Nature-based solutions to ‘Post-COVID-19’ urbanization challenges

Laura Petrella
Email: laura.petrella@un.org
Chief, Planning, Finance and Economy Section
UN-Habitat
Public spaces and nature-based solutions in cities

- Public spaces that are designed through nature-based and green infrastructure solutions in cities promote environmental and social resilience.
Why nature-based solutions?

**Environment**
- Increase carbon sequestration
- Improve air quality
- Additional recreational space
- Efficient land use
- Improve human health
- Flood protection
- Drinking water source protection
- Replenish groundwater
- Improve watershed health
- Protect or restore wildlife habitat
- Urban heat island mitigation

**Social**
- Establish urban greenways
- Provide pedestrian and bicycle access
- Create attractive streetscapes and rooftops that enhance livability and urban green space
- Educate the public about their role in stormwater management

**Economic**
- Reduce hard infrastructure construction costs
- Maintain aging infrastructure
- Increase land values
- Encourage economic development
- Reduce energy consumption and costs

**Bio-diversity**
- Improved habitats for wildlife
- Ecological corridors
- Landscape permeability

Different scales

Preserve and restore regional landscape systems to manage water and biodiversity

Create a network of green and public spaces that mitigate climate risks

Prioritize wetlands, ponds and lakes development and provide for streams and riparian vegetation

Construct swales and buffer strips for drainage

Prioritize permeable paving

Leverage on green roofs and green walls
Case study: Kabul, Afghanistan
Network of public space for climate resilience and heritage protection

• With its extreme climate conditions, it is important for Kabul to promote a climate-sensitive public space design such as trees during hot summer periods, water-sensitive landscapes and maximizing solar access.

• Through planning tools such as master planning, urban regeneration and redevelopment, sub-divisions and land readjustment, increase the area of green space for optimum urban performance, creating green, and public space networks along rivers, hilltops, streets and new and existing neighbourhood and city parks.

• Repurpose streets among other corridors as ecological corridors, protecting vital aquifer zones, linking ecological restoration to conservation of the city’s rich cultural heritage.
Case study: Sharjah, UAE
Nature-based solutions for adaptation: urban heat island effect

Areas with green coverage experience low to medium temperatures, while areas with no green cover are prone to high temperatures (south west and north eastern side). These are mostly industrial areas, Airport area, Um Faneean and Al Sajaa area.
UN Secretary General Policy Brief on COVID-19 in an Urban World

Pillars for building back better towards the 2030 Agenda:
1. Health First
2. Protecting People, Social Protection and Basic Services
3. Protecting Jobs and Economic Recovery
4. Macroeconomic Response and Multilateral Cooperation
5. Social Cohesion and Community Resilience

There will be no return to the "old normal"

There is an urgent need to rethink and transform cities to respond to COVID-19 and potential future pandemics, and to recover better by building more resilient, inclusive and sustainable cities
1. Tackling inequalities and development deficits
2. Strengthening the capacities of local actors, particularly governments
3. Pursuing a resilient, inclusive, gender-equal and green economic recover

Ongoing processes: Country Socio-economic Recovery Plans and New Deals
<table>
<thead>
<tr>
<th></th>
<th>UN-Habitat Report - Future state of cities in a world with pandemics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Rethinking the state, re-organizing local governance mechanisms.</td>
</tr>
<tr>
<td></td>
<td>Urbanization and the governance of COVID-19 pandemic</td>
</tr>
<tr>
<td>2</td>
<td>Addressing the systemic poverty and inequality in cities,</td>
</tr>
<tr>
<td></td>
<td>and the impact of COVID-19</td>
</tr>
<tr>
<td>3</td>
<td>Rethinking urban morphology, and systems</td>
</tr>
<tr>
<td></td>
<td>bringing in new evidence on density and compactness and</td>
</tr>
<tr>
<td></td>
<td>the functionality of cities</td>
</tr>
<tr>
<td>4</td>
<td>Rethinking the current urban economy business model.</td>
</tr>
<tr>
<td></td>
<td>Urban Economy, Growth, Investment and Labour Markets</td>
</tr>
<tr>
<td></td>
<td>and the effects of COVID-19</td>
</tr>
</tbody>
</table>
Urban Health, Public spaces and nature-based solutions in cities

Published May 2020 by UN-Habitat and the WHO

“If the purpose of planning is not for human and planetary health, then what is it for?”
How can city leaders design tools for long-term planning, have a healthy covid-19 and to support SDG and NUA reporting on public space?

UN-Habitat's process and tools

- Block by block methodology
- Place analysis tool
- Design Charrettes
- SDG indicators 11.7

- Guide to city wide public space strategy
- Plan assessment tool
- Compendium of inspiring practices on city wide public space strategy

- Plan strategy
- Implementability action plan
- Public space guidelines & principles
- Guide to city wide public space strategy
- Compendium of inspiring practices on city wide public space strategy

Scaling up
- SDG indicators 11.7 and NUA
- Capacity building and training
- National guidance
- Policy tools
- Institutional support
- Resource mobilization

- City wide assessment
- Strategy & Policy
- Monitoring and evaluation
- Plan project

- Public space assessment tool
- City profiles
- Plan assessment tool
- International guidelines on urban and territorial planning
- Global public space toolkit
- Public space and NUP
- Guide to city wide public space strategy
- Urban planning for city leaders
- 5 principles for sustainable neighbourhood planning
- Global public space toolkit
- Planned city extension tool
Public Space Assessment at City level.

60% of public spaces have trees
28% of public spaces have grass coverage
2% of public spaces have urban agriculture
Public space inventory assessment – Nairobi City county, Kenya

**KEY FINDINGS**

**NAIROBI HAS A RICH DIVERSITY OF PUBLIC OPEN SPACES**

Nairobi Public Open Space comprises a complex mixture of natural and environmentally sensitive areas. The typologies of open spaces include urban reserve conservation, public and private parks, gardens, squares and cemeteries, and natural reserves amongst others. However, the city is dominated by potential public open spaces, such as district-level, infrastructure areas, such as electricity substations, railway reserves and drainage reserves. Other typologies of public spaces in the city include amenity green spaces, public parking lots, street corners and other non-defined spaces which include open spaces. Public parking lots for residents are used as parking spaces during the weekend and other public markets on Saturdays and during public holidays, and as parking lots on Sundays.

The inventory revealed that the city has 536 block level public spaces. Majority of them are courtyards, playgrounds and gardens. At the neighborhood level, there are 263 public spaces. These include neighborhood squares, gardens, neighborhood parks and space fields. The city also has 46 city-level public spaces. These include large and strategic public spaces around the city. On the other hand, the city has 53 linear public spaces. Majority of these are potential public spaces. They include infrastructure rights-of-way such as electricity rights-of-way, railway reserve and road reserve.

**Above: Classification of public spaces by scale**
Next steps…

• Target and Indicator - Green sq metre per person
• Develop environmental standards/guidelines for land use, natural and biodiversity preservation and pollution – for different contexts
• NBS to be incorporated in economic recovery
• Linking Planning-Health-Nature Based Solutions Capacity building
• Financial mechanisms and cost-benefits analysis on NBS
• Partnerships