

Multispecies Well-being: Placing Pollinators at the Center of Urban Planning and Design in Curridabat (Costa Rica)

Jennifer Wolch - University of California, Berkeley
 Maria Fernanda Gonzalez - BASE Landscape Architecture, San Francisco
 Donna Houston - Macquarie University, Australia
 wolch@berkeley.edu

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City Population	34,500
City Area	6.16 km ²
City GDP (PPP)	12,310 USD
Climate Zone	Am (tropical monsoon)
ARC3.3 Linkage	Nature-based Solutions Element

Ciudad Dulce implements a “life-centered” vision for urban development where humans, non-human animals, and plants are recognized as citizens (Brenes and Rivera, 2020). At the heart of *Ciudad Dulce* is a concept of “multispecies well-being” that places people and nature at the center of a civically engaged urban strategy. *Ciudad Dulce* highlights how “multispecies well-being” can be creatively utilized to implement equitable, sustainable, and climate-adaptive urban planning that includes diverse human and non-human residents.

Brief History. Curridabat is part of metropolitan San Jose, Costa Rica’s capital. By 2000, Curridabat was facing social and environmental pressures associated with rapid urbanization: growing population, poorly managed growth, inequality, declining public spaces, and environmental issues related to the management of water, waste, and urban biodiversity. This situation catalysed community activism, particularly after changes in national policy allowed local political parties to field activist candidates for municipal political office dedicated to innovative environmental and participatory approaches to guiding urban change.

Introduction. There is a growing global interest in restoring, repairing, and promoting nature in cities. Urban greening and green infrastructure strategies increasingly recognize that designing with nature is critical to urban climate adaptation, and provides additional social, economic, and environmental benefits for people and nature. A subset of this interest is concerned with the ecosystems services of pollinators such as bees, butterflies, flies, birds, and bats, and how pollinator habitats can be better incorporated in urban design (Hall et al., 2016; Silva, 2021).

In 2008, Edgar Mora was elected as the mayor of Curridabat on a platform of “sustainable human development,” with leadership based on the management of feelings and human-centered design (Mora, 2021). This platform centered a vision of human flourishing, sustainability, and community well-being in the city’s plans for the future. Curridabat’s 2013-2017 Strategic Plan placed quality of life and happiness at its core and targeted key priorities such as waste and recycling and improving public parks and walkability. In 2015, Mayor Mora and innovation team’s leader, Irene García Brenes, conceptualized a more holistic vision of sustainable urban planning design, where the question of ‘how can a city add value to nature instead of subtracting value from it’ guided the strategic vision (Sweet City Magazine, 2019). Key to this shift was a change in approach from “human-centered sustainable development” to a “life-centered” design and multidimensional vision of the city, called *Ciudad Dulce* or Sweet City.

The potential for pollinator-friendly urban planning is increasingly recognized for its potential to support the well-being of people, plants, insects, birds, and animals in cities (Daniels et al., 2020). Yet, tensions exist between planning approaches that aim to create equitable and livable urban environments for human and non-human communities. Urban greening has been linked to gentrification (Anguelovski et al., 2022), while at the same time, being praised for producing ‘ecosystem services.’ Neither view appreciates nature-based urban design as central to the well-being of diverse human and non-human actors. Addressing climate change and biodiversity loss through equitable and participatory urban design thus remains a significant challenge (Wolch et al., 2014).

Ciudad Dulce explicitly recognizes pollinators and other non-human species, along with the ecosystem services that they provide, as being key to well-being and economic prosperity. It officially became part of Curridabat’s municipal policy in 2016. The “life centered vision” of *Ciudad Dulce* emphasized the importance of diverse living beings, including trees, rivers and microorganisms in soils, seeing them as *citizens* in their own right.

This case study focuses on Curridabat, a small-to-medium sized city in Costa Rica, where the implementation of a “pollinator-friendly city” strategy – called *Ciudad Dulce* – or Sweet City, connects biophilic and climate-resilient urban design to inclusive social outcomes in innovative ways.



Figure 1. *Ciudad Dulce* logo
(Source: Sweet City Magazine).

The relationships between pollinators and the plants that sustain them, people, and the built environment became an especially powerful way for Curridabat’s elected leadership to communicate their nature-centered urban strategy. Thus, since 2016, being a pollinator-friendly city has been a key element of Curridabat’s identity: *Ciudad Dulce* is the city’s official brand (Figure 1).

Analysis, Evaluation, and Implementation. A number of initiatives and projects grew out of the *Ciudad Dulce* strategy. These include: pollinator awareness initiatives such as ‘Sweet Day’ where 500 ‘sweet species’ (native pollinator-attracting plants) were planted by the local community; the painting of a participatory mural communicating the importance of pollinators; and the installation of bee hotels. United Nations Development Program funding helped the city establish a greenhouse to grow ‘sweet plants’ and produce a ‘Sweet City Greenery Guide’ (*Guía de plantas dulces*), a sweet street furniture guide, and development plans for sweet sidewalks, public parks and biodiversity corridors across the city (Sweet City Magazine, 2019).

Importantly, *Ciudad Dulce* encompasses a broader set of aspirations related to multispecies well-being and the integration of nature into urban green infrastructure via water-sensitive urban design, local river restoration, and local nature parks. Curridabat aspires to “be a model city, consolidating territories and urban systems that are friendly, receptive, and responsive to the different ways of life that inhabit the city, which aims to create the conditions to improve the quality of life of the inhabitants, including pollinators, by facilitating better conditions for productive activities” (Municipalidad de Curridabat, 2016).

Curridabat’s Municipal Strategic Plan (MSP) 2018-2022 integrates five dimensions of urban life: infrastructure, habitat, co-existence, productivity and biodiversity (Figure 2). Rather than seeing urban development as based solely on economic growth, the MSP emphasizes the importance of multispecies coexistence and flourishing as generators of urban prosperity and well-being, and how participatory civic approaches can allow people to tangibly experience positive changes to the city’s surroundings (Brenes and Rivera, 2020).

A Sweet City aims to improve the way its inhabitants experience urban life, and does so by focusing on five fundamental dimensions that encompass the overall experience of a citizen: Biodiversity, Infrastructure, Habitat, Coexistence and Productivity. These five dimensions are described as follows:



Figure 2. *Five Dimensions of Urban Life*
(Source: Sweet City Magazine).

The city’s “Spaces of Sweetness” (*Espacios de dulzura*) initiative set out an innovative multi-scaled approach to implementing the *Ciudad Dulce* vision. The project designed a variety of urban spaces – including pedestrian pathways, recreational public spaces, mixed-use buildings, community gardens and green infrastructure, as well as 63 new/redesigned parks and multiple corridors linking the city’s 21 neighbourhoods. Master Plans were developed for each neighbourhood via a participatory process that involved interdisciplinary teams working directly with local residents to connect their specific needs and values with the project’s emphasis on human-nature co-existence.

One example is the ‘Sweet Sidewalks’ initiative which focused on vulnerable residents and people with disabilities and how they access pedestrian infrastructure (Figure 3). Residents helped to map mobility issues in sidewalks, such as potholes and a lack of connectivity, while planting pollinator-friendly corridors along city streets would create links with those in the community who would benefit the most, such

as children and the elderly. As Irene García Brenes (2021) explained: “If I improve the experience of someone who is vulnerable in the city, like a person with mobility issues or a native bee or a hummingbird, then I’m going to improve the experience of [someone] who is not as vulnerable in the city.”

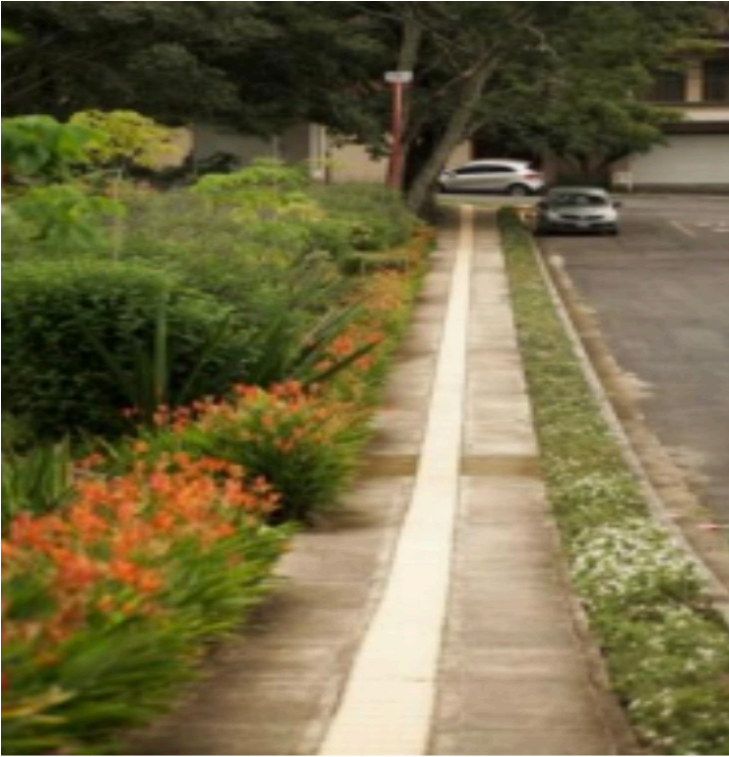


Figure 3. *Sweet Sidewalk in the Parque del Recuerdo, with a textured path to support visually impaired residents* (Source: Municipality of Curridabat).

Curridabat has not yet completed monitoring studies of pollinator populations or assessed the impacts of built environment indicators for biodiversity or climate resilience. But under Mayor Jimmy Cruz (Cruz, 2021) the city has built infrastructure to support research, including a municipal plant nursery and greenhouses (Municipalidad de Curridabat, 2020), and in 2019 the Innovation Team started working with Catie - *Centro Agronómico Tropical de Investigación y Enseñanza* - on a baseline study about pollinators and monitoring guidelines based on biodiversity indicators in Curridabat (García Brenes, 2021). However, much of the data collected has yet to be processed and analyzed; the *El Recuerdo* neighborhood is the only place in Curridabat consistently monitored every 6 months.

The *Ciudad Dulce* vision is still in the process of implementation and development, transitioning from the vision of a political party to a community-wide identity. Yet according to the Innovation Team’s analysis, *Ciudad Dulce* has directly benefited 40.8% of citizens living in Curridabat (CNU 2018 Charter Award – Sweet City), as assessed using mutually reinforcing biodiversity and human happiness indicators. Its novel approach and innovative strategy have been widely recognized, garnering a spate of international awards. *Ciudad Dulce* has also become a source of pride and prestige for city leaders and residents alike (Brenes, 2021).

Future Implementation and Concluding Thoughts.

Ciudad Dulce demonstrates an effective implementation of a comprehensive pollinator-friendly urban strategy and vision. Beyond this, *Ciudad Dulce* represents a broader vision to integrate urban nature – to live well and co-exist with diverse species in the city – into urban planning and design for the city and its districts by linking environmental and biophilic values with innovative planning and design strategies. Taken together, these strategies constitute a powerful model of climate-adaptive urbanism. They make the city greener and cooler, more resource efficient and food secure; and equipped with dense community networks needed to collectively and fairly address climate change. Visionary actors led the way, and subsequent mayoral administrations developed new initiatives to meet emergent community needs. With its broad brand recognition and continuing popular support, *Ciudad Dulce* seems to be tightly woven into the city’s civic fabric.

The sustained work of *Ciudad Dulce*, bringing nature to the fore in Curridabat, led to the creation in 2021 of a new national protected land use category: Urban Natural Parks. The focus on pollinators helped redefine notions of urban multispecies citizenship, well-being and productivity, and helped integrate ideas of coexistence and interdependence into urban development. The city’s efforts to link social inequality, food insecurity, environmental degradation, and participatory governance with urban greening paves the way for an overtly multispecies, climate-adaptive urban planning practice that simultaneously focuses on social, environmental, and climate justice. As such, *Ciudad Dulce* is an internationally significant experiment in integrated nature-centred urban governance as cities globally take up the dual challenges of planning for multispecies well-being and climate change.

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Additional Data

- **Gross National Income (GNI):** 26,160 USD (Upper-Middle-Income)
 - **Population Density (Metropolitan Area):** 4,013 people/km²
 - **Gini Coefficient:** 46.7
 - **Human Development Index (HDI):** 0.806 (Very High)
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