher said, is that in a European country, "you can walk into a ministry and walk out with a proper 3-year research project that is properly funded." At the ERC, they work on smaller time frames with many more reporting requirements.

By mid-2017, this Global North funding environment had tightened further, influenced by political shifts in the US (reduced state support for climate change research) and in the UK (concerns about the impact of Brexit on grant funding). Even Southern collaborative attempts to further fund the well-recognized MAPS project have not succeeded. The ERC continues to rely on state and local project funding, hence client constraints on academic publishing are ongoing.

A further constraint in South Africa is that the pool of experts is relatively small compared to Northern locations. A researcher previously based in Europe described this as a benefit in bestowing intellectual influence and much greater access to power: if you come to South Africa and "you do decent work for six months ... you're told you're an expert very quickly." But in gaining greater access to government inner circles, the researcher also noted the downside: "what becomes very difficult is how you write about that publicly." So while the researcher is close enough to have insights into "how badly government departments are coordinating," for example, "you have to be very careful about how you write that in literature as a South African institution, because we work very closely with government."

A researcher described "a constant trade-off ... a huge asymmetry of access to information—the closer you are to something, the less you can write about it.... It's very difficult. If you do write anything about the political economy of mining houses, you'll rapidly find yourself at such a distance that you can't get any information." A further limitation on publication is that information from studies can often not be released due to confidentiality agreements with state

and industry clients. A way for researchers to still generate critique has been to supply organizations further from power with critical information that they can't release themselves. They saw this limit on criticality in part as "one of the features of developing countries" to have a relatively small pool of experts that then tends to be co-opted, rather than spread across a spectrum, as it might be in more resourced countries. "A more resourced public sphere—more universities etcetera"—would enable a "healthier" spread.

While these constraints mean that the ERC and the EECC group may not stack up well judged by the metrics that make for success in the world of Global North climate change research, their work and how they do it is shaped by their context, particularly the developmental issues of poverty and inequality. The Center has impact, but not in the way measured by standard Global North measures. The next section of the article illustrates this.

Knowledge Production Practices of the EECC Group

The EECC group focuses on practice and participation. It is inclined to activism and prioritizes immediacy and impact in the pursuit of equity and development. It also evidences a Southern consciousness. Each of these characteristics is discussed in the following paragraphs.

The group focuses on the processes by which knowledge is produced, on facilitating participation by diverse groups, and on learning from practice. Researchers are interested in *how* research happens. Restrictions on the public release of findings from a project due to a funder's requirements were unfortunate, said one researcher, because while they might be able to find alternative sources for the factual information, "what's often more interesting is the more *process* side of things, the stake-holder dynamics, the institutional arrangements."

The EECC group embraces a holistic and interdisciplinary approach to research. It seeks common ground and resolution among multiple conflicting interests working on apparently intractable problems. A researcher commented, "There've been some tense moments or frustrations with each other.... You come with different techniques to the same problem and you've been indoctrinated with a particular discipline, so you think your approach is better and it takes time [to resolve]. It's more difficult but often the outcomes prove to be better and then both parties benefit from it."

One of the largest-scale and longest-running projects for the EECC was the MAPS program, a partnership between the ERC and SouthSouthNorth (SSN).⁷ MAPS worked with teams in four Latin American countries from 2010 to 2015 and hoped to expand into some African countries. The principal focus was on developing local capacity to calculate the impact of mitigation actions using sectoral and economic models. Key to the MAPS approach are scenario-building

7. See www.mapsprogramme.org.

teams and forums, in which state, industry, and NGO actors work together to develop mitigation plans.

The work of the EECC group is characterized by high levels of personal activism. Passion about averting climate change animates staff. A researcher described the group's aims: "the fundamental idea of what we're doing is to try and provide evidence to support change." This is rooted in the history of the institution and of some individual researchers. Some researchers were involved in the antiapartheid struggle: the director and one of the senior researchers met at the antiapartheid organization Christian Youth, while the current and past directors of the predecessor institution to the ERC were conscientious objectors to military conscription and led the institution into work with the African National Congress in the early 1990s.

Not all researchers at the ERC, however, share the activist ethos; some have a more technical focus. A key issue for the EECC group, according to some researchers, is how to position itself as an objective, credible research institution, while acknowledging the urgency of the need to address climate change. Tension exists between credible research (relying in part on an appearance of neutrality) and, as paraphrased from the title of their article, seeking to "make a difference" (Marquard 1999) through a more activist approach.

The activist urge leads researchers to prioritize applied research and outputs over academic publication. There is a sense that time is running out to avert climate change and that what stakeholders need is immediately useful, impactful material. In the MAPS program, partners are not so interested in published research papers that come out in eighteen months' time: "they want information analysis live."

The imperative of immediacy is also specific to the South African context. Since 1994, there have been explicit calls for academic institutions to contribute to "nation building" by producing relevant, applied research with wide beneficiaries and audiences. A study of the predecessor organization to the ERC noted, "with the advent of the new democracy in 1994, it was expected that the higher education institutions in the country would and should play a major role in the transformation of South African society.... It was also expected that they would make a significant contribution to the new society in various ways, including the production of relevant and useful knowledge" (Bailey 2005, i).

The ERC accepted this mandate and worked on rural energy poverty in the 1990s and early 2000s to address "energy apartheid." The EECC group now focuses on applied solutions to balancing emissions reduction while incorporating development objectives that are intended to impact national policy and international forums. Their impact on policy in South Africa has been high, from helping to craft national energy policy to leading research that informed a process to develop LTMS for South Africa (Winkler et al. 2007; Winkler 2010). LTMS informed South Africa's position at Copenhagen in 2009 and is the basis of much of South Africa's domestic climate change policy (Tyler and Torres Gunfaus 2015).

A characteristic of the South's approach to climate change mitigation is the inclusion of development and poverty alleviation objectives alongside reduction of emissions. Southern perspectives also emphasize equity: the just distribution among states of responsibility and resources for climate change mitigation and the reduction of inequality at a local level. MAPS programs aim to help Southern states work out a path that balances these objectives, and the LTMS process that comes from the same roots is key to the South African state's approach. The method used in MAPS works from the premise that "if you are a government with limited funds, how do you spend them in a way that addresses socio-economic challenges in the country, while trying to reduce emissions?" (Boyd n.d.). The Center has embraced the work of Professor Munasinghe of the Munasinghe Institute for Development in Sri Lanka, partly because the Center sees it as "new and Southern in that the development challenges [are] as present as the [climate change] actions."

ERC director Winkler commented on the exposure of Southern researchers to inequality on an everyday level, noting that "we produce new knowledge and innovative ways of thinking out of the interaction between our material context of development and high degrees of poverty and inequality." Winkler noted wryly that in relation to Northern researchers and negotiators, "I'm living the same lifestyle, the global middle-class, but on the way to the airport I see slums, they don't." These experiences result in differences in perspective in climate change negotiations. "When you start saying what I'm now saying [about inequality] you can see the eyes glaze over and 'Oh that's that rhetoric again about poverty ...,'" though "really when you talk about not just poverty but poverty and inequality that's where the differences become clear. And you'll find people from the North will be willing to talk about poverty, not inequality. There are some but it's really limited."

While people are receptive to discussions about poverty and development, the concept of inequality draws attention to the relationship of rich and poor and the responsibility of both parties. This makes equity and inequality less palatable topics in international forums. Winkler described it as a "pleasant surprise" in this light to see that in the Paris COP negotiations in December 2015, the terminology on equity introduced by South Africa was included in the final Paris Agreement, specifying that the Global Stock Take would "make its assessment 'in the light of equity and the best available science'" (referring to the United Nations Framework Convention on Climate Change, or UNFCCC).

Finally, the EECC group works with a Southern consciousness. Researchers in the South are acutely aware of their location and of Northern presumption. As a climate change interviewee in another branch of the Global Arenas project put it, "with the North American research groups there is a kind of innate belief that what they write is suitable for the world, and what they say is something that the world should take notice of simply because they are saying it. And I think that there is growing—not resentment—but there is growing skepticism about that particular kind of attitude."

With this experience or perception of knowledge from the North as reductive or simplistic and not reflecting the complexities on the ground in the South, MAPS researchers were very careful not to claim to be producing “best-practice guidelines or indicators,” according to one of them. Their objective was not to replicate work across countries but to “share our experiences,” observe commonalities and differences, and learn from elements of these, while recognizing that the country-specific research teams have much finer on-the-ground knowledge.

Researchers also make choices that reflect an identity of “being Southern.” EECC researchers were committed to staying in South Africa to make a contribution. One researcher described coming into the climate change domain because “I thought that the South wasn’t having enough of a voice, because they don’t have the capacity.” Researchers recognize that Southern settings demand and enable more complex solutions: “emerging countries especially are seen as a good opportunity intellectually, to do some ground-breaking intellectual work.”

EECC researchers seek to “strengthen the knowledge base in the South” and engage in South–South cooperation and the creation of Southern networks (Medina and Baert 2014; Mouton 2010; Tijssen 2015). They identify the need to develop methodologies and approaches “as opposed to being prescribed from the North.” They reflect on historical changes: “in the early days [climate change was] almost entirely dominated by scientists from the North; this domination was not critical politically but now with looking at impacts [to calculate mitigation actions] which are always local, so having capacity to do that becomes an issue, otherwise you’re heavily reliant on outside info.” For Southern countries to be able to negotiate their commitments effectively, they need to be able to conduct their own local research, in the face of a Northern industry that is otherwise geared to do it for them, “telling people ... what the impacts will be.”

Is Global Research Visibility Really the Holy Grail?

The international profile of the EECC group is not strong. Nevertheless, its output of policy documents and briefs is high, and it has been successful in building collaborative networks with other Southern research centers and in influencing policy makers and other influential actors. It demonstrates a good understanding of the politics of Southern “place” and actively addresses the interrelationship of climate change and development. Through the ERC director, the group even has a presence in, and influence on, the IPCC.

EECC successes suggest choices that acknowledge limitations but identify local, national, and political priorities. The main structural influence is the ERC’s soft-funded regime, which reduces academic publication output in two ways: funders do not generally require or fund the production of academic papers, so it is left up to the resourcefulness or motivation of individual researchers to produce this output, and because the information generated in their

funded studies is often proprietary, it cannot be publicly released. This is compounded by the restraint on critique of the powerful actors with whom the Center works, in pursuit of influence. Both of these features have a relationship to the Southern setting of the institution: the lack of funding to support academic research and publication can be seen as a resource constraint that may be less severe in a Northern setting,⁸ and their proximity to power, which both enables and disables, is also a feature of a Southern setting with a small pool of experts.

The kind of work done by the EECC group (and the ERC more widely) has significant relevance for tackling climate change and is having an impact that might well have been missed if they had modeled their work on Global North institutions and placed global research ranking and visibility as their top priorities. They face what Corbera et al. (2016) identify as key conflicts and political choices to be made in climate mitigation policy, especially in the South. In doing so, they attempt to straddle both worlds, but they have a strong adherence to the goals of “problem-focused, policy-oriented, activism-linked research” identified by Dauvergne and Clapp (2016, 3), despite a potential loss in contemporary scholarship. The group is responding directly to what Hofmänner (2000, 23), in a study of the EDRC, described as the “urgent and manifold problems” facing a countries like South Africa, with the result that “limited capacity and intellectual resources ... can be spared to devise and exercise an academic control function.”

The Southern location and approach the EECC group takes produces theorizing, research, collaboration, and work patterns with distinctive characteristics.

The group seeks to root its work within a particular setting and to distance itself from developing prescriptions that claim relevance everywhere. A Southern approach carefully balances universalizing and specificity in response to place. There has been explicit self-reflection on this in the MAPS program as *Southern theory*, which resulted in the production of a research paper framing it in this way (Kane et al. 2015). Southern researchers have “a concern with *local knowledge*. It grows from interaction with local communities and movements, experience of conditions in the local environment, and the know-how involved in dealing with them” (Connell et al. 2017, 12). Researchers doing country-specific work in the MAPS program are wary of producing formulas for others to follow elsewhere in the world. Their experience of the limits to the universality of approaches put forward by Northern institutions leads them to challenge wider global processes of knowledge production originating in or from the global North. This also seems to be a recognition and rejection of what Paasi (2005, 20) refers to as the “global circulation of certain ideas that might originally have been very much context-dependent.” In the EECC group’s emphasis on relationship building and the facilitation of action through building consensus across

8. Researchers in the Global North also, to a degree, may have their research and career pathways driven by policy agendas and short-term contracts.

multistakeholder groups, we can see Hulme's (2010) argument for knowledge making that is "spectral" (incorporating a wide range of expert beliefs) and that recognizes geographical and cultural difference.

The EECC consciously seeks South–South connections, choosing to collaborate with countries with similar conditions to South Africa to jointly shape and promote policies that suit developing regions. These cross-country collaborative projects have emphasized participation in knowledge production from diverse groups. This reflects pragmatism among researchers in finding consensus between conflicting interest groups and a belief in the value of informants on the ground rather than only theory imposed from above. Their approaches to knowledge production favor engaged research and activist outputs. Several researchers evidence ethical standpoints resulting from exposure to "the often deeply heterogeneous and unjust conditions prevailing in societies that have endured phases of 'colonial' domination" (Hofmänner 2000, 23). Experiences of antiapartheid activism fuel a commitment to postapartheid visions and an emphasis on pro-poor perspectives. While we are not suggesting that Global North research institutions do not have such standpoints (or that all Southern institutions do), this developmental perspective was clearly evident in the ERC and a result of its context.

Finally, we suggest that the hybrid approach to work culture in the ERC and the EECC group also ties them to place and circumstance. It has elements that could be replicated elsewhere, but researchers are aware that it takes particular people, especially leaders, to do this: "flexibility requires much more competent leadership to make it work." This too may be a Southern characteristic. The EECC group structure, in which researchers "hop between different research projects," is a consequence of soft funding, limited resources, and flat hierarchy, but it ends up giving researchers and the institution wide exposure to a range of clients and projects. This is an effect both of intention and of material constraint. The material constraint of being soft funded influences work choice and style, but it also provides the opportunity to steer a political course that allows levels of independence and reflects the nexus between material constraint and (activist) ideology.

Conclusions

The ERC, with its EECC group, is an energetic research center that contributes on a range of fronts to climate change investigation, policy, and practice both locally in South Africa, with Southern partners, and internationally. Despite this, and with the exception of individuals like the center's director, it has a low profile in academic publication, and is not very visible in Internet searches. Yet this lack of visibility should not be taken as a sign of passivity, inaction, or, indeed, impact—depending how impact is measured. In this article, we show that the ERC commits its energy to an agenda that prioritizes local and national issues, particularly those that have demonstrable and practical effect. It is aware of the

importance of scholarly publications, but it resists allowing this measure to unduly influence its activities and its use of resources. As Dauvergne and Clapp (2016, 3) note, “going forward, one of the biggest challenges for the GEP field will be balancing what it deems to be ‘academic knowledge’ with the understandable desire by GEP scholars to influence policy, activism, and discourses.” The ERC finds its balance in a focus on policy and activism and, in doing so, demonstrates its Southern agency.

No two research units are the same, and all experience a different mix of pressures. In this article, we have identified some specific conditions that activate Southern research agency. To further understand how knowledge inequalities are measured, challenged, and reproduced, we propose that future studies of research centers build on the qualitative approaches we adopted, including interviews and observation, to establish the agendas for impact of Southern researchers and how they might differ from those captured by more quantitative measures. Ethnographic studies of knowledge production are available to guide this research (e.g., Latour and Woolgar [1979] 1986).

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Planning in the Global South: Conflicting Rationalities in Contested Urban Space, is forthcoming from Palgrave.

References

- Bailey, Tracy. 2005. The Dynamic of Knowledge Production and Utilisation: Fifteen Case Studies. Production and Utilisation of Knowledge in Higher Education Institutions in South Africa Paper 4. Centre for Research on Science and Technology, Stellenbosch University.
- Boyd, Anya. N.d. *Normalising Apples and Oranges: Comparing Trade Offs for Pro-poor Mitigation Actions*. Available online at: <https://tinyurl.com/ybjc53rm>, accessed May 24, 2018.
- Collyer, Fran. 2015. *Report for Rio, Study B*. Presented at the Arenas Research Group Meeting, April 8–10, Social Sciences and History School, Fundação Getulio Vargas, Rio de Janeiro, Brazil.
- Connell, Raewyn, and Fran Collyer. 2012. Global Arenas of Knowledge: Centre/Periphery Relations and Change in Knowledge Production on a World Scale. Unpublished manuscript.
- Connell, Raewyn. 2014a. Using Southern Theory: Decolonizing Social Thought in Theory, Research and Application. *Planning Theory* 13 (2): 210–223.
- Connell, Raewyn. 2014b. Rethinking Gender from the South. *Feminist Studies* 40 (3): 518–539.
- Connell, Raewyn, Rebecca Pearse, Fran Collyer, Joao Maia, and Robert Morrell. 2017. Negotiating with the North: How Southern-Tier Intellectual Workers Deal with the Global Economy of Knowledge. *Sociological Review*. <https://doi.org/10.1177/0038026117705038>.
- Corbera, Esteve, Laura Calvet-Mir, Hannah Hughes, and Matthew Paterson. 2016. Patterns of Authorship in the IPCC Working Group III Report. *Nature Climate Change* 6: 94–100. <https://doi.org/10.1038/nclimate2782>.
- Czerniewicz, Laura, Sarah Goodier, and Robert Morrell. 2017. Southern Knowledge Online? Climate Change Research Discoverability and Communication Practices. *Information, Communication, and Society* 20 (3): 386–405.
- Dados, Nour, and Raewyn Connell. 2012. The Global South. *Contexts* 11 (1): 12–13.
- Dauvergne, Peter, and Jennifer Clapp. 2016. Researching Global Environmental Politics in the 21st Century. *Global Environmental Politics* 16 (1): 1–12.
- Graham, Mark. 2015. The Geography of Academic Knowledge. *Geonet* (blog). Available online at: <http://geonet.oii.ox.ac.uk/blog/the-geography-of-academic-knowledge/>, accessed May 24, 2018.
- Hofmänner, Alexandra. 2000. A South African Research Institute and Two Theories of Knowledge Production. *Science Studies* 13 (1): 19–30.
- Hountondji, Paulin. 2002. *The Struggle for Meaning: Reflections on Philosophy, Culture, and Democracy in Africa*. Athens, OH: Ohio University Press.
- Hulme, Mike. 2010. Problems with Making and Governing Global Kinds of Knowledge. *Global Environmental Change* 20: 558–564.
- Kane, Lisa, Marta Torres Gunfaus, and Michael Boule. 2015. “This Was Different”: The MAPS Programme and Southern Climate Change Mitigation Practices as “Southern Theory.” Cape Town: MAPS.
- Latour, Bruno, and Steve Woolgar. (1979) 1986. *Laboratory Life: The Construction of Scientific Facts*. Princeton, NJ: Princeton University Press.

- Marquard, Andrew. 1999. *Making a Difference: Reflections on the First Ten Years of the Energy and Development Research Centre at the University of Cape Town*. Cape Town: Energy and Development Research Centre, University of Cape Town.
- Medina, Leandro Rodriguez, and Patrick Baert. 2014. Local Chairs vs International Networks: The Beginning of the Scholarly Career in a Peripheral Academic Field. *International Journal of Politics, Culture, and Society* 27 (1): 93–114.
- Mouton, Johann. 2010. The State of Social Science in Sub-Saharan Africa. In *World Social Science Report: Knowledge Divides 2010*, 63–68. Paris: UNESCO.
- Paasi, Anssi. 2005. Globalization, Academic Capitalism and the Uneven Geographies of International Journal Publishing Spaces. *Environment and Planning A* 37 (6): 769–789.
- Tijssen, Robert. 2015. Research Output and International Research Cooperation in African Flagship Universities. In *Knowledge Production and Contradictory Functions in African Higher Education*, edited by Nico Cloete, Peter Maassen, and Tracy Bailey, 61–74. Cape Town: African Minds.
- Tyler, E., and M. Torres Gunfaus. 2015. What Was the Contribution of the Long Term Mitigation Scenario Process to South African Climate Mitigation Policy? Mitigation Action Plans and Scenarios (MAPS), Cape Town.
- Williams, Marc. 2005. The Third World and Global Environmental Negotiations: Interests, Institutions and Ideas. *Global Environmental Politics* 5 (3): 48–69.
- Winkler, Harald H., et al., eds. 2007. *Long Term Mitigation Scenarios: Technical Report*. Available online at: <http://tinyurl.com/j2zecb7>, accessed May 24, 2018.
- Winkler, Harald. 2010. *Taking Action on Climate Change: Long-Term Mitigation Scenarios for South Africa*. Cape Town: UCT Press.
- Yin, Robert. 2012. *Applications of Case Study Research*. 3rd ed. Thousand Oaks, CA: Sage.