

Urban biodiversity as a conservation opportunity for informal settlements

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We live in an increasingly urban world that exerts unprecedented pressure over our ecosystems.

CHALLENGE

conservation of biodiversity and ecosystem services

this situation does not represent an immediate concern to the approximately **900 million people** who live in marginal neighborhoods

CDB, 2012; UN, 2014

In Latin America...

Urban population today= 80% → 2050 = 90%

- Urban planning ≠ Biodiversity Ecosystem services
- land prices ≠ Ecological value

Marginal areas → Suitable for informal growth

How to integrate urban biodiversity to informal settlements?

CDB, 2012; UN, 2014

POPULATION GROWTH AND URBAN EXPANSION

Trends: population's preference to move from rural areas to urban areas and urban population

54% of world population live in cities

2,500 million urban population estimated for 2050

Category	2010	2050
World population	7000	9600
Urban population	3780	6336
Rural population	3220	3264
Poverty population	1210	3629

Urban landscape only occupies **4%** of earth surface
But it's population demands **more than 75%** of it's resources

CBO Action and Policy 2013; Naciones Unidas, 2014; Johnson and Klemens, 2005

URBAN BIODIVERSITY

(-) Urbanization directly transforms the local biophysical environment and changes the conditions for organisms living there, generating new selection pressures and adaptations.

(+) Diversity of plants and animals in the urban landscape shows some interesting patterns:

- The number of plant species in urban areas often correlates with human population size—more so than it does with the size of the city area.
- The age of the city affects species richness; large, older cities have more plant species than large, younger cities.
- Diversity may correlate with economic wealth. Twenty percent of the world's bird species and 5 percent of the vascular plant species occur in cities.
- On average, 70 percent of the plant species and 94 percent of the bird species found in urban areas are native to the surrounding region.

ECOSYSTEMS SERVICES

(-) The lack of information, understanding and planning of the effects of decisions on the territory, can lead to **unnecessary loss of wellbeing** and quality of life, decrease in city budgets and opportunities of local economies

(+) By taking into account the ecosystem services, cities have the opportunity to make some very positive changes: **savings in municipal costs, boost local economies, improving quality of life and secure livelihoods**

INFORMAL SETTLEMENTS

These marginal sectors constantly receive new population, despite having poor living conditions and poverty

Tugurios / favelas / villas / comunas / rancherías / slum / shack / asentamientos precarios

Informal urbanism is one of the **dominant forces** of growth and urban expansion in developing countries.

2,000 million additional informal inhabitants by 2050

1/4 of the world's urban population lives in slums

15% of the world's population is vulnerable to multidimensional poverty

(+) People on these contexts are **planners of their own territory** so they have very strong **social resources** as community groups and grassroots organizations that directly affect the definition of land use, considering a huge potential to implement conservation of biodiversity and recognition of ecosystem services.

ANALYSIS OF CITIES

- Cities with high biodiversity, endemic species, and initiatives of governments to implement policies for urban biodiversity
- Cities with high dynamic migration of new settlers in unconsolidated settlements and high vulnerability scenarios
- Cities where the government has proposed multiple strategies to improve the quality of life and affordable housing deficit and secure.

Biodiversity hotspots + informal settlements

Calculations based on Conservation International, 1999 and UNSD MDG 2012 Estimated (United Nations Statistics Division)

1. Río de Janeiro / 2. Medellín / 3. Capetown

PLANNING TOOLS

non-governmental organizations or state institutions

TOP-DOWN

The convergence point of both scales defines an ideal scenario to articulate **ACTIONS** with a comprehensive vision for the **USE AND CONSERVATION OF URBAN BIODIVERSITY**

Informal settlements "Dwellers and community planners"

BOTTOM-UP

local processes, with different aspirations and expectations of local actors

Kattán y Valenzuela, 2008

CONCLUSIONS

(-) → Limits on environmental issues aimed exclusively to: pollution, sanitation, drinking water, climate and natural disaster risk (abiotic issues), but deepens about informality and poverty in cities, the term **biodiversity is never mentioned**.

(+) → The opportunity offered by the cities to be centers of biodiversity (CDB, 2012):

- natural wealth
- centers of evolution and adaptation
- contribute significantly to the quality of urban life
- for being the only direct contact that many people experience with biodiversity
- as the main demander of natural resources
- is the house of all decision-makers and politicians
- ...and others

LOCAL ACTIONS FOR BIODIVERSITY IN INFORMAL CONTEXTS

→ These actions are based on how improve both the quality of life for the residents, the neighborhood and the surrounding city ecosystems, and composed also by a toolkit that introduces to any inhabitant of an informal settlement, a wide range of opportunities and successful examples of **integrating the challenges of poverty and degradation of our ecosystems**.

LOCAL ACTIONS FOR BIODIVERSITY IN INFORMAL CONTEXTS

Territory planning must originate from two simultaneous territorial analysis, based on different scales and in converging directions:

1. INFO	2. MONITORING	3. EDUCATION	4. STEWARDSHIP	5. FOOD SAFETY	6. ADAPTATION	7. JOB	8. SUSTAINABLE USE	9. HOUSING	10. ECO-RESTORATION	11. PUB SPACE	12. CONNECTIVITY	13. PUB POLITIC
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INCLUSION OF INFORMAL GROWTH Bottom up ↑

PLANNING URBAN BIODIVERSITY Top down ↓