ISSUE PAPER

ENGAGING LOCAL GOVERNMENTS IN THE POST 2020 GLOBAL BIODIVERSITY FRAMEWORK PROCESS

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INTRODUCTION

It is clear that our future is urban and that to address the double biodiversity and climate crises, the world needs cities, as it is here that the majority of the world's population lives and works. Cities are hubs of innovation and solutions, and their potential for leading a process of transformation needs to be harnessed and built upon. The current biodiversity crisis in not only an environmental crisis but also a development crisis. The rapid biodiversity loss that we are now witnessing is undermining the development gains that have been achieved so far[1], and cities can play a significant role in reversing this trend.

It is expected that around 68% of the population will live in cities by 2050. For example, in China while 58% of the population lived in cities in 2019, it is estimated that by 2050 more than 80% will reside in urban areas.[2] The current urban expansion has come at the cost of nature, and this is a trend that needs to be altered. The Global Assessment Report launched by Intergovernmental Science-Policy Platform for Biodiversity and Ecosystem Services (IPBES) established urbanization as one of the key indirect drivers of biodiversity loss as it entails important changes in land use among other factors. According to a 2018 assessment, 290,000 Km² of natural habitat could be directly threatened by urban growth. In addition, studies have also shown that urban growth is also taking an indirect toll on Nature[3] in terms of upstream (caused by significant demands for resources), in-situ, and downstream pollution, and with cities accounting for more than 70% of global GHG emissions[4]. In addition, the fact that cities consume around 75% of the natural resources[5], has led some scientists to consider that cities are the main driver for biodiversity loss.[6]

The aim of this issue paper is explore this dichotomous role of cities as both a cause and solution to biodiversity degradation and assess the important concepts, aspects and development in the field of urban ecosystems and nature based solutions. It will provide a summary of the impacts of urbanization on biodiversity, identify challenges faced by local governments, analyze trends in international and national biodiversity frameworks that could enable the role of cities in conserving and enhancing biodiversity at the local level with positive implications at the global scale. These findings will feed into ongoing discussions and negotiations on the formulation of the Post 2020 Global Biodiversity Framework that is expected to be adopted at the 15th Conference of the Parties to the Convention on Biological Diversity (CBD COP 15) in Kunming, China in 2021 in order for local and subnational governments to be recognized as pivotal agents in the implementation of this framework.

GLOBAL DRIVERS OF BIODIVERSITY LOSS AS A GUIDING FRAMEWORK FOR CITIES

The IPBES global assessment identified five main drivers of biodiversity loss, namely - land use change, pollution, climate change, direct exploitation of organisms, and invasive species. These provide a framework for assessing the direct and indirect impacts of cities on biodiversity and can serve as a guiding framework for them in defining appropriate policies and actions.

1. Change in land use

Cities occupy approximately 3% of the world's land surface but have an important impact on biodiversity due to their growing need for natural resources, their location and their spatial patterns. Increasing urbanization requires larger amounts of raw material extracted from natural habitats, especially to meet demands for infrastructure. This places greater pressures on these ecosystems and leads to changes in land use and the degradation of biodiversity. A study led by WWF on the impacts of sand mining for the cement industry concluded that rapid urbanization in India and China had led to the deterioration of important river ecosystems and the destruction of the habitats of many endangered species.[7] The location of cities, especially those close to fragile ecosystems has a significant impact on biodiversity as well. For example, expanding coastal cities have a very direct impact on mangrove and marine ecosystems through conversion and reclamation. In addition to their location, their patterns of spatial expansion also have a direct bearing on biodiversity and a recent study estimates that by 2030, 40% of the strictly protected areas will be within a 50 km range of an urban area.[8] Further, it is considered that by 2030 more than 25% of the endangered and critically endangered species will be affected directly or indirectly by changes in land use resulting from urban expansion.[9] Urban spatial planning and patterns of resource consumption that mainstream the conservation of biodiversity therefore have significant potential to halt and reverse the degradation of ecosystems.

However, changes in land use are not only a consequence of urban sprawl but can also be seen as established urban areas are going through a densification process. Indeed, studies have shown that the high demand for building space has led to an increase in soil sealing within cities resulting in a reduction of urban green space and, consequently, a sharp decline in urban biodiversity.[10]
Finally, individual choices are also contributing to a decline in urban biodiversity. For instance, in Germany, many private garden owners have converted their green spaces into gravel gardens because they require less maintenance. But converting a garden into a gravel garden has an important impact on biodiversity, since gravel gardens do not provide any habitat or food for pollinators. As a result, the state of Baden-Württemberg has decided to ban gravel gardens as a measure to preserve biodiversity.[11]

2. Pollution

Pollution from cities degrades surrounding and distant ecosystems. Air pollution resulting from transport, coal power plants and heating systems is the most well-known example of urban pollution affecting biodiversity. Studies have also shown that other forms of pollution such as noise and light pollution are also degrading urban ecosystems.[12] Moreover, the effect of urban pollution is not limited to within the boundaries of cities but have far reaching impacts. For instance, it has been proven that urban air pollution was responsible for the phenomenon of acid rains affecting distant forests, or that municipal solid waste from ten of the world´s most heavily urbanized river basins is the source of more than 90% of the plastic debris ending up polluting the oceans.[13] Practices for reducing waste production and improving its management in urban centres would contribute to arresting biodiversity loss.

3. Climate Change

The effects of climate change on biodiversity are well known. Heatwaves, droughts and extreme weather events induced by climate change are directly responsible for biodiversity loss and ecosystem degradation. According to the Intergovernmental Panel on Climate Change, cities are responsible for more than 70% of the GHG emissions causing climate change.[14] The sources of urban GHG emissions are mostly from transport, energy production, and the consumption of goods and services by cities dwellers. By contributing to climate change cities are indirectly fostering biodiversity loss.

4. Direct exploitation of organisms

Studies have found that city dwellers tend to consume more meat than people living in rural areas.[15] With around 55% of the global population living in cities,[16] city dwellers´ dietary habits can be considered to be indirectly responsible for the depletion of fish stock and for the destruction of habitat for pasturing purposes.

5. Invasive Species

The role of cities in the propagation of invasive species is usually linked to the fact that cities have always facilitated trade[17] and that trade is a well-established driving force behind the dissemination of invasive species.[18] Beyond the role played by cities in trade, studies have shown that urban areas also provide favorable ecosystems for invasive species, especially species of fauna.[19] The abundance of food and the relative absence of predators tend to foster the invasion of species such as the house sparrow or the rock pigeon, since successful invasive species are usually more efficient foragers than the native species.[20] The consequence of this inter-species competition in the urban ecosystems results in many cities being dominated by invasive species and a loss in biodiversity.

The plurality of cities´ impacts on biodiversity reflects the vicious cycle resulting from unsustainable lifestyles, which has been the model for modernization since the end of the 2nd World War and has led to the urbanization of more than half of the global population. It is clear that the biodiversity crisis cannot be tackled without developing a holistic approach that actively engages urban local governments. The five global drivers of biodiversity loss provide clear directions towards which cities, with adequate support from their national governments and the international community, can develop biodiversity-proofed local plans, policies, programs and actions and contribute to the collective effort of bending the curve of biodiversity loss.

INTEGRATING THE LOCAL GOVERNMENTS IN GLOBAL AND NATIONAL FRAMEWORKS

1. The Global Biodiversity Framework (CBD)

While the impacts of urban areas on biodiversity conservation have been taken into account since the negotiation phase of the 1992 UN Convention on Biological Diversity, cities were recognised as key actors for biodiversity conservation only at the CBD COP 9 in 2008 when the CBD adopted for the first time a decision on biodiversity and cities encouraging the parties to recognize the important role played by cities and local governments to implement the CBD at the local level.[21] This was followed by the adoption of a Plan of Action on Subnational Governments, Cities and Other Local Authorities for Biodiversity in the period 2011-2020 during CBD COP10 in 2010 which promoted better engagement of local governments in the implementation of the CBD through the integration of biodiversity into local and urban planning.[22] The Plan of Action also encouraged local governments to set up Local Biodiversity Strategies and Action Plans (LBSAPs) as a means to implement their respective National Biodiversity Strategies and Action Plans (NBSAPs) and the 20 Aichi biodiversity targets that were adopted at COP 10 as part of the Strategic Plan for Biodiversity 2011-2020.

During CBD COP 14 in 2018, the parties to the Convention adopted the decision CBD/COP/DECISION/14/34 to engage in a comprehensive and participatory process to prepare and develop the Post-2020 Global Biodiversity Framework. This decision encourages subnational and local governments to play an active role in this participatory process of developing the new global framework for sustainable use of biological diversity.[23] The current Zero Draft of the Post 2020 Global Biodiversity Framework stresses that the implementation of the framework can only be enabled if there is coordinated implementation at the local, national and international levels, and that there is a need for multilevel partnerships to leverage activities and raise awareness across all levels of governance. The Zero Draft also calls for improved integration of biodiversity values in local planning practices. For instance, the proposed tenth target requires that parties increase urban dwellers access to green space by at least 100% to better harness the benefits of green space for health and well-being. Discussions around this target during the latest Open Ended Working Group have also stressed how important biodiversity conservation and urban rural ecosystem connectivity would be for better integration of nature into urban space.

Finally, in this context of negotiation of the Post 2020 global framework, the Scottish Government launched Edinburgh process of consultation of the local governments, which was launched during the first half of 2020 at the initiative of the Scottish Government, resulted in the Edinburgh Declaration for subnational governments, cities and local authorities on the post 2020 global biodiversity framework. The signatories to this declaration commit, among other, to mainstream nature into their local planning process, to align their local biodiversity strategies and actions with the NBSAPs, increase resources for biodiversity, share best practices and deliver a stronger convergence at the local level between the different intergovernmental agreements. The Edinburgh Declaration also calls upon the Parties to the CBD, among other, to better recognize the role of the local governments in delivering the 2050 vision of the Post 2020 biodiversity Framework, and to explicitly place that recognition in through the framework text as well as supporting a COP decision for a better inclusion of the subnational and local governments within the Post 2020 global biodiversity framework.

2. Other biodiversity related international frameworks

In addition to the Convention on Biological Diversity, other global frameworks also encourage cities and local governments to integrate biodiversity into their policies, plans, and programs. Some of the key ones include:

- The **2030 Agenda for Sustainable Development** adopted in 2015 incorporates 17 Sustainable Development Goals (SDG). From an urban biodiversity perspective SDG 11 on cities aims at making them more sustainable, safe, and resilient to climate change. Local governments can also play an important role in the implementation of SDGs related to the protection of terrestrial ecosystems (SDG 15), water (SDG 6) and on oceans (SDG 14) by mainstreaming biodiversity into urban spatial planning, shifting to sustainable resource consumption (SDG 12), reducing waste production and adopting improved systems and standards for its treatment.

- With the 2016 Quito Declarations on Sustainable Cities and Human Settlements for all, the parties to the UN Habitat adopted the "**New Urban Agenda**". This document is a pledge by national governments to redress the way cities and human settlements are designed, financed, governed and managed in order for urban areas to become more inclusive, resilient and sustainable. The Agenda provides a list of actions that can be taken by national and local governments in order to reduce biodiversity loss.

- The outcome of the Fifth BRICS Ministers of Environment Meeting which took place on the 15th of August 2019, held under the theme, "Contribution of Urban Environmental Management to Improving the Quality of Life in Cities" was that the five countries will develop urban policies focusing on clean rivers and seas, waste management, resource efficiency and recovery of contaminated areas, sanitation, air quality and urban green areas.

- The Paris Agreement on climate change is also important for the cities since they contribute 70% of the global GHG emissions and that climate change is one of the key drivers of biodiversity loss. The synergies between the frameworks for climate change and biodiversity are increasingly being explored and developed in international negotiations.

3. National Biodiversity Strategies and Action Plans

At the national level, the actions of local governments have started to be better recognized through their integration in NBSAPs, which connect local actions to global biodiversity objectives and priorities. This is growing trend can be seen through the inclusion of the following topics in NBSAPs:

- **Vertical Integration and LBSAPs**: many NBSAPs, especially those adopted after 2010, acknowledge the role played by local governments in biodiversity conservation and provide a scope for improved vertical integration in biodiversity policies. For instance, the Strategic Objective 4 of the NBSAP adopted by Peru set the goal that by 2017 all three levels of government should develop BSAPs based on the principle of subsidiarity.[24] Similarly, target 17.3 of the Myanmar NBSAP reads "By 2020, BSAPs are under preparation in at least three states regions."[25] Though implementation of these goals may still be limited there is a clear policy direction, even in developing and Least Developed Countries to engage local and subnational governments in the implementation of their NBSAPs.

- **Land use planning**: an increasing number of NBSAPs contain urban and land use planning targets that aim at mainstreaming biodiversity in those processes. For example, Actions 15 and 18 of the Chinese NBSAP refer to the integration of biodiversity conservation in urban planning[26] and Target 5.1.2 of the Lao´s NBSAP states that by 2025 Lao shall have "Strengthened institutional mechanisms to increase participation of biodiversity stakeholders in land use decision making are in place in at least 3 key economic sectors (energy, agriculture and forestry), and locally in at least 3 provinces.[27]"

- **Green infrastructure**: The European Union has been a driving force behind the adoption of targets on green infrastructure in urban areas by its member-states. Action 6 of the Target 2 of the EU BSAP promotes the use of green infrastructure as a means to address biodiversity loss. This provision can now be found in many NBSAPs of European countries such as in Action 1.1.7 of the NBSAP of Ireland which states that local authorities shall develop green infrastructure and promote nature-based solutions. Similarly, Action Area VIII "Greening our cities" of the German NBSAP promises to foster the development of urban green infrastructure by providing technical support to German municipalities.

4. National Environmental Laws

Further, a new generation of environmental laws give a more prominent role to local governments. For instance, the EU has adopted two directives on Environmental Impact Assessment (EIA) and Strategic Environmental Assessments (SEA) which requires local authorities to implement participatory assessments in the context of towns, country and land use planning.[28] In Myanmar, following the adoption of its NBSAP in 2015, the government has revised its national land use planning policy which now requires local governments to better integrate environmental protection measures in their spatial planning exercises.[29] Finally, in some countries, the national government supports local governments in developing their own local biodiversity frameworks. For example the Chinese government requested all its regions to set up "ecological red lines" that will put large parts of the country off-limits to development by 2020. In Germany, the Federal Ministry for Environment has also been supporting state-regions to develop local biodiversity action plans, leading to some regions such as Berlin and Sachsen-Anhalt to adopt their own LBSAPs.

CREATING AN ENABLING ENVIRONMENT

As has been discussed, local governments are increasingly being integrated into the design and implementation of biodiversity frameworks at the national and the international levels. While this is a critical steps towards mainstreaming biodiversity, there are still challenges at the local level that need to be addressed to create an enabling environment for the implementation of the Post 2020 Global Biodiversity Framework. These include:

- **Making the case for Nature**: Restoring urban ecosystems does not only require technical expertise but also an understanding of the social context. It is widely accepted that urbanization has resulted in a certain disconnect between city dwellers and Nature. Therefore it is important to address this sociological aspect in order to foster acceptance of urban biodiversity policies.[30] It is also essential to acknowledge cultural differences since the relationship to Nature is deeply influenced by culture, with some urban communities having more positive views of Nature than others. Similarly, there is also a need for raising awareness on consumption patterns and lifestyle choices by citizens since overall cities consume 75% of the natural resources. This entails capacity building at all levels with a focus on elected and administrative staff in cities in addition to citizens, businesses and other key stakeholders.

- **Shift from conservation to enhancement**: Making cities greener requires changing the perception and understanding of planners and decision makers of urban biodiversity. It should not be only about conserving the existing biodiversity but also about enhancing it and using the services provided ecosystems. The concepts of green infrastructure and nature-based solutions (NBS) are gradually becoming more mainstreamed within national and local policy frameworks of EU countries. Nature-based solutions are also being applied at the local level by cities as a means to restore biodiversity and derive other direct benefits. For example, the city of Hamburg has adopted a green roof strategy and Singapore has developed an ambitious biodiversity strategy which has led to increasing its green cover.

- **Holistic governance of biodiversity**: Mainstreaming biodiversity for holistic governance at the local scale requires coordinated actions across a number of spheres:

  - Restoring urban biodiversity should have a sound understanding of the ecosystems and the services they provide, to ensure that decision making is based on science. This calls for inclusive, robust and iterative science-policy dialogues at the local level.

  - Promoting horizontal integration at the local level to enhance cooperation and coordination between administrative units in terms of policies and actions so as to build on synergies and revise decisions that contribute to the degradation of biodiversity in and around cities.

  - Developing a business case of investing in Nature. Doing so will require changing the dominant view that urban biodiversity only represents a financial cost, and to assess and promote the significant financial savings from the multiple benefits resulting from services provided by ecosystems.

Cities are home to complex ecosystems which constitute an important share of global biodiversity and provide crucial ecosystem services to the urban populations. The role of urban ecosystems and their benefits have been widely recognized by the scientific community and is now integrated in many strategies and action plans that promote nature-based solutions and green infrastructure. However, there is still a lack of international instruments to support the implementation of those strategies which could provide political and financial traction on the improvement of urban biodiversity. Such instruments would give a political mandate to subnational authorities to integrate biodiversity in their land use planning practices.

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