













THE URBAN BUTTERFLY EFFECT

How nations can accelerate the contributions of local governments to global transformative change

Recommendations for national governments to accelerate urban efforts and achieve the 2050 Vision "Living in Harmony with Nature"











Towards "Living in Harmony with Nature" The Role of Local Governments

CALL TO ACTION

The continuing deterioration of biodiversity worldwide calls for strategic and united efforts to address the drivers of biodiversity loss at key leverage points for sociocultural and economic change: Cities!

Evidence strongly supports the imperative that national governments harness the power of local governments through the recommendations herein to achieve the Global Biodiversity Framework targets.

Why focus on cities to achieve the 2050 vision "living in harmony with nature?

To achieve the 2050 vision of "living in harmony with nature," national governments need to consistently support and encourage local governments on implementing their efforts to halt biodiversity loss more universally and systemically. Local government is key to global biodiversity efforts because cities are the origin of many indirect drivers of biodiversity loss, namely demographic and sociocultural norms, economic and technological forces, the practices of institutions and governance, conflicts and epidemics.1 Without addressing indirect drivers of biodiversity loss through a multi-level governance approach which includes local governments, the deterioration of biodiversity worldwide will continue. However, with improved integration of efforts, a whole-of-government approach can be implemented and all governmental scales can act more effectively to meet the goals of the Global **Biodiversity Framework.**

The significance of cities in achieving global biodiversity targets is acknowledged in the Plan of Action on Subnational Governments, Cities and Other Local Authorities for Biodiversity and the Edinburgh Declaration.² Cities account for the majority of energy and material consumption globally, as well as most greenhouse gas

emissions and waste generation.³ Various concepts attempt to explain the significance of cities. The urban bioshed outlines the scope of impacts and potential benefits that cities offer for biodiversity conservation, including urban-rural linkages and global telecoupling and across thematic areas of societal influence, consumption & pollution, and land use while also centering social justice.⁴ The biophilia hypothesis⁵ suggests nature as critical to human well-being and underscores the importance of biodiversity planning and governance in urban locations where the majority of the global population lives, while the ecological footprint6 and global assessments7 have demonstrated the impact of cities on telecoupled global markets and nearby key biodiversity areas, respectively.

Despite their potential to support biodiversity action, cities face limited internal capacity, a lack of direction, and insufficient financial support to coordinate their actions and build the political will they need for collective action and impact. Local Biodiversity Strategy and Action Plans remain relatively rare among local governments, and when they exist in some form, they lack the consistency and standardization needed to compile and replicate efforts.8 These limitations can be overcome through support from higher levels of government. The need for standardsetting, monitoring, vertical cooperation across governmental scales, and external coordination with non-governmental actors are forms of support that are critical if local biodiversity planning is to be meaningful at the global scale.9

What are local governments already doing?

The cities that do plan for biodiversity commonly take a more integrative governance¹⁰ approach that harnesses partnerships, existing frameworks and other tools to overcome some of their challenges. But only a small percentage of cities have biodiversity strategy and action plans or similar biodiversity-focused documents.¹¹ We









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need more universal action for biodiversity across urban areas; this universal action can be accelerated by national direction. Should more universal action by local governments occur in a coordinated and strategic way, the benefits of this would be felt around the world in a phenomenon we call the **Urban Butterfly Effect:** widespread local actions collectively contribute to significant global biodiversity gains.

On the next page, we provide science-based examples of support national governments can provide for select 2030 Action Targets where cities have great potential to contribute.

What can national governments do to induce the Urban Butterfly Effect?

National (and state-level) governments can support urban biodiversity action through building local government capacity to contribute to the Global Biodiversity Framework by:



Providing access to locally-relevant information on biodiversity, such as national biodiversity atlases or toolkits that local governments can use to determine the impacts of local decisions on biodiversity. Support the mainstreaming of local biodiversity efforts through information and training that link biodiversity to common aims of a wide array of government sectors.

Incentivizing coordinated actions through regional or watershed-scale collaboration as well as private partnerships with local and international businesses. Provide national recognition of efforts such as through competitions or awards programs.



Guiding local governments on best practices that would improve the effectiveness of local governments to plan for biodiversity. Outline the appropriate scope and desired aim of biodiversity plans to address indirect drivers of biodiversity loss. Emphasize important crosscutting themes such as human well-being and environmental justice, and impacts outside of local government borders. Highlight good examples and lessons from other local governments both domestically and abroad.

Adopting standards and providing a platform for planning, implementing, and monitoring biodiversity-related projects that allow for local governments to report their progress, engage with the public, and foster coordination across scales. Consider adopting an existing index or reporting platform. Examples include (1) the Urban Nature Index by the International Union for Conservation of Nature (IUCN) that includes comprehensive and flexible measures for urban biodiversity and (2) the CitiesWithNature platform which hosts voluntary commitments towards global and national biodiversity targets by subnational governments.



Advocating for funding for local governments to have direct access to national and global funding mechanisms and enabling partnerships with private and philanthropic finance. Consistent access to funding would allow for more widespread and ambitious local action.

Enabling regulatory freedom that would allow local governments to pilot biodiversityenhancing projects and implement impact-reduction initiatives in sectors such as trade and consumption.





URBAN

BIODIVERSITY





This table first describes current practice by local governments, based on research, that

contribute to select Global Biodiversity Framework Action Targets selected for urban

contributory potential. Then it provides science-based policy recommendations, following a whole-of-government approach, for national or state level governments that would





over biodiversity decisions.24

AIPH

Recommendations to Accelerate Local Actions and Achieve the 2030 Action Targets

2030 Action Targets

1

2

five Action

Targets of the

post-2020 GBF

planning, management,

or evaluation practices.9

accelerate the global contribution of local actions through the Urban Butterfly Effect. 3 7. Pollution reduced 4 LBSAPs Current Practice National/State Accelerators Accelerator Example **Example Global Contribution** Widespread urban reduction of Provide funding and land for Less than half (43%) of Some governments have enabled cities to waste would have a sizable impact.¹³ A 36% reduction in 5 the plans analyzed nature-based interventions regulate disposable plastics. Cities that ban address air, water, and Enable more local regulatory plastic waste from cities would light pollution. A few action to reduce solid waste or charge a fee for straw and plastic bags have decreased plastic bag usage by 36% - 94%.¹² reduce global plastic marine debris inputs by 22%.¹⁴ Reducing urban 6 indicate maintenance regulations to reduce **Require buffers between** waste production to 2012 levels chemical inputs into water bodies and polluting 7 would reduce global solid waste natural systems.9 land uses by 2.2 billion tons per year.15 11. Maintain and enhance nature's contributions 8 LBSAPs Current Practice National/State Accelerators Accelerator Example **Example Global Contribution** 9 Based on rates of urban flood Fund widespread application Almost all (90%) of the 4 hina's Sponge Cities damage measured in the US and of pilot projects program provided guidelines for cities to plans analyzed include the impacts of green infrastructure actions for ecosystem 10 Standardize and compile solutions in Wuhan China total services, such as absorb rainwater and funded 30 cities to apply performance measures flood damage may be reduced by increasing tree canopy 73% through the coverage, promoting the guidelines up to Incentivize monitoring and 11 implementation of urban green permeability, and evaluating the results verification systems to infrastructure.17 restoring ecosystems.9 ensure effectiveness 12 12. Benefits from Green and Blue Spaces 13 LBSAPs Current Practice National/State Accelerators Accelerator Example **Example Global Contribution** Only 13% of urbanites live in Set guidelines for equitable The majority (80%) of the access to nature neighbourhoods with 20% tree plans analyzed increased 14 database assesses park access in U.S. cities by canopy coverage, one threshold for access to nature, in Facilitate financing via 4 realizing mental health benefits particular, boosting nature.19 preventative health measures income, race, and other demographics to Doubling from this benefits to human well-15 number by 2050 is forecast to being and increasing Coordinate green and blue reduce depression by 50% and natural elements in parks space planning and stress by 43% for 312 million and along shorelines. 16 monitoring across scales people.19 16. Responsible choices 17 LBSAPs Current Practice National/State Accelerators Accelerator Example Example Global Contribution Reductions in urban consumption Break down consumption and 18 A minority (32%) of the 4 (within categories of buildings and LCA²⁰ data for local use plans analyzed link guiding documents and consumption data for subnational and local infrastructure; food; private consumption choices or Encourage local regulations transport; clothing and textiles; 19 waste reduction with that reduce waste production and electronics aviation; and biodiversity. So far, 20 household appliances) account for cities (total pop. 248M) Provide a platform for have had their ecological footprints assessed.⁹ ecological footprints since 2000.²¹ up to 70% of required urban 20 subnational ecological emissions reductions to reach footprint reporting 1.5°C climate targets by 2050.22 (21 21. Equitable and effective participation in decision-making related to biodiversity **LBSAPs Current Practice** National/State Accelerators Accelerator Example **Example Global Contribution** Global population is projected to A minority (34%) of plans Develop local-level The UK's community-led be 68% urban by 2050, thus, contain actions that facilitation skills spaces program encourages and enables involving just 10% of the urban Figure 1: Table encourage participatory Mandate transparency in 4 of example public in biodiversity decisions planning. The actions local decision-making would result in 660 million people National include cooperation with Accelerators for the local community on management of green spaces to community groups.²³ taking some degree of ownership 4 Encourage biodiversity plans

to address diverse values

held by the community









AIPH

Towards "Living in Harmony with Nature" Role of Local Governments

Background

This policy brief was developed by the NATURA Global to Local Thematic Working Group (TWG). It is the second part of a multi-phase initiative to connect local action with global targets. In the first phase, we researched local biodiversity strategy and action plans, resulting in the publication of the paper "Scaling biodiversity conservation efforts: An examination of the relationship between global biodiversity targets and local plans" by Pierce et al. in Frontiers in Conservation Science in 2021. In this paper, we explored the relationship between global biodiversity conservation targets and local biodiversity plans to identify how elements at the two scales align or diverge. We compared the CBD Strategic Plan 2011-2020 (Aichi Targets) with 44 local biodiversity plans from around the world. We analyzed more than 2,800 actions and indicators extracted from the local plans to measure their relationship with these global targets. We identify actions particular to the local scale that are critical to conserve global biodiversity and suggest a framework for improved coordination between actors at different scales that address their respective roles and spheres of influence.

To develop the lessons from the paper for this policy brief, additional analyses of the original data and of linkages between the Aichi Targets and the post-2020 Action Targets were conducted and synergized with knowledge from the TWG during a week-long workshop in Geneva, Switzerland in March 2022.

Contact

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Footnotes

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