Climate & Development Knowledge Network

ICLEI Local Governments for Sustainability SOUTH ASIA

Planning for Climate Resilience for Cities in Bangladesh

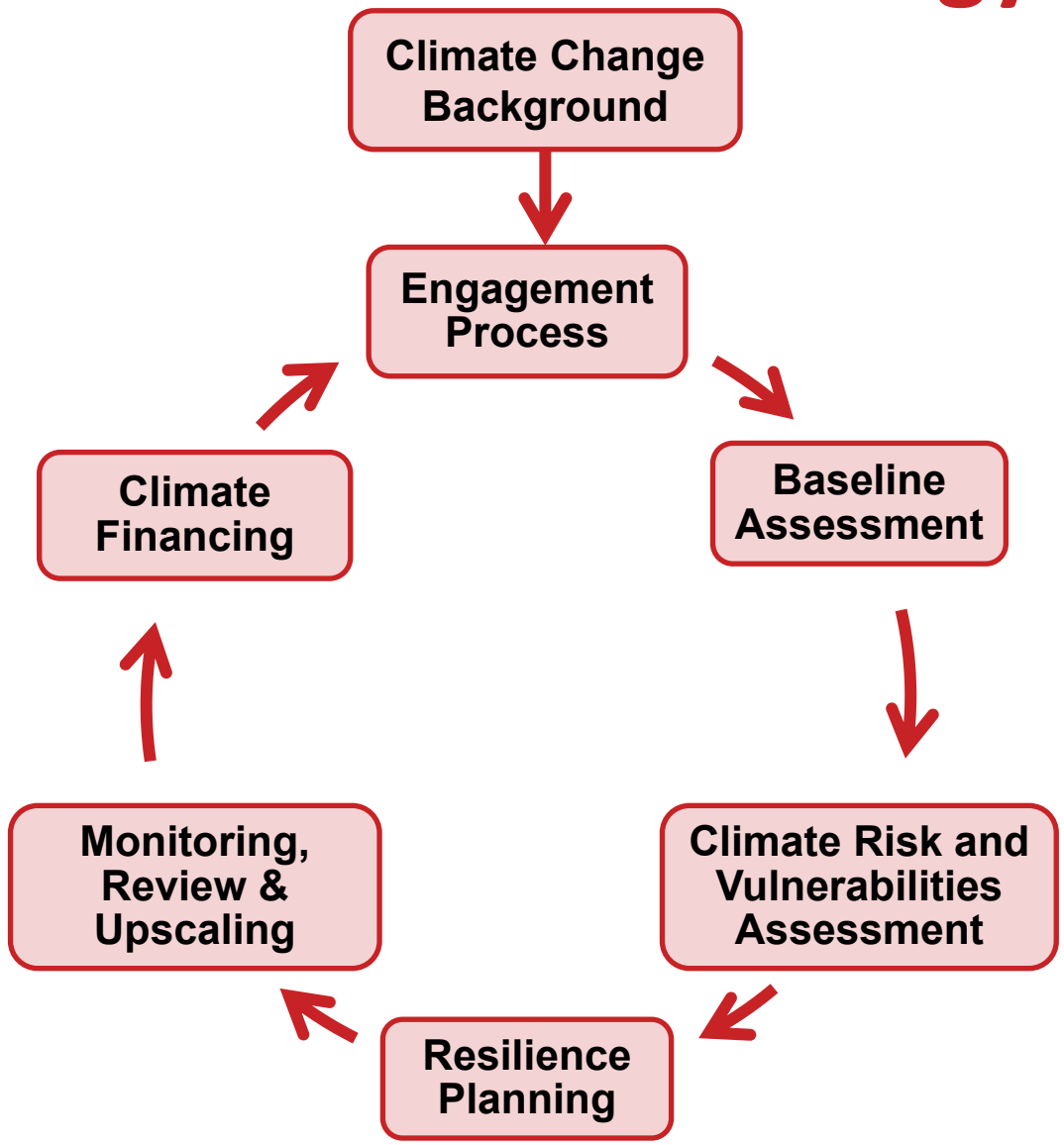
Dhaka, Bangladesh

14-15 November 2021

If you don’t have a plan, it is a plan for failure!

- Mami Mizutori, Head of UNDRR

Course Content & Methodology

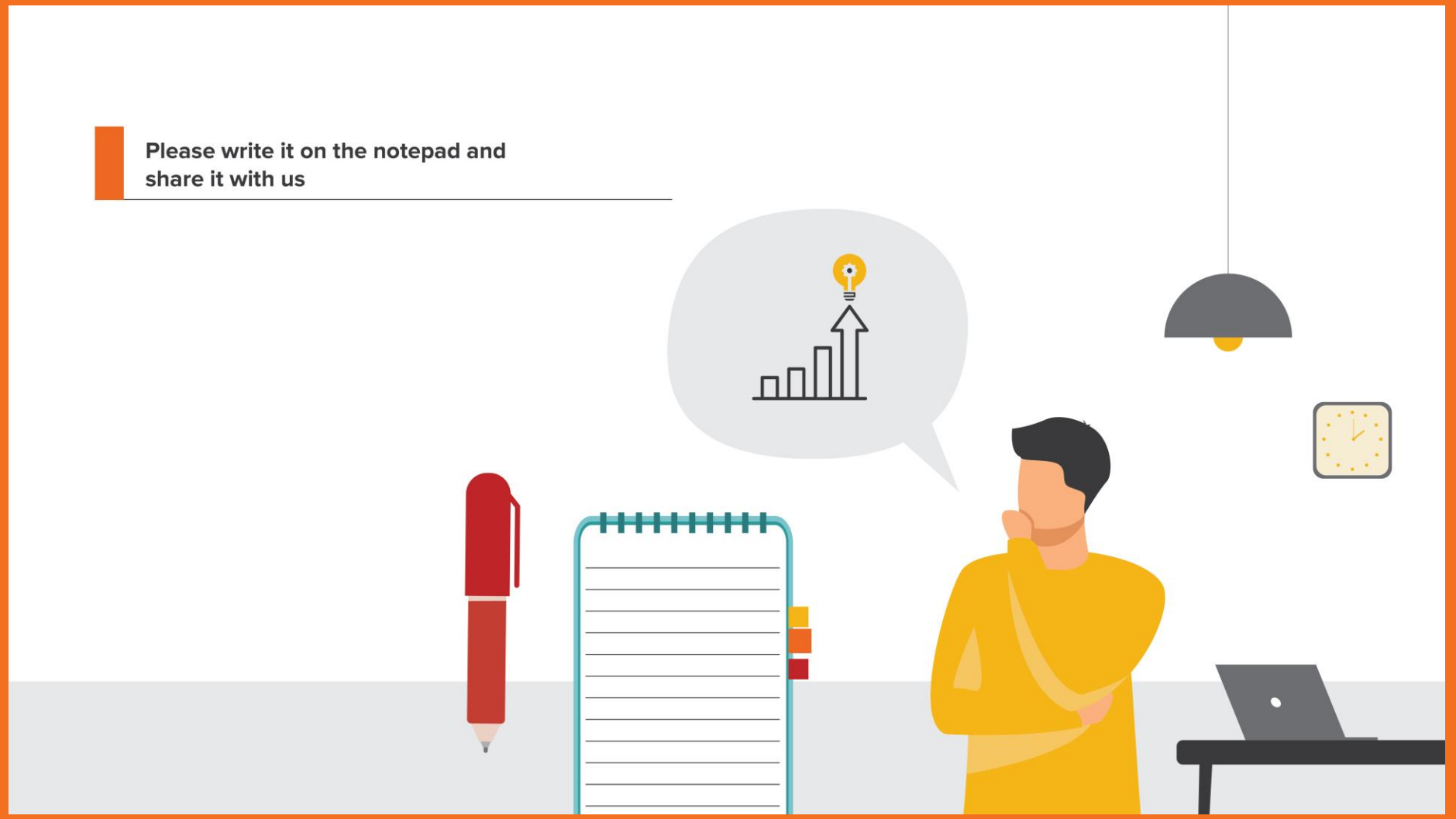


Group discussions & exercises

Additional presentations

Expectations from the workshop

Please write it on the notepad and share it with us



Let’s get to know each other

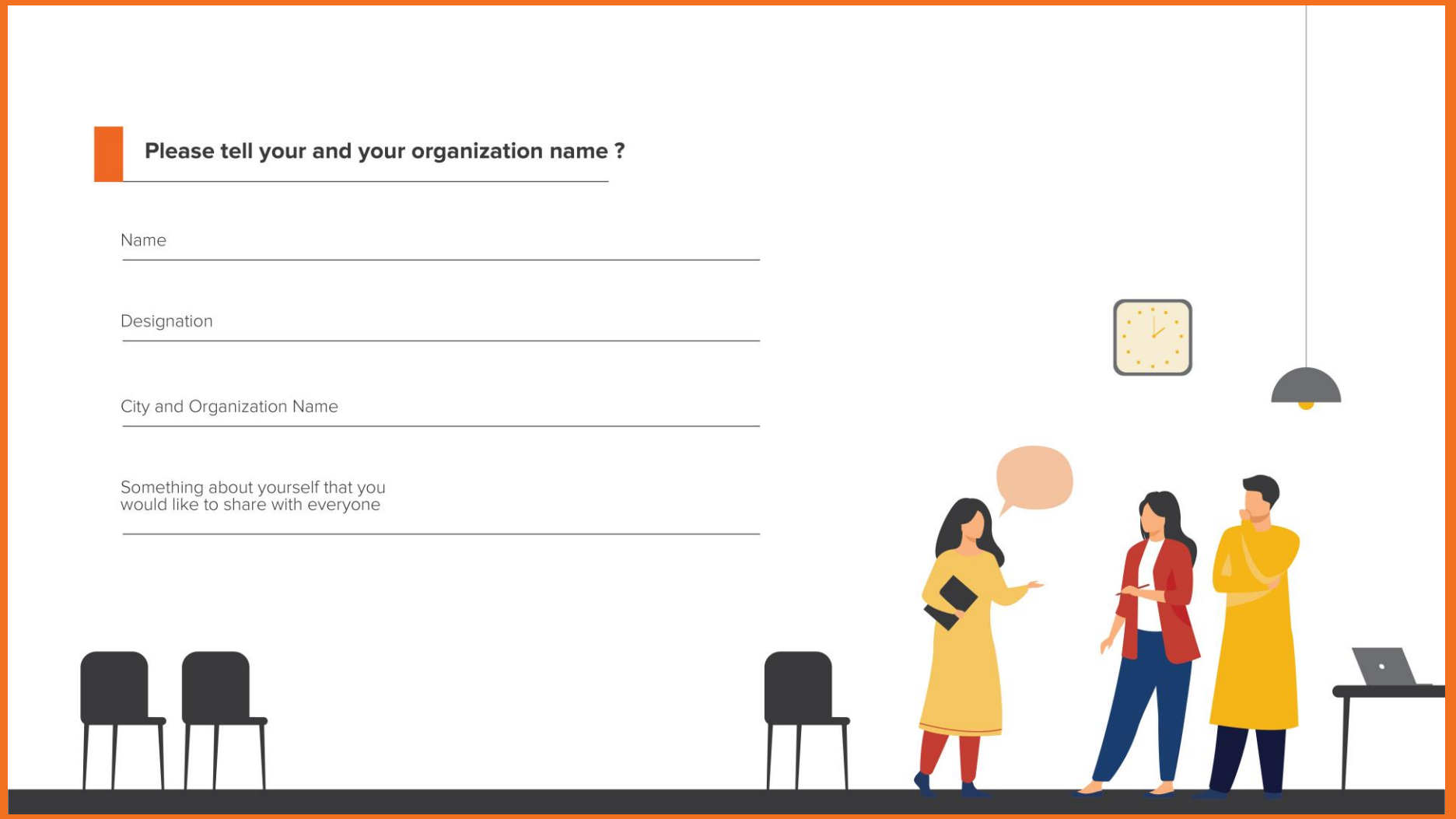
Please tell your and your organization name ?

Name

Designation

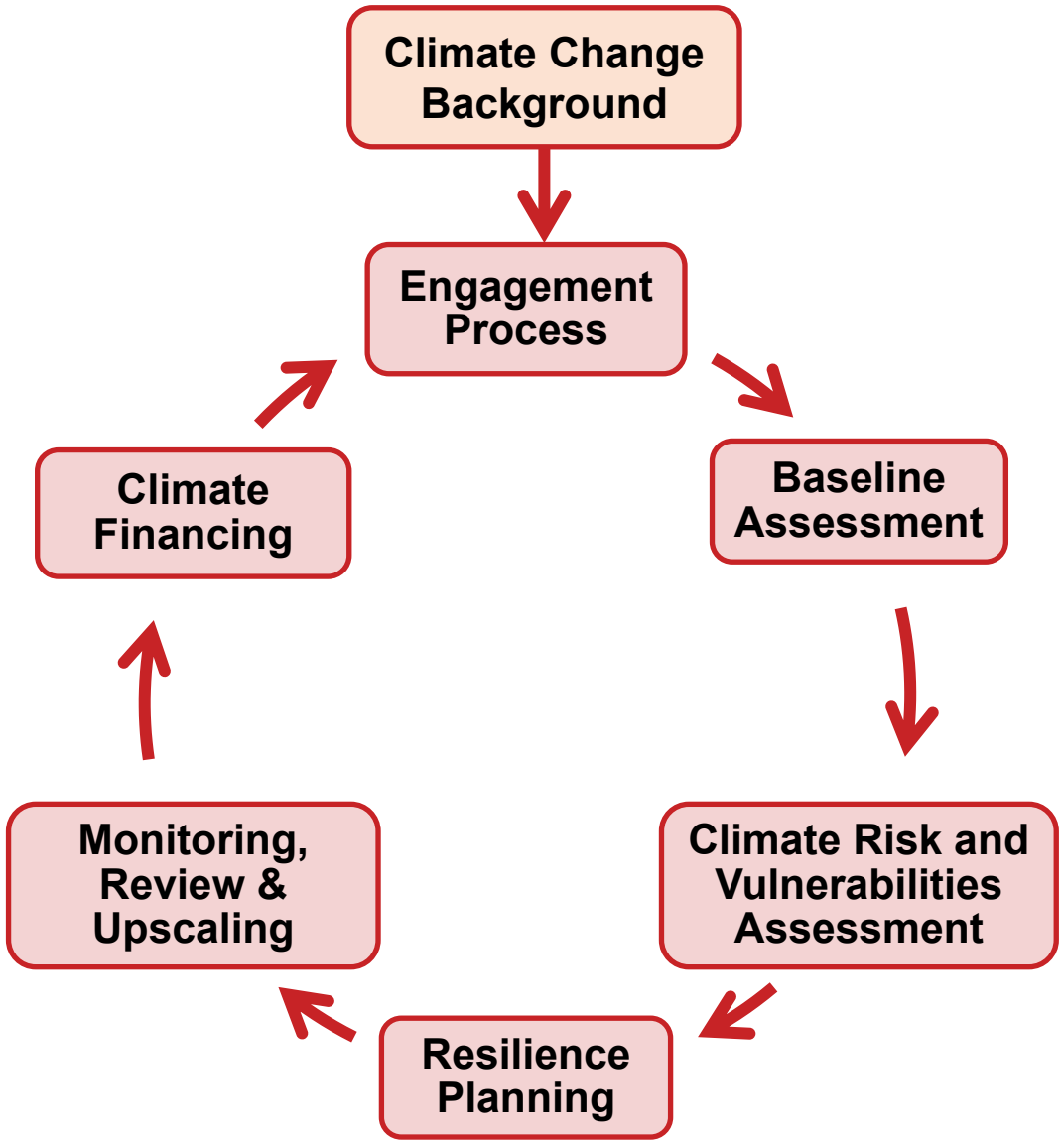
City and Organization Name

Something about yourself that you would like to share with everyone



Module - 1
Introduction to Climate Resilience

Key Concepts



Objectives

- To understand key concepts and commonly used terms related to climate change and climate resilience
- To understand the linkage of municipalities with climate change – causes/impacts
- To understand the need for local climate resilience strategy

Key Concepts

Greenhouse Gas Effect

Some of the sunlight that hits the earth is reflected back to śpace, while some of the radiation becomes heat energy. CO_2 and some other gases help to trap the heat and keep the earth warm for life to flourish.

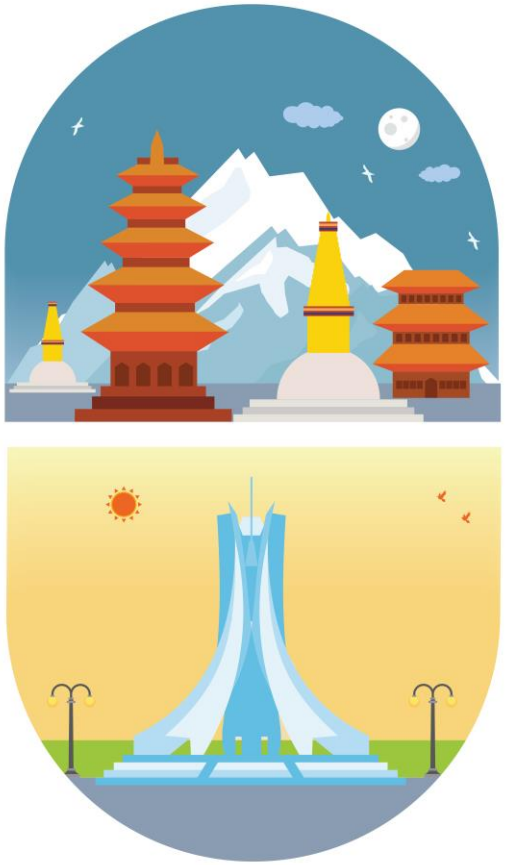
Weather and Climate

Short-term local atmospheric conditions, generally measured on a scale of hours, days and months

Example: It is a hot and humid day

Average of weather conditions over a long period; can be assessed for a single location, large area.

Example: The region has l· tropical climate.



Climate Variability and Climate Change

Climate Variability

Slow changes in climate showing short-term seasonal fluctuations every year.

Example: Variations in precipitation during ŭKŜ Yonsoon

Climate Change

Shift in weather conditions that occurs and persists for an extended period, typically decades or longer.

Example: Winters are not as cold as they used to be

UNFCCC

"! change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time period"

Vulnerability

Degree to which a human, community, structure, service or system is susceptible to and unable to cope with adverse impacts of climate

Exposure	Sensitivity	Adaptive Capacity
Nature and degree to which a system is exposed to significant climatic variations and/or its consequences and impacts. ***Example:*** *slums in flood-prone areas*	The degree to which a system is affected either adversely or beneficially, by climate-related stimuli ***Example:*** *infants / children and elderly are more sensitive*	Ability to adjust to climate change to moderate the potential damage from it, to take advantage of its opportunities, or to cope with its consequences. ***Example:*** *Inability to move to a safer location*

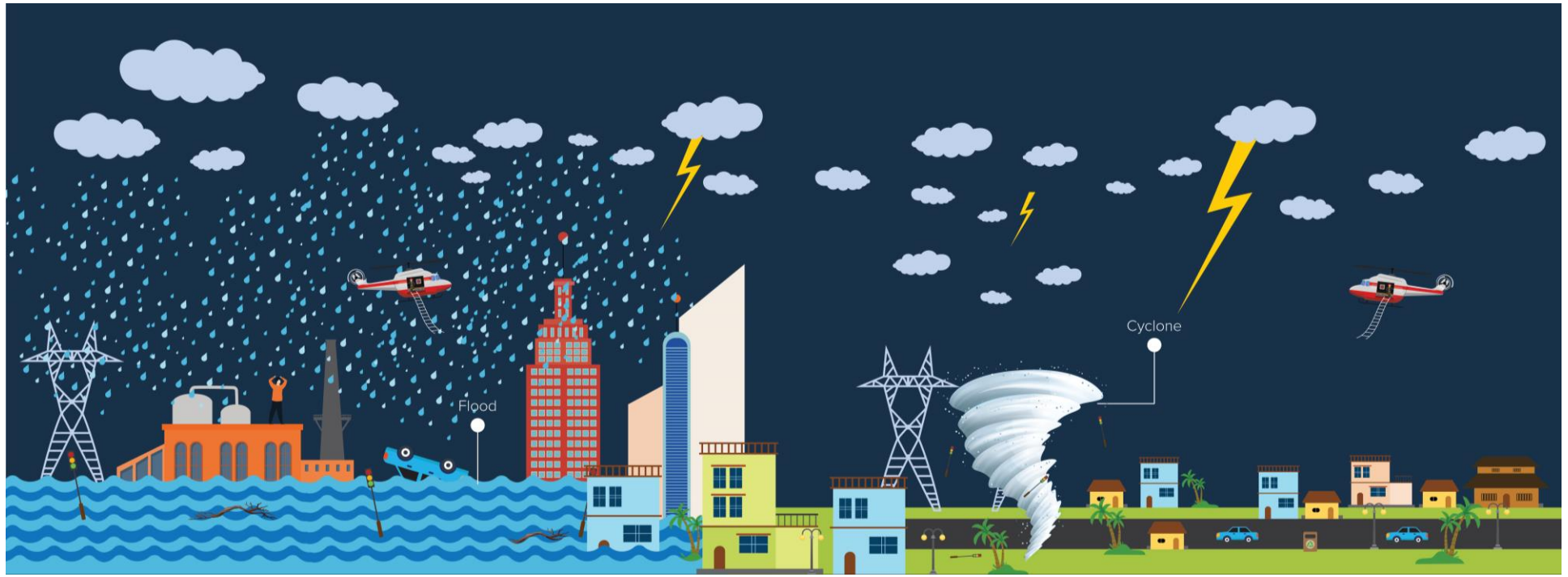
Hazards and Disasters

Hazard

Threat of a naturally occurring event that may have a negative effect on humans

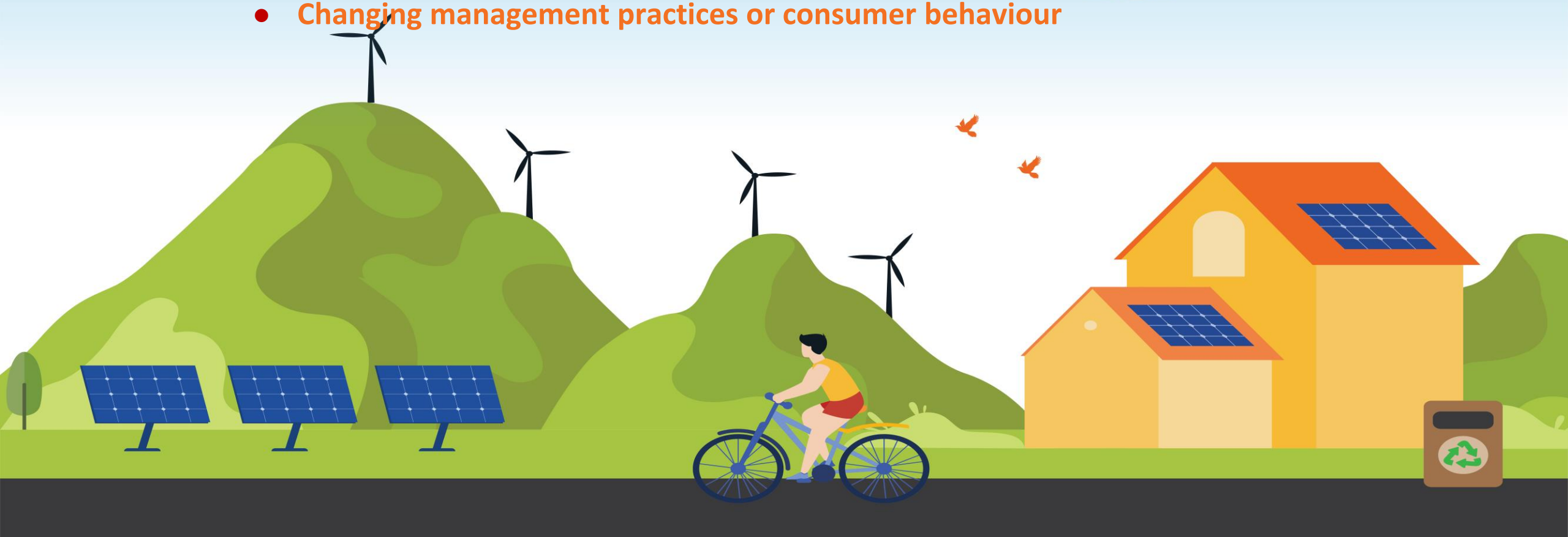
Disasters

The negative effect after a hazardous event happens and harms humans



Climate Mitigation

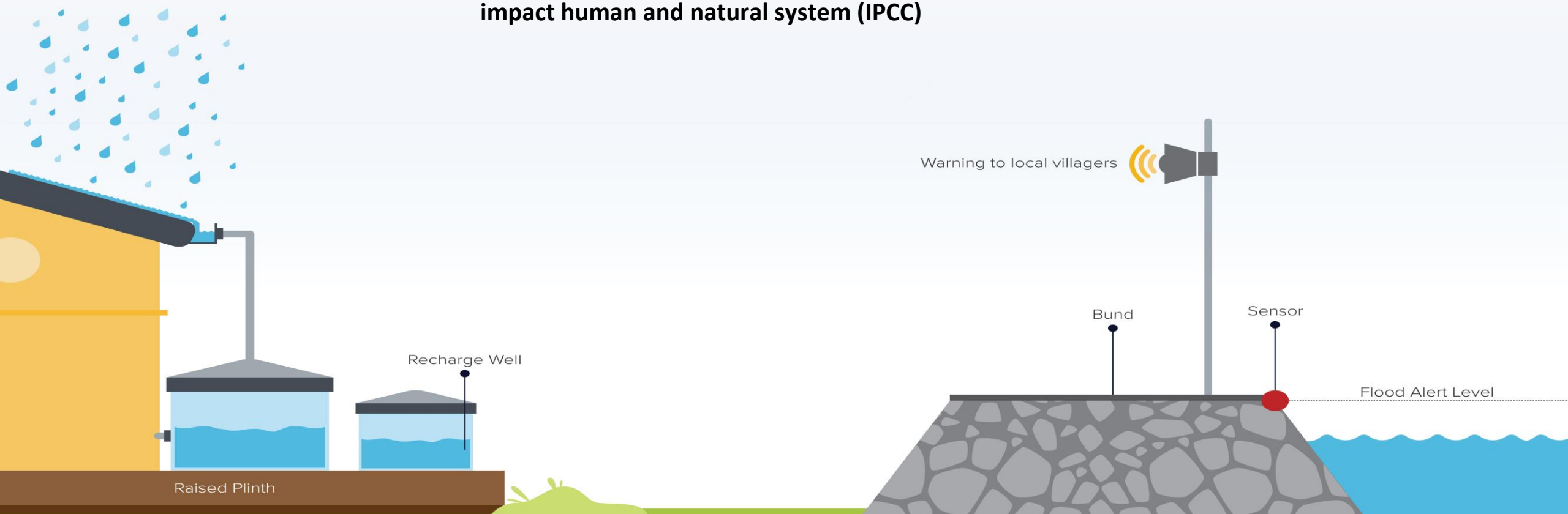
- Reduction in sources or enhancement of sinks of greenhouse gases
- Using low emission technologies and renewable energies
- Changing management practices or consumer behaviour



Climate Adaptation

- Adjustment in natural or human systems
- Response to actual or expected climatic stimuli or their effects
- Reduces harm or increases beneficial opportunities

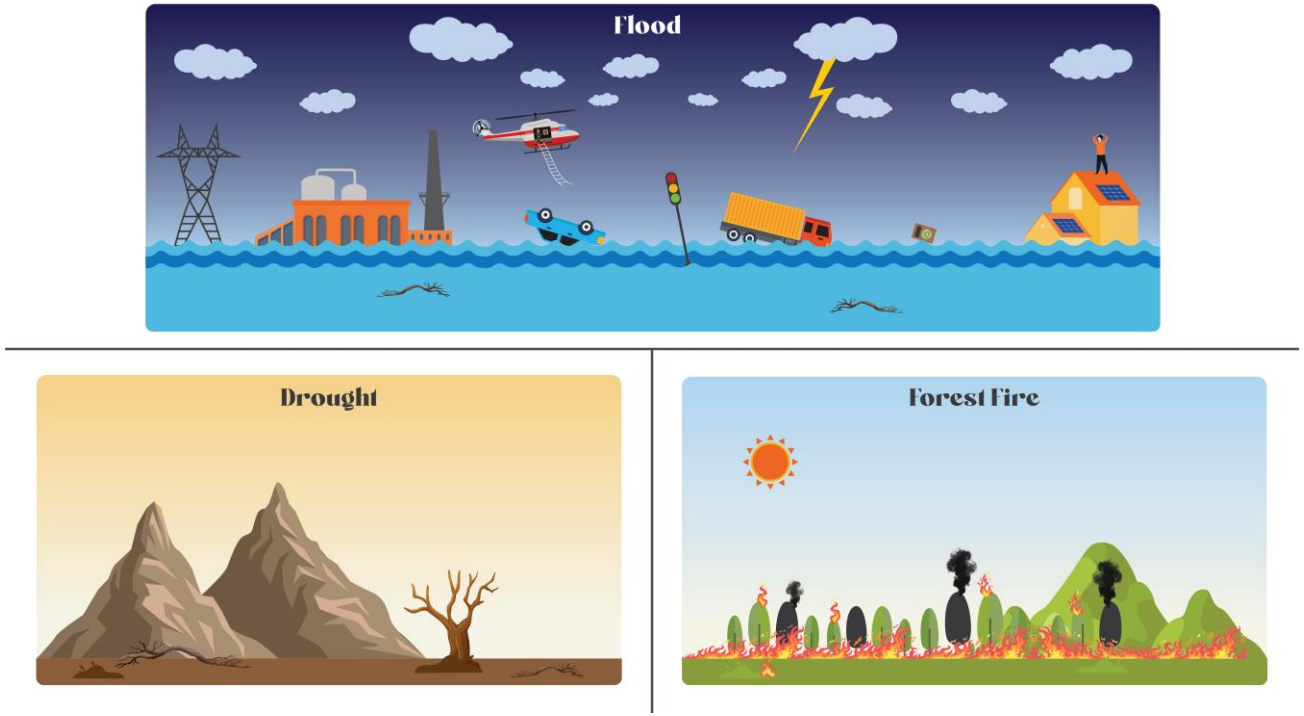
Anticipate and plan for unusual weather and climate events and how they impact human and natural system (IPCC)



Disaster Risk Reduction

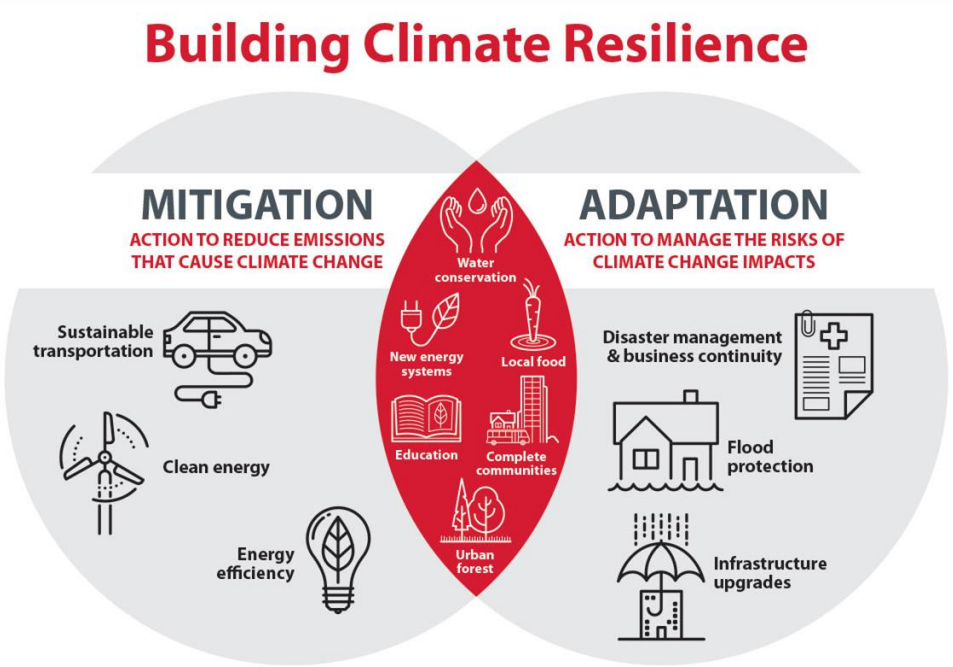
- Set of activities to minimise vulnerabilities and disaster risks in a society.
- Avoid (prevention) or limit (mitigation and preparedness) the adverse impact of hazards within the broad context of sustainable development.

Example: Earthquake-proof buildings / bio-shields against tsunamis



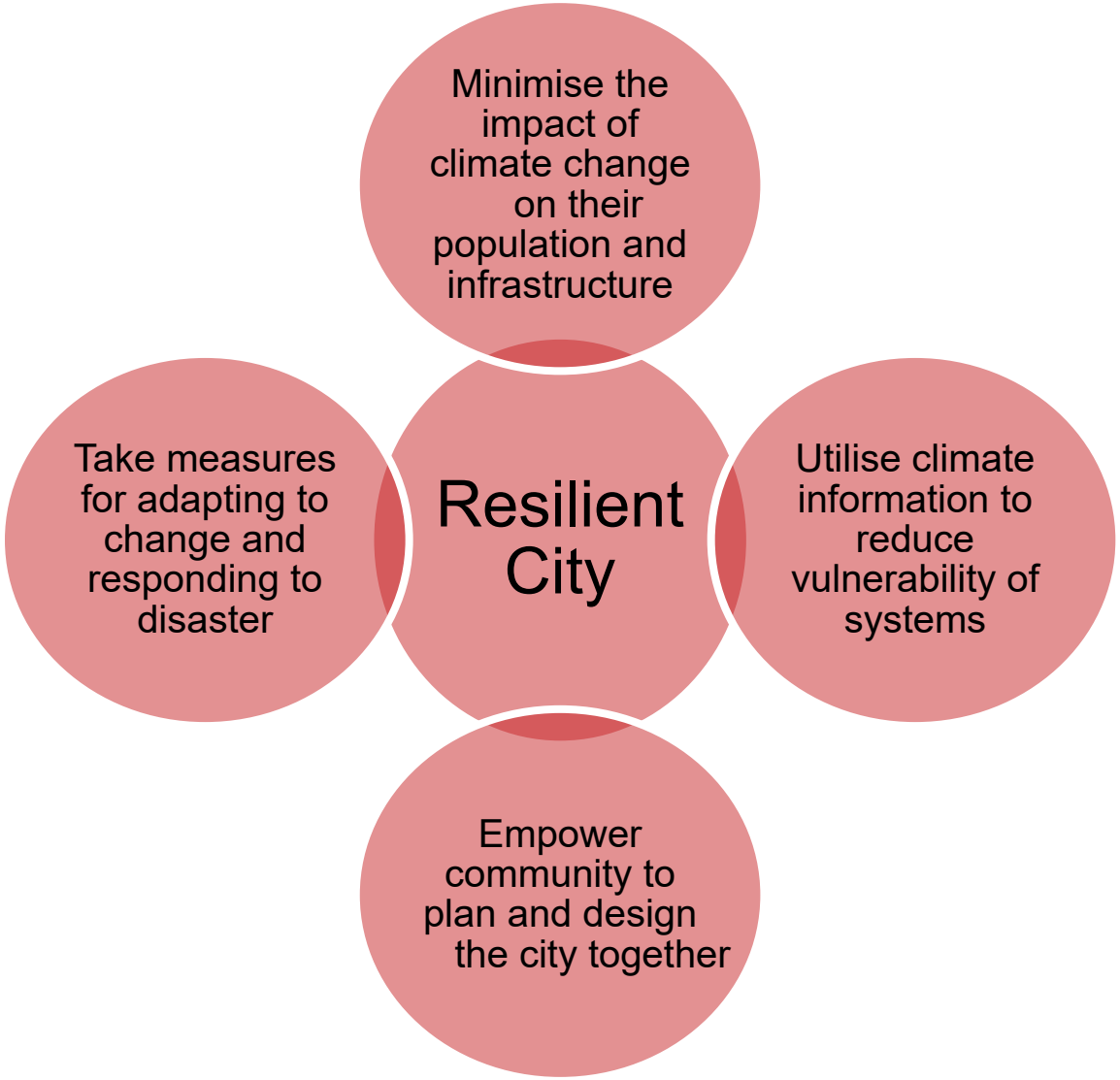
Climate Resilience

To anticipate, prevent, absorb and recover from shocks and stresses, in particular those brought about by rapid environmental, technological, social and demographic change, and to improve essential basic response structures and functions



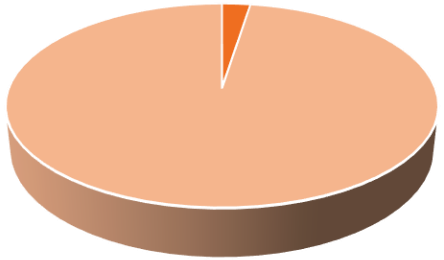
Source: World Economic Forum

Characterics of Resilient Cities

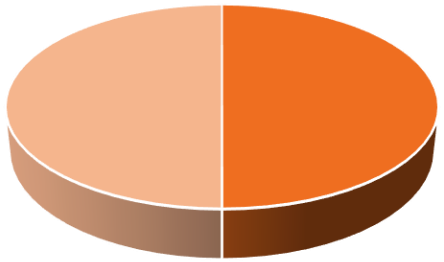


Local Governments and Climate Change

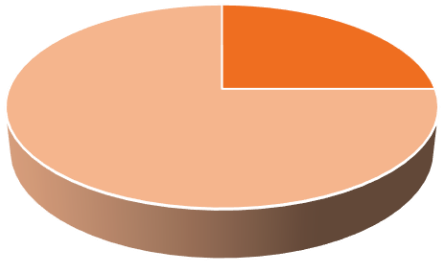
Why Should Cities Work on Climate Change?



- <3% land area



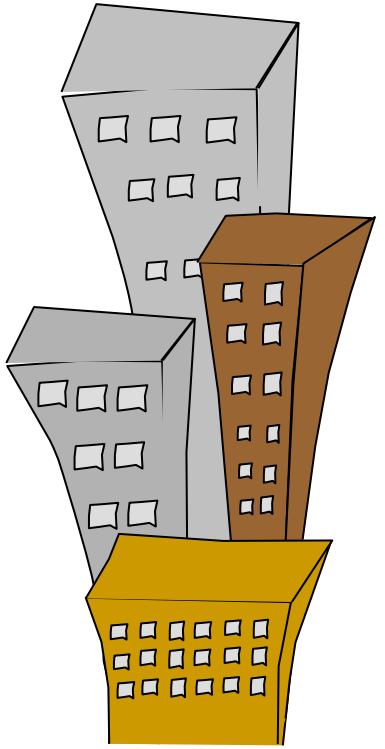
- >50% population



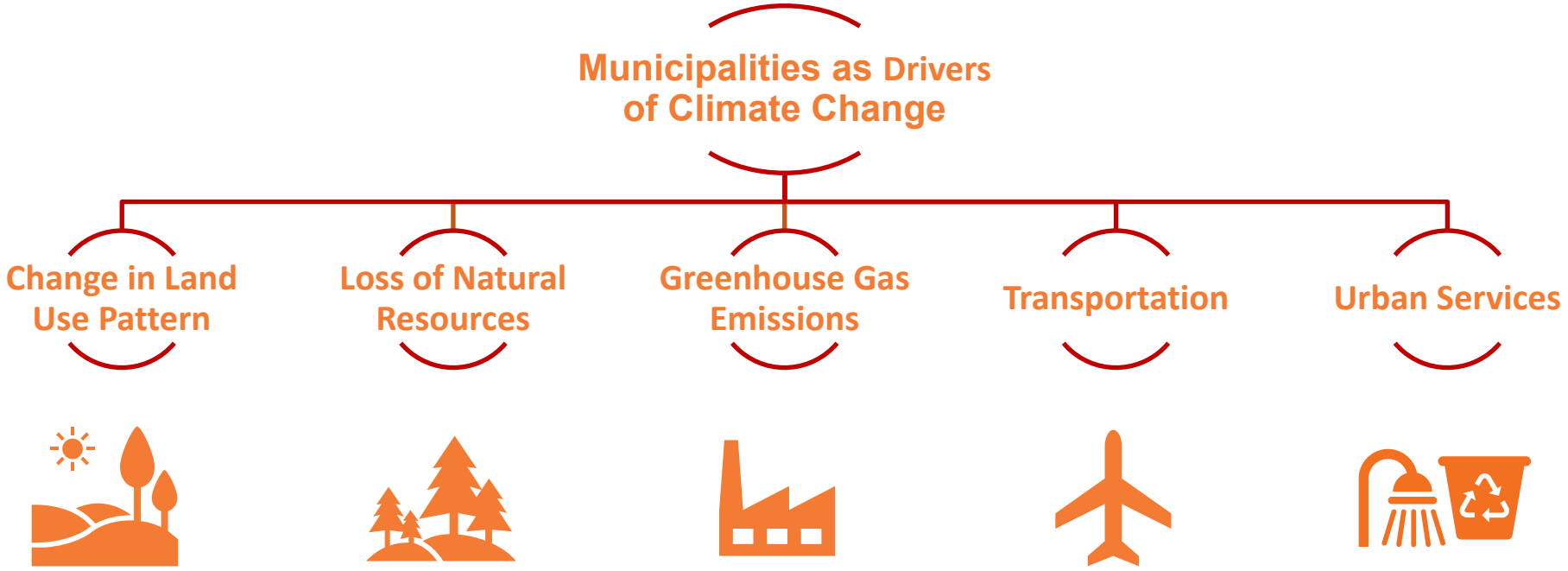
- 75% resources

Why Should Cities Work on Climate Change?

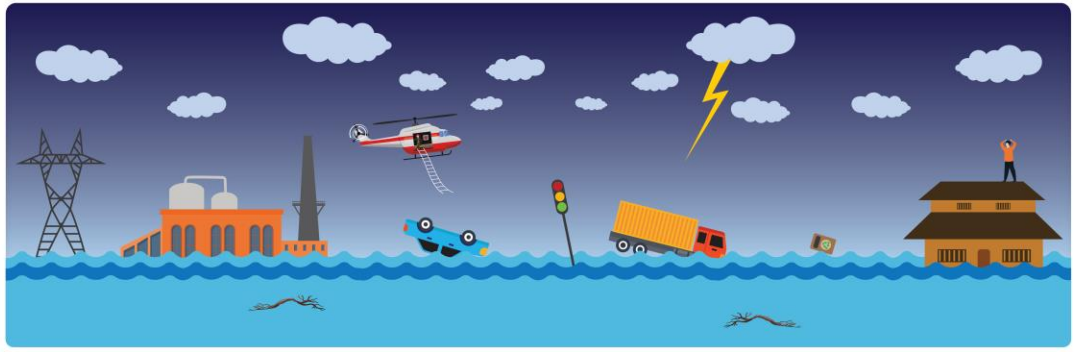
- **Urbanisation contributes to drivers of climate change –**
  - land use change,
  - demand for energy
  - demand for resources
- **Opportunity for awareness generation and action on CCA**
  - most people
  - most power
  - significant climate risks



Municipalities as Drivers of Climate Change



Impacts of Climate Change on Municipalities



Remember Intersectionality

People's individual characteristics make them more or less climate-vulnerable and may have a bearing on how exposed they are to the climate hazard

Adapted by CDKN from IWDA (www.iwda.org.au)

Equality:

Different behaviours, aspirations and needs of different social groups are valued equally.

Equity:

Fairness of treatment for different social groups, different but equivalent concerning rights and opportunities.

Inclusive Participation:

Way for people of all ages, backgrounds and identities to voice their opinions, concerns and experiences resulting in meaningful action.

Equity is the process and Equality is the goal

Social Inclusion in Climate Resilience

Adapted from: CDKN Gender Toolkit

Global Agreements on Climate and DRR

Sendai Framework For Disaster Risk Reduction - 2015-2030

The Sendai Framework for Disaster Risk Reduction 2015-2030 was adopted at the Third UN World Conference in Sendai, Japan, on March 18, 2015.

The present Framework applies to the risk of small-scale and large-scale, frequent and infrequent, sudden and slow-onset disasters caused by natural or man-made hazards, as well as related environmental, technological and biological hazards and risks

The framework has

1) Seven global targets,
2) 13 guiding principle
3) Four priorities for action

Source: UNISDR

Sendai Framework: Global Targets

Reduction

Disaster Mortality by 2030

Aiming to lower the average per 100,000 global mortality rate in the 2020-2030 decade, compared to the 2005-2015 period

Affected people globally by 2030

Aiming to lower the average figure per 100,000 in the 2020-2030 decade compared to the 2005-2015 period

Disaster economic loss

In relation to global gross domestic product (GDP) by 2030

Disaster damage to critical infrastructure and disruption of basic services

Increase

Number of countries with national and local disaster risk reduction strategies by 2030

International cooperation to developing countries through adequate and sustainable support

Availability of and access to multi-hazard early warning systems and disaster risk information and assessments to people by 2030

Source: UNISDR

Sendai Framework: Four Priority Actions

1. Understanding disaster risk
2. Strengthening disaster risk governance to manage disaster risk
3. Investing in disaster risk reduction for resilience
4. Enhancing disaster preparedness

Source: UNISDR

The Paris Agreement

- A majority of the countries around the world adopted the Paris Agreement in December 2015.
- Temperature and emission goals: To provide a pathway to limit the temperature rise ‘well below 2oC in comparison with the pre-industrial level, the ultimate goal is to stay below 1.5oC’
- Countries publicly outlined what post-2020 climate actions they intended to take under the Paris Agreement, known as their Nationally Determined Contributions or NDCs.

Source: UNFCCC

Local Governments' Role in Paris Agreement

- The Paris Agreement recognises the role of non-party stakeholders in addressing climate change, including cities and authorities, to scale up actions to reduce emissions, build resilience and decrease vulnerability.

- INDC focuses on mitigation and adaptation actions and towards achieving the UN Sustainable Development Goals.

Sustainable Development Goals

- The Sustainable Development Goals are a compendium of 17 global goals designed to be a "blueprint to achieve a better and more sustainable future for all".
- The SDGs were set in 2015 by the United Nations General Assembly and are intended to be achieved by the year 2030.
- SDGs promote actions to make cities and human settlements inclusive, safe, resilient and sustainable (SDG-11)

Source: https://sdgs.un.org/goals

Sustainable Development Goals

SDGs linked to Urban Resilience

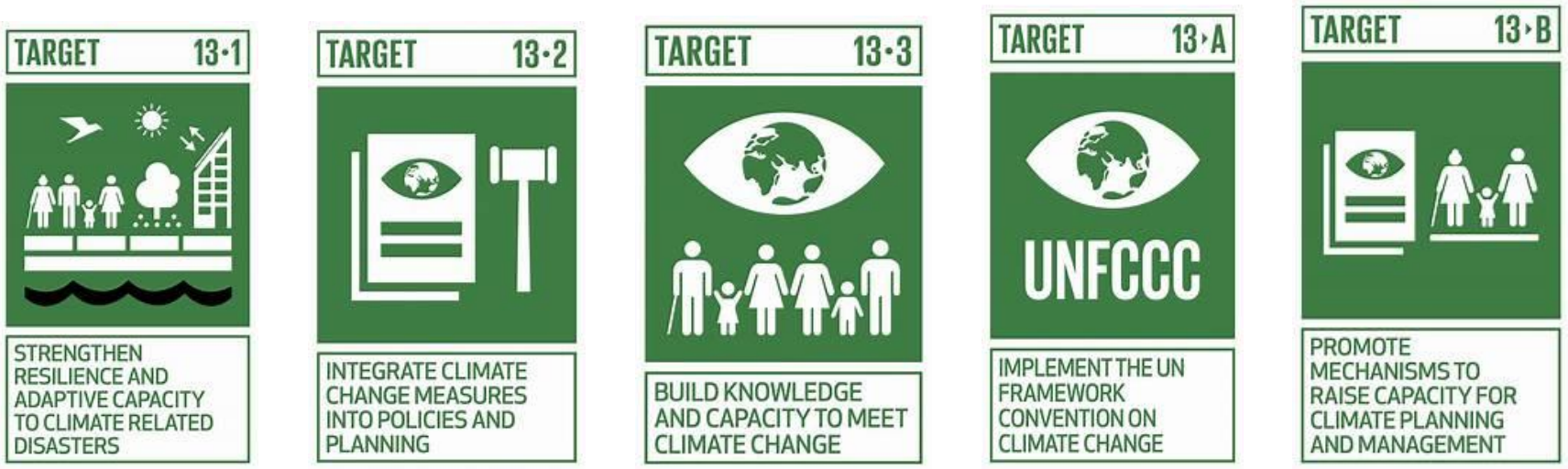
Goal 13: Climate Action

- Take urgent action to combat climate change and its impacts
- 5 targets

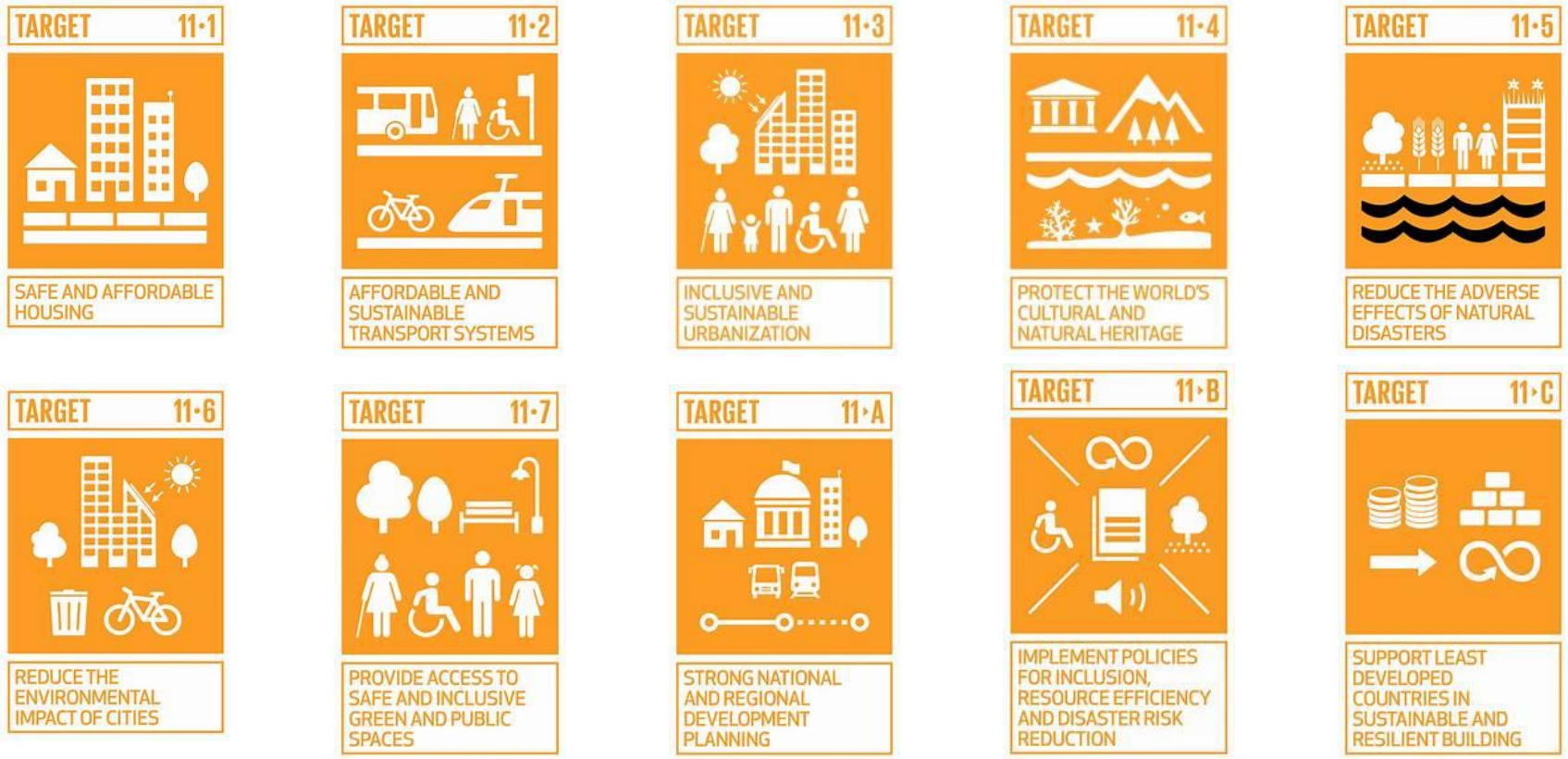
Goal 11: Sustainable Cities and Communities

- Make cities and human settlements inclusive, safe, resilient, and sustainable.
- 10 targets

SDG 13 – Climate Action



SDG 11 – Sustainable Cities and Communities



Plenary Discussion

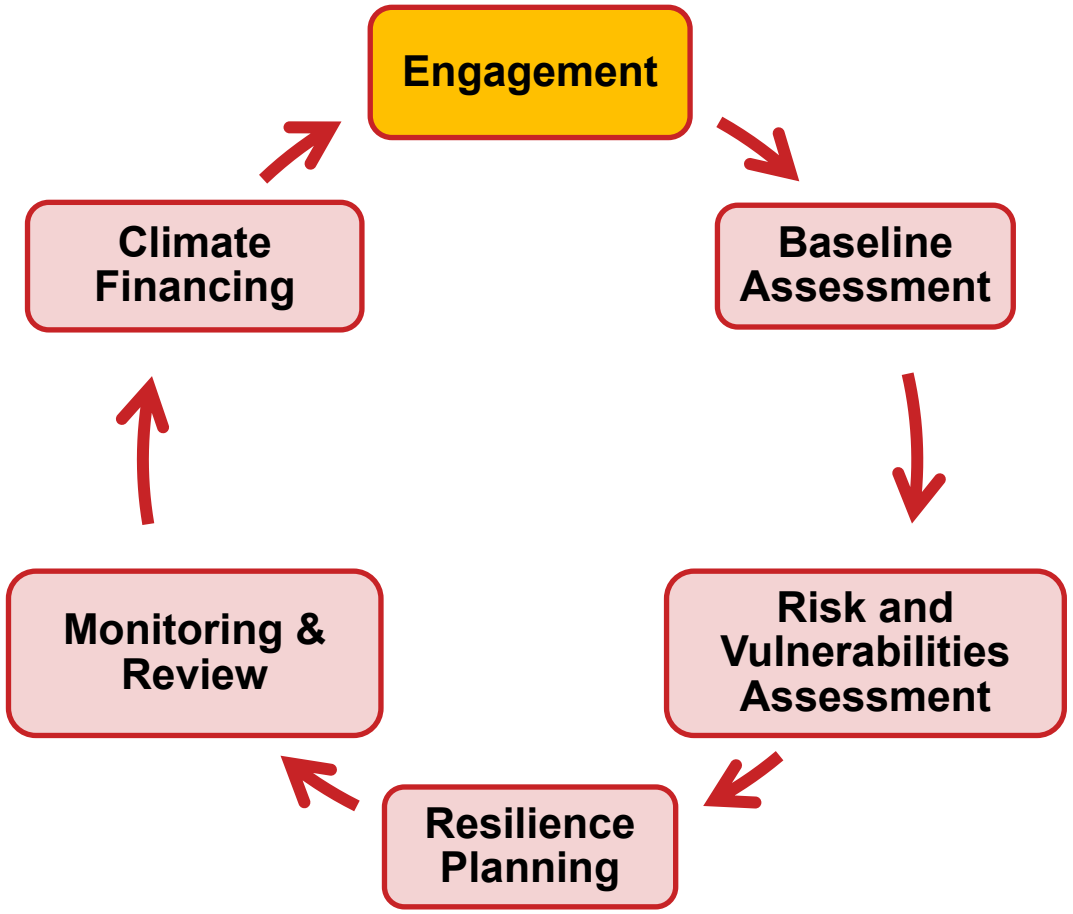
Make a list of all the SDGs that can be linked to urban resilient development – think about resilience, urban systems, social inclusion, and other issues we discussed.

Module 2A
Engagement Process

Objectives

- To understand the need for stakeholder engagement
- To understand the stakeholder landscape for climate resilience planning
- To engage with stakeholders in a systematic manner

Engagement Process



Why there is a need to engage with Municipalities and stakeholders?

Who can municipalities engage with and how?

Stakeholder Engagement

City Engagement Process

- Climate change is a cross-sectoral issue.
- Engagement with key stakeholders is part of developing a climate resilience strategy .
- The engagement process provides an opportunity to bring all relevant stakeholders on a single platform for a comprehensive and robust climate resilience strategy.

Step 1 – Formulating a climate core team

- Engaging staff from different municipal departments with different vantage points and areas of expertise.
- In order to ensure gender inclusion in climate change decision making, the climate core team must have representation (preferably 50%) of women.
- Modify pre-existing committee as Core Team if possible.

Name	Position	Responsibility
Ms. X	Chairperson	Supervising the working of the Core Team and providing management support
Mr. Y	Project Nodal Officer	Coordinating all activities of the Core Team and ensuring its smooth functioning
Ms. Z	Member	Coordinating activities with the Water Resources department

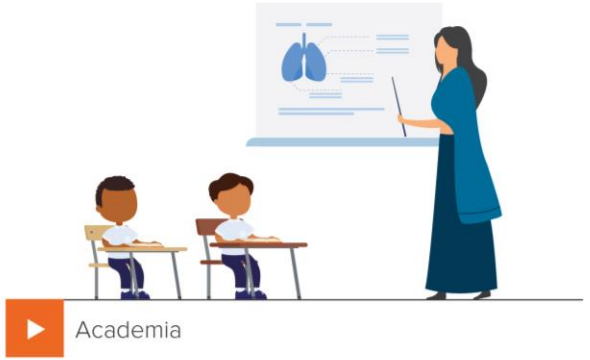
Step 2 – Stakeholder Group

- Representation from a range of sectors and issues that need to be considered when developing resilience plans
- Energy use, pollution, waste, food security, water security, public health, local economic development, infrastructure, transportation and development planning.
- Include local women and other marginalised and vulnerable populations (disabled, elderly, indigenous), and engage them in resilience planning process to understand their climate vulnerability, risk and adaptive capacity.

Stakeholder Group Members

Government

Local NGOs /CBOs



Academia

Community Representatives

Private Sector

Why Social Inclusion Matters

- People experience climate change differently
- Gendered roles & responsibilities in households & communities
- Differences in adaptive capacity
- Differences in voice and power mean that everyone's priorities may not be recognised – from local to global climate action
- Inequality in rights, resources and voice
- Unequal legal status, property rights, education & literacy, health, access to assets
- Gender-based differences in economic opportunity

How are people differently impacted by climate change?

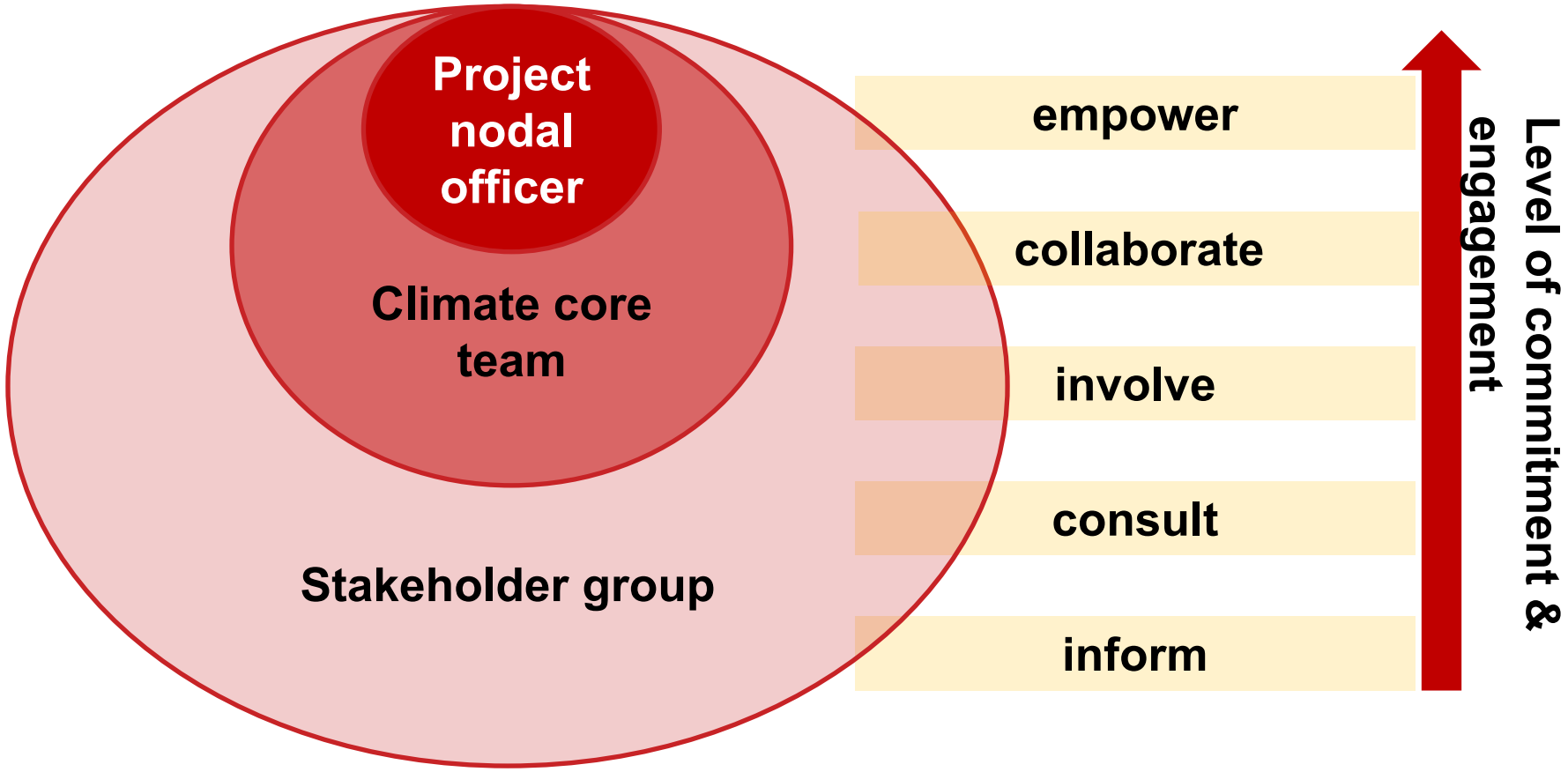
Climate change and social justice

- Causes & consequences of climate change are deeply intertwined with patterns of inequality
- Multiplier of existing vulnerabilities
- Threatens to reverse hard-earned development gains
- Importance of governance, institutions and social accountability for equitable climate action and response measures

Identification of Stakeholder Group

Category/Sectors	Government (local, national)	Local NGOs	Research Institutions	Community Representatives	Private Sector	National and International Funding Agencies
Can potentially provide information to help develop resilience strategy						
Can be involved in the implementation of resilience strategy						
Whose support is essential to implement resilience strategy						
Most affected by the implementation of resilience strategy actions developed						

Potential Engagement Structure



Step 3 – Communication Plan

- Climate resilience and low-emission development may be new topics for some
- It may generate negative reactions among stakeholders
- Hence, the rationale needs to be carefully explained
- Develop some clear messages at the start about why the local government is undertaking this work and what it hopes to achieve
- Keep stakeholders regularly informed and engaged

Target Audience	Activity	Objective, Message	Communication Medium	Timing	Achieved Yes/No
City Departments	Internal Launch	Inform all city departments that the city government is undertaking resilience planning	Newsletter, staff meetings	October	
Residents, Local Business	External Launch	Inform citizens that the City is participating in the CapaCITIES project	Media release	October	

Communication Plan - Example

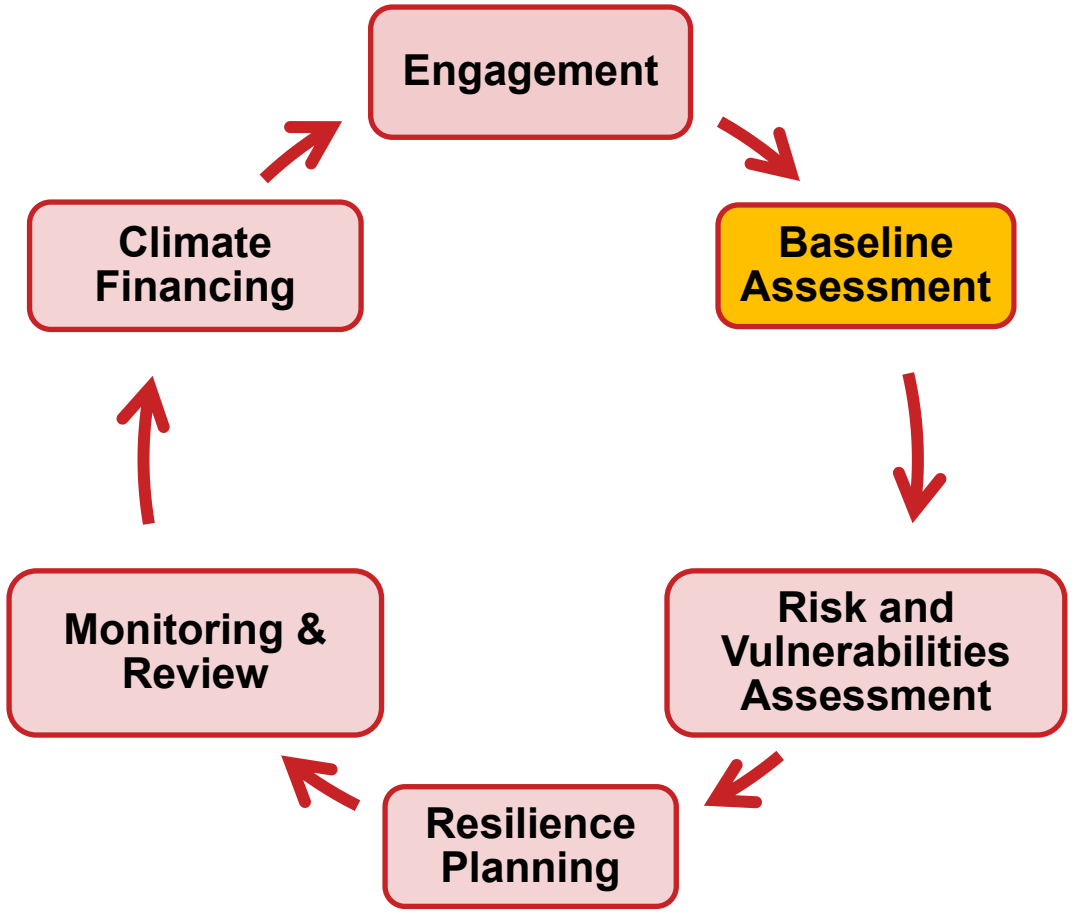
Group Exercise

- Divide into groups of 4-5 people.
- Each group will select a municipality (can be real or imaginary) as their case.
- Each group will identify key stakeholders for their case city based on their understanding of the city's climate risk (real or imaginary).
- Identify representatives from various government departments (including local, state or national), the private sector, academia, NGOs, CBOs and civil society

Category/Sectors	Government (local, national)	Local NGOs	Research Institutions	Community Representatives	Private Sector	National and International Funding Agencies
Can potentially provide information to help develop resilience strategy						
Can be involved in the implementation of resilience strategy						
Whose support is essential to implement resilience strategy						
Most affected by the implementation of resilience strategy actions						

Module 2 B
Baseline Assessment with a Climate Lens

Baseline Assessment



Steps

Municipal profile

Greenhouse Gas Emission Inventory

Infrastructure and Socio-ecological System Analysis

Objective

- To enable the municipality to understand the city structure better
- To assess existing situation regarding greenhouse gas emissions
- To understand infrastructure and socioeconomic aspects through a climate lens

Step 1 – Preparation of Municipal Profile

- **The city profile includes a brief description of the city/village**
  - nature of the city/village
  - location of the city/village with map
  - socio-economic and demographic details
  - details of the local government body: area, number of wards/Tala, other agencies involved, the role of agencies, municipal structure, administrative divisions, governance structure.
  - service performance for all major infrastructural and socio-ecological systems (water supply, sewerage, solid waste management, drainage, transportation, housing, electricity and energy, agriculture, ecology).
- **Existing major initiatives taken up in the municipality on these systems with details of activities, funding and beneficiaries.**

Municipal Profile

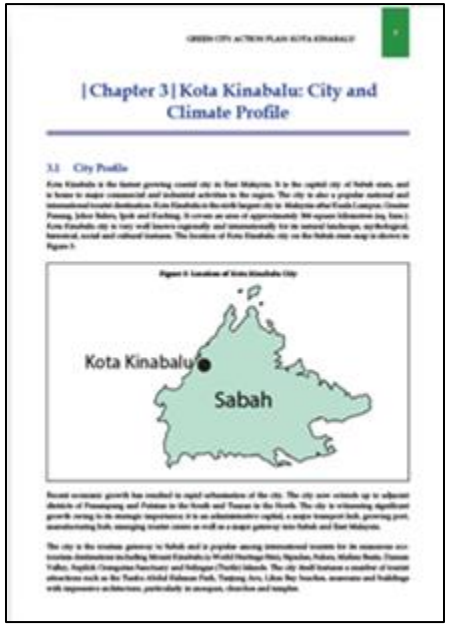
Data Templates

Category	Unit	Data/ information/ file name(please mention NA for data that is not available)	Source of Data/ Relevant department	Time period for which data available
Ecosystems/ Biodiversity				
Category and Type of soil	Type			
Area under green cover	Sq. km			
Types of ecosystems available (wetlands, riverine, forest etc.)	Number / area			
Agricultural resources				
Total area of agricultural land	Sq. km			
Regional crop seasons	Months			
Primary crop	Names			
Secondary crop	Names			
Contribution to local economy	Percentage of total GDP			
Contribution to local food requirement	Percentage			
Water resources				
Number of water bodies	Number, sq. km, Distance from city			

Infrastructure		Year 1	Year 2	Year 3	Comments/ source
Water supply					
Concerned Department Name - Name of contact person/ head of department - Contact number - Email ID -					
Note: All data in this datasheet pertains to Water Supply Facilities and Infrastructure supplying water to the city only Please add additional data fields based on the number of water supply/treatment stations as applicable Please provide supporting data sheets as and where available					
Water supply distribution network	Maps to scale, with ward/zone/area wise breakup; % coverage of network				
Water supply zone	Name, boundary, map, area covered				
Per capita supply of water	Litres per capita per day				
Number of service connections by diameters	Number per water supply zone/ category/ area				

Content

- ❑ History
- ❑ Demography
- ❑ Economic Activities
- ❑ Local Government Body
- ❑ Urban Systems
- ❑ Sustainability Journey
- ❑ Budget
- ❑ Data availability



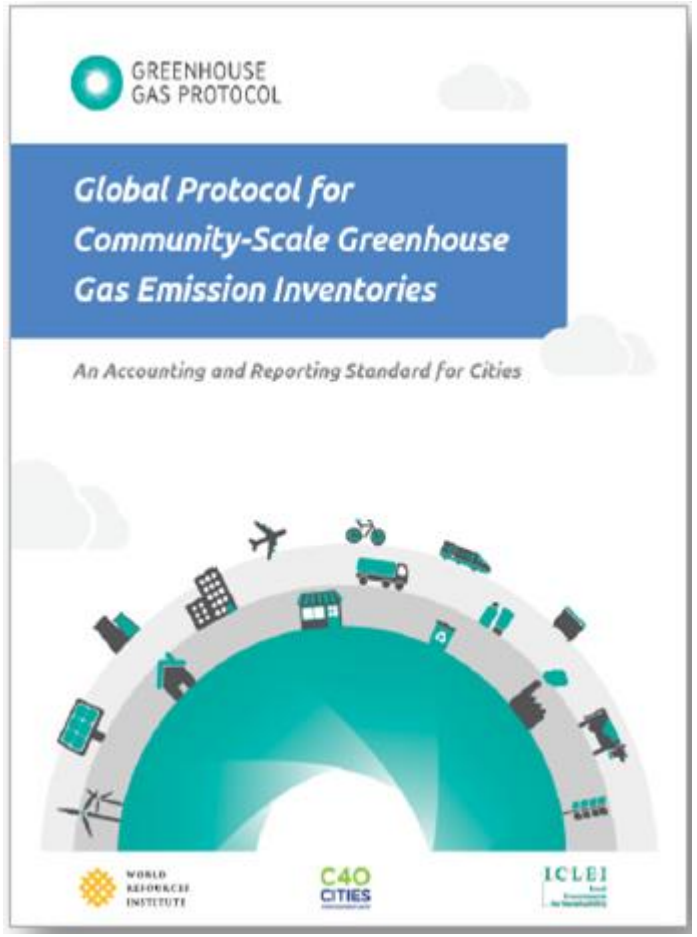
Sample

Step-2 Greenhouse gas inventory

Why Measure Emissions?

- Establish base year emissions
- Identify emission sources and reduction opportunities
- Set target and develop action plans
- Track progress
- Benchmarking

The Global Protocol for Community-Scale GHG Emissions (GPC)



First global standard to consistently measure city-level emissions

Flexible accounting framework, easily used for **boroughs, wards within cities, towns, districts, counties, prefectures, provinces and states**

WORLD RESOURCES INSTITUTE

C40 CITIES CLIMATE LEADERSHIP GROUP

ICLEI Local Governments for Sustainability

Endorsing Partners:

THE WORLD BANK

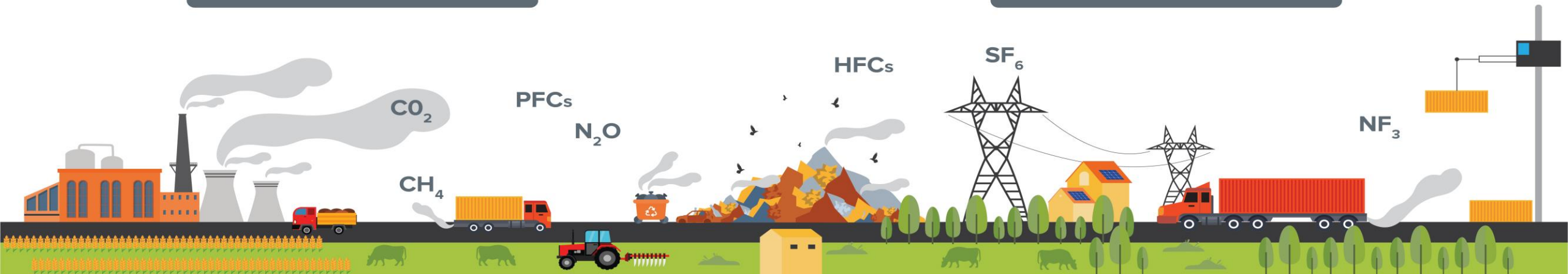
UN HABITAT FOR A BETTER URBAN FUTURE

UNEP

Cities Alliance Joint Work Program

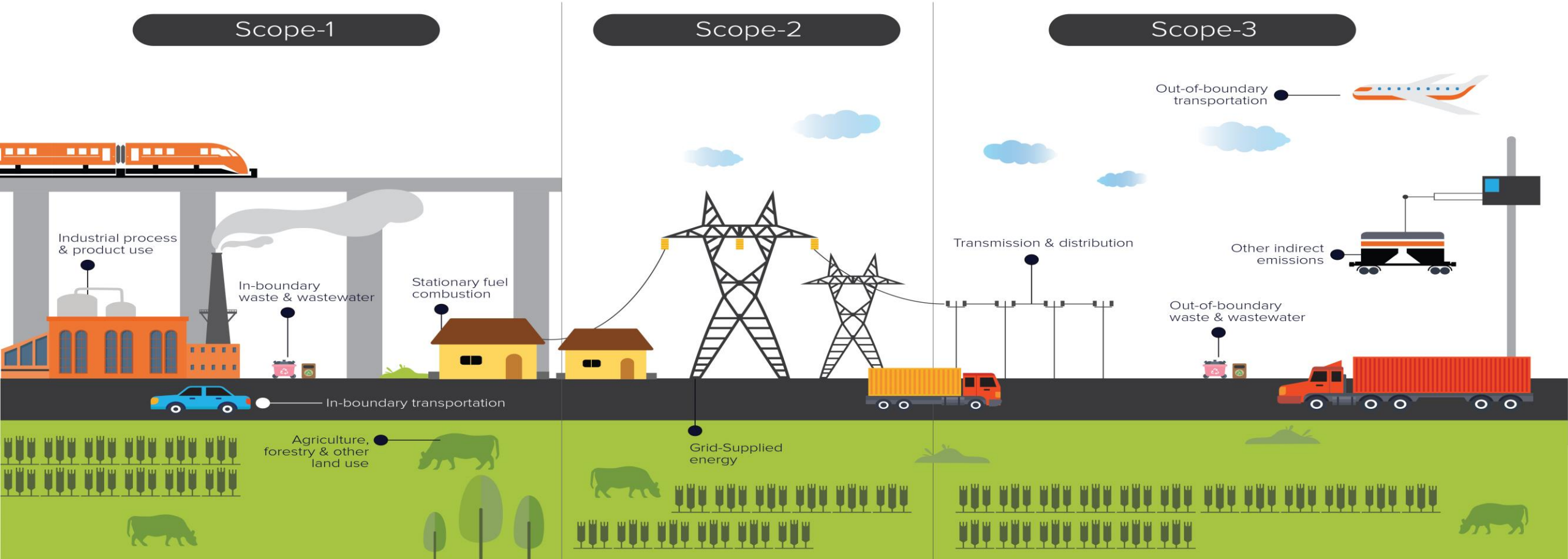
GHG Emission Sources

IPCC: Intergovernmental Panel on Climate Change	GPC: Global Protocol for Community Scale Greenhouse Gas Emission Inventories
Energy	Stationary Energy Sources / Transportation
Industrial Processes and Product Use (IPPU)	Industrial Processes and Product Use (IPPU)
Waste	Waste
Agriculture, Forestry and Other Land Use (AFOLU)	Agriculture, Forestry and Other Land Use (AFOLU)



GHG Emission Sources

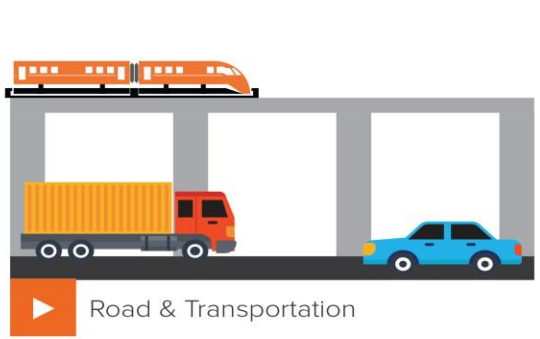
'Scopes' distinguish GHG emissions based on where they physically occur (within or outside a city's boundaries)



Calculation of GHG Emissions

- GHG emissions are (relatively) simple to calculate: Activity data x emissions factor = GHG emissions
  1. **Activity data:** Amount of energy used (e.g., litres of petrol used) OR amount of other GHG emissions generating activity (e.g. mass of solid waste sent to landfill)
  2. **Emissions factor:** Mass of GHG emitted per unit of activity data (E.g. kg of CO_2 per litre of petrol used) OR (e.g. kg of CH_4 per tonne of waste disposed in landfill)

Key Sectors with GHG Emissions Reduction and Vulnerability Risk Reduction Potential


Road & Transportation

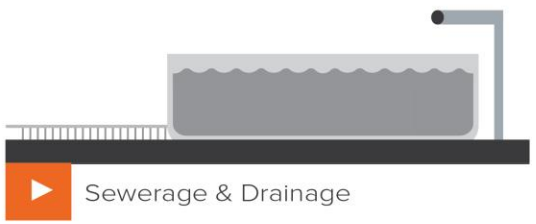

Urban poor & slum


Land use & Development


Building


Water Supply

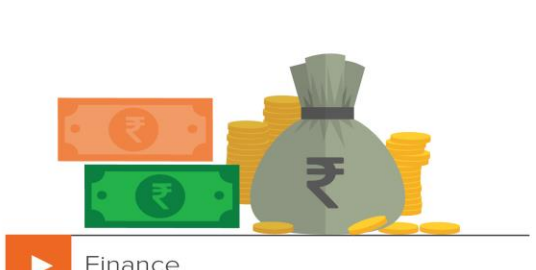

Street Lighting


Sewerage & Drainage


Solid Waste Management


Health


Biodiversity


Finance


Education

Plenary Exercise – GHG Inventory

- Identify different government and private agencies that can provide activity data regarding two selected sectors (refer slide above to select two sectors that emit GHG emissions)
- Refer to tables below and calculate GHG emissions for the following sectors:
  - LPG use in residential buildings
  - Electricity use in manufacturing units

Group Exercise – GHG Inventory

Table 1: Activity Data of a City

Sectors	Energy Source/Activity	Activity Data				
		Unit	2015-16	2016-17	2017-18	2018-19
Residential Buildings	Electricity	MU	369.54	420.72	475.96	559.14
	Kerosene	kL	2,472.00	2,436	1,836.00	1,800.00
	LPG	tonnes	24,375.32	30,804.14	33,579.96	37,149.71
	PNG	cubic m	No supply	365,000	912,500	1,825,000.00
Commercial and Institutional Buildings/Facilities	Electricity	MU	266.20	310.15	329.33	373.57
	LPG	tonnes	1,978.55	2,666.60	2,706.91	3,089.39
	PNG	cubic m	No supply	182,500	365,000	547,500
Manufacturing Industry and Construction (i.e. Industrial sector)	Electricity	MU	1,253.57	1,607.20	1,700.65	1,705.93
	PNG	cubic m	No supply	2,190,000	10,950,000	23,725,000
Agriculture, forestry and fishing activities (i.e. mainly agriculture)	Electricity	MU	2.35	3.03	4.00	2.85
Mobile (Transportation)	LPG	tonnes	1.18	0.87	0.65	0.42
	Petrol	kL	72,358	80,230	82,118.00	82,157
	Diesel	kL	79,770	83,856	95,232.00	94,556
	CNG	scm	330,000	55,168,571.43	73,234,285.71	93,358,571.43

Group Exercise – GHG Inventory

Table 2: Emission Factors

Particulars	Grid electricity Emission Factor (tonnes of CO2e per Million units)			
Year	2015-16	2016-17	2017-18	2018-19
EF	822.7844	802.7844	782.7844	822.7844
Energy Source			Unit	Emission Factor (tonnes of CO_2e per unit)
Kerosene			kL	2.5858
LPG			metric tonnes	2.9926
PNG			scm	0.00189
Petrol			kL	2.2965
Diesel			kL	2.8505
CNG			cubic m	0.0021
CNG			metric tonnes	2.9942
Auto-LPG			kL	1.5114
Coking coal (fuelwood based)			tonnes	1.5023

Step 3 – Infrastructure and Socio-ecological Systems Analysis

- **Identify the systems or services that are already failing or are under great pressure and contributing more to the city's total energy consumption and Greenhouse Gases (GHG) emissions**

- **Fragility is based on the following "resilience characteristics"**
  - Flexibility and Diversity
  - GHG emissions
  - Redundancy
  - Safe Failure

Socio-ecological Systems

Systems, where social, economic, ecological, cultural, political, technological and other components are strongly linked, are known as socio-ecological systems

Core Systems	Higher Level Systems
• Ecosystems • Land • Energy • Water • Food • Shelter • Transport • Communicati**on**s	• Health care • Education • Finance • Markets • Sanitation • Community services • Public security • Taxation • Social networks

Climate Fragility Analysis

Assessment of fragility in terms of

- **Flexibility and diversity** - whether the sector has a mix of multiple options for service delivery; does it work under different conditions
- **Redundancy** - whether the system has alternatives / back-up systems / contingency plans, multiple pathways and options for service delivery in case one or several options fail
- **Safe failure** - whether the system has the ability to absorb sudden shocks or slow onset stress so as to avoid catastrophic failure
- **Energy consumption and GHG emission** – whether the system has potential for reducing energy consumption and mitigating GHG emissions

Identify Fragile System

Flexibility and diversity	Energy consumption and GHG emissions	Redundancy	Safe failure
A mix of multiple options, key assets and functions are distributed or decentralised, not all affected by a single event. ***Example:*** *A flexible water supply system withdraws water from multiple sources that are sufficient in dry season as well as in rainy weather. Hence the system can function in different conditions.*	Consumes less energy than traditional means and leads to GHG emission mitigation. ***Example:*** *The water treatment plants consume a lot of electricity to pump water to different areas of the municipality, resulting in GHG emissions.*	Alternatives/back-up systems/contingency plans, capacity for contingency situations, multiple pathways and options for service delivery in case one or several options fail. ***Example:*** *The water supply is dependent on a perennial river and there is sufficient groundwater since the municipality is located in the valley. Hence, the system has backups if one source fails.*	Ability to absorb sudden shocks or slow onset stress to avoid catastrophic failure ***Example:*** *The water treatment system is extremely old and requires repair for distribution and treatment. There is no assurance of safe failure in case of a disaster.*

Estimate Fragility of the System

- Consider the existing and anticipated problems caused by the fragility of the systems.
- Define who is responsible in the city for the system
- Prepare a summary 'fragility statement'.

Socio-ecological system	Why is it critical or fragile?	Existing and anticipated problems caused by the fragility?	Part of city function (Full/ Shared / No)	Fragility statement
Water supply	Centralised water treatment facility from a single source (no redundancy). Pumping water from great distances, using energy (high GHG emission and energy consumption). Single source of water that dries up in summer (no flexibility)	Disruption of water supply in case of pipe breakage. Additional costs of purchase of water from water tankers	Shared	System is old and largely dependent on transportation of water over large distances, whereby even minor disruptions within the distribution network cause significant shortages; alternatives are not cost-effective or sustainable.

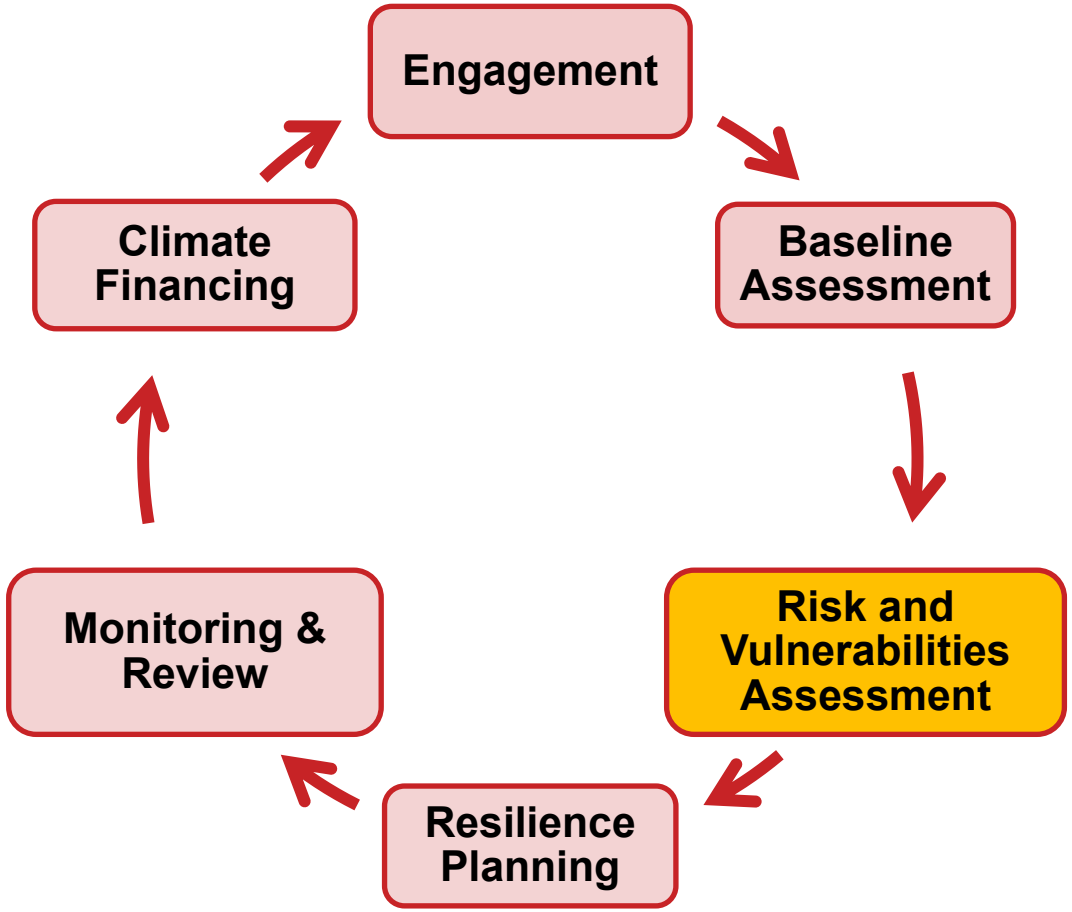
Group Exercise – Socio-ecological System Analysis

- **Identify fragile urban system (at least two or maximum three) for your city (identified during Group Exercise 1) based on the following parameters:**
  - Flexibility and diversity
  - Energy consumption and GHG emissions
  - Redundancy
  - Safe Failure
  - Next, prepare a fragility statement.

Fragile Socio-ecological System	Indicators				Fragility Statement
	Flexibility and diversity	Energy consumption and GHG emissions	Redundancy	Safe Failure	

Module 2 C
Climate Risk and Vulnerability Assessment

Risk and Vulnerability Assessment



Objectives

- To identify the climate risk and its impact on infrastructure, governance and socioeconomics
- To identify who or what is vulnerable to what and why
- To identify vulnerability hotspot areas and assess the adaptive capacity of vulnerable actors.

Climate Fragility Assessment

- Assess impacts of climate change on the fragile systems
- Consider climate scenarios and possible impacts of these climate risks on the fragile systems.

Socio-ecological systems	Fragility statement	Climate fragility statement	Climate fragility statement
		Climate risk 1: *e.g. Increased precipitation*	Climate risk 2: *e.g. Increased temperatures*
Water Supply	System is old and largely dependent on transportation of water over large distances, whereby even minor disruptions within the distribution network cause significant shortages; alternatives are not cost-effective or sustainable.	Increased precipitation disrupts/ damages water supply infrastructure	Increased temperatures will lead to increased demand for water, thereby putting additional stress on the supply system

Risk Assessment

- Prioritise the climate fragility statements of fragile systems on the basis of their likelihood and consequence.
- Important to incorporate the views of all stakeholder groups `
- Assess the likelihood and consequence of each climate fragility statement of each of the systems.

Climate Risk Score = Likelihood x Consequence

Compare Risk Score with Risk Matrix Table to get Risk Status

Risk Assessment

- Risk assessment of the identified impacts on urban systems based on a ‘likelihood’ and ‘consequence’ scoring will be undertaken in order to prioritise the impacts
- Risk = Likelihood x Consequence
- Likelihood of occurrence of each impact
- Consequence in terms of impact on the urban system and the city government if the impact does take place

Risk Assessment- Likelihood

Likelihood rating	Description	Score
Almost certain	Could occur several times per year – likelihood probably greater than 50%	5
Likely	May arise once per year – 50/50 chance	4
Possible	May arise once in 10 years – probability less than 50% but still quite high	3
Unlikely	May arise once in 10 to 25 years - Unlikely but should still be considered – probability significantly greater than zero	2
Rare	Unlikely in foreseeable future – negligible probability	1

Risk Assessment- Consequences

Consequence rating	Impact on system	Impact on poor and other vulnerable groups such as women	Score
Catastrophic	System fails completely and is unable to deliver critical services,, may lead to failure of other connected systems	Severe impacts on poor and vulnerable groups (including women) in the city/ village, leading to extreme destitution	5
Major	Serious impact on the system's ability to deliver critical services; however, not a complete system failure	Loss of confidence and criticism in local government; ability to achieve city/ village vision and mission seriously affected; significant impact on poor and vulnerable groups in the city/ village that seriously affect their lives and livelihoods	4
Moderate	System experiences significant problems, but is still able to deliver some degree of service	Moderate impacts on the lives and livelihoods of the poor and vulnerable groups (including women) in the city /village	3
Minor	Some minor problems experienced, reduced effective service delivery, possibly affecting certain other systems or groups	Minor impacts on the lives and livelihoods of the poor and vulnerable groups (Including women) in the city/ village	2
Insignificant	Minimal impact on system – may require some review or repair, but still able to function	Minimal impacts on the lives and livelihoods of the poor and vulnerable (Including women) groups in the city/ village	1

Risk Matrix

Likelihood	Consequences				
	Insignificant	Minor	Moderate	Major	Catastrophic
Almost certain	**Medium** (RS* = 5)	**Medium** (RS = 10)	**High** (RS = 15)	**Extreme** (RS = 20)	**Extreme** (RS = 25)
Likely	**Low** (RS = 4)	**Medium** (RS = 8)	**High** (RS = 12)	**High** (RS = 16)	**Extreme** (RS = 20)
Possible	**Low** (RS = 3)	**Medium** (RS = 6)	**Medium** (RS = 9)	**High** (RS = 12)	**High** (RS = 15)
Unlikely	**Low** (RS = 2)	**Low** (RS = 4)	**Medium** (RS = 6)	**Medium** (RS = 8)	**Medium** (RS = 10)
Rare	**Low** (RS = 1)	**Low** (RS = 2)	**Low** (RS = 2)	**Low** (RS = 4)	**Medium** (RS = 5)

Risk status of the impacts

Impacts	Likelihood	Consequence	Risk Score	Risk Status
<e.g. city specific>				

Plenary Discussion: Prioritisation of Climate Risks

- **In case of your municipality, put in a score of the likelihood and consequence of the climate fragility statement in the table.**
- **Calculate the Risk Score.**
- **Calculate the Risk Status**

Climate Risk Statements	Likelihood	Consequence	Risk Score (Likelihood X Consequence)	Risk Status
Sudden high intensity rainfall can cause overflow in storm water drains, can dilute pollutants, cause greater runoff without recharge, or lead to wate logging.				

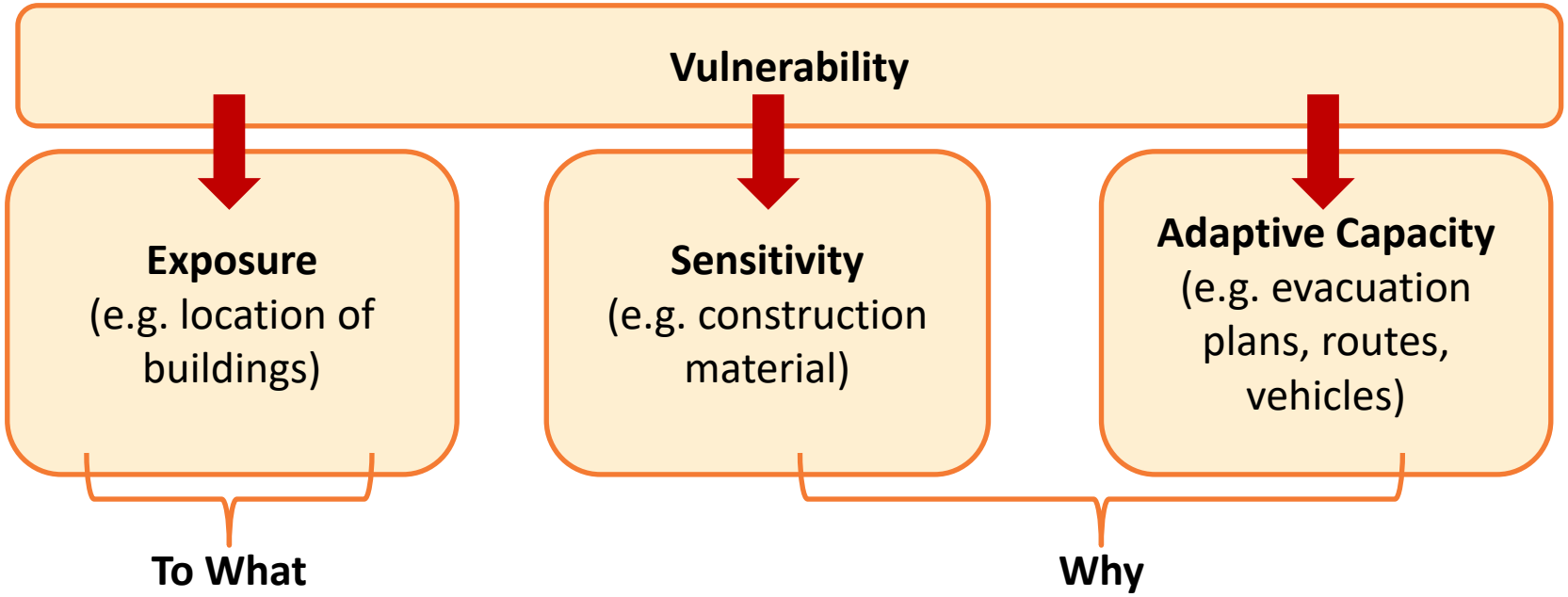
Vulnerability Assessment

- Identify vulnerable areas prone to the climate risks mentioned above
- Identify social groups/communities/ stakeholders who are impacted by these risks in these areas.

Output: Vulnerability Hotspots and Vulnerable Actors for targeted intervention

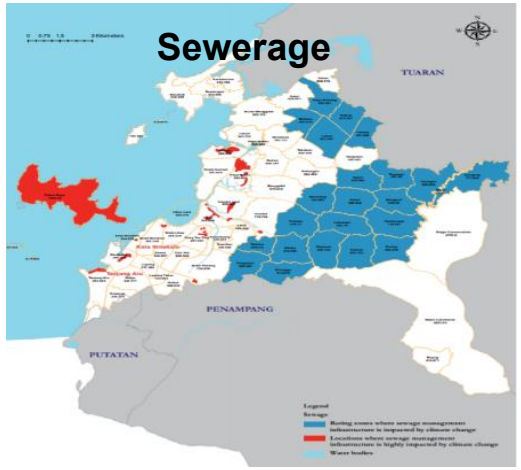
Vulnerability Assessment

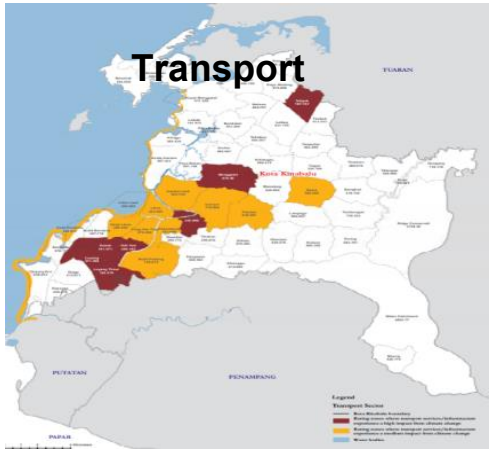
- Vulnerability defines who or what is vulnerable to what and why.
- Who or What: Population groups, zones/ wards, and sectors (e.g. infrastructure for water supply and solid waste management)
- To What: Impacts of climatic threats (e.g. water scarcity and spread of vector-borne diseases)
- Why: Capacities and resources to deal with the impact of climatic hazards

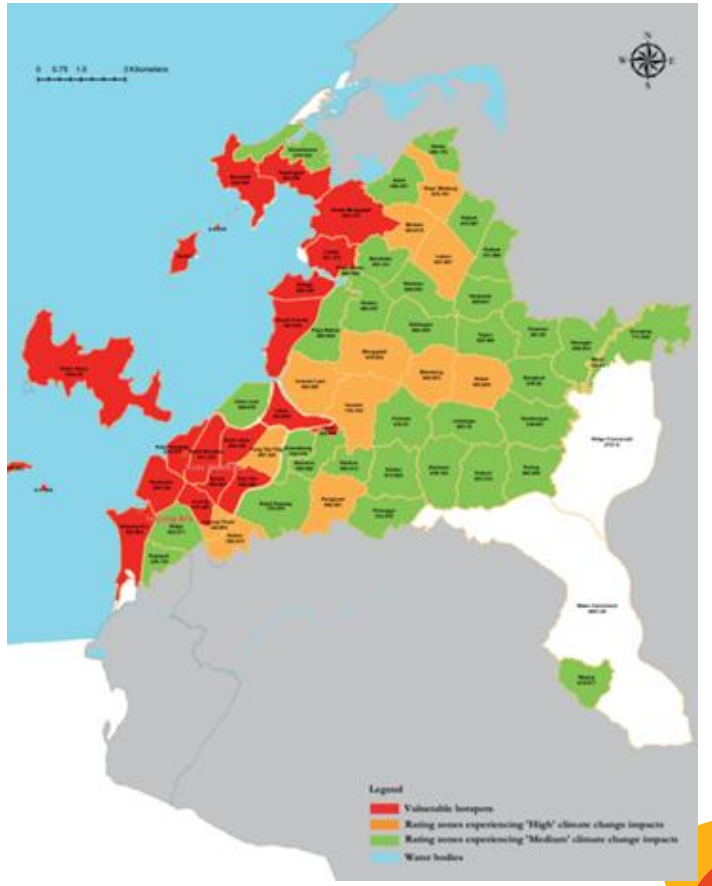


Hotspot Analysis

- The vulnerable areas for each sector can be identified on separate maps
- Superimposing all the maps will create the vulnerability hotspot map







Actor Identification and Analysis

- **Actors: Include individuals, households and private and public sector organisations**
- **Ability of these actors to contribute to resilience is broadly dependent on the following three key capacities.**
  - Capacity to organise and respond: the capacity to organise and re-organise in response to threat or disruption
  - Resources: access to the resources necessary to respond (manpower, technology, funds)
  - Access to information: availability of data and information necessary to develop effective plans and actions and to improve responses to disruptions.
- **Two types of actors**
  - People vulnerable to the impacts
  - People who can influence the impacts

Adaptive Capacity of Actors

Key Capacities of Actors	Score
Capacity to respond to threat or disruption	
Low capacity to organise and re-organise in response to threat or disruption	1
Medium capacity to organise and re-organise in response to threat or disruption	2
High capacity to organise and re-organise in response to threat or disruption	3
Resource available to anticipate the problem and take action	
Low capacity to identify and anticipate problems, establish priorities and mobilise resources for action	1
Medium capacity to identify and anticipate problems, establish priorities and mobilise resources for action	2
High capacity to identify and anticipate problems, establish priorities and mobilise resources for action	3
Capacity to access information to effectively respond to threat	
Low capacity to avoid repeated failures, and innovate to improve performance	1
Medium capacity to avoid repeated failures, and innovate to improve performance	2
High capacity to avoid repeated failures, and innovate to improve performance	3

Resilience Score	Level of Resilience
1 – 8	Low
9 – 17	Medium
18 – 27	High

Actor Analysis

Climate Fragility Statements	Area/ ward	Actors	Capacity to Organise & Respond (A)	Resources (B)	Access to Information (C)	Adaptive Capacity Score (A)*(B)*(C)	Supporting Notes
Contamination of water supply due to flooding made worse by lack of alternative sources	*Ward 5*	*Farmers*	1	1	1	1(Low)	*Low education level, low income level*
		Private Sector	2	3	2	12 (Medium)	Existing business associations
		Water supply department	3	2	3	12(Medium)	Do not always have sufficient finances

Adaptive Capacity of Socio-ecological Systems

- **Economic resilience:** have financial resources to undertake actions to manage climate impact – e.g. budget allocation, tax base, ability to charge fees, other identified sources like national schemes?
- **Technological/Infrastructure:** have technical knowledge and resources to cope with additional climate stresses? Are major technology changes or new technology needed?
- **GHG Emissions:** possible to reduce emissions based on the contribution of the sector to overall GHG emissions?
- **Governance:** Is responsibility clearly established; does the responsible entity have authority to make required changes? Support from higher levels of government, clear policies/regulations?
- **Social:** existing community understanding and resources available? Have mechanisms to incorporate community input and feedback? Address the needs of poor and vulnerable groups?
- **Ecosystem Services:** have capacity to protect or restore ecosystem or utilise ecosystem services? Is there adequate understanding and data about the role of the different ecosystems?

Consolidated Table

Fragile Urban System	Climate Fragility Statements	Vulnerable Areas	Urban Actors		Adaptive capacity of the system		
			Vulnerable	Potential Supporting	Low	Medium	High
Water Supply	*Increased demand of potable water due to rise in temperature and depleting fresh water sources may lead to further water stress.*	*Ward Numbers: 1, 3, 4, 5, 8, 10, 11, 12, 24, 28, 31, 33, 34, 36, 37, 39, 42, 51, 54, 58*	• *DNN* • *Local Residents* • *Slum Population* • *Schools*	• *PJN* • *Jal Sansthan* • *UDD* • *ADB*	*Governance* *Societal*	*Economic*	*Technological/ Infrastructural*

Exercise: Vulnerability Assessment

- For the climate fragility statements, identify the areas that are vulnerable in your city. You can mention the names of places or ward numbers.
- For each statement, identify four major actors or stakeholders. Think about who will be impacted or who can support you if you want to take action. Think about stakeholders in the city and beyond, including government and non-government actors.
- Assign scores on a scale of 1 to 3 for each actor's capacity to organise and respond, ability to access resources and ability to access information.

Climate Fragility Statements	Area / ward / village	Actors	Actors			Adaptive Capacity Score (A)*(B)*(C)	Adaptive capacity of the system		
			Capacity to Organize & Respond (A)	Resources (B)	Access to Information (C)		Low	Medium	High

Module 3
Development of Climate Resilience Strategy

Objectives

- To identify adaptation and mitigation measures to deal with climate change and related disasters
- To prioritise and integrate these measures in existing municipal plans

Steps

Step 1 – Identification of interventions

- Develop a list of possible adaptation and mitigation actions or interventions to address the identified climate risk and vulnerability; consider vulnerable areas, vulnerable actors and supporting actors.

Step 2 – Prioritisation of Interventions

- Evaluate the proposed list of actions against a set of resilience indicators i.e redundancy, flexibility, responsiveness, GHG emission reduction and access to information to ensure their contribution to urban resilience.

Step 3 – Integration into the City Plan

- Align the proposed action with existing city plans or programmes. This will determine whether the required interventions can be integrated with little or no additional resources into an existing departmental programme or project.

Step 1: Identifying Resilience Interventions

- **The Core Team will develop a list of possible actions, or "interventions" to support actions on climate mitigation and adaptation.**
- **These interventions are screened and prioritised, linked to existing city plans, and assembled into a Climate Resilience Strategy.**

Climate Fragility Statement	Vulnerable Areas	Actors		Overall Resilience Score	Potential Climate Resilience Interventions
		Vulnerable Actors	Potential supporting actor		
Contamination of water supply due to flooding made worse by lack of alternative sources	*Ward 5*	*Slum Dwellers*	*Private sector* *Water Authority*	*Low*	*Rooftop water harvesting and safe storage* *Provision of low-cost, effective water purifiers*
High GHG Emissions from water pumping sector	*Entire City*	*Water Supply Department* *Residents*	*Water Authority*	*Low*	*Improved efficiency of water pumps* *Reduction in leakage from distribution system*

Remember to

- Focus on strengthening the resilience of the most vulnerable groups (especially women and children) and sectors through resource mobilisation
- Explore traditional/ local knowledge to deal with changing climate.
- Focus on gender budgeting to strengthen the resilience of local women.
- Aim for a mix of "hard" (i.e. infrastructure related) and "soft" (i.e. non- or minor infrastructure-related e.g. policy changes, capacity building) solutions
- Focus on critical sectors to reduce energy consumption and hence reduce GHG emissions.

Step 2: Prioritisation of Interventions

Resilience Indicators

- **Redundancy:** Systems function through **multiple paths or nodes** when performance is critical; “single best solution” is not resilient
- **Flexibility:** Systems designed to **work under a variety of conditions**; not rigid or designed only for one specific situation
- **Responsiveness/ re-organisation:** Systems **respond and change to meet unexpected shocks**; flexible organisations and access to resources (information, skills, equipment, knowledge and experience)
- **Access to Information:** Systems **learn from and build on experience**; not repeat past mistakes and integrate lessons from other cities; have monitoring and evaluating mechanisms
- **Energy saving and GHG emission mitigation potential:** Systems can **reduce energy consumption** and mitigate GHG emission
- **Social resilience:** Systems have potential to **improve the social resilience** of marginalised groups by providing them ability to cope

Resilience Prioritisation of Interventions

Potential Climate Resilience Interventions	Resilience Indicators						Overall Resilience 5-6/6: very high 4/5: High 3/5: Medium 2/5: Average 1/5: Low
	Redundancy (yes/no)	Flexibility (yes/no)	Responsiveness / re-organisation (yes/no)	Access to Information (yes/no)	Energy saving and GHG emission mitigation potential (yes/no)	Potential for Social Resilience	
Rooftop water harvesting to deal with water stress	Yes Supports self sufficiency at the household level	Yes System allows for recharging groundwater	Yes In case of a shortage, households have stored rainwater for use	No City helplines exist, but responsibility lies with households	Yes Reduction in electricity consumption due to reduced pumping	Yes Can improve the status of women by providing decentralised access to drinking water.	Very High

Feasibility and Impact Assessment

Potential Climate Resilience Interventions	Feasibility			Time required for the intervention to show impacts on climate change (short / medium / long-term)
	Technically (high / medium / low)	Politically (high / medium /low)	Financially (high / medium /low)	
Rooftop water harvesting to be made mandatory to deal with water stress due to anticipated increasŝ in temperatures and decreasŝ in precipitation	*High (technology is easily available)*	*Medium (would require a change in building by-laws and building codes)*	*High (not an expensive option to implement with substantial results)*	*Short term*

Step 3: Integration into City Plan

Resilience Interventions	Relevant Programs	Ongoing/upcoming/ planned	Can the program be leveraged – yes/no; if yes how?
Rooftop water harvesting to be made mandatory to deal with water stress due to anticipated increase in temperatures and decrease in precipitation	Housing Scheme for the Urban Poor	Upcoming (following financial year)	Yes. Design of buildings can be modified to include a rooftop water harvesting and safe storage system

Group Exercise: Prioritisation of solutions

- For the climate fragility statement used in previous exercise, identify 2 interventions.
- Identify whether the intervention addresses the resilience indicators.
- Count and calculate the number of instances when these indicators are addressed – mark yes.
- Prioritise the indicators in terms of technical political and financial feasibility and in terms of timeframe for implementation (long-term, mid-term, short-term)
- Identify if there are any existing/ongoing or proposed development actions in the city with which these interventions can be integrated for implementation.

Module 4
Monitoring and Evaluation

Objectives

- To encourage cities to conduct a systematic and comprehensive assessment of targets/interventions/actions through a monitoring and evaluation process
- To encourage local governments to collaborate with other cities and agencies

Monitoring and Evaluation Framework

- **The M&E framework can help cities keep track of the activities that are scheduled for implementation periodically. It should include:**
  - An institutional framework for monitoring and evaluation.
  - Performance indicator to measure the achievement of the objective
  - Periodicity of review
  - Process for review of the annual plan of implementation.
  - The mechanism for collating and reporting results from project-specific implementation and impact monitoring.

Process of Monitoring by Climate Core Team

Implementation of the overall Action Plan	Department wise responsibility	Department reviews	Climate Core Team review	Last quarter review of each year
Chairperson of climate core team or nodal officer apprised	Appointment of department heads and responsibilities assigned	Department reviews of all projects on a monthly basis	Climate core team to meet quarterly and review the implementation	Review and changes to annual plans as necessary

Monitoring and Evaluation Framework

Sector	Resilience Intervention	Timeline	Allocated budget	Milestones for implementation process	Status	Climate Change Impact: Annual Mitigation Potential			Climate Change Impact: Annual Mitigation – Reported based on the actual implementation
						Potential energy saving (Million KWh)	Potential fuel saving (unit)	Potential emission reduction (tCO_2e)	Reported energy saving (Million KWh)

Importance of reporting

Measure and monitor progress in meeting your climate objectives

Understand data gaps to inform what resources and support are needed

Learn about climate actions that are working and **are best practices** globally and locally

Show leadership and impact that local authorities can achieve

Source: CDP ICLEI

Benefits of reporting

Access insight, tools and services

- Feedback through CDP Scoring
- Receive response check

Best practices and knowledge exchange

- Training webinars
- Reports and case studies
- Workshops

Transparency and accountability

- Track progress
- Improve data quality
- Access data on CDP's Open Data Portal

Report to city networks

- ICLEI
- C40
- Global Covenant of Mayors
- WWF's One Planet City Challenge

Engage with the private sector and public financiers

- Showcase projects through CDP's Matchmaker and ICLEI's Transformative Actions Programme
- Engage private sector through City Business Climate Alliance programme

CDP ICLEI UNIFIED REPORTING SYSTEM

Source: CDP ICLEI

Module 5
Financing Climate Resilience Initiatives

Objectives

- To provide guidance on the various sources for financing climate-resilient initiatives.
- To provide information on the potential opportunities available for cities and subnational authorities to mobilise technical and financial resources for implementation of climate-resilient initiatives.

Financial Implications of Climate Change in Bangladesh

- As per Bangladesh's NDC, climate change could lead to an annual GDP loss of 2% by 2050 and 9.4% by 2100.

- Climate change could cost Bangladesh 6.7% of GDP and depress the living standards of more than three-quarters of the country's population by 2050

- An average of the losses and damage that occurred over the past decade indicates that the direct annual costs from natural disasters amounts to 0.5 to 1% of the GDP of the country

Financing Needs of the Country

USD 2 billion per year to mitigate effects of climate change by 2030

USD 3 billion per year to adapt to changing climate by 2030

Total investment of USD 5,516 million and USD 112 million in annual recurrent costs by 2050 to ensure protection against storm surge risks, including those from climate change (WB 2010)

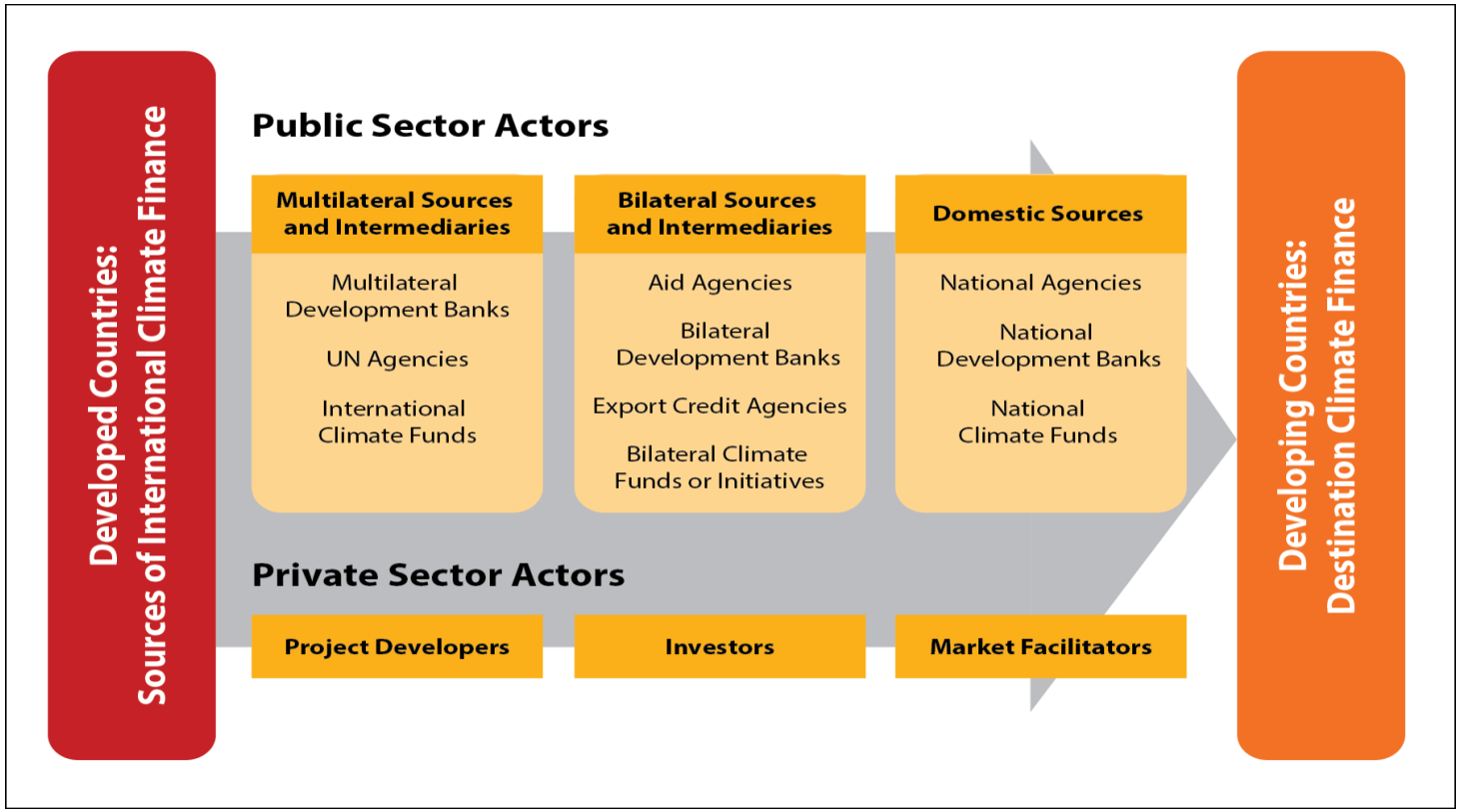
The avg. domestic and external investment for adaptation amounts to USD 1.3 billion, leaving a USD 1.7 billion climate finance 'adaptation gap' each year

What is Climate Finance?

- Climate finance includes financial resources that aim to reduce emissions and increase sinks of GHG by “reducing the vulnerability of, and maintaining and increasing the resilience of, human and ecological systems to negative climate change impacts (UNFCCC, 2016)
- The Paris Agreement (2015) reiterated that developed countries need to take the lead in mobilising climate finance “from a wide variety of sources, instruments and channels” in a “progression beyond previous efforts” for supporting climate actions – both adaptation and mitigation – in developing countries.
- The target for developed countries to mobilise US$100 billion a year by 2020 for developing countries was based on a commitment developed countries made 11 years ago in Copenhagen in 2009, and then confirmed in the Cancun Agreements in 2010 and the Durban Platform in 2011

Sources of Climate Finance

- International climate finance can be mobilised through multiple channels both within and outside of the UNFCCC financial mechanism, including from bilateral and multilateral sources as well as regional and national funds.
- Climate finance can be both public and private



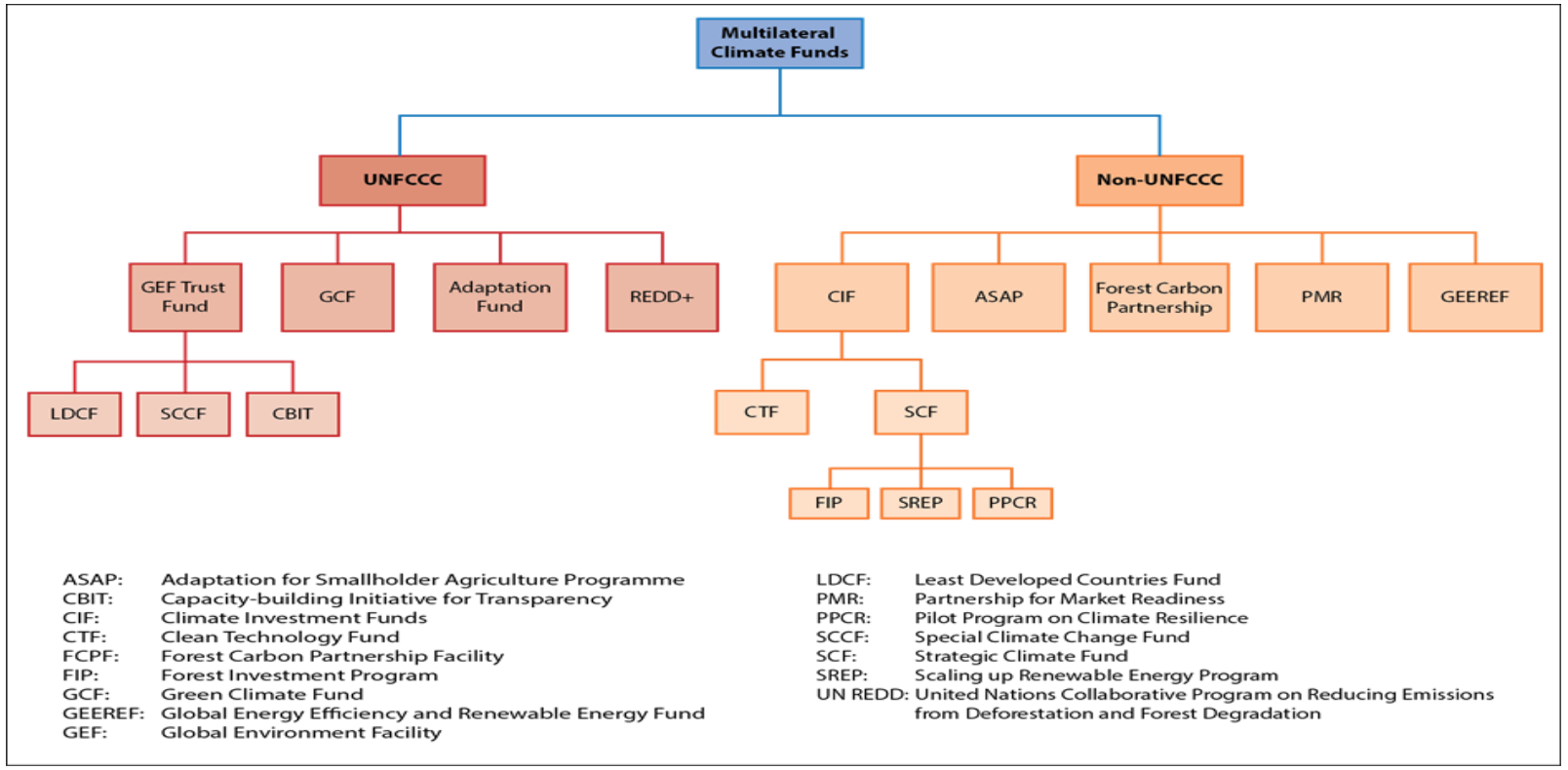
Multilateral and Bilateral Sources

Multilateral Climate Funds: Funded by several developed countries and multilateral institutions such as multilateral development banks, United Nations (UN) agencies, and the financial institutions that have been created within the framework of the United Nations Framework Convention (UNFCCC) itself; for e.g. the Climate Investment Fund

Bilateral Climate Funds: Funds channelled by developed countries to developing countries through their bilateral (country to country) development assistance because of their long-standing role in delivering aid; for e.g. United Kingdom, Germany and Japan.

Multilateral Development Banks: Development institutions with a banking business model, which in addition to their lending activities, can also provide development research and advisory services. MDB lending, for example, seeks more than an economic return; it also considers how specific projects address environmental, social and governance (ESG) risks. Some of the MDBs currently operational in South Asia are the World Bank, the ADB and the Asian Infrastructure Investment Bank (AIIB).

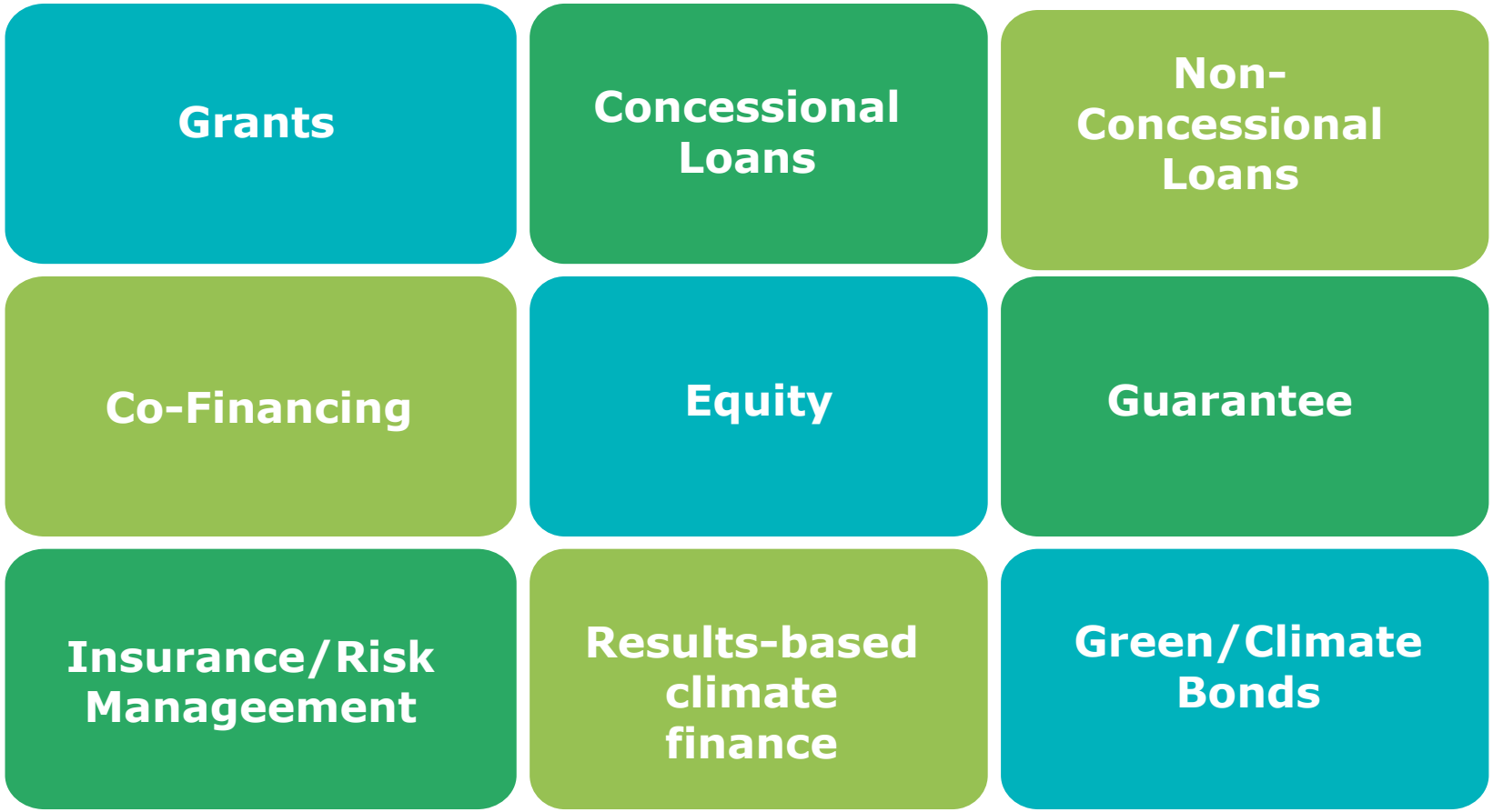
Multilateral Climate Funds



- Development banks at the multilateral, regional, and national level play an important role in financing climate-related projects.
- Within this framework, the US$8 billion Climate Investment Funds (CIFs) play a crucial role in funding climate change mitigation and adaptation projects.

- The two largest operating funds under the UNFCCC are the Green Climate Fund (GCF), with a budget of US$10.3 billion (2021) and the Global Environmental Facility (GEF), with US$4.1 billion replenished under the GEF-7 (2018-2022)
- While the GCF finances both adaptation and mitigation projects, the GEF is dedicated largely to mitigation

Instruments Used to Mobilise Climate Finance



Climate Finance Landscape in Bangladesh: Sources and instruments

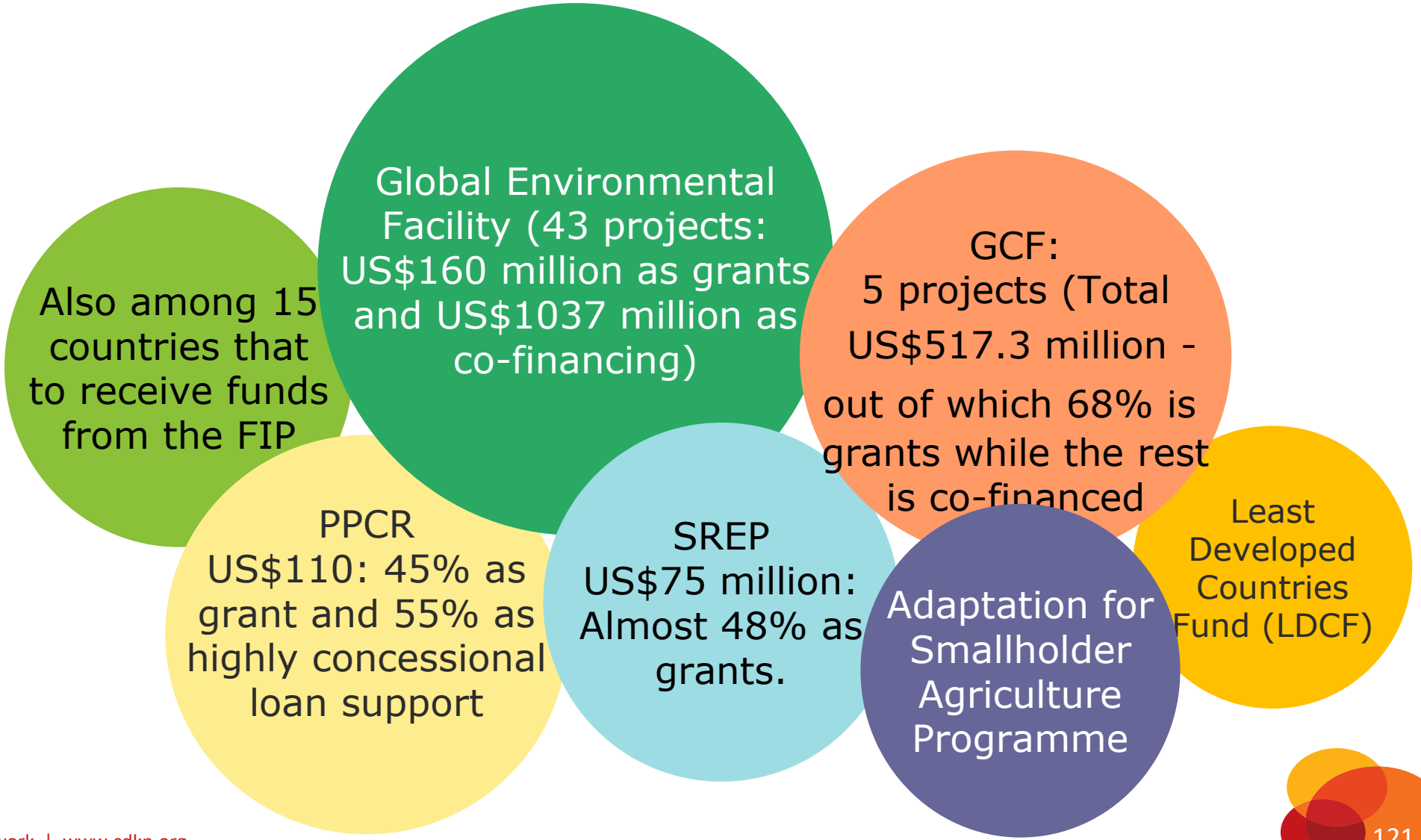
Includes a wide range of sources, intermediaries, instruments and planning systems

Sources	Category		Instruments
Domestic	Public	National budget, programmes, schemes Bangladesh Climate Change Trust Fund	Budgetary expenditure Grants
	Private	Green banking through central bank, commercial banks	Concessional loans Re-financing
International	Public	Multilateral and bilateral	Grants, loans, equity
	Private	Philanthropy Foreign Direct Investment	Equity, grants

As much as 75% of the resources spent on climate change comes directly from the GoB, while the rest comes from international development partners

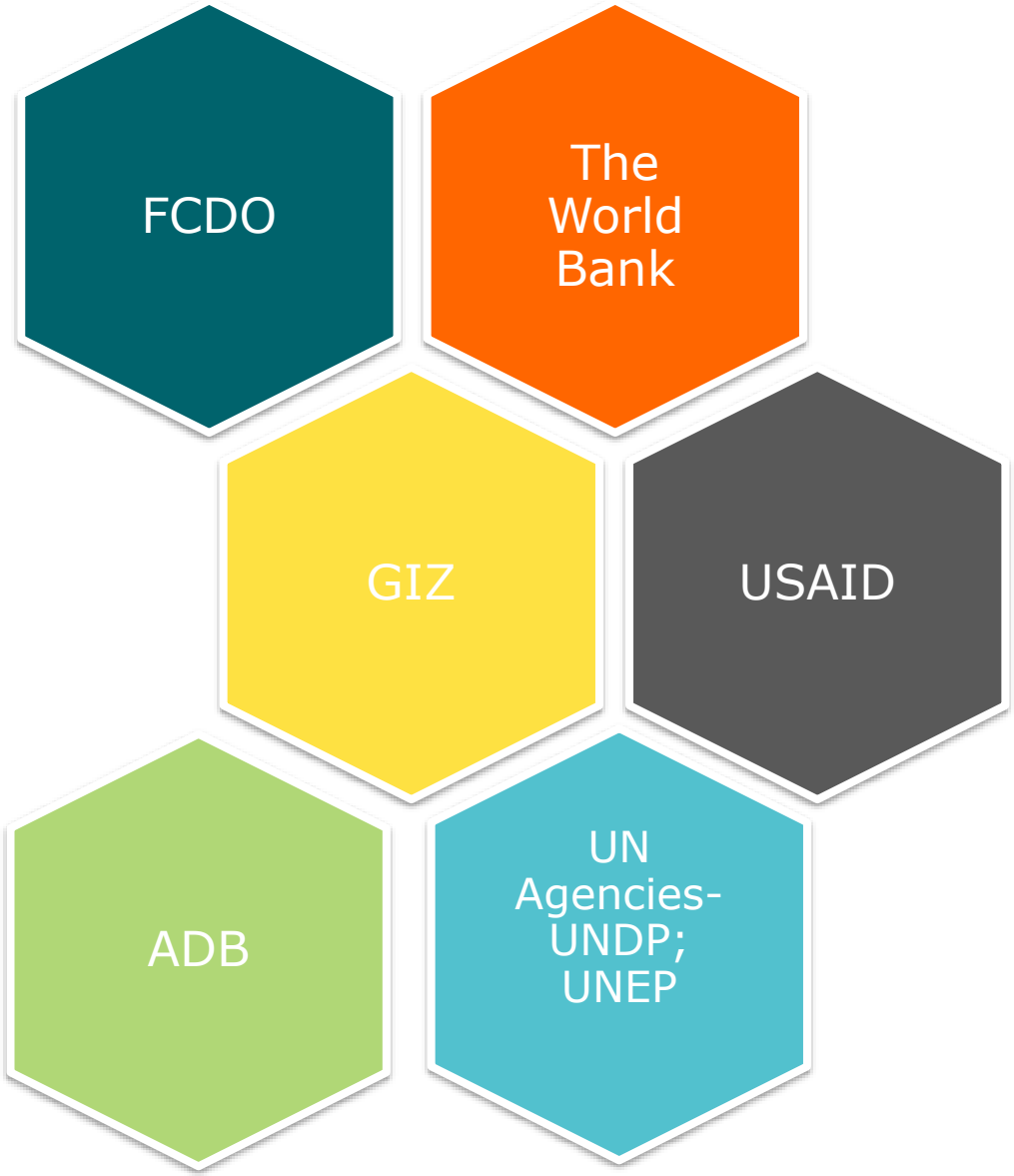
International Climate Funds in Bangladesh

Successful in mobilising both multilateral and bilateral international climate finance for implementing climate actions



International Climate Funds in Bangladesh

Some of the other multilateral and bilateral development assistance agencies active in Bangladesh



Domestic Sources of Funding

- Bangladesh adopted a Climate Fiscal Framework in 2014 and updated it in 2019 to ensure that the country's public financial management systems includes climate change, promotes green financing, fosters green banking and establishes dedicated funds.

- Presently, the Government of Bangladesh spends nearly US$1 billion per year on climate adaptation, which is around 6-7% of its annual budget.

- The climate- relevant allocation increased 1.33 times from the FY2017-18 to FY2021-22. Of the total budget allocation to the selected 25 ministries and divisions, 7.26% is climate relevant (FY 2021-22)

Domestic Sources of Funding

Funds/programmes	Year	Ministries/departments	Budget outlays	Focus areas
Bangladesh Climate Change Trust Fund (BCCTF)[82]	2009-ongoing	MoEFCC, Department of Environment	BDT 3752 crore) up to the Financial Year (FY) 2020-21	BCCTF has identified six thematic adaptation and mitigation areas: (a) food security, social protection and health (b) comprehensive disaster management (c) infrastructure (d) research and knowledge management (e) mitigation and low-carbon development (f) capacity building and institutional strengthening.
Bangladesh Delta Plan (BDP) 2100	2018-ongoing	General Economics Division (GED), Bangladesh Planning Commission	US$37 billion by 2030 (estimated cost for overall implementation). GCF will contribute US$2 billion yearly to implement climate change projects.	A total of 80 projects have been selected for implementation under the investment plan in the first phase at a cost of US$ 37 billion. Of them, 65 would be infrastructure projects while 15 others would aim to enhance institutional capacity, efficiency and research.
Bangladesh Climate Change Resilience Fund (BCCRF)[83]	2010-2017	The Secretariat was based in MoEFCC and administered by a government-designated implementing agency, Palli Karma Sahayak Foundation (PKSF)	US$71.13 million had been disbursed up to December 2016. There was no fund disbursement after 2016.	BCCRF was formulated to support implementation of BCCSAP.

Private Sources of Funding

- Mobilising the private sector for investing in climate projects through incentives and policy measures including through the Bangladesh Investment Development Authority.
- The Bangladesh Bank, through green banking policy guidelines, mandates every bank to allocate a specific budget to finance green projects- includes direct or wholesale lending for renewable energy projects.
- The country is also working towards green equity finance through local and foreign investors. Fifteen venture capital firms are currently working on green projects.

The Bangladesh Bank established the Green Transformation Fund (GTF) with a revolving fund of US$200 million to accelerate sustainable growth in export-oriented textile and leather sectors

Bangladesh Ventures Fund was launched by the Small Enterprise Assistance Funds and IFC to invest in SMEs in the country, with a focus on renewable energy and energy efficiency.

Recommendations to Improve Access and Utilisation of Climate Finance in Bangladesh

Platform and Tools for Municipalities

- **Transformative Actions Program (TAP):** A project pipeline and project preparation facility developed by ICLEI and partners – acts as an incubator that supports local and regional governments by catalysing capital flows for low-to-no emission and climate-resilient development. Through the TAP, local and regional governments receive support to develop climate project concepts into low-risk, high-feasibility, high-impact sustainable infrastructure projects. For more information: https://tap-potential.org

- **Cities Climate Finance Leadership Alliance (the Alliance):** Multi-level and multi-stakeholder coalition aimed at closing the investment gap for urban subnational climate projects and infrastructure. It aims to facilitate investment through four main thematic Action Groups: a. Project preparation; b. Financial toolbox; c. Enabling frameworks; d. Global architecture. For more information: https://www.citiesclimatefinance.org/about/

- **Global Climate City Challenge (GCCC):** Provides technical assistance that helps prepare and fast-track financing of urban climate action projects. Basic eligibility criteria is to have project/programme investment volume of over EUR 30 million. For more information: https://www.eib.org/en/projects/sectors/urban-development/city-call-for-proposal/index.html

Platform and Tools for Municipalities

- **The Leadership for Urban Climate Investment (LUCI):** LUCI seeks to achieve sub-national financing by supporting bankable projects, capacity-building of national and sub-national development banks, and improving financing options. It is hosted by the Cities Climate Finance Leadership Alliance (CCFLA) and has a particular focus on the Least Developed Countries, Low Income Countries and Middle Income Countries. For more information: https://climateaction.unfccc.int/views/cooperative-initiative-details.html

- **C40 Cities Finance Facility**: Supports cities in developing and emerging economies to develop finance-ready projects addressing climate change by providing technical assistance to develop bankable investment proposals. It facilitates capacity development of municipal officials to mobilise and access multiple financing instruments, promotes knowledge sharing and partnerships between cities, financiers and policy-makers. For more information: https://www.c40cff.org/about

- **Global Covenant of Mayors for Climate & Energy (GCoM):** GCoM is the largest global alliance for city climate leadership, built upon the commitment of over 10,000 cities and local governments across six continents and 139 countries. The Invest4Cities initiative under GCoM focuses on creating better and more equitable access to finance for cities, support implementation and financing of cities' bold climate action commitments, enhance capacity and remove barriers to develop investor-oriented Climate Action Plans and projects, and unlocking large-scale financing instruments to support cities' actions. For more information: https://www.globalcovenantofmayors.org/

Climate Finance Compendium

- ICLEI South Asia under the Climate Development Knowledge Network (CDKN) has prepared '**The Climate Finance in Bangladesh, India and Nepal: A compendium of finance sources and instruments to support climate actions**' as a primer to generate awareness and build capacity towards the various opportunities available for financing climate actions of different scales.
- The Compendium brings a collated and detailed overview of the climate finance landscape in India, Nepal and Bangladesh in the context of the UNFCCC.
- The Compendium provides detailed information on the various international multilateral and bilateral sources of climate finance, along with the volume of funds coming in from these sources, various intermediaries of finance, followed by the instruments used, purposes and sectors served.
- The Compendium also includes information on the domestic financial resources committed and mobilised by the national governments for climate actions, and briefly touches upon the growing private channels for funding climate actions in the three countries along with innovative instruments.

Open Session for Clarification and Doubts

Post Training Assessment

www.cdkn.org

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