

Urban greening

The case for ecological realignment in informal neighborhoods

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CIPPEC (Center for the Implementation of Public Policies Promoting Equity and Growth) is an independent, non-partisan, nonprofit organization that works for a just, democratic, and efficient state that improves people's lives. To this end, it concentrates its efforts on analysing and promoting public policies that foster equity and growth in Argentina. Known for the high qualification of its staff, CIPPEC has become one of the most recognized and respected public policy think tanks in the region.

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INTRODUCTION

Estimates show that more than half of the world's population live in urban areas, this will rise to over 70% within 30 years and is projected to reach more than 90% in less-developed regions (UN, 2018). Approximately 1 billion people live in informal settlements (UN, 2016) on land highly exposed to the effects of climate change. This is in part due to a lack of infrastructure for preventing floods and landslides and mitigating the impact of heavy storms and heat waves.

»Green public spaces play a major role in enhancing the quality of urban life.«

According to UN-Habitat (2020), green public spaces are neither sufficient nor equitably distributed in cities, both in developed and developing economies. Informal settlements are present in around half of the G20 nations, as well as in other rapidly urbanizing areas in the Global South. In this context, quality public spaces and green infrastructure should form an essential part of a wider ecological realignment and policies for building urban resilience in underserved urban areas. The built environment needs not only to be resilient, but to build resilience, and green public spaces are a great way to accomplish this, since they reduce temperatures

via evapotranspiration, provide cool shade, sequester CO₂ and retain storm water, among other benefits.

City governments from G20 nations and other countries in the Global South are working to improve informal settlements. However, upgrading programs rarely integrates climate resilience initiatives, even when there is much overlap between their goals in vulnerable urban contexts. Also, international cooperation agencies, usually managed by G20 nations, have a crucial role in financing such interventions with grants and loans. The current investment in urban integration is an opportunity to include urban greening in the political agenda.

INFORMAL SETTLEMENTS IN THE GLOBAL SOUTH

Current levels of urbanization are the highest in the history of mankind. People are choosing to move to cities in order to access jobs, goods and services. This migration creates situations of precariousness and inequity in access to housing and urban land, in the form of informal neighborhoods. This is what UN-Habitat (2003) defines as the "urbanization of poverty." Housing deficits result from the insufficient response of the formal market and public policies to the growth of demand, especially in the lower income segments of society. Informal urbanization and self-construction are the ways that excluded populations have found to provide their own accommodation.

Urban segregation deepens inequalities and excludes the people that cannot access the formal market. Living conditions in informal settlements are characterized by a lack of access to basic services

and unsanitary housing conditions. The informal nature of these settlements also serves to limit access to education and the labor market (Bouillon, 2012).

The phenomenon of urbanization is particularly relevant in developing countries. However, there are no precise data on the total number of people living in informal settlements. According to data from UN-Habitat (2003), in Latin America 80% of the population lives in cities, of which 25% do so in conditions of informal access to basic urban goods and services.

Urban informality is a complex phenomenon which is defined differently around the world. In general, most definitions include groups of dwellings without security of tenure of land or housing and without access to basic services (electric-

ity, drinking water, sewers and sanitation) (UN-Habitat, 2003; Candia, 2005; TECHO, 2013). Other studies also point to overcrowding and poor construction materials as issues that need to be taken into account when establishing a definition of informal neighborhoods.

Due, in a large part, to the way in which the land was occupied, informal settlements suffer from poor planning and lack development permission. This means that public spaces, infrastructure and services are not planned in advance. It is also common that informal settlements are located in areas exposed to greater environmental hazards such as landslides and floods. In addition to this, what should be environmental assets such as streams and open green areas may be converted into sources

Figure 1: Bandra Kurla complex surroundings in Mumbai, India.



Credits: Johnny Miller Photography, Unequal Scenes.

of increased risk by poor drainage, limited waste collection, etc.

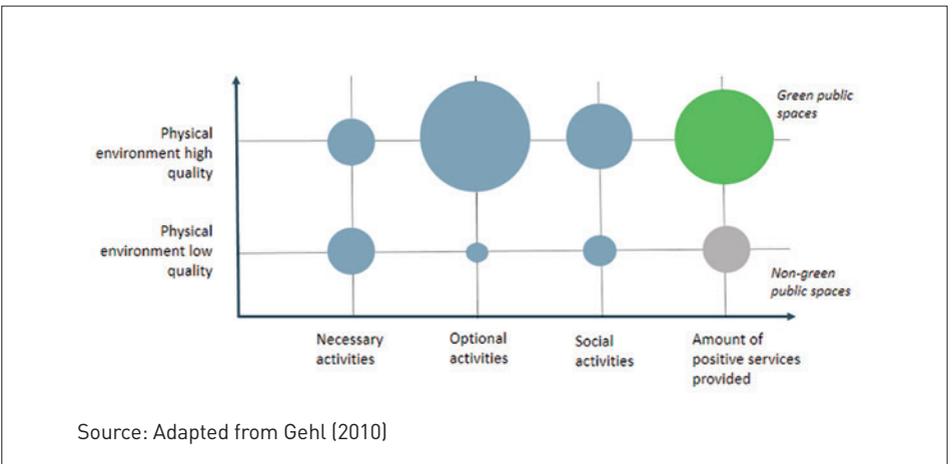
GREEN PUBLIC SPACES: A VITAL URBAN ASSET

Public spaces play a major role in enhancing the quality of urban life thanks to the variety of services that they provide. The most frequent typologies of public space include streets, squares, parks and gardens. Streets tend to be ubiquitous in both formal and informal neighborhoods. Large green public spaces may also be present in formal areas while in informal areas they might not be present at all. Research shows people of a low socioeconomic status have less access to urban green spaces (Rigolon et al., 2018), and that disadvantaged communities in prosperous towns and cities – even in G20 nations – are more exposed to heat-related threats (Chen et al., 2020).

Streets are fundamental to the urban built environment. Not only do they organize the city structure, but they are also the edges where buildings and city meet, and hence, encompass the arena for public urban life (Gehl, 2010). Streets provide invaluable public space where a large part of daily urban life happens and flourishes. How streets are designed has a significant impact on people’s behavior, quality of life and sustainability. Streets can provide the physical space for people to walk along, to chat in, to stand in, to shop or sit in, among the many other uses that make a place lively.

In informal settlements, where big open spaces tend to be lacking, streets are often the main, if not the only, type of public space. In such cases, streets-as-places (Project for Public Spaces, 2008) could be a suitable approach to offsetting the lack of larger public areas, improving the qual-

Figure 2: Graphic representation of the connection between the quality of the physical environment and the number of activities and services provided by public spaces. Bigger circles suggest higher intensity usage or quantity of services provided



ity and provision of public space as well as adding much-needed greenery.

There is a series of characteristics to bear in mind when planning a public space. According to Project for Public Spaces (2016), four main attributes should be present to make a public space great: (a) it should be accessible and well connected to the city; (b) it should be comfortable and attractive (safe, clean, green, walkable, sittable and charming); (c) it should promote sociability (be friendly, welcoming, interactive, neighborly and diverse) and (d), it should encourage a broad range of uses and activities.

Green infrastructure could be properly provided, even in informal settlements, if it is cleverly planned. Connectivity, human-environmental interactions and multi-func-

tionality are some of its key principles (Mell, 2019), all achievable if the green infrastructure network is properly implemented.

It should be borne in mind that even though public spaces generate social and economic benefits, they need to be properly vegetated in order to have a positive impact in environmental and climate resilience terms. Green public spaces provide urban dwellers with ecosystem services that include, but are not limited to, aesthetic benefits, physical and mental health benefits, recreation and sense of place, flood risk mitigation, air purification, shade provision, heat mitigation and protection in coastal cities, among many others (Stone, 2012) (McDonald, 2015). Trees, particularly, provide an extraordinary series of benefits for cities and urban

Figure 3: Kya Sands – Bloubosrand in Johannesburg, South Africa



Credits: Johnny Miller Photography, Unequal Scenes.

dwellers, including ambient-temperature reduction through evapotranspiration, humidifying the air, cool shade, habitat provision for small animals, sound absorption, mental soothing, property value enhancement, carbon sequestering, soil and water retention, particulate-matter filtering and flood mitigation thanks to runoff rainwater retention [Kelbaugh, 2019].

Planting and maintaining trees in cities costs money, and to drive a profound green change certainly takes time. Nevertheless, evidence shows that doing so has a positive return on investment for each dollar spent [The Nature Conservancy, 2016], as they deliver meaningful and valuable ecosystem services. Despite the fact that results can be seen relatively quickly, the common perception is that trees and greenery take a long time to grow and require a lot of maintenance. This may discourage decision makers from promoting greening. However, green infrastructure strengthening can be a highly cost-effective approach as a result of the benefits that it provides in the long-term, especially in areas where trees are currently lacking. Trees can be incorporated into many typologies of urban areas thanks to the adjustability of varied planting techniques, showcasing a successful manner to integrating green infrastructure into any urban settlement [Mell, 2019].

Tactical urbanism could be key to accomplishing successful increases in green public space. This rapid planning-and-implementing process can be a convenient method, based on short-term actions, to achieve long-term change [Lydon & Garcia, 2015]. Tactical urbanism promotes low-cost public space interventions with the intention to produce a positive and lasting impact. Though it encompasses many di-

verse practices, there are three specific tactics that are suitable for public space upgrading in informal neighborhoods: (a) The Pavement to Parks approach seeks to repurpose asphalt space into green public spaces; (b) Pavement to Plazas, similarly, seeks to transform car space into lively social spaces; and (c) Pocket Parks, which may have the right scale in informal settlements, since ample open spaces are rarely frequent and it provides a tangible and accessible way to add greenery and promote a successful green infrastructure network. These strategies, combined or separately, allow decision makers to convert vacant spaces into vibrant green spaces.

»Planting trees costs money and takes time, but also delivers meaningful and valuable ecosystem services.«

INTEGRATING GREEN SPACES IN PUBLIC POLICIES AIMED AT UPGRADING INFORMAL SETTLEMENTS

In several countries in the Global South, especially in Latin America, government programs are being carried out to redevelop low-income communities by investing in infrastructure, providing basic services, developing public spaces, improving housing

and the security tenure, among other interventions. Some examples of these government programs are the PISU¹ in Argentina, Favela Barrio² in Brazil, Chile Barrio³ in Chile and the Program for the Formalization of Properties⁴ in Peru, among others.

Public spaces are important for social actions, demonstrations and community gathering and even more so within vulnerable communities where the existence and quality of public spaces is complementary to the access to urban land and housing.

In informal neighborhoods, public space is both social and political, and it often replaces the needs that housing cannot satisfy (Gehl, 2010). Due to the size of

the investment required, redevelopment programs are inevitably linked to political interventions, and so are a unique opportunity to rethink public spaces, both in terms of socio-economic development, as well as in relation to their environmental impact.

However, many upgrading programs focus exclusively on providing infrastructure, and public space is an afterthought. In many cases, for political expediency, new public spaces are little more than paved areas, lacking plants and greenery which require time to grow and increased maintenance.

Upgrading programs are an opportunity to include urban greening within policies that could combine environmental consid-

Figure 4: Barrio Mugica in Buenos Aires, Argentina.



Credits: Secretaría de Integración Social y Urbana, Government of the City of Buenos Aires (2021).

erations and urban resilience, with their fundamental role of providing infrastructure that improves living conditions and neighborhoods. This is fully aligned with the announcement made by U20 mayors in the U20 Communiqué, when they called on the G20 leaders “to commit to our partnership in achieving equitable, carbon-neutral, inclusive and healthy societies.”

CONCLUSION

A green transformation of informal neighborhoods would have numerous advantages. Public space and land planning are local skills. This means city mayors and local governments can, by themselves, push forward greening of informal settlements and green infrastructure enhancements.

In informal settlements, civic participation tends to be frequent and, to a certain extent, institutionalized. Public officials’ decisions usually need to be discussed in participatory planning civic workshops. This regular practice paves the way for public works promoting greenery, since social demand for more and better public spaces is commonly already present.

Advocating for a green transformation in informal neighborhoods is a great

way to boost urban resilience in the face of climate change. Moreover, international funding from multilateral cooperation is becoming widely accessible for informal neighborhood upgrading, resilience improvement and for tackling climate change. Hence, informal neighborhood greening cannot be timelier.

The COVID-19 pandemic has made ever more evident the poor living conditions that informal neighborhood dwellers suffer in terms of poor-quality housing, limited access to public space and to sanitation facilities. Regular handwashing and physical distancing are hardly possible where overcrowding and a lack of proper infrastructure are the norm.

Informal settlements and low-income communities also suffer the impacts of natural disasters and climate change to a greater extent than other high-income and properly planned communities, as all of these impacts substantially depend on the living conditions and the quality of the built environment (UN-Habitat, 2020). The COVID-19 crisis could be an opportunity to prioritize the creation of green public spaces, particularly in informal settlements where they are most needed.

¹ More information available online at: <https://www.argentina.gob.ar/desarrollosocial/integracionsociourbana>.

² More information available online at: <https://publications.iadb.org/en/bairro-ten-years-later>.

³ More information available online at: https://repositorio.cepal.org/bitstream/handle/11362/3721/1/S2005059_es.pdf.

⁴ More information available online at: https://www.researchgate.net/publication/299360354_COFOPRI%27s_Land_Regularisation_Program_in_Saul_Cantoral_Informal_Settlement_Process_Results_and_the_Way_Forward.

- Bouillon, C. (2012). "Un espacio para el desarrollo: los mercados de la vivienda en América Latina y el Caribe". Ideas para el Desarrollo, núm. 26. Washington, D.C.: BID.
- Candia Baeza, D. (2005). Metas del milenio y tugurios: una metodología utilizando datos censales. Santiago de Chile, Centro Latinoamericano y Caribeño de Demografía (Celade), División de Población-CEPAL-ONU (Población y desarrollo, 63).
- Chen, M., Ban-Weiss, G., Sanders, K. (2020). Utilizing smart-meter data to project impacts of urban warming on residential electricity use for vulnerable populations in Southern California. Environmental Research Letters, 15.
- De Freitas, J. y Ontiveros, T. (2006). Hacia la comprensión del uso de los espacios públicos-privados en los territorios populares contemporáneos. Cuaderno urbano: espacio, cultura y sociedad, (5), 217-234.
- Fernandes, E. (2008). "Consideraciones generales sobre las políticas públicas de regularización de asentamientos informales en América Latina", Revista Eure, vol. 34, núm. 102, pp. 25-38.
- Fernandes, E. (2011). "Regularización de asentamientos informales en América Latina". Cambridge, Informe sobre Enfoque en Políticas de Suelo, Policy Focus Report, Lincoln Institute of Land Policy, octubre.
- Gehl, J. (2010). Cities for People. Island Press, Washington.
- Kelbaugh, D (2019). The Urban Fix. Resilient cities in the war against climate change, heat islands and overpopulation. Routledge, New York.
- Lydon, M & García, A (2015). Tactical Urbanism. Short-term action for long-term change. Island Press, Washington DC.
- McDonald, R. (2015). Conservation for Cities. How to plan and build natural infrastructure. Island Press, Washington.
- Mell, I. (2019). Green Infrastructure Planning. Reintegrating Landscape in Urban Planning. Lund Humphries, London.
- Niño, C. y Chaparro, J. (1997). El espacio público en algunos barrios populares de la Bogotá actual. En Carvajalino, H. (Ed.), La calle: lo ajeno, lo público y lo imaginado. Bogotá, Colombia: Barrio Taller.
- Project for Public Spaces (2008). Streets as places. Using streets to rebuild communities. PPS, New York.
- Project for Public Spaces (2016). You Asked, We Answered: 6 Examples of What Makes a Great Public Space. Available at <https://www.pps.org/article/you-asked-we-answered-6-examples-of-what-makes-a-great-public-space>.
- Rigolon, A., Browning, M., Lee, K. Shin, S. (2018). Access to Urban Green Space in Cities of the Global South: A Systematic Literature Review. Urban Science Journal.
- Sánchez, A. (2002). Dispositivos de empoderamiento para el desarrollo psicosocial. Universitas psychologica.
- Stone, B. (2012) The city and the coming climate. Climate change in the places we live. Cambridge University Press, New York.
- The Nature Conservancy (2016). Planting healthy air. A global analysis of the role of urban trees in addressing particulate matter pollution and extreme heat.
- U20. Communiqué from the Urban 20 (U20). October 2020, Riyadh.
- UN-Habitat (2003). "The Challenge of Slums: Global Report on Human Settlements". London: UN-Habitat (Public Policy Analysis).
- UN-Habitat (2012). "State of Latin American and Caribbean cities 2012: Towards a new urban transition". Nairobi: UN-Habitat.
- UN-Habitat (2020). World Cities Report 2020. Key findings and messages. Nairobi: UN-Habitat.