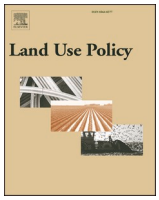
Land Use Policy 149 (2025) 107410

Contents lists available at ScienceDirect

Land Use Policy

journal homepage: www.elsevier.com/locate/landusepol



Urban rewilding for sustainability and food security

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ARTICLE INFO

Keywords:
Rewilding
Sustainability
Food insecurity
Urban wilderness
Nature-based solutions

ABSTRACT

Urban sustainability and food security remain pressing issues for cities across the world. Here, we argue that adapting rewilding to urban contexts unlocks new solutions for societal challenges. Rewilding is an established paradigm in ecological restoration, with the goal of restoring autonomous biotic and abiotic agents and processes. However, urban rewilding is an emerging but under-studied phenomenon that calls for multispecies coexistence and agency. Coupled with multispecies sustainability, urban rewilding can increase the operational autonomy of urban inhabitants through shared human-nonhuman co-stewardship of urban space. In this viewpoint paper, we explore the conceptual implications of rewilding for food security and land use planning across scales and infrastructures in urban settings. We then discuss how urban rewilding would particularly benefit food security across diverse urban contexts and examine some examples.

1. Introduction

The limited transformative impact of the Sustainable Development Goals (SDGs) to halt environmental damage (Zeng et al., 2020) and overwhelming evidence for a deepening climate crisis (IPCC, 2021) suggest new approaches for sustainability transformations are urgently needed. This is particularly true for cities, where quality of life and population health have improved, yet climate change, pollution, and a lack of clean water and sanitation are increasingly affecting people. Foremost among the affected are those living in urban slums, as well as socioeconomically disadvantaged and migrant communities in low and middle-income countries (Kaklauskas et al., 2018; Vardoulakis and Kinney, 2019). Furthermore, urbanization in developing countries continues rapidly as the rural poor seek better economic opportunities (Patil and Sharma, 2020). Among urban issues, urban food security has gained prominence in a period of extremely high population growth, loss of arable land, and climate change (Eigenbrod and Gruda, 2015). Food security constitutes access to sufficient food quantities of safe and nutritious quality at all times to meet people's needs to lead active and healthy lives (Brouwer et al., 2020). At least half of the urban population in the Global South lives in poverty, making it vulnerable to food insecurity (Frayne and McCordic, 2015). With over a quarter of a billion people on the verge of starvation, immediate action is needed to provide food and humanitarian assistance to the most vulnerable areas (UN Goal 2, 2021). This includes rapidly expanding urban areas, which are at greater risk of food insecurity given their dependence on external food supply and socioeconomic inequality (Haysom and Tawodzera, 2018). Urban sustainability solutions should thus aim to simultaneously tackle environmental and humanitarian concerns, given human and nonhuman well-being is interdependent. The emerging discourse on food security recognises the close interlinkages between access to safe, nutritious food, and ecological and social sustainability (Gallegos et al., 2023).

Leading approaches and concepts to holistically address urban issues include nature-based solutions (NBS) and nature's contribution to people, nature-based thinking, ecosystem services and green infrastructure, with edible green infrastructure emerging as a sub-theme (Escobedo et al., 2019; Russo et al., 2017; Randrup et al., 2020; Sardeshpande et al., 2021a). However, doubts have been raised about the sustainability of nature-based solutions due to ecosystem disservices (e.g., allergies, maintenance costs, etc.) (Schaubroeck, 2017). Moreover, emphasis on diversity in how humans value and relate to nature (Casse and Hauggaard-Nielsen, 2023) is gaining traction, with recent work pointing out how anthropocentric approaches risk reducing nature to a resource

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https://doi.org/10.1016/j.landusepol.2024.107410
Received 15 December 2023; Received in revised form 2 November 2024; Accepted 2 November 2024
Available online 26 November 2024

and tool for increasing human well-being, thereby compromising conditions of sustainability such as ecological interdependence (Maller, 2021; Rupprecht et al., 2020). Solutions- and infrastructure-oriented approaches can endanger long-term viability through high-maintenance and high-cost path dependence, and by enforcing a technology focus over resident-led autonomous stewardship (Rupprecht, 2020). Moreover, despite overwhelming evidence for the multi-faceted advantages of promoting nature in cities, urban developments with little to no natural elements are widespread, and even those integrating natural elements pay insufficient attention to the creation of habitats that might promote biodiversity (Sturgeon, 2021).

Against this background, regenerative design strategies offering opportunities for people and nature to thrive together are emerging as viable options. One example is the biophilic cities movement, originating in the United States and now gaining momentum in Australia (Sturgeon, 2021). In this context, cities all around the world, including Singapore, New York, Barcelona, Sydney, and Dublin, have recently worked to increase green spaces and "rewild" their neighbourhoods to fight the worldwide loss of wildlife (Harris, 2021), drawing upon rewilding as an emerging concept in ecological restoration and environmental conservation. In the UK, various local councils have explicit initiatives and investment commitments towards rewilding (Weston, 2021; Yeo, 2021). However, the vast majority of the rewilding literature is focused on extra-urban contexts (Carver et al., 2021; Hawkins et al., 2023). Furthermore, little is known about how urban rewilding efforts might be linked with overarching urban sustainability transformations, or how they might contribute to pressing urban concerns such as food insecurity. Given the growing evidence of the use of urban greenspace for provisioning and cultural purposes, urban rewilding could present landscape planners with opportunities to incorporate multifunctional features to enhance urban food security (Sardeshpande et al., 2021a). Therefore, in this article, we aim to provide a critical framing and actionable policy and implementation recommendations to inform a fast-growing movement. We do so by:

1) summarising the concept and implications of urban rewilding,
2) considering potential urban synergies between rewilding and sustainability,
3) critically evaluating the benefits, uncertainties, scalability, and applicability of urban rewilding on food security, and
4) discussing examples of urban rewilding and its relation to food security from cities around the world.

2. Rewilding

The word “rewilding” was coined in the mid-1990s by a group of US conservation biologists who were inspired by deep ecology theory and introduced rewilding as a scientific case for a continental wildland strategy (Carver et al., 2021). However, more than 30 years after it was first proposed as a biodiversity conservation strategy, the concept remains hotly disputed (Hawkins et al., 2023), with scholars arguing for and against its implementation (Jepson et al., 2018). Advantages of rewilding include flexibility in responding to environmental change and the promotion of opportunities for society to reconnect with nature (Schulte to Bühne et al., 2021). In contrast, critics note the absence of a consistent definition of rewilding as well as the lack of a robust understanding of potential consequences, as well as the concern that rewilding removes people from landscapes (Perino et al., 2019). The latter can be traced to ongoing disputes around the influence of a human-nature dualism that continues to influence Western environmental thought and its particular notions of wilderness (Cronon, 1996; Sandbrook et al., 2019). Here we argue that rewilding need not repeat past mistakes of conservation science. Instead, what began as intentionally designed ecosystems may cross the threshold of primarily human management to take on characteristics of novel ecosystems (Higgs, 2017).

Rewilding is often considered a subset of ecological restoration, which is generally described as "assisting the recovery of a degraded, damaged, or destroyed ecosystem" (Corlett, 2016). Rewilding, on the other hand, is less committed to taxonomic precedent than restoration and encourages taxonomic substitutions for extinct native species (Toit and Pettorelli, 2019). Pettorelli et al. (2018) define rewilding as “the reorganization of biota and ecosystem processes to set an identified social–ecological system on a preferred trajectory, leading to the self-sustaining provision of ecosystem services with minimal ongoing management”. Scholars have argued that rewilding should be at the core of the vast conservation efforts needed to address the global biodiversity crisis and improve the biosphere’s ability to adapt to climate change (Svenning, 2020). For urban contexts, Sweeney and colleagues (Sweeney et al., 2019) argue that rewilding would inevitably become a compromise between restoring ecosystem function and raising public awareness through species that are tolerated by citizens. Cerqueira and colleagues (Cerqueira et al., 2015) make the case that rewilding projects across Europe would improve ecosystems’ capacity to provide several ecosystem services like carbon sequestration and recreation. Furthermore, rewilding would connect existing EU policy logics of multi-functional landscapes, species preservation, and ecosystem services with positive conceptions of green infrastructure and a Trans European Green Network (TEN-G), climate ambition, new urban-rural economies, innovation, and a better regulatory agenda (Pettorelli et al., 2018). From a public health perspective, microbiota diversity has been linked to human health benefits and can be improved using urban rewilding design concepts that integrate biologically diverse communities (above and below ground) within green spaces (Mills et al., 2020). Contemporary landscape architects have implemented several rewilding projects, such as the Dallas Trinity River project, which is an example of urban rewilding (Sloan, 2021). In addition, significant projects such as New York City’s Highline and Moscow’s Zaryadye Park (Fig. 1) often described as rewilding due to their wild aesthetics, demonstrate how this approach can radically transform residual spaces in cities, bringing people and nature together.

3. Urban rewilding and sustainability

The implications of rewilding for human-nature relationships are highly relevant for sustainability transformations, including wide-ranging implications for human well-being (Keniger et al., 2013) and ecosystems in cities (Wu, 2010) as well as consequences (Dunn et al., 2006) for ecosystems beyond cities. What sets rewilding apart from existing urban conservation and green space strategies is the underlying notion of human-nature relations, which can strongly affect

Fig. 1. Zaryadye Park in Moscow is an example of “wild urbanism” for human-nature interaction.

sustainability transformation outcomes. Currently, green infrastructure and nature-based solutions are dominant strategies for achieving urban sustainability (Cohen-Shacham et al., 2016). Both concepts share the notion of nature and natural systems as resources and tools to further human well-being, a notion already present in early definitions of sustainability (Brundtland, 1987). The concepts are thus anthropocentric in prioritizing human well-being (Maller, 2021), and reductionist in conceptualizing human well-being as independent of, not interdependent with multispecies well-being (Rupprecht et al., 2020). In this context, interpretations that frame rewilding as excluding people from landscapes (Perino et al., 2019) can be understood as releasing nature from human mastery. Given that cities themselves have only received scholarly attention as "nature" in urban ecology literature from the early 1980s and are still widely viewed as human space, rewilding cities in particular is thus destined to be controversial. However, recent research across environmental management (Phillips, 2020), urban planning (Houston et al., 2018) and sustainability (Rupprecht et al., 2020) has made the case that more-than-human coexistence is both possible and more likely to result in more livable spaces and cities for all life than approaches rooted in domination, exploitation and mastery. Instrumental for this argument is the rejection of human-nature dualism in favor of epistemologies inspired by and based on Indigenous worldviews and scholarship (Todd, 2016; Watts, 2013). This change in perspective remains absent from most Western discourses on urban conservation, urban agriculture and even urban green space research. For rewilding this means its true potential lies in it's interpretation as a strategy to experiment with forms of shared, multispecies stewardship of landscapes.

Following this trajectory, we here combine work by Prior and Ward (Prior and Ward, 2016) that identifies non-human autonomy as the core idea behind rewilding with recent research on multispecies sustainability principles (Rupprecht et al., 2020). We argue that done correctly, urban rewilding can increase cities' sustainability through enhancing the ecological operational autonomy of non-human urban inhabitants. Prior and Ward (Prior and Ward, 2016) emphasize that rewilding "foregrounds the self-sustaining qualities of non-human Nature", where "the restoration of autonomous biotic and abiotic agents and processes is realized through the (oftentimes gradual) relinquishment of direct human management of the wild organisms or ecological processes". Going one step further, the analysis of flaws in the orthodox sustainability concept leads Rupprecht and colleagues (Rupprecht et al., 2020) to propose a set of multispecies principles in which a redefined multispecies sustainability concept might be grounded. Specifically, they argue that restoration should leverage non-human autonomy, because based on fundamental insights about managing complexity from the field of cybernetics, ecosystems are only viable systems if they rely on and respect multispecies agency and species have the operational autonomy necessary to meet their needs (Rupprecht et al., 2020; Droz, 2019). To use the example of the Scottish Beaver Trial (Woelfle-Erskine, 2019), only if beavers have the operational autonomy to fell trees can they play their role as ecosystem co-stewards and commoners alongside humans (Woelfle-Erskine, 2019). Given that cities are "novel" ecosystems (Kowarik, 2011; Macdonald and King, 2018), the return to a pre-human pristine Nature is generally not feasible, and neither is the exclusion of humans. Following Rupprecht and colleagues (Rupprecht et al., 2020), urban rewilding would thus imply working with "systems based on representations of and experimentations around continuously renegotiating complex, entangled multispecies interests". Subsequently, such practices would deliberately employ interventions to increase or sustain non-human autonomy, for example in the form of limited gathering activities. This contrasts with absolute non-interventionist and exclusionary approaches to rewilding and conservation as well as with green infrastructure approaches. Details and implementation are necessarily highly site- and context-specific. Enhanced non-human autonomy and linked potential benefits likely diverge in their exact implementation across scales (Table 1).

Table 1
Examples of potential sustainability benefits of rewilding across scales. The literature does not use the term 'rewilding' to encompass interventions (e.g. greening, modification, management).

Scale	Targeted time frame	Benefits	References
Regional / landscape	>10 yrs	Rewilded city as macro stepping stone, part of regional ecological network, biodiversity source, migration assistance	(Han et al., 2021; Beumer, 2014)
City / urban area	5–10 yrs	Improved ecosystem function and resilience, increased habitat connectivity, enhanced bio-physical metabolism	(Lehmann, 2021; Sardeshpande et al., 2021b)
Neighbourhood	1–5 yrs	Opportunities for experience of autonomous nature & education, increased habitat area, synergies with urban agriculture (e.g. pollination)	(Wu, 2010; Davis et al., 2017)
Site	0–5 yrs	Increased habitat quality, heterogeneity, carrying capacity; functionality as green infrastructure	(Hwang, 2020)
Micro-scale		Increased air and soil microbial diversity	(Mills et al., 2020)

To summarize, we thus propose defining urban rewilding as increasing the operational autonomy of non-human urban inhabitants while promoting inclusive co-existence in and co-stewardship of urban space by humans and non-humans alike, with the goals of restoring autonomous biotic and abiotic agents and processes and improving cities' multispecies sustainability and capacity to support multispecies well-being. Based on whole systems thinking, this holistic approach regenerates or recycles urban ecosystems such as but not limited to brownfields, landfills, informal green spaces, abandoned railroads, and factory grounds (Russo and Cirella, 2018). Rewilding, in our opinion, thus offers a sustainable alternative to gray cities devoid of most life and manicured, high-maintenance unsustainable urban green spaces (Fig. 2). Beyond these contributions to sustainability, urban rewilding also holds promise as the basis for solutions to other pressing urban issues, of which food security is one prime example (Table 2).

4. Food security and rewilding

A fundamental assumption of the land sparing argument is to limit intensive human activity such as agriculture, industry, and urban development as spatially exclusive from 'wild' biodiversity conservation areas to reduce disturbance and degradation impacts (Schleicher et al., 2019). However, the current industrial food system inherently disperses social and ecological costs globally, and is the biggest threat to biodiversity (Rockström et al., 2020). Further, the segregation of natural, food production, and urban systems can introduce socio-economic and structural barriers to food and nutritional security (Brouwer et al., 2020). For example, urban reliance on markets and cash income can result in diminished affordability and nutritional quality of food (Wenban-Smith et al., 2016). The urban poor are particularly vulnerable to food insecurity due to their dependence on regionally and globally traded stocks (Haggblade et al., 2017), and processed and prepared foods (Haysom and Tawodzera, 2018). Thus, a shift to more decentralized and locally adapted systems is the need of the hour, to improve access to sustainable, nutritious, local, and just food (Fanzo et al., 2020; Leakey, 2020), particularly in urban areas.

Urban rewilding for food security can incorporate diversity, redundancy, and robustness into food systems at multiple levels. From the

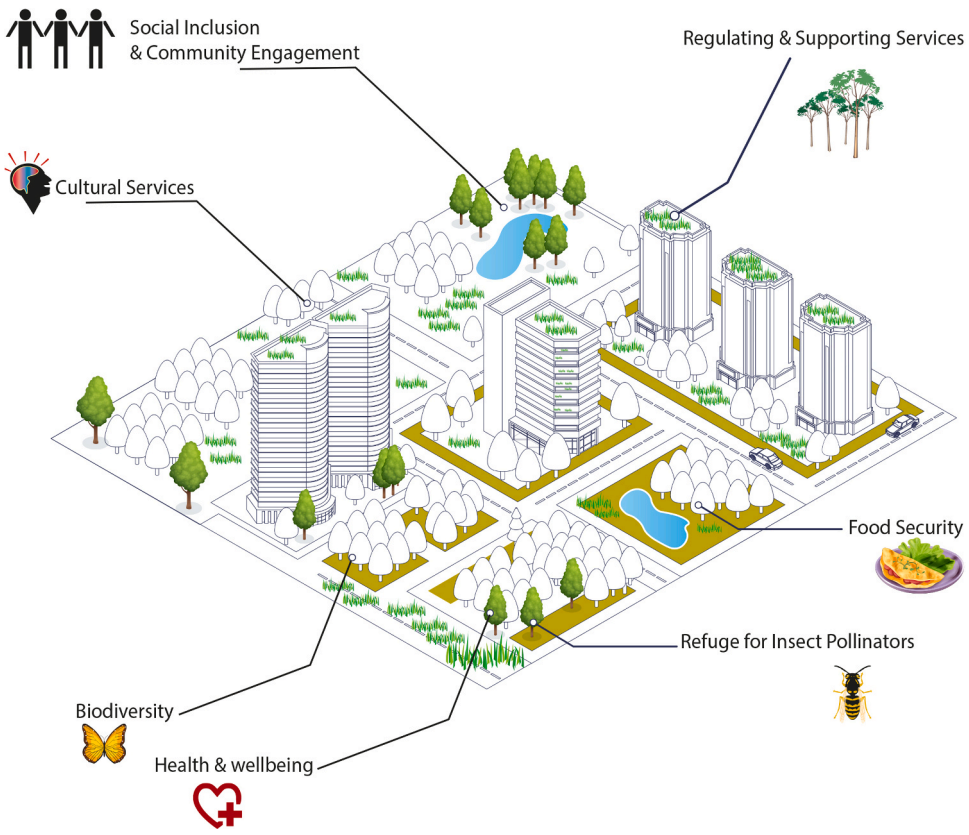

Fig. 2. Urban rewilding can provide several ecosystem services as well as food security, health and wellbeing, social inclusion and community engagement. It also provides habitats and corridors that aid in the conservation of biodiversity (Vector images designed by macrovector / Freepik).

Table 2
Urban issues and potential rewilding solutions to societal challenges.

City type	Problems	Potential solutions through rewilding	Examples of cities that could benefit from rewilding	References for related case studies
Emerging and expanding cities	Rapid, often unplanned densification and sprawl with no buffers for cultural and regulating ecosystem services	Incorporating greenspace into development plans to: sequester carbon, heat, water; provide landscape connectivity for biodiversity; create spaces for small-scale provisioning and recreation.	Kampala, Uganda	(Mollee et al., 2017)
De-densifying and shrinking cities	Land abandonment and vulnerability to erosion of regulating ecosystem services	Restoring abiotic and biotic landscape conditions to prevent degradation and alien invasion; creating enterprise &/ institutions to steward land.	Minakami, Japan	(Hirahara, 2020)
Cities in need of stabilisation infrastructure	Sea level rise, flooding, landslides, storms adversely affecting infrastructure	Developing, conserving, and upgrading green and blue infrastructure to buffer against foreseeable calamities.	Chittagong, Bangladesh; Hagen, Germany	(Chow, 2015; Watts, 2021)
Cities with high socioeconomic inequality	High instance of poverty, malnourishment, and unequal access to ecosystem goods and services due to legacy spatial planning	Greening existing and upcoming residential areas with multiple use and open access spaces for provisioning, cultural, and supporting ecosystem services.	Durban, South Africa; Salvador da Bahia, Brazil	(Sardeshpande and Shackleton, 2020; Downey, 2016)
Cities with significant wildlife interfaces	Unfavorable human-wildlife interactions such as food raiding, damage to property, injury and mortality	Landscape planning to integrate barriers, buffers, and corridors that contain and connect urban wildlife to optimize risk-reward ratio.	Mumbai, India	(Braczkowski et al., 2018)

adaptation perspective, rewilding can introduce food species that are resilient to environmental shocks such as droughts and fires, which may not be otherwise used in agriculture (Nkosi et al., 2020), rendering urban residents less vulnerable to supply chain disruptions (Heslin et al., 2020; Kummu et al., 2020). Ecologically, rewilding for food security can provide opportunities for community-based genetic conservation (e.g (Novello et al., 2018).), provide habitat connectivity for wildlife (Zietsman et al., 2019), and enhance the structural and functional diversity of urban ecosystems (Leclère et al., 2020). This is distinct from agriculture, which perpetuates a human-nature dualism by prioritizing food production for humans, often with a focus on specific form, function, and species, and exclusion of nonhumans (Armanda et al., 2019). Instead, an increase in operational autonomy enables the creation of multispecies edible commons (Sardeshpande et al., 2021a, 2021b) as a form of a multispecies edible landscape (Rupprecht et al., 2020; Rupprecht, 2020). Socioeconomically, rewilding can provide urban residents alternatives to monocultured crops and corporate monopolies (Buseth and Bergius, 2019). We acknowledge that while there are various overlaps between the aims of urban food security, land use planning, and rewilding, there are also some uncertainties, among which prominent are variability in food yields, and interactions between wildlife and human beings (Fig. 3). It is therefore imperative to plan

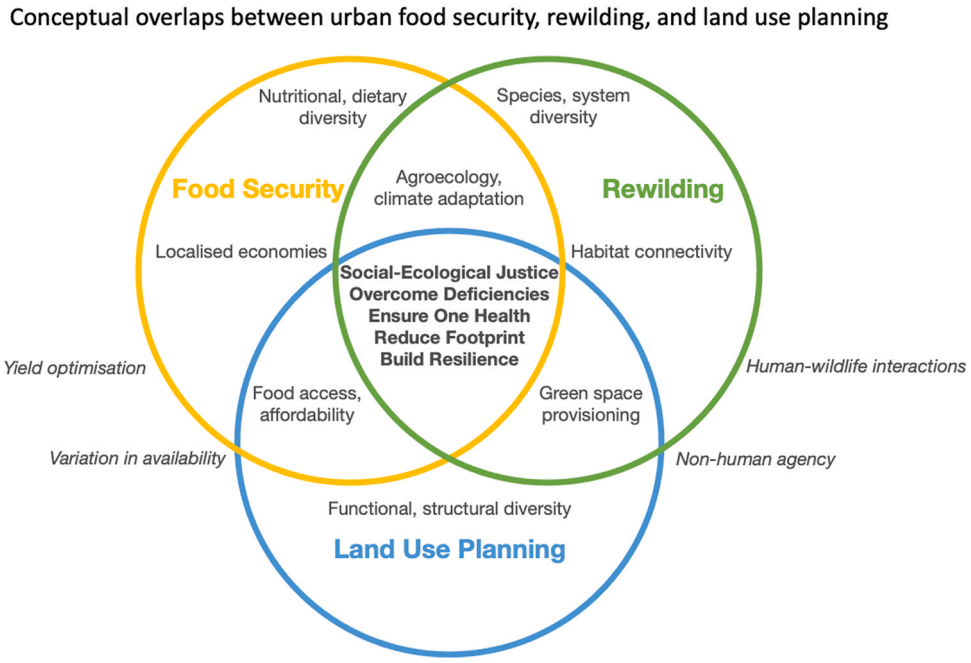

Fig. 3. Potential synergies and uncertainties across food security, land use planning, and rewilding in urban landscapes (italics indicate uncertainties).

food security as one of the multiple sustainability outcomes, but not the sole aim of urban rewilding (Oncini et al., 2024).

5. Examples of rewilding contributing to food security in cities

Still limited in number, urban rewilding projects including food components are emerging across the globe. Here we briefly consider

Fig. 4. Pilley Bridge Nature Reserve, wetland area and community orchard.

examples from the United Kingdom and South Africa. Pilley Bridge Nature Reserve (Fig. 4) is an urban nature reserve located in the heart of Cheltenham's southern district (Cheltenham, 2021). Historically part of the Great Western Railway's Cheltenham to Banbury line, Cheltenham Borough Council assumed ownership when the line closed in the 1960s, converting it into a kilometer-long nature reserve (Cheltenham, 2021). The railway embankments provide a woodland edge habitat with an understory of holly and hawthorn and a variety of ground flora that provides interest throughout the flowering seasons (Cheltenham, 2021). The Friends of Pilley Bridge established a communal orchard in 2012 to supplement the existing fruit trees on the site, transforming the reserve into a space providing both ecological and food-related benefits (Cheltenham, 2021).

The metropolitan municipality of Durban (eThekwini) has a population upwards of 3.4 million people (StatsSA, 2016). As part of its UNFCC commitments, the municipality has undertaken reforestation and restoration across its open spaces, following a tradition of restoration aimed not only at improving biodiversity, but also at provisioning indigenous food and medicinal resources as well as livelihoods (Moyo et al., 2021). Examples of such restoration sites include Buffelsdraai and Inanda Community Reforestation Projects. Buffelsdraai was a site historically degraded by intensive sugarcane farming, which currently serves as a suburban landfill, and has been ring-fenced by indigenous forest fragments. These forest fragments are gradually being expanded and connected by ongoing planting of useful tree species, with the aim of covering the landfill by the end of its lifespan (Douwes et al., 2016). Although the core of the site remains protected from extractive use, the 'live fence' along the periphery contains many species of trees that bear fruits that the community may use for food (Roy, 2015). At Inanda, a populous suburb, communal land that has been degraded by invasives and fire is being replanted with useful food and forage species to encourage sustainable use (eThekwini, 2021). The municipality engages members from within these communities to nurture saplings for restoration, with the aim of increasing awareness and stewardship and preventing cyclical degradation and restoration. Given the mountainous terrain, local food production is limited to livestock rearing and home and communal gardening, and the useful food and forage species planted through the restoration programme contribute to local food security (Sardeshpande et al., 2023).

These examples demonstrate the management of urban land for use-based biodiversity conservation, which is the operative principle underlying urban rewilding for food security. These examples are proof of concept for a new paradigm where food security does not necessarily rely on intensive and high-yielding farming (urban or rural), or access to affordable and quality store-bought food, which deepen the dichotomy between people and nature. These examples are distinct from urban agriculture, allotment gardens, and public greenspace in that they offer access to all strata of urban society, and also to non-human biodiversity. The urban rewilding sites are living laboratories for multifunctional urban green infrastructure, and forms of intentionally fostered urban wilderness that is co-managed by diverse agencies (including non-human species).

6. Areas for future research

Converging environmental, social and sustainability crises require new approaches for sustainability transformations. Urban rewilding provides such an approach for landscape design that reconsiders human-nature interactions in cities (Corlett, 2016; Wu, 2010). In this article, we examined how urban rewilding can contribute to urban sustainability in general and food security in particular. Its potential to restore autonomous biotic and abiotic agents and processes improves cities' multispecies sustainability and capacity to support multispecies well-being.

Potential limitations to urban rewilding include reports of increased biophobia (i.e., fear of nature and animals) among residents, threatening to hamper the implementation of initiatives seeking to improve potential underlying causes of biophobia (Soga et al., 2020). Nevertheless, reduced biophobia might be achieved by policies encouraging outdoor exposure and fostering children's natural desire to engage with nature in school (Soga et al., 2020), the success of which depends on the availability of high-quality opportunities for nature interactions rewilding seeks to provide. How to rewild cities without causing fear for and backlash from residents thus represents an area of investigation for future research.

Agroforestry methods that can boost food production through rewilding also remain understudied. Structural and functional complexities introduced by urban rewilding could result in unpredictable outcomes. For example, the food provisioning potential of urban rewilding may cause disservices to infrastructure through live and shed biomass, or create fuzzy governance areas which may disintegrate due to lack of ownership and maintenance [Fig. 3], (Davoren and Shackleton, 2021). Work on multispecies commons may provide valuable clues in this direction, but requires further development (Rupprecht et al., 2020). Urban rewilding may also conflict with subjective worldviews on gentrification and nature (Hwang, 2020; Sardeshpande and Shackleton, 2020). Future research could assess site-specific feasibility of different forms and scales of urban rewilding (Tables 1 and 2), by monitoring the ecological yields and socioeconomic impacts of these initiatives.

7. Conclusion

We summarise the concept of urban rewilding as an emerging policy and practice paradigm that is based on established principles of rewilding semi-modified (but not fully transformed) landscapes, applied to rapidly changing urban settings. Urban rewilding can have many benefits in the form of ecosystem services and human health and well-being. Urban rewilding necessitates pivoting the human-nature relationship from an anthropocentric perspective towards multispecies co-existence and co-stewardship. This involves recognition of non-human agency, inclusivity, and uncertainties in negotiating self-sustaining social-ecological urban systems. However, there might be complexity and context-dependence in the alignment of environmental, social, and economic sustainability. While urban rewilding, for example, might improve food security and ecological integrity, it may also have trade-offs, such as the possible uprooting of disadvantaged groups as a result of relative green gentrification and rising urban land prices (Pettorelli et al., 2022). In addition, the availability of land and divergent views on land management are major obstacles to rewilding movements' expansion (Harrington and Russo, 2024). These conflicts show how important it is to balance the advantages and challenges through inclusive government and careful planning. Vallance et al. (2011) offer a helpful framework for understanding social sustainability, which includes maintenance sustainability (maintaining socio-cultural traits), bridge sustainability (changing behaviour for environmental goals), and development sustainability (addressing basic needs and social equity). This framework can be applied in the planning and design process to address the challenges in balancing environmental benefits with social and economic impacts in urban rewilding projects.

In this paper, we explore examples of urban rewilding (although not identified in the literature as such) across spatial and temporal scales, and the diversity of urban social-ecological issues that can be addressed by urban rewilding. We assert that urban rewilding can address urban food security, a major challenge, by increasing diversity, redundancy, and robustness, and consequently resilience, in urban food systems. Urban rewilding for food security can foster ecological integrity, socio-economic sovereignty, and biocultural diversity, while reconciling multispecies coexistence and reducing human-nature separation. We explore two examples of urban rewilding for food security, one each in the Global North and South, wherein open access to the public, coupled with proactive planning, planting, and propagation, are demonstrating this new paradigm. Future research should investigate the long-term and socioeconomic consequences, tradeoffs involved in and scalability of

urban rewilding initiatives, and effective procedures for integrating these efforts into broader urban planning and policy frameworks.

CRediT authorship contribution statement

Christoph D.D. Rupprecht: Writing – review & editing, Writing – original draft, Methodology, Investigation, Conceptualization. **Alessio Russo:** Writing – review & editing, Writing – original draft, Methodology, Investigation, Conceptualization. **Mallika Sardeshpande:** Writing – review & editing, Writing – original draft, Visualization, Investigation, Conceptualization.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgements

MS is funded through a Grant by the Wellcome Trust to the Sustainable and Healthy Food Systems Project [Grant number: 205200/Z/16/Z]. AR is supported by the UKRI-funded RECLAIM Network Plus grant [EP/W034034/1].

Data Availability

No data was used for the research described in the article.

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