

*A step-by-step methodology for
originating a pipeline of project concepts
for climate resilience*



GREEN
CLIMATE
FUND



The Methodology rationale

Why we need the step-by-step methodology



Because **existing methods and standards are based on a developmental paradigm** that does not embrace adaptation to climate change.

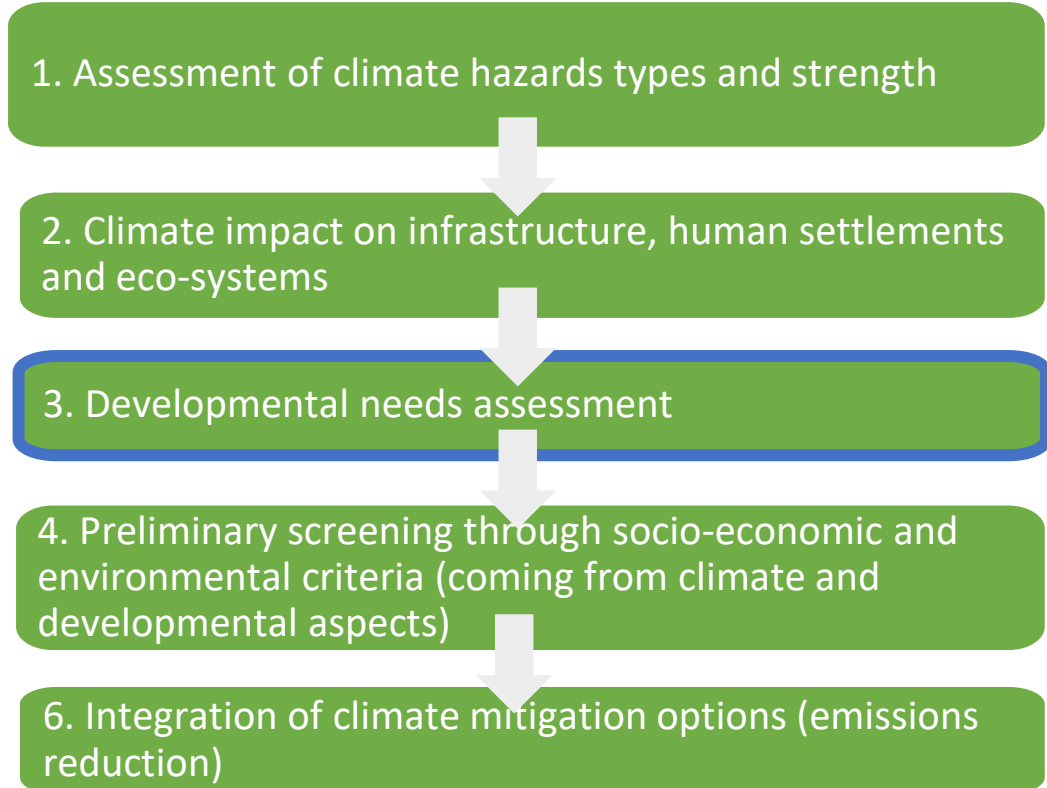
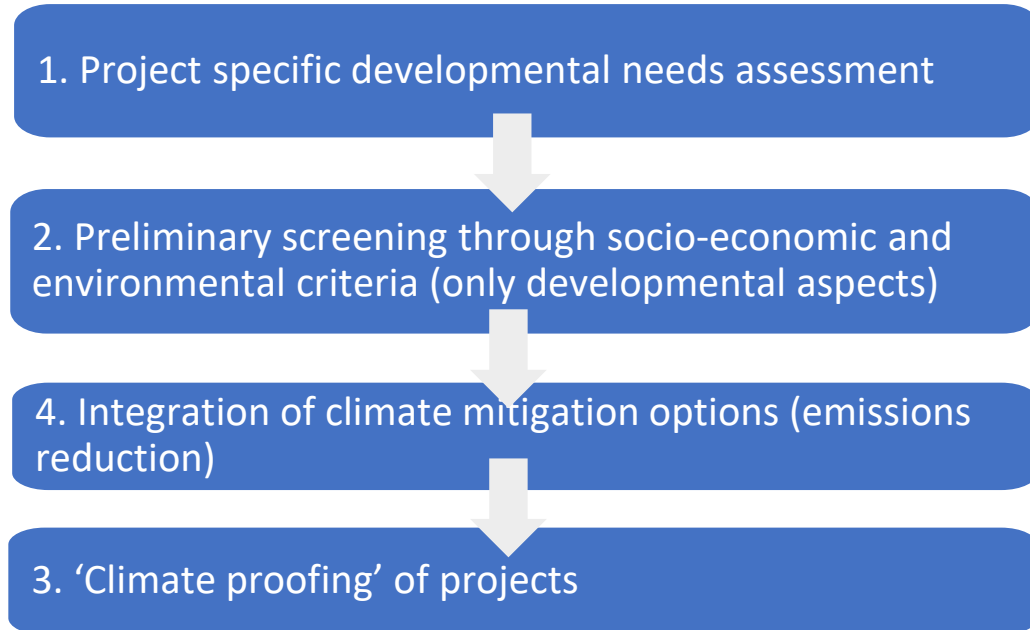
Because **emissions reduction should be structured in a resilient manner** in case climate hazards are pronounced in the targeted area.

Because **adaptation to climate change needs a systemic approach to avoid sequenced failures** and is not achievable via fragmented interventions that focus on one asset, e.g. solar plant resilience.

Because **'climate proofing' of developmental projects often does not bring expected results** due to systemic character of damages and losses caused by climate hazards.

The Methodology rationale

How climate resilient project conceptualisation differ from developmental project



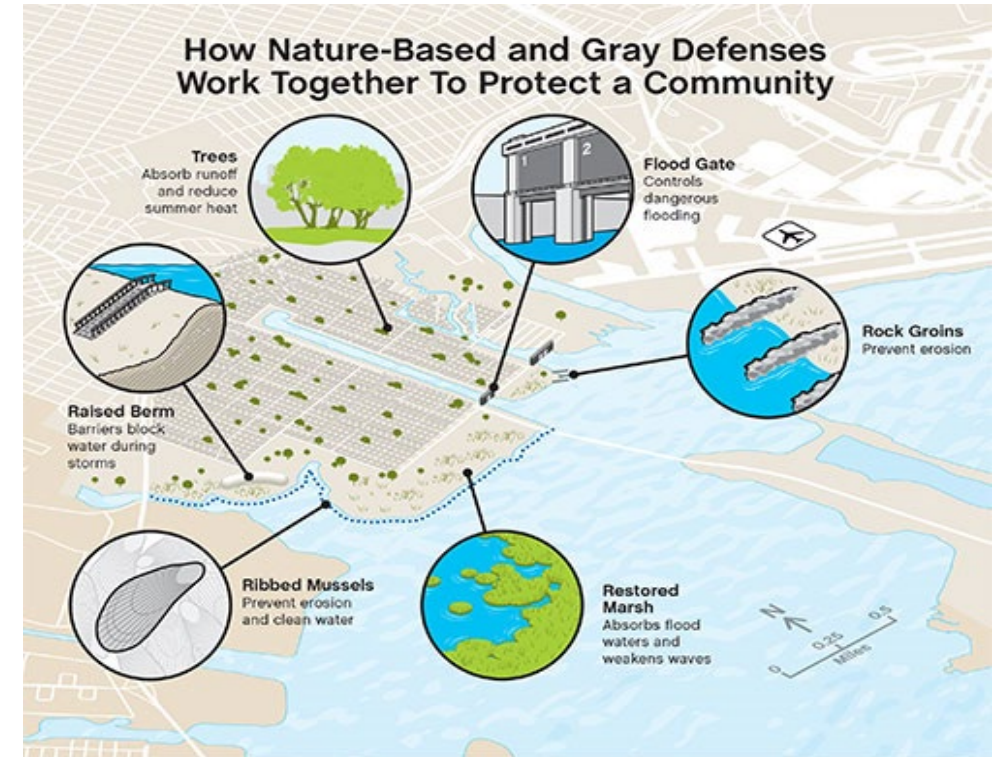
Why we need systemic resilience to create interlinked project pipeline



Because **infrastructure, human settlements and eco-systems** interact, the degradation of one element raises the vulnerability of the other element.

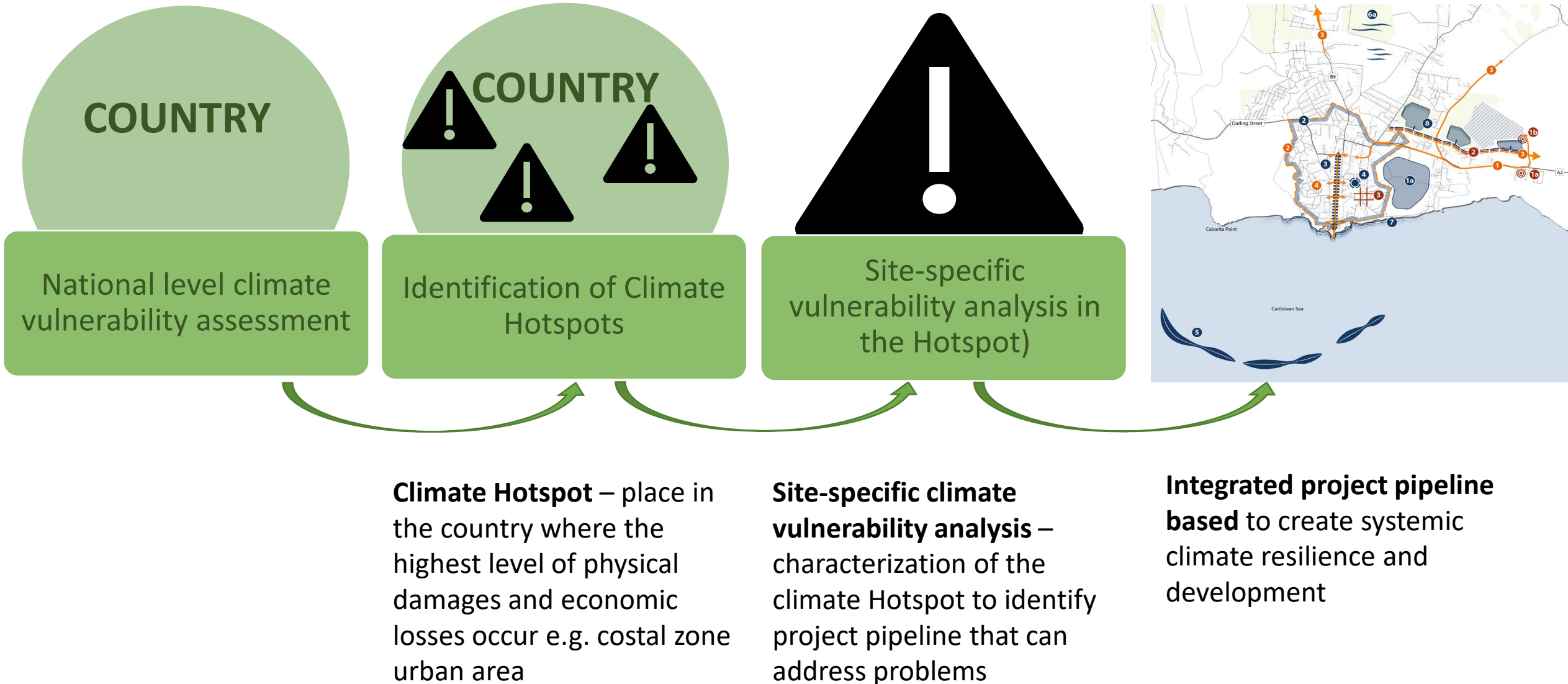
Examples of interdependencies and sequenced failures that may occur due to combined effects of climate change and developmental issues:

- Flood causes energy blackout affecting the water treatment plant, causing water contamination and health issues
- Hard revetments structured to protect the port from Sea Level Raise push water to intrude in the neighbouring human settlements area
- Development of industry raises contamination levels, causing mangrove degradation and deterioration of its protective capacity against flooding



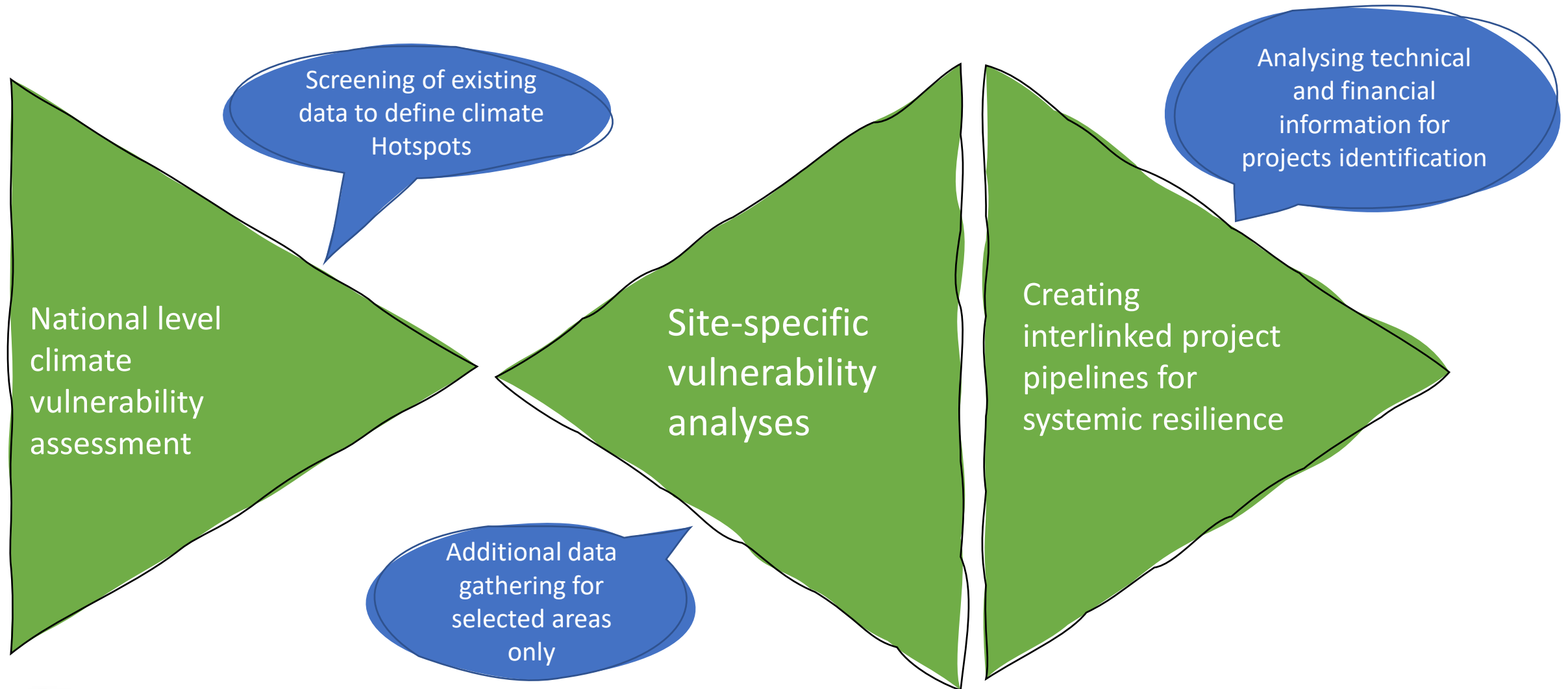
Functional area where several grey and green solutions can bring systemic climate resilience

Methodology process –main blocks

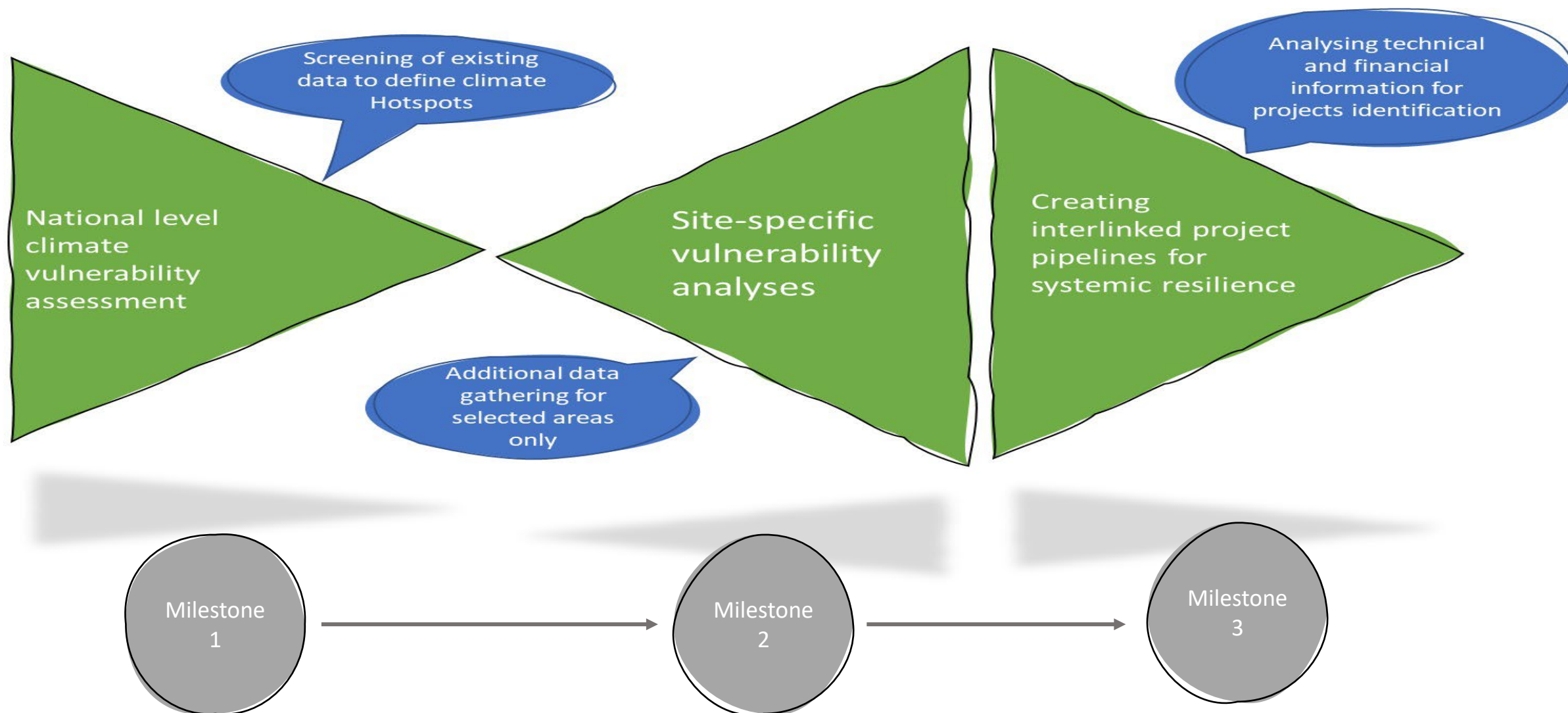


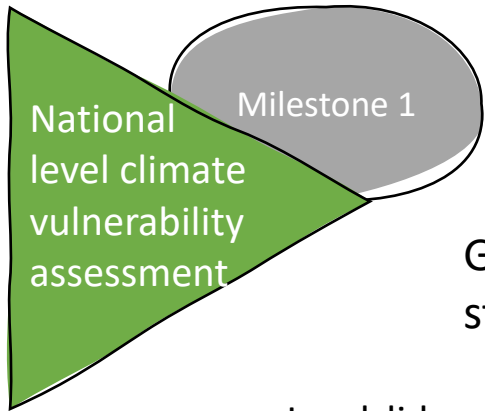
Methodology approach to climate data

How to address limited data availability



Methodology – 3 sections (Milestones)



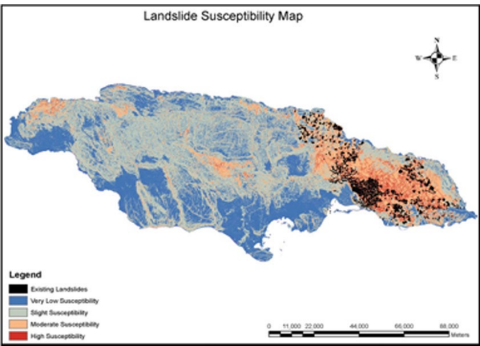


Climate data gathering

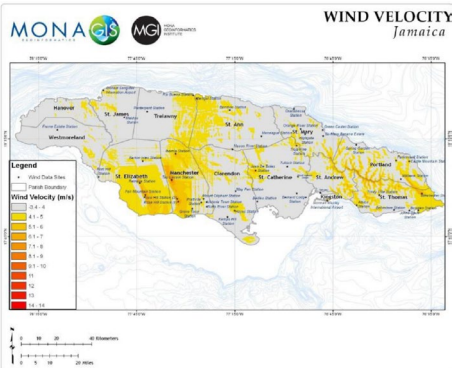


Gathering available climate data to understand the climate hazards types and strength in different areas of the country

Landslide



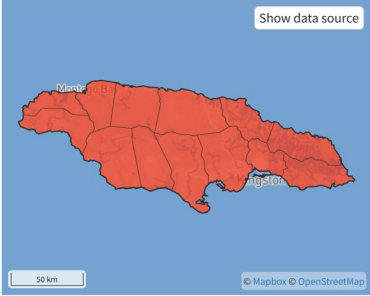
Wind



Floods



Extreme Heat

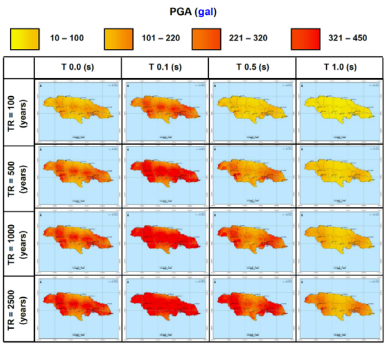
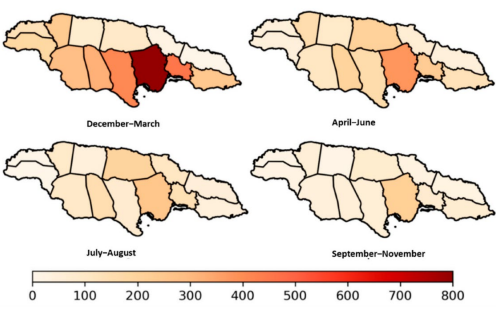
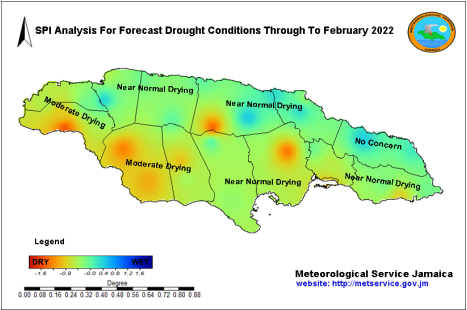


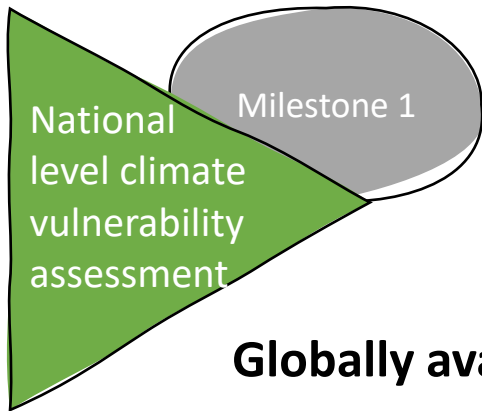
SLR

Drought

Wildfire

Earthquake





Climate data gathering



Globally available data

- Global datasets of natural hazards ThinkHazard! <https://thinkhazard.org>,
- The Climate Change Knowledge Portal (CCKP) at <https://climateknowledgeportal.worldbank.org/>
- Desinventar platform and the EM-DAT International Disaster Database <https://www.emdat.be/>
- EU Taxonomy Appendix A Annex II, or UNDRR Sendai Hazard Definition and Classification Review

Local knowledge on existing climatic events

- Conducting site visits with experts
- Conducting stakeholder meetings for information gathering (specific guidance included in the Methodology)

Data gathered by private partners

Information on existing assets and people prone to climate hazards

Gathering and mapping all available information:

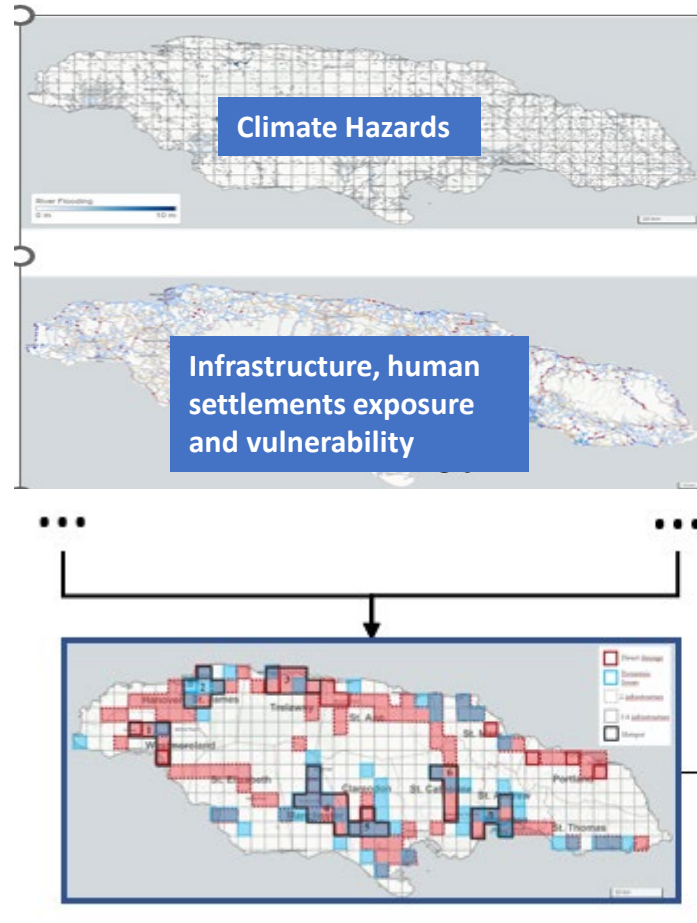
- Existing local analyses and online tools presenting physical damages and economic losses to different types of assets
- Existing mapping of assets, people, eco-systems (sector ministries, district, cities authorities)
- Existing reporting on damages post climatic events
- Information regarding damages from infrastructure managing authorities (water managements authorities, roads authority etc.)
- Analyses conducted for other projects or strategies
- Conducting stakeholders' meetings for information gathering



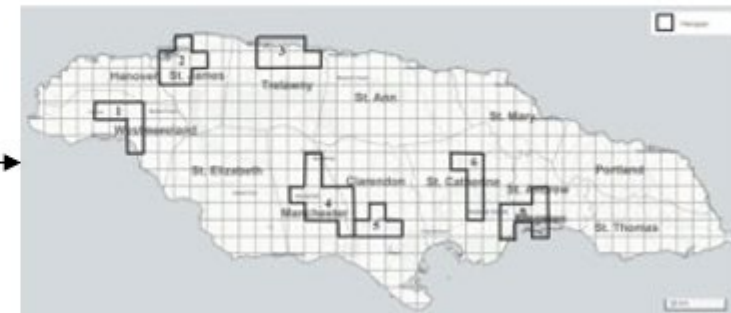
Identifying Climate Hotspots

Climate Hotspot – place in the country where the most of climate caused physical damages and economic losses occur e.g. costal zone urban area

Overlaying information on climate hazards and existing human settlements and infrastructure to understand where the Climate Hotspots exist.



7 CLIMATE HOTSPOTS IDENTIFIED



Milestone 2

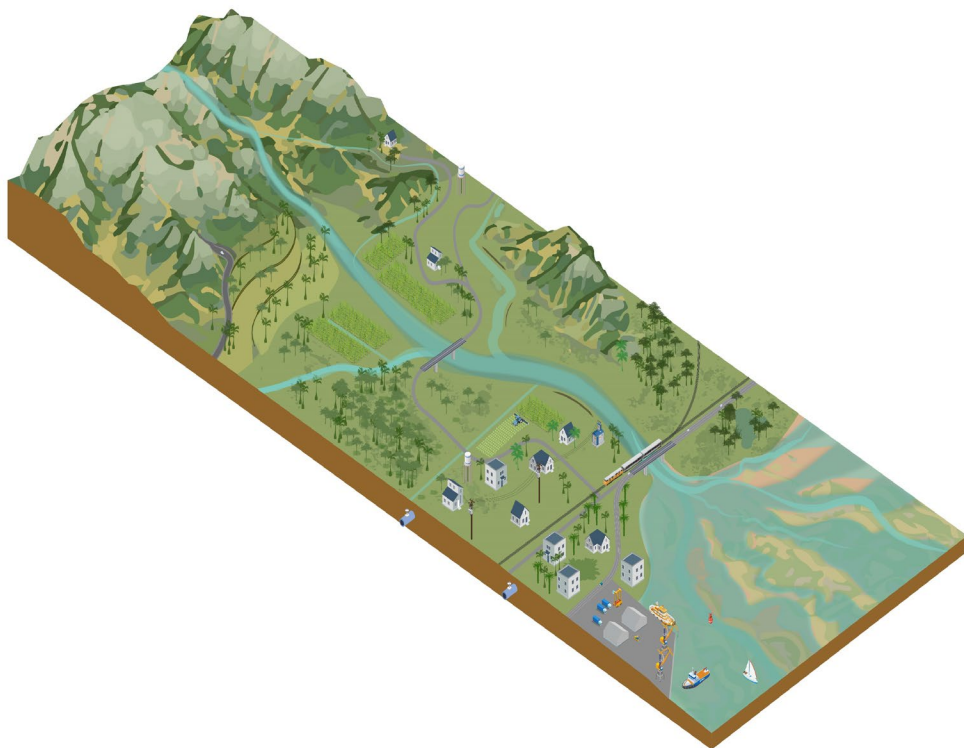
Site-specific
vulnerability
analyses

Characterising Climate Hotspot and Identifying Functional Area for Interventions



Gathering precise information in the selected functional area to understand better:

- Specific climate hazards existing in the climate Hotspot
- Establishing detailed information about the most vulnerable people, assets and eco-systems

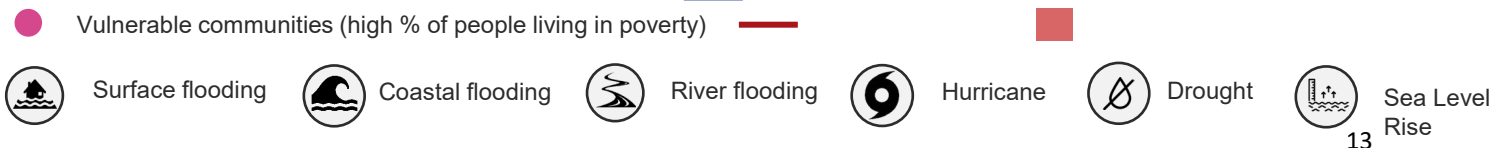


Examples: Urbanized costal area with river basin

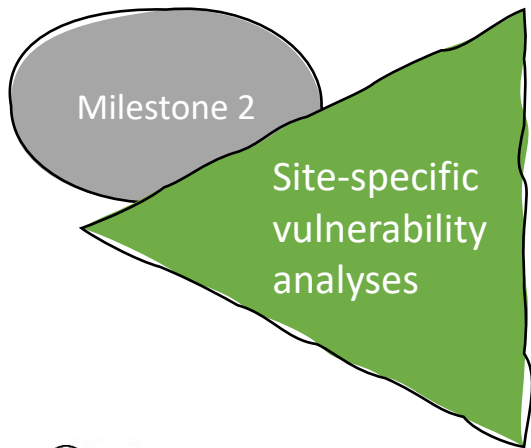
Milestone 2

Site-specific
vulnerability
analyses

Characterising the Climate Hotspot and Identifying Target Area for Interventions






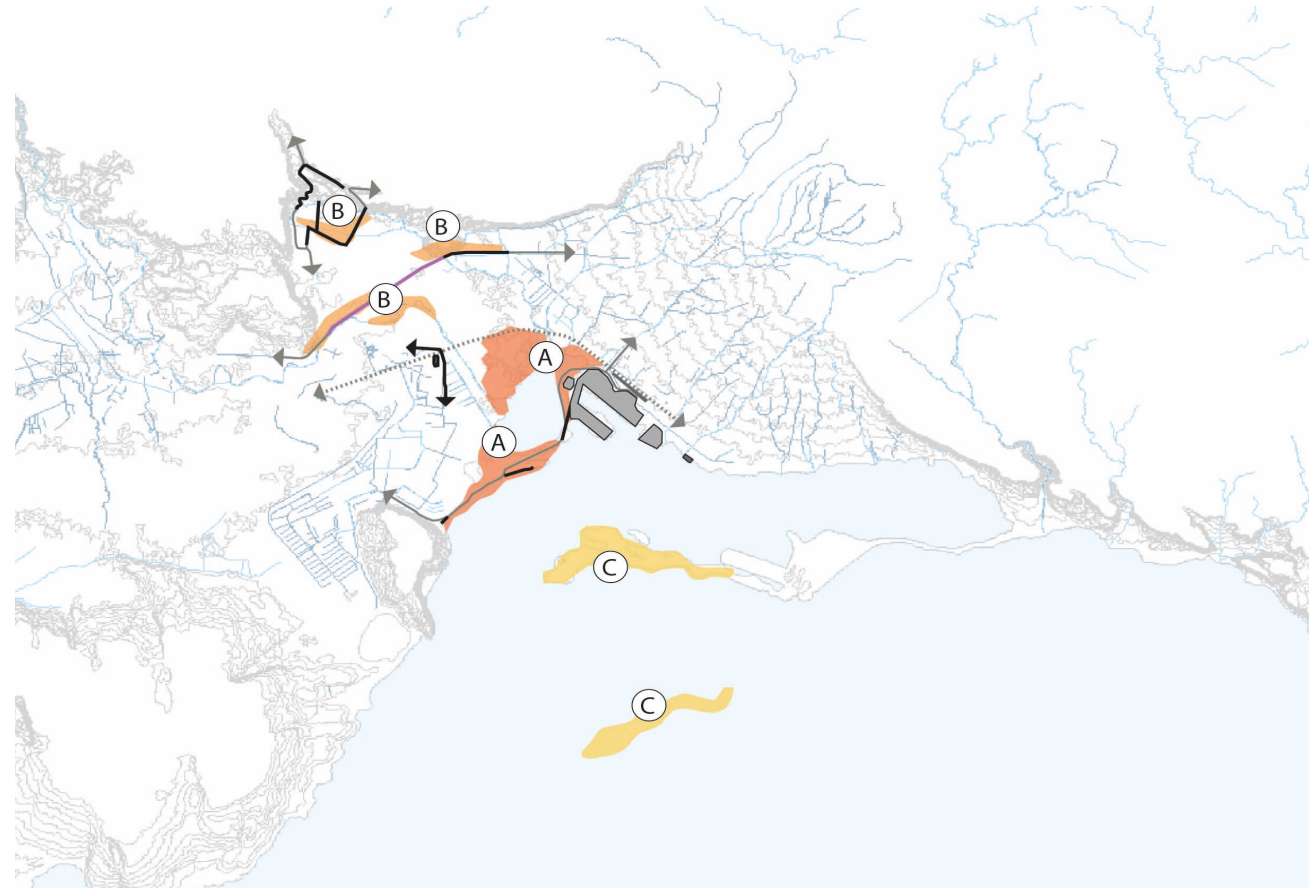
Example based on the methodology pilot conducted in Jamaica



Understanding the Nature-based Solutions capacity to create climate resilience



- Ⓐ  Mangroves
- Ⓑ  Forest coverage in the surrounding mountains
- Ⓒ  Coral reefs and seagrass

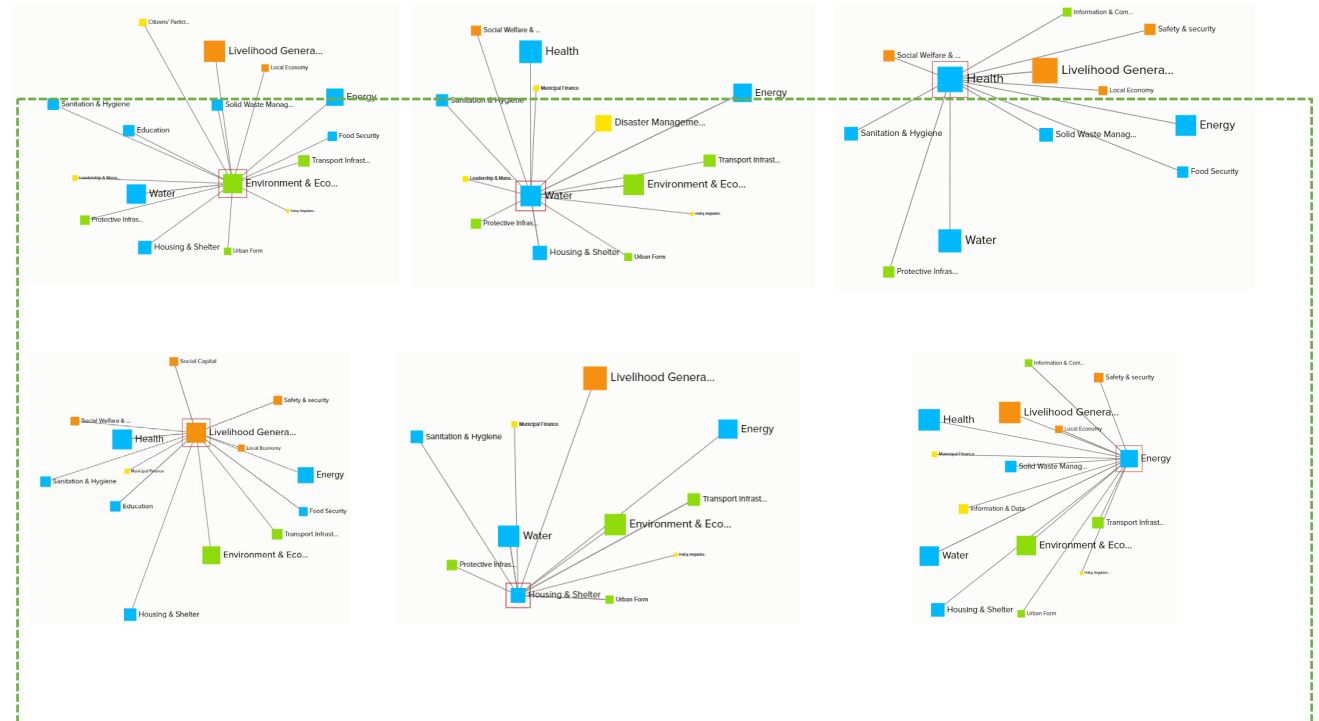


- Mainly impacted transport infrastructure
- Impacted transport infrastructure
- Road/highway infrastructure
- Railway infrastructure

Milestone 3

Creating interlinked project pipelines for systemic resilience

Establishing connections among the systems, assets and eco-systems in the functional area



Establish connections between major systems to identify interdependencies

Prioritisation of systemic dependencies to focus on

Milestone 3

Creating interlinked project pipelines for systemic resilience

Scoping the final list of the most impactful solutions – bundling solutions to create project pipelines



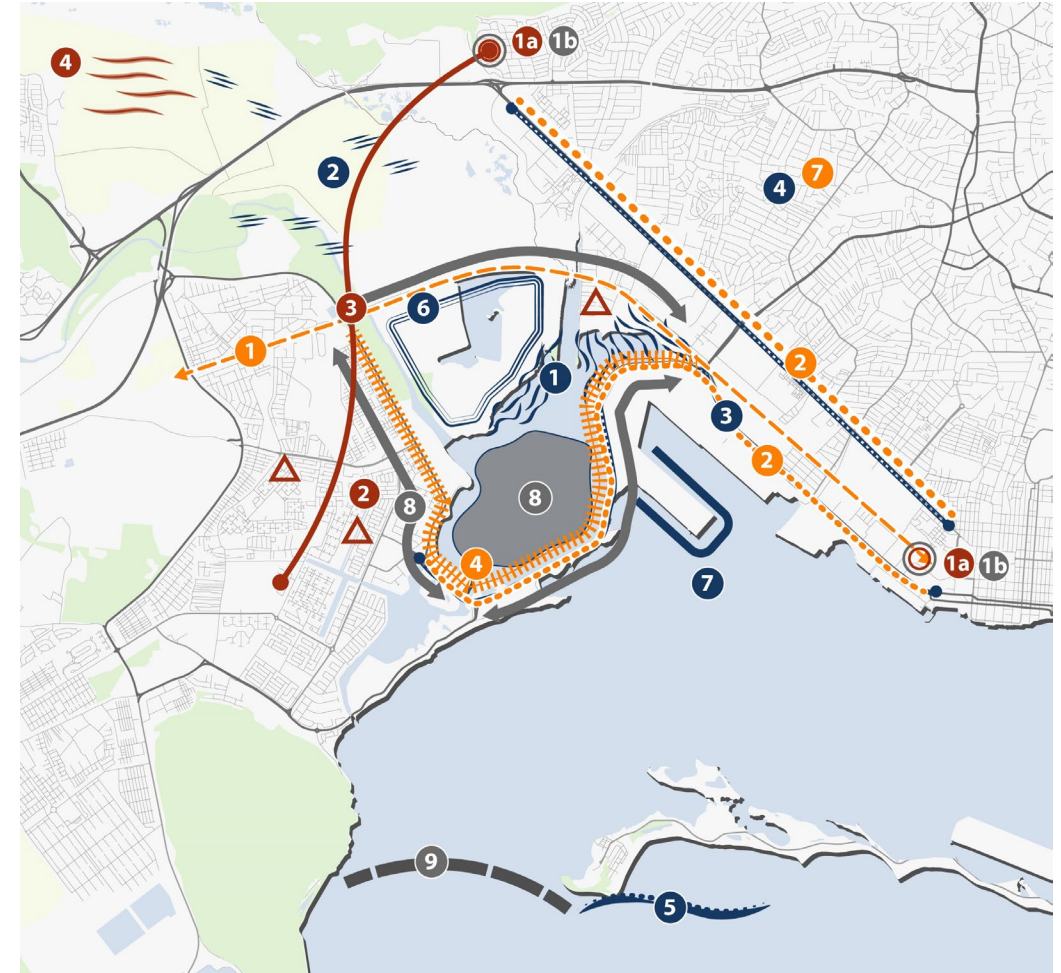
Enhancing Social Value through DRR and Livelihood

Enhancing the Capacity of Environment to Protect and Support Communities

Resilience through Connectivity

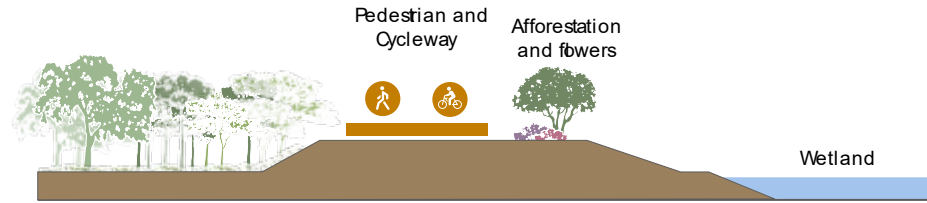
Resilience Through Energy

Living with Water



Example based on the methodology pilot conducted in Jamaica

Project concept: Living with Water



Living With Water in 2040



Artistic illustration of the way retractable landscape might work to enable Sav-la-Mar areas to cope with the combined effects of tides, storm surges and SLR, and riverine inundation.

Project concepts: Living with Water

Combination of solutions



Solutions

- ① Reconnection of rivers
- ② Sustainable urban drainage systems
- ③ Sewage collection and treatment system
- ④ DRR Shelter
- ⑤ Natural and artificial reef creation
- ⑥ Upstream catchment – improved agricultural practices
- ⑦ Bioactive seawalls
- ⑧ Retention ponds upstream of the hybrid berm
- ⑨ Connected wetlands to create a floodable area
- ⑩ Upstream catchment – riparian landscape recovery
- ⑪ Tidal barriers



The Methodology potential uses



**NDAs and AEs capacitated to structure
ToR for delivery partners**

National-level
climate risk and
vulnerability
assessment



II. Site-specific climate
risks and vulnerability
assessment



III. Selection of solutions to
address site-specific climate
risks and vulnerabilities and
bundling them in project
concepts

National Adaptation Plans, Country Programs

Resilient Development Country Strategy

Technical assistance to municipalities for projects origination

Development of programmatic approaches

Eligibility criteria for projects selection

Thank you

Katarzyna Działamara-Rzucidło, Human Settlements and Infrastructure Senior Specialist,
Division of Portfolio Managements
krzucidlo@gcfund.org