

SUSTAINABLE STRATEGIES EVALUATION IN LATIN AMERICAN URBAN CONTEXTS

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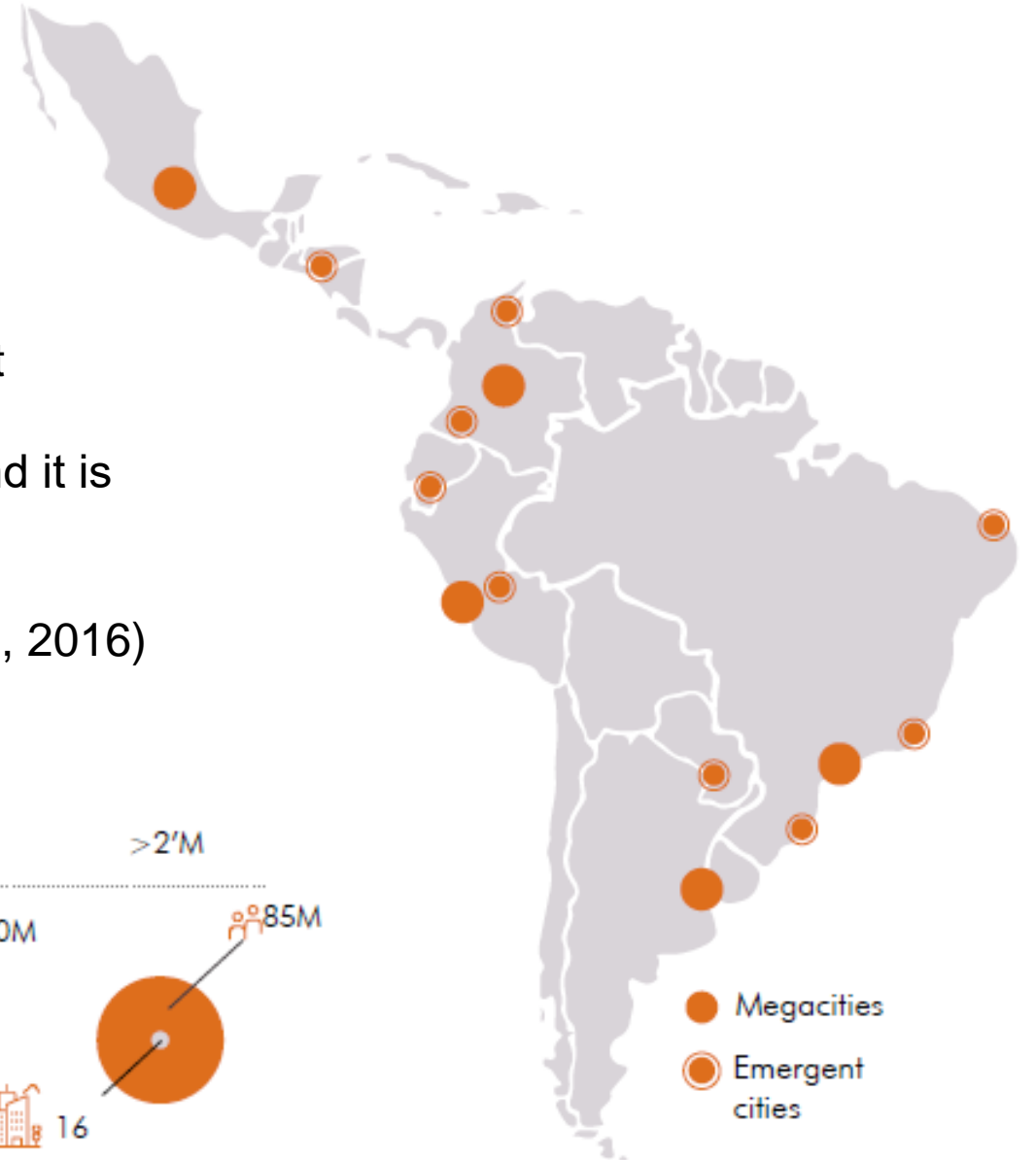
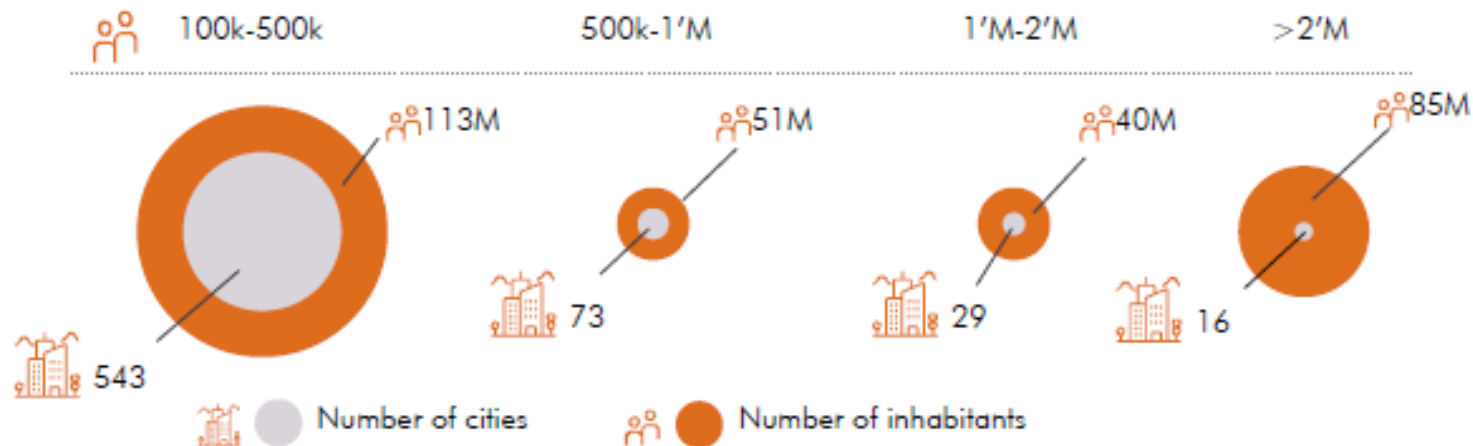
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Introduction_

- Urbanization is constituted as one of the most important change processes in landscape
- Currently 55% of the world's population lives in cities and it is estimated to reach 68% by 2050 (UN, 2011)
- The SDGs represent an important step building global consensus on what kind of world is desirable (Costanza, 2016)



Objectives_

- The study aims at developing a **sustainable assessment framework for urban context in Latin America** and test it on the City of Cali, Colombia.
- The study doesn't create new indicators but tried to **compare and integrate indicators** from different assessment tools in the framework of SDGs

Methodological steps_

STEP 1

- **PRELIMINARY ANALYSIS:** Comparing and selecting the most common indicators of two well-known assessment tools – BREEAM Communities and LEED for Neighbourhood development

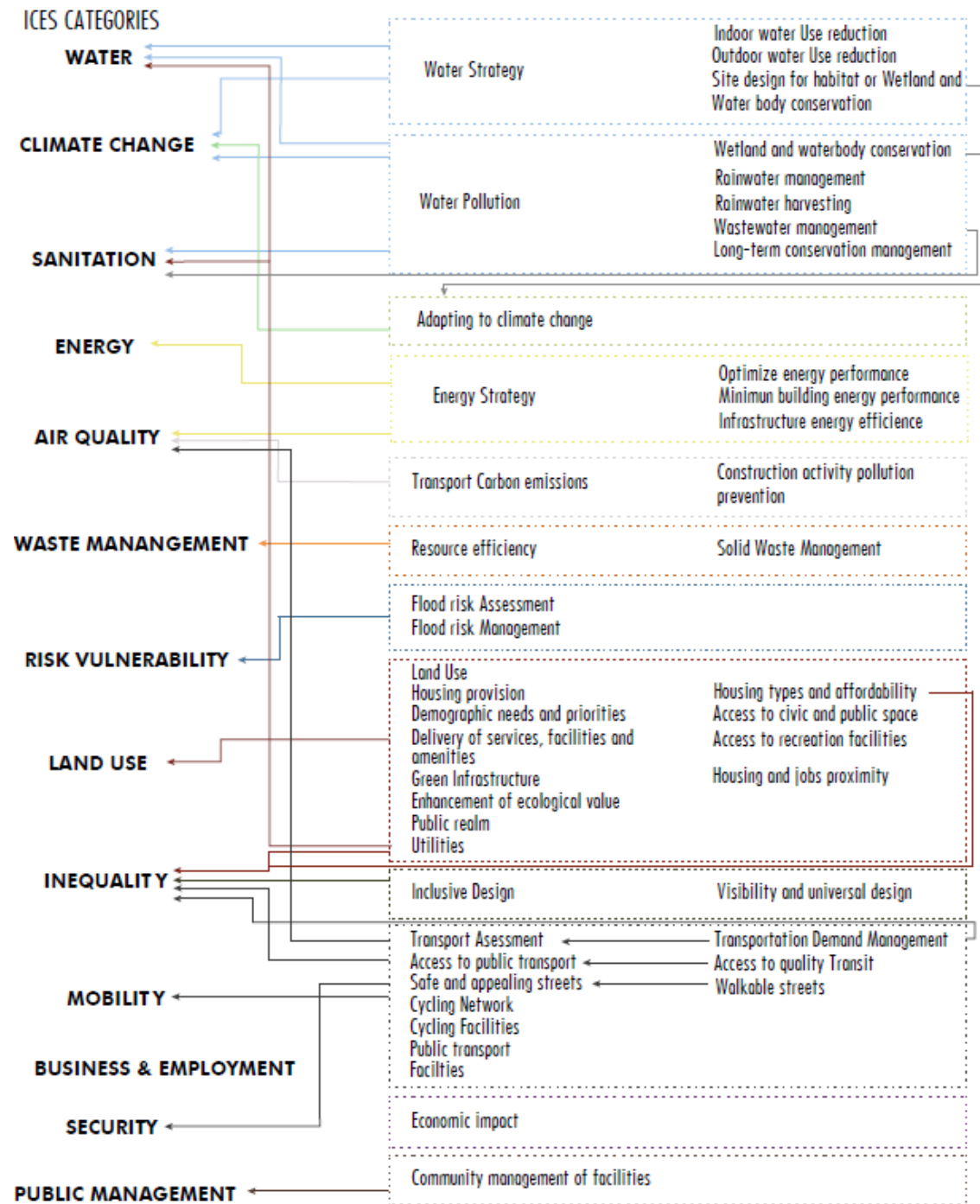
STEP 2

- **FILTERING PROCESS:** Filtering the selected indicators, taking into account the Sustainable Development Goal 11 (SDG11) indicators








STEP 3

- **DEVELOPMENT PROPOSAL:** Developing and integrating the new indicators to the current framework supported by the Cali ESC (emerging and sustainable city program)

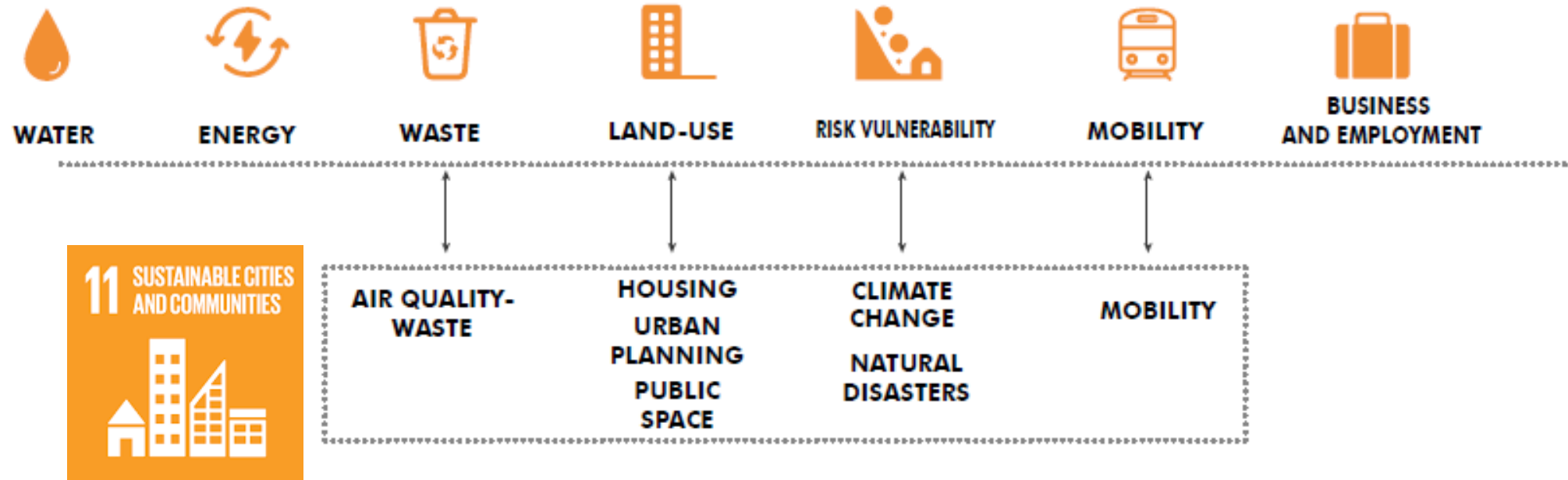
Step 1_



Step 1_ Output

CATEGORY	NEW INDICATOR	SUB-INDICATORS
 WATER	Water supply	Meet water demand Indoor and Outdoor water consumption reduction Wetland and waterbody conservation Rainwater use
	Water pollution	Drainage plan Conservation of wetland and waterbodies
 ENERGY	Energy Supply	Meet energy demand Energy consumption efficiency
 WASTE	Solid Waste Management	Meet waste disposal demand Reduce waste production from construction
 RISK VULNERABILITY	Management of risks	Flood risk management and assessment
	Adaptation to climate change	
 LAND-USE	Housing provision	Meet housing demand Housing affordability
	Demographic needs and priorities	Access to green suitable green spaces Access to suitable public spaces Jobs availability Delivery of services and facilities Ensure urban safety
	Land-use strategy	Inclusive design Compact development Mix-use neighborhoods
	Utilities	Meet public services demand
	Enhancement of ecological value	Protect existing natural habitats
 MOBILITY	Transport assessment	Meet transport demand Access to public transport Public transport facilities Cycling network Cycling facilities
	Access to quality transit Walkable streets	Transit facilities Safe and appealing streets
 BUSINESS AND EMPLOYMENT	Economic Impact	Development that generates jobs Complimenting existing economic activity Attract inwards investment





Step 2_



Goal 11 Categories non present in the output of step 1

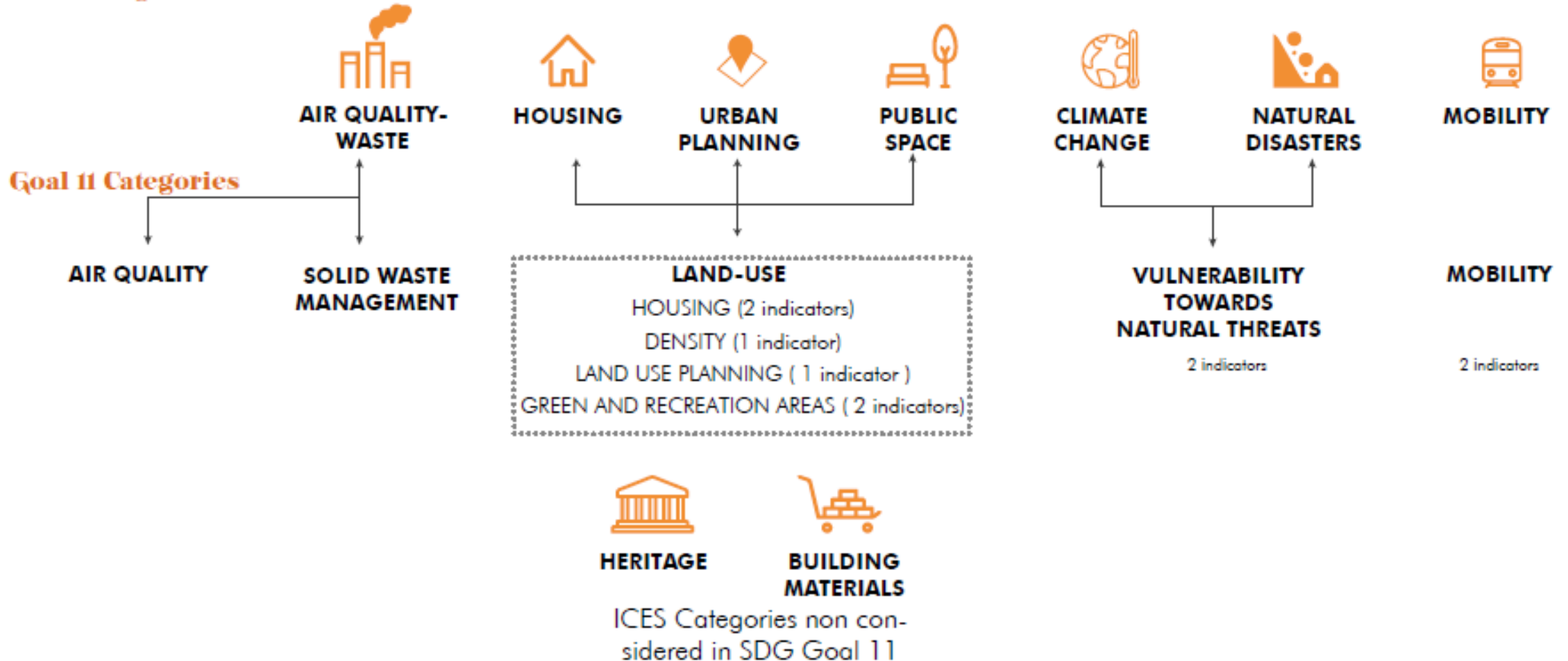
HERITAGE
BUILDING
MATERIALS

Step 2_ Output

CATEGORY	INDICATOR	SUB-INDICATOR	DESCRIPTION GOAL 11
 WASTE	Solid Waste Management	Meet waste disposal demand Reduce waste production from construction	Proportion of urban solid waste regularly collected and with adequate final discharge out of total urban solid waste generated, by cities.
 RISK VULNERABILITY	Management of risks Adaptation to climate change	Flood risk management and assessment	Number of deaths, missing persons and persons affected by disaster per 100,000 people. Direct disaster economic loss in relation to global GDP, including disaster damage to critical infrastructure and disruption of basic services. Number of countries that adopt and implement national disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015–2030.
 LAND-USE	Housing provision Demographic needs and priorities Land-use strategy Utilities Enhancement of ecological value	Meet housing demand Housing affordability Access to green suitable green spaces Access to suitable public spaces Jobs availability Delivery of services and facilities Ensure urban safety Inclusive design Compact development Mix-use neighborhoods Meet public services demand Protect existing natural habitats	Proportion of urban population living in slums, informal settlements or inadequate housing. Average share of the built-up area of cities that is open space for public use for all, by sex, age and persons with disabilities. Proportion of cities with a direct participation structure of civil society in urban planning and management that operate regularly and democratically. Ratio of land consumption rate to population growth rate. Proportion of population living in cities that implement urban and regional development plans integrating population projections and resource needs, by size of city.
 MOBILITY	Transport assessment Access to quality transit Walkable streets	Meet transport demand Access to public transport Public transport facilities Cycling network Cycling facilities Transit facilities Safe and appealing streets	Proportion of population that has convenient access to public transport, by sex, age and persons with disabilities.

Step 2_ Output

ICES Categories



Result Framework_

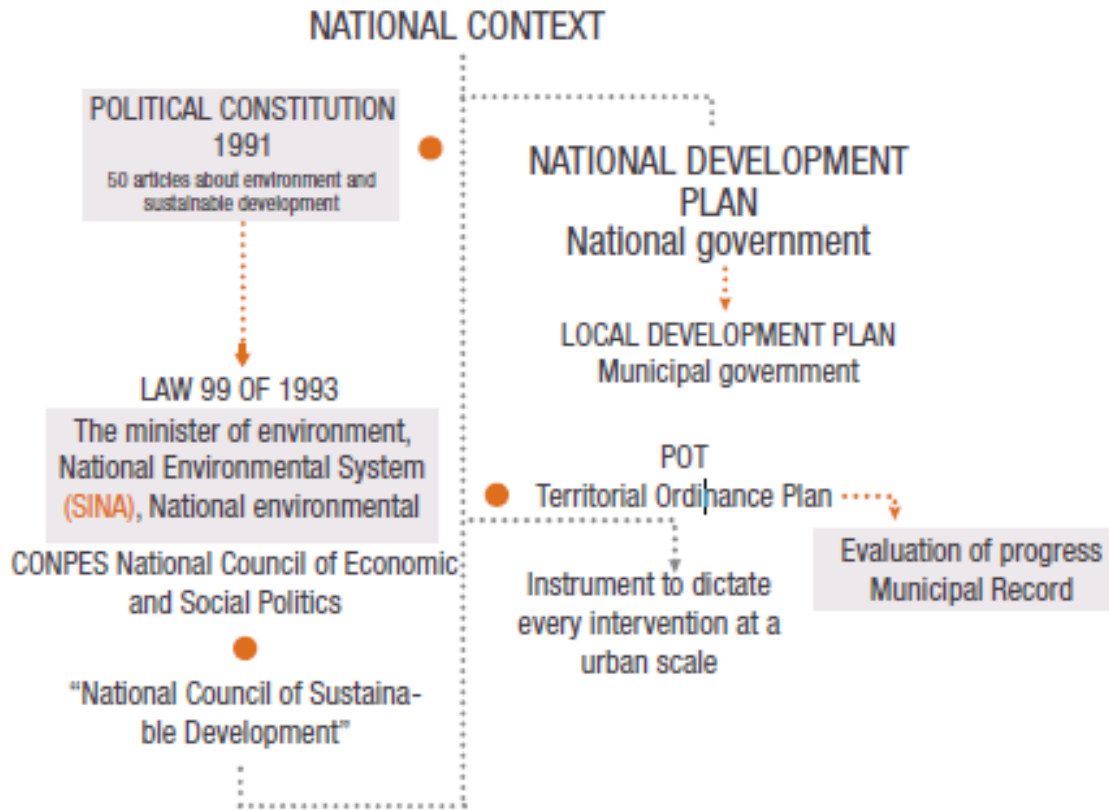
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CATEGORIES	INDICATORS	DESCRIPTION

Viability:

- Type of Calculation: qualitative or quantitative
- Parameter of measurement
- Difficulty of measurement

CATEGORY	INDICATORS	SUB-INDICATORS
WASTE	Solid Waste Management	Meet waste disposal demand
		Solid waste treatment
		Reduce waste production from construction
RISK VULNERABILITY	Management of risks	Risk management and assessment
LAND-USE	Housing provision	Meet housing demand
		Housing affordability
	Demographic needs and priorities	Access to green suitable green spaces
		Access to suitable public spaces
		Jobs availability
		Delivery of services and facilities
		Ensure urban safety
		Inclusive design

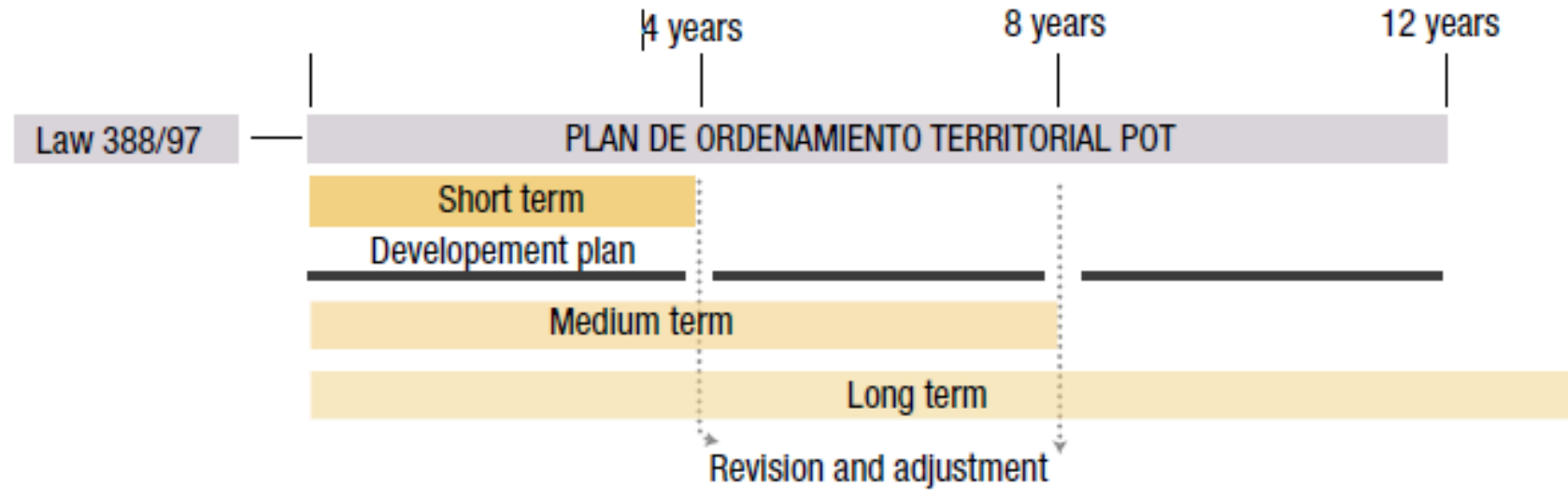
Case study_



Case Study




Case study_




MUNICIPAL RECORD

HERITAGE 
Asset of Cultural Interest
Special plans of management and protection
Special trees

ENVIRONMENTAL SYSTEM 
Risks and Threats
Environmental sustainability and ecological conservation
Environmental Quality






FUNCTIONAL SYSTEMS
Public Services
Mobility
Public Spaces
Facilities

SOCIECONOMIC STRUCTURE
Uses
Partial plans
Real state module 

SUSTAINABILITY INDICATORS

- Environment and solid waste collection
- Mobility
- Population
- Housing and Public services

Results_

					INDICATORS FROM THE MUNICIPAL RECORD	
TOPIC	CATEGORY	INDICATORS				
	WASTE	Solid Waste Management	Meet waste disposal demand	1 sub-indicator	Solid Waste	2 sub-indicators
	RISK VULNERABILITY	Management of risks	Risk management and assessment	1 sub-indicator	Risk	1 sub-indicator
	LAND-USE	Demographic needs and priorities	Access to suitable public spaces	1 sub-indicator	Public Space	5 sub-indicators
			Delivery of services and facilities	1 sub-indicator	Economic activities	3 sub-indicators
		Land-use strategy	Compact development	2 sub-indicators	Population density	
		Utilities	Meet public services demand	3 sub-indicators	Public Services	4 sub-indicators
		Enhancement of ecological value	Protect existing natural habitats	1 sub-indicator	Ecosystemic conservation	6 sub-indicators
	MOBILITY	Transport assessment	Meet transport demand	1 sub-indicator	Public Transport	2 sub-indicators
			Cycling facilities	1 sub-indicator	Alternative transportation system: bicycle	1 sub-indicator
	ENVIRONMENTAL	Air quality	Concentration of air pollutants	2 sub-indicators	Air quality	6 sub-indicators

Conclusion_

- The proposed framework is a support and analysis tool for the establishment of urban planning policies that are aligned with SDGs
- It can contribute to visualize problematics that are not considered in the natural progress of the city
- It is necessary to consider sustainability as a concern that affects all dimensions in a city and not only aspects of an individual building or residential compounds

Further steps_

- Integrate with other SDGs and define possible connections and influences
- Include stakeholder analysis
- Test on other cities for identifying indicators and metrics that can be standardized on order to improve comparability

Thank you for your attention

Chiara Genta