

ISSUES BRIEF



Urban Climate Resilience

October 2020

Cities globally are highly exposed to disaster and climate-related risks. With accelerating urban growth, increasing exposure to climate change risks and multi-dimensional vulnerability, it is critical for cities to employ an integrated, climate risk-informed development approach to achieve resilient lives and livelihoods and advance progress towards the SDGs.

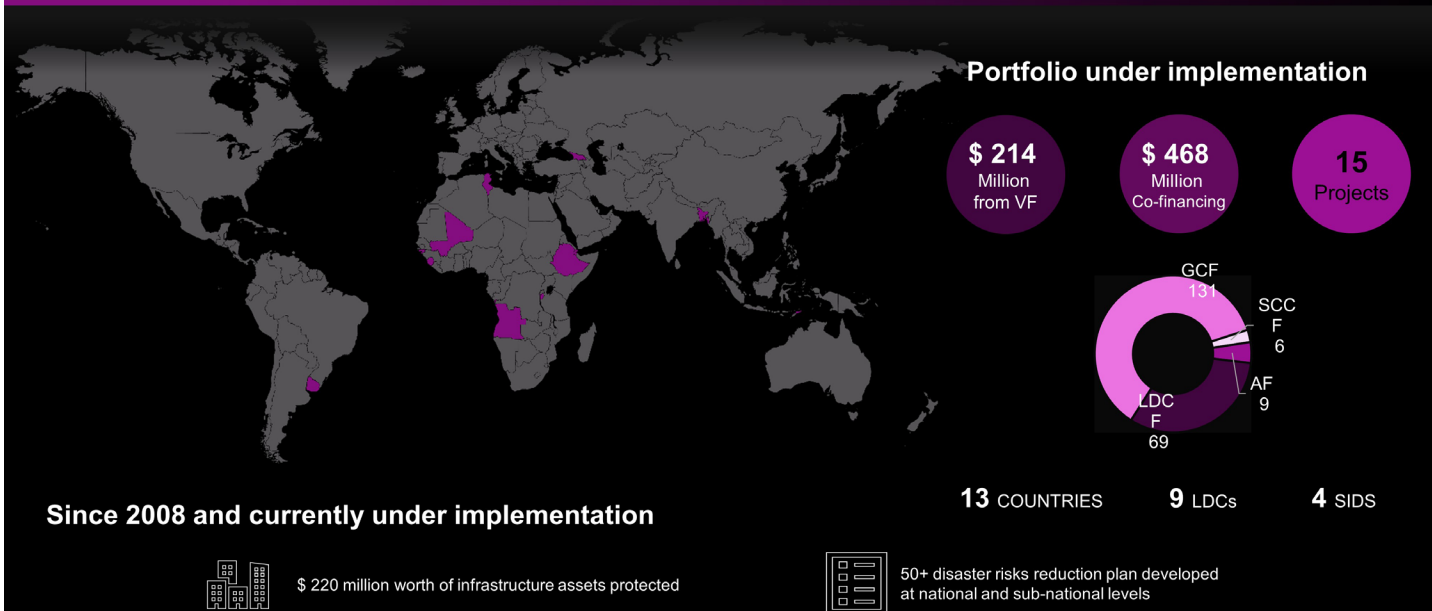
Cities and human settlements are the local, national and global drivers of economic prosperity and development, generating up to 80 per cent of global GDP and contributing more than 70 per cent of global carbon emissions. Cities are where the majority of the world's population lives, where innovation and opportunity are cultivated, and where government, commerce, culture and society converge.

Global urbanization is on the rise. By 2030, over 66 per cent of the world's population will be in cities, up from 55 per cent in 2018. The rapid pace of urban change, driven by rural-urban migration and population growth, places stress on city services and resources. This trend is driving persistent challenges such as inequality and pollution and concentrating the exposure of infrastructure and people in

areas at risk from climate change, such as coastal cities. Hydrometeorological disaster events, strengthened by climate change, threaten city infrastructure, economies and residents. Simultaneously, rising temperatures and changing precipitation patterns exacerbate urban heat island effects and place stress on water supplies, while sea-level rise threatens to make some coastal urban zones uninhabitable. These climate impacts overlay and compound existing vulnerabilities, including concentrated infrastructure and population, interdependent economic and service systems, and high rates of poverty and informal settlements. Municipal governments and systems often lack the adaptive capacity or resources to keep up with growing populations and economic pressures, much less the threats from climate change. And, rapid urbanization

Climate urban resilience

Promoting climate-smart urban development and infrastructure



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Overview continued

and prolonged mismanagement place pressure on or destroy natural sources of resilience such as groundwater reserves, upstream forests, and coastal mangroves, decreasing the absorptive capacity of cities to withstand hydrometeorological shocks or the effects of sea-level rise. As cities face increasing growth in a future with heightened risk and vulnerability to climate change, such a broad multi-sector systems approach to strengthening resilience is necessary. Strengthening city resilience can have regional

effects as rural value chains and economies often supply cities with resources and are reliant on urban areas for services and market access. And, urban resilience is not just about climate change, but is critically linked to efforts to reduce poverty, enhance energy efficiency and low-carbon transportation and infrastructure, streamline waste management, public health, and achieve all of the Sustainable Development Goals (SDGs).

UNDP's comparative advantage

UNDP is well-positioned to help cities and countries achieve transformational progress towards building resilience. Through its Global Policy Network and in collaboration with other UN agencies, national governments and donor partners, UNDP supports a holistic approach to developing good governance, localizing the SDGs, and increasing climate action. UNDP's integrated programming connects aspects of disaster risk reduction, climate adaptation and mitigation, energy sustainability, poverty eradication, improved governance, and community participation in a "leave no one behind" approach to achieve resilient urban

development and advance the ambition of Nationally Determined Contributions (NDCs) to the Paris Agreement as well as the SDGs. Whether in fragile nations, conflict environments, or small island developing states, UNDP can leverage its broad development experience to develop integrated solutions to address urban climate risk, helping countries and cities to channel grant financing and unlock private and blended finance to build adaptive capacity and resilience, capitalizing on the long-term benefits of timely action.



Photo: UNDP Bangladesh/Fahad Kaizer

COVID-19

Cities are at the forefront of the COVID-19 pandemic, which has exposed underlying vulnerabilities, exacerbated inequality, and crippled progress towards the SDGs. The pandemic is complicating response to climate hazard events in cities. This further illustrates the need for an integrated, risk-informed approach to planning for urban resilience that accounts for multiple hazards. UNDP is leading the way in helping countries advance integrated approaches to inclusive, gender-equal and green economic recovery to the COVID-19 pandemic, including investments in long-term resilience building to address co-vulnerabilities of the climate and health crises, and rethink urban planning – and urban resilience – into the 21st century.

Challenges

At the local level, significant challenges exist across cities that hinder progress towards building the resilience of people and infrastructure to the impacts of current and future climate change.

- **Data and evidence are missing.** Often cities lack detailed local risk and vulnerability assessments and the downscaled data with which to conduct these studies.
- **Capacity is needed.** As cities globally face increased risk and vulnerability to climate change, those cities that are growing the fastest are often those that have the least ability to cope. Increased capacity is needed at both the city and national level to analyze and plan for climate and disaster risks, develop and implement projects, and secure and manage climate finance.
- **Policy and coordination gaps persist.** Existing national/ local policy or fiscal structure can limit action at the city level. Limited vertical integration means city needs are not always represented in national prioritization and planning documents such as NDCs or National Adaptation Plans (NAPs).
- **Planning and programming are limited.** Cities don't all have robust, risk-informed climate adaptation and development plans, nor do they have a pipeline of investment-ready, costed adaptation and resilience projects

to attract investors.

- **Funding and investment are critical.** Building urban resilience is expensive and often requires funding over and above business as usual expenditures. Cities have limited funds, and often are confined in their ability to raise/ access funding due to their ineligibility for international climate finance, their lack of creditworthiness, or their lack of autonomy over their own budget and revenue generation. Investment in resilience from the private sector can be leveraged, but without proper policies or incentives, businesses are hesitant to pay for resilience measures.

In addition, advancing resilient urban development is challenged by the fact that cities are complex systems, and climate adaptation is a cross-cutting urban resilience issue. It is difficult to isolate climate change adaptation efforts from related efforts in disaster risk reduction, energy efficiency, transport, waste, and addressing the Sustainable Development Goals in the urban context. In addition, social and political factors determine success of policies and programmes. An integrated approach to address climate adaptation and urban resilience is necessary but can require increased levels of coordination across sectoral institutions and the private sector.

Main opportunities

UNDP's offer of service to further urban resilience includes the following:

- **Develop the enabling environment and evidence base for urban climate risk management**

- o Support access to and development of quality data, risk and vulnerability information and assessments and their application in urban policy and development planning
- o Support formulation of risk-informed municipal policies, development plans and budgets
- o Strengthen capacity and municipal governance systems to enable resilience planning and enhance adaptive capacity
- o Strengthen horizontal integration of municipal climate change adaptation and mitigation and disaster-risk reduction, and related sectoral policy and planning as well as vertical integration across national, regional and city scales

- **Enable investments in urban climate resilience**

- o Technical assistance to project pipeline development

and design and implementation of integrated investments that enhance resilient urban infrastructure, services and livelihoods and address co-vulnerabilities of both climate and health crises

- o De-risking of city resilience investments by securing and leveraging vertical fund resources to crowd in private finance

- **Accelerate and scale ambitious urban climate change adaptation action**

- o Work with countries and cities to develop partnerships and generate and advance ideas for enhancing urban resilience
- o Cultivate innovation in resilient city development and capture and share lessons-learned across global network
- o Connect cities to national and international climate policy processes (including Nationally Determined Contributions (NDCs) and National Adaptation Plans (NAPs)) and conventions as well as donors and climate finance

Successes and key programmes

UNDP's climate adaptation portfolio projects actively support resilience-building in around 140 cities and towns worldwide. The current climate adaptation portfolio support to cities falls into three general areas of support: enhancing the risk and vulnerability data needed to understand risks, building the capacities and risk-informed policy and planning mechanisms that guide cities towards increased resilience, and providing technical support to develop, fund and manage integrated risk-reduction investments that bolster infrastructure, lives and livelihoods against the negative impacts of climate change. In addition to these projects that directly invest in or benefit cities, adaptation investments address the indirect effects of climate change to urban areas such as upstream freshwater supply or food security and bolster the national or regional climate information systems that enable risk-informed planning. In addition, UNDP is able to leverage its international networks to connect cities and countries and share case studies and

best practice across borders.

As part of the urban climate resilience portfolio, UNDP is actively supporting climate risk informed city planning via development of vulnerability assessments and early warning and climate information systems (linked to UNDP's work in disaster risk reduction), enhanced incorporation of climate risk into policies, planning and budgeting processes, and implementation of climate adaptation investments including ecosystem-based adaptation projects in urban areas. In addition, beyond the projects underway in cities and towns, UNDP's climate adaptation programmes enhance national-level adaptation policies and plans via the development of National Adaptation Plans and build system-wide resilience for the ecosystems, watersheds, and agricultural areas upon which urban populations rely – from low-lying coastal zones and island nations to the mountains.

Innovation and looking ahead

Cities are concentrated areas of risk, and investment in climate adaptation in urban areas can have far-reaching benefits. The challenges to building climate resilience are immense, but there are significant associated opportunities to make progress and increase security, health and quality of life in cities of today and the future through an integrated, resilience-based approach. These include:

- **Cities are at the forefront of climate action.** The 2015 Paris Agreement identified urban actors as necessary in the path towards sustainable climate action. And, investing in urban climate resilience will help support progress towards global and national development and climate goals. Since 2015, cities around the world have made emissions reduction commitments and developed adaptation plans with support from the Global Covenant of Mayors, C40, and other bodies. However, this effort is still new and there is an opportunity to expand the number of urban areas with planning and policy frameworks that address climate change, especially in resource and capacity-strapped secondary and tertiary cities in developing countries.
- **At the national level, the commitment to and focus on urban areas as an avenue for climate action is growing.** Recognizing the outsized climate risks to cities and the opportunity for cities to play a key role in combatting climate change and achieving the SDGs, 113 of 164 countries have included a focus on urban areas in their Nationally Determined Contributions (NDCs). In the coming years countries are facing the critical and difficult work of operationalizing these commitments via plans and strategies as well as mitigation and adaptation actions. Along the way, it is necessary to harmonize local climate commitments with national development policies to ensure they support progress towards the SDGs. Preventing additional negative impacts associated with climate change, especially for the most vulnerable, is essential in order to both reduce poverty and build the adaptive capacities that prevent sliding back into poverty after a climate shock event, especially in times of enhanced vulnerability such as during pandemics like the COVID-19 event.
- **Cities are changing now.** Globally, around 60 per cent of the area expected to be urban by 2030 remains to be built. When the lifespan of most infrastructure assets spans multiple decades, there is an opportunity to make sure this new infrastructure is built in a way that accounts for the threats of future climate change rather than “locking in” infrastructure that will be at risk of compromise from storms, floods and other climate impacts.
- **Cities are the epicenter of technological and social innovation.** Advancements in media and technology such as artificial intelligence, remote sensing, and cellular infrastructure and the internet of things are grown and tested in urban environments and are changing the way cities work. Opportunities abound to harness the power of the smart city revolution to increase inclusivity of urban planning processes, improve risk and vulnerability data, and advance adaptive capacity.

Innovation Continued

• **Urban climate resilience is an investment opportunity.** Financing needed climate adaptation action can help cities and businesses avoid future costs associated with climate change. Estimates of global economic costs from urban flooding due to climate change alone are approximately \$1 trillion a year. However, adaptation is expensive: Estimates of annual cost of climate change adaptation range between \$80-100 billion, of which about 80 per cent will be borne in urbanized areas. There is a possibility to accelerate engagement of the private sector in furthering this investment via blended financing and other modalities, as the advantages of cost avoidance and business continuity as well as opportunities for risk-transfer and insurance mechanisms are more widely understood.

• **Climate adaptation and resilience-building actions in cities can have cross-cutting benefits and are an opportunity for an integrated, systems-based approach.** Climate adaptation measures can help secure and further cities' goals for climate mitigation, biodiversity and natural systems preservation, disaster risk reduction, securing health and livelihoods, and meeting economic development targets, among other efforts. In the face of ecosystems and natural resource degradation, opportunities exist to rethink urban-rural dependencies, utilize ecosystem services valuation to secure resources upon which cities depend for the future, and implement nature-based-solutions to bolster cities' capacity to absorb climate shocks.

Connecting with the big picture

Achieving the SDGs. One analysis showed that at least 11 of the 17 SDGs will require action in cities. Not only is local climate action essential for meeting the targets of SDG 13: Climate Action and the country's NDC, but investing in climate resilience can also help support progress towards all the goals by securing infrastructure, livelihoods, and urban environments from the impacts of climate change.

Accelerating NDCs and NAPs. Approximately two-thirds (113 of 164) of countries have included a focus on urban areas in their NDCs while many countries have prioritized subnational adaptation action in their National Adaptation Plans (NAPs) and are working towards vertically integrating national and local climate adaptation planning processes.

A year of action. In September 2019 the Global Commission for Adaptation (GCA) declared 2020 to be a "year of action," calling on governments, civil society and private actors to take steps towards a climate resilient future. UNDP is a partner in the GCA's Action Track for Resilient Cities which focuses on building the climate resilience of the most vulnerable populations in cities: the urban poor.



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