

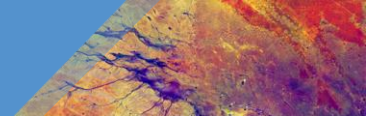
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Technical Dialogue to First Global Stocktake of the Paris Agreement @ SBSTA-56

A view on urbanizing adaptation systems

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A view on urbanizing adaptation systems

1. Global state of adaptation action and support

- Global urban transition
- Climate risk is shaped by urbanization
- The urban adaptation gap

2. Future opportunities and challenges

- Trajectories in urban adaptation policy and action
- Urban adaptation already contributing to Climate Resilient Development
- The enabling environment

1. Global state of adaptation action and support

Global urban transition

Global urbanisation offers a time-limited opportunity to work toward climate-resilient development.

- 2015 - 2020, **urban populations grew** by more than 397 million people, more than 90% in less developed regions.
- **Unplanned and informal settlements in low- and middle-income nations and smaller and medium-sized urban centres** experienced most rapid growth in urban vulnerability and exposure.
- **By 2050:**
 - **an additional 2.5 billion people projected to live in urban areas**, with up to 90% of this increase in Asia and Africa.
 - **More than a billion people located in low-lying cities and settlements** expected to be at risk from coastal-specific climate hazards.

Defining 'urban' and 'rural' in relation to cities and settlements

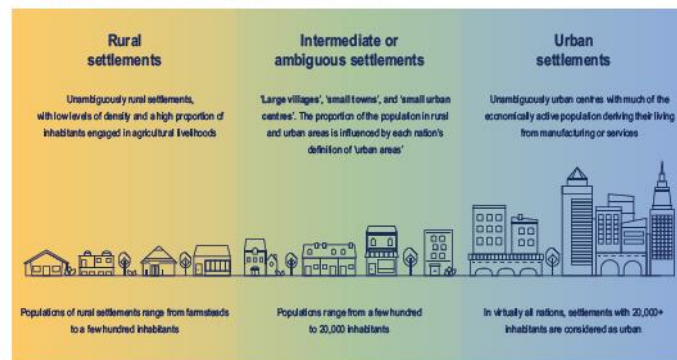
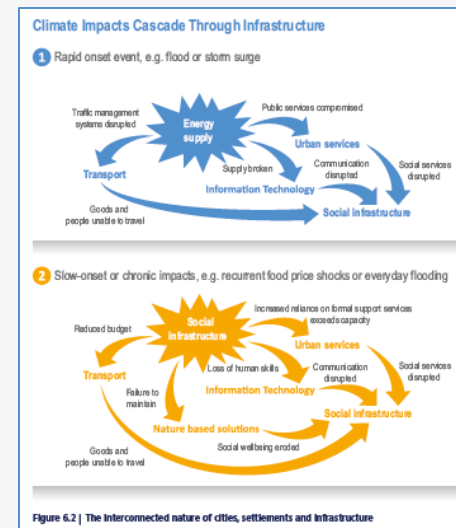


Figure 6.1 | Defining 'urban' and 'rural' in relation to cities and settlements

1. Global state of adaptation action and support

Climate risk is shaped by urbanization

- Urbanizing systems generate **risk and resilience** (e.g. UHI)
- Observed impacts are direct, cascading and can be compounding
- Adaptation is responding to build **current and future resilience**:
 - Addressing **compound hazard** with cobenefits (e.g. air quality)
 - Addressing **compound risk** with cobenefits (e.g. informal settlements)
 - Extending from adaptation of objects (e.g. dwellings) to:
 - **adaptation of systems** (e.g. health systems, livelihood systems)
 - **integrating adaptation across systems** – sectors and jurisdictions
 - **Supply chains** connect rural and urban (e.g. food-market-distribution)
 - **Interconnected infrastructure** (e.g. energy-transport-trade/work)



1. Global state of adaptation action and support

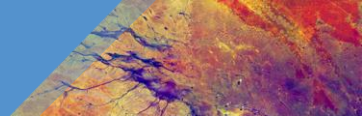
The urban adaptation gap

- Analysis by IPCC region of unresolved risk for highest and lowest income quintile against direct (river flooding, coastal flooding and heat) and systemic (water and food security) risks.
- **ALL regions have an adaptation gap TODAY:** most pronounced for river and coastal flooding
- **This adaptation gap is unequal:** GREATER for the poorest 20% than the richest 20%.
- **Some very quick gains possible** by deploying planned adaptation: especially for riverine flooding.



Based on expert judgement drawing from across AR6

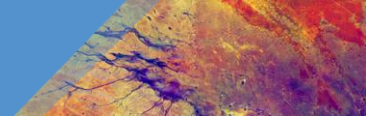
- Even if all planned and currently possible adaptation was to be deployed the adaptation gap and its inequality would persist: adaptation relies on sustainable development and mitigation.



2. Future Opportunities and Challenges

Trajectories in adaptation policy and action

- **Many cities have developed adaptation plans** since AR5, **not all have been implemented.**
- **An increasing array of adaptation options** available: predominance of physical infrastructure, rapid uptake of ecosystem-based adaptation, slower uptake into action of social policy options, some hybrid experiments.
- **Interconnected infrastructure** expands across rural and urban, limited independent evaluation.
- **Intersectional, gender-responsive adaptation** increasing at local level through community-based adaptation. Less evidence of upscaling and strategic action.
- **Inclusive approaches** include: participatory planning for infrastructure and risk management in informal and underserviced neighbourhoods, the inclusion of Indigenous knowledge and local knowledge, efforts to build local leadership, especially among women and youth.
- **Adaptation beginning to provide alignment** between Nationally Determined Contributions, National Adaptation Plans, the SDGs and Sendai Framework for Disaster Risk Reduction.



2. Future Opportunities and Challenges

Urban adaptation already contributing to Climate Resilient Development

- **CRD = adaptation + mitigation + SD**
- **Lots of scope** for cobenefits, though limited systematic evidence gathering
- **No single adaptation action resolves all CRD**
- **Urban planning opens most scope**
- **Physical infrastructure can constrain future options**
- **Shifting exposure** as a consequence of adaptation is the greatest consistent unmet challenge
- **Integrated adaptation planning** approaches can enable planning and monitoring of interactions between CRD elements.

Risk coverage		Benefits to human						Benefits to ecosystem services		Potential effectiveness				Contribution to GHG emissions reduction	Equity benefits		Transition towards sustainable development (Urban systems, fundamental change + impact on wider system)		Int. Systems	Adaptation Measure
Multi-climate hazard	Systemic vulnerability reduction	Reduces new hazard exposure/generates	Transfer hazard impact to other people or places	Social capital	Livelihood	Health	Ecological	Resiliently post-displacement	Deploy at scale	Benefit to other int systems/adaptation	Economic feasibility	Mitigation co-benefit	Targets poverty and marginality	Inclusive and locally accountable	Social transformation	Eco-logical transformation				
HA-RE	HA-RE	HA-RE	HA-RE	HA-RE	HA-RE	HA-RE	HA-RE	HA-RE	HA-RE	HA-RE	HA-RE	HA-RE	HA-RE	HA-RE	HA-RE	HA-RE			Land use planning 6.3.2.1	
HA-ME	HA-RE	HA-ME	HA-LE	HA-LE	HA-ME	HA-LE	LA-LE	MA-ME	HA-ME	HA-LE	HA-LE	LA-LE	HA-ME	HA-ME	MA-ME	MA-ME			Livelihoods and social protection 6.3.2.2	
HA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	HA-ME	HA-ME	HA-ME	HA-ME	HA-ME	MA-ME	MA-ME			Emergency management and security 6.3.2.3	
HA-RE	HA-RE	HA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	LA-LE	LA-LE		Health 6.3.2.4	
MA-ME	MA-ME	MA-ME	MA-ME	MA-RE	MA-ME	MA-RE	MA-RE	MA-RE	MA-RE	MA-RE	MA-RE	MA-RE	MA-RE	MA-RE	MA-ME	MA-ME			Education & Oceans 6.3.2.5	
MA-ME	MA-ME	MA-LE	MA-ME	MA-ME	MA-RE	MA-RE	MA-RE	MA-RE	MA-RE	MA-RE	MA-RE	MA-RE	MA-RE	MA-RE	MA-RE	MA-RE			Cultural Heritage & Institutions 6.3.2.6	
HA-RE	LA-ME	LA-LE	LA-LE	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME			Temp. regulation 6.3.31	
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HA-ME	MA-ME	HA-LE	LA-LE	MA-LE	HA-RE	HA-RE	HA-RE	HA-RE	HA-RE	HA-RE	HA-RE	HA-RE	HA-RE	HA-RE	HA-RE	HA-RE			Coastal flood protection 6.3.3.4	
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HA-RE	MA-LE	MA-LE	MA-LE	MA-LE	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME			Water provisioning and management 6.3.3.6	
HA-ME	HA-ME	MA-LE	LA-LE	HA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME			Food production and security 6.3.3.7	
HA-RE	HA-RE	HA-RE	MA-LE	LA-LE	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME			Built form 6.3.4.1	
HA-RE	HA-RE	HA-RE	MA-ME	LA-LE	MA-ME	HA-RE	LA-LE	HA-RE	HA-RE	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME			Housing and building design 6.3.4.2	
HA-RE	HA-ME	LA-LE	LA-LE	HA-ME	HA-ME	LA-LE	LA-LE	HA-RE	HA-ME	HA-ME	HA-ME	HA-ME	HA-ME	HA-ME	MA-ME	MA-ME			ICT 6.3.4.3	
HA-RE	HA-ME	LA-LE	LA-LE	HA-LE	HA-RE	LA-LE	LA-LE	HA-ME	MA-ME	HA-ME	HA-ME	HA-ME	HA-ME	HA-ME	MA-ME	MA-ME			Energy Int. 6.3.4.4	
HA-RE	HA-ME	LA-LE	LA-LE	HA-LE	HA-RE	LA-LE	LA-LE	HA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	MA-ME	LA-LE	LA-LE		Transport 6.3.4.5	
HA-RE	HA-LE	MA-ME	LA-ME	HA-RE	HA-RE	HA-RE	HA-RE	HA-RE	HA-RE	HA-RE	HA-RE	HA-RE	HA-RE	HA-RE	HA-RE	HA-RE			Water and sanitation 6.3.4.6	
HA-RE	HA-ME	MA-ME	HA-RE	MA-ME	HA-RE	HA-RE	MA-ME	HA-ME	HA-RE	HA-RE	HA-RE	HA-RE	HA-RE	MA-ME	LA-ME	LA-LE	MA-ME		Road management 6.3.4.7	
HA-RE	HA-ME	HA-ME	HA-RE	MA-ME	HA-RE	HA-RE	MA-ME	HA-ME	HA-RE	HA-RE	HA-RE	HA-RE	HA-RE	MA-ME	LA-ME	LA-LE	MA-ME		Coastal management 6.3.4.8	

More than 750 unique references reviewed by experts

2. Future Opportunities and Challenges

The enabling environment

Ensuring the urbanisation of 2.5 billion people by 2050 reduces climate risk and enhanced CRD:

- **Leadership:**

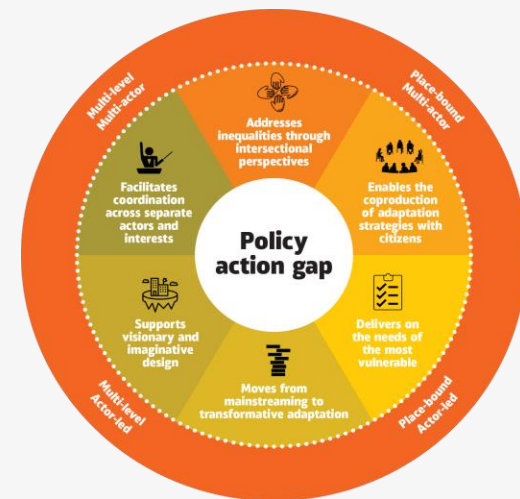
- **Multi-level leadership** and institutional capacity,
- **Transnational networks** of local government and slum dwellers enhance city level capacity, learning and advocacy

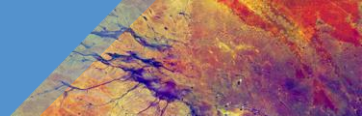
- **Finance:**

- **Integrating sub-national entities**
- **Multiple adaptation approaches included**

- **Building evaluation for**

- Consequences of adapting to **direct, systemic and compound risks**
- Consequences of adaptation for **the urban adaptation gap and its inbuilt inequity**
- Consequences of **diverse adaptations for CRD**





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