



EMG Interagency Dialogue on an IMG on Urbanization and the Environment

Thursday 17 July 2025, 14:00-15:30 CEST

Agenda

- 14:00** Welcome by Ligia Noronha, ASG, Secretary of EMG
- 14:05** Opening and Framing by Anacláudia Rossbach, Executive Director of UN-Habitat
- 14:10** Presentation of the discussion paper
- Land use change and urban expansion by Andrew Rudd, Programme Development Branch, UN-Habitat
 - Housing and neighbourhood configuration by Herman Pienaar, Lead – Urban Lab, UN-Habitat
 - Informal settlement transformation by Ombretta Tempra, Chief, Land, Housing & Shelter Section, UN-Habitat
 - Construction and material flows by Joshua Maviti, Programme Management Officer, Land, Housing and Shelter Section, UN-Habitat
- 14:30** Initial thoughts and perspectives from agency and programme representatives
- Jyotsna (Jo) Puri, Director, Policy and Programmes Division, UNEP
 - Gulnara Roll, Head of Cities Unit, UNEP
 - Astra Bonini, Chief, Integrated Policy Analysis Branch, DESA
 - Curt Garrigan, Chief of the Sustainable Urban Development Section for the Environment and Development Division, UNESCAP
 - Javier Torner Ruiz De Temino, Regional Advisor for Cities, UNECE
- 15:00** Open discussion
- 15:20** Synthesis by Andrew Rudd, Programme Development Branch, UN-Habitat
- 15:25** Concluding remarks by Hossein Fadaei, Head of the EMG Secretariat

Land Use Change and Urban Expansion

A macro, peri-urban scale focused predominantly on biodiversity

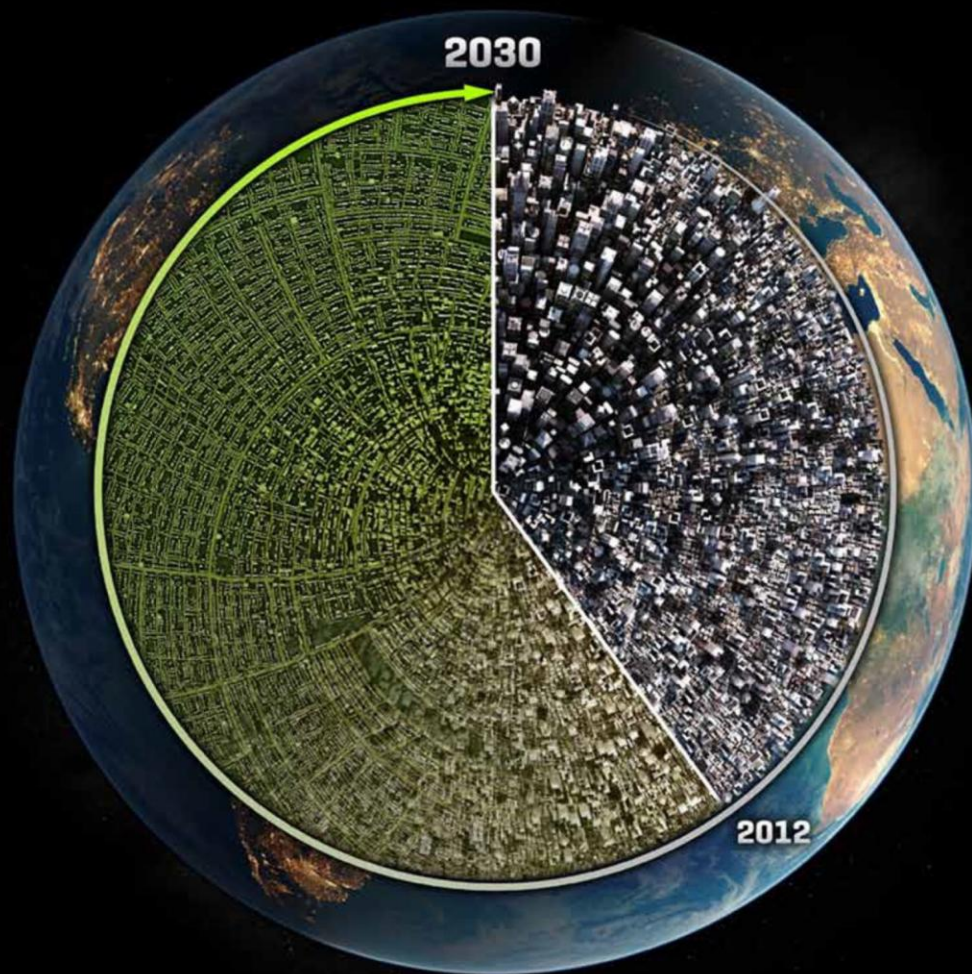
Andrew Rudd
Global Solutions Division

**EMG Interagency Dialogue on an
IMG on Urbanization and the Environment**
17 July 2025

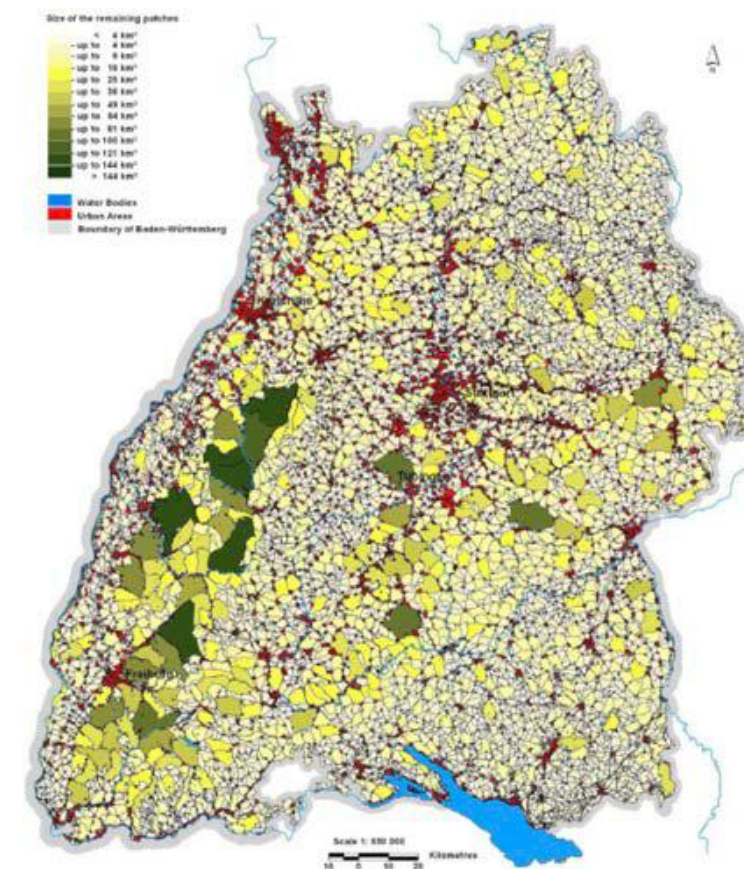
CHALLENGES & OPPORTUNITIES

MORE THAN 60% OF THE AREA PROJECTED TO BE URBAN IN 2030

HAS YET TO BE BUILT

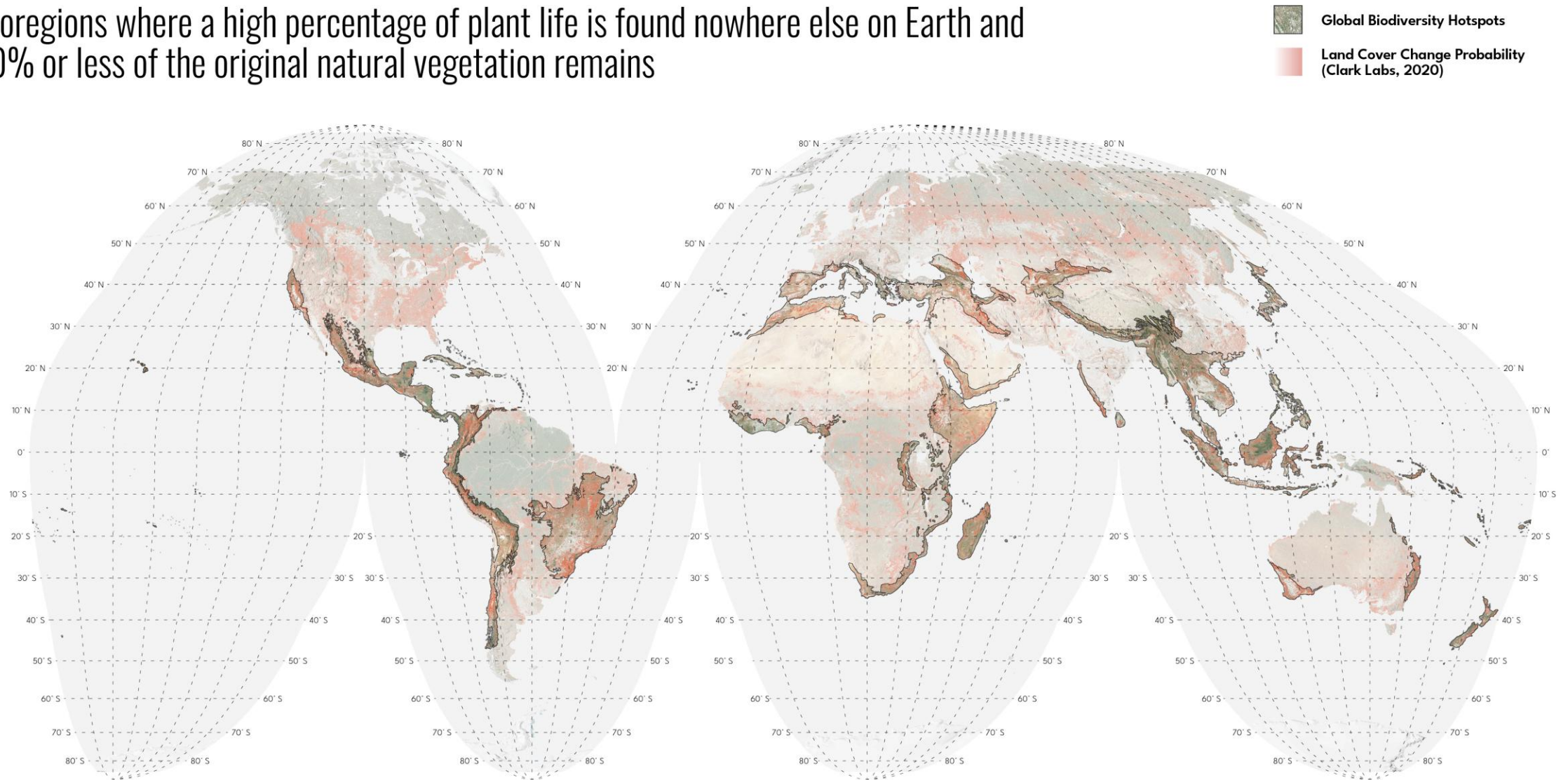


Ranking	North America	South America and Caribbean	Asia and Middle East	Europe	Africa	Oceania
<p>HIGH</p>  <p>LOW</p>	<p>Habitat loss / urban expansion</p> <p>Pollution</p> <p>Loss of biodiversity</p> <p>Infilling / draining wetlands</p> <p>Agricultural intensification</p>	<p>Pollution</p> <p>Infilling / draining wetlands</p> <p>Deforestation</p> <p>Unplanned/ informal settlements</p> <p>Habitat loss / urban expansion</p> <p>Loss of biodiversity</p>	<p>Habitat loss / urban expansion</p> <p>Pollution</p> <p>Loss of biodiversity</p> <p>Deforestation</p> <p>Infilling / draining wetlands</p> <p>Poor air quality</p>	<p>Habitat loss / urban expansion</p> <p>Pollution</p> <p>Loss of biodiversity</p> <p>Climate change</p> <p>Alien / invasive species</p>	<p>Pollution</p> <p>Habitat loss / urban expansion</p> <p>Unplanned/ informal settlements</p> <p>Deforestation</p> <p>Loss of biodiversity</p>	<p>Habitat loss / urban expansion</p> <p>Loss of biodiversity</p> <p>Water demand</p> <p>Infilling / draining wetlands</p> <p>Alien / invasive species</p> <p>Habitat fragmentation</p> <p>Fire</p> <p>Climate change</p>



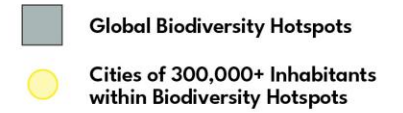
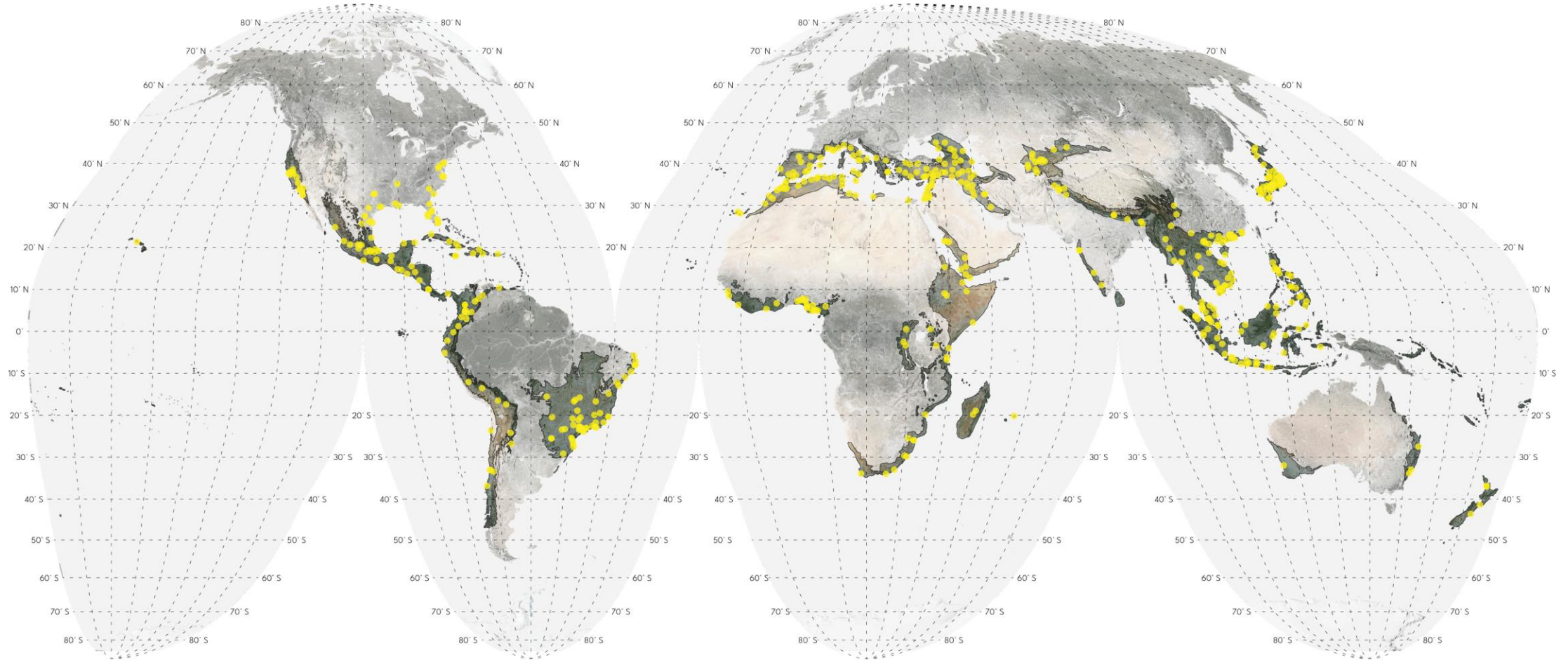
Biodiversity Hotspots

Ecoregions where a high percentage of plant life is found nowhere else on Earth and 30% or less of the original natural vegetation remains



Hotspot Cities

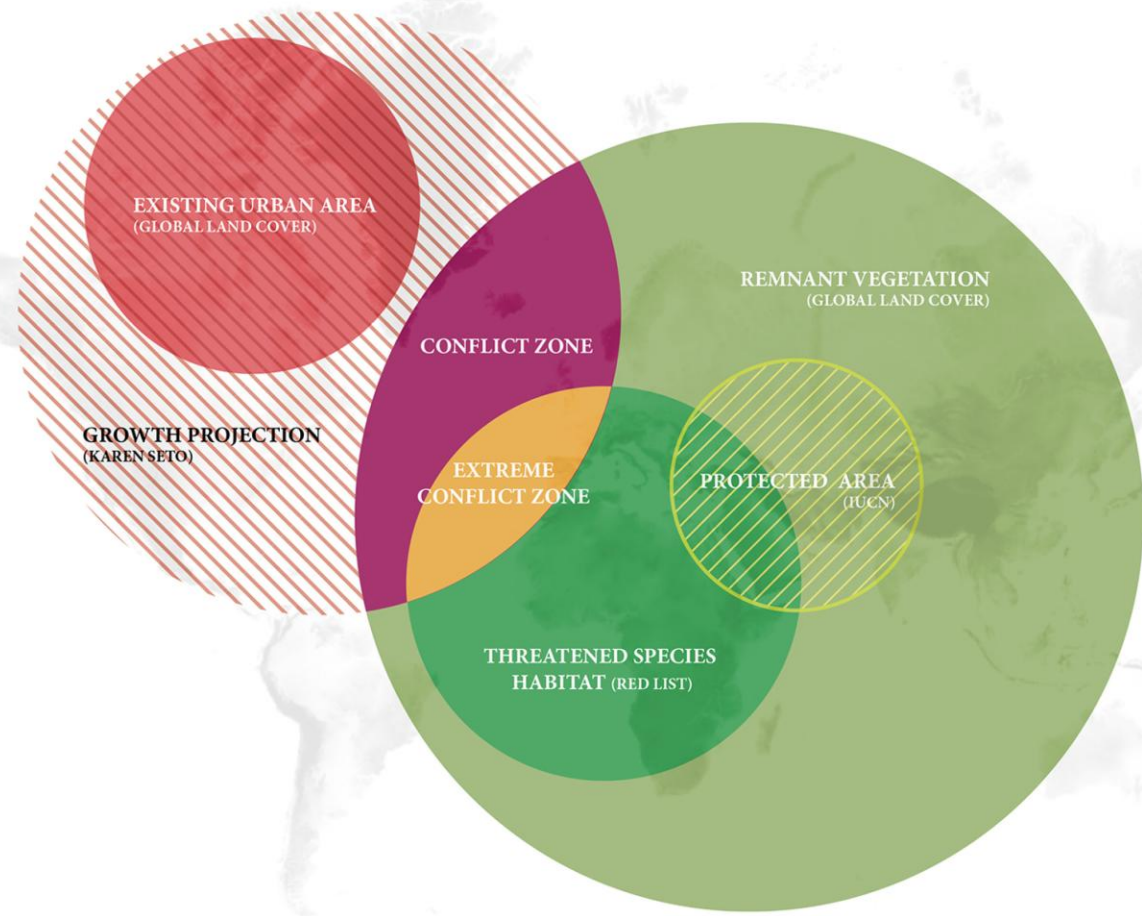
There are over 1,500 cities with more than 300,000 inhabitants located within biodiversity hotspots.

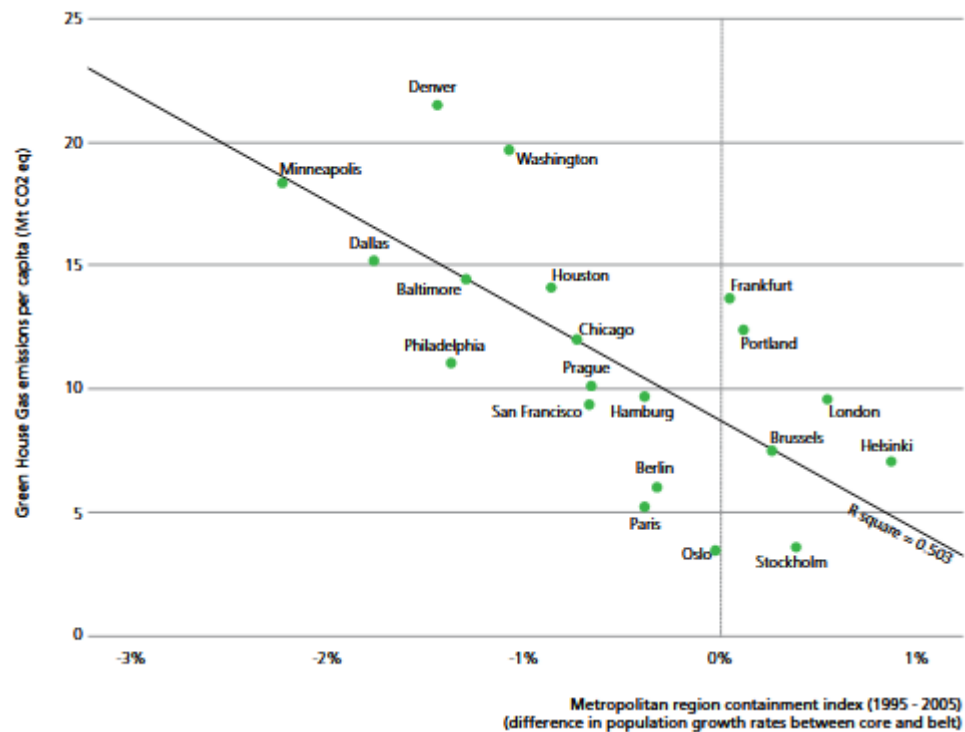
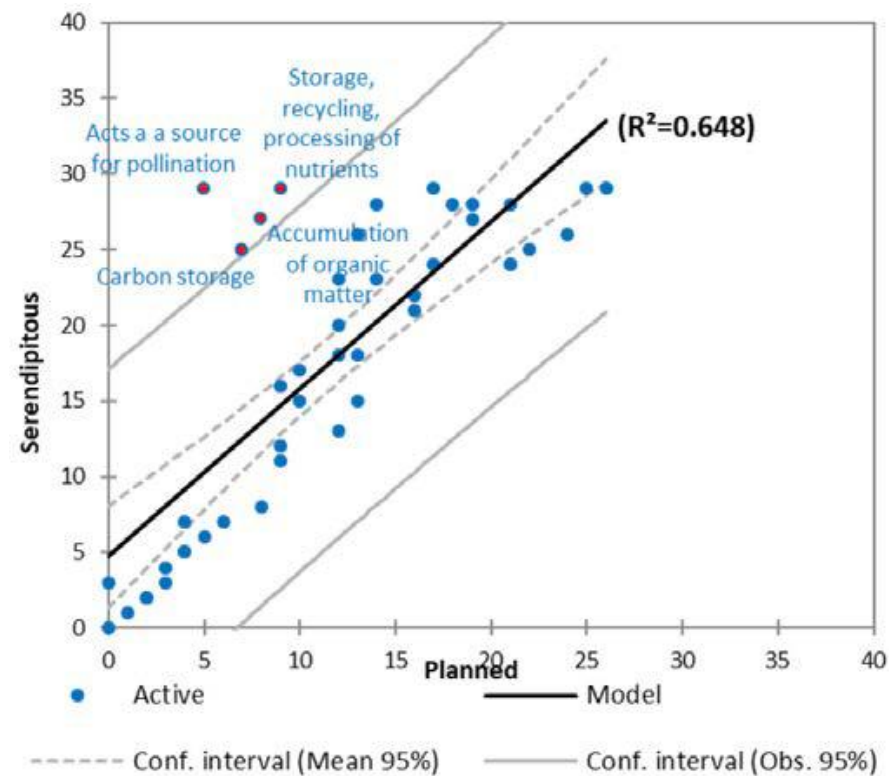


What is the challenge?

Low to Middle Income (LMI) countries are home to the majority of the world's **biodiversity and remnant habitat**, they are expected to experience the **highest rates of population growth** over the coming century, and they are often located in regions expected to be most **impacted by climate change**-related hazards.

Geospatial data is often scarce in LMI countries. Without actionable data, **conservation & climate adaptation** can become **reactive**, which often leads to difficult-to-reverse outcomes.





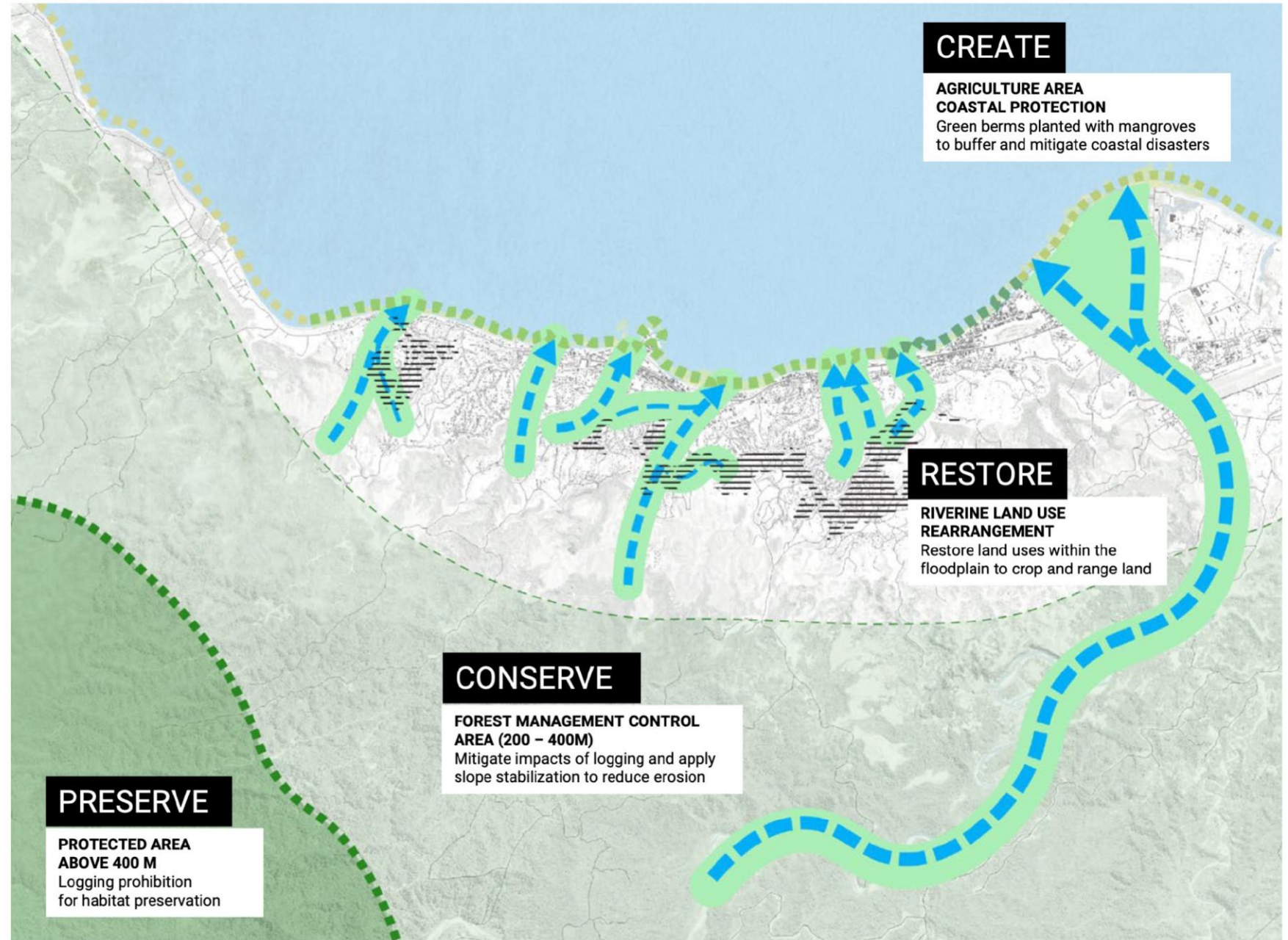


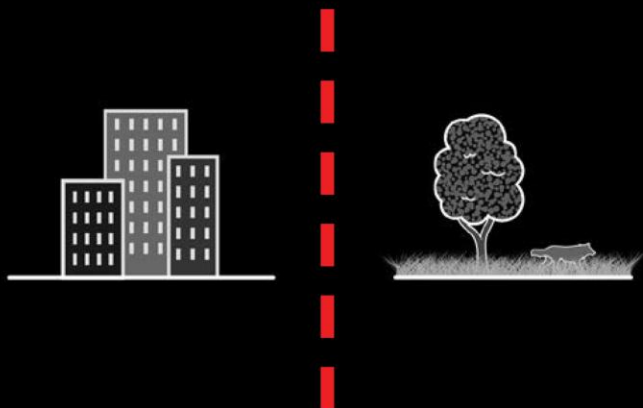
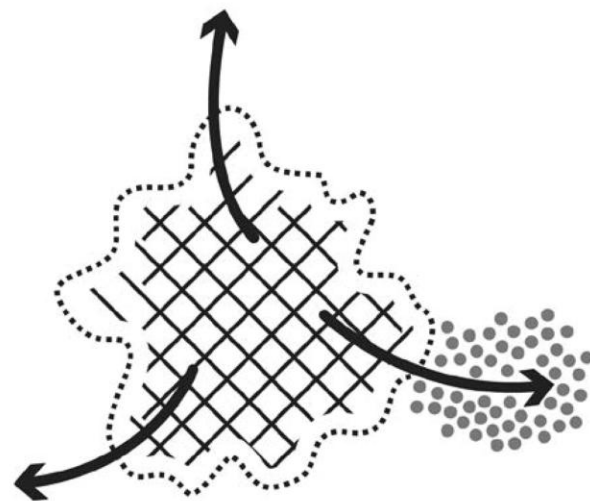


©UN-Habitat/Alessandro Scotti

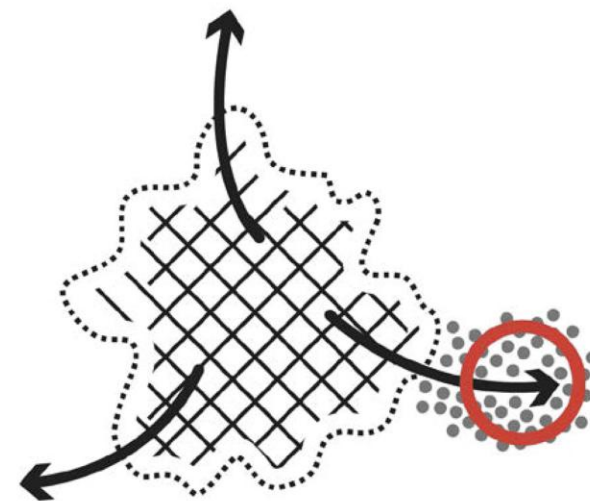


Adaptations

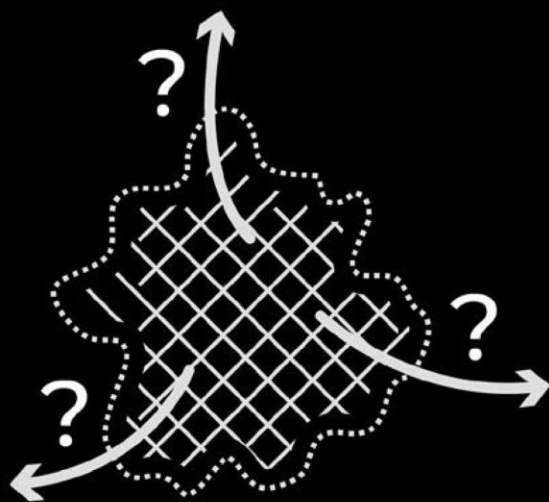
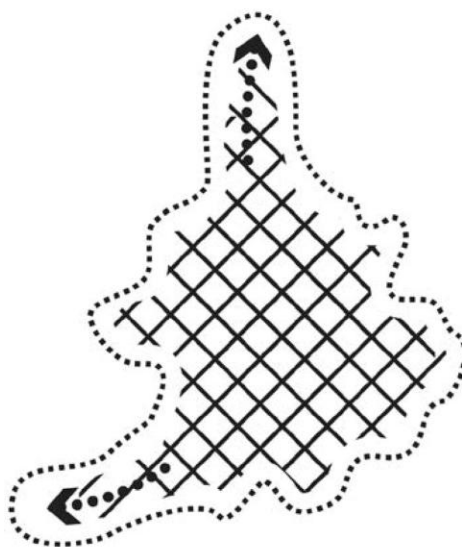




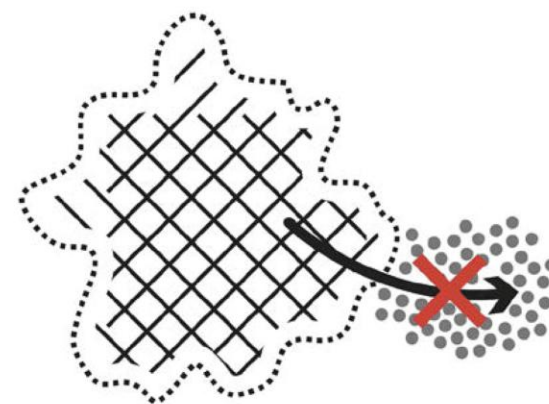
Project



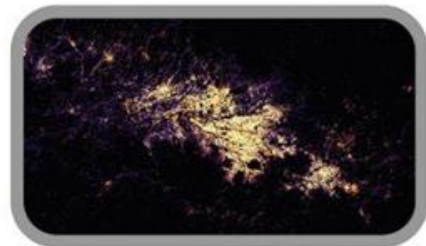
Predict



Prioritize

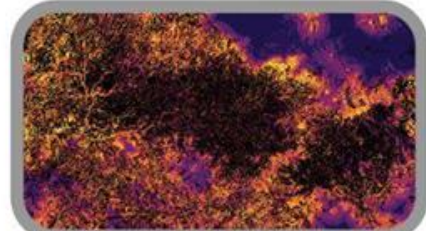


Prevent



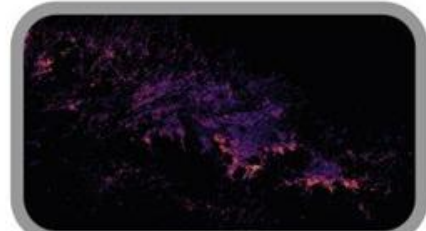
Urban Suitability

+



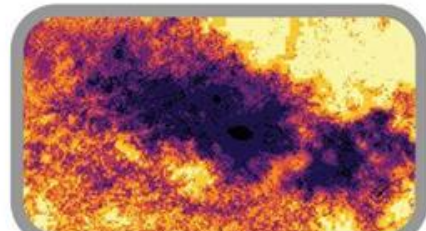
Biodiversity Loss Risk

-



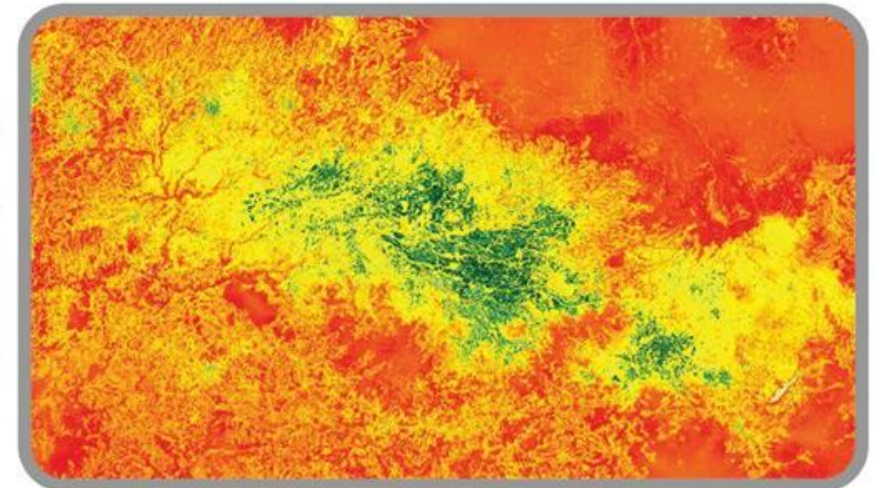
Climate Impact Risk

-



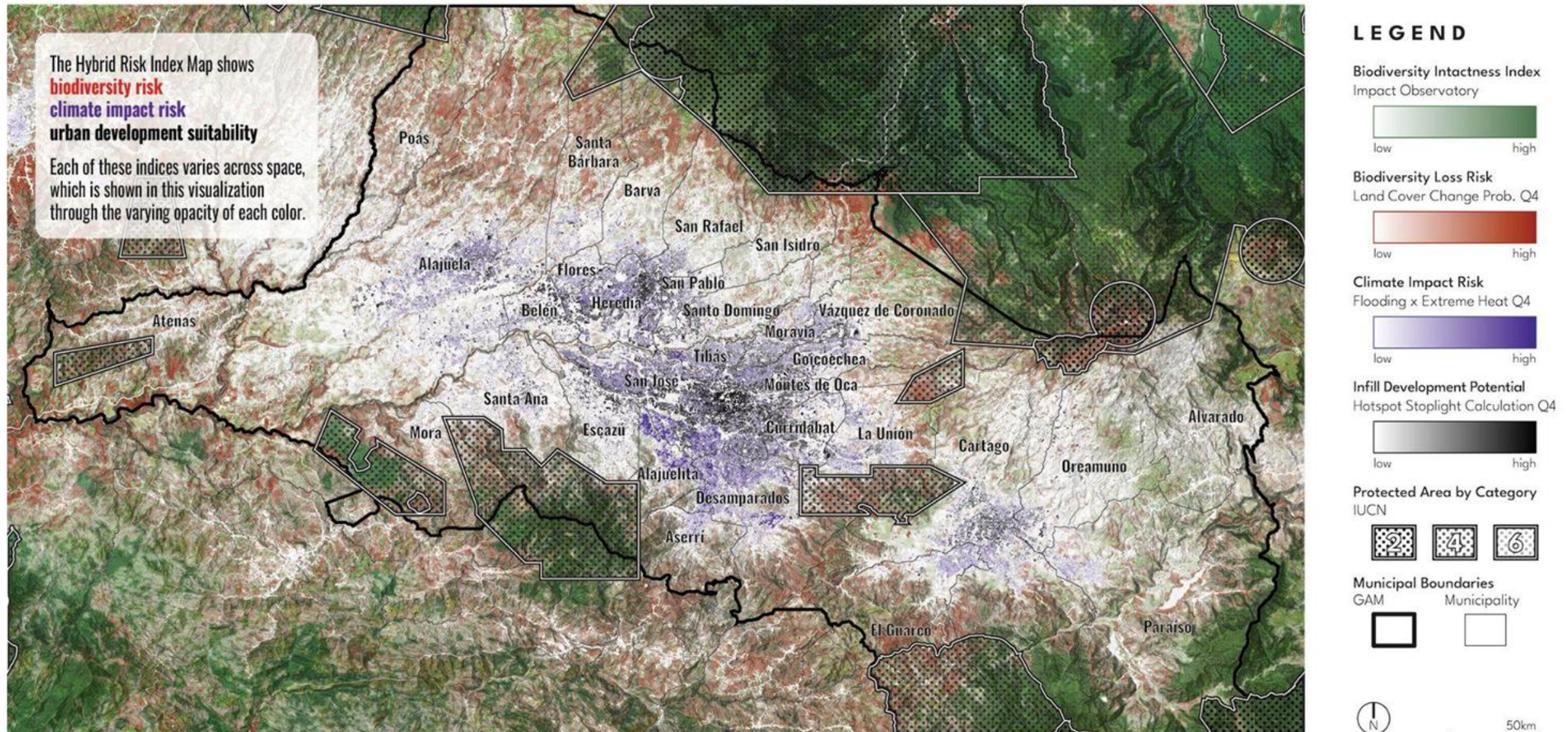
Biodiversity Intactness

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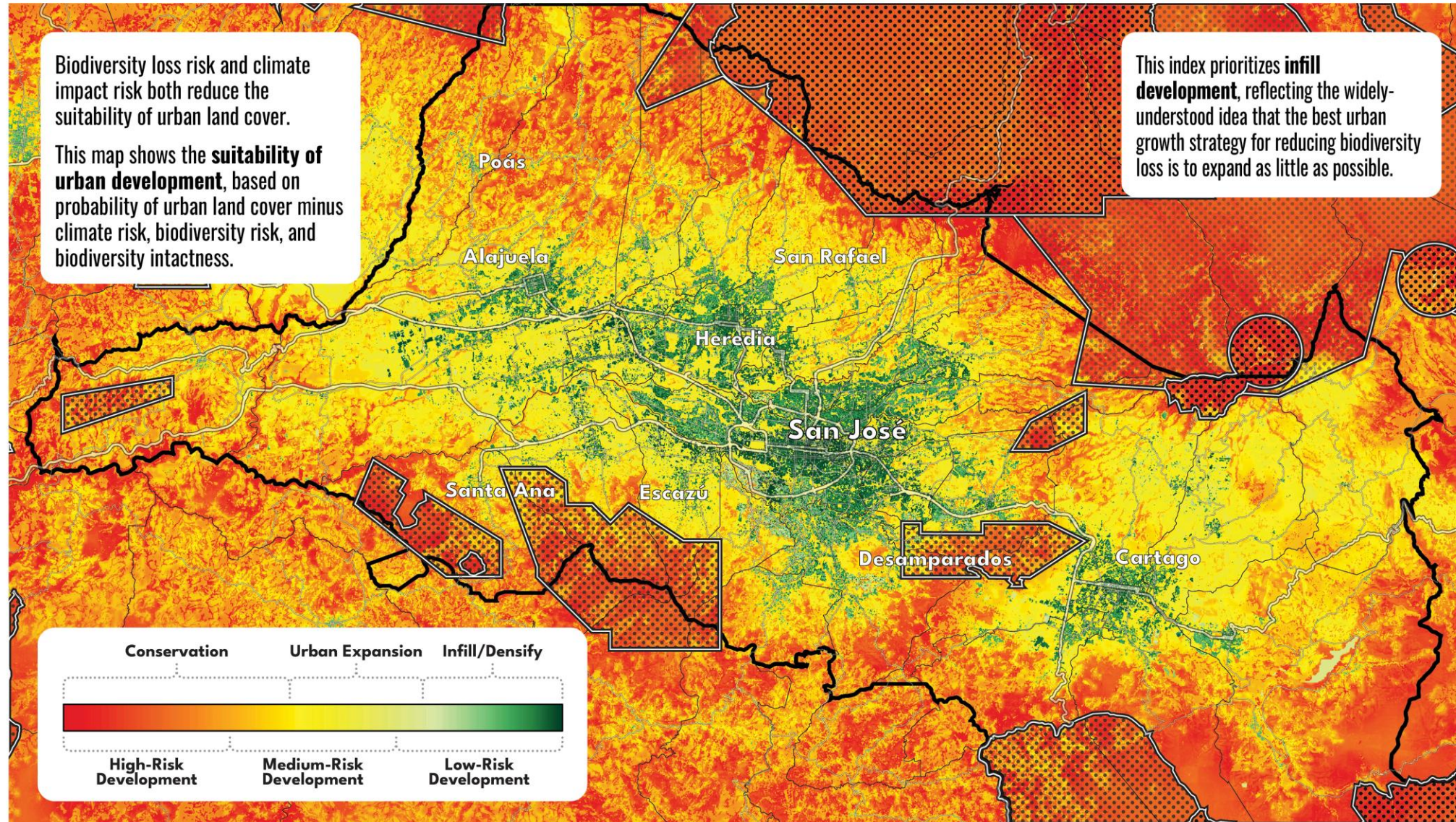


Stoplight for Urban Development

Hybrid Suitability-Risk Index Map



Stoplight for Urban Development



LEGEND

Urban Development Suitability
Hybrid Suitability-Risk Index



Protected Area by Category
IUCN



Municipal Boundaries
GAM Municipality

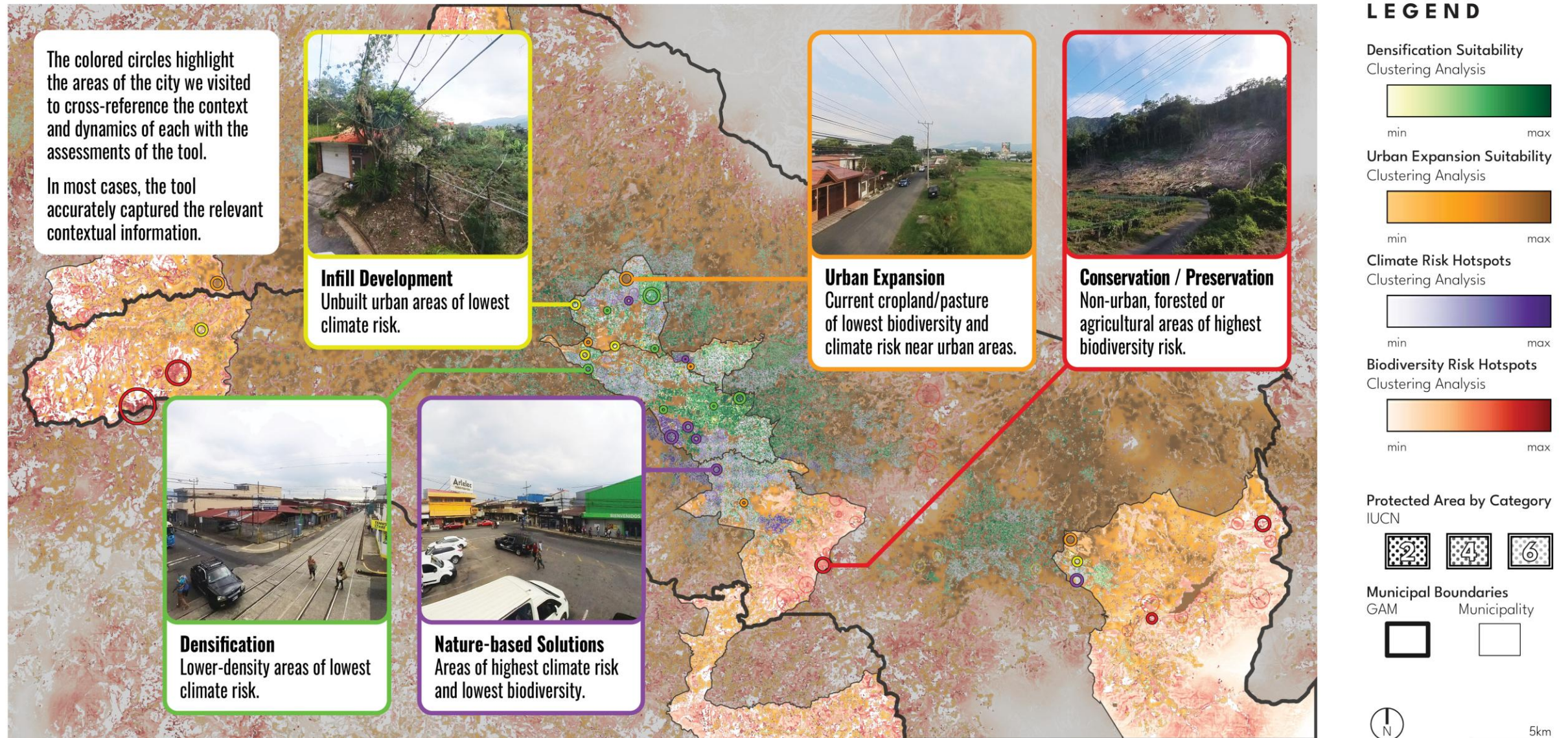


Highways Roads



5km

Areas of Interest



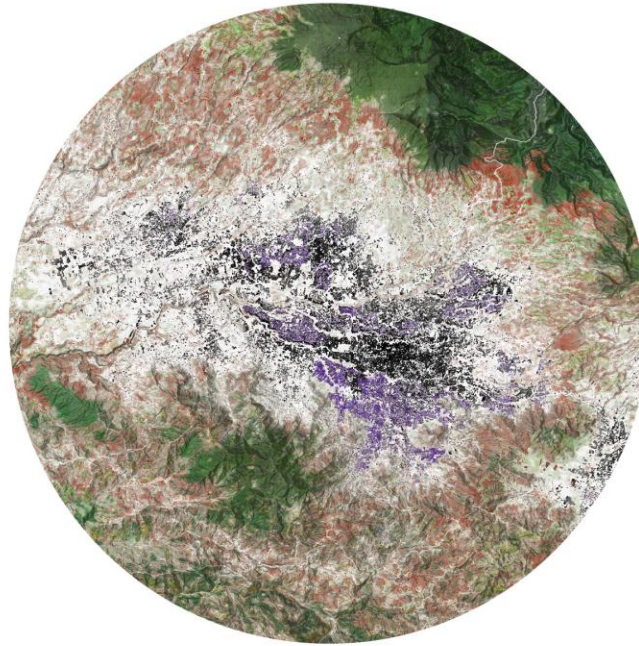
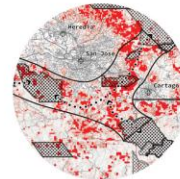
Multiple Scales

Resourcedshed



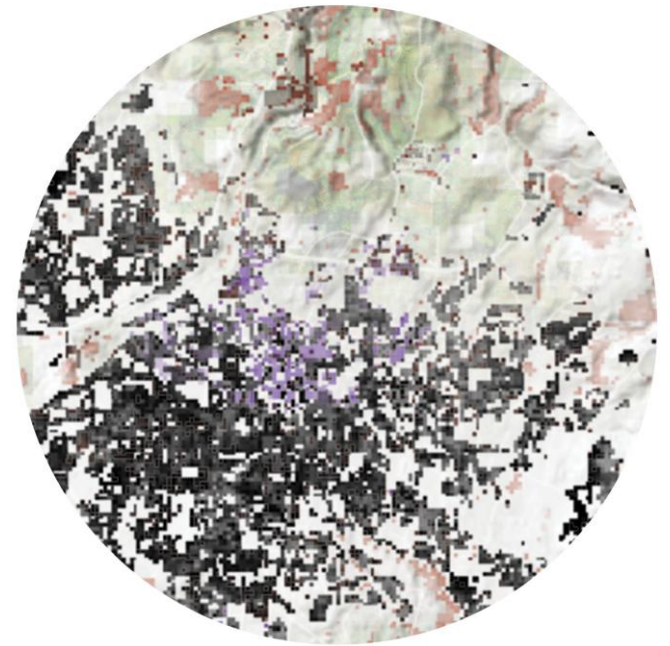
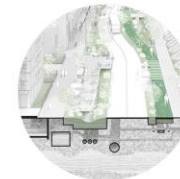
Transportation Planning
Landscape Conservation
Supply Chains

Metropolitan Area



Land Use Planning
Ecological Corridors
Habitat Restoration

Neighborhood



Public Space Projects
Climate Adaptation Projects
Development Tools

Housing and Neighbourhoods

**Adapting Global Commitments and Principles to Create Livable Neighbourhoods
and Climate Change Mitigation**

Herman Pienaar

Urban Lab

Planning, Finance and Economy Section

Global Solutions Division

**EMG Interagency Dialogue on an IMG on
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July 17th 2025

Implementing SDGs and NUA at the Local Scale

Global Frameworks



Human Settlement Form / Objectives

Compact



Connected



Inclusive



Vibrant



Resilient



Spatialisation
Contextualisation
Implementation

How do we know the
desired effect will be
achieved?

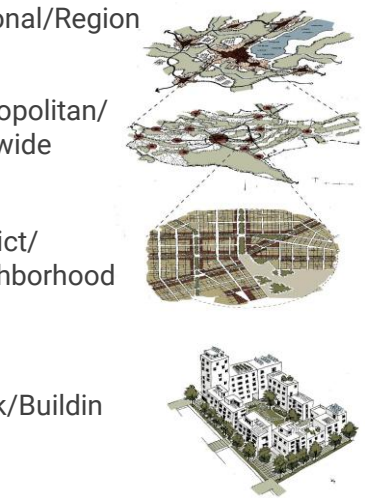
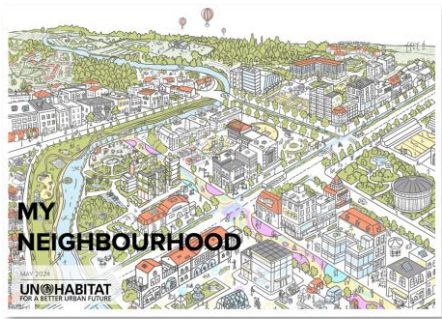
Scales

National/Region

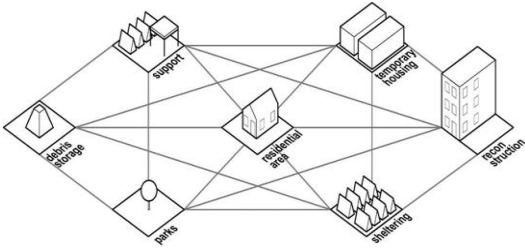
Metropolitan/
City-wide

District/
Neighborhood

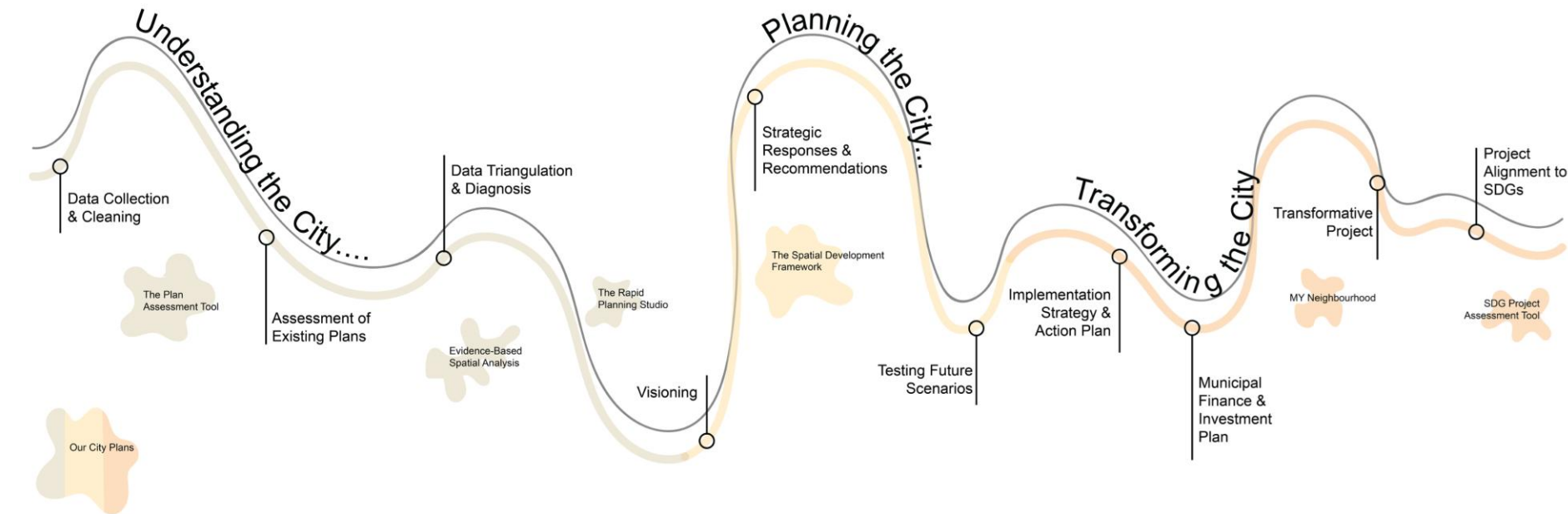
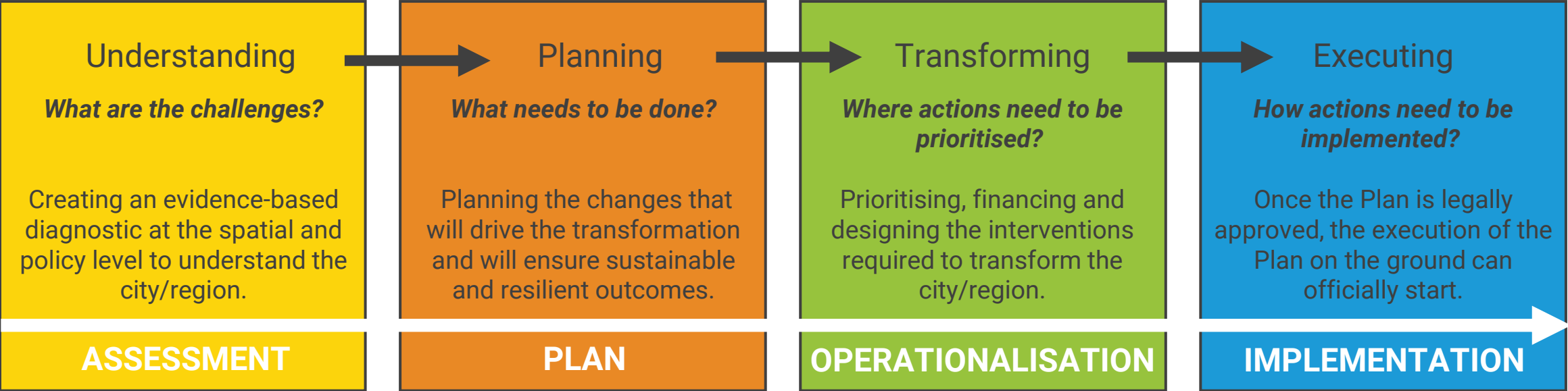
Block/Building



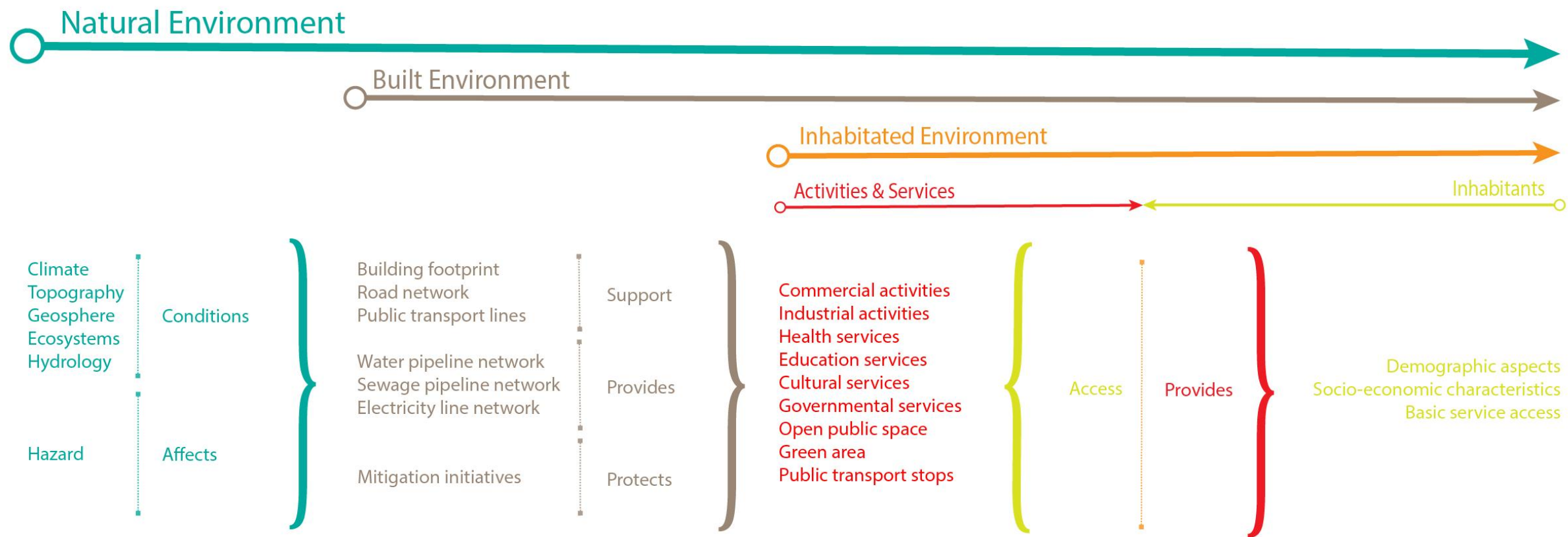
2 PLANNING GUIDELINE



Integrated Planning Process



Spatial Data that Informs Planning Decisions



From objectives to indicators

COMPACT



CONNECTED



INCLUSIVE



VIBRANT



RESILIENT



Key aspect	Sub-Key Aspect
Efficient urban form	Urban density
	Infrastructure network provision
Proximity	Proximity to key service
	Proximity to variety of uses

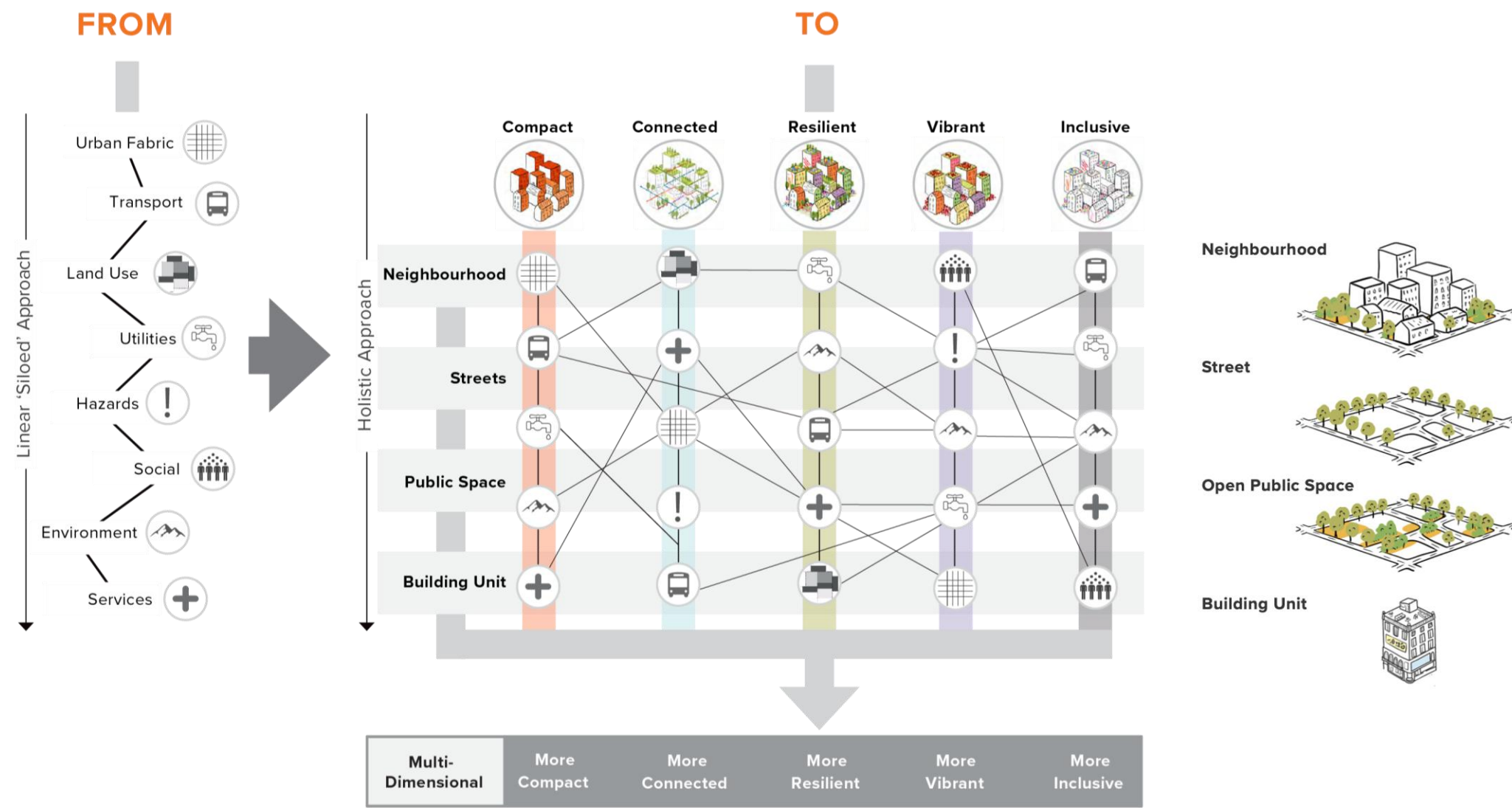
Key aspect	Sub-Key Aspect
Efficient road network	Road provision
	Road network permeability
Convenient multi-modal offer	Public transport network provision
	Public transport stops opportunity access

Key aspect	Sub-Key Aspect
Adequate physical housing conditions	Utility services access
	Living conditions
Equitable right to the city	Equitable service provision

Key aspect	Sub-Key Aspect
Attractiveness	Activities agglomeration
	Activities strategic localization
Movement density	Pedestrian movement
	Pedestrian movement incentive

Key aspect	Sub-Key Aspect
Hazard occurrence	Exposure
	Sensitivity
Vulnerability	Cope capacity

Integrated Framework



-
- A line drawing illustration showing a diverse group of people interacting with a public information display. The display consists of four vertical panels in orange, blue, green, and purple, each showing a different type of information (e.g., maps, text, diagrams). People of various ages, ethnicities, and abilities are shown: an elderly man with a cane, a man with a briefcase, a woman with a baby, a man with a backpack, a woman in a hijab, a man in a wheelchair, a man with a briefcase, a man with glasses, and a man with a headset. The people are standing in a line, looking at the display and interacting with it.



A framework for co-creative processes (children)



A framework for co-creative processes (elderly)



A framework for co-creative processes (women)



And a fun activity for brainstorming



How to play?

1. Distinguish between vision and suggestion cards by organizing them into two separate decks.
2. Select the decision-makers and the city-changers. Decision-makers (such as community members, activists, city mayors, etc.) will act as jury. The city-changers (such as urban planners, entrepreneurs, environmental advocates, etc.) will participate in the game as players.
3. If possible, assemble teams of city-changers to enable the opportunity for discussions.
4. The decision-makers discreetly distribute the suggestion cards (up to 7 cards depending on the number of participants, time and rounds) to each team of city-changers, ensuring that other teams cannot see the distributed cards.

More on the other side!

Inclusive city

A city that fosters diversity, equal opportunities, and community cohesion, ensuring that all residents can thrive together!

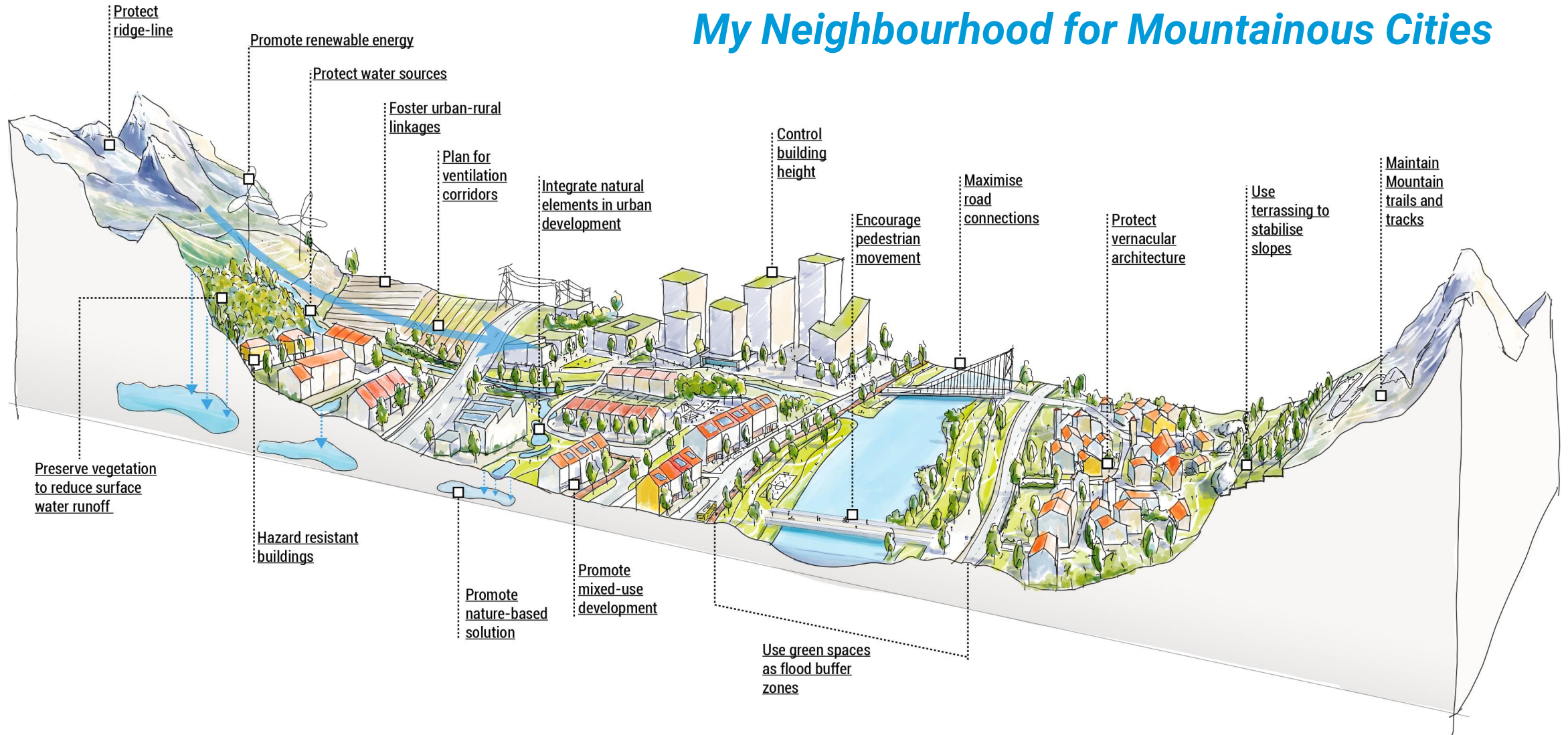
Create playgrounds for adults and places for sports in front of office buildings!

MY Neighbourhood



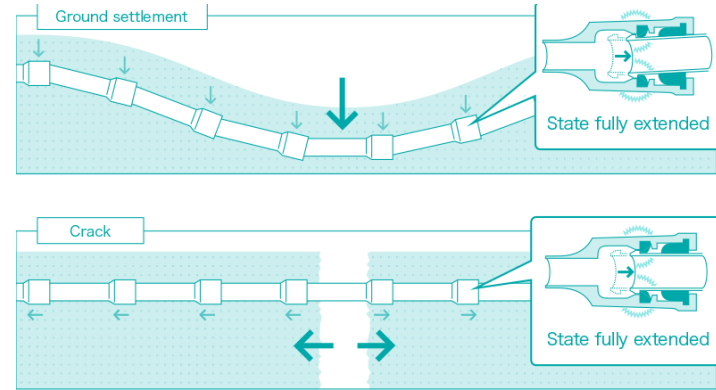
Design Principles for Climate Change Mitigation and Resilience

My Neighbourhood for Mountainous Cities





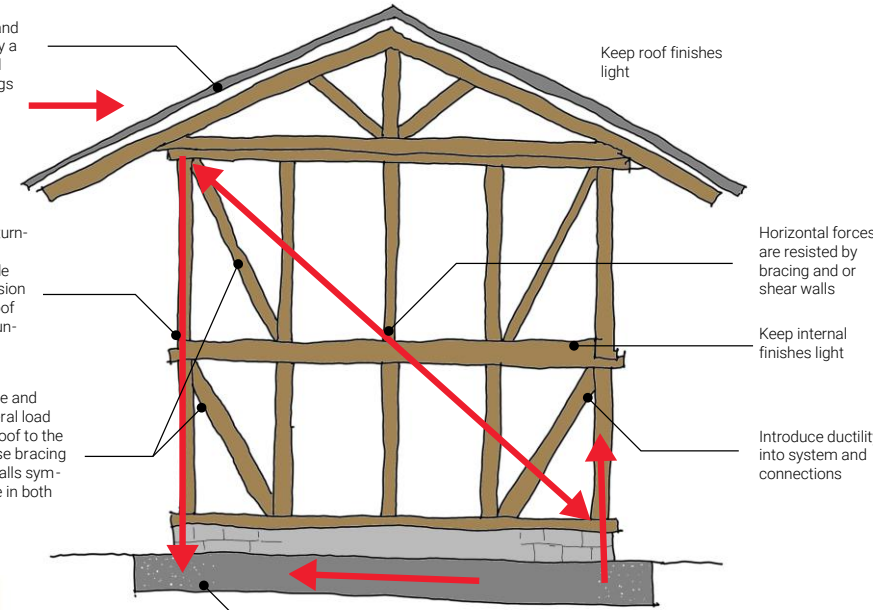
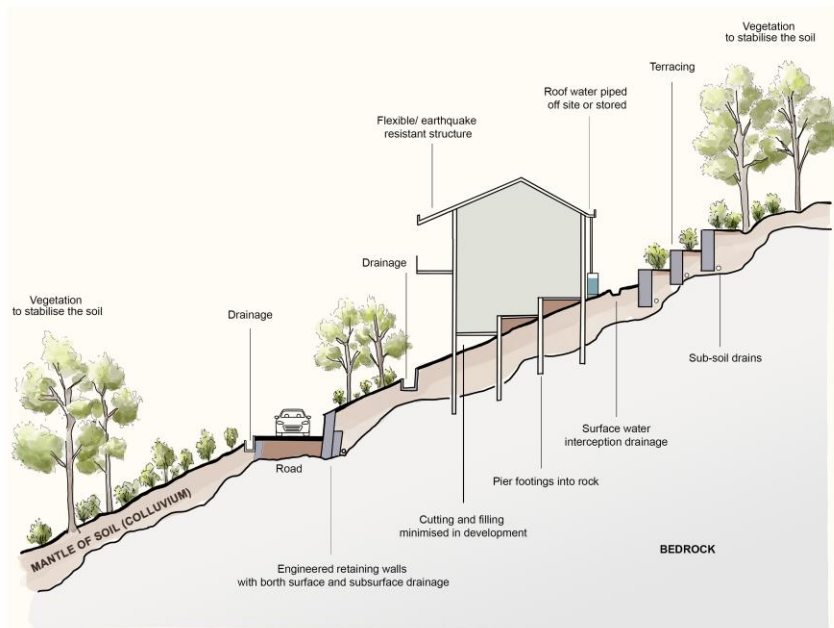
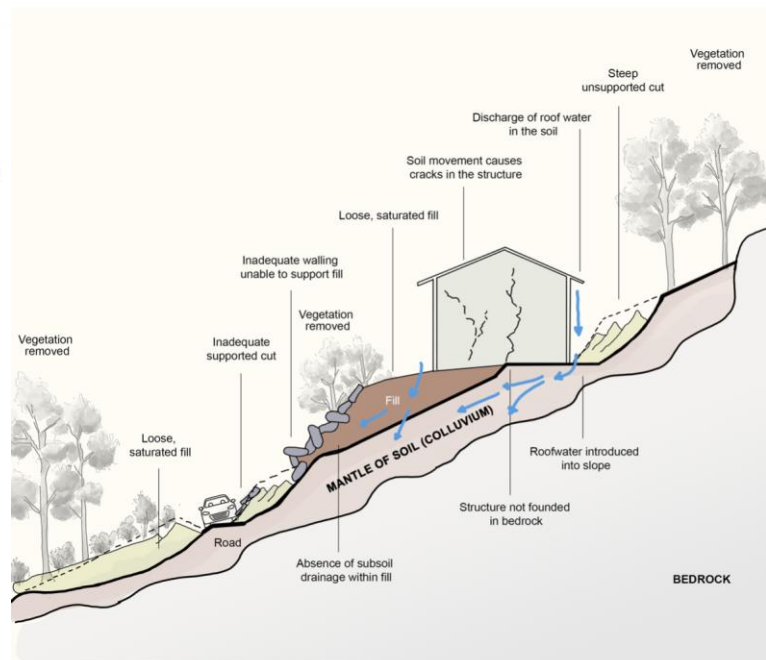
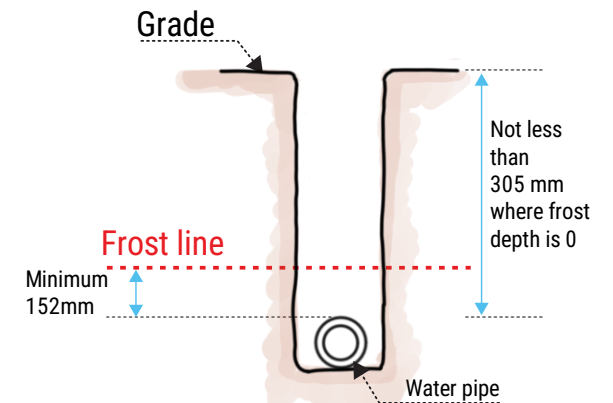
RESILIENT CITY



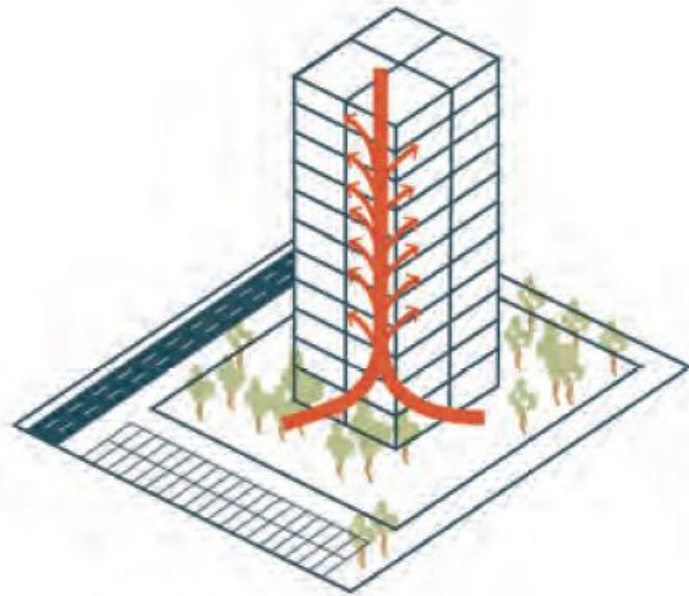
Earthquakes and winds can apply a large horizontal force to buildings

Check for overturning- where required, provide continuous tension ties from the roof down to the foundation

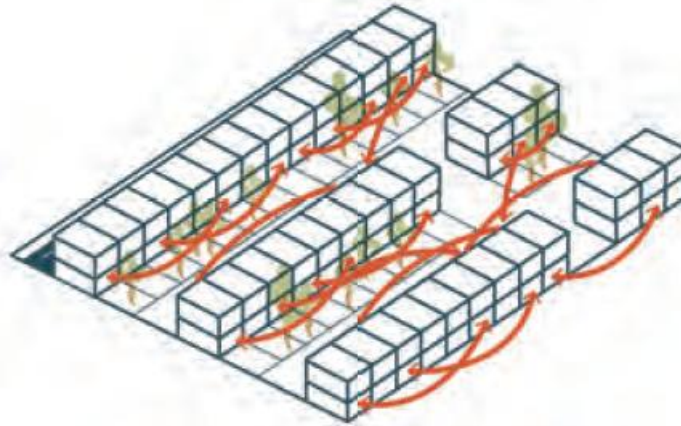
Provide a simple and continuous lateral load path from the roof to the foundations. Use bracing and/or shear walls symmetrically place in both directions



Efficient Density



High rise-
low coverage



Low rise-
high coverage



Medium rise-
medium coverage

- Circulation of residents
- Mixed-use development

The same amount of units

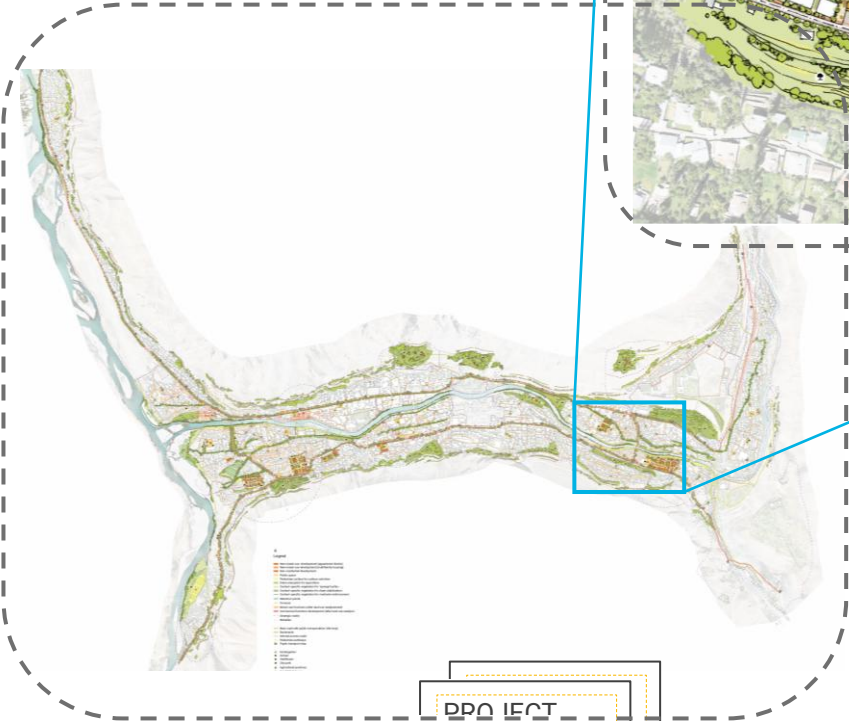
From Plan to Implementation

Urban design project

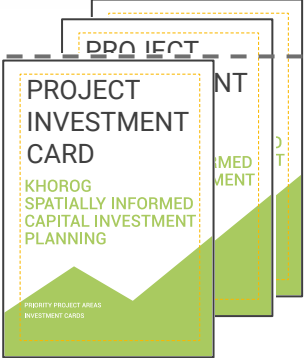
Spatial analysis + indicators



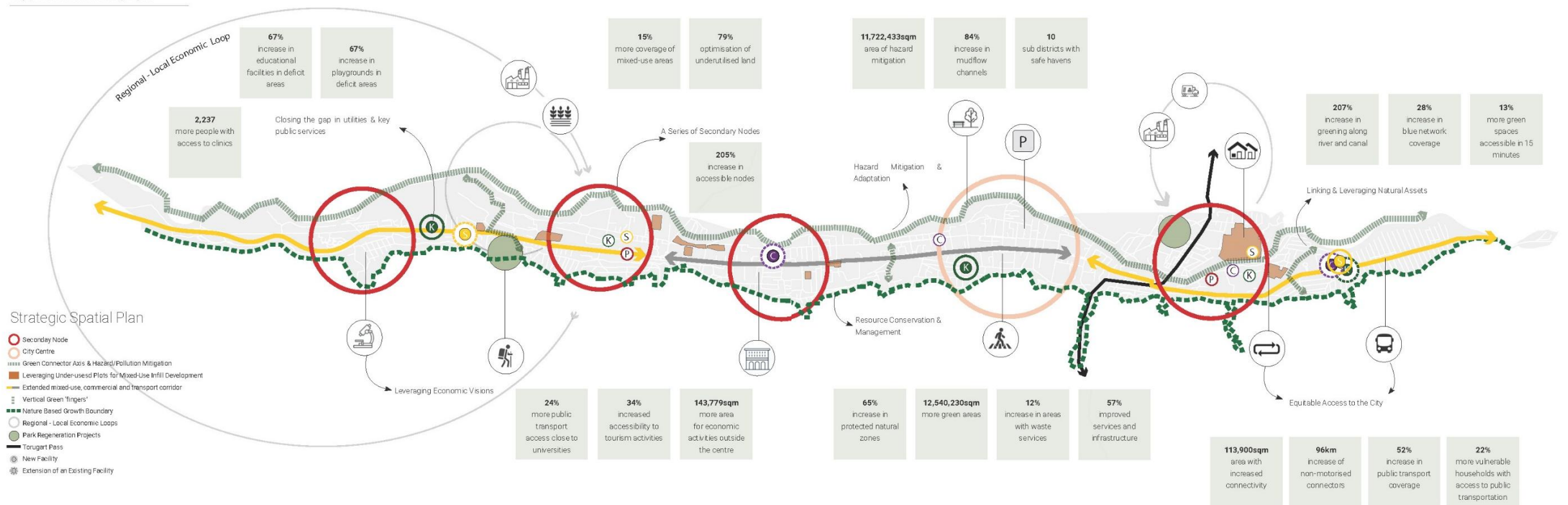
Transformative vision



Block level



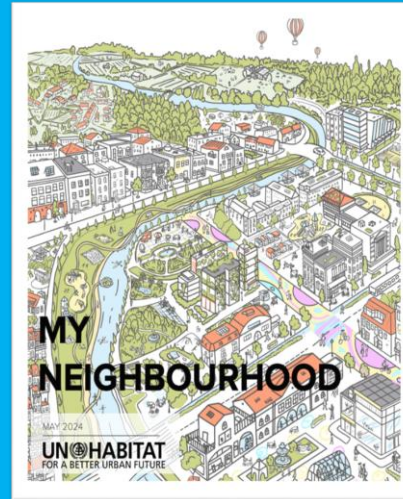
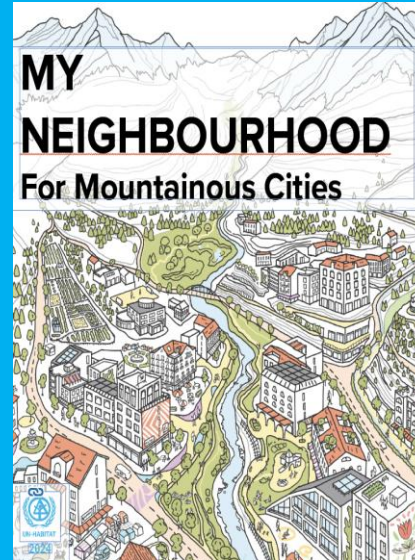
Strategic Spatial Indicators



Thank you.

Urban Lab
Planning, Finance and Economy Section
Urban Practices Branch

UNHABITAT
FOR A BETTER URBAN FUTURE



Informal Settlement Transformation

A meso, neighbourhood scale focused predominantly on climate change adaptation

Ombretta Tempra

Chief Land, Housing and Shelter Section
Global Solutions Division

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Slums today

Urban slum population

1.1 billion* / 24.2 % of urban population

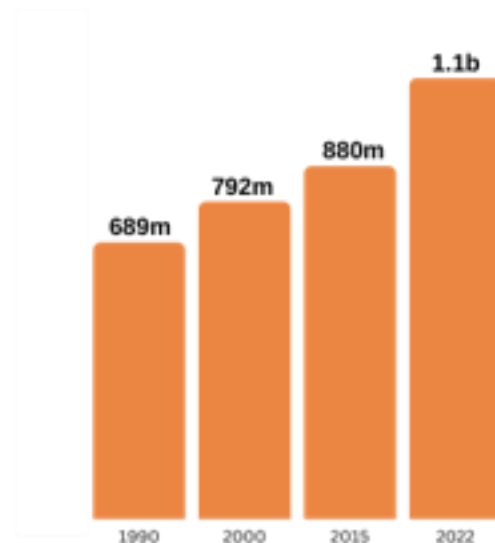
85% living in 3 regions

Central and Southern Asia (359 million),
Eastern and South-Eastern Asia (306), and
Sub Saharan Africa (230)

Sub Saharan Africa

>50% of urban population lives in slums

* underreporting (considering indicators and countries)



1.1 Billion people

live in inadequate, crowded and unsafe housing, being severely affected by multiple shocks and risks



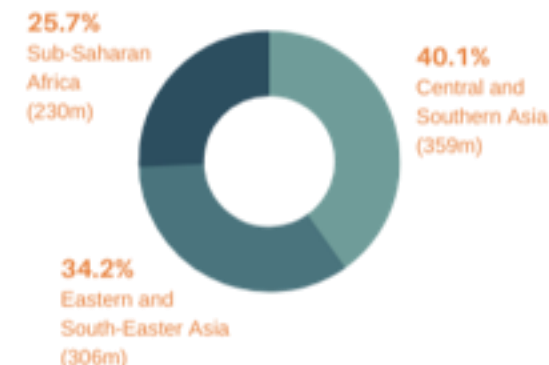
1 out of 4

urban dwellers lived in slums of informal settlements in 2020



85 percent

of which live in three regions

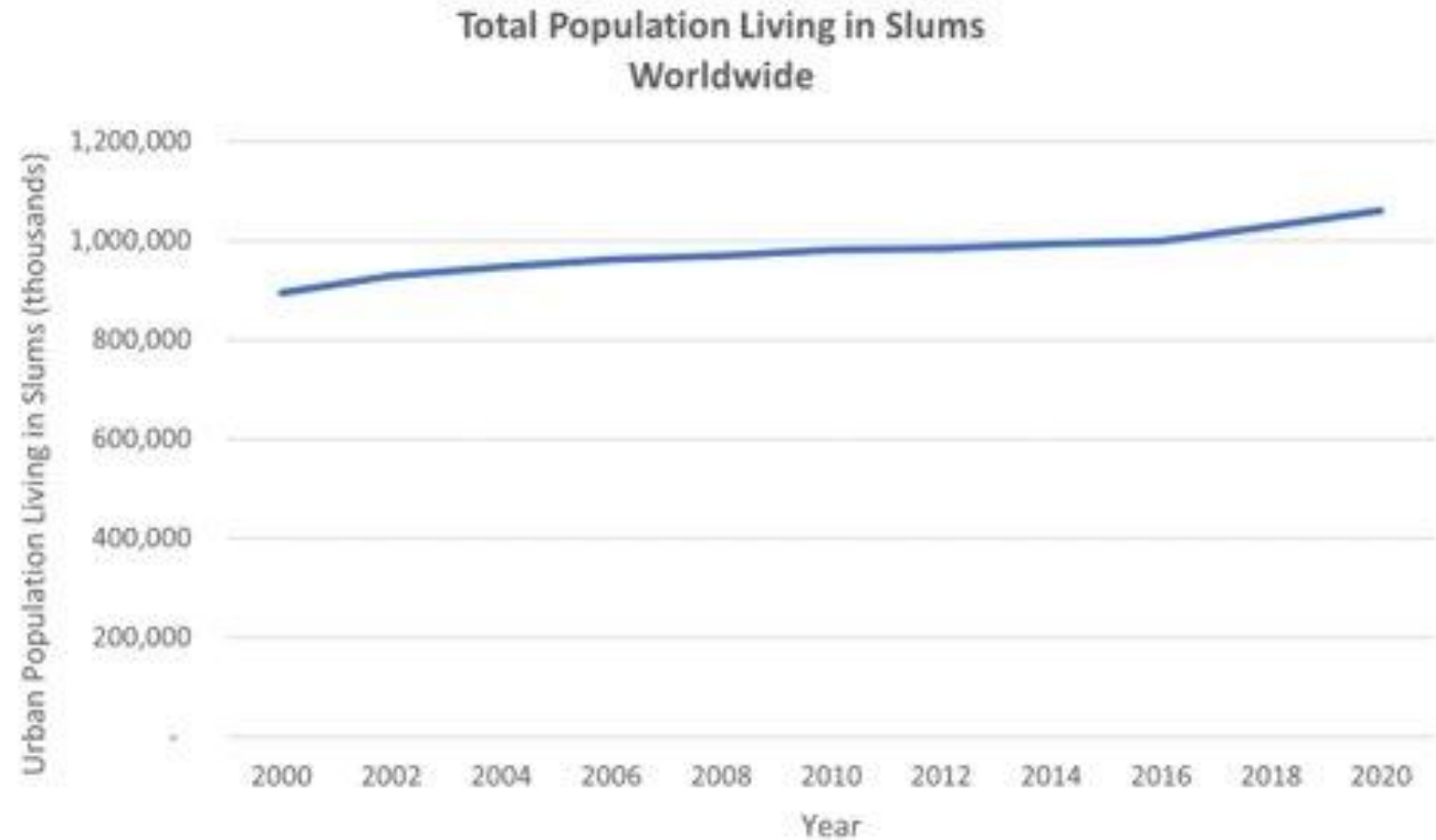
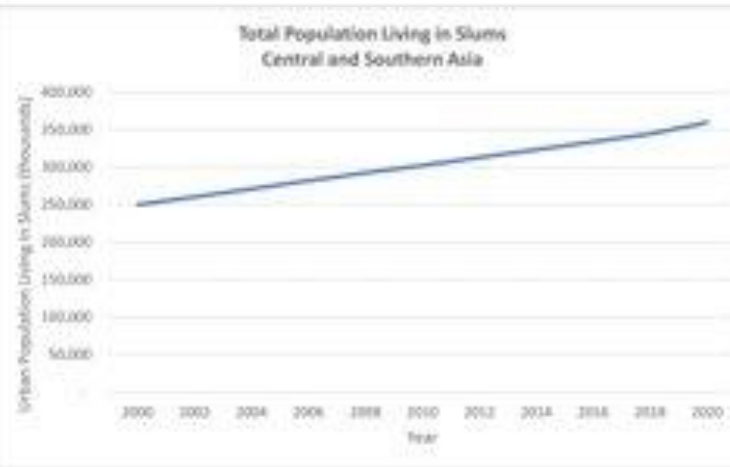
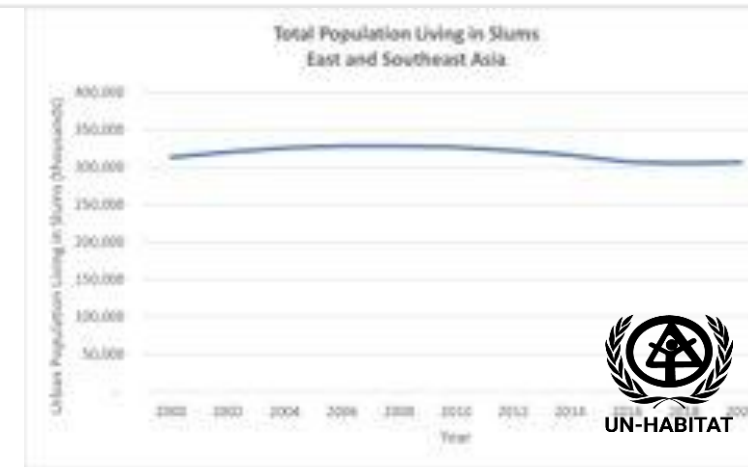


Slum growth

Changes since 2000

Decrease in relative proportion
(from 31,2% to 24,2%)

Increase in absolute numbers
(from 894.9 million to 1.06 billion, an increase of 18,4%)

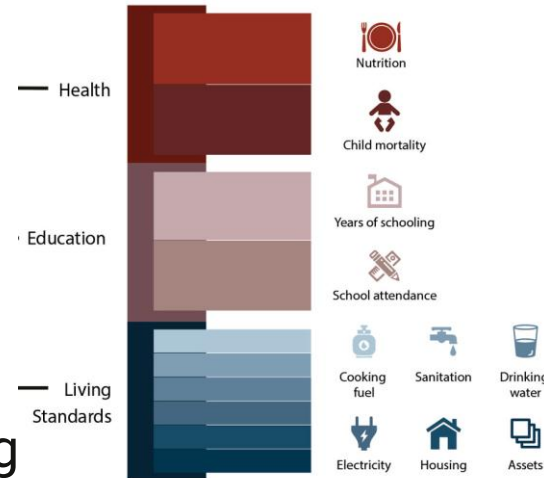


Slum today - Interlinked deprivations

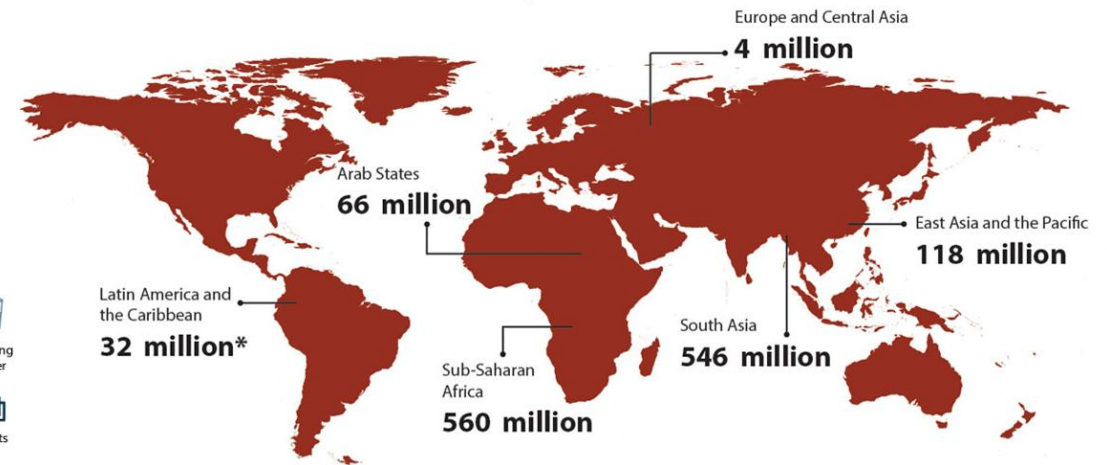
Multidimensional poor:

1.3 billion / 21.7 % people,
209 million in **urban** areas,
 $\pm 50\%$ (644 million) **children** < 18

Interrelated dimensions: Housing services, assets, health, education (World Cities Report: high prices for basic necessities, inadequate income, limited safety net, voicelessness, inadequate rights protection)

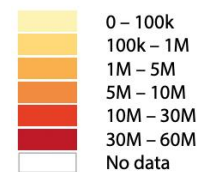


Where Do 1.3 billion MPI Poor People Live?

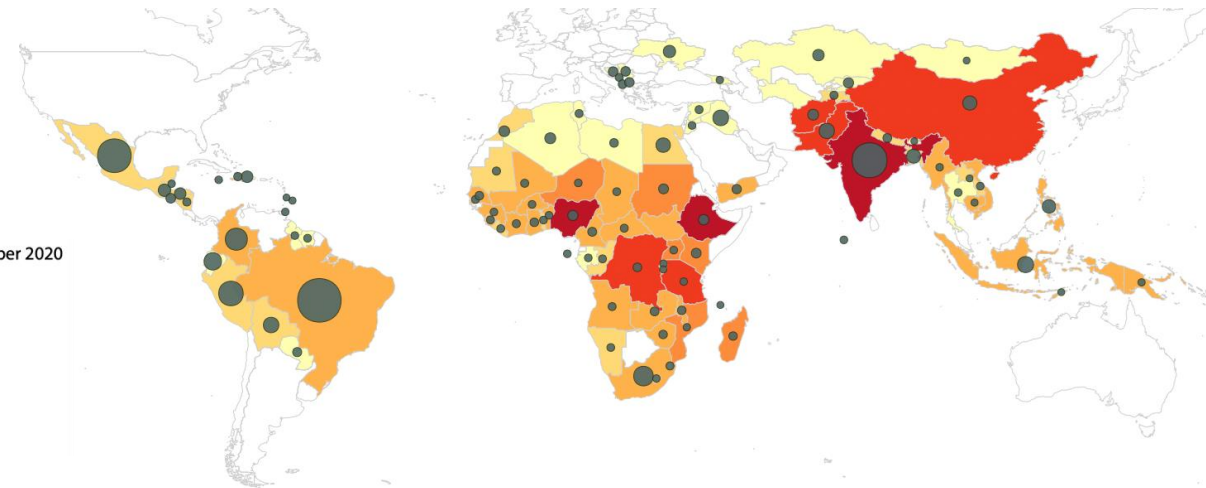


Source: OPHI Multidimensional Poverty Index 2018

Number of MPI Poor at High Risk



Confirmed COVID-19 Deaths as of 10 September 2020



Future Slums

2030:

- **1.2 billion:** strongest growth in Sub Saharan Africa (360 million)

2050:

- **2.9 billion** in 3 regions: Sub Saharan Africa (922.6 million), Central Asia and Southern Asia (1.52 billion), Eastern and South-Eastern Asia (465.4 million)



Slum transformation - Approach

Slum transformation is a process of complete change of territorial units that lack adequate housing, to recognise and integrate them equally into the city

- **No quick fix:** Strong leadership, clear mandates, and legal frameworks are essential to maintain long-term political and financial commitment.
- **No half-hearted approach:** Spatial interventions must integrate cross-sectoral solutions to maximise impact.
- **No one left behind:** Disaggregated, intersectional data must guide people-centred monitoring and inclusion of marginalised groups.
- **No one-size-fits-all:** Flexible and context-sensitive approaches are needed to meet diverse community needs.
- **No dimension left out:** All aspects of the right to adequate housing must be addressed—security, affordability, services, location, and cultural adequacy.
- **No place left behind:** National and local strategies must align across actors to ensure fair resource distribution and territorial equity.
- **No one excluded:** Inclusive, participatory governance is key to empowering communities and ensuring just, community-led development.

Slum transformation - Vision

Slum transformation creates

Cities for All with thriving neighbourhoods that **unlock human freedom** and **untap the full human potential** of all groups of residents through **spatial justice, social inclusion, economic prosperity** and **environmental stability**.



Slum transformation – Focus on Environmental stability



- **Balanced**, sustainable and **integrated urban** and territorial development
- Protection of air, water and ground, ecosystems and biodiversity
- **Risk reduction** and **management** of external shocks, like disasters, pandemics, or climate change
- **Sustainable production** and **consumption** patterns, food security and nutrition



Thank you.

Land, Housing and Shelter Section
Global Solutions Division



UN-HABITAT

Construction and Material Flows

Date: 17 July 2025

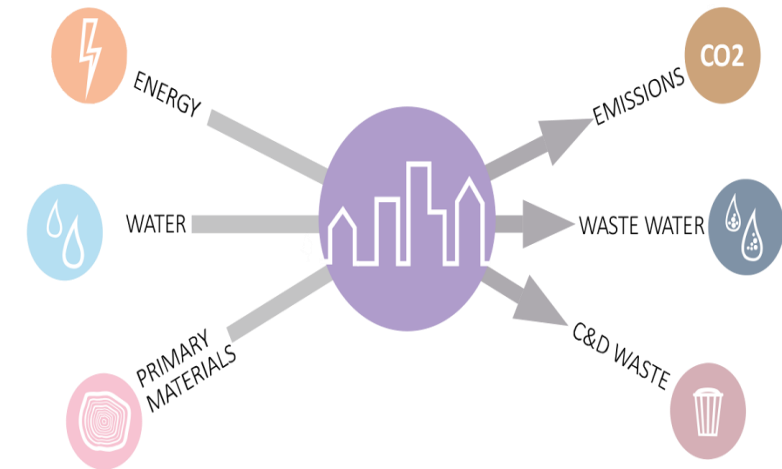
Land Housing and Shelter Section, UN-Habitat



1. Construction and Material Flows

- Future Growth: Over **50% of buildings expected by 2050** are yet to be built, mostly in fast-growing cities in developing countries.
- Environmental Impact: Buildings contribute nearly **40% of global GHG emissions, consume 12% of freshwater and 30% of raw materials, and generate 40% of landfill waste.**
- Housing and Energy: Households account for **19% of global energy use**
- Europe: EU buildings **use 40% of final energy and cause 35% of GHG emissions; construction generates up to 30% of total waste**
- North America: In the U.S., **73% of raw materials are used in construction. Construction and demolition (C&D) waste is 25–45% of solid waste, over half from housing (SBC)**

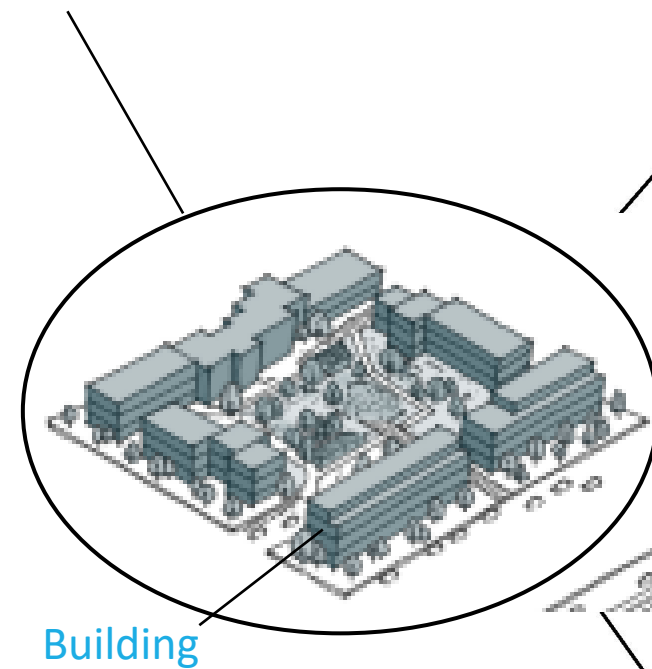
LINEAR METABOLISM CONSTRUCTION
High consumption, low production, high pollution



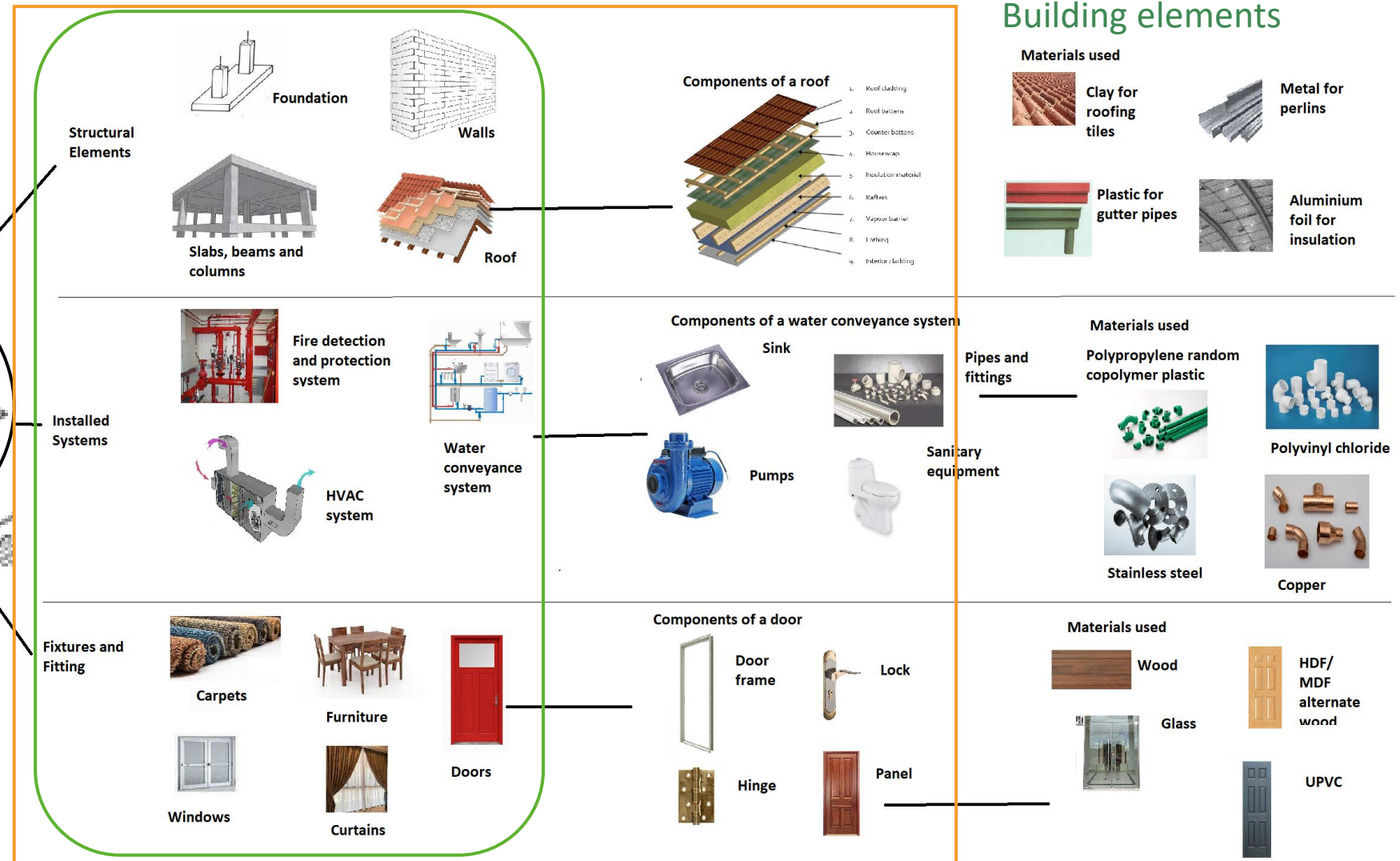
What are we talking about?

A building or built environment is a product system constructed with a range of **construction products**. Each of these is made of different components, and these components are made of **materials**.

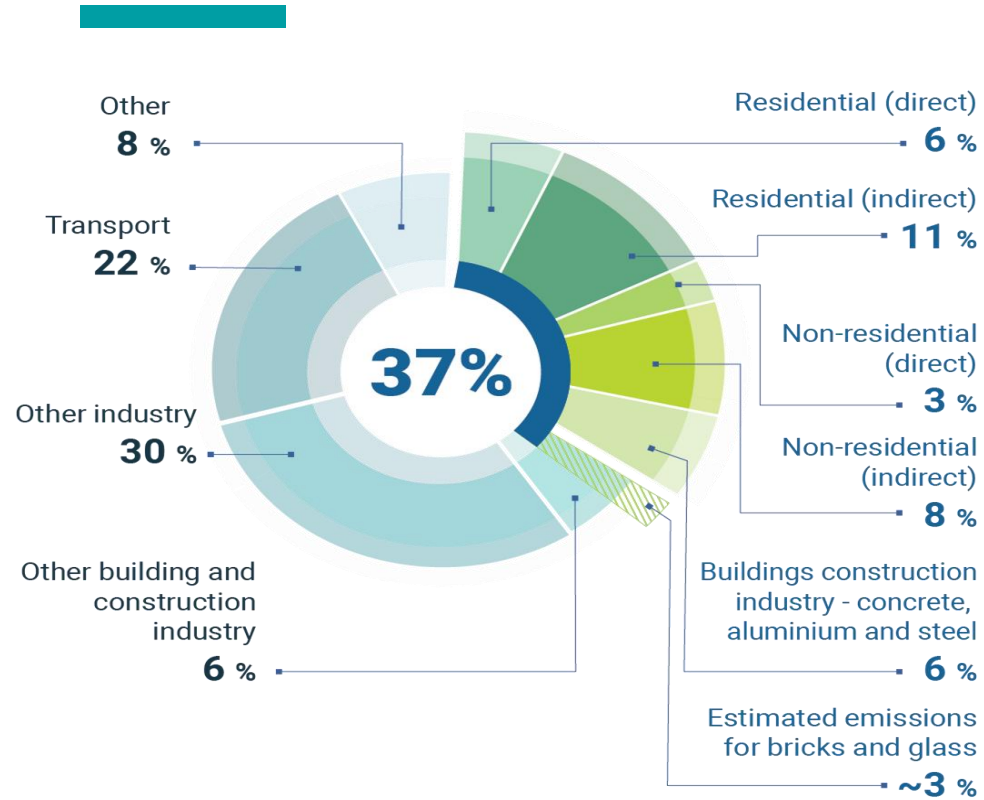
Built Environment



Building



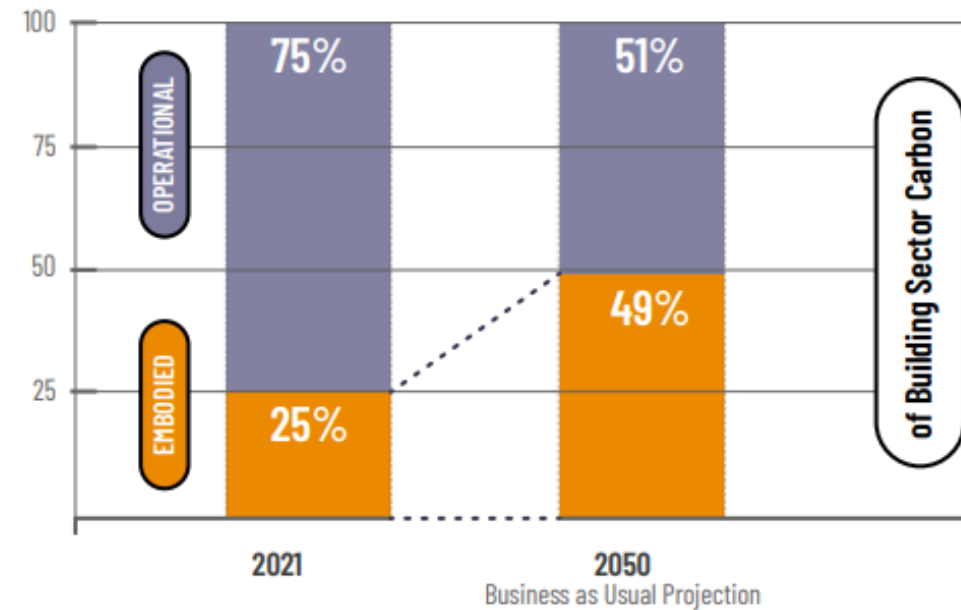
The built environment is responsible for more than a third of global energy-related carbon emissions



- Operational energy-related CO2 emissions from buildings increased by approximately 5% in 2021, surpassing those in 2019 by 2%.

Projected Contributions from Embodied and Operational Carbon within the Building Sector

From 2021 to 2050 with Business as Usual Projections



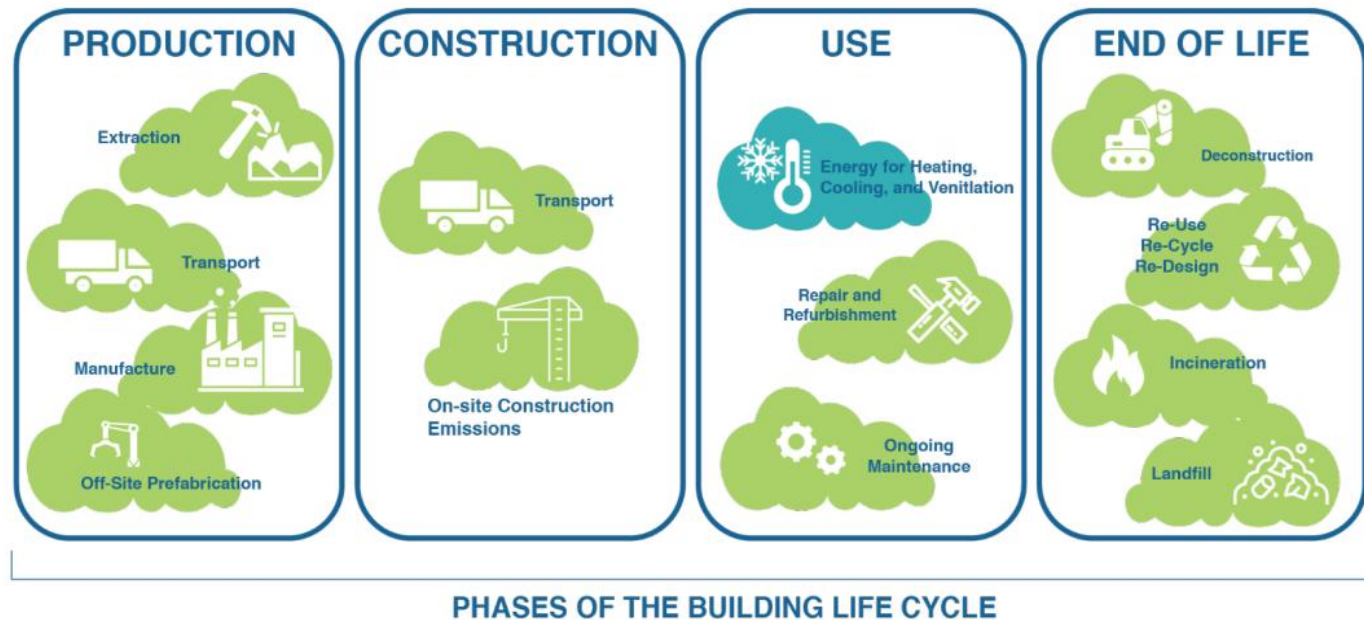
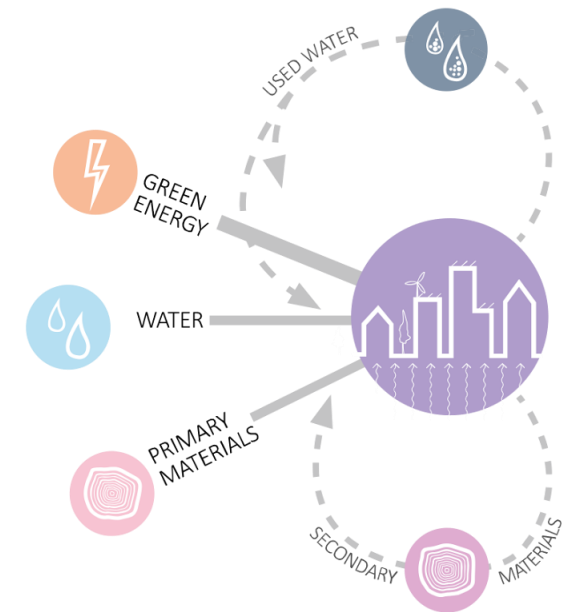
- Embodied carbon will be responsible for almost half of total new construction emissions between now and 2050.
- Global material use is expected to more than double by 2060, with a third of this rise attributable to materials used in the building and construction sector.

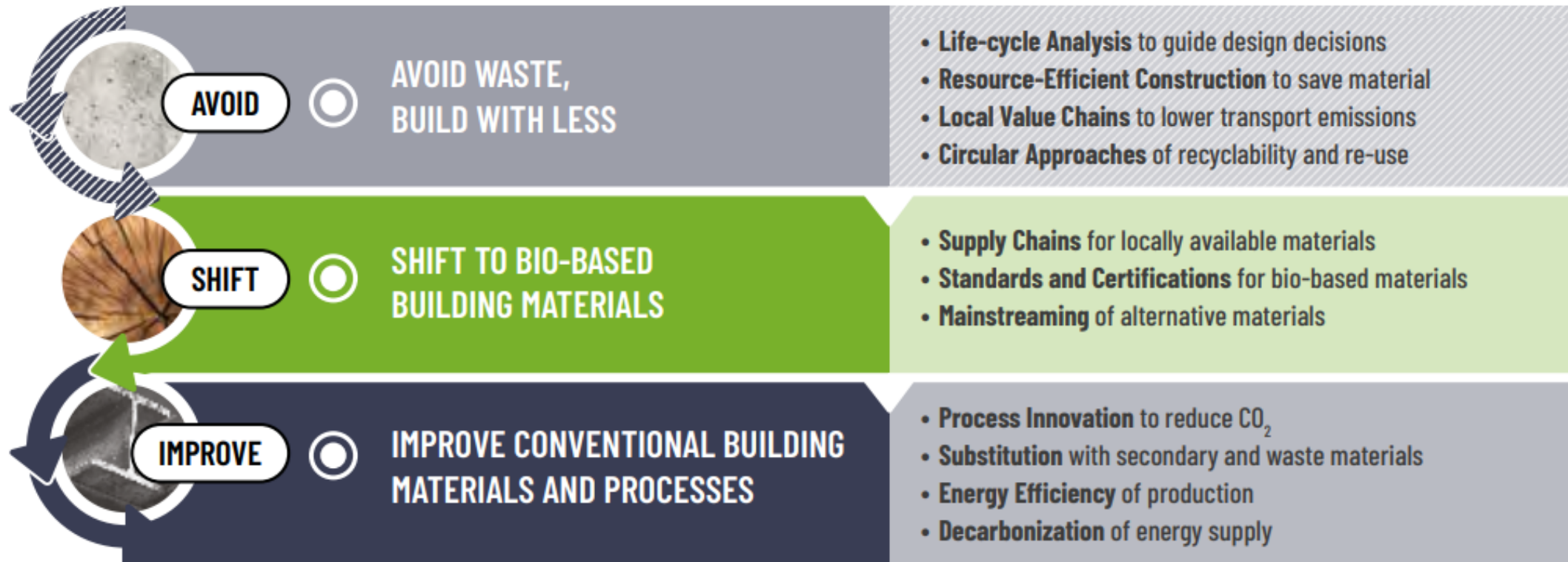
Impact of materials on building lifecycle emissions

IMPACT OF MATERIALS
ON WHOLE BUILDING
LIFECYCLE CARBON



CIRCULATIVE METABOLISM CONSTRUCTION
Low consumption, high production, no or low pollution





Adapted from PEEB 2021.

Co-led by UNEP and the Green Building Council Costa Rica and in partnership with the UNEP-hosted One Planet Network and Life Cycle Initiative, the Materials Hub has three independent working groups :

- **Circular Built Environment (CBE)**
- **Whole Life Cycle Policy Coalition (WLCP.Co),**

SDGs and Other Frameworks



SDG 11: Sustainable Cities and Communities

SDG 12: Responsible Consumption and

- **GlobalABC:** hosted by the [United Nations Environment Programme](#) and with over 365 members, including 42 countries, the [Global Alliance for Buildings and Construction](#) (GlobalABC) is the leading global platform for all buildings stakeholders committed to a common vision: A zero-emission, efficient and resilient buildings and construction sector. Also formulated Climate Action Roadmaps for Building and construction
- **Declaration du Chaillot:** a foundational document for international cooperation on decarbonizing and building climate resilience in the buildings sector. It was adopted at the first Buildings and Climate Global Forum in Paris in March 2024, endorsed by representatives from 70 countries.
- **WorldGBC's Zero Carbon Framework:** The Framework breaks down the key elements needed to accelerate the uptake of zero carbon and deliver guidance on how to achieve a decarbonised built environment.
- **Building System Carbon Framework:** Enables each user to identify the best emissions-reduction strategies for their part of the value chain and allows the stakeholders to make informed decisions