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RESEARCH

Nature for resilience reconfigured: global-to-local translation of frames in Africa

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ABSTRACT

Globally, various frames of urban nature circulate, each emphasising particular challenges and natural solutions in the climate context. Yet which actors and dynamics shape their translation to the African context remains unclear. This paper explores the global-to-local translation process of frames through interventions funded by transnational actors, conceptualised as agents of policy transfer. Critical scholarship has observed that urban adaptation and resilience interventions in Africa are often characterised as technocratic and top-down approaches, hence it is vital to understand whether these are replicated through proliferating nature-based solutions (NBSs). The study of a resilience-building intervention in Lilongwe, Malawi, reveals that transnational actors play important roles by deploying frames of urban nature through funding projects. However, rather than involving a top-down imposition of particular solutions, this sets in motion dynamics: in the competition for resources that frames generate, various actor constellations of transnational actors, subnational governments and local NGOs reconfigure or relabel strategies and associated (nature-based) practices to suit global frames and the resources they generate. This shapes who is included or not, and what kinds of NBS are being developed, for and by whom. There is a risk that priorities of communities get lost in translation.

POLICY RELEVANCE

Frames of urban nature shape global agendas but also matter locally in the design of programmes and projects. This study provides key insights of relevance for policymakers. First, external funding for climate and resilience is unpredictable and insufficient to address manifold urgent local priorities. It is important that actors at all levels strive to align resources to holistic strategies of local governments and do not impose certain visions for urban nature. For this to happen, and second, it is key that local governments and communities are empowered to create forms of nature that are built around

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diverse forms of local knowledge and expertise, to cater to values and priorities of the communities. Third, proponents of NBSs highlight their potential to address interlinked climate-, biodiversity- and society-related challenges. However, unless funding allocation puts emphasis on the interlinkage of goals, the potential for NBSs to reach multiple goals can get lost. Fourth, there is a need to disrupt the persisting scepticism concerning the feasibility of NBSs in informal settlements and forge collaborations that realise interventions closely linked to the priorities of disadvantaged groups in African cities, to leverage the power of nature for more just societies.

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1. INTRODUCTION

This paper aims to identify the actors and dynamics that influence how globally circulating frames of urban nature are translated onto the ground in the African context, and with what implications for whose voices are or are not included. This is of interest because frames, understood here as discursive definitions of a topic, shape global agendas, but also matter locally in terms of socio-material implications of programmes and projects that seek to implement them on the ground.

Studying how ideas and knowledge from one geographical context influence, or translate to, other contexts has a long tradition, from political scientists researching the transfer of policies as best practices between nation states (Dolowitz & Marsh 1996) to geographers focusing on globally circulating urban policy models and policy knowledge arriving in cities as part of politicised processes in mutated forms (Peck & Theodore 2010; McCann & Ward 2013). Relationality plays a central role in both tracing policy ideas and analysing how local policies are arrived at from a myriad of elsewheres (Lane 2022; Robinson 2015). This paper draws from literature that emphasises the role of transnational actors as 'agents of policy transfer' (Stone 2004) who:

> interpret, frame, package, and represent information about best policy practices, successful cities, and cutting-edge ideas. (McCann 2011: 114)

For example, Laeni *et al*. (2021) show how the Dutch water management approach was framed as a global water solution for urbanised deltas and, through international cooperation, 'translated' to inform the development of Vietnam's Mekong Delta Plan of 2013. Goh (2020) illustrates that this happens within global-urban networks, through which capital, knowledge and influence flow. She calls for more research on how and with what consequences globally circulating ideas in the climate context are 'deformed and refracted' (p. 2234) in response to local political-economic and spatial conditions. This paper seeks to engage with such questions by investigating how and by whom global frames are deployed, negotiated and configured locally, in the global-to-local translation of frames.

The case of urban nature is chosen to explore this. This is timely as the role of nature is of growing importance in global discourses and agendas that seek to find ways for more climate-resilient urban development pathways (Goodwin *et al.* 2023; Li *et al.* 2021). In global environmental governance, researchers have identified various frames of urban nature currently circulating in the climate context, each of which emphasises particular challenges and solutions (Tozer *et al.* 2022). Framing lays the conceptual groundwork for possible future courses of action by selecting and making sense of policy-relevant issues (Van Hulst & Yanow 2016). This also means that by drawing on frames actors find different justifications and entry points towards working with urban nature, with consequences for and by whom solutions are configured (Tozer *et al.* 2022). It is important to recognise that generations of researchers have grappled with the question of how alternate frames of nature have been mobilised to advance various development ideologies (e.g. Dryzek 1997). In relation to justice concerns, for example, political ecology provides insights into the social injustices resulting from commodified nature (Harvey 1993) and the unequal distribution of resources and contestation over power and resources at the urban scale (Heynen *et al.* 2006).

More recently, scholars have emphasised the risk of social exclusion and displacement through green gentrification and the financialisation of urban nature (Anguelovski *et al.* 2018; Anguelovski & Corbera 2022). Besides, as Williams (1972) was already emphasising decades ago, people interpret and define nature based on their cultural and historical contexts, and studies have revealed how for example local indigenous understandings of nature remain unaccommodated within Eurocentric constructs of urban nature in South African towns influenced by colonial history (Cocks *et al.* 2020). Research has also found that many greening interventions are attached to top-down visions for 'acceptable' nature in the city (Sekulova *et al.* 2021), or are not catering enough to world views and rights of traditional and indigenous communities (Melanidis & Hagerman 2022). Hence, scholars urge for co-production that accounts for diverse forms of knowledge and expertise to create diverse, participative, accessible forms of nature (Mabon *et al.* 2022; Sekulova *et al.* 2021; Tozer *et al.* 2020).

Resonating with concerns raised on top-down visions of nature, the literature on climate urbanism in the global south provides ample evidence of transnational actors deploying top-down and technocratic approaches, at the expense of local actors being included in the process (Diep *et al.* 2023; Falzon 2021). For example, the Rockefeller Foundation's 100 Resilient Cities programme was critiqued as imposing a global model of urban resilience from a distance, upon which a market of technocratic resilience tools, instruments and practices can be built – an approach that the City of Durban in South Africa contested (Webber *et al.* 2020; Roberts *et al.* 2020). More broadly, critical scholars describe global climate finance as reproducing neoliberal environmental governance at the expense of civil society voices (Bracking 2021). The observed deployment of external knowledge and expertise in the design of interventions is problematic as it effectively undermines African agency, whereby the complexity of urban adaptation and resilience further exacerbates this phenomenon (Spaliviero *et al.* 2020; Pelling *et al.* 2018; Castán Broto 2014). A host of scholars problematise maladaptation outcomes of interventions by transnational actors in the global south, and criticise, for example, technocratic and externally driven approaches for risking reproducing vulnerability as a result of a lack of in-depth contextual understanding (e.g. Eriksen *et al.* 2021).

As suggested by grey literature, transnational actors are increasingly promoting nature-based solutions (NBSs) and developing programmes and projects in cities as a means to address climate risks and build resilience. Yet research on urban NBS in Africa, which remains in its infancy, has not attended to this (Nyika & Dinka 2022; Chausson *et al.* 2020). Against this background, it is important to explore how global frames of urban nature are translated to the African context. It becomes relevant to ask whether the translation process is characterised by a replication of top-down approaches driven by transnational actors observed in research on climate urbanism or whether (and which) other actors and dynamics influence how globally circulating frames are translated onto the ground in African cities. To that end, the paper is guided by the following research questions:

- How and by whom are global frames deployed, negotiated and configured, when transnational actors are involved?
- What implications does this have for whose voices are or are not included?

Empirically, this paper focuses on a resilience-building intervention targeting informal settlements in Lilongwe, Malawi, in which various actors at the transnational, national and local levels were involved between 2019 and 2022. The case therefore lends itself to gathering rich material for analysis and drawing empirically grounded conclusions.

The paper is structured as follows. The next section introduces the case and explains the research design. The results of the analysis are presented and discussed in Sections 3 and 4. The final section concludes by outlining the broader implications and suggesting further research.

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2. RESEARCH DESIGN

An in-depth case study design was chosen to obtain data for answering the research questions. The paper focuses on the case of Lilongwe, Malawi. Between 2019 and 2022, actors at various levels were involved in logically connected efforts to increase urban resilience in informal settlements. The process commenced with a participatory planning exercise through the United Nations Human Settlement's (UN-Habitat) City Resilience Action Planning (CityRAP) tool, in which urban nature was prioritised as a strategy for nature to provide recreation, social inclusion and safety through green public spaces in the informal settlement of Mtandire. Building on the planning effort, eventually a pilot NBS project was implemented that focused on flood risk reduction through afforestation and solid waste management around river banks in the informal settlements of Kawale and Kayileka. Curious about the different configurations of strategies and practices related to urban nature, as well as the shift in location over time, the authors designed data collection and analysis for tracing back the trajectory, to identify actors and dynamics influencing the overall global-to-local translation process.

For this paper, the general components of a global-to-local translation process are conceptualised as follows. A global frame is a discursive definition of a topic and cognitive construct that transnational actors deploy through funding allocation for implementation of programmes and projects (Laeni *et al.* 2021; Tozer *et al.* 2022). Through those, the frame (e.g. nature for resilience) eventually becomes instantiated in space and time and embedded in the local context in the form of a particular strategy and associated practice (e.g. flood risk reduction through increased vegetative cover). The latter is negotiated and configured by the actors who are involved in developing and implementing the programmes and projects. The work of Tozer *et al.* (2022) is drawn upon instrumentally to identify frames of urban nature in the case. Accordingly, in global environmental governance, four frames of urban nature circulate, each emphasising particular challenges and natural solutions in the climate context: 'nature for mitigation', 'nature for resilience', 'integrated benefits of nature' and 'nature first'. While through the first two urban nature is argued to be able to mitigate climate change and contribute to adaptation and disaster risk reduction, the third highlights the potential of nature to address multiple intertwined sustainability challenges simultaneously (including biodiversity loss, climate change, energy sustainability, as well as health and wellbeing) and the fourth centres on halting biodiversity loss.

A mixed-method approach was employed to capture the perspectives of various actors. Key information stems from the first author's participant observation during the CityRAP process in Lilongwe between May and August 2019, which involved two weeks of stakeholder workshops with a total of 105 meeting participants (27 female and 78 male), and remote support to the local government until validation of the plan, while working as a consultant for UN-Habitat. In this role she also participated in the development of a concept note for the 'Risk Award 2021'. While this positionality may have impacted the data collection as some of the interviewees were known to the researcher, it provided advantages in gaining access to meetings for participant observation and for establishing rapport during interviews. Fifteen semi-structured interviews with representatives from transnational actors, national and local governments and non-governmental organisations (NGOs) were undertaken in 2023 (see supplemental data online). The interviewees comprised representatives from organisations applying for funding in the phases presented in this paper, and hence represent an adequate evidence base for the perspective of partners applying for funding. Informants were selected based on their knowledge and involvement throughout the trajectory of the resilience-building effort and by employing the snowballing sample technique. The interview guide was designed to understand the most important steps in the translation process; actors along the journey; how and why NBSs became part of it; and aspects of negotiation/contestation and compromises. Interviews were audio-recorded and selectively transcribed. This information was complemented by transect walks in the project area and an audio-recorded focus group discussion (FGD) with community representatives in April 2023. The FGD was facilitated by a local NGO staff member in Chichewa, and subsequently transcribed and translated by a research assistant. Further, project-related documents were analysed (see list of documents in the supplemental data online).

The material gathered was analysed and reiteratively interpreted. Qualitative coding paid attention to the following themes: frames, deployment mechanisms, actor configurations, included/excluded actors, aspects of negotiation/contestation, influential dynamics, and translation outcomes in terms of local instantiation of the frame (strategy and associated practice). Frames were identified by thematic analysis of objectives and issues that were meant to be addressed through working with nature. Here, referring to the four frames identified by Tozer *et al.* (2022) helped to identify shifts over time. Reiterative analysis of all data sources led to the interpretation of results presented in the next section. These are structured around three main phases identified in the case study, preceded by an explanation of the geographical context.

3. GLOBAL FRAMES (RE-)CONFIGURED FOR LILONGWE'S INFORMAL SETTLEMENTS

Malawi's capital, Lilongwe, has an official population of 989,318, of which an estimated 76% reside in informal areas (National Statistics Office 2019). The city has an ambivalent colonial inheritance. Designed as a new post-independence capital in the late 1960s, counterintuitively it bears the strong influence of British and South African town planning, seen in sharp zoning of land-use types and the 'garden city' concept that allowed areas of unbuilt-upon land to separate and segregate residential areas from one another (Mwathunga & Donaldson 2022; Englund 2002). Today, the spatial differentiation between poor and wealthy areas remains but much of the 'garden' of the city has perished. Heavy reliance on fuelwood and charcoal for domestic energy, which recurrent bans on charcoal alone are unlikely to solve, has impacted the country's natural resources and deforestation did not spare the rapidly growing city (Zulu 2010; Bone *et al.* 2017). From 1986 to 2021, the city lost 44% of its green coverage (Nazombe & Nambazo 2023). Construction, sand mining, brick moulding and agriculture-related activities contribute to the loss of wetlands, riparian vegetation and urban greeneries in Lilongwe and exacerbate vulnerability to flood risks (Afionis *et al.* 2020; Mkulama *et al.* 2020). Most vulnerable are informal settlements located along main streams, such as Mtandire, Kawale and Kayileka (Makuwira 2022). Meanwhile, since the country's independence, various transnational actors have engaged in urban development in Lilongwe, through developing plans and strategies and funding projects (Croese *et al.* 2023). Today, much of this effort is directed at reducing risks and building resilience given the city's vulnerability to recurrent climate-related hazards (GoM 2019). This involves working with nature and implementing NBSs, as exemplified by this case study.

Three phases of a translation process can be observed, understood as successive and logically connected efforts by actors at various levels at increasing urban resilience. First, Lilongwe City Council (LCC) and UN-Habitat, through its CityRAP tool, generated a Resilience Framework for Action (RFA), involving community representatives and various stakeholders. LCC decided to focus on Mtandire, and in future potentially replicate the process in other vulnerable areas. With this goal in mind, community-based organisations (CBOs) from Kawale and Kayileka were invited to participate and undertook risk mapping for their localities. For Mtandire, eventually, green public space was identified as one of six priority areas to address urban resilience (see Figure 1). After validating the plan, there was no funding for its implementation in place and both LCC and UN-Habitat aimed at raising funds. Second, following a dormant period of about a year, jointly with other stakeholders, a concept note was developed in response to a call for proposals for the 'Risk Award for Eco- and Nature-Based Solutions for Disaster Risk Reduction', issued by the Munich Re Foundation and the United Nations Office for Disaster Risk Reduction (UNDRR). The concept note did not win funding. However, third, it laid the foundation for an NBS pilot that was eventually implemented about a year later in Kawale and Kayileka by a local NGO through donor funding as part of the Swedish International Development Cooperation Agency's (Sida) programme contribution to UN-Habitat. Each phase of the process was characterised by a different mechanism of deployment, which led to the frame's instantiation and local embeddedness as strategies and associated practices

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of working with nature. As the analysis reveals, those strategies and associated practices related to urban nature were altered over time. Driven by the dynamics of funding opportunities, they were negotiated, reconfigured and relabelled, at the same time influencing who was involved and excluded (Figure 1). The results are presented in detail below for each phase.

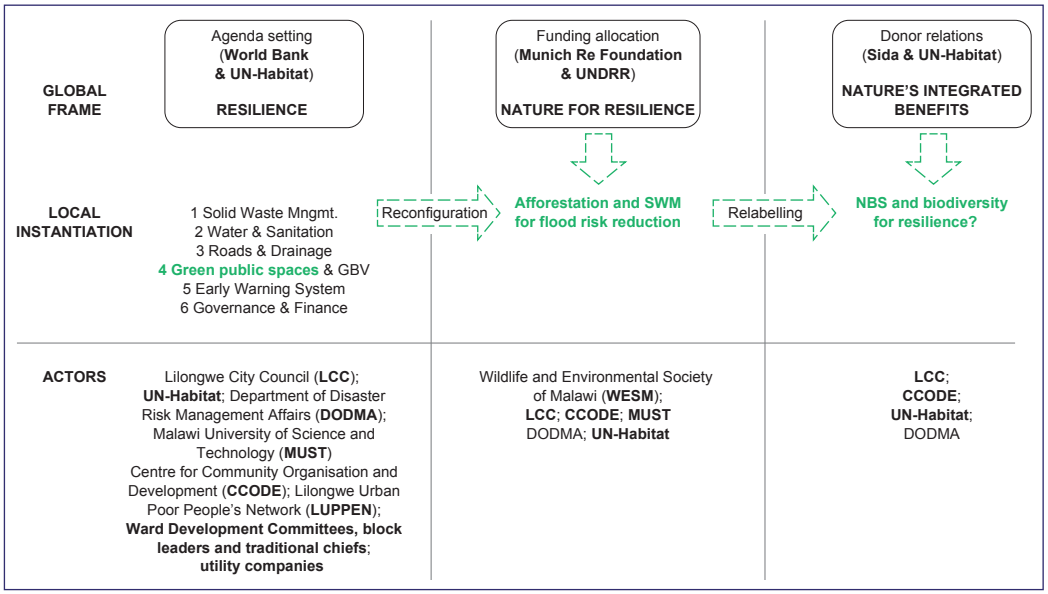

Figure 1: Translation of global frames of urban nature onto the ground in Lilongwe.

Note: This figure visualises the translation process which can be understood to be both vertical, where the global frame is deployed by transnational actors, and horizontal. In the latter, the local instantiation of the frame through strategies and associated practices is first reconfigured (by changing the strategy and practice fundamentally) and then relabelled (by maintaining the strategy and practice) according to new funding opportunities linked to the global frames deployed. Actors involved in each of the phases are depicted at the bottom.

PHASE 1: GREEN PUBLIC SPACES FOR SOCIAL INCLUSION, SAFETY AND RECREATION

As part of a regional project funded by the World Bank, between May and August 2019, the CityRAP tool was implemented by UN-Habitat and LCC. As a result of the process, nature was eventually embedded within the final RFA as a strategy for social inclusion, safety and recreation through green public spaces – what in Tozer *et al.*'s (2020) typology interestingly correlates with 'integrated benefits of nature' rather than 'nature for resilience'. Multiple actors shaped the process that led to this outcome. The World Bank was important as a funder but did not otherwise influence the process as 'they were happy with the approach and had no specific requests' (UN interviewee C).

> CityRAP is a participatory planning process through which city managers and municipal technicians are trained and empowered to work with communities and local stakeholders to plan actions aimed at reducing risk and building resilience.
>
> (UN-Habitat 2020: 19)

This collaborative rationale determined the inclusion of a broad range of local and national actors. The planning process involved participants representing the leadership and technicians of all departments of LCC; the Department of Disaster Risk Management Affairs at the national level; academia; utility companies; local governance structures (ward development committees, block leaders and traditional chiefs); and NGOs such as the Centre for Community Organisation and Development (CCODE) – an affiliate of Slum/Shack Dwellers International – and CBOs, for example the Lilongwe Urban Poor People's Network (LUPPEN).

A significant factor determining how nature came to be prioritised for building resilience was the theoretical framework of the tool, which is informed by a conceptualisation of urban resilience where urban nature is mainstreamed rather than being the main or sole focus, as would be the case with planning tools focusing specifically on urban NBS. As such, priorities include natural as well as grey infrastructural solutions. In the final RFA, urban nature was eventually prioritised in the form of public spaces and gender-based violence (GBV):

> In a participatory manner, create and maintain safe, green and inclusive public spaces and community recreation facilities and services taking into consideration addressing and raising awareness of GBV.
>
> (Lilongwe City Council 2020: 13–14)

Within the overall frame of resilience, the role of nature thus came to be locally embedded as a strategy for social inclusion, safety and recreation through green public space. Meanwhile, the value of nature for addressing flood risks was recognised throughout the process by various stakeholders, but not prioritised as a strategy to increase flood resilience. Instead, participants favoured grey solutions of improved roads and drainage as well as early warning systems (Participant observation, Lilongwe, July 2019). As shown below, nature plays a stronger role in the configuration of strategies for flood risk reduction in the next phase.

PHASE 2: AFFORESTATION AND SOLID WASTE MANAGEMENT FOR FLOOD RISK REDUCTION

The second phase of the translation process can be characterised by deploying the frame of nature for resilience through funding allocation for local projects. Munich Re Foundation, in partnership with UNDRR, issued a global call for proposals for the 'Risk Award 2021 on Eco- and Nature-Based Solutions for Disaster Risk Reduction', which provided the winning proposal with up to US$100,000. As an avenue to fundraise for projects in support of the implementation of the RFA developed in phase 1, LCC and UN-Habitat initiated the development of a proposal. Herein, the global frame was locally instantiated in the form of a strategy for flood risk reduction through afforestation and solid waste management (SWM). This marks a clear reconfiguration of how nature was prioritised. Also, the location shifted to the settlements of Kawale and Kayileka. Whereas the thematic reconfiguration was primarily influenced by the donors, through setting the overall theme of the Risk Award, the change in locality was a pragmatic decision taken by LCC. Meanwhile, Mtandire was benefitting from funding for grey flood infrastructure through the 'Disaster Risk Management Project for Resilience' carried out with the United Nations Development Programme (UNDP) and the Department of Disaster Management Affairs (DoDMA). LCC therefore suggested that the other two settlements should be given priority in the development of the proposal.

Donor requirements and existing relationships had implications for which local actors were involved in developing the concept note. According to the guidelines for the Risk Award, NGOs or academic partners should lead the project. Alignment of mandates influenced the choice of the Wildlife and Environmental Society of Malawi (WESM) as the lead entity owing to its expertise in environmental issues. Additional collaborators were the Malawi University of Science and Technology (MUST), a major academic institute working on disaster-related issues that had done flood risk assessments in the informal areas, and DoDMA as the national line ministry, though that did not actively participate. Regarding stakeholders working in informal settlements who had already been involved in phase 1, CCODE was suggested as a partner by LCC, mainly because of existing working relationships (LCC interviewee C). While local government structures (ward development committees) were duly informed, a public participatory process for the development of the proposal was not considered. This can partly be explained by the availability of risk maps developed earlier through CityRAP and assessments by MUST, which clearly showed the need for interventions along riverine areas.

Within the final proposal for 'Flood Risk Reduction through Restoration of Ecosystems and Ecological Protection', the problem was described as deforestation, waste disposal and construction along the river banks, leading to river bank erosion, gullies and flash floods. Solutions were defined as a) riverbank maintenance through sedimentation control and vegetative cover, and clearing solid waste along the rivers; and b) developing community by-laws, building capacity of disaster risk reduction governance structures, and strengthening wildlife and disaster risk reduction clubs at schools. While the impetus by the donor led to the strategy of flood risk reduction through afforestation coming to the fore, the partnership of bidding actors brought in SWM – a priority issue for all stakeholders and communities involved in phase 1 – by connecting it closely to river-based flood mitigation:

> An NBS project has to go together with a number of issues. Solid waste management is an important issue because the city council doesn't collect waste [in informal areas]. Sometimes in markets, but not at household level. So waters are polluted with waste because this is the only open space that is found.
>
> (NGO interviewee B)

In terms of the co-benefits that the project aimed to achieve, improved biodiversity was an aim in the first version of the proposal drafted by WESM, but later drafts did not carry this wording any more. Instead, the expected economic co-benefits for communities from fruit trees were highlighted more strongly. This suggests that the biodiversity argument was not seen as sufficiently relevant to elevate it to an objective within a resilience-building intervention. Interestingly, biodiversity played a stronger role in the narrative and justification of the project when the global frame shifted again in phase 3. Eventually, the proposal was shortlisted but did not receive funding (Munich Re Foundation, 2021 – supplementary data online).

PHASE 3: NATURE-BASED SOLUTIONS AND BIODIVERSITY ACTIONS FOR RESILIENCE?

The third phase in the translation process was marked by a change in the frame at the global level through donor relations and negotiations between Sida and UN-Habitat. The frame shifted towards the 'integrated benefits of nature', which emphasises that sustainability challenges (including biodiversity loss, climate change, and health and wellbeing) are deeply intertwined and that NBSs must address multiple challenges simultaneously (Tozer *et al.* 2022). This frame became deployed through a programme on an integrated approach to strengthening climate action, improved urban environment, and resilient settlements for the urban poor with five work packages, one of which was piloting NBS and urban biodiversity actions in the context of informal settlements upgrading and climate resilience building, which included a pilot project in Lilongwe (Annex 6 to Programme Cooperation Agreement between Sida and UN-Habitat – supplemental data online). This notably entailed a strong focus on the connection between biodiversity and informal settlements, as the 'spatial dimension for biodiversity conservation intersects with the location of informal settlements' and NBSs in partnership with the urban poor can bring:

> the triple dividend of mitigating greenhouse gas emissions, protecting ecological assets and biodiversity, and effectively adapting urban poor communities and the built environment to climate change.
>
> (Annex 6 to Programme Cooperation Agreement between Sida and UN-Habitat, p. 2– supplemental data online)

Strikingly, the overall frame was instantiated in Lilongwe in the form of a strategy for flood risk reduction through afforestation and SWM, similar to the previous phase. Several factors influenced this part of the translation process. The negotiation of supplementary funding by Sida towards the Programme Cooperation Agreement 2020–2023 with UN-Habitat played a key role. Alignment of UN-Habitat's programmatic expertise and mandate on informal settlements with Sida's interest in environment, climate and biodiversity outlined in the dedicated Global Development Strategy 2022–2026 drove the configuration of the frame. For UN-Habitat, this also provided an opportunity to emphasise the 'blind spot of the nexus between informality, resilience and NBS' as transnational actors rarely put informal settlements as the focus of NBS projects (UN interviewee A). How the frame was then translated to the ground was influenced by donor requirements. The funding disbursed by Sida was meant for activities to commence as soon as possible, and for completion within less than a year. The selection of pilot cities therefore was informed by a combination of factors: 'it had to be where we already had ongoing activities, capacities and a need' (UN interviewee B). Lilongwe met all of these criteria, building on the CityRAP and attempts to raise funding for the RFA. UN-Habitat published a call for proposals for channelling funds to implementing partners, drawing on the existing concept note developed in phase 2. In doing so, the strategy of afforestation and SWM was associated with urban biodiversity and other integrated benefits of nature:

> We were looking at multiple benefits that NBS have … economic benefit, NBS for community wellbeing, for biodiversity conservation as well … The design was an integrated approach.
>
> (UN interviewee E)

In practice, this equated to more 'green' and:

> urban nature more broadly. We felt that we could have a variety of species: fruit trees, vetiver grass, bamboo and other quick-growing species so that communities would see benefits in a shorter time.
>
> (UN interviewee E)

Both the short period of the pilot project and the need for rapid commencement of activities affected who was included and excluded from developing the project. The timing did not allow for a wider participatory process, which was perhaps also not deemed necessary owing to previous engagement, assessments and local government leadership. Among the selection criteria for local implementing partners, expertise in biodiversity was deemed less relevant than experience with urban communities in informal settlements. The latter was a prerequisite for mobilising communities within a short period, and for delivering quick results. Among the actors who responded to the call for proposals (see supplemental data online), CCODE, WESM and Habitat for Humanity were shortlisted. The selection committee, comprised of UN-Habitat, LCC and the Department for Urban Development in the Ministry of Lands, gave preference to CCODE, mainly because of its existing experience and networks in informal settlements (Government interviewee A):

> This project benefitted from the fact that we had already started work there … Relationship with the community, building rapport and trust takes time.
>
> (NGO interviewee C)

Phase 3 led to the implementation of activities on the ground. Existing ward development committees were mobilised to implement the bulk of the activities. Initial feedback after project implementation showed that there was a desire to leverage NBS projects to create job opportunities. For example, composting was suggested as a means to 'turn trash to cash' by producing manure for tree nurseries, and communities recommended that donors should explore options to encourage urban gardening, orchards and waste entrepreneurship to generate income 'especially for the youth' (FGD in Kawale, 4 April 2023).

4. UNDERSTANDING THE DYNAMICS AND ACTORS IN THE TRANSLATION OF FRAMES

Transnational actors played a key role in how global frames were translated to Lilongwe's informal settlements. The findings resonate with conceptualisations of transnational actors as agents of policy transfer. The case suggests that they take on various roles in this logic. They can provide finance for projects that Meijerink and Huitema (2010) conceptualised as 'frontline practices', which constitute an essential strategy by transnational actors for demonstrating how solutions that are part of a frame can be implemented and locally embedded. Another role is the interpretation and further normative development of global frames, such as in phase 3, where a strong emphasis emerged on the 'blind spot of the nexus between informality, resilience and NBS' (UN interviewee A), highlighting the need for more efforts on NBSs in informal settlements. At the same time, transnational actors are entangled in the machinery of climate and development finance as implementing or executing entities who are part of the competition for resources and in the process enter into partnerships with local governments and NGOs. The hunt for erratic funding was a key dynamic influencing how and with what consequences globally circulating frames were 'deformed and refracted' (Goh 2020) in the translation to local projects in Lilongwe. Funding opportunities shaped a reconfiguration of the strategy and associated practice (*i.e.* from green

public spaces for social inclusion, safety and recreation to afforestation and SWM for flood risk reduction), and later relabelling or associating it with biodiversity and other integrated benefits of nature, to suit global frames of urban nature deployed. This reemphasises that in the process of translating international policy from the global to the local space, various tactics are used by practitioners to gain access to funding for implementation (Mannell 2014).

Turning to wider implications, three groups of issues emerge. First, the donor impetus caused a significant thematic shift in how nature was locally embedded as a strategy, which resulted in nature taking a more central value as flood risk reduction measure *vis-à-vis* grey infrastructure (roads and drainage) previously identified in the RFA. This reemphasises the powerful position of transnational actors in deploying frames of urban nature. Ultimately, the shift in how nature became strategised meant that the value of nature as providing for social inclusion, safety and recreation was neglected. The question arises as to why the actors seeking funding for the RFA did not opt for building on the identified priorities of green public space by using them as flood retention zones, thereby aiming to realise multiple benefits. The empirical material does not allow for a conclusion. It could have been that, as the topography and risk profile in the settlements make areas close to the river more susceptible to floods and soil erosion, it was deemed a sensible approach to focus on these areas. Creating new public space could also have been complex to implement as it may have necessitated land reallocation. However, flood risk reduction through public green space in flood hotspots was found an appropriate measure in Kibera, Nairobi (Diep *et al.* 2022), thus it would be valuable to research this further to propose contextualised and evidence-based solutions for Lilongwe.

Second, it would be an oversimplification to characterise the translation as a top-down imposition of global frames. The local government took several key decisions, many of which were pragmatic. Shortly after the finalisation of the RFA, LCC negotiated funding from the UNDP and DoDMA for grey infrastructure flood risk interventions in Mtandire that were closely aligned to the priorities identified in the RFA. When the funding opportunity for NBSs emerged in phase 2, LCC suggested targeting other flood-prone settlements, to spread thin external resources. As such, various external funders and projects were coordinated under the common goal of building resilience to floods in informal settlements. This suggests that subnational governments can bring in their priorities by strategically manoeuvring funding opportunities in the global-to-local translation of frames. This resonates with studies that challenge the dominant interpretation of interventions of transnational actors in African cities representing the imposition of external ideas. Croese *et al.* (2023) found, related to master planning efforts supported by transnational actors, that local planning actors often carefully, pragmatically and opportunistically mediate external support.

Third, which local actors were included in partnerships to develop the project and thereby had a voice in the translation process was determined by strategic concerns (e.g. in phase 2 the choice of WESM, to provide expertise concerning environmental issues) or more pragmatic ones (e.g. the choice for CCODE as an actor with existing networks in informal settlements), and largely driven by the partners' desire to access funding. Potentially most problematic was the lack of inclusion of communities in decisions taken in phases 2 and 3. This contrasts with the first phase, when communities were heavily involved in identifying and prioritising resilience-building actions. Research compares the CityRAP process in Mtandire positively with a described general lack of participation activities conducted by LCC, and attributes the involvement of communities to UN-Habitat's influence (Zimba 2022). Indeed, the aim of CityRAP is to bring together local governments and communities to assess and prioritise action in data-scarce contexts based on local knowledge and perceptions with minimal external interference (Spaliviero *et al.* 2020). However, in the subsequent phases, in the competition for funding, decisions were taken by the local government and partners that resulted in thematic and geographical shifts, without wider consultation of the beneficiary communities. As various assessments had already been done, and because local NGOs were closely involved in collaboratively developing the concept note with LCC, it might have seemed an adequate justification for the proposed project. Nevertheless, procedural and distributive justice aims may have been better served if the community had fully participated in the development of these projects. There is ample evidence that working with local-level stakeholders

does not automatically guarantee that actions will address the needs of local vulnerable groups, and lack of community inclusion may ultimately hamper the sustainability of the interventions and potentially cause maladaptation outcomes (Eriksen *et al.* 2021; Omukuti 2020).

The findings have to be understood within the study's limitations. The study predominantly captures the perspectives of transnational actors, the local government and NGOs involved in the development of the RFA and subsequent fundraising efforts. While this translated into addressing flood risks through afforestation, it would be worth investigating whether and how the initial vision of green public spaces was taken forward by the community or other actors. Further, in focusing on the trajectory from participatory planning to developing the pilot project, the actual outcomes of the implemented project are beyond the scope of this paper and the comprehensive perspectives of communities on the same have to be explored in future research.

5. CONCLUSIONS

The paper set out to identify the actors and dynamics that influence how globally circulating frames of urban nature are translated onto the ground in the African context, and the implications for those whose voices are or are not included. The results of tracing back different phases of such a translation process in Lilongwe's informal settlements suggest that it is not predominantly shaped by transnational actors in a top-down manner. Contrary to evidence from the climate urbanism literature that community groups are often engaged in fact-finding for vulnerability assessments but not for the identification of strategies (Shi *et al.* 2016), there has been meaningful engagement in the development of the RFA. However, lacking resources for implementing the strategy set in motion fundraising efforts that influenced how local strategies and practices were altered to suit global frames and the resources they generate. In the process, strategic and pragmatic partnerships of actors at different levels were forged, and strategies and practices for implementing (nature-based) solutions were tactically reconfigured and relabelled over time. The case also shows that the local government was able to pragmatically manoeuvre various external funding opportunities for flood resilience, reaffirming findings in literature that planning actors often carefully and opportunistically mediate external support. LCC entered into partnerships with transnational actors and NGOs, where the latter were closely involved in key decisions. Yet, while the overall process commenced in a highly participatory spirit, the community was left out in decisions on the design of the pilot project that was finally implemented. This puts into question whether the outcomes represent their needs and interests and would merit further research to derive lessons for the actors involved in designing the project.

Results from the study suggest several wider implications that speak to critical literature on urban adaptation and resilience. First, international urban and climate finance are key enablers of investments in developing countries. The study suggests that a better understanding of the intricate relations between urban planning and international climate finance is needed. Many local governments engage in meaningful participatory planning processes, often with support from transnational actors. In view of scarce resources, local governments often find themselves reacting to unpredictable funding opportunities to implement strategies arising from such processes. Unless actors at all levels strive to align new interventions closely with existing strategies and promote meaningful engagement with communities on the same, external funding potentially distorts local priorities by replicating top-down visions for adaptation and resilience. Second, NBSs enjoy global recognition and funding support. There is growing evidence that interventions to adapt to climate change and build resilience can only be progressive if goals are associated with the need to improve the prospects of disadvantaged groups (Ziervogel 2019; Vale 2014). To enable transformative change it is therefore vital that efforts to enhance resilience through working with nature are aligned with the priorities of the most vulnerable groups. Third but not least, the findings have consequences for the understanding of frames of urban nature as well as the concept of NBSs and their transformative potential. Global frames of urban nature are cognitive constructs that generate financial resources. As the study has shown, frames are inherently malleable, which means that they can be manipulated towards specific interests. This implies a wider risk that in

the pursuit of funding, and manipulation of frames to focus on issues of strategic interests, or by 'green-coating' initiatives and using nature as an empty signifier without holistically addressing environmental issues, the multifunctionality of NBSs, which proponents argue to be the strength of the concept (Melanidis & Hagerman 2022), gets lost in translation. To ensure that the potential of NBSs is realised in view of the global climate biodiversity crisis, actors promoting such approaches should be mindful of these risks and put in place measures to address them.

While this study contributed to the understanding of the translation process of global frames of urban nature to African cities, further research should investigate issues of power between actors of various levels in the translation process, and the socio-material implications for the distribution of benefits and burdens of NBSs as outcomes of these processes. Research on NBSs in African informal settlements is nascent and policymakers remain sceptical of the feasibility of working with nature in this context (Diep *et al.* 2022). The paper has started making important inroads in demonstrating what strategies and associated practices for informal settlements in Africa are deemed relevant by actors at various levels. Building on this, researchers should further investigate how working with nature in urban adaptation and resilience-building interventions can be closely linked to the priorities of disadvantaged groups in African cities, such as communities in informal settlements, to leverage the power of urban nature for more just societies.

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COMPETING INTERESTS

The authors have no competing interests to declare.

ETHICAL CONSENT

Principles of reliability, honesty, respect and accountability, as well as good research practices outlined in the European Code of Conduct for Research Integrity, were followed. In particular, written informed consent was obtained from all participants in the study.

The first author of the paper, who was responsible for the data collection, is an external PhD student. Guidance within Utrecht University was followed according to which formal ethical approval is not compulsory for external PhD students within the School of Geosciences. Data collection that was conducted in her role at UN-Habitat was guided by the professional practice of that organisation, which required informed consent of the research participants.

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Supplemental data for this article (This is incorrect and must read 'List of interviewees and documents analysed') can be accessed at: https://doi.org/10.5334/bc.379.s1

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