FAO contribution to the Nature Based Solutions workstream for the Climate Action Summit

Forests and trees: a nature-based solution to global urban challenges (FAO)

1.   Context and rationale
Urbanization is accelerating—the proportion of people living in cities will be 60% in 2030 and 66% in 2050. Nearly 90% of this increase will occur in Africa and Asia. Cities are major contributors to climate change, but are also vulnerable to its effects. They are also uniquely positioned to adapt to these effects and mitigate some of their causes. In drylands, in particular, the increasing effects of climate change and landscape degradation are expected to increase exposure of city-regions to severe droughts, heatwaves, extreme winds, floods and landslides, affecting hundreds of millions of urban dwellers. Forests-based solutions (FBS) are a valuable tool to strengthen cities' resilience and support sustainable urban development.

2.   An overview of the contribution
The Great Green Wall for Cities (GGWC) aims to use FBS to improve ecological continuity within urban areas and, by 2030, create up to 500,000 hectares of new urban forests and restore/maintain up to 300,000 ha of existing natural forests in and around cities in the Sahel and Central Asia. At least three cities in each of 30 countries will develop an integrated forestry strategy and implement it on a substantive scale.

3.   How the contribution levers living natural systems as a solution to avert climate change?
- forest restoration maintains watersheds and prevents soil erosion and flooding
- urban forests and green infrastructure mitigate heat island effects while increasing resilience to extreme weather events
- urban food forests ensure basic fresh food supply and improve livelihoods
- trees, vertical forests and green roofs decrease energy consumption for heating and cooling
- habitat restoration improves local biodiversity and ecological resilience.

4.   How might the contribution support both climate, mitigation and adaptation as well as other important co-benefits and social, economic and environmental outcomes in coming years. They may include:

5.   Reduction in carbon emission and carbon capture (GTonnes)
Once established, the GGWC would capture 0.5-5 GTonnes of C02 per year and stock carbon for centuries. Trees reduce temperatures in cities up to 8 °C, lowering use of air conditioning and related emissions up to 40%. In cold climates, trees shielding buildings reduce heating costs up to 50%. When part of a wider landscape mosaic, large green patches within and around cities can reduce emissions through avoided sprawl and excess mobility requirements.

6.   Increasing climate resilience
Urban forests buffer winds, control erosion and reduce drought. By intercepting rain, increasing permeability, retaining water and stabilizing soils, they decrease the impact of natural hazards. Urban forests help control "heat island" effects through shading and cooling.

7. Social impact (job increase; poverty reduction; Just transition, etc.)
Urban greening can create up to 30,000 new jobs per million inhabitants. Quality green open spaces promote healthier lifestyles, decreasing the occurrence of non-communicable and mental diseases and the cost of health care. Urban forests promote social equity and help preserve spiritual and cultural values.

8. Net economic impact (total in US$; how was it achieved?)
Investments in urban forests have a minimum return of $2.25 for each $1, excluding indirect services. They increase availability and accessibility of affordable wood and non-wood forests products, reduce the costs of supply and treatment of drinking water, create jobs and reduce energy needs. Impact of trees on private property values is significant, contributing to municipal and private revenue and supporting urban regeneration efforts.

9. Impact on realization of the 2030 Agenda for Sustainable Development (in particular SDGs 1,2,6,12,13,14,15,16)
- **SDG1:** employment, reduced cost of infrastructure, ecosystem services, increased property values, stronger local green economies
- **SDG2:** increased food, water and energy security
- **SDG11:** increased environmental sustainability, economic viability and livability of cities.
- **SDG12:** access to affordable and sustainable construction material
- **SDG13:** climate-change mitigation through carbon sequestration and energy savings
- **SDG15:** increased biodiversity, improved soil quality, restored lands
- **SDG16:** trees as symbols of peace

10. Food security
Forests are sources of food and provide affordable woodfuel, high-quality water and improved soil for sustainable agricultural production.

11. Minimizing species extinction and ecological losses and fostering an increase of biodiversity.
Urban and peri-urban forests constitute a pool of biodiversity and improve the ecological continuum between urban and rural areas. Urban forests provide green 'stepping stones' for species movement between larger green periurban and rural patches.

12. Which countries and organizations are involved in the contribution?
Confirmed partners
Global: FAO, Royal Botanic Gardens Kew, Arbor Day Foundation, C40, UN-Habitat, Cities4Forests, Italian Society of Silviculture and Forest Ecology, Stefano Boeri Architetti
Africa: to be defined
Asia: Urban Forest Research Center, National Forestry and Grassland Administration, China

13. How have stakeholders (for example local communities, youth and indigenous peoples, where applicable) been consulted in developing the contribution?

This proposal is based on stakeholder consultations in various urban forestry projects. The (FAO) Guidelines on Urban and Peri-urban Forestry will underpin the measures under this contribution.

14. Where can the contribution be put into action?
The project will focus on cities in the arid and semi-arid countries of Africa and Asia.

15. **How the contribution will be delivered? How will different stakeholders be engaged in its implementation? What are the potential transformational impacts?**
Urban forestry NBSs will: (i) reduce costs of preventing and addressing climate change effects; (ii) enhance the well-being of citizens through enhanced green infrastructure; and (iii) stimulate the revision of national land use policies, plans and legislation. At site-scale, participatory tools will be utilized (such as Block-by-Block), paying special attention to the most vulnerable. At a city-wide scale, quantity and quality of green spaces will be assessed with local governments and residents, leading to the adoption of spatial strategies whose impact would extend far beyond this initiative. At national level, policies and legislation will be reviewed to create enabling environments for urban forestry.

16. **Is this initiative contributing to other Climate Action Summit workstreams (industry transition; energy transition; climate finance and carbon pricing; infrastructure, cities and local action; resilience and adaptation; youth and citizen mobilization; social and political drivers; mitigation strategy)?**
It will also contribute to "*Infrastructure, cities and local action*".

17. **How does this contribution build upon examples of experience to date? How does the contribution link with different ongoing initiatives?**
In 2018, the FAO World Forum on Urban Forests Forum identified many success stories, creating a strong network. UN-Habitat collects evidence and promotes green public spaces as part of sustainable planning in several cities. In 2007, the African Union launched the Great Green Wall (GGW) initiative to restore degraded landscapes in the Sahel. To increase its transformative impact, which focuses on rural areas, the GGW must also anchor itself in cities and engage urban dwellers. The GGWC will create "urban green nodes" and integrate them in the wider mosaic of landscape restoration activities increasing spatial and ecological continuity through biodiversity corridors linked to surrounding natural areas.

18. **What are the mechanisms for funding (with specific emphasis on potential for partnerships)?** A multi-donor global mechanism would provide matching funds for national or local projects (e.g. using funds collected through environmental fees) and/or public-private partnerships in which users of urban forests contribute to their establishment/preservation.

19. **What are the means of stewardship, metrics for monitoring?**
A GGCW Committee will steer and monitor the programme based on environmental and socio-economic indicators, including for relevant SDGs. On the ground, the initiative will explore and promote mechanisms for local stewardship.

20. **What is the communication strategy?**
Lessons learned will be disseminated through school education programmes, regular city meetings, national workshops and international networks (Tree Cities of the World and Cities4Forests) and conferences (e.g. World Forum on Urban Forests).

21. **What are the details of proponents (indicating the degree of commitment among the countries and organizations that are named)**

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