GLOBAL CENTER ON ADAPTATION

Urban Climate Resilience Master Class

Module 6

Financing Climate Resilient Urban Infrastructure

UCRMC Course Overview

Welcome to the Urban Climate Resilient Master Class! You are about to start Module 6.

Module 1

Introduction to Climate Change and Urban Resilience

Module 2

Understanding Climate Risks in Your City

Module 3

Locally Led Adaptation for Urban Resilience

Module 4

Ensuring Climate Resilience of Urban Infrastructure

Module 5

Step-by-Step Guidelines for Delivering Climate Resilient Infrastructure

Module 6

Financing Climate Resilient Urban Infrastructure

Acknowledgements

Welcome to the Urban Climate Resilience Masterclass!

This training has been developed by the Global Center on Adaptation (GCA) as a learning resource under Improving Urban Governance and Infrastructure Program (IUGIP) to strengthen the capacity of municipal officials to integrate climate adaptation and resilience into urban infrastructure and planning.

Thank You!

We would like to acknowledge the following partners and funders involved in designing and delivering this training:

Agenda

01 Why This Topic Matters

02 Learning Objectives

03 Concepts & Definitions

04 Financing Urban Resilience

05 Financial Instruments for Urban Resilience Investments

06 Financing Urban Resilience in Bangladesh & Kenya

07 Interactive Exercise

08 Summary

Garissa, Kenya; Photo by Luis Tato/AFP

Housekeeping

Listen

Listen carefully, follow along and make your own notes.

Ask

Ask the trainers questions or clarifications at any time.

Share

Your own experience is valuable and we encourage you to share it.

Discuss

Share and discuss with others during exercises, breaks and reflections.

01 | Why This Topic Matters

Mai Mahiu, Kenya; Photo by Daniel Irungu, EPA-EFE

Why This Topic Matters

This module introduces participants to climate finance and helps them focus on how they can identify and access finance for their urban resilience projects and infrastructure.

It provides participants with a simple Climate Finance Framework they can use to think about where climate finance comes from, who provides the money and how it is delivered to them.

It will enable participants to identify potential sources of finance and who they might partner with to access funds in the future.

It will enable participants to explain to funders their adaptation investment needs and why they are important when designing finance proposals.

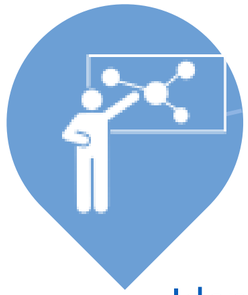
02 | Learning Objectives

Photo by Daniel Sikpi, Pexels

Learning Objectives

By the end of Module 6 participants will be able to:

Understand the difference between (1) sources of climate finance, (2) actors who deliver finance (3) the financial instruments used to transfer finance, and (4) investments in green urban infrastructure.

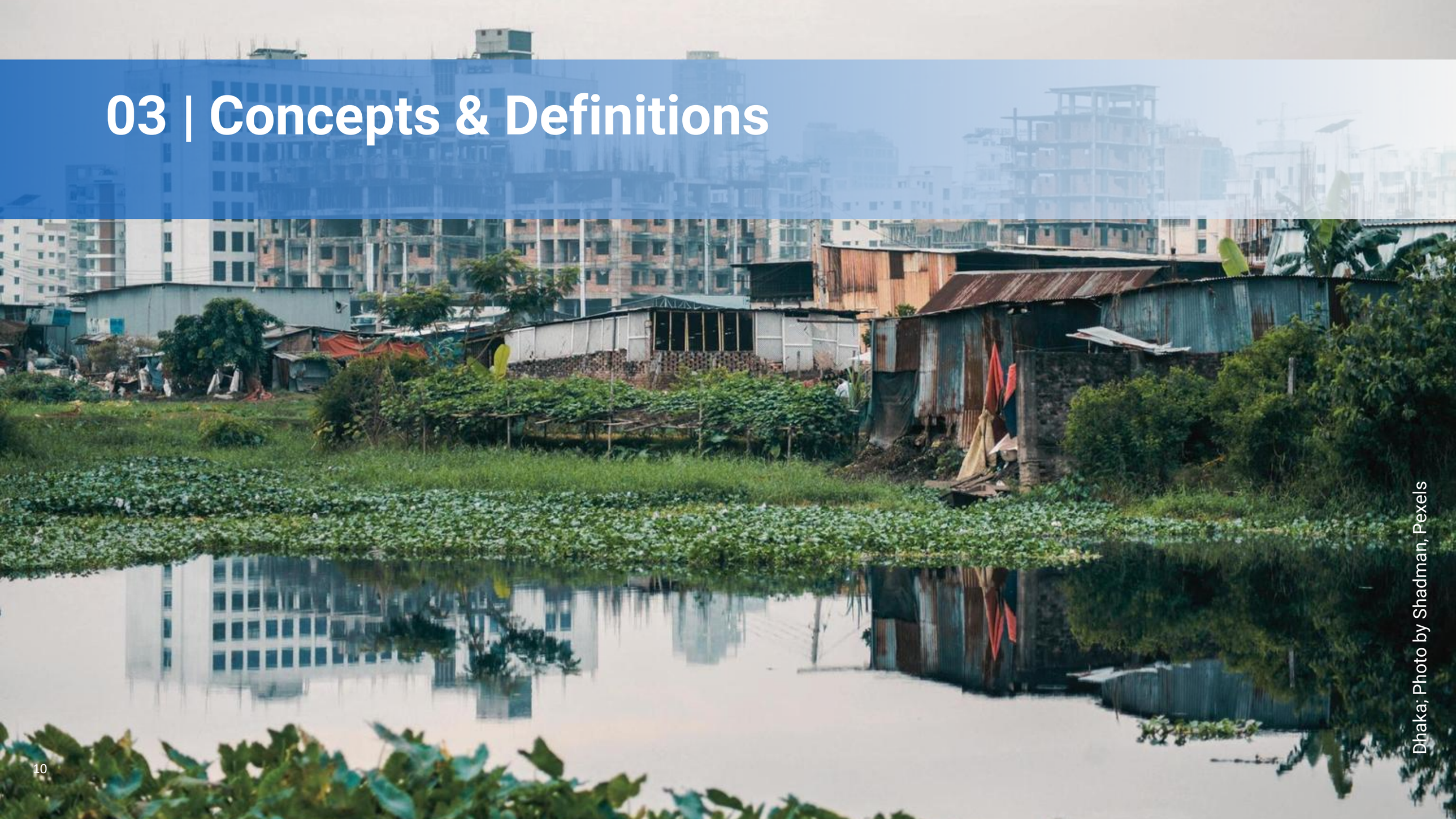


Identify sources of urban climate finance that they can access in their country.

Identify different types of investments they could make to build climate resilient infrastructure in their cities (e.g. NbS, green transport, housing, drainage infrastructure, waste, etc.).

Describe the adaptation rationale of their own projects / investments to explain to finance providers their need for climate finance investment.

03 | Concepts & Definitions



Dhaka; Photo by Shadman, Pexels

Concepts & Definitions

Climate Finance is local, national or international money drawn from public, private or alternative sources that is used to make investments in mitigation or adaptation actions that will address climate change. For the purpose of the UCRMC course, with its focus on adaptation, climate finance can be thought of as the additional money required to make a normal infrastructure investment resilient to the impacts of climate change.

Infrastructure Financing refers to raising the upfront money required to make an infrastructure investment. Financing can come from both public and private sources of finance. It may come in the form of a loan that needs to be repaid, or as a grant or transfer that does not need to be repaid.

Public Sector is the part of the economy controlled by governments. Public sector entities such as governments and their agencies, development banks, climate funds, state-owned enterprises, etc. provide finance for climate resilient infrastructure investment.

Financial Instruments refers to the contracts between institutions, individuals, or parties which hold monetary value. They are used to deliver finance from the finance providers to the finance users or implementors.

Private Sector is the part of the economy run by individuals and companies for profit. The private sector provides finance for investment, often in the form of loans and debt, which must be repaid by the borrower with interest that generates a profit for the private sector lender.

Review Exercise

Across the 6 modules we have learnt many important definitions. How many can you remember? Let's test each other.

- Write down 2 or 3 key words that you remember from this course (Choose ones that you know the definition of)
- Pass the key words to the person on your left
- They must write down the definition to your key words - if they know it!
- Pass back your paper and see if they got them correct
- Praise any correct answers and discuss the definition for any they did not know.

Garissa, Kenya; Photo by Luis Tato, AFP

04 | Financing Urban Resilience

Kibera; Photo by Evans Dimo, Unsplash

What is climate finance?

Cities need financial resources in order to invest in public infrastructure and services. Climate finance refers to money that can be used to make investments that will address climate change.

As climate change accelerates over the coming decades, cities will need larger amounts of finance to make infrastructure resilient to the impacts of climate hazards, and to invest in new infrastructure that makes people resilient to climate impacts.

While climate finance can be used for adaptation & resilience as well as climate mitigation, in this course we focus on finance for adaptation & resilience.

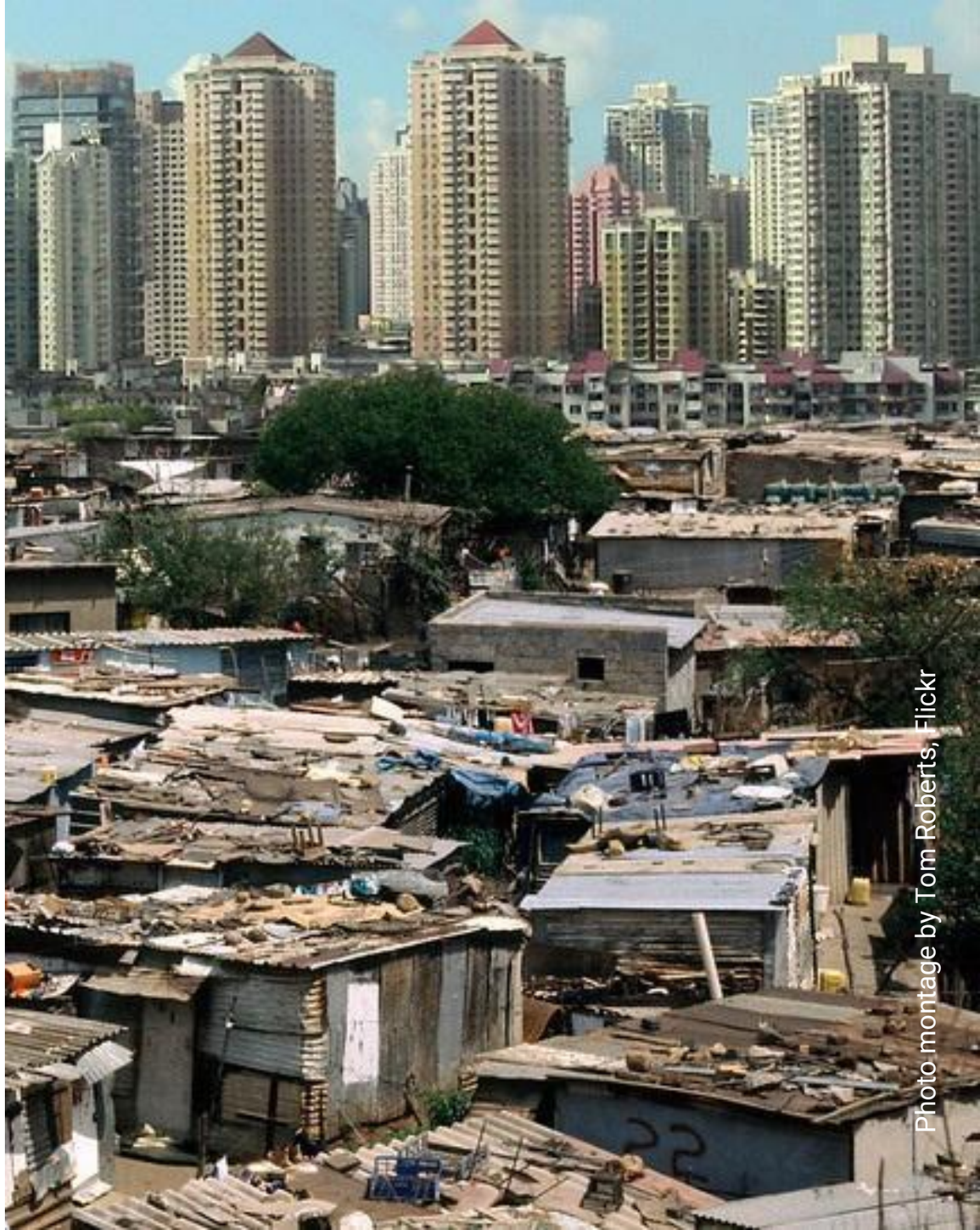


Photo montage by Tom Roberts, Flickr

Why is climate finance important?

Globally, it is estimated that USD $4.5 – US $5.4 trillion will be required in infrastructure investments in cities between 2015 and 2030. The World Bank states that cities will require USD $11 – USD $20 billion per year to support adaptation and make infrastructure resilient to climate change.

Developing countries face significant challenges in accessing climate finance. Many have little fiscal autonomy and only collect a limited amount of tax revenue or service charges from citizens and businesses to raise capital for local development.

Cities need to identify the most effective way to access capital for resilient infrastructure investment. This will vary from city to city, and country to country. It could involve finance provided by domestic sources or international sources. It can also come from the public sector or the private sector.

Nairobi: Photo by Vicente Camarasa

Climate Finance Framework

Sources

Sources refer to the institution or entity where climate finance originates. This could include international agencies, governments, businesses, individuals and many others.

Actors

Actors are the institutions, individuals or parties who provide, deliver and use climate finance.

Financial Instruments

Financial instruments are contracts between institutions, individuals, or parties which hold monetary value. They are used to deliver finance from the finance providers to the finance users / implementers.

Investments

The **investment** refers to what type of project, program, infrastructure, service or other investment the climate finance is used for.

Climate Finance Framework

Sources	Actors	Financial Instruments	Investments
International	Governments Multilateral Banks Climate Funds	Grants Concessional loans Guarantees	Transport Energy Telecom Buildings Water Waste Health & Sanitation Public spaces
National	National government ministries	Intergovernmental transfers National climate funds	
Municipal	City Treasury City Departments & Agencies Citizens	Taxes User fees Development levies	
Private sector	Banks Institutional Investors Companies Households & individuals	Loans Green bonds Project finance	

Climate Finance Framework

Sources of urban climate finance

Sources 	**The institution or entity where climate finance originates.**
International	International climate finance comes from institutions outside your country.
National	National climate finance comes from your central government.
Municipal	Municipal climate finance comes from your city budget.
Private sector	Private sector climate finance comes from businesses, banks, or individuals seeking to make profit from green investments. These could be national or international businesses.

Climate Finance Framework

Actors that deliver urban climate finance

Sources	Actors	The institutions, individuals or parties who provide, deliver or use climate finance.
International	Governments Multilateral Banks Climate Funds	International finance can be provided by donor governments, development finance institutions (e.g. World Bank, Asian Development Bank) or climate funds (e.g. Green Climate Fund).
National	National government ministries	This could include the Ministry of Finance or other line Ministries (e.g. Environment, Transport, Public Works) who provide finance for projects in cities.
Municipal	City Treasury City Departments & Agencies Citizens	Municipal finance comes from city budgets. It is often paid for by citizens (through taxes and fees) and is distributed by the Treasury or line departments.
Private sector	Banks Institutional investors Companies Households & individuals	The private sector includes commercial banks and institutions (e.g. pension funds) who seek to make a profit by investing in infrastructure projects. It also includes businesses, households and individual investors.

Climate Finance Framework

Financial instruments used to deliver urban climate finance

Sources	**Financial Instruments**	**Contracts between institutions, individuals, or parties which hold monetary value. They are used to deliver finance from the finance providers to the finance users / implementers.**
International	Grants Concessional loans Guarantees	International actors can provide finance as grants which don’t need to be repaid or as concessional loans with low interest rates.
National	Intergovernmental transfers National climate funds	National governments provide money to cities through direct transfers and grants. These can come from national budgets or dedicated climate funds.
Municipal	Taxes User fees Development charges	Municipalities generate their own revenue from citizens in the form of taxes, user fees for infrastructure and services or development charges.
Private sector	Loans Green bonds Project finance	The private sector provides loans and debt, charging an interest rate to make a profit. If cities take on debt they ultimately have to repay the lender for the cost of borrowing.

Climate Finance Framework

Types of urban climate finance investments

Investments	**The type of project, program, infrastructure, service or other investment the climate finance is used for.**
Transport	Improved drainage of roads (e.g. with grey-green solutions) to improve drainage for stormwater and flooding.
Energy	Decentralized solar energy for energy security and reduced reliance on ageing grids that can't meet demand during heatwaves.
Telecom	Constructing telecom towers away from flood-prone areas based on climate risk data
Buildings	Cooling solutions for buildings to minimize the impact of heat stress.
Water	Improved access to safe drinking water in heat-stressed cities.
Waste	Improved waste collection to avoid clogging of sewers and drains that heighten the impact of flooding.
Health & Sanitation	Investments in public health to minimize vector-borne diseases that are increasing because of climate change.
Public spaces	Planting or rehabilitating mangroves and wetlands to protect against coastal erosion and storms.

Experience Share

Open Floor

- Do you have any examples or stories of finance for urban resilience in your city?
- Consider the sources, actors, instruments, and investments that may have been involved.
- Raise your hand if you have an example or story to share with the room.

Mathare informal settlement; Photo by Luis Tato, AFP

05 | Financial Instruments for Urban Resilience Investments

Kibera; Photo by Ebby Higgins, The Seattle Globalist

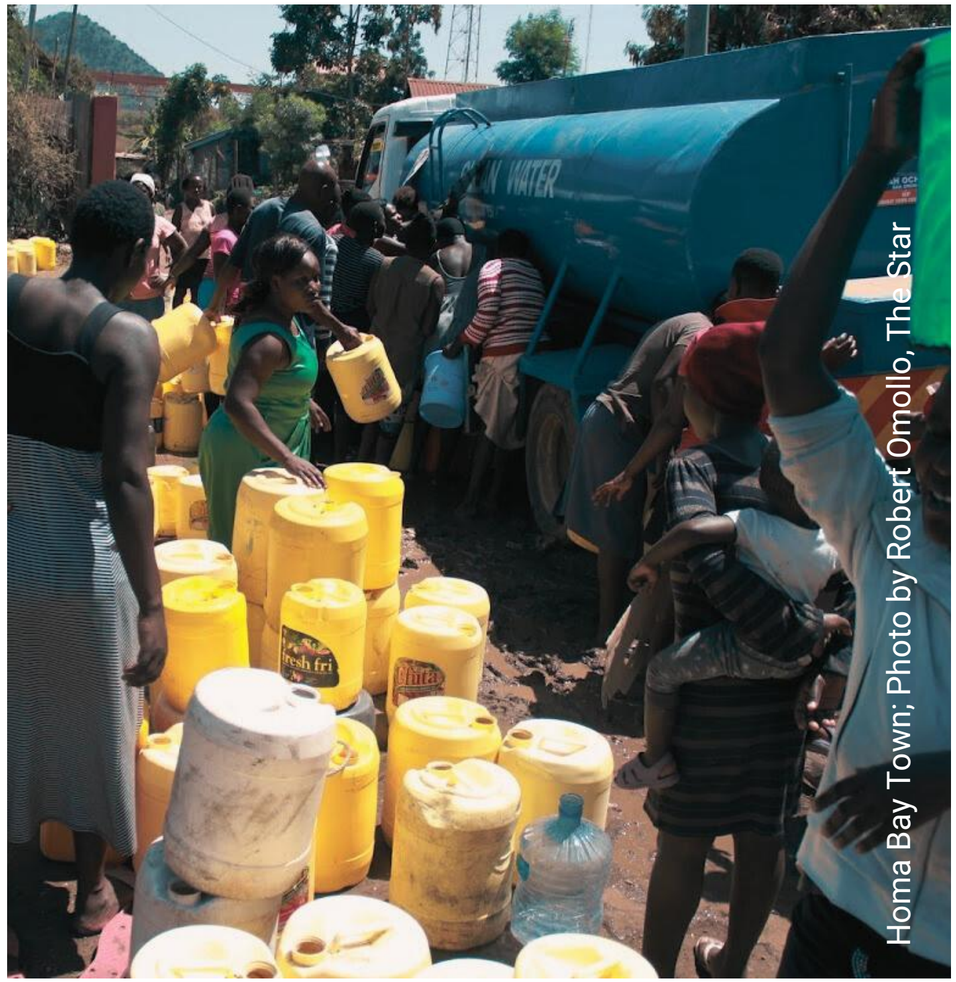
Financial instruments for urban resilience investment

This section provides a deep dive into specific **financial instruments** that can be used to make investments in climate resilient infrastructure in cities.

It focuses on financial instruments that come from **national and municipal sources**, since these are the primary sources of finance that are available to cities.

It also focuses primarily on **public sector finance and not private sector finance**, since few Tier-2 cities in developing and middle-income countries are eligible to borrow from the private sector.

The main instruments outlined in this deep dive are intergovernmental transfers, grants, concessional loans, taxes, user fees and development levies.



Homa Bay Town; Photo by Robert Omollo, The Star

Why focus on national & municipal finance?

Own source revenue from national and municipal governments is the primary source of public sector climate finance in the world. It is therefore the most likely source for cities to access climate finance from.

Cities can rarely access international finance, for example, from international donor countries, multilateral development banks and climate funds. These are primarily accessed by national government ministries and agencies. There are very few international funds that provide direct access to city governments. Accessing these funds may also take several years, involve very complicated application procedures, and provide no guarantee that funding will be provided.

This course focuses on more immediate sources of finance that cities can tap into within their own national context. Cities targeting international finance should work with partners in national government to develop a financing strategy.

Photo by Paloma Clarice, Pexels

Why focus on public finance and not private finance?

Most municipal governments in middle-income countries are not eligible to borrow directly from the private sector.

They often lack a domestic or international credit rating – which lenders require to make investment decisions.

The laws that govern constitutional power sharing between different levels of government often do not legally allow sub-national governments to take on debt (i.e. borrow from the private sector).

Though some investment can come from households and individuals, this amount of finance is much smaller than private sector investment made by commercial banks, institutional investors and companies.

56%

of countries forbid any kind of local government borrowing

93%

of low and lower-middle income cities have sovereign credit ratings below international investment grade

National and Municipal Financial Instruments

Intergovernmental Transfers

Grants & Concessional Loans

Taxes

User Fees

Development Levies

Instrument 01 | Intergovernmental transfers

Intergovernmental transfers are financial resources transferred from national governments to subnational governments.

These transfers are usually delivered as grants, which are funds that do not need to be repaid. They can be earmarked for a specific investment, or they may be unconditional transfers to be used at the discretion of the receiving government.

Instrument 01 | Intergovernmental transfers

Case Study | Sponge Cities, China

With rapid urbanization and investment in grey infrastructure over the previous decades, China's cities face an increased risk of flooding, water contamination and drought.

In 2015, China's government started the 'sponge city' initiative to incentivize cities to implement nature-based solutions that retain water and slow down water-flow to minimize the potential of urban flooding and conserve water in drought prone parts of the country. The central government provided intergovernmental transfers to 16 pilot cities who each received between 400-600 million yuan (US $55-$85 million) to implement sponge city NbS initiatives.

The project has resulted in an increase in green space, natural habitats, and biodiversity and has led to improved water management.

Instrument 02 | Grants & Concessional loans

Grants are direct transfers to recipients that do not need to be repaid. Grants can be unconditional – where the recipient can choose how to use the funds. Or they can be conditional, where the finance provider earmarks them for a specific purpose.

Concessional loans are loans that are provided to borrowers at a low interest rate and for a longer time than would normally be offered by a commercial bank. Borrowers must pay back these loans. Not all cities are legally allowed to borrow, so concessional loans are only relevant to cities that have borrowing authority.

Grants and concessional loans can be provided by different actors, including national climate funds and national development banks.

Photo by Blue Ox Studio, Pexels

Instrument 02 | Grants & Concessional loans

Case Study | Rwanda Green Fund

The Rwanda Green Fund (FONERWA) was established in 2012 to invest in public and private climate projects. The Fund mobilizes climate finance from a variety of sources – both domestic and international – and uses the money to invest in a variety of sectors across Rwanda. This includes infrastructure, buildings, cities, industries, ecosystem services, energy generation, energy access, health, food and water security, transport, and forestry.

FONERWA is administered by the Ministry of Environment at the national level. It disburses finance as grants and concessional loans. The Fund has mobilized US $247 million and financed a total of 46 projects since its inception.


Photo by Rwanda Green Fund

Instrument 03 | Taxes

Taxes are mandatory financial contributions to government, levied at local, regional or national levels. Taxes are commonly collected on sales of goods and services, from property taxes and as a percentage of salaries in the form of income tax.

Depending on the country's constitutional arrangements on finance and taxation, different levels of government will have different responsibilities for collecting taxes. Cities generally can only raise some taxes – particularly property taxes and some sales taxes or tourism taxes. National governments more commonly collect income taxes, sales taxes, and in certain places carbon taxes.

Nairobi; Photo by Luis Tato, AFP

Instrument 03 | Taxes

Case Study | Medellín, Colombia

Since 2016, Medellín has invested USD $16.2 million of tax revenue to create 30 green corridors throughout the city. This has resulted in an interconnected 20km network of shaded routes, including bike lanes and walkways that provide shade to Medellín's citizens.

The city has achieved a 2℃ decrease in temperatures leading to reduced risk of heat stress. The project provides additional benefits, including an increase in biodiversity, reduced pollution, carbon sequestration and an increase in cycle activity.

Medellín; Photo by UCL Institute For Sustainable Resources

Instrument 04 | User fees

User fees charge people a fee for using infrastructure or services.

User fees are most often used to charge the public for using public utilities like electricity or water, transportation service, or waste collection services provided by the government.

The charges for user fees can be on a per-use basis (e.g. toll roads), based on consumption/usage (e.g. for electricity), or as a flat periodic fee (annual fee for waste collection).

Photo by Walt Ratterman, SunEPI + USAID

Instrument 04 | User fees

Case Study | Waste Collection | Pune, India

In 2008, Pune Municipal Corporation created a public-private partnership with Solid Waste Collection and Handling (SWaCH), a self-owned cooperative of informal waste pickers made up of the urban poor. Under this agreement, SWaCH provides segregated waste collection services for 500,000 households in Pune, representing 60% of Pune's geographical area.

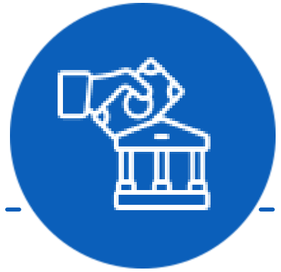
The business model for providing waste collection services in Pune uses user fees as its primary source of finance. Households are charged a user fee between US $0.15 and US $0.60 per month for their service. The Pune government does provide some grant finance to SWaCH to support training and management costs, but otherwise the user fees provide sufficient revenue to cover the costs of waste collection services. This has resulted in the Pune government saving US $7.9 million per year.

Instrument 05 | Development levies

Development levies are a group of instruments that a city can use to raise capital on the development of land:

Development Charges

One-time charges levied on private companies or people who are developing land. They can be collected as a fee from developers for development permits, as a fee for connecting new buildings to city services (e.g. water, electricity, lighting), or as a payment for negative impacts of development (e.g. traffic, noise pollution).



Land Banking

The practice of selling or leasing city-owned land that is under-utilized or being held in trust, so that the municipality can use that money for investment in infrastructure or services.

Value Capture

A tax charged to landowners to capture the increase in their land value that has occurred as a result of new infrastructure being built – for instance parks, public transport, community centres, etc. which increase property values.

Instrument 05 | Development levies

Development Charges

One-time charges levied on private companies or people who are developing land. They can be collected as a fee from developers for development permits, as a fee for connecting new buildings to city services (e.g. water, electricity, lighting), or as a payment for negative impacts of development (e.g. traffic, noise pollution).

Case study | São Paulo, Brazil

São Paulo sells development rights (known as certificates of additional construction potential – CEPACs) to project developers, who pay for favourable zoning permits. CEPAC revenue is held in a separate fund which is used for investment in public infrastructure – e.g. to improve informal housing or public drainage. São Paulo has raised over US $1 billion from CEPAC sales.

São Paulo; Photo by Wsfurlan, Getty Images (licensed via Canva)

Instrument 05 | Development levies

Land Banking

The practice of selling or leasing city-owned land that is under-utilized or being held in trust, so that the municipality can use that money for investment in infrastructure or services.

Case study | Bonifacio City

Part of metro Manila in The Philippines, Bonifacio City is a 214-hectare land development designed in 1997. Manila faces high flooding. Bonifacio City features an underground drainage system for stormwater that releases excess water to nearby rivers. This urban flooding system was financed from the US $800 million sale of former military land where the development now sits.

Bonifacio City; Photo by David Montasco

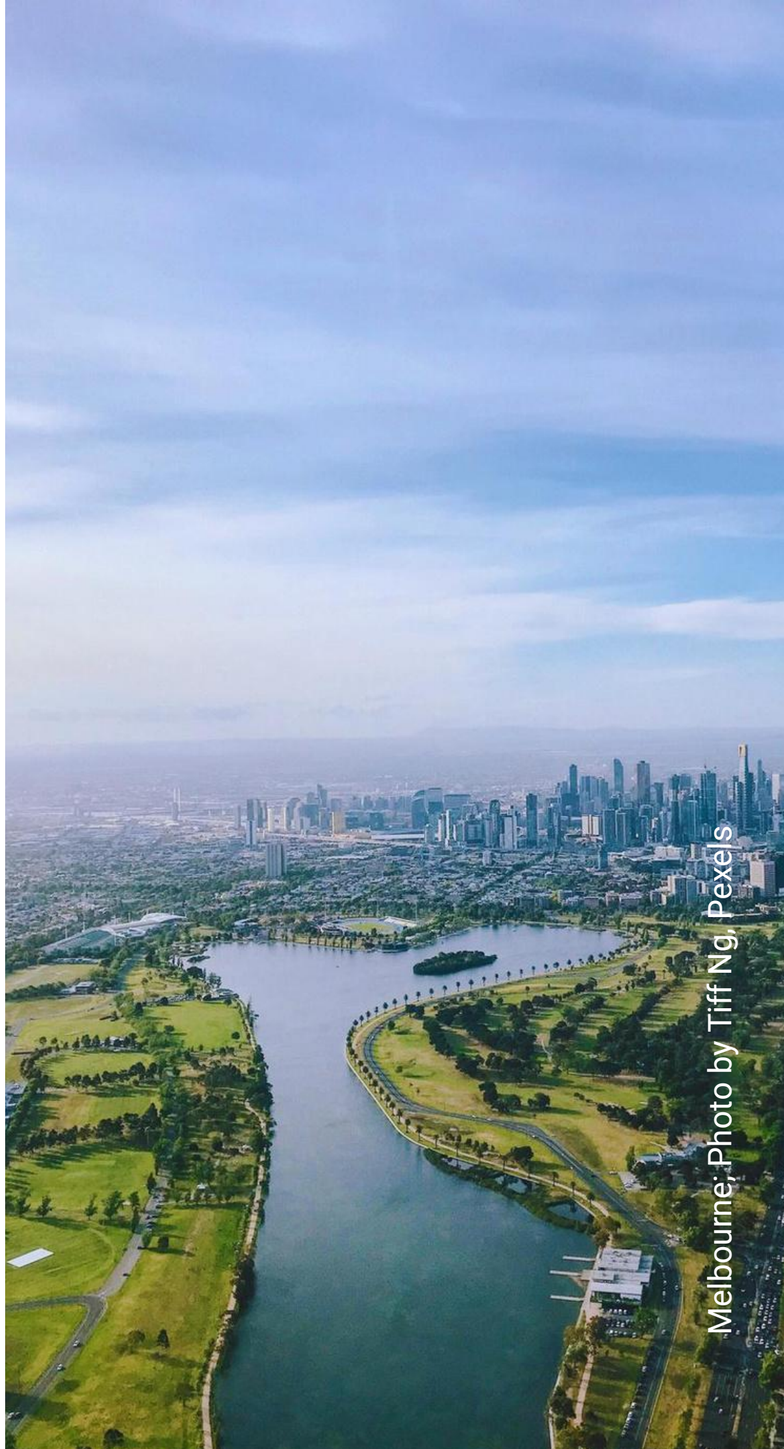
Instrument 05 | Development levies

Value Capture

A tax charged to landowners to capture the increase in their land value that has occurred as a result of new infrastructure being built – for instance parks, public transport, community centres, etc. which increase property values.

Case study | Melbourne, Australia

Melbourne levies an annual ‘parks charge’ on commercial & residential properties to capture the rising value of properties as a result from the city investing in green space. The parks charge is used to finance the upkeep of urban parks, gardens, trails, waterways, and public facilities which protect biodiversity, sequester carbon, improve urban air quality and are important places for recreation.



Melbourne; Photo by Tiff Ng, Pexels

Questions

- Does anyone have any questions about the financial instruments discussed in this section?
- Are there any financial instruments you are familiar with?
- Are there any financial instruments you are not familiar with?
- Do you need any clarification on specific instruments or case studies?

Mororo; Photo by Andre Kasuku, AP

06 | Financing Urban Resilience in Bangladesh

Photo by Ppart/Getty Images (Licensed via Canva)

Climate Finance in Bangladesh

The Government of Bangladesh allocates budget for climate-relevant expenditure in the annual budget for 25 Ministries and Divisions, accounting for 52.47 % of the national budget.

Across these 25 Ministries and Divisions in 2024-25,10.09 % of their budgets are allocated specifically for climate-relevant expenditures.

Over the last five years in Bangladesh, the climate-relevant budget allocation increased by 44.45% from about US$2.3 billion in FY2019-20 to about US$3.34 billion by FY2023-24.

Climate Finance in Bangladesh

Plans	Activity	Estimated total amount	Remarks
Nationally Determined Contribution (NDC)	Mitigation	US$175 billion	Full implementation of the NDC by 2030 will require GoB to commit US$32 billion in order to meet unconditional targets, and international support of US$143 billion to meet conditional targets.
Bangladesh Delta Plan (BDP) 2100	Adaptive delta management	US$37 billion	Annual expenditure on the plan will require an average investment of US$2 billion for the first 10 years. From 2025, this will rise to US$3 billion per year. Funds will be used to invest in 80 projects in six geographic hotspots, including urban areas.
National Adaptation Plan (NAP) 2023-2050	Adaptation	US$230 billion	An average of US$8.5 billion per year is required to implement the 113 interventions outlined in the 27-year implementation plan.

Recap: Climate Finance Framework

Sources

Sources refer to the institution or entity where climate finance originates. This could include international agencies, governments, businesses, individuals and many others.

Actors

Actors are the institutions, individuals or parties who provide, deliver and use climate finance.

Financial Instruments

Financial instruments are contracts between institutions, individuals, or parties which hold monetary value. They are used to deliver finance from the finance providers to the finance users / implementers.

Investments

The **investment** refers to what type of project, program, infrastructure, service or other investment the climate finance is used for.

Climate Finance Framework in Bangladesh

Sources	Actors	Financial Instruments	Investments
International	Global Climate Funds (e.g. GCF) Multilateral development agencies Multilateral banks (e.g. ADB, World Bank) UN organizations (e.g. UNDP) Bilateral donors (e.g. FCDO, JICA) International NGOs (e.g. Water Aid, Oxfam)	Grants Concessional loans	Transport Energy Telecom Buildings Water Waste Health & Sanitation Public spaces
National	National government ministries National climate funds	Intergovernmental transfers Grants	
Municipal	City Corporation/ Pourashava Mayor, officials, and Council members Citizens	Taxes User fees Income from assets and lease Revenue surplus	
Private sector	Banks Business groups Households & individuals	Loans Project finance	

Source 01 | International finance

International funders provide finance to Bangladesh primarily via the national government, which then allocates finance to different Ministries to channel the funds to specific projects & investments.

- **International climate funds** provide finance through the Economic Relations Department (ERD) of the Ministry of Finance. **PKSF** (for adaptation) and **IDCOL** (for mitigation) collaborate with both public and private organizations to develop proposals, which are then sent to a technical review committee in the ERD for submission to international climate funds.

- **Multilateral development banks** (e.g. World Bank, ADB) and **bilateral donors** (e.g. FCDO) provide finance via the ERD, which passes finance on to relevant Ministries for further local-level allocation and implementation. Cities can receive funds if they are included in those activities and projects.

- **Cities** can apply directly for finance from international climate funding that are open to participation. However, cities may need prior approval from the Ministry/LGD before receiving the funds.


Photo by World Bank

Source 01 | International finance

Case study | Climate Resilience Project for Coastal Cities

Government of Bangladesh took a loan of US$250 million from **ADB** for the Climate Resilience Project for Coastal Cities.

The Local Government Engineering Department (LGED) is implementing the project in **22 coastal cities** that are vulnerable to climate-induced disaster risks, with a focus on supporting women and the urban poor.

The national government accessed the finance from ADB, while cities are only responsible for supporting project implementation with the implementing agency.

Bagerghat; Photo by World Bank

Source 01 | International finance

Case study | Climate Resilience Project for Coastal Cities

The project utilizes US$199 millions to support the provision of priority **climate resilient municipal infrastructure and essential services** that are critical for building climate and disaster resilience and local economic development to enhance the adaptive capacity of the city such as urban flood management, drainage, cyclone shelters with early warning systems, public space improvement.

The other activities provide support to **increase the adaptive capacity** of vulnerable households to deal with climate shocks in six towns with high poverty levels.

The project also supports the development of climate and disaster risk informed urban development plans, increase knowledge, and capacity for implementing nature-based solutions, strengthen capacity for undertaking risk informed performance-based municipal budget allocation.

Bagerghat; Photo by World Bank

Source 02 | National finance

The **national government** supplies a significant amount of finance for green infrastructure and other climate related investment in Bangladesh:

- The **Ministry of Finance** and 25 other **Line Ministries/ Divisions** provide finance for specific projects related to climate mitigation and adaptation. These include the Ministry of Local Government, Ministry of Environment and Forests, Ministry of Water, & Ministry of Public Works.

- The **Local Government Division (LGD)** makes intergovernmental transfers to all City Corporations and Pourashavas based on a fixed formula under the Annual Development Programme.

- The **Bangladesh Climate Change Trust Fund (BCCTF)** is a specially established climate fund which makes investments in the form of grants for climate investments, via the Ministry of Environment and Forest. However, finance from the BCCTF has declined in recent years and the fund has focused predominantly on energy-related investments that support mitigation outcomes.


Photo by Md Maruf Hassan

Source 02 | National finance

Case study | Bangladesh Climate Change Trust Fund

The Government of Bangladesh established the Bangladesh Climate Change Trust Fund in 2010.

The Trust Fund provides finance in six priority sectors: food security, social safety and health, integrated disaster management, infrastructure, research and knowledge management, mitigation and Low carbon development, and institutional capacity and efficiency building.

Cities apply for the grants from the Trust Fund through the Local Government Division to the Ministry of Environment and Forest.

However, the list of projects funded is disproportionately dominated (59%) for installation of solar streetlights. The approval process of the grant application discourages cities to apply for other areas.

Trust Fund allocations have declined from BDT 70 million in 2009-2010 to BDT30 million in 2019-2020, which has restricted availability of resources for investments.

Source 03 | Municipal finance

City Corporations & Pourashavas generate resources for their budget from several sources:

- They generate their own revenue from citizens in the form of taxes (e.g., holding tax), user fees for infrastructure and services (e.g. trade license), income from assets and lease (e.g., market, open space).
- They receive finance from the national government through the annual intergovernmental transfer as block grant under the Annual Development Program (ADP). Cities have been directed to use a minimum of 10% of the block grant for financing green and climate resilient investment.
- National government departments also occasionally transfer project finance to add to municipal budget for specific investments.
- City Corporation and Pourashava officials prepare and the Council approves the annual budget allocating finance for different projects. These can be allocated for green infrastructure in the City Corporation or Pourashava.


Bangladesh, Photo by Eduardo Getty Images (Licensed via Canva)

Source 03 | Municipal finance

Case study | Shuborno Shorobor, Singra

Singra is a category A pourashava with 12 wards, approximately 32,000 citizens living in an area of 22.5 sq. km.

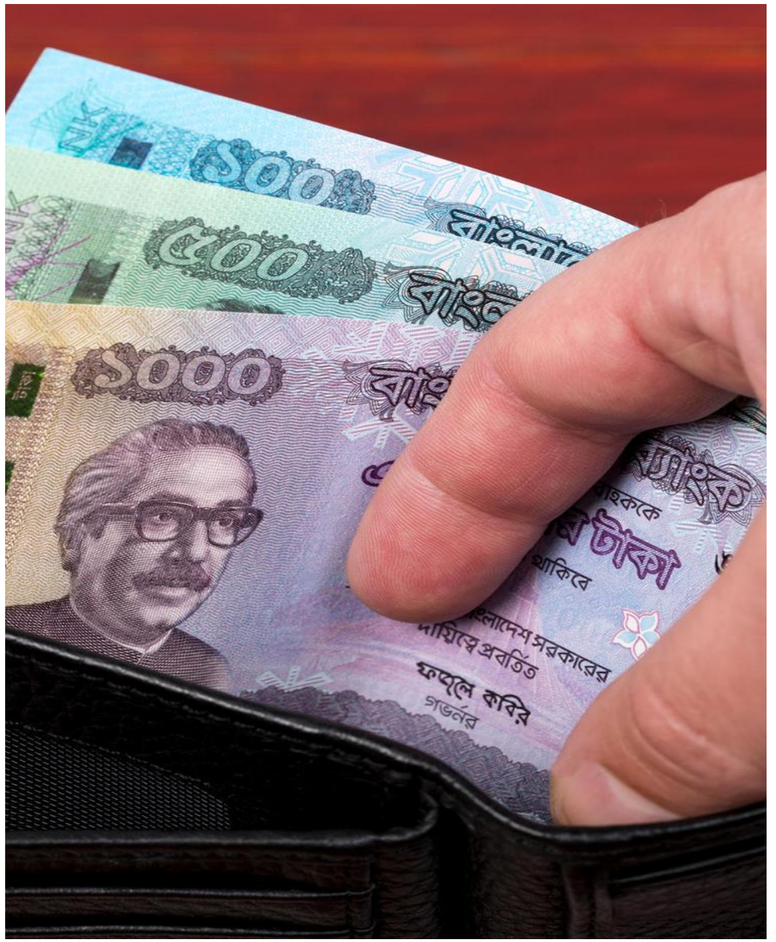
The city took an initiative to develop a lake running through the Pourashava as a public open space in 2014 to reduce the risks of waterlogging. The aim was to construct walkways and other public facilities along the 850 meter long lake.

They received an intergovernmental transfer of BDT 10 million as a grant from the Ministry of Local Governments to start the work in 2016. The work began but soon ran into trouble for inadequate funds to finance such a large scope of work.

After some delays, the city invested additional resources from their annual budget over several years to complete the project.

Summary: How city officials can access finance for their climate resilient infrastructure projects

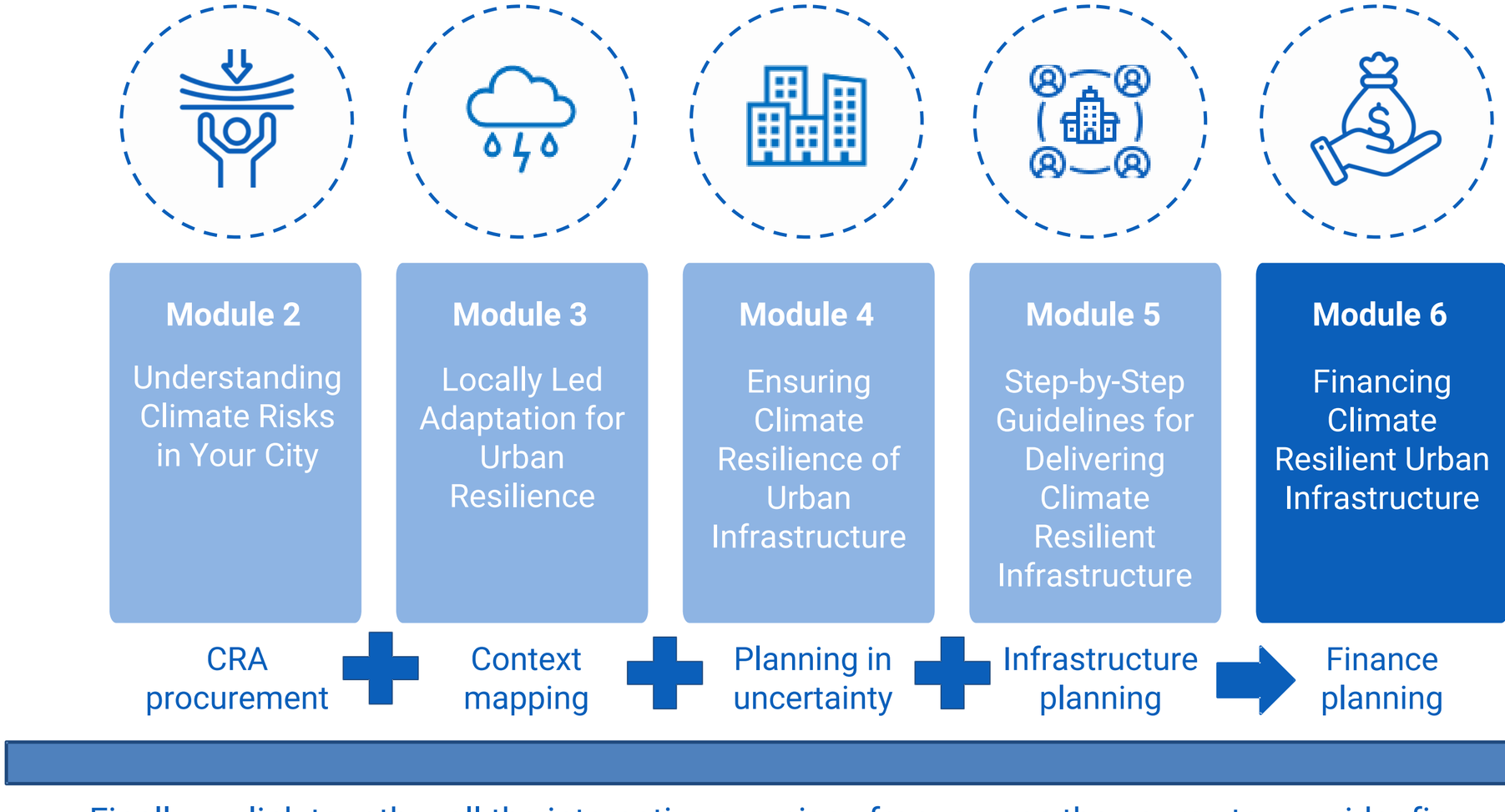
- Participate in internationally-financed initiatives like IUGIP to access **international finance** channeled as grants through the national budget.
- Use **intergovernmental transfers** that have been delivered to cities as part of the budget allocations from national ministries for climate relevant infrastructure investment.
- Collaborate with other **national funds and agencies** such as PKSF or the Bangladesh Climate Change Trust Fund to develop local adaptation projects.
- Use **own source revenue** from taxes or user fees collected by the municipality for climate investments. Cities can enhance own source revenue with better asset management, strategically expand tax base.
- Explore the possibility of working with **private sector partners** to develop public-private partnerships for infrastructure delivery that can use private finance.



07 | Interactive Exercise

Photo by Ricardohossoe, Getty Images (licensed via Canva)

Start Your Journey



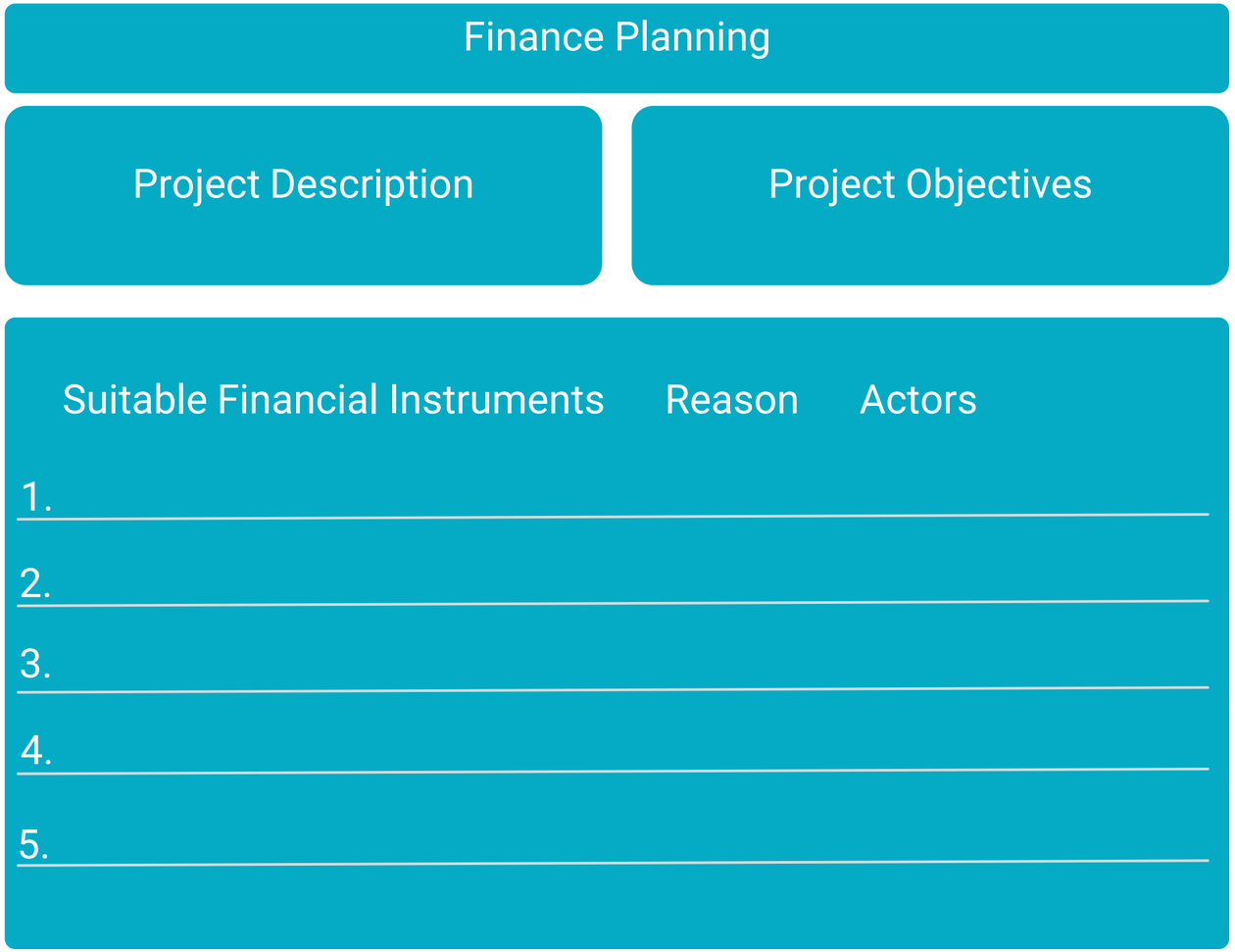
Finally we link together all the interactive exercises from across the course to consider finance planning for climate resilient infrastructure.

Finance Plan Canvas

The finance plan canvas helps to make ideas granular whilst considering suitable financial instruments.

1. Project description: Use your mission and strategy from the content map and infrastructure plan to formulate a short project description.
2. Project objectives: Consider the options, construction, timeline, and upkeep from your infrastructure plan to create key project objectives.
3. Suitable financial instruments: Consider which of the financial instruments we have been discussing could be suitable. for each one and provide:

    a. A reason why this instrument is suitable.
    b. The actors who would be involved in providing or supporting this financial instrument.



Finance Planning

Project Description

Project Objectives

Suitable Financial Instruments	Reason	Actors
1.		
2.		
3.		
4.		
5.		

Finance Planning

Project Description

Project Objectives

How would you describe this climate resilient project to ensure that it goes forward?

Suitable Financial Instruments

1.

2.

3.

4.

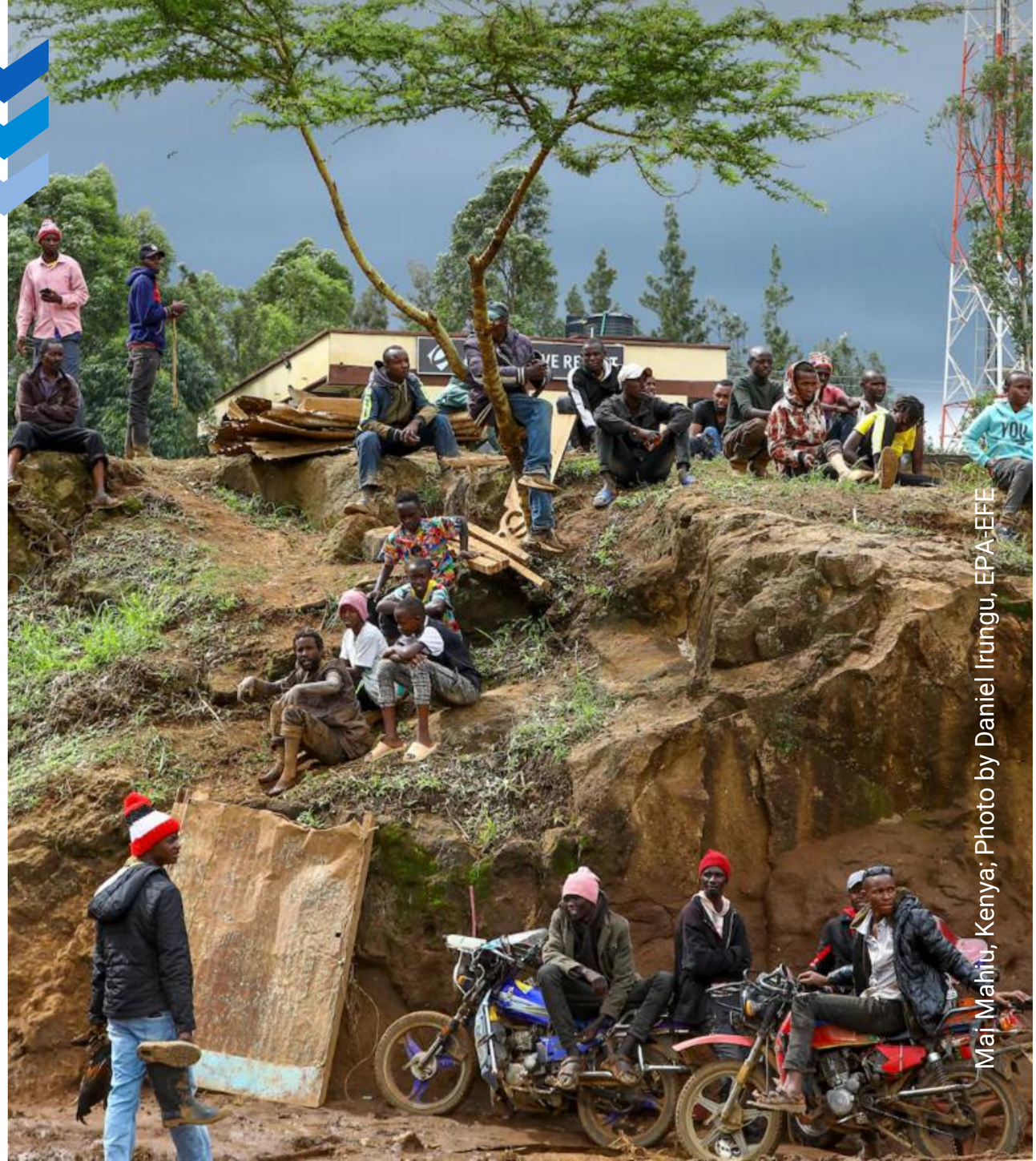
5.

Finance Planning

Pitching to an official

- What language should you use to address this person / audience?
- Is climate resilience the most important factor in their decision making?
- How will you convince them of the importance, and feasibility of your project?
- What information might you need from the CRA, E&I considerations, finance instruments options to be able to fully present your project?

How would you describe this climate resilient project to ensure that it goes forward?



Mai Mahiu, Kenya; Photo by Daniel Irungu, EPA-EFE

Presentation

One presentation per table

- Start your presentation by describing the audience that it is for.
- Present your finance plan with this audience in mind.
- Open the floor for questions and comments.

Nairobi; Photo by Daniel Irungu, EPA-EFE

08 | Summary

Bangladesh; Photo by Habib Ullah

What is Your Role in Delivering Climate Resilient Infrastructure?

Understand how climate change will increase climate risks for diverse groups of people in your city by undertaking or commissioning a CRA.

Identify infrastructure, services, neighbourhoods, and vulnerable groups, who are impacted by climate hazards and/or will be impacted more in the future as climate change brings new challenges.

Identify and deliver infrastructure investments that could help make your city and its citizens more resilient to climate risks. These could be new infrastructure investments or upgrades to existing infrastructure.

Access finance to make investments in climate resilient infrastructure in your city.

Explain to senior officials and/or finance providers why the infrastructure investment you are proposing will help lead to climate resilience – i.e. how is it different than business as usual.

Nairobi; Photo by Simon Maina, AFP

UCRMC Course Summary

Congratulations on completing Module 6: Financing Climate Resilient Infrastructure.

Module 1

Introduction to Climate Change and Urban Resilience

Module 2

Understanding Climate Risks in Your City

Module 3

Locally Led Adaptation for Urban Resilience

Module 4

Ensuring Climate Resilience of Urban Infrastructure

Module 5

Step-by-Step Guidelines for Delivering Climate Resilient Infrastructure

Module 6

Financing Climate Resilient Urban Infrastructure

You have now completed the Urban Climate Resilience Master Class. Congratulations once again!!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