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**Briefing by the Executive Director on the implementation of
all resolutions adopted by the UN-Habitat Assembly**

Status of the implementation of UN-Habitat Assembly resolution 2/4 on biodiverse and resilient cities: mainstreaming biodiversity and ecosystem services into urban and territorial planning

Report of the Executive Director

I. Introduction

1. The present report provides updated information on the implementation of resolution 2/4, on biodiverse and resilient cities: mainstreaming biodiversity and ecosystem services into urban and territorial planning paragraphs, adopted by the United Nations Habitat Assembly of the United Nations Human Settlements Programme (UN-Habitat) at its second session.
2. In paragraph 6 of the resolution, the UN-Habitat Assembly requested the Executive Director to articulate the links between biodiverse and resilient cities and the implementation of the New Urban Agenda, and to report to the Executive Board of UN-Habitat on the matter.
3. In paragraph 7 of the resolution, the Assembly requested the Executive Director to submit for consideration by the Executive Board, at its last session of 2024, the toolkit on urban development for more biodiverse and resilient cities.

II. Status of the implementation of resolution 2/4

A. Thematic review

4. Urban land expansion is a major driver of the loss of natural habitat for biodiversity. More than 90 per cent of the cities in the world's 36 biodiversity hotspots are expanding in direct conflict with biodiversity.¹ The conversion of natural habitat for human habitation is accelerating, with 290,000 km² of natural habitat likely to be lost to urban growth between 2000 and 2030.²

* HSP/EB.2024/14.

¹ Biodiversity hotspots are areas with high levels of endemic plants (at least 1,500 species of vascular plants found nowhere else on Earth) where at least 70 per cent of the original natural vegetation has been lost. See Michael Hoffman, Kellee Koenig, Gill Bunting, Jennifer Costanza and Kristen J. Williams, "Biodiversity Hotspots (version 2016.1) data set", Zenodo, available at <https://doi.org/10.5281/zenodo.3261807>.

² UN-Habitat, "White Paper: Cities and Nature: Planning for the Future" (2022).

5. These trends are further compounded by the “land-greedy” nature of contemporary urban expansion patterns, yielding a land consumption growth rate (4.84 per cent per year) that is double that of urban population growth (2.18 per cent per year). Land continues to be consumed even where the urban population is not increasing at all. This loss of nature places 44 per cent of the global gross domestic product in cities at risk.³
6. Cities are recognizing the need to protect landscapes in their vicinity, with approaches such as extending ecological corridors and connecting green patches for biodiversity protection. However, as ecosystem restoration cannot currently keep pace with land degradation,⁴ preservation and conservation must be accelerated at the interface between cities and nature; in other words, at the peri-urban edges of growing cities around the world.
7. As well as helping to prevent the sixth extinction of non-human species, greater care for nature can also help prevent the collapse of human settlements whose infrastructure fundamentally depends on the ecosystem services that biodiversity provides. Most existing spatial planning processes treat built and natural habitats as binary and static, while, in reality, both are in constant flux.⁵
8. The United Nations system has adopted a common approach to biodiversity,⁶ which includes a joint commitment to improving the quality of urbanization and limiting encroachment. Pro-biodiversity interventions within and beyond cities include not only direct nature-based solutions but also indirect land-sparing measures that prevent the destruction of natural habitats in the first place.
9. In the face of urban expansion, both present and future, systematic, effective and properly targeted biodiversity preservation and conservation interventions are required. Preventing mistakes before they are visible and too expensive to correct will still require unprecedented effort.
10. In that context, the UN-Habitat Assembly, at its second session, approved resolution 2/4 on biodiverse and resilient cities: mainstreaming biodiversity and ecosystem services into urban and territorial planning.

B. Status of the implementation of paragraph 6 on the links between biodiverse and resilient cities and the implementation of the New Urban Agenda

11. In resolution 2/4, the Assembly underlined the mandate of UN-Habitat as the focal point in the United Nations system for sustainable urbanization and human settlements and stressed the relevance of the transformative commitments of the New Urban Agenda, including those related to biodiversity and ecosystem protection, restoration and sustainable use. The Assembly also affirmed in the resolution that biodiversity was deteriorating at rates that were unprecedented in human history and recalled the importance of ecosystem-based approaches for maintaining and increasing resilience and reducing the vulnerability of people and the ecosystems upon which they rely.
12. In the resolution, the Assembly recalled General Assembly resolution 77/167, on implementation of the Convention on Biological Diversity and its contribution to sustainable development, which, among other things, encouraged relevant organizations to integrate nature-based solutions, ecosystem-based approaches, and other management and conservation approaches into their strategic planning.
13. In resolution 2/4, the Assembly also recalled UN-Habitat Governing Council resolution 23/17, on sustainable urban development through expanding equitable access to land, housing, basic services and infrastructure, which encouraged Governments to promote urban development patterns that reduce urban sprawl and the ecological footprint of urban centres and undertake coordinated action to promote cities and biodiversity as part of their sustainable urban development strategies.
14. UN-Habitat is working to encourage a shift in urbanization that takes into account biodiversity and ecosystem services. In its own advocacy, it is promoting elements of the United Nations Common Approach to Biodiversity and Nature-based Solutions for Sustainable Development into United Nations Policy and Programme Planning and Delivery,⁷ including action 10 on improving the quality of urbanization and limiting encroachment. It also continues to highlight elements of the

³ Ibid.

⁴ Ibid.

⁵ Ibid.

⁶ CEB/2021/1/Add.1.

⁷ CEB/2021/HLCP41/CRP.2, annex IV.

Kunming-Montreal Global Biodiversity Framework,⁸ including target 12 on improving the quantity, quality, connectivity and accessibility of green and blue spaces in urban areas. UN-Habitat co-organized and participated in the inaugural biodiversity webinar series of the Environmental Management Group.

15. With funding from the Development Bank of Latin America and the Caribbean (CAF), UN-Habitat is developing the project “BiodiverCities for the acceleration of the New Urban Agenda: a proposal for technical collaboration with CAF for the incubation of urban projects aligned with the New Urban Agenda” in Mesoamerican countries. It aims to build on the ongoing work of the BiodiverCities network, which is a joint initiative of the World Economic Forum and the Humboldt Institute. The project will create methodology and a checklist of criteria for the alignment of BiodiverCities projects with the New Urban Agenda and the Sustainable Development Goals. It will also provide capacity-building support to the network on the localization of global development agendas, and three cities of the BiodiverCities network will be selected to become demonstrative incubations of the methodology.

C. Status of the implementation of paragraph 7 on the toolkit on urban development for more biodiverse and resilient cities

16. Resolution 2/4 also requests the Executive Director to submit to the Executive Board a toolkit for biodiverse and resilient cities. High-profile nature-based solutions have been applied at limited site-based scales, as retrofits to relatively wealthy, mature urban environments. This has left a gap in preservation-related efforts, particularly in fast-growing, resource-constrained contexts.⁹

17. Many developmental decisions are still based on a dichotomic conception of the natural and built, lack of clarity on where degradation is occurring, inability to predict future conversion, difficulty assigning the full value of biodiversity and resistance to cooperating across jurisdictions. As a corollary, UN-Habitat recognizes that policymakers and practitioners – as well as its own staff – need to spatialize challenges in order to understand where change occurs, work telescopically between scales, work transversally across sectors, and anticipate and guide change through informed decisions on where and how to develop.

18. In the white paper “Cities and Nature: Planning for the Future”,¹⁰ UN-Habitat proposed four key actions to support the preservation of biodiversity in and around cities: (a) projecting spatial growth over a specific time frame to proactively guide urban expansion; (b) predicting land use conflict zones where urbanization and climate change are at odds with biodiversity in real space to pre-emptively intervene; (c) prioritizing areas of most suitability/least harm by preserving natural areas of highest value and directing compact growth to areas of less harm; and (d) preventing wasteful and dangerous land conversion that degrades natural habitat at the peri-urban edge.

19. To address the gaps mentioned above, UN-Habitat and the McHarg Center for Urbanism and Ecology at the University of Pennsylvania have developed the Hotspot Stoplight,¹¹ which uses open-source data and a unique workflow, combining artificial intelligence and deep learning algorithms, to project urban expansion and the risks of biodiversity loss and climate change to 2050 at a scale of 30 m². The methodology has been tested in four cities: remotely in Madagascar, Malawi and Solomon Islands, and both remotely and on the ground in Costa Rica. In the metropolitan region of San José, data collection and ground-truthing took place in May 2024 in the seven municipalities most at risk. The tool has proven to have a high level of accuracy and engagement potential for different stakeholders involved in territorial planning, management and decision-making.

20. The Hotspot Stoplight was conceived using open-data sources, including Landsat of the United States National Aeronautics and Space Administration (NASA), for nimble deployment in data-scarce cities. It can also be paired modularly with other planning tools. Potential benefits include assessing broad environmental impact, catalysing or revising master plans, studying land-use conflict zones, promoting successful metropolitan planning models and studying the trade-offs and co-benefits of nature-based versus form-based biodiversity solutions.

21. A related expert group meeting in San José brought together more than 25 experts from around the world, as well as domestic ministries, mayors and civil society actors, to discuss challenges and

⁸ CBD/COP/DEC/15/4.

⁹ UN-Habitat, “White Paper” (see footnote 3).

¹⁰ Ibid.

¹¹ UN-Habitat, Hotspot Stoplight tool (2024) (summary presentation available in English at https://unhabitat.org/sites/default/files/2024/10/unh_urban_biodiveristy_brochure_online.pdf; also available in French, Spanish and Portuguese).

share practices that contribute to more biodiverse and resilient cities. Recognizing that ecological systems typically span two or more political-administrative jurisdictions and therefore require coordinated decision-making across municipalities, the focus of the meeting was on multi-scalar and supra-municipal planning for prevention-oriented development.

22. The meeting also highlighted the importance of scenario modelling and prospective tools for preventive action to avoid further land use change at peri-urban edges and enhance biological connectivity within city cores, using networks of public space and riverbanks as critical elements of connectivity. Participants discussed the complexity of balancing densification with quality of life; the impact of administrative fragmentation on territories; challenges and incentives for supra-municipal collaboration; and potential for nature-based solutions to increase connectivity, adaptation and resilience. Additional specific conclusions for the Costa Rican context were also produced.

23. As a complement to the Hotspot Stoplight, a biodiversity layer has been added to the City-Wide Public Space Assessment Toolkit,¹² developed by UN-Habitat, which helps local governments evaluate the network, distribution, accessibility, quantity and quality of their public spaces. The Toolkit uses a digital questionnaire that can be customized to local contexts and priorities and takes a participatory approach to engaging communities and stakeholders in mapping and analysing public spaces. The process it establishes (involving pre-fieldwork surveys, data collection, reporting and post-assessment activities) has already supported evidence-based public space strategies and policies. The Toolkit is being tested in the seven at-risk municipalities in the metropolitan area of San José mentioned in paragraph 19 above to demonstrate the value of following up a multidimensional metropolitan projection with a fine-grained inventory of priority sites for intervention.

24. UN-Habitat has also been building capacity through technical assistance and guidance to local officials on decision-making about where and how to develop with the least risk to planet and people. The Stoplight's projections and mappings have initiated discussions about the spectrum of possible responses (e.g. preservation to creation) and trade-offs (e.g. conservation versus conversion) that undergird evidence-based decisions.

25. In addition, UN-Habitat is making progress on pilot plans and projects for biodiverse and resilient cities. In collaboration with the McHarg Center, the Programme Development Branch presented the Hotspot Stoplight at the twenty-fourth Understanding Risk Global Forum in Himeji, Japan, in June 2024, and it is discussing with the World Bank how the Stoplight can be refined and scaled up for use in regions and watersheds with indications of the high-consequence sites that subnational authorities might select for careful planning. Progress was reported at the sixteenth meeting of the Conference of the Parties to the Convention on Biological Diversity,¹³ as well as at a side event at the twelfth session of the World Urban Forum¹⁴ in Cairo in November.

26. In tandem, UN-Habitat is identifying options for supporting sustainable investment in biodiverse and resilient cities through outreach to financial institutions. However, the lack of dedicated support from Member States means that access to such options remains limited.

27. UN-Habitat is also mainstreaming biodiversity through other thematic lenses in two key knowledge products that will be published in late 2024. The first, a primer for urban-rural linkages and land, being prepared jointly by the UN-Habitat Policy, Legislation and Governance Section and the secretariat of the United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa, will offer a comprehensive overview of the topic in order to assist countries in achieving their land degradation neutrality targets. The second is a toolkit for nature-based solutions in urban and territorial planning being developed under the leadership of the Planning, Finance and Economy Section of UN-Habitat with funding from the Swedish International Development Cooperation Agency. The toolkit will provide insights on tools, methodologies and planning recommendations for integrating nature-based solutions into urban and territorial practices, while highlighting inspiring practices regarding spatial applications and governance mechanisms and gaps in addressing the three planetary crises through nature-based solutions.

¹² UN-Habitat, "City-wide Public Space Assessment Toolkit: A Guide to Community-led Digital Inventory and Assessment of Public Spaces" (Nairobi, 2020).

¹³ "The Hotspot Stoplight: Integrated Modeling and Mapping of Climate Risk, Biodiversity Loss, and Urban Expansion", held on 25 October 2024.

¹⁴ "Cities and Nature – Understanding the Interlinkages of Climate Risk, Biodiversity Loss, and Rapid Urbanization as a Tool for Ecosystem-based Adaptation at the Urban Scale", held on 7 November 2024.