

One-Planetary-Health: Reflections on Urban Novel Ecosystems in Bogotá and Copenhagen

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Explorations



Nordhavnstippen, a space for birds and ruderal nature, 2024. © Natalia Rodriguez-Castañeda. All rights reserved.

by Natalia Rodriguez-Castañeda

What do Los Cerros, Bogotá's degraded peri-urban forested mountains, and Nordhavnstippen, Copenhagen's abandoned post-industrial site with emerging ruderal vegetation, have in common? The two sites highlight the opportunities and challenges of embracing novel, ruderal, and spontaneous forms of urban nature—urban novel

ecosystems—through the lens of global health approaches such as one health¹ and planetary health.²

Novel ecosystems³ in cities manifest in different forms, ranging from wildflowers, shrubs, and tall grasses that grow spontaneously to poorly-managed or minimally-intervened urban ecosystems where natural rather than anthropogenic forces shape the character of the landscapes.⁴ These emergent and ruderal forms of nature are often found in post-industrial landscapes (such as Nordhavnstippen in Copenhagen) or in sites undergoing participatory ecological restoration processes where assemblages of native and non-native species co-exist and co-inhabit (like in Los Cerros in Bogotá). Such spaces are gaining recognition in the academic and practical fields of urban planning, policy-making, and urban ecology.⁵ This recognition is associated with the sites' potential to protect and promote biodiversity and to be resilient urban ecosystems, while also providing spaces for people to connect with nature.⁶

The increasing interest of urban planners in urban novel ecosystems is particularly important, as these landscapes are often overlooked or undervalued due to their perceived aesthetic “messiness” and their contrast with conventional notions of urban greening that emphasise manicured parks or ornamental gardens.⁷ Yet on a rapidly changing, anthropocentric, and increasingly urbanised planet, urban novel ecosystems may offer valuable opportunities to rethink human–nature–health relationships in cities, while also enabling connections with nature, promoting biodiversity, and facilitating ecological knowledge exchange.⁸ Meanwhile, global health approaches such as one health and planetary health contribute to further exploring the value of these ecosystems across local to planetary scales, considering human–environment–animal–biodiversity well-being in the context of rapid global environmental challenges like climate change.⁹

One health is an interdisciplinary and transdisciplinary global health approach that was initially applied in veterinary, medical, and environmental sciences to research zoonotic and infectious diseases at the interface of human, animal, and environmental health.¹⁰ Its research applications have contributed to identifying potential risks and benefits from human–animal contact, promoting solutions and collaborative approaches to public health issues at local, regional, and national scales. Similarly, as the relevance of this interfaced approach gains attention, the discussions of this framework have included the topic of health from a socio-ecological-health perspective, including human mental-health issues and the role of urban green spaces.¹¹ Complementary to this approach, the concept of planetary health emerged from the Lancet Commission in 2015.¹² Planetary

health acknowledges the importance of addressing the health challenges of the Anthropocene and emphasises the interdependencies between environmental and human well-being.¹³ This approach examines how human-driven environmental changes at global and planetary scales, such as climate change and urbanisation, impact both natural systems and human health.¹⁴

Combining these two approaches into a framework that addresses one-planetary-health can help us to better understand and promote health and well-being in cities. It enables us to rethink urban ecosystems in a way that extends beyond human well-being to encompass the health of ecosystems and their biological diversity on a dynamic, changing planet.¹⁵ Within this perspective, urban novel ecosystems such as Los Cerros and Nordhavnstippen can be seen as sites where local community engagement and biodiversity-conservation efforts contribute to addressing both local and planetary environmental challenges related to climate change, rapid urbanisation, and environmental degradation.



View of Bogotá from Los Cerros, 2023. © Natalia Rodríguez-Castañeda. All rights reserved.

In Bogotá, Los Cerros is a peri-urban and mountainous ecosystem that has both shaped and withstood the city's growth and development. Due to its proximity to the urban area, its elevated landscapes are visible from almost every point in the city, and have become an implicit and explicit part of the lives of people in Bogotá. The Los Cerros ecosystem has been degraded for decades due to the misuse of natural resources including the removal of clay soil for brick production, the extraction of forest wood for charcoal, rapid urbanisation, and misguided reforestation efforts that introduced non-native species.¹⁶ These different anthropogenic pressures have severely impacted this vital ecosystem that serves as a connective corridor between the city's urban green spaces and the surrounding rural and endemic ecosystems.¹⁷ Consequently the area has become increasingly vulnerable to climate change, wildfires, biodiversity loss, and broader ecological degradation. In the last decade, however, local

community initiatives have promoted participatory ecological restoration to recover the functionality of the ecosystem.

Amid this complex socio-ecological context, with environmental challenges threatening the health of species and ecosystems, local communities around Los Cerros have become increasingly aware of the importance of ecological restoration. In this scenario, Los Cerros, through participatory ecological initiatives, has become an urban living lab where local community groups, academics, government stakeholders, and volunteers collaborate to protect and restore the ecosystem. Through this initiative, Los Cerros represents a space for exchanging ecological knowledge, planting native species, removing non-native species (such as eucalyptus), and restoring the soil to support the growth of native species and the regeneration of degraded areas.¹⁸ These local community efforts adopt a more interrelated perspective on health, recognizing that both local and planetary environmental changes impact the health of people and biodiversity. In this context, participation in ecological restoration initiatives offers opportunities to enhance ecosystem health while generating co-benefits, such as raising awareness about the importance of these ecosystems, learning from the species that inhabit and coexist within them, and fostering connections with nature in peri-urban areas. In other words, Los Cerros illustrates how community-driven approaches can help redefine health and empower human agency in times of ecological crisis.¹⁹

Los Cerros—as an urban novel ecosystem viewed through a one-planetary-health approach—thereby offers insights into how we can consider health from a more integrated perspective that brings together social, environmental, and health dimensions. This approach invites us to recognize well-being within the reality of a rapidly changing earth system, where local efforts play a crucial role in addressing planetary challenges such as climate change.²⁰ In this light, notions of care and coexistence become essential for the protection, restoration, and integration of these urban ecosystems into the life and resilience of the city.

In Copenhagen, Nordhavnstippen presents another example that invites reflection on how urban novel ecosystems and the communities around them can be integrated from a one-planetary-health perspective. Nordhavnstippen is an eight-hectare protected ecosystem where ruderal and spontaneous vegetation grows on what was once a post-industrial landscape in the rapidly urbanizing district of Nordhavn.²¹ This ecosystem was recently protected by the municipality of Copenhagen, following efforts by local communities who highlighted the importance of the space for biodiversity, particularly for migratory and endemic birds, and the need to preserve and integrate novel ecologies in an

urban district planned to become one of the most sustainable and densely built areas of the city.²²

Nordhavnstippen presents one model of how to value these novel forms of nature, how to integrate diverse community voices, and how to ensure the health of people, biodiversity, and urban ecosystems within rapidly changing environments that are vulnerable to rapid urbanization and planetary ecological pressures.²³ This ruderal, unplanned, and spontaneous landscape illustrates a broader need to consider cities both for people and for biodiversity, and to integrate and protect such spaces in order to reimagine urban green areas and urban development. Valuing these ecosystems as spaces for contact with nature makes them valuable for fostering nature-based recreational activities, such as foraging, birdwatching, or simply immersing oneself in the natural surroundings.²⁴ At the same time, they serve as important sites for ecological resilience and biodiversity conservation in the face of rapid urbanization and the sustainable development goals that guide planning in Copenhagen.²⁵

Los Cerros and Nordhavnstippen offer real-world case studies that invite us to rethink urban novel ecosystems through a one-planetary-health approach—one that interconnects people, biodiversity, and emerging urban ecologies.²⁶ These sites provide opportunities to position health and well-being within both local and global contexts by valuing community-led efforts that respond to planetary health challenges such as rapid urbanization, environmental degradation, and vulnerability to climate change.²⁷ Identifying pathways to integrate these kinds of ecosystems into urban planning and governance can help address one health and planetary health concerns at the local level. Finally, as reflected in the case studies presented here, this approach emphasizes the importance of engaging and collaborating with diverse stakeholders to reimagine these spaces as opportunities for meaningful connection with urban nature through participatory restoration and conservation efforts. A one-planetary-health approach calls for a greater acknowledgment of our shared ecologies, reinforcing not only the understanding that



*The urban novel ecosystem
Nordhavnstippen in Copenhagen,
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human health and well-being are inseparable from the health of ecosystems, but also that local actions may have planetary-scale impacts.

Author's Note

This reflective piece draws upon my PhD research, “Embracing Wild, Restoring Minds: A One Health Approach to Urban Wild Spaces, Mental Health, and Well-being in Sustainable Cities” within the NovelEco project, conducted at the School of Natural Sciences, Trinity College Dublin, in collaboration with the Faculty of Landscape and Urban Planning, University of Copenhagen.

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Planetary health has so far been predominantly studied by natural scientists and medical experts. Over the next few months we will publish a series of essays that illuminate different aspects of the planetary-health concept from a decidedly environmental-humanities perspective. The entries have their origin in the contributions of international scholars who attended the Rachel Carson Center workshop “Imagining Planetary Health, Well-Being, and Habitability,” convened by Lijuan Klassen and Christof Mauch and sponsored by the Volkswagen Foundation.

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