Session 3: City Biodiversity

Moderator: Professor Richard Weller
University of Pennsylvania
Rapid Introduction of Participating Cities and Organizations

Batch 2
1.6%: representative & connected
1.6% of the earth’s terrestrial surface in number of Central Parks.
095,825 Central Parks can wrap around the globe 70 times.
221/391 ecoregions
21/36 hotspots

Green: Meet the 17% target
Red: Miss the 17% target
METROPOLITAN FRAMEWORK
- Washington, D.C. / US/EY

- Jane Carter Ingram/Senior Manager

- Biodiversity and ecosystem service assessment, measurement and management strategies, Corporate natural capital measurement and management strategies, Integration of social and natural capital strategies and approaches

- jane.ingram@ey.com
Your organization’s main undertakings in:

(i) EY has been involved in the 100 Resilient Cities and Future Cities development and have supported numerous public/private sector clients impacting and managing natural capital

(ii) We have supported research, planning and management of risk reduction, recovery and sustainability planning that includes integrating natural infrastructure solutions into urban and rural sustainability planning

One key reflection and lesson learned in the area:

- Integrating natural capital into planning and management requires understanding the objectives, approaches, data and information needs of different agencies and stakeholders. This involves significant stakeholder engagement, involvement and collaboration. It also requires facilitators who can help translate concepts into different languages to advance a common mission with very different groups.
Knowledge and ideas for a sustainable urban future:

- **Science**: Understanding urban systems in their full complexity
- **Technology**: tools to improve construction, management and planning
- **Design**: scenarios for a more sustainable urban future
- **Partnership** and dialogue

>100 researchers: architects, engineers, computer scientists, ecologists
Working with stakeholders

Value Lab Asia
Ghana: Environmental Protection Agency

Kwame Boakye Fredua, Programme Officer
CitiesWithNature

... provides a shared, interactive global platform where cities can embark on a journey to connect, share & learn about nature-based solutions and how to design & build cities with nature

ICLEI – local governments for sustainability
Membership-based organization of 1750 cities in 124+ countries globally
22 offices across the world

Ingrid Coetzee, Senior Programme Manager
Cities Biodiversity Center
(Biodiversity management & governance)

https://www.iclei.org/
https://cbc.iclei.org/
... builds on more than a decade of Local Action for Biodiversity work in cities across the world...
... big tent developed by founding partners ICLEI, IUCN & TNC & brings practitioners, policy makers, researchers & academics & citizens together...
... consists of 3 components:
✓ Registry (nature pathways)
✓ Knowledge & Research Hub
✓ Community Hub

... Secretariat of the Convention on Biological Diversity endorses CWN as the official platform for local & subnational governments to report on their ambitions & commitments to the Action Agenda for Nature & People and the post-2020 global biodiversity framework.

https://cwn.iclei.org/
“A just world that values and conserves nature.”

International Union for Conservation of Nature
Frank Hawkins, Director for North America
www.iucn.org
frank.hawkins@iucn.org
Define standards for protected areas, methodologies for assessing threats to species and ecosystems, best practice guidelines (offsets, nature based solutions, ecosystem based resilience, etc)

Relevant activities
- Best practice guidelines on urban protected areas
- Established the IUCN Urban Alliance
- Engaged in several urban projects, particularly at EU level
- Developing an Urban Nature Index and a Species Recovery Metric to help cities monitor natural capital & abate threats to Red-listed species.
- Founding partner of Cities With Nature with TNC & ICLEI
- Organising urban events at the 2020 World Conservation Congress

“The survival of the natural world, even the remotest remnants of wilderness, is now contingent on the sustainability of the unnatural world, our cities.”
The Natural Capital Project

Sustainable, Livable Cities Program

Anne Guerry, Chief Strategy Officer and Lead Scientist
www.naturalcapitalproject.stanford.edu
anne.guerry@stanford.edu

Stanford University
Pioneering science, technology, and partnerships that enable people and nature to thrive.
InVEST translates scenarios into changes in services

- Heat mitigation
- Heat reduction
- Mortality reduction, energy savings

InVEST Models (ecosystem service supply)

Model Outputs (ecosystem services & values)

MAPS of BENEFITS

Input Data (reflect scenarios)

LAND USE

BIO-PHYSICAL

- Soil depth
- Plant available water content
- Evapotranspiration
- Precipitation
- Topography

SOCIO-ECONOMIC

- Population density
- Demographics
- Agriculture operation costs
- Property values

InVEST integrated valuation of ecosystem services and tradeoffs

e.g. Heat mitigation

e.g. heat reduction

e.g. mortality reduction, energy savings

SCENARIOS

natural capital PROJECT
<table>
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<tr>
<th>Science + Technology</th>
<th>InVEST</th>
<th>Integrated valuation of ecosystem services and tradeoffs</th>
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<tbody>
<tr>
<td>Crop pollination</td>
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<td>Coastal flood protection &amp; erosion control</td>
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<td>Visitation, Scenic quality</td>
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<td>Urban cooling</td>
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<td>Climate change mitigation</td>
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<td>Flood risk mitigation</td>
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<td>Air purification, Food production</td>
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<td>Mental &amp; Physical health, Recreation</td>
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<td>Biodiversity conservation</td>
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InVEST
integrated valuation of ecosystem services and tradeoffs
Upcoming:

(i) Further development of Urban InVEST
(ii) Engagement in additional pilot cities
(iii) Natural Capital Index with World Bank

science + technology + partnership ➔ scaling of approaches and tools to create a future where people and nature thrive.
• Boutique environmental consultancy based in the UK
• Specialise in biodiversity and ecosystem services research and consulting
• We are experts in:
  ✓ Natural capital accounting
  ✓ Modelling, mapping and monetary valuation of natural capital and ecosystem services
  ✓ Spatial analysis and opportunity mapping using Geographical Information Systems
  ✓ Stakeholder engagement
Paraguay, Asuncion

Tamara Bogarin, Environmental Management of the Municipality of Asuncion
Singapore: National Parks Board

Lena Chan, Senior Director