

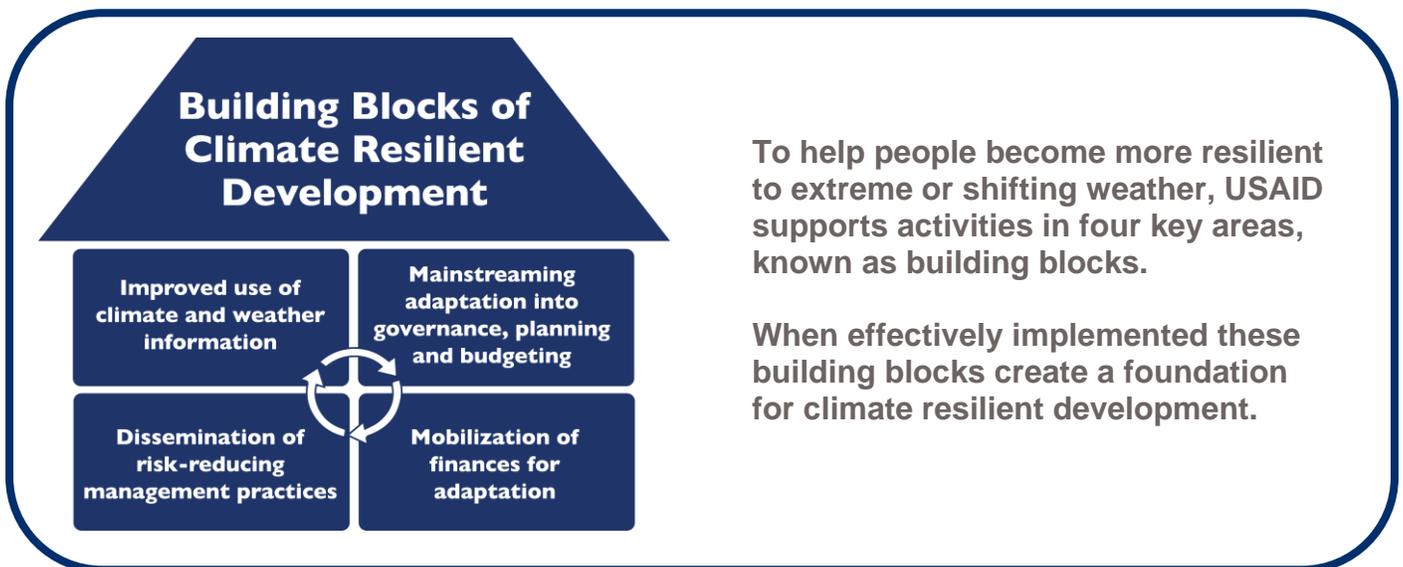


USAID
FROM THE AMERICAN PEOPLE



BUILDING CLIMATE RESILIENCE IN URBAN SYSTEMS

With urbanization on the rise globally, cities are absorbing more and more people, many of whom settle in areas exposed to unpredictable and extreme weather events including hurricanes, extreme heat and cold, and flooding from storm surges. As populations and city boundaries grow, these impacts will make it more difficult for cities to provide reliable services and adequate infrastructure to residents. They are also likely to exacerbate existing inequalities in access to safe housing and services for the most vulnerable groups, including women and girls, and those living in risk-prone areas such as coastlines. To reduce risk associated with rapid urbanization and unpredictable weather, city governments need reliable and up-to-date weather and climate data to inform policies and investments.



To help people become more resilient to extreme or shifting weather, USAID supports activities in four key areas, known as building blocks.

When effectively implemented these building blocks create a foundation for climate resilient development.



Urban Systems: Building Block 1

Improving the availability, quality and use of weather and climate information

THE CHALLENGE

Limited access to and ability to integrate weather and climate information into urban planning and management may prevent city managers from accurately understanding related risks, identifying options for managing them, and investing sufficiently in preparedness and risk reduction. Cities often lack technical capacity to integrate climate and weather information into infrastructure design standards, zoning regulations, land use plans and disaster risk reduction plans that effectively reach women, men, youth and vulnerable populations.

USAID APPROACH

USAID helps cities access quality weather and climate information to foster understanding of impacts on food security, water resources, energy, sanitation and health, transportation, infrastructure, ecosystems and businesses – all of which support a city’s economy. Sound weather and climate information should be integral to urban planning and service delivery, especially where risks are high (e.g., coastal and delta areas). USAID uses a range of communication methods to ensure that information reaches all populations, including women, men, youth and vulnerable groups. When possible, USAID prioritizes application of existing information, rather than the generation of new research and data collection.

ILLUSTRATIVE INTERVENTIONS

TECHNICAL ASSISTANCE

- Improving access to weather and climate datasets specific to urban programming
- Providing training on analysis of weather and climate data, e.g., developing or adjusting models
- Strengthening collaborations between data providers and users, e.g., universities, NGOs and public and private sector actors

WEATHER AND CLIMATE DATA APPLICATIONS

- Developing/updating hazard maps based on historical and projected floods and coastal changes
- Developing/updating supply and demand scenarios based on rainfall, streamflow and groundwater projections, and population and industrial demand
- Assessing risks to municipal service delivery
- Mapping exposure and vulnerability of at-risk and marginalized populations as well as infrastructure

OTHER DATA COLLECTION

- Satellite data sources for land cover, temperature, precipitation and topography
- Locally observed data
- Crowdsourcing/disseminating information and supporting uptake by decision makers
- Developing tailored information products such as risk and hazard maps, vulnerability assessments, early warning systems, and inputs to feasibility or design studies.

Integrating Weather and Climate Information into Planning in the Dominican Republic

USAID works with the National Office of Meteorology to help municipal planners integrate weather and climate information into zoning regulations and other land use plans. Based on a climate risk assessment USAID supported, the government relocated a major wastewater treatment facility in Santo Domingo to another site less prone to flooding. USAID is also developing a customized tool for local planning that anticipates future climate conditions and integrates gender considerations.

Conditions for Success

Cities that effectively use data for economic and spatial planning and disaster management will find easy entry points for weather and climate data. Scenario planning for energy/water demand and land use can factor in climate impacts. Spatial mapping of vulnerable populations and infrastructure can integrate updated hazard risks. Basic data on infrastructure, population and service delivery is helpful in applying climate data.



Urban Systems: Building Block 2

Mainstreaming adaptation measures into governance, planning and budgeting

THE CHALLENGE

Many cities are challenged to access and integrate weather and climate information, adopt good practices, and make strategic investments for resilience. This is often due to limited local authority, quickly changing political cycles, lack of political support, institutional fragmentation, weak or nonexistent public agencies, and an absence of local planning (or weak implementation, enforcement and monitoring of local plans). A general lack of coordination and technical capacity among institutions can result in disjointed and ineffective governance.

USAID APPROACH

The effectiveness of local governance hinges on transparent and coordinated processes at all levels of governance. Therefore, USAID helps to improve vertical integration relating to financial management and sectoral strategies – national plans need to reflect local challenges and opportunities since action happens at the local level. USAID promotes inclusive processes that engage the private sector, civil society, marginalized groups and diverse stakeholders. Effective governance systems have a healthy regulatory environment that ensures participatory processes, reduces corruption and enables investment.

ILLUSTRATIVE INTERVENTIONS

TECHNICAL ASSISTANCE

- Developing land use maps or zoning regulations
- Upgrading building codes and zoning laws to integrate weather and climate information
- Promoting integrated resource management and planning at urban, peri-urban and rural scales and at national, regional and local levels
- Increasing awareness of weather and climate risks, impacts and adaptation strategies among institutions, private sector and citizens
- Facilitating the integration of national, subnational and municipal economic development and resilience goals
- Promoting local resilience champions

MUNICIPAL PREPAREDNESS

Because many cities will face more than one type of stress –e.g., alternating cycles of flood and drought, or heat and intense precipitation – planning processes should be designed with flexibility and contingencies to accommodate more variable weather conditions. Key responses include:

- *Develop master plans and land use plans*
- *Attract developers and investment*
- *Identify areas to accommodate population growth or displaced persons*
- *Reduce existing inequalities*

Climate Impacts Decision Support Tool

USAID created the Climate Impacts Decision Support Tool (CIMPACT-DST) to help urban planners and project developers address climate change risks in their planning and operations. Planners can input the type, intended lifetime and preferred location of infrastructure projects and quickly determine which climate impacts must be addressed. The tool was successfully piloted in and adopted by 760 cities across 63 provinces in Vietnam and has since transitioned to the local Vietnam Institute for Urban-Rural Planning (VIUP), which continues to use the tool.

Conditions for Success

In cities where policy enforcement is high, improved planning and zoning can reduce risk for people and assets. In cities that lack enforcement and accountability for planning and regulation, investments in better planning will not be as likely to succeed.



Urban Systems: Building Block 3

Piloting and disseminating risk-reducing management practices

THE CHALLENGE

Risk-reducing management practices for dealing with heat waves, water scarcity and floods, and other climate risks should be reflected in urban planning and service delivery. However, cities may not be able to design, employ and enforce these practices because of limited awareness, lack of training and tools, lack of access to information (Building Block 1), lack of incentives (Building Block 2), or lack of access to finance (Building Block 4). Additionally, limited intersectoral coordination, for example, among agriculture, industry, tourism and health sectors, may prevent the adoption of risk reducing practices, as could a lack of coordination across geographic scales and political boundaries.

USAID APPROACH

Many approaches to managing risk associated with weather and climate impacts have been piloted and tested. USAID supports continued testing of those approaches, while moving from demonstration pilots to scale for long-term transformational change. To do this, USAID helps cities identify barriers to widespread adoption of effective strategies and explores challenges related to behavior change at the individual, household and city scales. USAID includes gender considerations in adaptation approaches to increase their effectiveness and ensure efforts reach the most vulnerable.

ILLUSTRATIVE INTERVENTIONS

TECHNICAL ASSISTANCE

Water conservation, disaster preparedness, storm water drainage, targeted health services and effective waste management are practices that will help to improve a city's overall resilience. Examples include:

- Water demand management
- Increased water storage capacity
- Reduction of impervious land cover and/or mitigation with green infrastructure
- Use of ecosystem-based adaptation
- Existence of redundant systems and/or safe failures, e.g., generators, distributed water systems, automatic shutoffs
- Increased efficiency and capacity of storm water conveyance systems
- Use of reversible adaptation actions
- Gender-informed behavior change interventions

Storm Water Management in Dominica

On the island nation of Dominica, USAID demonstrated the benefits of storm water management in the community of Mero. USAID introduced an approach that cleared natural drainage areas and channeled excess storm water into an improved drainage system designed to accommodate heavy flooding and debris. When Hurricane Erika hit in 2015, flood-related damage in Mero was modest compared to that seen in other communities.

Conditions for Success

Knowledge-sharing platforms and city-to-city mentoring can increase the flow of lessons learned and successful approaches among cities. Training city managers and relevant stakeholders, including service providers, can facilitate replication of best practices. Users need to trust both the tool and the organization that provides it; addressing preexisting biases and distrust among partners can be as important as getting the science right.



Urban Systems: Building Block 4

Mobilizing finance for adaptation measures from multiple sources

THE CHALLENGE

Mobilizing finance is a key barrier cities face when it comes to turning local plans into action. Often, financing is available, but city officials do not know how to tap the right resources or how to manage the funds they receive. Other constraints include: lack of creditworthiness; limited capacity to develop technically sound, investment-worthy project proposals; limited capacity to maintain budgeting systems and responsibly manage received funds; and a low revenue base, which makes it difficult or impossible for cities to issue their own debt instruments like bonds.

USAID APPROACH

USAID programs consider multiple funding sources, including local and national budgets, international funds, and private sector finance. The context for development finance varies, with some local governments able to access large-scale national grants and transfers, and others facing greater constraints in collecting and managing local revenues. Building on successful financial and project structuring models and mechanisms in proactive, high-capacity cities, USAID replicates the approaches in burgeoning cities and scales up through innovative partnerships and by leveraging multiple sources of finance.

ILLUSTRATIVE INTERVENTIONS

TECHNICAL ASSISTANCE

By helping cities understand various financial flows in-country, USAID can support them in mobilizing the most appropriate and sustainable sources of funding. Approaches include support to:

- Promote integrated operations and maintenance budgets for capital investments such as infrastructure
- Facilitate public-private partnerships
- Encourage utilization of own-source revenue
- Conduct cost-benefit analyses of adaptation options
- Establish or utilize revolving funds
- Facilitate intergovernmental transfers
- Integrate climate risk eligibility requirements for cities when applying for central funds
- Encourage integration of gender considerations into finance mechanisms
- Support cities to secure low interest loans from national banks
- Facilitate payment for ecosystem services
- Demonstrate use of smart incentives and guarantees to reduce risk
- Deploy performance-based financing mechanisms

Global Project Preparation Support

USAID supports the C40 Cities Finance Facility, which delivers technical assistance to build the capacity of cities to finance local climate change actions through public, private and international financing sources. On the USAID Adapt Asia-Pacific project, USAID helps 27 developing countries prepare high-quality adaptation projects by identifying project gaps and mobilizing sector specialists to assist governments in developing project proposals.

Conditions for Success

Clear incentives and investor confidence are critical in engaging the private sector to finance urban resilience interventions. Transparent budgeting and financial planning, and local revenue generation and retention create an enabling environment for opportunities to mobilize and allocate financial resources. City and public awareness of how to access funds is another success factor.