Whose City? Whose Nature? Towards Inclusive Nature-based Solution Governance

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Abstract

Nature-based solutions have recently been embraced as one route towards simultaneously addressing urban environmental and social problems, but an emerging agenda has sought to ask whether and how the 'greening' of cities may actually reinforce inequalities or lead to new forms of social exclusion. Using comparative case-study analysis, this paper examines the extent to which nature-driven stewardship initiatives recognize and redress inequalities. We compare two urban contexts that have undergone significant societal transformations over the last two to three decades: Sofia and Cape Town. The comparison shows how nature-driven stewardship initiatives differentially address deeper roots of environmental, social and racial privilege shaped significantly by post-socialist and post-apartheid transition contexts. Instead of assuming a homogenous ideal of urban nature and focusing on questions of the distribution of urban nature and its access, this paper finds it is important to consider the kinds of social relations that are required to both shape decision-making processes and generate meaningful and diverse values and ways of relating to nature in the city. Furthermore, it finds that inclusive nature-based solution governance recognizes and redresses both inequalities in access and inequalities that perpetuate dominant views about what nature is and for whom nature is produced and maintained.

Keywords

Nature; Urban; Governance; Stewardship; Inequality; Inclusive; Cities in transition

Introduction

As nature-based solutions begin to proliferate across diverse urban contexts, an emerging research agenda has sought to ask whether and how the 'greening' of cities may actually reinforce existing inequalities or lead to new forms of social exclusion and gentrification (Anguelovski, Connolly and Brand, 2018; Wolch, Byrne and Newell, 2014). Nature-based solutions are a broad umbrella term used to describe deliberate nature-inspired and nature-supported interventions to address sustainability problems. As examples such as the BeltLine in Atlanta, the future Liberty Park in Dublin, the Bosco Verticale in Milan, or the Cheonggyecheon river uncovering and restoration in Seoul show, they are increasingly applied in cities. Nature-based solutions have recently been embraced as one route towards simultaneously addressing urban environmental and social problems and promoting urban development through new place branding. Many such projects are also integrated within or supported by policy frameworks such as the 2013 EU Strategy on Green Infrastructure, the EU H2020 Research and Innovation policy agenda on Nature-Based Solutions and Re-Naturing Cities, or by urban conservation agendas such as the Envisioning a Great Green City program of The Nature Conservancy. While intuitively regarded as necessarily bringing multiple benefits through their implementation, as nature-based solutions come to gain momentum within urban policy and transnational programmes we argue that it is imperative to critically examine by and for whom such interventions are being made and with what resulting outcomes for urban inequalities.

Rather than starting from analysing how nature-based solutions are distributed across the city and with what effect, we suggest that addressing questions of who benefits from urban natures necessarily requires that we explore the ways in which the very notion of what nature is, how and

for whom it might be valued or used, and the ways in which it comes to be understood in different communities is unevenly distributed. Exploring how and for whom nature is constituted as offering solutions to urban sustainability challenges and the extent to which this accords with particular (elite or culturally dominant) notions of nature is critical if we are to understand the ways in which such interventions come to be contested or serve the interests of some at the expense of others. Given their avowed interest in processes of inclusion and engagement with multiple diverse communities, urban stewardship projects provide a particularly useful window through which to understand which visions of nature are articulated, shared, and advocated for as cities increasingly encourage or allow for the participation of residents in nature education and protection projects.

This paper uses comparative case study analysis to examine the extent to which nature-driven stewardship initiatives in transition cities embody particular understandings of, and ways of relating to, nature and redress inequalities in regards to nature access and which kinds of relationships with nature (or socio-natures) are seen to have value. Our study compares findings from two urban contexts that have undergone significant societal transformations over the last two to three decades: Sofia and Cape Town. The rise of new social inequalities, and the persistence or entrenchment of prior ones, have been a key challenge for urban planners and policy makers across these post-socialist and post-apartheid contexts. While we find significant similarities between these two cities whose transformations were initiated through Bulgaria and South Africa's 'negotiated revolutions' (Bertschi 1994; Lawson, 2016; Sisk, 1996), followed by major political, social and economic upheaval and an increasing embrace of neoliberal governance models, our approach is inductive rather than deductive. Thus, we have not set out to study linear-causal connections between the cities as explaining factors for similarities and differences in emerging urban problems and governance responses. Rather, we are following the 'comparative urbanism' approach advocated by authors such as McFarlane (2010), Robinson (2011) and Sheppard et al. (2013), which gives "threads and concepts that illuminate transurban or shared experience room to emerge, especially through ethnographic engagement, rather than beginning from prior conceptions of the relevant phenomena to be distilled from the complexity of city life" (Cesafsky and Derickson, 2019: 26). Our comparison is thus aimed less at establishing causal connections between the phenomena that we have researched in the two cities but at identifying wider lessons that can be learnt from the emergence of similar (and divergent) socio-political issues of exclusion and injustice in cities having undergone a profound transition since the 1990s and deploying environmental stewardship projects as tools to address some of the exclusion and inequalities at stake in both places.

We compare processes of inclusion by two nature-driven stewardship initiatives: Sofia City Forest and Cape Town Environmental Education Trust. The cases share a concern with which kinds of urban nature should be preserved and developed, and for whom. The comparison shows how post-transition nature-driven stewardship initiatives differentially address deeper roots of environmental, social and racial privilege. We find that it is important to consider the kinds of social relations that are required to both shape decision-making processes and to generate meaningful and diverse values and ways of relating to nature in the city. Furthermore, inclusive governance for nature-based solution needs to recognize and redress both inequalities in access and inequalities that perpetuate dominant views about what nature is and for whom urban nature is produced and maintained.

Towards Inclusive Nature-based Solution Governance

Discourses relating to bringing nature into the city often suggest that it is an unqualified good. If historically nature may have been portrayed as 'red in tooth and claw', under the contemporary condition of urban sustainability nature imaginaries tend towards its bountiful, cleansing and healing

properties. Yet recent scholarship suggests that, as we might expect given the long-standing uneven and unequal forms of socio-natural relations they contain, producing and preserving nature in the city is far from unproblematic. Here, we first review how and why nature-based solutions might be regarded as entrenching existing forms of inequality and giving rise to new forms of exclusion, before considering the ways in which processes of environmental governance, especially those connected to stewardship, have sought to foster more inclusive and equitable approaches.

Uneven Green Development?

Research suggests that access to and control over urban green space and the value that other forms of urban nature provide is highly differentiated and stratified along socio-economic and racial lines. Perhaps most clearly, residents from working-class and minority neighborhoods tend to be more likely to live next to poorly maintained, low quality, sparse, and smaller green amenities when compared to upper class residents whose access to urban nature and parks has traditionally been privileged (Heynen et al., 2006; Wolch et al., 2005; Park and Pellow, 2011; Landry and Chakraborty, 2009). While there is some evidence that urban green space can serve as a means through which processes of social inclusion and social cohesion are generated (Peters et al. 2013), such studies tend to take the underlying dynamics that structure access to nature and the forms of nature that dominate the urban arena as given (Waitt and Knobel 2018). Yet it is evident that as part of the process of uneven urban development, the use of nature-based solutions can also represent the governmentalisation of nature through discourses of environmental protection and environmental security as new tools for socio-spatial control (Lopes de Souza, 2016), leading to the socio-cultural displacement and dispersal of urban populations and to enduring inequities in the application of land use regulations and green planning processes (Anguelovski et al., 2016). This serves to further distribute land and access to nature in ways that continue to privilege those with established power and economic wealth. In addition, research suggests that urban re-naturing projects and other nature-based solutions might not only create a form of immediate socio-spatial displacement and/or immediate exclusive access, but also long-term processes of green gentrification. Since the late 2000s, new studies have uncovered how new or restored nature-based amenities such as parks, greenways, or gardens (Dooling, 2009; Quastel, 2009; Tretter, 2013; Hagerman, 2007) contribute to demographic changes illustrating gentrification trends and to increased real estate prices through a process of "green gap" and subsequent green rent capture (Anguelovski et al., 2018). In that sense, green gentrification illustrates a dispossession by green accumulation in a form of new settler colonialism (Safransky, 2014; Dillon, 2014), by which certain visions of acceptable nature, landscape, and environmental practices get deployed within lower-income and minority neighborhoods, and in return captured by a variety of public and private stakeholders (Goodling et al., 2015).

That such processes serve not only to exclude and differentiate access to the resources provided by nature in the city, but also to generate and reproduce certain views and values about nature is central to their continued capacity to shape what, and for whom, urban nature is produced. Critical scholarship has started to pay closer attention to the connections, relationships, preferences, or values as related to nature that different groups construct over time – that is to their socio-natures (Kabisch and Haase, 2014; Anguelovski et al., 2018; Zimmer et al., 2017; Heynen et al., 2006). For instance, larger parks might create greater sense of insecurity when those parks are located in high crime zones (Anguelovski, 2014). More deeply rooted still, residents of colour often keep vivid memories of traumatic histories of disinvestment, racial violence, lynching, and exclusion in green spaces (Finney, 2014) and of the exclusionary discourses and practices of white residents in the context of green space protection (Park and Pellow, 2011). In that sense, green and nature is not "good" for everyone, and not all types of green spaces and nature in the city are valued in the same

way. Yet, urban nature-based solutions can serve to neglect these issues and exclude certain views and values of nature because of the way they are designed, planned, and executed (Checker, 2011; Kabisch and Haase, 2014; Haase et al., 2017). In contrast, research which finds that urban nature can foster forms of social diversity and inclusion points to the critical role played in ensuring that diverse communities have both a voice and an on-going role in the making and management of green space (Bush and Doyon 2017), or alternatively that it is through harnessing forms of informal, locally valued urban green space that have not yet come to have market worth that such forms of inclusion can be generated (Rupprecht and Byrne 2018).

There is therefore a vital need to understand how differing perceptions, interactions, and use of urban nature together with residents' socio-environmental and cultural history can create oppressive -- or, in contrast positive -- experiences of nature. In short, it is particularly important for addressing inclusion and equity needs to repoliticize sustainability governance in ways that can include and represent diverse social and cultural values. Such an analysis is particularly urgent – yet lacking – for post-transition cities. Post-transition cities have indeed experienced – and continue to experience – economic, social and physical transformations (Sýkora & Bouzarovski, 2012; Miraftab, 2007) likely shaping nature governance in the city. While the deep roots of environmental privilege are different across post-transition cities, many of them share a state of persistent and new inequalities, which makes inclusion in urban sustainability governance both a particularly political exercise and an essential task.

Towards Inclusive Urban Nature: Recognition and Redress through Stewardship

The imperative and challenge of including those affected by environmental decision-making has been a long-standing concern of the literature on planning and urban sustainability (Owens 2000; Certomà et al. 2015). Historically, the predominant concern has been with how to involve affected communities in processes of decision-making. An extensive literature has built up concerning the different techniques and approaches that can be used to develop effective participatory processes and their consequences, but participation approaches have often fallen short in terms of accessibility, inclusivity and the degree of democracy achieved (Certomà, Corsini, and Rizzi 2015; Fainstein, 2011). In relation to urban green space, research has pointed to the often piecemeal and ineffective processes of consultation that have accompanied the development of new green spaces in the city, such as the New York High Line, and the repurposing of public space (Millington, 2015). Yet from a procedural justice standpoint (Schlosberg, 2007), when interventions are co-produced with residents – racial and ethnic minorities in particular – it is more likely that new spaces will allow residents to feel recognized in them and to develop deeper relations of attachment and individual and collective identity (Anguelovski, 2014), thereby also facilitating strong interpersonal relations (Connolly et al., 2013).

Fairness in the distribution of sustainability benefits and in decision-making processes has frequently been the focus for literature on participation in urban sustainability governance (Portney, 2013). However, adopting the concept of recognition is vital if we are to understand how views and values of nature that have been historically neglected may continue to be overlooked even where participatory processes appear to be 'fair' in their design and intention to ensure evenly distributed access to the resulting benefits of nature-based solutions. As Bulkeley et al. (2014: 33) argue drawing on Fraser (1997), applying principles of justice in relation to matters of urban sustainability "involves engaging substantively with the notion of justice as recognition, which views socio-economic (i.e. distributive) injustices as fundamentally linked to ''cultural or symbolic injustices'' which fail to give adequate recognition to certain groups (such as women, the working class, or particular racial or ethnic groups)." Equally, the resulting socio-natures that are produced in the city may fail to capture

important ideas, understandings and practices of urban nature if persistent inequalities in whose forms of nature are regarded as legitimate or feasible remain taken for granted and debate concerning what kinds of nature might be valued remains off the table. Rather than taking urban nature as a given and seeking to engage relevant communities and distribute access evenly, there is a need to open up processes of engagement to alternative ways of understanding, valuing and being with nature (Maller 2018).

Instead of examining how traditional approaches to participation in environmental governance might tackle this challenge, in this paper we seek to explore the potential and limitations of a particular form of socio-nature relation: *stewardship*. Urban environmental stewardship, where civic groups take action "to manage ecosystems, protect human and ecosystem health and educate broader publics", has been found to act as a bridge between the public sector and civic groups (Connolly et al., 2013). When urban green areas attract a diversity of users, research has found that they "seem to have higher chances of being protected and creating a social environment that nurture[s] stewardship of ecosystem services because of increased potential for effective collective action and combination of knowledge and skills" (Andersson et al., 2014). Stewardship creates a different mode of relating to nature that is about belonging and the creation of a form of ownership, so by its very form it can mean that access to nature is distributed to those who take care of it, but in doing so also benefit from it. At the same time, neoliberal forms of stewardship put these practices and forms of labour to work in the interest of others or as a form of self-government focused on governing the conduct of the self in line with neoliberal principles of what it means to be a good citizen or member of a community. Stewardship, then, is a mode of engagement with nature that can be used for both neoliberal and just outcomes, which means that stewardship is not necessarily more inclusive than other modes of engagement. This paper focuses on a stewardship because the emphasis on bringing people into active relationships with nature makes it a useful focus in order to understand whether and how diverse understandings of what nature is and for whom it offers value are included in governance. Here, we seek to politicize the notion of environmental stewardship by problematizing how people engage with stewardship and how stewardship is governed.

This paper is thus driven by an interest in examining how urban nature-driven stewardship initiatives might allow for different inclusionary and equitable practices and outcomes and the extent to which such approaches can generate forms of redress for the socio-cultural politics of race, class, and nature that have historically arisen through the creation of (un)equal socio-environmental landscapes. Such an analysis is particularly relevant in post-transition cities, where many concurring economic and environmental transformations are reconfiguring cities' socio-natural landscapes and citizens' participation in local environmental issues. Our paper thus asks: to what extent do urban nature-driven stewardship initiatives in transition contexts recognize and redress inequalities?

Research Design

This paper uses a comparative case research design (Perri & Bellamy, 2011). It focuses on two nature-driven stewardship initiatives in Sofia and Cape Town: The Sofia City Forest and The Cape Town Environmental Education Trust. By comparing these two cases, we examine whether and how nature-driven stewardship initiatives can allow for inclusionary governance practices and outcomes by comparing 1) the extent to which nature-driven stewardship initiatives in each context recognize and embody a diversity of understandings of, and ways of relating to, nature, 2) whether/how these practices reshape socio-cultural politics of race, class, and nature to redress inequalities in regards to nature access and the kinds of socio-nature relationships that are seen to have value.

The cases are selected for two reasons. First, Sofia and Cape Town are two urban contexts that have undergone significant political and socio-economic transformations over the last two to three decades. The political contexts of post-socialist and post-apartheid transitions means that questions of inclusion intersect with deeply-entrenched social and racial divisions which have been poorly addressed by the democratic governments elected since the beginning of the transition in the 1990s (Daskalova & Slaev 2015; Hall, 2018). In this context of persisting inequalities, initiatives with a similar vision of addressing environmental, social and racial privilege have important political relevance. At the same time, the cases represent diverse forms of nature and approaches to stewardship, as well as geopolitical contexts and urban conditions. These divergences help us to understand how various nature stewardship practices differentially address (or fail to address) inclusion and equity, as well as what types of inequalities and injustice each city was willing and able to confront, and which ones have been left untouched. While Sofia and Cape Town are two cities in transition, the specific racial inequality and legacy of segregation faced by South African cities is particularly intriguing when analysing environmental initiatives meant to be more inclusive and just. It is an added manifestation and driver of injustice that our analysis aimed at examining and comparing with the case of Sofia, where racial inequalities are less relevant – at least in our case study.

The data was collected over a period of six months for each case via literature analysis of academic and grey sources and a total of 35 semi-structured interviews (21 in Cape Town and 14 in Sofia) with experts related to the nature based solution intervention, including from various levels of government, NGOs, and planning agencies. Table 1 lists the main topic areas covered in the interviews. After reading an information sheet explaining how the information would be used, interviewees signed consent forms confirming their willingness to participate in the research and expressing whether they wished to remain anonymous. Interviews were recorded (except where interviewees preferred otherwise), detailed interview notes were kept and key interviews were transcribed. Information from notes and transcriptions was coded thematically. Data was analysed using thematic analysis to consider which forms of nature are included/excluded, whose values are represented, which communities are included/excluded and what kinds of governance structures or practices are employed.

Table 1 Overview of the main topic areas covered in the semi-structured interviews

Topic Areas for Interviews
• History of the nature-driven stewardship initiative
• Impacts and outcomes of the initiative
• Organizational structure and institutional arrangements
• Tools, policies etc. important for governing the initiative
• Types of ecosystem services provided (for whom and where)
• Business models applied
• Citizen engagement and stakeholder participation approach
• Design of citizen involvement and participatory methods used
• Main environmental, social, economic and political impacts
• Challenges, contradictions and resistance to initiative
• The role of innovation
• Forms of learning that took place
• Extent to which the initiative is being replicated

Taking Care of Urban Nature in Transition Cities: Towards Inclusion & Recognition

This section examines the extent to which nature-driven stewardship initiatives in two transition cities – Sofia and Cape Town – recognize and redress inequalities. We compare the cases to show how post-transition nature-driven stewardship initiatives differentially address deeper roots of environmental privilege and we examine how the governance and transition contexts influence the extent to which redressing inequalities was part of the stewardship program design.

A multi-faceted new green, social, and cultural asset: The Sofia City Forest

The environmental transition of growing Sofia

Bulgaria's capital city, Sofia (1.3 million inhabitants) has seen rapid economic growth since 1989 (Hirt 2007, Watson et al. 2009). Amongst the many effects of this have been rising income inequalities despite comparatively low rates of unemployment, growing trends towards intra-urban migration, migration from poorer rural, surrounding districts to northern parts of the city, and increasing densification as a result of a building boom that has resulted from the privatization of land and property and weak legislatory controls (cf. Daskalova & Slaev 2015, Lazova 2015).

While the social mix of residential areas continues to be relatively even, there are signs of increasing wealth-based and ethnic segregation, as poorer rural migrants locate to the north of the city and wealthier inner-city employees move to the southern districts, where parks and easy access to scenic mountain landscapes provide for higher living standards (cf. Daskalova & Slaev 2015). By contrast, districts inhabited primarily by Roma residents, such as Fakulteta in western Sofia, are marked by low housing standards and high levels of material deprivation as well as little access to green space (cf. Slaev & Hirt, 2016).

 Significant increases in car ownership, the reduction of public green spaces and the continued use of wood and coal as domestic fuel have further led to major problems with poor air quality. Indeed, Sofia is the European capital with the worst levels of air pollution (European Union 2016). The highest levels of air quality are reached in the southern districts, along the foothills of Sofia's bordering mountains, while levels are worse in the centre and to the North (Daskalova & Slaev 2015).

Recent assessments of the city's environmental amenities also point to significant problems with the maintenance and accessibility of green spaces in the city. One such area is the 'Borisova Gradina' city park together with open green spaces in the district of Mladost (IÖR, 2008; expert interviews: Ministry of Environment, Natural Protection Office, and coordinator 'Green Sofia'). As the manager of the organization *Green Systems* explained:

> "… in the transition years, many parks were deserted, there were long periods of very poor maintenance or almost lacking. And now we are still reconstructing and repairing them, and gradually rebuilding them in their old form. Major repairs were made, since 2011, a third part was launched in South Park, which was a great achievement for us."

Despite such efforts to redevelop existing parks, few new green spaces are being created and as private developments encroach increasingly on available land, access to such spaces is in decline. In Sofia, public urban green space amounts to just 25.7 square meters per inhabitant (IÖR 2008).

The ecological and environmental justice implications of these recent environmental challenges have led to increasing concern amongst citizens and NGOs, leading to novel forms of participation in urban greening schemes that are starting to defy the generally observed trend towards depoliticization in post-socialist societies – a trend that has partly been related to weak civil society structures prior to 1989 and partly to low levels of trust in the political system after transition alongside high demands placed on citizens in transition economies as they sought to cope with rapid socio-economic change (cf. Kideckel 2009). In Sofia, concern over loss of public green space and environmental degradation has recently led to a significant mobilization of citizens, linked strongly to initiatives set up by NGOs that are also increasingly collaborating with, and receiving support from, the municipality (cf. Lazova 2015). These new initiatives can, to some extent, build on the legacies of environmental movements that sprung up around the time of East-Central Europe's peaceful revolutions (cf. Blazek and Šuška 2017; Petrova and Tarrow 2007), but their focus today is more squarely on alleviating the negative environmental impacts of densification and economic growth.

Activists and those advocating for greater citizen involvement do, however, report obstacles to active participation and inclusion in planning processes. While we are thus seeing new municipal plans and programmes for urban greening that are part of a wider rebranding of the city as "viable" and "green", these new schemes fail to fully address the complicated and differentiated implications of urban ecologies for social justice and sustainability. These issues, and the significant agency that engaged citizens are able to mobilize to tackle them, are brought most prominently to the fore in the NGO-led project "Sofia City Forest".

The Sofia City Forest project as new landmark and stewardship intervention

Plans for the NGO-led project "Sofia City Forest" project began to be developed in 2016 by the nongovernmental organisation Grupa Grad (Група град). Grupa Grad envisages its "Sofia City Forest" as a community tree park, whose realization relies strongly on citizen's initiative, especially with regards to tree planting and maintenance (Citizen's Initiative 'Sofia - Green Capital' 2016). By planting trees on neglected urban land along an eco-corridor that will bring fresh air from the southern mountains to the city centre of Sofia, the intervention is expected to improve air quality, store and sequester carbon dioxide, provide a place for recreation and leisure activities and leave a green footprint for the city's future. The project is still at a planning stage, with a crowd funding campaign underway:

> "The new urban forest will be located in the territory of one of the six "green passes" of Sofia [...]. These green straps run radially from the city centre towards the mountains that lay to the South of Sofia [...] [I]nside the passes, there are vast areas of abandoned land – a total of about 1,680 acres. It is deserted, and in some places, it is even turned into illegal dumps. The aim of the new park project [...] is to involve all kinds of resources available for the afforestation of these neglected green areas in Sofia. [...] In the long term the initiative may turn into a '1 million trees' project." (Citizen's Initiative 'Sofia - Green Capital' 2016).
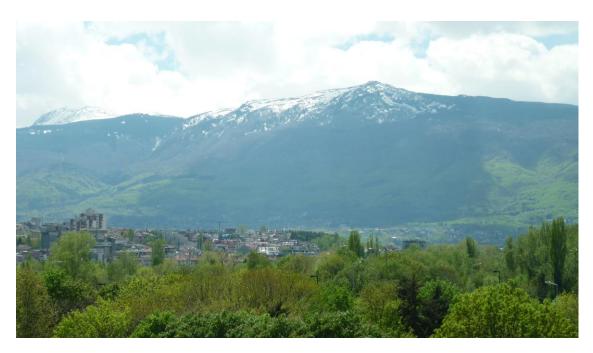
Fig. 1 Vitosha mountain, seen from the centre of Sofia © Stela Ivanova

As a new landmark, the forest's expected impacts are not only environmental (air quality, climate change regulation, noise and heat reduction) but also social and cultural, including the provision of a quality public space for recreation and social encounters that will service adjacent residential neighbourhoods:

> "[…] a city forest is, of course, still for people. The city is for people, as is repeated very often […] It is nice to have alleys for cyclists, it is good if [the forest] spans across some road arteries so that people can move around easily, including children and people with disabilities. There may even be space for other activities. There is a place for skating and a lake may be created as an attraction to be used by boats." (*Coordinator, Grupa Grad*)

The tree park is also intended to elicit a sense of belonging, community and attachment, while creating a green heritage for future generations (Citizen's Initiative 'Sofia - Green Capital' 2016). A key social justice issue, however, that has to date not been given much attention by the project initiators, is the fact that, despite potentially leading to improved air quality for residents in more deprived neighbourhoods to the centre and North of the city too, the project will primarily benefit those living in the wealthier southern suburbs adjacent to the eco-corridors and new city forest, which are already better serviced by public parks. There is a high risk of further green gentrification through appreciating land rents in these neighbouring residential areas as a longer-term outcome of the greening project, which could reinforce social segregation.

As such, the use of municipal resources for the project could become a contested issue. Accordingly, while the municipality has been approached for the purchasing of a suitable plot in communal ownership, the initiators otherwise rely on private contributions, following the crowd-funding principle, e.g. for saplings and tree care (Citizen's Initiative 'Sofia - Green Capital' 2016). The funds raised in this way will not be sufficient, however, to pay for the high prices of land in the area, so that municipal financial support is crucial for the success of the project:

> " At the very beginning our initial idea was to buy the land, turn it into a park and donate it to Sofia Municipality as a gesture. […] but the prices of the land are so high that we cannot spend the money of our private donors to buy it [… It is also] not reasonable

considering that this land sooner or later will go back into the hands of the municipality and will be managed by the municipality […] So, we are expecting the municipality to provide resources [for the plot itself]. The private funds will be invested into the actual forest." (Coordinator, Grupa Grad)

Grupa Grad expects direct citizen participation in financing the project and in later tree planting actions. The planting or buying of a tree by participants is thus expected to encourage feelings of ownership and consequently stewardship, while the urban forest is also envisaged to provide recreational benefits and safer cycle routes. However, as the initiative focuses strongly on tree planting as a way of creating a new green heritage for the city, its vision of urban nature is focused more on aesthetic values and the direct environmental benefits of improved air quality – which are certainly much needed – than on the provision of greater biodiversity and the reduction of socio-environmental inequalities.

The ability to donate money and, eventually, the ability and willingness to invest voluntary work in the planting and maintenance of trees are likely to instead reinforce social injustices, in addition to the location of the project itself. Since citizens can primarily become involved through donations or through voluntary labour (in a transition society, where the pursuit of paid work is a high priority to avoid social marginalization as socio-economic inequalities and income differences between groups are rampant), citizen engagement can easily become the preserve of the better off, thus potentially widening rather than narrowing social divisions. Caught between the limits of financial resources that can be provided by socio-economically marginalized urban residents in particular and the possibility of exploitation and furthering exclusion when urban greening schemes lead to gentrification, the obstacles that the city forest project and similar projects involving citizens face in Sofia are numerous. However, the active engagement of those with greater opportunities to initiate and implement such projects may also be crucial to achieve broader environmental and social justice goals.

Environmental education, employment and conservation: the Cape Town Environmental Education Trust

A racial legacy of uneven access to nature, stewardship, and land

Cape Town, South Africa (population 4.2 million) is located in a global biodiversity hotspot with "exceptional plant diversity and endemism within the Cape Floristic Region" (Helme and Trinder-Smith, 2006). The city forms part of a UNESCO World Heritage Site in recognition of the international significance of the local biodiversity. Cape Town has experienced transformations over the last few decades post-apartheid. The ANC government's post-apartheid neoliberal program of restructuring relied on market mechanisms to integrate into the global economy (Miraftab, 2007). Basic public services are being extended, but infrastructure and services remain vastly unequal across the city. As Turok (2001) summarizes, there is persistent polarisation post-apartheid and "institutional practices and market forces are tending to reinforce spatial divisions, with costly consequences for the poor majority of the population and for the wider urban economy and society". Chronic challenges such as poverty, unemployment, crime and lack of housing are a part of daily life for many Cape Town residents (Kesson et al., 2018). In particular, the racialized history of land dispossession, the legacy of apartheid urban planning, and the current housing shortages are at the heart of urban politics in the city (Hart & Sitas, 2002; Bulkeley et al., 2014).

Access to nature is also uneven (Donaldson et al., 2016). While sixteen local government owned nature reserves within Cape Town protect some of the area's biodiversity, enduring inequity

stemming from apartheid excludes racialized and disadvantaged communities from nature reserves through structural inequity (e.g. low income communities, including Cape Town's townships, are located far from green spaces), socio-economic challenges (e.g. no affordable public transportation) and cultural inequity (e.g. facilities appropriate for a limited range of cultural uses). With exceptions (see Erixon Aalto and Ernstson, 2017), nature stewardship civic action is often based on white, affluent communities. Overall, conservation has traditionally focused on keeping people out of nature reserves in order to protect biodiversity. 'Fortress' conservation advocates for exclusion of human from fragile ecosystems despite pressing basic human needs.

Furthermore, nature is also land. A central question of the on-going post-apartheid transition is how to reverse the racial inequalities in land ownership stemming from colonization and dispossession (Ntsebeza & Hall, 2007). White settlers appropriated 90% of the land in South Africa under the 1913 Natives Land Act and the redistribution of agricultural land has been positioned as a critical transition strategy for poverty alleviation (Ntsebeza & Hall, 2007; Hall, 2018). However, there is deep frustration with the slow pace of land reform, which has mostly been pursued as a technocratic process using market mechanisms without recognizing that is also a visceral issue with deep, polarising connections to identity and citizenship (Hall, 2018; Hart & Silas, 2002). There is a politicized tension between poverty alleviation and nature conservation in Cape Town that positions the question of inclusivity in nature governance at the heart of on-going post-apartheid transformations.

Figure 1 CTEET's overnight education camp facilities in Rondevlei Nature Reserve, Cape Town

A new vision for inclusive urban nature reserves

The Cape Town Environmental Education Trust (CTEET) is a non-profit environmental education organization that seeks to improve both the inclusiveness of urban nature reserves and the effectiveness of biodiversity conservation by connecting nearby disadvantaged and racialized communities with local government-owned nature reserves. To tackle the challenges of both biodiversity protection and high unemployment levels, CTEET takes what they call a crèche to career approach by offering youth environmental education in nature reserves in partnership with the City of Cape Town, job skills training in the conservation sector, and employment in roles like conservation monitors. By working with disadvantaged communities near nature reserves to deliver

job skills training and education programs, CTEET strives to recognize the interconnection of social and environmental challenges.

A foundational logic for CTEET is that people will not protect what they do not value and they cannot value what they have not experienced. CTEET staff from nearby communities work with school children from those same communities and bring them into nature reserves so that they can develop their own value for nature. CTEET also offers a career development pathway for adults from nearby communities so that they can find employment in the nature conservation sector. As a CTEET employee explains, "Particularly in an urban environment, you can't address the environmental challenges without basing it on the social challenges" (CTEET employee, CT3, 2018). The core idea is that urban nature conservation will only be successful if nearby people experience nature reserves so that they come to value them in their own right and feel that they offer social and economic opportunities. As a CTEET representative explained:

> "We're trying to create an awareness that green open space is a place of opportunity and it might be something esoteric like spiritual connection,…an opportunity for training and development…[and] a place I can go to get a job as well. And once you have that shift in mindset, nature reserves start looking something different to that community" (CTEET employee, CT3, 2018).

The core purpose of CTEET is to work with nearby communities to create spiritual, cultural and economic opportunities in urban nature reserves to foster socio-natural relationships that reinforce nature reserves as protected spaces for plants and wildlife.

CTEET staff and young people from low-income communities work together in programming that treats nearby nature reserve visits as experiential learning practice. A key goal of the program is to teach children the value of intact, biodiverse ecosystems and bring in their own knowledge and experiences. The programming brings students into nature reserves near their homes to do things like show them wildlife, teach them about medicinal plants, and have fun in nature. CTEET builds participation pathways for communities that have been excluded from reserves to try to build local support for biodiversity conservation:

> "On the reserve you can protect the plants, but [successful conservation] actually comes with the community around you… because the community can break what you protected. So if you instil that education in their minds, soon you will have the winning combination between the two" (CTEET employee, CT19, 2018)

These efforts have connected nearly 6,000 children to nature (CTEET annual report, 2017). CTEET's model strives to change mindsets and to develop an understanding of the inherent, spiritual, and economic value of nature conservation. CTEET uses experiential education to inspire environmental stewardship as a key form of practice:

> "The problem with some of the reserves is [nearby low income communities] might not feel part of it because they're locked out of that particular site. So [CTEET's approach is] to try and create that passion for that particular site and the value for that vegetation type, which they might not necessarily know about. Also bringing in their knowledge as well..." (CTEET employee, CT8, 2018)

Participants in CTEET education programming describe social and spiritual impacts: "This camp changed me in many ways: it helped me connect spiritually, helped me realize that we need every

plant and insect out there, it helped me communicate with different people", WolaNani (NGO that assists people with HIV and AIDS) Group Learner (CTEET, 2017). The program seeks to engender environmental citizenship through connection with learners' needs and values. Given the challenges facing the communities, a key way this is done is by offering career development as a poverty alleviation strategy.

Instead of treating nature reserves as fortresses that keep people out, CTEET works with nearby communities to develop social and economic opportunities that address the challenges of poverty. The initiative does this through sustained engagement with youth, job skills training in the conservation sector and direct employment as a CTEET conservation monitor. Around 100 individuals have completed CTEET's job skills training programming (CTEET, 2017). They have about a 100% pass rate out of the program and about 90% of graduates are finding employment within a couple of months of finishing the programmes (CTEET employees, CT3 and CT8, 2018). Connections with economic opportunity are a critical component of enabling inclusivity in nature reserves since youth unemployment is over 50% in Cape Town (CTEET, 2017). When urban nature conservation is paired with employment opportunities, it offers opportunities to improve inclusion and, to some extent at least, recognition for marginalized communities in urban green spaces.

Yet, Cape Town's socio-economic challenges create pressures that cause some to question the value of urban nature conservation. Cape Town (like South Africa more broadly) faces a housing crisis that drives a quarter of the city's population into informal settlements. Land is at a premium in Cape Town and housing is a political flashpoint. At the time of research, people were attempting to settle in protected nature reserves because of a lack of other options:

> "If you look at the recent narratives and challenges we've got, it's that people are invading conservation land. If it's open land then people think it's open land for housing. We've had people invading open conservation land recently. Painful. So we're trying to see how we can start employing people in conservation offices that live and come from the communities and that can talk to people" (City of Cape Town employee, CT15, 2018).

A news article illustrates contestation in Cape Town regarding the need for housing and occupation of nature reserves:

> "Former backyarders say their lives have taken a turn for the better since they moved onto municipal land in Ndlovini informal settlement, Khayelitsha. All they want now, said the land occupiers, is basic services. But councillor Stuart Diamond, acting Mayoral Committee member for informal settlements, water and sanitation, says the land is a nature reserve" (Lali and Groundup, n.d.).

While CTEET does not work in this particular area, more broadly this illustrates that inclusion in Cape Town nature reserves links to broader political contestation in South Africa about who has a right to what land for which purposes.

In sum, CTEET uses a stewardship approach targeting historically excluded communities as a way to try to connect more diverse social and cultural values to urban nature reserves than previous conservation approaches that treated poverty as a threat from which nature needed to be walled off. In this political context where land use is fraught with political contestation, the CTEET initiative is starting from a prescriptive understanding about what the relationship with nature reserve land should be and how it should be experienced. The approach focuses on particular socio-natures where communities gain access to ecological benefits and employment in conservation, but excludes

socio-natural relationships that involve changing land use to accommodate housing. Within this script, the initiative creates opportunities for historically excluded communities to access nature reserves, repositions nature as having value through economic opportunity for historically marginalized groups, and potentially creates an on-ramp that might allow new voices to enter the nature governance field with the idea that it will create more inclusive nature governance for Cape Town in the future.

Discussion

In this paper, we have examined the extent to which nature-driven stewardship initiatives in transition cities embody particular understandings of, and ways of relating to, nature and are able (or not) to address inequalities related to accessing urban nature and the kinds of socio-nature that are seen to have value. We contribute to a broader discussion on how nature-driven stewardship initiatives might allow for different inclusionary and equitable practices and outcomes by reconfiguring the nature landscape of cities in transition while reshaping (or not) social and racial divisions or hierarchies. In that sense, we contribute to refining recent research that argues for the creation of a nurturing social environment around the diverse values and benefits of nature held by residents (Andersson et al. 2014; Andersson et al. 2019) and for the inclusion of socially excluded and vulnerable groups within the governance of projects (Kabisch and Haase, 2014; Connolly et al. 2013).

Promoting more inclusive embodied understandings of nature?

In both cases, we find that stewardship initiatives are introducing new participants to urban nature governance. In Sofia, the greater involvement of residents in urban sustainability planning is demonstrated through the citizen-led Sofia City Forest, which responds to and further encourages the municipality's interest in civic participation and diversified planning governance in contrast with previous socialist top-down, state-driven planning practices. The participation of citizens has led to an increased focus on intergenerational social and cultural benefits and enhanced availability and access to green space. In Cape Town, the CTEET initiative is creating engagement pathways to enable historically excluded communities to access resources (spiritual, cultural, economic) from protected nature reserves. By seeking to connect to community values and concerns and by opening up access to new economic, social and cultural benefits as a form of inclusion, this stewardship program has the potential to open up opportunities for greater diversity in nature governance and access to redress some inequalities. A greater diversity of people participating in urban nature governance is connected to a broader understanding about what nature is and for whom it offers benefits.

However, it is important to examine in greater detail the design of the sustainability initiatives around stewardship to understand their implications for greater social inclusion based on historic socio-economic inequalities in each place. In the Sofia City Forest initiative, tree planting and maintenance as well as fundraising campaigns are a key way of involving citizens and resourcing the project. Since the engagement methods rely on voluntary labour and citizen finance, working class and low-income citizens who would benefit the most from an increase in urban trees are underrepresented in the scheme. They also tend to live at some distance from the parts of the city that will benefit the most from the urban forest project. Such limitations highlight the importance of starting the design of stewardship initiatives with the recognition of socio-spatial inequalities so that engagement methods do not unintentionally reproduce exclusive access to and benefits of new urban green space and their associated stewardship.

The Cape Town CTEET stewardship program is designed to try to redress issues of enduring inequalities and historic green privilege more than the Sofia case, which is instead looking to widen participation. The Cape Town initiative recognizes historic, enduring social and racial inequalities in the social geographies of how people connect to nature stewardship stemming from apartheid and tries to open up more inclusive opportunities for racialized communities typically barred from green space by structural inequality and racism to develop new relationships with protected urban nature that, crucially, offer employment opportunities, and bring those relationships into nature governance over the long term by creating career pathways. The Sofia initiative, however, does not start with the recognition of unequal social geographies, instead positioning expansions of nature as a broad universally-desirable and -achievable, social good. An urban forest does offer significant potential social and environmental benefit for Sofia, but, by invisibilizing or overlooking existing inequalities, the design of the stewardship threatens to exacerbate the socio-economic inequalities and socio-spatial polarization that have developed through the post-socialist transition (Hirt, 2012; Vesselinov, 2004; Smigiel, 2014). While benefits for socially disadvantaged groups in Sofia are very much intended, there are concerns that a rise in rental prices and property values near the urban forest may eventually materialise through green gentrification processes, which is likely to lead to unintended consequences of social exclusion. There is also a risk that the voluntary contributions of citizens, made with the aim of providing a public benefit especially for residents that are worst affected by pollution and limited access to green space, will thus eventually benefit private investors and worsen social stratification.

We thus argue that inclusive nature-based solution governance and stewardship is about much more than ensuring that decision-making around the design and management of stewardship initiatives is legitimate and more diffuse. It also needs to attend to the ways in which such processes can support more equitable distribution of access to urban nature as well as more diverse perspective on which kinds of socio-nature are seen to have value, for whom, in urban contexts lived in by diverse residents. Instead of assuming a homogenous ideal of urban nature and focusing on questions of the distribution of urban nature and its access, we argue that it is important to consider meaningful and diverse values and ways of relating to nature in the city.

Redressing inequalities in land access and rights?

Just processes and outcomes for urban nature governance in stewardship initiatives depend not just on recognizing inequalities, but also on actively working to redress existing ones, especially in land access and rights. Therefore, inclusivity in stewardship initiatives is about not only taking differentiated social geographies and relationships with nature and the associated inequalities into account, but also about designing initiatives to actively redress social and racial inequalities.

In Cape Town, CTEET has a mission focused on redressing particular racialized communities' exclusion from nature reserves by offering points of connection that relate to poverty and nature access challenges for surrounding residents. Nonetheless, the Cape Town case is also limited in important ways. While recognizing that there are diverse geographies shaping interactions with nature and effects of conservation practices, the approach still does script a limited set of acceptable relationships with nature in reserves. Racialized communities gain access to nature's ecological benefits as part of visits and employment in conservation, but with the understanding that this codified access is the acceptable pathway for interaction with nature without changing land use.

In the broader post-transition context of poverty alleviation and land redistribution, there is still a long way to go to achieve structural change to address inequity in urban nature governance and land rights in Cape Town. By excluding racialized communities from urban nature governance and control, elite narratives separate the land access and security question from nature reserves as protected spaces for leisure, recreation, and education. As a result, for long disadvantaged groups, nature preserves and associated stewardship initiatives do not alter the fact that land remains in the hands of white elites, whether it is technically a reserve or not. In addition, those dynamics might prevent historically marginalized groups from securing deep relations of place attachment and identity in those green spaces (Łaszkiewicz et al., 2018). These limitations influence the boundaries the CTEET initiative sets on what it understands as appropriate uses for nature and what broader social and societal role it can have to address past and present inequalities.

In Sofia, urban land and communal resources face constant pressures as a result of market-led development, land privatisation, and ensuing urban densification in the post-socialist transition period in face of eroded social welfare after socialism. While tacking generational and new class-based social and environmental inequities in access to environmental goods and services has become part of civic society organizations' agendas and citizens' initiatives, their long-term mission and values might be jeopardized by spatial and economic growth, land speculation, and growing inequalities. Municipal budget cuts force citizens to contribute in kind or through voluntary work to environmental protection and stewardship initiatives, but this retreat of the state also creates new layers of inequalities in who is able to care for nature and therefore participate and articulate an alternative set of values and visions. In addition, in the context of unequal economic growth and speculation, environmental NGOs cannot alone tackle inequalities in access to urban nature, health, and wellbeing.

Conclusions

This paper politicizes stewardship by problematizing how people engage with stewardship and how stewardship is governed, establishing its socially and racially structured dynamics. Examining the post socialist and post apartheid transition cities of Sofia and Cape Town, the paper has explored whether and how stewardship initiatives allow for inclusionary governance practices and outcomes by analysing the socio-natures being created and the ways in which initiatives embody particular understanding and relations to nature. Central to our analysis has been the question of the extent to which the stewardship initiatives redress inequalities in regards to nature access and which kinds of socio-nature are seen to have value.

Questions of the distribution of urban nature and its access have preoccupied the literature, yet by assuming a homogenous ideal of urban nature and the kinds of social relations that are required to both shape decision-making processes and to generate meaningful values and ways of relating to nature in the city, this literature remains rather limited. This paper reveals that stewardship program design that recognizes inequalities in the social geographies of how people connect to and value nature can support more equitable distribution of access to urban nature as well as more diverse perspective on the value of various socio-natures.

This study also reveals that diverse understandings and practices about nature's values, benefits and uses are not meaningfully integrated in recent urban nature stewardship initiatives in transition cities when different social and cultural preferences and needs related to nature – especially access to secured land, housing, and livelihoods - are excluded from the governance of stewardship initiatives and when certain dominant views on nature remain unquestioned. We argue that inclusive nature-based solution governance in transition cities needs to ensure that governance

processes support more equitable distribution of secured and long-lasting access to both urban nature and land as well as more diverse perspectives on which kinds of socio-nature are seen to have value, for whom, in diverse urban contexts. While cities in transition might encourage new urban nature stewardship initiatives, their broader inability – within and beyond stewardship projects – to address inherited and pervasive social and racial inequalities in secure and equitable access to land prevent them from ensuring the co-creation and co-protection of diverse uses, preferences, and identities linked to nature, eventually undermining how attached and connected people feel towards such spaces.

Acknowledgements

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