Breaking vicious cycles? A systems perspective on Southern leadership in climate and development research programmes

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Abstract
South–North research collaborations are now commonly used in the field of climate and development to advance knowledge, inform decision-making and strengthen capacity in the global South. Southern leadership within these collaborations is widely seen as instrumental to their lasting impact. This study examines how Southern leadership and capacity were promoted in the Future Climate for Africa (FCFA) programme, a five-year initiative that sought to enhance resilience to climate change in Africa. Drawing on interview and survey data from programme participants, document analysis and experiential insights from the author team, we examine how Southern leadership was pursued within the programme, and the barriers that constrained action at a range of scales. Most climate and development initiatives, like FCFA, sit at the intersection of multiple social, political and research systems. To disrupt the structures that sustain the power of Northern institutions and obstruct change, funders must go beyond programme-level interventions such as funding and distribution of roles, and consider deeper leverage points of change. We propose how shifts in mindsets and metrics in relation to Southern leadership and capacity can contribute to this change.

1. Introduction and study purpose
The disproportionate scale and severity of current and projected climate change impacts on countries in the Global South is extensively documented. The Intergovernmental Panel on Climate Change (IPCC) reports, with high confidence, that the consequences of warming of 1.5°C and above will disproportionately impact vulnerable populations in Least Developed Countries (LDCs), small island developing states, indigenous communities and other local communities dependent on agricultural and coastal livelihoods (IPCC, 2018). We also have ample evidence that the effectiveness and sustainability of climate actions in response to these impacts depend on local leadership, capacity and control over decision-making (including access to finances to act on decisions) (Nagendra, 2018; Sovacool et al., 2017). Despite these oft-cited realities, agendas for climate change research, policy, practice and the distribution of finance continue to be predominantly defined in the Global North (Overland et al., 2021).

Within the climate change and international development community, concerns about the inequitable distribution of power, leadership, capacity and resources in North–South research collaborations have been raised since at least the 1990s (e.g. Gaillard, 1994), and principles for promoting more equitable partnerships have been advanced since around the same time (e.g. Karlsson et al., 2007; KPFE, 1998; UKRI, n.d.). Central to these principles are calls for increased Southern leadership in agenda-setting and evidence generation (e.g. Fransman et al., 2018). As a consequence, we have seen a growing number of climate and development initiatives that seek to embed such concerns into their programme design and implementation, alongside their aims of building new knowledge, informing policy and increasing societal resilience and wellbeing (e.g. Boulle et al., 2020; Grieve & Mitchell, 2020). Many of these programmes have a stated intention of strengthening Southern partners’ capacity through research collaborations. Promoting Southern leadership also represents a frequently-stated component of these capacity building efforts, albeit an aim whose conceptualization varies considerably across programmes.

Yet, one might ask why the issues of unequal North–South leadership and inequitable partnerships persist and whether current targeted actions are catalyzing change. Answering this question, we argue, requires looking beyond the stated high-level objectives and principles of funders, agencies or programmes, into the specific contexts within which these collaborations unfold. It involves examining how day-to-day practices are shaped by normalized and implicit assumptions, as well as the systems and structures that sustain them. In doing so, we might begin to understand how particular inequities become entrenched within partnerships, the consequences of these inequities and how actors in different parts of the climate and development system (from funders to researchers to community members) might work to disrupt them.

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This study thus takes such a systems perspective to examine the ways in which Southern leadership was developed through North–South research partnerships in the Future Climate for Africa (FCFA) programme, a five-year initiative that sought to enhance resilience to climate change in Africa. Questions that guided this inquiry included: (a) How did efforts aimed at capacity strengthening shape Southern leadership in FCFA? (b) How did wider systems, structures and mindsets influence leadership among Southern partners? (c) What lessons can we draw from FCFA’s experience to promote more inclusive and equitable partnerships in future international climate and development research initiatives?

2. Background and literature review

A starting point for this analysis is that international research practice is embedded in wider systems and structures that fundamentally shape what is possible (Groves & Hinton, 2004; Mosse, 2013). As such, this analysis should not be understood solely as a critical appraisal of what has been achieved within a single programme but also as an examination of how broader forces shape what is achievable and why. As a result, we begin this section by situating FCFA within the broader issues of power imbalance, unequal distribution of resources and the disproportionate involvement in climate policy and financial decisions between actors and institutions in the global South and North. These concerns have given rise to many international research initiatives, including FCFA and leadership and capacity development are often emphasized as a means to counter those long-standing inequities between the global South and North. We then discuss how leadership and capacity have been conceptualized in the configuration of these programmes where multiple social, political and research systems intersect.

2.1. A vicious cycle of research and capacity in the global south

As outlined above, actors in the global North have long been defining the agendas for climate change research, policy, practice and finance internationally. Despite the disproportionate climate impacts in the global South, low-income countries and LDCs continue to receive only a small proportion of climate finance investment, with finance for adapting to the impacts of climate change being an even smaller proportion (Savvidou et al., 2021). The Organization for Economic Cooperation and Development (OECD) reports that low-income countries received 8% of climate finance mobilized over the period 2016–2018. Of that 8%, less than half was earmarked specifically for climate change adaptation (OECD, 2020).

Similarly, knowledge production on climate change, and on environmental issues more broadly, remains skewed towards northern academic institutions and northern researchers – as evidenced through authorship patterns in reports from the IPCC (Corbera et al., 2016; Hulme & Mahony, 2010; Vasileiadou et al., 2011) as well as in broader patterns of funding, authorship and peer review for climate research in the global South (Blicharska et al., 2017; Jones et al., 2018; Schipper et al., 2021). Despite being home to many of the countries most vulnerable to climate change, Africa accounts for just 0.8% of global research and development expenditure (Hendrix, 2017); and 14.5% of climate research funding specifically (Overland et al., 2021). The relative paucity of research evidence on climate impacts in some parts of Africa directly affects the visibility of these issues in global reviews and agendas (see Vincent & Cundill, 2021). Studies also suggest that the lack of research appears to be more directly attributable to colonial ties, and ‘accessibility’ (in terms of language, security, geography, etc.) of the countries to Northern researchers, than their relative vulnerability (Hendrix, 2017).

Calls have long been made to invest in research capacity in the global South (Jones et al., 2007) and establish a stronger network of centres of academic excellence to counter these disparities (see https://aruacd.org/). Attempts have been made to heed these calls; however, measurable progress – in terms of shifts in funding flows or investment approaches, remains limited. What results could be described as a vicious cycle of uneven capacity distribution, particularly in many climate change hot spots. Capacity gaps lead to continued reliance on external expertise for work in these settings, further reinforcing leadership, capacity and resourcing elsewhere – frequently at institutions of the global North. A direct consequence of this dynamic can be found in looking at control and influence over agenda-setting on climate action, in terms of participation in governance and issue prioritization at both international and national scales. Political economy analyses reveal how research and financing decisions, typically made outside of the vulnerable contexts where the action is being planned, have played a critical role in shaping what is deemed possible and desirable climate action in those contexts (Naess et al., 2015; Nightingale, 2017). As Vincent et al. (2020) describe, even with research programmes that emphasize collaboration and co-production, it remains a common norm that Northern-based researchers lead the research conceptualization and design, while Southern-based partners are ‘engaged to support (or commence) in-country engagement and have their “capacity built”’ (p. 877). The concerns raised here will be familiar to those working in the field of climate change and international development. They have led to repeated calls to strengthen individual, institutional and technological capacities in the global South (and particularly in Africa) (e.g. Conway, 2011; Hewitson, 2015; Mustelin et al., 2013), to re-think the principles and modalities of research partnerships between Northern and Southern institutions (Dodson, 2017; Fransman et al., 2021; Jones et al., 2018; UKRI, n.d.) and to invest in both creating and supporting pathways for Southern leadership (de Águeda Corneloup & Mol, 2014; Harvey et al., 2019).

2.2. Leadership and capacity dynamics in complex systems

In the context of complex systems such as international research-to-action collaborations, leadership and capacity can be understood as mutually-reinforcing features. O’Brien and Selboe argue that the adaptive challenge of climate change requires new types of leadership, which are characterized by the capacity to ‘reflect, reinterpret, reframe, and intervene in such a way that not only creates results but inspires others
to move forward’ (O’Brien & Selboe, 2015, p. 320). Senge et al. (2015) observe, however, that the required efforts to promote collaborative work on complex challenges like climate change have tended to fall short, due in part to the failure to foster collective leadership within and between collaborating organizations.

Beyond the field of climate change, theories of both leadership and capacity have undergone considerable rethinking in recent years, from concepts that were seen to comprise a set of specific skills or aptitudes that can be taught or ‘built’ independently, towards more holistic interpretations that must be understood in the context of the wider systems within which they are put into practice. Heifetz and Laurie (1997) define leadership as the capacity to transform the conditions within which others work and learn collectively and pursue change. For Senge et al. (2015) this involves being able to appraise the wider system, foster reflection and generative conversations among stakeholders and to shift collective focus from responding to current dynamics towards co-creating new future conditions. We see similar features reflected in Woodhill’s description of capacity as ‘a collective ability for effective relationships’ (Woodhill, 2010, p. 47). Woodhill identified four capabilities as key components of capacity in complex systems: navigating complexity; being self-reflective; learning collaboratively; and engaging politically; and these speak to the ability to assess, govern and innovate collaboratively, much like Senge et al. suggest. Brinkerhoff and Morgan (2010) note two implications of such a complexity-informed perspective on capacity: First, as noted above, the elements of capacity are irreducible – they cannot be separated into individual components to be supported or practiced. Second, that capacity and its components are ‘latent’, and ‘only become apparent when actors exercise them to achieve some sort of result’ (Brinkerhoff & Morgan, 2010, p. 30).

Taken collectively, these framings of leadership and capacity highlight how the leadership of any individual or organization engaged in funded collaborations depends on their ability to gain sight of the wider system (including its financial systems and decision-making structures); assert convening power within that system; and be in a position to initiate changes in priority-setting. Viewed in the context of international research collaborations, these features sit in tension with the traditional positioning of Northern and Southern partners, where, as Barrett et al. (2011) observe, ‘Northern partners have too often commanded all leadership, planning and management roles’ (p. 29). If leadership capacity can only become apparent when exercised towards an end result, as Brinkerhoff and Morgan (2010) argue, then the current system appears unlikely to break out of its cycle of reinforcing existing patterns of leadership unless steps are taken to significantly disrupt it. Supporting leadership and capacity efforts through research collaboration in programmes like FCFA thus needs to consider ways of disrupting the above-mentioned ‘vicious cycle’ in climate and development initiatives.

3. Study context: the Future Climate for Africa programme

Future Climate for Africa was a £20 million programme funded by the UK Department for International Development (DFID) (now the UK Foreign, Commonwealth and Development Office or FCDO) and the UK Natural Environment Research Council (NERC). It aimed to generate new climate science focused on Africa and pilot the use of improved medium – to long-term (5–40 years) climate change information in development planning. The ultimate goal of FCFA was to reduce disruption and damage from climate change and to safeguard economic development and poverty eradication efforts over the long-term. The programme was implemented by five research consortia: African Monsoon Multi-disciplinary Analysis (AMMA-2050), Future Resilience for African Cities and Lands (FRACITAL), Integrating Hydro-Climatic Science into Policy Decisions for Climate-Resilient Infrastructure and Livelihoods in East Africa (HyCRIStAL), Improving Model Processes for African Climate (IMPALA) and Uncertainty Reduction in Models for Understanding Development Applications (UMFULA), with support from a cross-programme Coordination Capacity Development and Knowledge Exchange (CCKE) Unit. The core research ran from 2015 to 2019, with a programme extension phase for 2020 and 2021.

The FCFA programme sought to simultaneously: (a) improve scientific understanding of climate variability and change across Africa and the impact of climate change on specific development decisions (b) ensure that decision-makers are able to incorporate relevant climate information into planning and investment; and (c) help to grow the future generation of African scientists. FCFA’s Theory of Change describes the programme’s aim to develop capacity in the African scientific community to deliver demand-led, relevant and actionable information, and engage in multi-disciplinary and international collaboration. To this end, capacity development of African Early Career Researchers (ECRs) and partner institutions through intensive South–North and South–South research collaborations were at the core of the programme design. Promoting Southern leadership was embedded in FCFA’s scientific capacity strategy, although some might challenge the fit of this implicit connection between leadership and capacity as we will discuss in the sections that follow.

Part of the justification for establishing the FCFA programme, as set out in its internal business case for funding, rested on the ‘historical underinvestment in climate monitoring, research and capacity building’ in Africa. (DFID, 2014a, p. 1). The business case notes that the climate science in Africa ‘relies heavily on international centres that lie outside of Africa’ and that this dependence has, in turn, ‘resulted in a decline in capacity and resources within African observatories and meteorological agencies’ (p. 10). Much, if not all of the emphasis on capacity strengthening in FCFA focused on scientific and technical capacity, built at individual and organizational level through network-building, training and workshops. More specifically, emphasis was placed on building capacity within the science community, and among end users for improved access and use of climate information – particularly in terms of integrating such information into decision-making. Alongside this focus on scientific and technical capacity, however, the business case also noted the programme’s intention to ‘create a level playing field for Africa-based researchers, as well as encourage their participation in [research consortia]’ (DFID, 2014a, p. 31). To this end, the
business case stipulated criteria for assessing proposed research consortia which included the involvement of African research institutions, as well as the strength of knowledge sharing and capacity building activities in proposals. Analysis of how these stated high-level programme objectives have unfolded in the programme implementation is explored below.

4. Analytical framework and methods: towards a systems perspective on leadership and capacity in research collaborations

This study drew on a range of data sources, including the authors’ personal experiences as researchers participating in or collaborating with FCFA; results from a survey of 72 FCFA members (75% researchers, 25% other programme staff), interviews with 13 programme members from across the different FCFA consortia, and analysis of internal reports and project documents. Data were analysed thematically to identify and map incidences of, and enablers and barriers to, the emergence of Southern leadership within the research collaboration across a range of scales. In doing so we shed light on the factors that mediated between FCFA’s high-level aims to strengthen capacity and leadership, and the outcomes that emerge in practice; factors that we believe are experienced across a range of other initiatives in this field.

By bringing a more systems-centred orientation to our analysis we acknowledge that these outcomes are shaped by dynamics that go beyond the visible and deliberate decisions made in relation to specific programmes or plans. These include underlying worldviews, paradigms and systems structures that shape what is seen as possible and/or desirable. Where possible we have sought to present participants’ own rich accounts of their experiences while complementing them with survey and textual data to place them into a wider context.

FCFA, like many other climate and development initiatives, sits at the intersection of multiple social, political, and research systems. Tools and approaches for studying complex systems have grown significantly in recent years, as an increasing number of fields have sought to apply a systems lens to management (Monat & Gannon, 2015), governance (Ison & Straw, 2020), sustainability (Abson et al., 2017) and more. In this article, we use Kim’s (1999) systems iceberg model as a heuristic framework to examine the practices and norms of South–North collaborations, as well as the programme structures and wider academic systems within which FCFA was situated.

The iceberg model assumes that, in human-designed systems such as universities or research programmes, repeated behaviors and events invariably reflect deeper systemic structures, which in turn reflect underlying beliefs, values and worldviews. While systemic structures and mindsets are often hidden from plain sight, they continue to shape our decision-making and programming logics. It is only in recognizing and examining these underlying driving forces that we are able to shift the established norms and repeated patterns. Drawing on this heuristic, the analysis is organized based on the following core components of the systems iceberg (Figure 1):

5. Analysis

As stated at the outset, this study aimed to reveal how programme activities targeting leadership and capacity building in programmes such as FCFA are entwined with wider social, political and research systems that make achieving those very aims deeply challenging. To this end, we structure our analysis based on the iceberg model, first examining the visible day-to-day practices of North–South research collaborations within FCFA. We then move towards deeper levels of the iceberg to uncover how these practices are, in fact, embedded in the common mindsets, logics, structures and system dynamics. It is

![Figure 1. The iceberg system thinking model (adapted from Kim, 1999).](image-url)
important to note, however, that the consortium model upon which FCFA was built means that experiences and dynamics varied from one consortium to another. As such, these trends should not be understood to be experienced in the same ways across the programme.

5.1 FCFA leadership capacity in practice

5.1.1. Brokering relationships and leading action ‘on the ground’

When asked about the strengths and achievements that best reflected the contributions of Southern partners in FCFA, more than 50% of survey respondents emphasized two areas of practice: the establishment of in-country partnerships, and the implementation of in-country research activities. Southern research teams brought legitimacy and contextual insights to research activities and opened doors to relationships with key stakeholders in national and local contexts. As one researcher reflected:

[Southern researchers] were key in terms of designing engagement opportunities, and then brokering those opportunities, and making sure people came to meetings, explaining to them the purpose of the meetings, getting research clearance, getting all those kinds of things, doing a lot of the spade work for facilitating engagement processes in country, critical for all that. (Participant 10)

Another respondent described how these partners lend legitimacy to research findings and recommendations:

The Southern partners are the ones who know the groundwork, where these projects are being carried out. [...] So if we can come back and sit together and say [to the research stakeholders] “listen guys this is one of our people talking about something which is important to all of us,” it is far easier understood rather than when someone from the North comes and talks about a problem that exists in the country. (Participant 5)

In the context of use-inspired and decision-oriented research, such as FCFA’s, this brokering role is critical (Her- ing, 2016). It also represents a key dimension of FCFA’s overall metrics for success. However, this kind of work was also felt to be in tension with what some respondents saw as the ‘normal’ responsibilities of researchers. Some reported, for example, feeling undervalued as researchers through the emphasis on this brokering function. As one interview respondent reflected,

The North looks at me … and when I say the North, I mean, either funders or fellow researchers … looks at me as the entry point. We [Southern researchers] should be seen beyond entry points in the South. And then that can only happen if, indeed, I will live up to the task of being called a researcher, and I’m able to do the research itself and produce. (Participant 4)

The extent to which relationship brokering and traditional research functions are perceived as separate functions is itself a product of both norms and mindsets, however. As another recent FCFA study has demonstrated, some of the consortia pursued research through a knowledge co-production framework and thus treated these practices as interdependent and inseparable (Harvey et al., 2021).

The second practice that was seen by more than 50% of survey respondents to reflect leadership by Southern partners was implementing in-country research activities. Here, a second tension arose, this time between perceptions of ‘leading’ versus ‘following’ in this work. While respondents highlighted the important work of Southern partners in undertaking on-the-ground practice, several Southern researcher interviewees described a sense of disempowerment in relation to the types of research work they were afforded. As one researcher (a project co-Investigator at the time of interview) stated:

I am saying that the North had a normal role compared to the South because, as I was telling you, like we aren’t the ones that developed the site tools, you know when you are given to go collect data […] you are just like a casual worker which is working with the tools that he has been given. Again, when it comes to analysis of this information, we say that the South doesn’t play a major role because in my pillar we collected data, but the software that was used for data analysis and that analysis was still in the North. Our work was just to go through it and comment what we think was not strong or was not coming clearly. But apart from collecting data, we never play a serious role in data analysis. (Participant 17)

In both of these cases, we see how leadership practices (as identified by some) are mediated by underlying norms and mindsets, which we explore below.

5.1.2. Building and sustaining leadership capacity

While capacity development was clearly a central focus in FCFA’s regular programme practice, we sought to understand which capacities were being targeted and why, and how the areas of focus pursued in FCFA related to the framework outlined above. The capacity development activities in FCFA were predominantly focused on ECRs, particularly Master’s and Ph.D. students and oriented towards strengthening research capacity. These were implemented through a wide range of modalities, including mobility grants, training workshops and mentorship and opportunities to lead small-scale research initiatives via specifically earmarked innovation funds (Mackay et al., 2020). The measure of progress towards these ends, as described in FCFA’s logical framework was described as ‘increased knowledge, capacity and skills of African scientists and user groups to enhance the development and/or use of climate information’ (DFID, 2014b). Demonstrating this progress in daily practice relied on tracking the number of African scientists participating in the research and capacity building activities noted above and assessing whether these scientists were ‘actively engaged’ in their consortia (DFID, 2014b). However, evidence on where these partnership practices actively sought to reposition roles, engage in the forms of influence visioning or convening note above or promote new leadership opportunities was limited.

In response to questions on the FCFA capacity support they valued, most ECRs emphasized research-related skills-building such as paper and grant writing, as well as communication skills (Mackay et al., 2020). This suggests a close alignment between what was offered and what was valued as capacity support by many FCFA collaborators. Other survey respondents, however, described capacity strengthening as a gradual process that was not a result of specific interventions but of learning-by-doing and working in partnership. This was particularly evident in the FRACtAL consortium, which was designed around a social learning model (McClure, 2020). FRACtAL
explicitly emphasized the building of ‘relational capacity’, ‘relational expertise’ and ‘common knowledge’, which together imply ‘the ability to and affinity for working alongside others to respond to complex problems’ (McClure, 2020, p. 31). This extends beyond the focus on technical and scientific capacity described above and appears well aligned with a model of systems leadership that fosters reflection and generative conversations and to shifting collective focus towards co-creating new future conditions (Senge et al., 2015).

5.2. Norms of South–North research collaborations at FCFA

A closer look at the norms that formed around leadership, collaboration and research operationalization revealed how the daily practices we describe above are embedded in more persistent trends – both inside of the FCFA programme and beyond.

5.2.1. Research design and implementation

We noted above the tensions some researchers highlighted between their roles in relationship brokering and data collection versus taking on leadership in research design and analysis. The normalizing of these distinctions and the way that it positioned research partners vis-a-vis their shared research agenda can be seen in the patterns of ‘us/them’ discourse that emerged among some respondents. For instance, one respondent described the research collaboration process in the following way:

The Northern institutions […] they were leading in developing their research issues and they were also leading in the finalising their research proposals. Us as Southern partners we are able to contribute to those proposals and suggest the projects or the methods. When they came to [country site], we were supporting them to make sure that they are getting the information that they wanted. We were also able to identify the right partner institutions. (Participant 12, knowledge broker; emphasis added)

These norms were not uniform across the five FCFA consortia, however, as each featured its own modes of collaboration. For instance, one respondent underscored the central role of Southern partners in their consortium’s overall performance, suggesting that ‘without Southern partners, the successes recorded in the [consortium name] project could be dropped almost 20%’. Nonetheless, authorship patterns across 230 journal articles examined for this study reveal some clear norms in leadership roles around academic research and writing. Of the 230 publications, only 33 (or 14%) feature a first author based in an African institution. This clear disparity raises important questions about what it means to ‘create a level playing field’ and ‘encourage the participation’ of African researchers in research consortia. It also echoes experiences documented in the wider literature (e.g. White, 2020).

5.2.2. Norms of administrative oversight

Past literature has documented the tendency for rules and practices of international collaborations to be set and enforced by funders and lead partners, most often in the global North (Barrett et al., 2011; Jones et al., 2018). As a norm of practice this can reinforce upward-facing lines of accountability that impact the agency of those seeking to lead collaborations from the South. Interviewees reported encountering these norms and described the way these experiences positioned them in relation to lead partners. We see the extent to which these lines of upward accountability have been normalized in one researcher’s reflections:

[Sometimes] we are not aware why certain conditions have been proposed, why certain restrictions are imposed. So that, I think, is just a question of, if you have something you need to clarification on, you can write either to the project manager in [UK-based consortium lead], and copy the PI, and they’ll be able to reason with you in line with the documentation that guides the financing and implementation of the project. For example, if you expect that you will get your laptop from the project fund, they will tell you this is not possible because it is stipulated “here” that we are not supporting computational equipment or things like that. (Participant 18)

This account highlights both the way that lines of financial accountability have been normalized in programmes like FCFA but also hints at some of the challenges that such systems can impose on Southern researchers, as we will explore below.

5.2.3. Challenging norms of investment into capacity development

Finally, looking at wider norms around capacity development, respondents spoke to their broader frustration with the continued underinvestment into Southern capacity – particularly investments beyond the level of the individual. This has led to continued dependence on capacities in the North. One respondent highlighted the interdependence between technical and financial capacities and the emergence of independent, African-led research practices.

[Northern funded] research projects are not investing much in the capacity of African researchers and African universities to independently do the research. […] The need for technical independence and technical equipment that can support knowledge production for the future is not mostly an issue that the funders invest in. And I think going forward, this is a significant issue that requires attention. (Participant 4)

Again, this highlights potential tensions between stated objectives of strengthening endogenous research capacities and the investment priorities that researchers see reflected in international collaborations. It may also point to differing interpretations of what capacity (and capacity development) reflects in practice, as we discuss below.

We did see FCFA consortia working to shift some of these norms, particularly at the level of individual capacity. Examples included ‘ringfencing’ funds and adjusting funding allocations to ensure they were directed towards research leadership and capacity development opportunities by Southern ECRs (Mackay et al., 2020). Over the course of the programme these efforts led to evolutions in leadership and capacity, as one co-PI reported:

I think we are in a much better place for Southern leadership[…] I think we’ve created a bit more of a culture of leadership within some institutions, and we sort of know where strengths and weaknesses are and can also just communicate better, and more honestly, about what is possible. […] In hindsight, we could give a much stronger, funded role to some key partners that we have
identified in the course of the project. Give them more leadership there, more ownership there. But that just simply wasn’t possible back in 2015. (Participant 16)

Whether this momentum leads to shifts in norms that extend beyond individuals to the wider contexts within which they work may depend on the deeper structural conditions and mindsets that we turn to now.

5.3. Structural barriers to leadership emergence and capacity development

Structures consist of the rules, policies and practices (both written and unwritten) that are enforced within research collaborations and their host institutions and consequently, shape what is deemed possible and how things are done – the norms and practices explored above. While many of these barriers have been documented in past research, embedding our analysis here into a ‘whole of system’ perspective, we are able to see how structural factors cascade into many of the norms and practices we have just outlined. We recall our assertion that the leadership of any individual or organization engaged in funded collaborations depends on their ability to gain sight of the wider system; convening stakeholders within that system; and be in a position to initiate changes in priority-setting on the basis of adaptive responses or shared learning. This assertion sits in tension with the barriers that respondents reported in navigating programme and institutional structures as leaders and partners in FCFA.

5.3.1. Overcoming capacity barriers at home

Systemic capacity gaps within home institutions were highlighted by survey respondents as an important yet underaddressed barrier that simultaneously sat outside of FCFA’s focus in terms of capacity strengthening, yet shaped what was possible for collaborating researchers. In research carried out in parallel to ours, Boulle et al. (2020) report how organizational barriers such as limited technical support, siloed knowledge production and limited administrative support to manage funds and teaching loads have hindered Southern researchers’ efforts to adopt new ways of working and constrained their capacity to engage in collaborations. Respondents echoed many of these concerns.

Looking specifically at financial and administrative processes, experiences varied, with some respondents describing how leadership and management teams within their FCFA consortia helped them overcome capacity barriers at their home institutions. Others spoke of ongoing struggles of working with programme collaborators, as well as their own institutions, to address everyday financial processes. One researcher reflected that having a high-capacity lead partner manage project finances rather than having it done by their own university generated positive impacts:

We never had financial constraints [in FCFA] as opposed to my prior projects, although they were smaller than this, because [in prior projects] the money would come to the central finance division at the university and for us to get the money to carry out the work it was a very complex procedure. (Participant 5)

In contrast, however, a second researcher recalled the time lost working with their university administration to resolve relatively simple financial administration for FCFA activities:

The university is still struggling, is still sitting on my [financial] memos, which I wrote in June to pay for the [workshop], and the [workshop] happened a month ago, and the hotel is not yet paid. [...] And nobody, nobody has made a decision on them because they don’t understand what the [workshop] is, despite [my] sitting and explaining everything to them. (Participant 4)

Here we begin to see the interplay between daily practices (examined above) and underlying systems, and how these shape collaborators’ capacity to assume leadership roles in project activities. The excerpts here recall the dimensions of leadership set out earlier in the paper, where one must be able to appraise and influence the wider system (in this case finance and administration). It may be that barriers to appraising and influencing particular systems can be mitigated by circumventing those systems, for instance by entrusting a better-positioned partner with financial management tasks (as evidenced in the quotation from Participant 5). However, the longer-term implications of using this kind of strategy, in terms of building lasting capacity and leadership are unclear. What does emerge clearly here, is the extent to which structural barriers embedded in administrative systems (which are rarely a point of focus in research programmes that seek to build capacity) can ultimately constrain the ability of partners in the South to achieve those outcome areas that are a focus of the investment.

After concerns about administrative and financial infrastructure, the absence of funded postdoctoral positions in most African universities outside of South Africa was the second most commonly-cited structural barrier. The absence of these roles within universities simultaneously constrains the leadership opportunities for ECRs, as well as the ability of collaborating institutions to provide dedicated capacity to projects. It also creates an important gap in the capacity trajectory for emerging academics, leading to a reliance among ECRs on opportunities off the continent to advance their careers (Harvey et al., 2019). Within the context of FCFA, some respondents suggested that this systemic barrier also contributed to the inequality of funding distribution between North and South. According to one Principal Investigator,

Quite a lot of money went to the UK partners. It would have been nice to find ways to spend more in our partner countries. We were able to spend more in South Africa, because we had postdocs, and we could cover the salary time and so on. Those options weren’t as easily available to us for the other countries (Participant 10).

This typifies the vicious cycle described at the outset of the paper, where capacity gaps and barriers in the South reinforce the case for further investments in high-capacity institutions of the global North.

5.3.2. Are programme structures supporting or inhibiting Southern leadership?

Although many of the structural barriers reported by participants are situated in endogenous systems (particularly Africa’s higher education system), we also find evidence of constraints emerging from the structure of the programme itself. These
related predominantly to the ways in which programme resources (financial and human) were distributed, the way use of these resources was governed from afar and the competing dimensions of ‘excellence’ within leadership and capacity development were expected to emerge.

A key stipulation built into the design of FCFA (and many similar programmes) is that ‘funds will be disbursed in arrears on a quarterly basis on receipt of a valid invoice [...] supported by a breakdown of expenditure that is in line with the overall budget set aside’ (DFID, 2014a, p. 3). For large universities in the North, pre-financing salaries and research expenses and overseeing quarterly financial reporting processes in line with budgets written several years prior may be feasible. However, close to 50% of interviewees described these financial mechanisms as a significant barrier for Southern partners to engage in research, especially during the first year of the programme. Some Southern researchers reported paying for research activities out of pocket and described time-consuming processes for claiming those funds back – a point of intersection with the home-institution capacity gaps noted above. In some cases, this funding stipulation was mitigated by the UK-based institutions providing upfront finances for Southern partners and then waiting until the end of the quarterly cycle to claim back the funds. One consequence of this risk mitigation strategy used by funders is a reluctance to initiate new work – particularly if there are any delays in fund disbursements as arose on a number of occasions within FCFA—or fluctuations in currency exchange rates, both of which introduce financial uncertainty.

Beyond fund disbursement, structural barriers embedded in the rules and policies that govern the use of funds presented challenges. This includes the rigid and often-critiqued process of programme design and project planning – where funding requirements stipulate that activities be allocated to specific work packages and budget lines well before work has started, and often under the direction of Northern leads (see Jones et al., 2018). The constraining nature of this programming model (which is not unique to FCFA and impacts partners in all locations) was described by one respondent as follows:

Northern funding for research usually comes with specific targets, and specific metrics on what needs to be achieved, and by when. And in most cases we are required to provide reporting based on those. And in the process of doing that, researchers in the South end up behaving like robots. There is no thinking, there is no adapting of the project according to emerging contexts. (Participant 4)

While there has been a move towards more adaptive models of programming that take into account evolutions in context and practice, roles, responsibilities and resources remain predominantly determined at the beginning of the programme activities, often with limited scope for change (Andrews et al., 2013). This rigidity sits at odds with theories of leadership development as an emergent process that requires time, mentorship and an enabling environment. As a consequence, it was challenging for researchers to move into new leadership positions or shift their research roles during the programme period. Flexibility measures introduced to support ECRs in FCFA (discussed in Section 5.2) offered some opportunities, but these were significantly outweighed by more fixed components of the programming.

5.3.3. Competing funder priorities and expectations

Finally, we highlight the under-acknowledged tensions that exist between three major aims of contemporary climate and development research programmes, including FCFA: advancing the state of knowledge; influencing policy; and building capacity. While the weighting of these three aims in selection and evaluation processes often places the greatest importance on advancing knowledge (often assessed by counting high-impact research outputs), the aims tend to be treated as coherent with one another and achievable under a common strategy. This is often not the case. Investment into supporting emerging leaders and providing capacity development requires a willingness to accept failure as a part of the learning process, while high-impact research and policy influence are usually associated with established scholars who are recognized as leaders in their fields. Further, past research has highlighted the numerous advantages that Northern researchers enjoy over their Southern collaborators in the area of academic publication, including access to paywalled academic literature, time available for writing versus teaching and administrative loads and professional incentives (or lack thereof) for publication within academic institutions (White, 2020). With all three objectives embedded in project reporting requirements, FCFA partners were faced with potential trade-offs between pursuing research excellence and impact via internationally recognized scholars or capacity development via ECRs. Achieving all three equally appears optimistic at best.

5.4. Beliefs & mindsets: stuck in a ‘Development’ paradigm?

Responses to climate change in the global South, particularly responses stemming from international finance flows, are indelibly tied to architectures, norms and mindsets of international development. Eriksen et al. (2021) report how development interventions are often ‘retrofitted’ or ‘rebranded’ to serve as climate adaptation actions, leading to a focus on adaptation ‘deficits’ and metrics of success that have been defined by dominant development agendas. Indeed, decades of critical development scholarship have highlighted the tendency towards deficit framings that call on Northern and multilateral development agencies to intervene and modernize developing countries (Hart, 2001; Mosse, 2013). We see evidence of these elements of this ‘big-D’ international development mindset (Hart, 2001) being deployed through the systems, norms and daily practices we have described above.

More recently, the rise of a results agenda in development, where the merits of investments are assessed on their ‘value for money’ has become a major feature of the discourse in institutional forms of development – particularly in the UK (Sharp et al., 2019). These concepts are seen by many to reflect a neoliberal framing of development aid as an investment that is expected to yield near-term dividends, both in the country where it is spent in terms of measurable outcomes, as well as (directly or indirectly) in the country that has made the investment (Shutt, 2012). This emphasis on measurable, near-term results is difficult to reconcile with efforts to support capacity in complex systems, which tend to be gradual, non-linear and difficult to quantify (Vallejo & Wehn, 2016).
We see evidence of the mindsets described here shaping FCFA. Alongside its recognition of an overreliance on international centres of expertise for climate science in Africa, the business case for FCFA also draws attention back to the UK’s own capacities, stating that ‘UK universities and the Met Office Hadley Centre (MOHC) are recognised to be world-leaders in this area and DFID investment [in FCFA] can leverage this expertise to Africa’s benefit’. It goes on to mention that the investment would ‘provide added value to DFID’s original investments’ of previous funding into the Met Office Hadley Centre, which was set to end (DFID, 2014a, p. 4). Thus, the business case reveals that competing considerations have shaped investment choices under FCFA, where the stated aim to address historical underinvestment and its resultant impacts on Southern capacity is complicated by interests in sustaining domestic positions as ‘world leaders’ and adding value to past investments. There are clear trade-offs, we would challenge, between programming that seeks to further enhance the leadership and capacity of the donor country and agency, versus ensuring that that leadership and capacity is nurtured in, and serves, the regions where the investment is made.

6. Discussion: transforming systems to transform leadership and capacity?

Programmes like FCFA represent a considerable investment of financial, intellectual and human resources into understanding and responding to the global climate crisis. Their stated aim of strengthening leadership and capacity to undertake this work within the world’s most impacted countries is both important and, as we have shown here, challenging. Our analysis reveals how seemingly isolated dynamics and struggles that create obstacles to leadership and capacity development in particular programmes are frequently symptomatic of much deeper and more systemic dynamics which are playing out in localized ways. Better understanding these dynamics is critical to developing more impactful and sustainable approaches to building climate resilience in the global South. Further, we re-emphasize that, while the trends highlighted in this study were widespread, they were not universal across FCFA. Understanding the exceptions to these trends, how they were achieved, and what benefits they offer, provides us an opportunity for realizing more widespread changes. We reflect on some of the key themes that emerge from this systemic assessment of leadership and capacity in the FCFA programme:

6.1. Navigating the legacies of a ‘big D’ development mindset

Investment into climate change research and action in the global South remains deeply wed to the infrastructures, norms and paradigm of the international development industry. There are undoubtedly efficiencies that have been gained, and important expertise that has been harnessed through this ‘mainstreaming’. However, as a pathway towards climate resilience, it carries considerable baggage. The distribution of roles and authority, financial regulations and flow of accountability we have seen described here recall Susan Vincent’s description of ‘a political contract [in international development] in which locals are supplicants while outsiders are patrons’ (Vincent, 2004, p. 112). Whether these patterns can be disrupted, and mindsets shifted towards a more equitable model of collaboration, approached as ‘alliances’ for instance, rather than relations between ‘donors’ and ‘beneficiaries’ is unclear (see Vincent et al., 2020). What we feel emerges clearly from this analysis, however, is that such a disruption must include a revisioning of the concept of capacity, how it is strengthened and how it is deployed through the exercise of leadership.

6.2. Overcoming systemic barriers to achieve meaningful changes in leadership and capacity

The holistic framing of systems leadership that we have advanced in this paper depends upon leaders’ capacity to assess and transform the systems within which they operate. This study has highlighted how this is a challenge given the barriers Southern partners face, both at home and within the context of collaborative research programmes like FCFA. Without sight of the scoping, design, budgeting and policy development processes of collaborative research, leadership roles risk being narrow or tokenistic. This includes ensuring that Southern partners have an active role in defining the intellectual agenda of research programmes. Additionally, an emphasis on individual leadership and capacity strengthening within these programmes, without accompanying investment into enabling systems and environments at researchers’ home institutions, remains unlikely to yield sustainable gains.

6.3. Critically examining how metrics of success shape opportunities for emergent leadership

The recent emergence of an ‘impact agenda’ in climate and development research has brought an important emphasis on the real-world contributions of academic research but revealed tensions and incommensurabilities between different research ends (Bandola-Gill, 2019). This complicates efforts to foster leadership and strengthen capacity in the South. While programmes like FCFA call for attention to research output, research impact and capacity strengthening, academic incentive structures (particularly in the North) continue to place priority on prestigious scholarly publications, while policy influence and capacity support remain simultaneously harder to measure and less valued. Our analysis reveals how this often-unacknowledged tension impacts the way roles are distributed and emphasized (evidenced through authorship patterns and research leadership); the way capacity is conceptualized and supported (as individualized skills-building); and the ways that research partnerships unfold (with agenda-setting centred in the North and engagement work assigned to the South). Addressing these concerns calls for critical reflection at two levels: first in determining how performance metrics in both research programmes and research institutions shape day-to-day practices, and at the level of mindsets, which shape how and why we value climate and development research.
7. Conclusion: deepening leverage points for change

Despite attempts made in FCFA to address the long-standing concerns about Southern leadership in climate research, work remains in influencing the deeper leverage points (Abson et al., 2017) that can transform the capacity disparities and long-standing power asymmetries within South–North research partnerships. If we are serious about enhancing Southern leadership and leadership capacity we must begin by addressing some of the mindsets and assumptions that shape these collaborations, rather than of focusing primarily on shallow leverage points (e.g. leadership grants, or innovation funds for emerging Southern leaders). This would result in a more fundamental and system-wide rethinking of how we think about climate and development research, and the roles that all stakeholders play in it. Doing so is no small task, however. It involves identifying, understanding and actively addressing the biases and barriers that currently limit the more equitable collaborations and a deeper ‘Southern focus’ in leadership and capacity development efforts within climate and international development initiatives.

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