

**Welcome!**

**Come in and feel free to share something about you in the chat**

**This meeting will be recorded**

**If your connection allows, you are welcome to leave your camera on.**



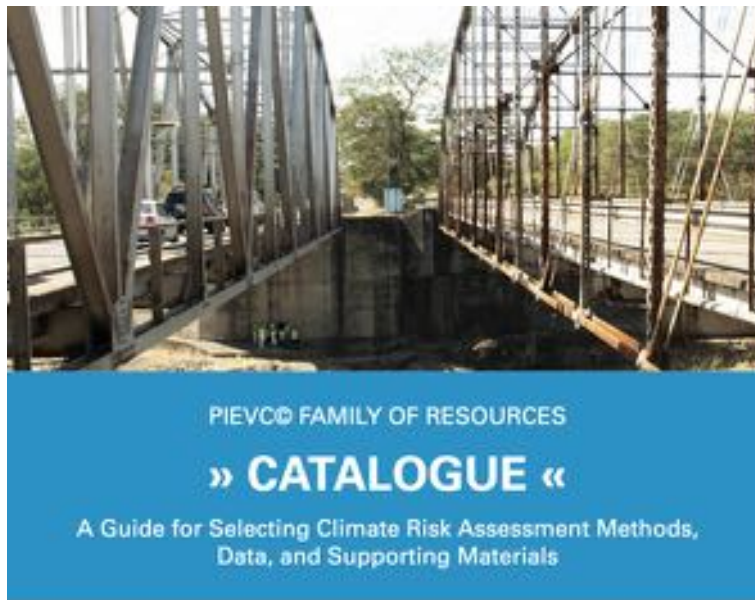
**Transformation - Urban Opportunities - Climate Change (TUrbOCLiC)**

Cross-sectoral group of the TUEWAS and SNGA network of GIZ

# Webinar #1

## Climate-related services and frameworks for cities

04 April 2023, 9:00 – 10:15 CET



Published by the PIETC Global Partnership  
 Institute for Catastrophic Loss Reduction  
 Adding resilient communities

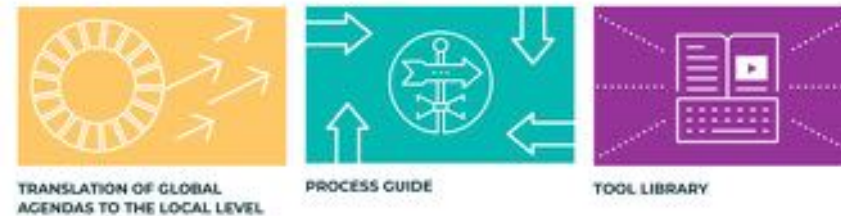
CLIMATE RISK INSTITUTE

giz German Development Cooperation

in behalf of  
 Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection  
 of the Federal Republic of Germany



What does City WORKS offer?



**Transformation - Urban Opportunities - Climate Change (TUrbOCLiC)**

Cross-sectoral group of the TUEWAS and SNGA network of GIZ



networking, knowledge management, including peer-learning among programs, regional and technical exchange with national and international partners, strengthening the technical and advisory capacities of GIZ staff and partner experts, and work on developing innovative products.

## SNGA



**Mohammad Ishtiuq Hossain**  
(ACCNLDP II, Bangladesh)  
**WG Speaker**



**Phillip Reviere**  
(Division Governance and Conflict)  
**Tandem-partner**

## TUEWAS



**Sebastian Markart** (CSC, India)  
**WG Speaker**



**Dr. Sandra Schuster**  
(Division Climate, Rural Development and Infrastructure)  
**Tandem-partner**



**Luciana Maia**  
**Knowledge & community management**



# Programme

- Welcome – **Sebastian Markart** and **Mohammad Ishtiuq Hossain** - Joint Speakers of TUrbOcliC
- Check-in – **Luciana Maia**, TUrbOcliC consultant
- Where to start? How to use risk assessments for effective climate change adaptation for infrastructure - the PIEVC Protocol – **Katharina Lotzen** - Advisor, IKI Global Project Enhancing Climate Services for Infrastructure Investments (CSI)
- City WORKS and Analytical framework for Urban Resilience – **Eva-Maria Graf** - Advisor, Sector Program Cities and **Philipp Reviere** - Planning officer, Competence Centre Democracy, Policy Dialogue, Urban Development
- Q&A in-between and kick-off of training development on resilient and net-zero cities

# Heartly welcome and thanks to....

- **Katharina Lotzen** - Advisor, IKI Global Project Enhancing Climate Services for Infrastructure Investments (CSI)
- **Eva-Maria Graf** - Advisor, Sector Program Cities
- **Philipp Reviere** - Planning officer, Competence Centre Democracy, Policy Dialogue, Urban Development



# Programme

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# PIEVC Program & Climate Risk Assessment Protocol: Background, Modes of Application

April 4<sup>th</sup>, TURBOCLIC Webinar Series

Katharina Lotzen, Advisor, Enhancing Climate Services for Infrastructure Investments ([katharina.lotzen@giz.de](mailto:katharina.lotzen@giz.de))



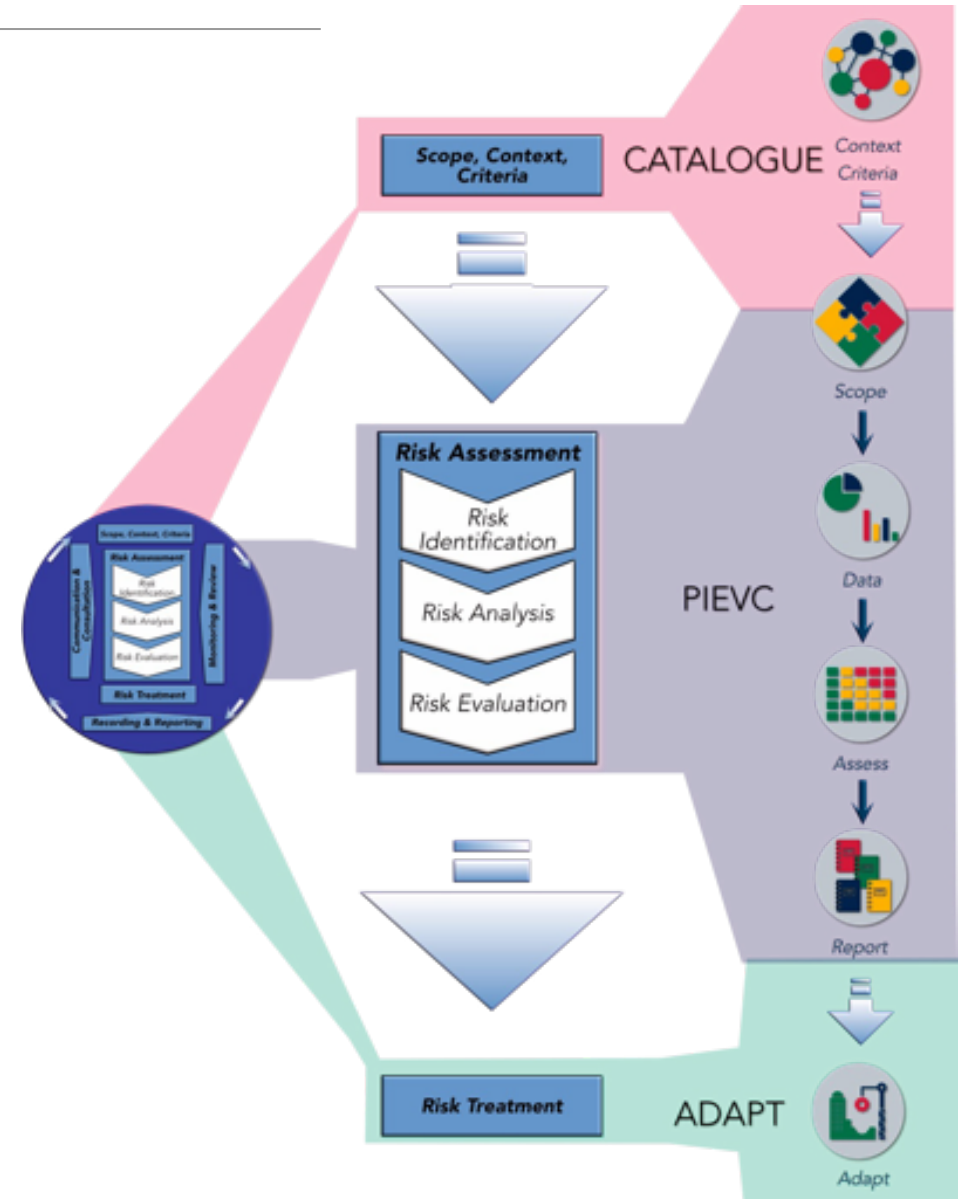
# Content

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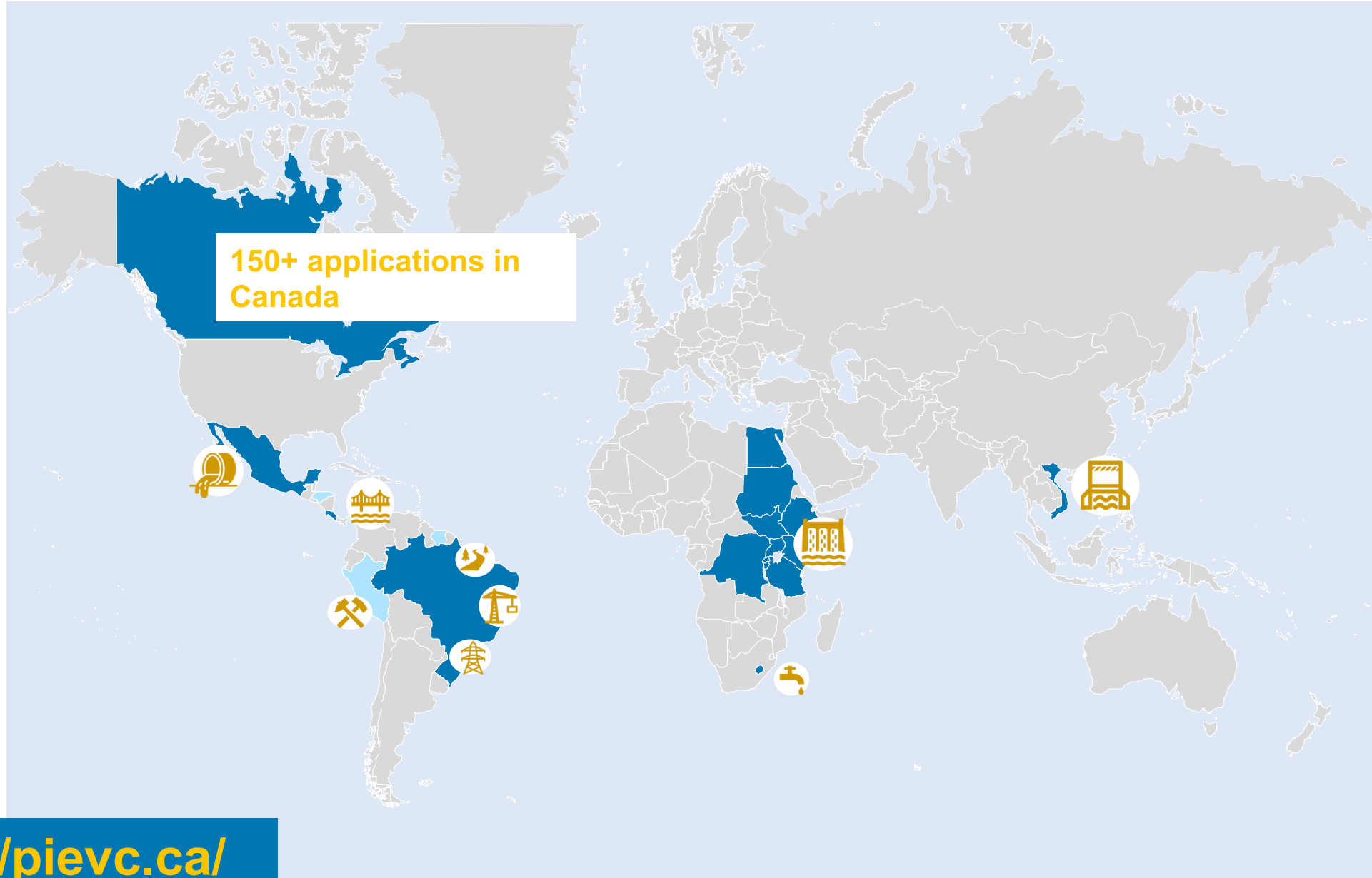
- Introductions
- PIEVC Protocol applications and outcomes – brief overview
- PIEVC Program and Family of Resources – brief overview
- *Modes of PIEVC application*

# PIEVC Protocol at a Glance

- Step-by-step approach for **climate risk assessments for infrastructure**
- **Scope:** From single infrastructures to whole asset portfolios
- **Bottom-up**, participatory approach
- **Threshold-based**
- Compliant with all relevant **ISO norms**



# PIEVC Climate Risk Assessment Protocol– Supporting Infrastructure Resilience Around the World



<https://pievc.ca/>

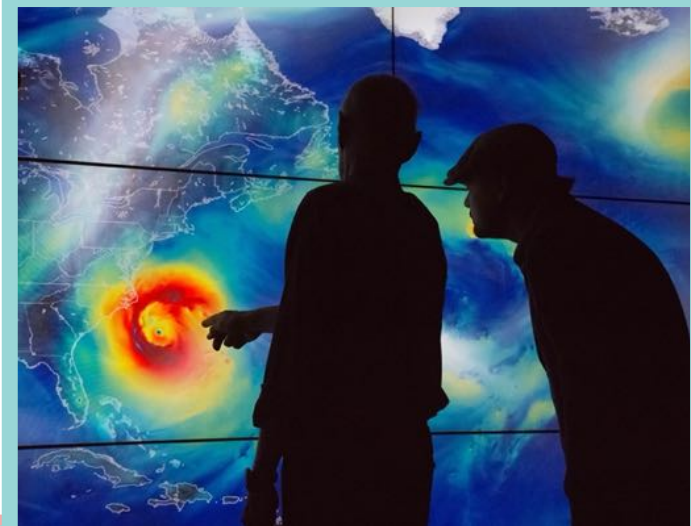
# Supporting Partners in Climate Proofing their Infrastructure



Capacities for conducting climate risk assessments for infrastructure



Service Desk



Measures to improve Climate Services



PIEVC Climate Risk Assessment



Human Capacity Development



Infrastructure investment framework considering climate risk



Institutionalisation



Climate Information Services

# Vietnam - From Risk Assessment to Action

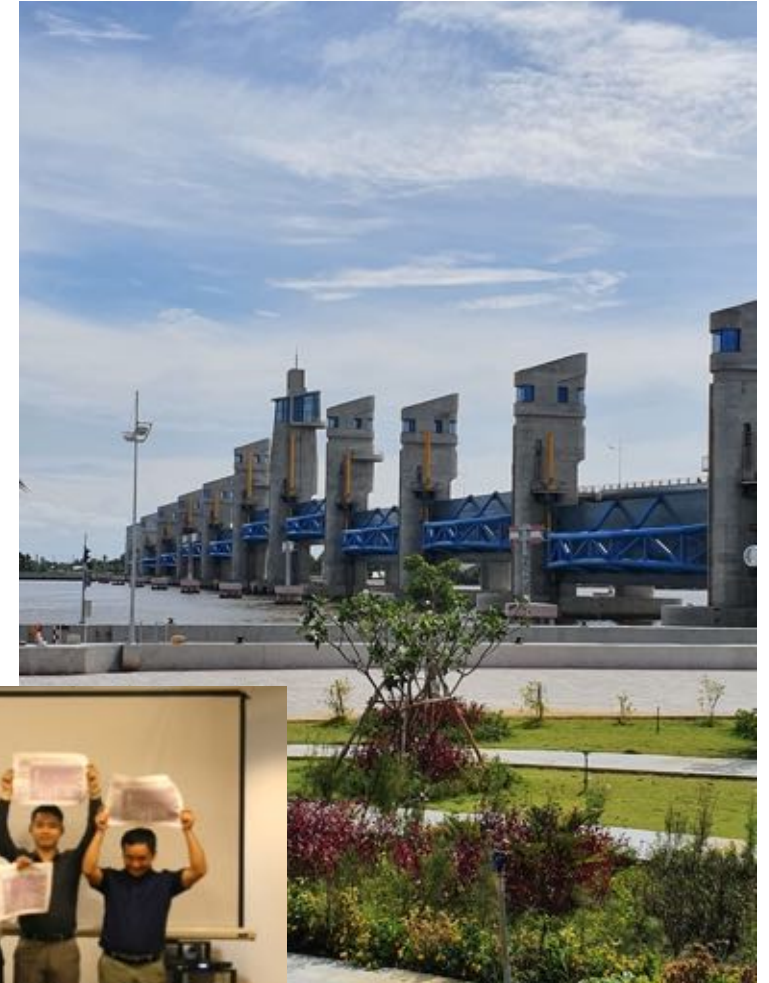
**Infrastructure:** Sluice Gate System

**Lifecycle stage:** Early design stage

**Question:** How can we ensure the sluice gate continues to fulfill its purpose for the next 100 years?

Selected results:

- ✓ Incorporation of climate risk assessment results in final design of biggest sluice gate system in Vietnam
- ✓ (ongoing) development of E-Learning on climate proofing for infrastructure



PIEVC Climate Risk Assessment



# Brazil – Ownership and Large Upscaling

**Infrastructure:** Seaports & Transmission lines

**Lifecycle stage:** Existing

**Question:** How can we ensure the resilience of our transport systems?

Selected results:

- ✓ Assessment of **portfolio of 21 seaports**
- ✓ In-depth assessment of **3 ports** identified as most at risk
- ✓ Development of **digital tools** to facilitate future access to Climate Information Services



PIEVC Climate Risk Assessment



Climate Information Services



LEVANTAMENTO DE RISCO CLIMÁTICO PARA O PORTO DE ITAJAÍ/SC  
Sumário Executivo

# Costa Rica - From Action to Institutionalisation

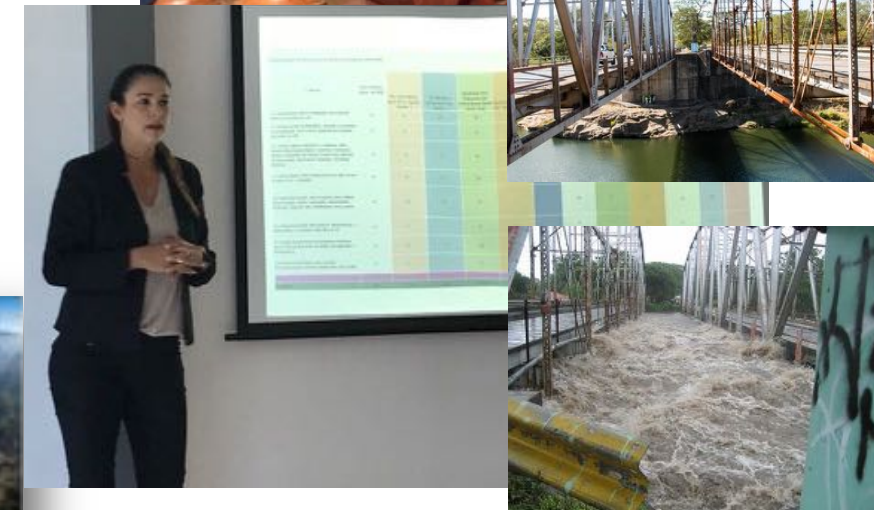
**Infrastructure:** Roads & Bridges, Water Infrastructure

**Lifecycle stage:** Existing

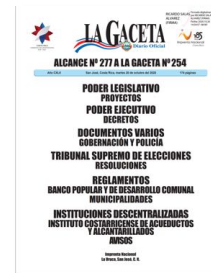
**Question:** How can we provide our engineers with a tool to ensure climate resilience?

Selected results:

- ✓ **Pilot assessments** of infrastructures in high-risk sectors
- ✓ **Presidential decree** on incorporating climate risk in infrastructure planning
- ✓ **Contextualisation** of PIEVC methodology for country context



Institutionalisation



# NBI – Becoming a Regional Knowledge Hub

**Infrastructure:** Water Infrastructure

**Lifecycle stage:** Pre-Feasibility Stage

**Question:** How can we support our member countries in climate proofing their (planned) infrastructure?

- Selected results:
- ✓ Piloting of climate risk assessments
  - ✓ Development of policy guideline & **manual on climate proofing**
  - ✓ Development of **online knowledge and e-learning hub** to facilitate future climate proofing efforts in NBI member countries



Institutionalisation



Human Capacity Development



Service Desk





# The PIEVC Protocol originated in Canada...

- **Development** began in **2005** – **Engineers Canada and Canadian Federal Government** formed the Public Infrastructure Engineering Vulnerability Committee (PIEVC)
- **Canada-wide network** / Committee: Cross section of infrastructure and climate experts, federal, provincial, municipal gov't, utilities, owners, academics
- **Developed to assist engineers to** factor climate change impacts into plans for design, operation, maintenance and adaptation of public infrastructure
- **All manner of infrastructure professionals** involved
- **Applied by professional teams** (Engineers, Climate Scientists, Risk Managers, Owners, Operators, Political Decision-Makers, as well as Civil Society stakeholders)



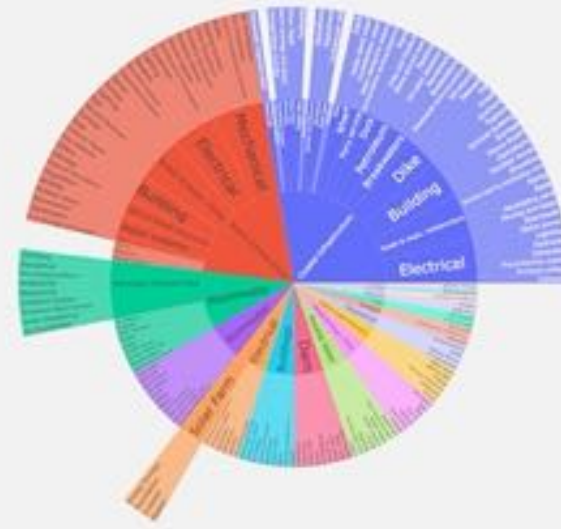
# The PIEVC Protocol is widely used...

Over >150 reported projects to date:

- Water resources systems
- Storm & wastewater systems
- Roads and bridges
- Buildings
- Urban infrastructure systems (utilities)
- Transportation infrastructure
- Energy infrastructure
- Healthcare infrastructure
- Parks and natural infrastructure (Nature-based Solutions)
- Sluice gates
- Ports

Canada and International – Protocol in Spanish, Portuguese, Vietnamese, French

## Infrastructure Classification



<https://pievc.ca/assessments/>



# The PIEVC Alliance now stewards the Program:



## Transition from Engineers Canada to PIEVC Alliance - March 2020

### Principles of Operation:

- Free access for public infrastructure;
- Collection and publication of reports;
- New formats/uses and tools;
- Capacity building:
  - Training programs and resources
  - Formalized practitioner network(s)
- GLOBAL reach

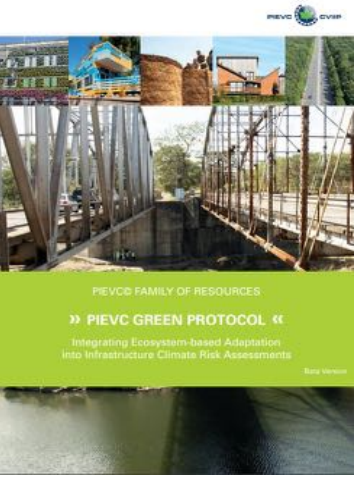
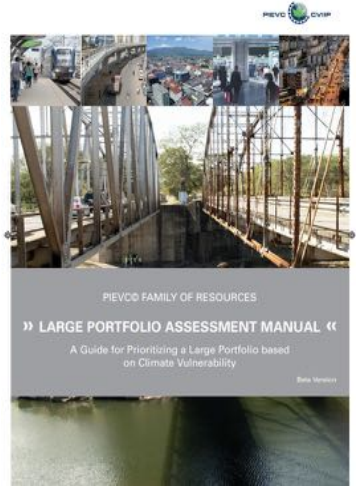
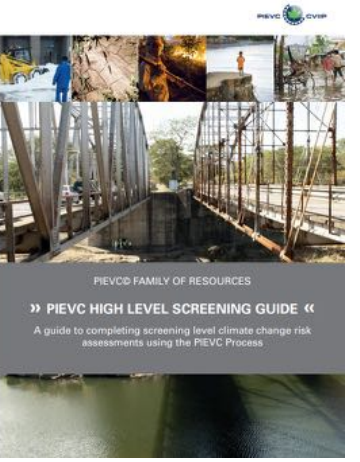
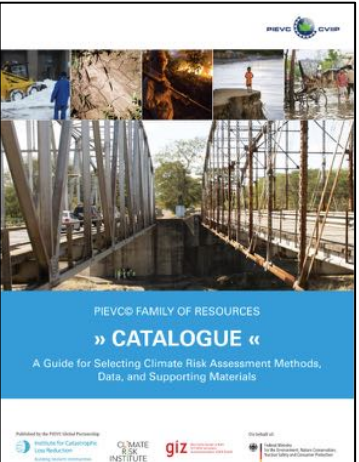
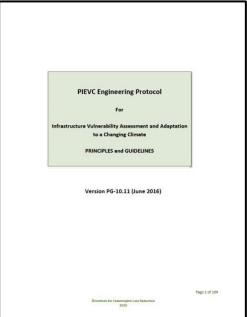


[www.pievc.ca](http://www.pievc.ca)

# The PIEVC Program has grown, especially of late...



Advisory Committee



**PIEVC Report Analysis Utility**  
 BETA

This utility allows users to explore findings for all PIEVC assessment reports submitted to the PIEVC Program from January 2016 to August 2021. The Utility was designed to increase accessibility of findings in PIEVC Protocol assessment reports available at [www.pievcc.ca](http://www.pievcc.ca)

Institute for Catastrophic Loss Reduction  
 Building resilient communities

CLIMATE RISK INSTITUTE

If you have any questions or comments about this utility, please contact [pievc@iclr.org](mailto:pievc@iclr.org) and include "PIEVC Utility" as the subject.

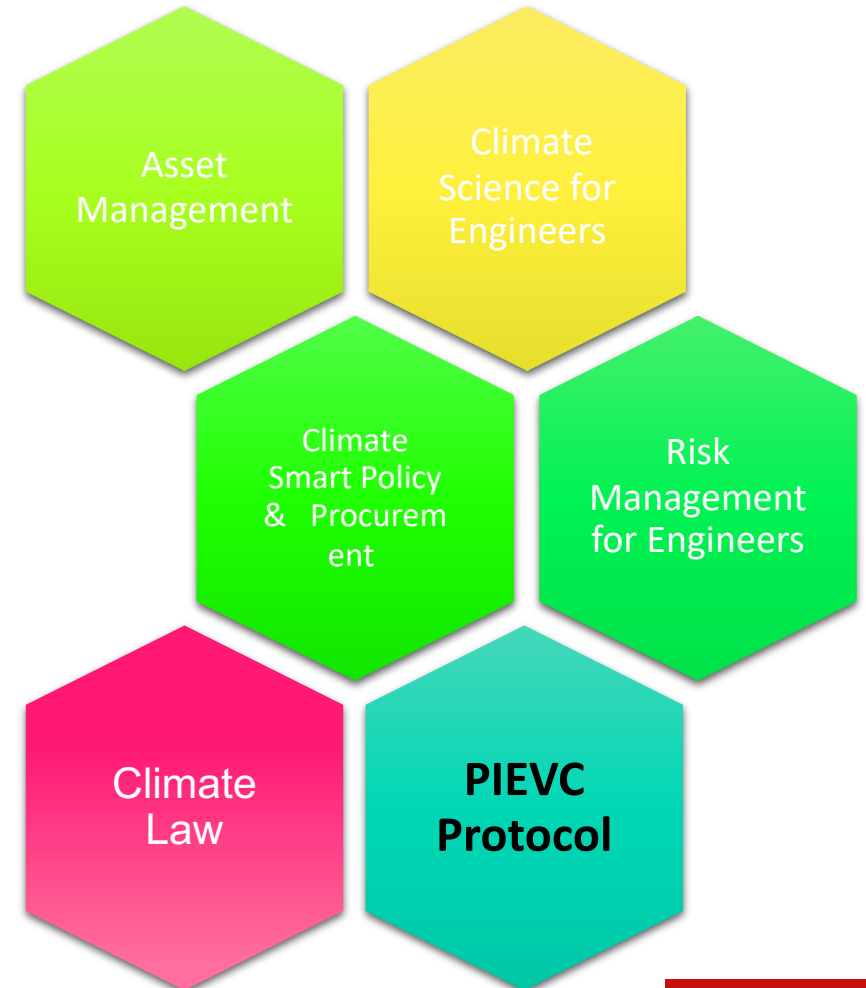
Author Contact Us How to Cite

The Utility was created by Mohsen Moradi, under the guidance of Prof. Andrew Birns, of the University of Guelph's School of Engineering, and was funded by the Institute for Catastrophic Loss Reduction.

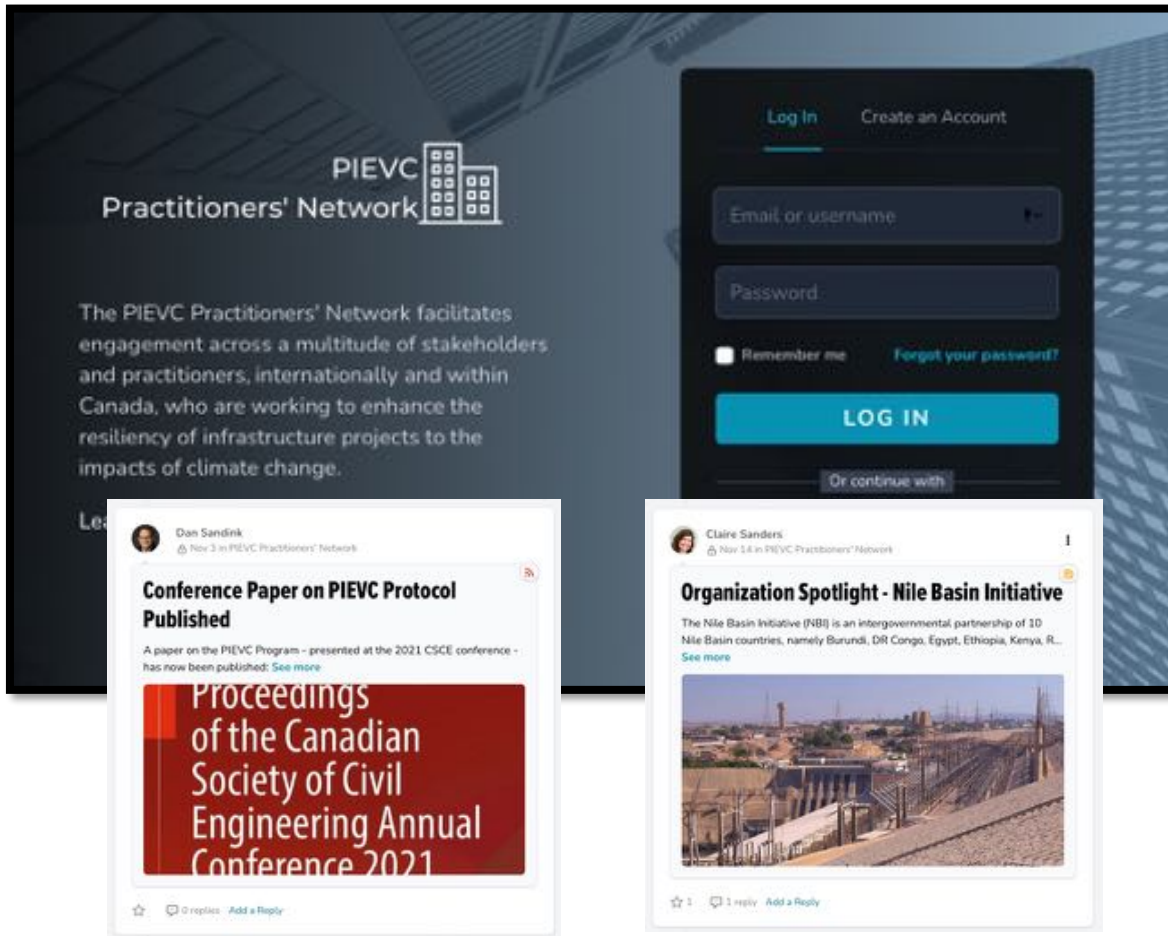
# There are a range of training options...

Infrastructure Resilience Professional (IRP) Training and Credentialing Program: Strengthen the **knowledge** and **competencies** required to advance more climate-resilient approaches for the planning, design and management of infrastructure.

Visit for more information about the IRP Credentialing process  
<https://climateriskinstitute.ca/irp-page/>



# Supporting International Practitioners Network



- Bring practitioners together to showcase best international practice
- Identify topics and provide support for peer-to-peer learning fora
- Identify training needs and highlight upcoming learning opportunities



# 2023 GLOBAL FORUM

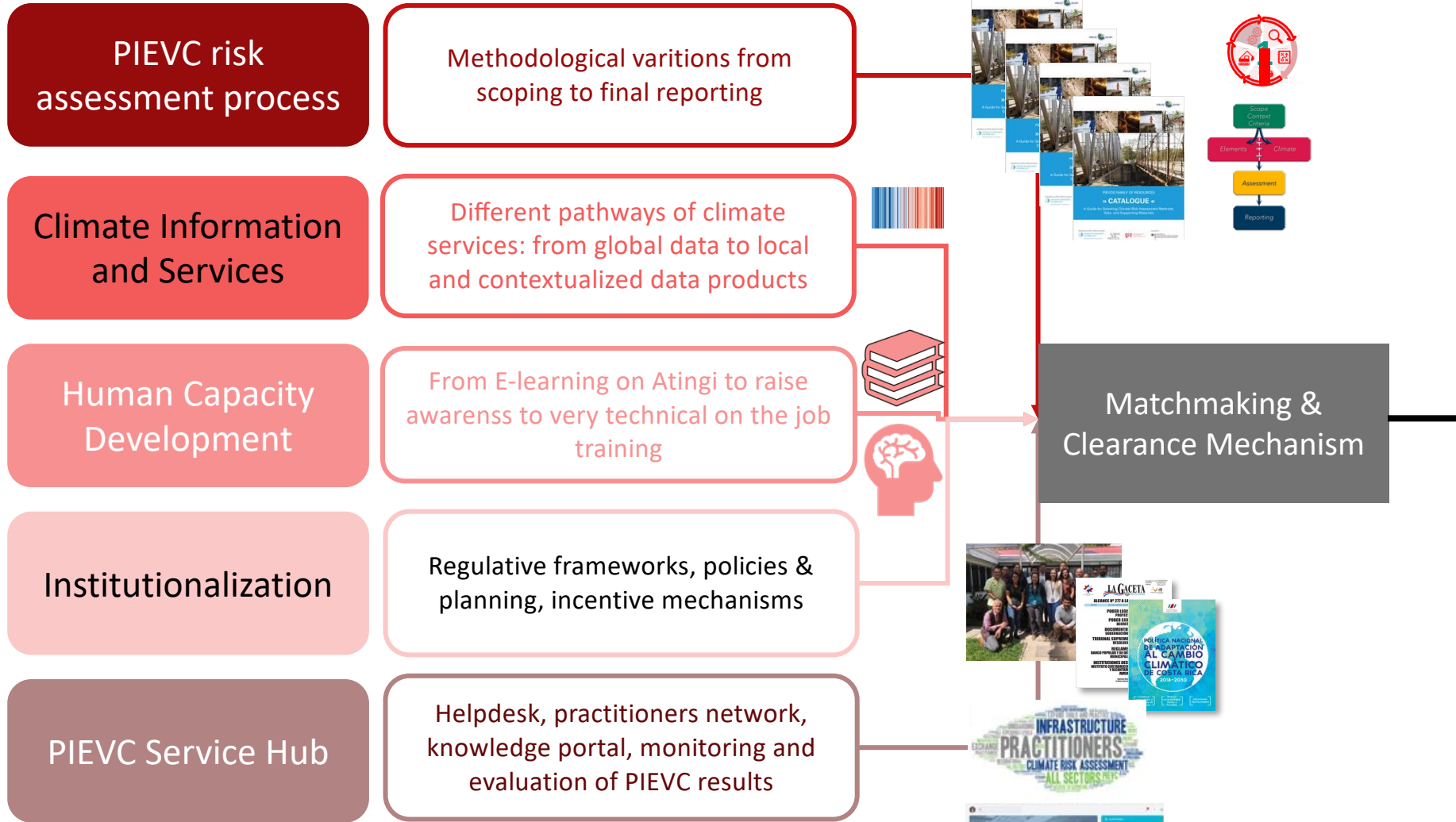
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- **Officially launch the Practitioners' Network**
- **Foster contact and facilitate active engagement** across stakeholders and practitioners: 150 participants, including ~40 people from India, Brazil, Costa Rica, Nile Basin, Vietnam, Thailand, Iraq, Georgia
- **Share proven methods, tools, and approaches** for conducting assessments and implementing recommendations
- **Support newcomers** to the PIEVC methodology



# Modes of Application

## PIEVC service packages



## Application Scenarios

Backstopping & Support

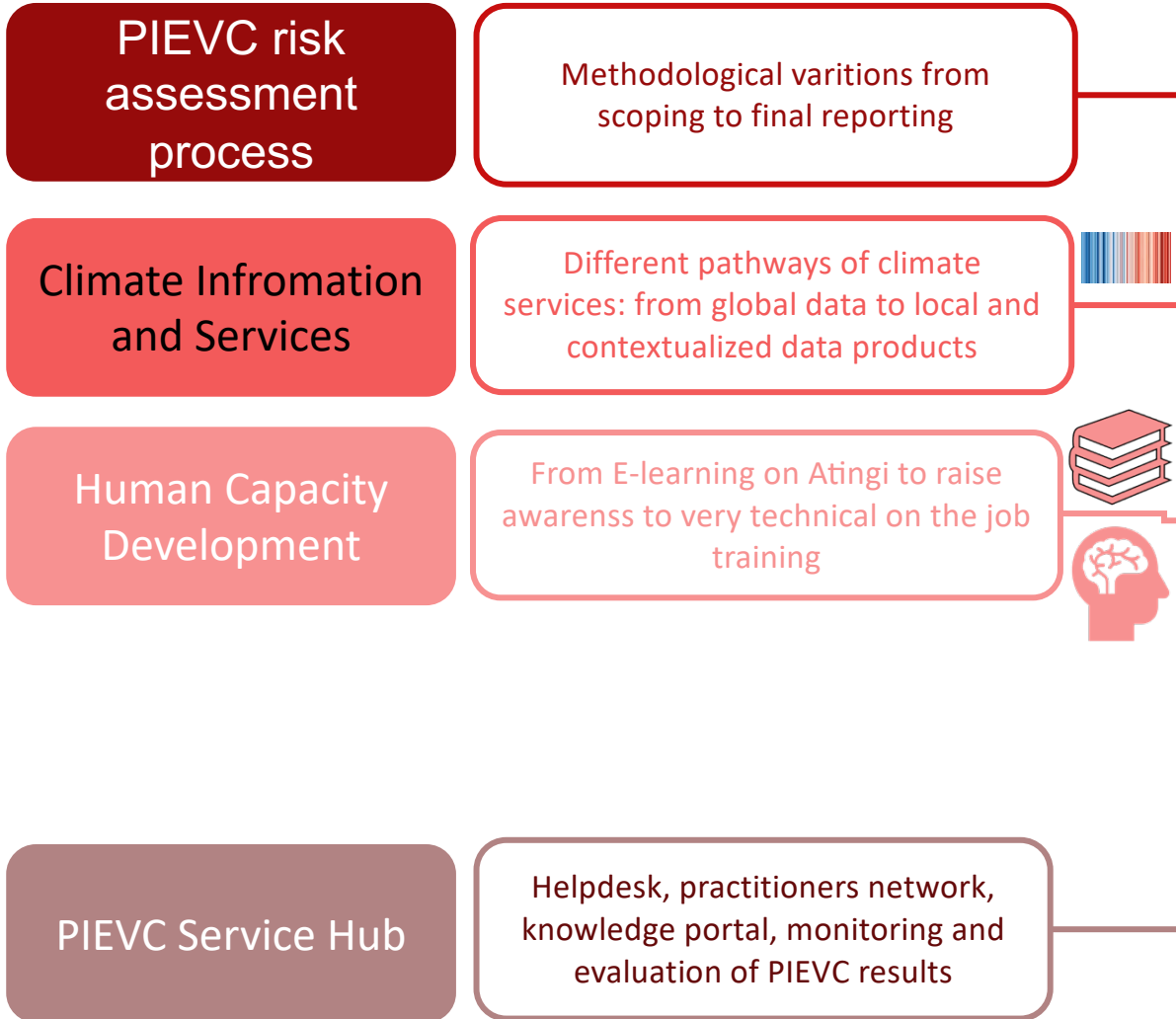
PIEVC „PRO“

- 18- 36 ++ months



# Modes of Application

## PIEVC service packages



Matchmaking & Clearance Mechanism

## Application Scenarios

**Backstopping & Support**

**PIEVC „Companion“**

- 6- 24 ++ months

# Modes of Application

## PIEVC service packages

PIEVC risk assessment process

Methodological variations from scoping to final reporting

Climate Information and Services

Different pathways of climate services: from global data to local and contextualized data products

PIEVC Service Hub

Helpdesk, practitioners network, knowledge portal, monitoring and evaluation of PIEVC results



Matchmaking & Clearance Mechanism

## Application Scenarios

Backstopping & Support

PIEVC „Fast Track“

- 3- 12 ++ months

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# Urban Resilience: City WORKS, Taskforce Urban Resilience

GIZ: Sector Project Cities, FMB | TUEWAS | April 4<sup>th</sup>, 2023

# City WORKS – Teaser Video



# City WORKS – Background



## Sendai Framework for Disaster Risk Reduction

Sendai | March 2015



## Addis Ababa Action Agenda

Addis Ababa | August 2015



## Agenda 2030

New York | September 2015



## Paris Agreement

Paris | November 2015

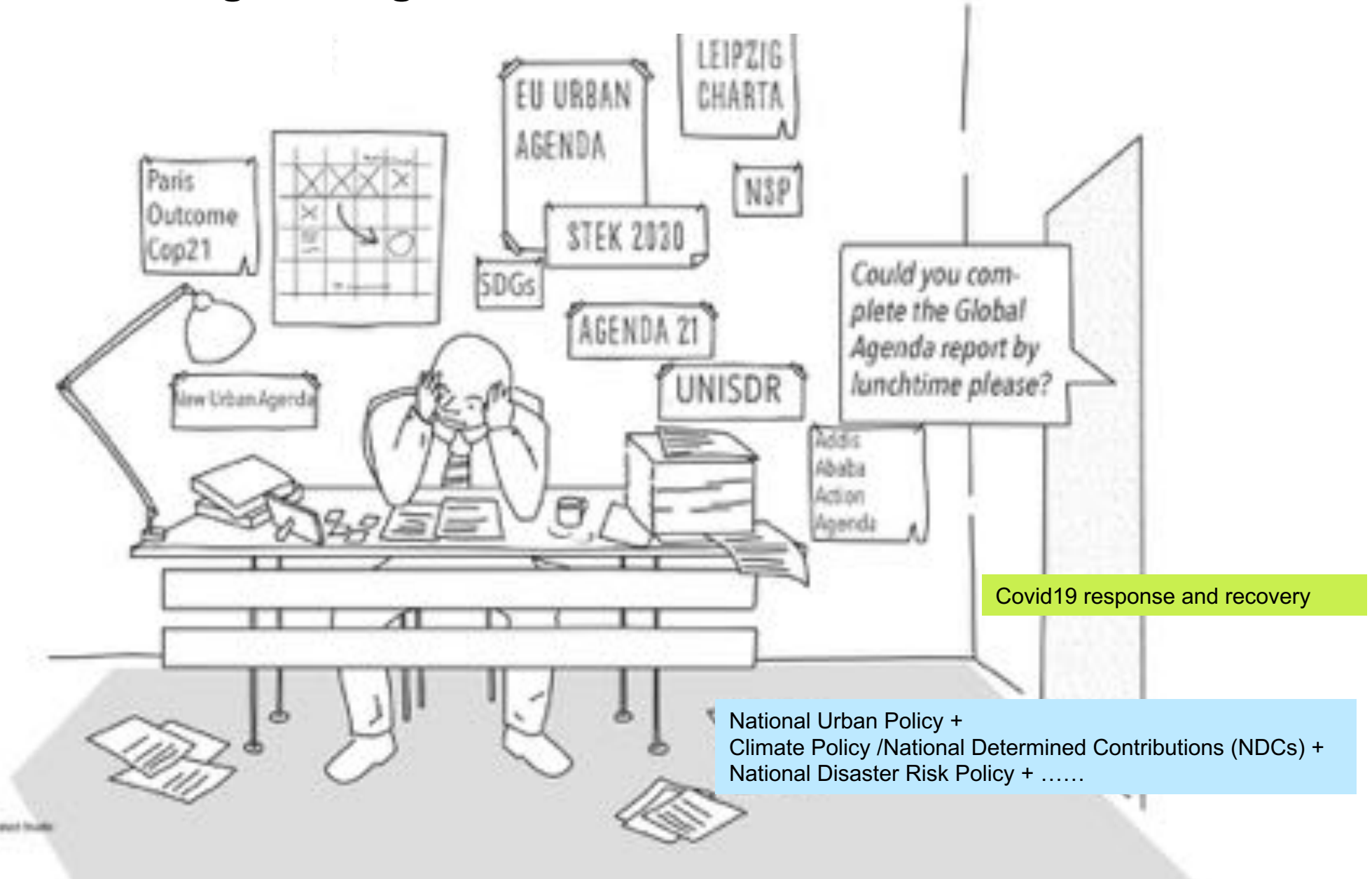


## New Urban Agenda Quito | November 2016



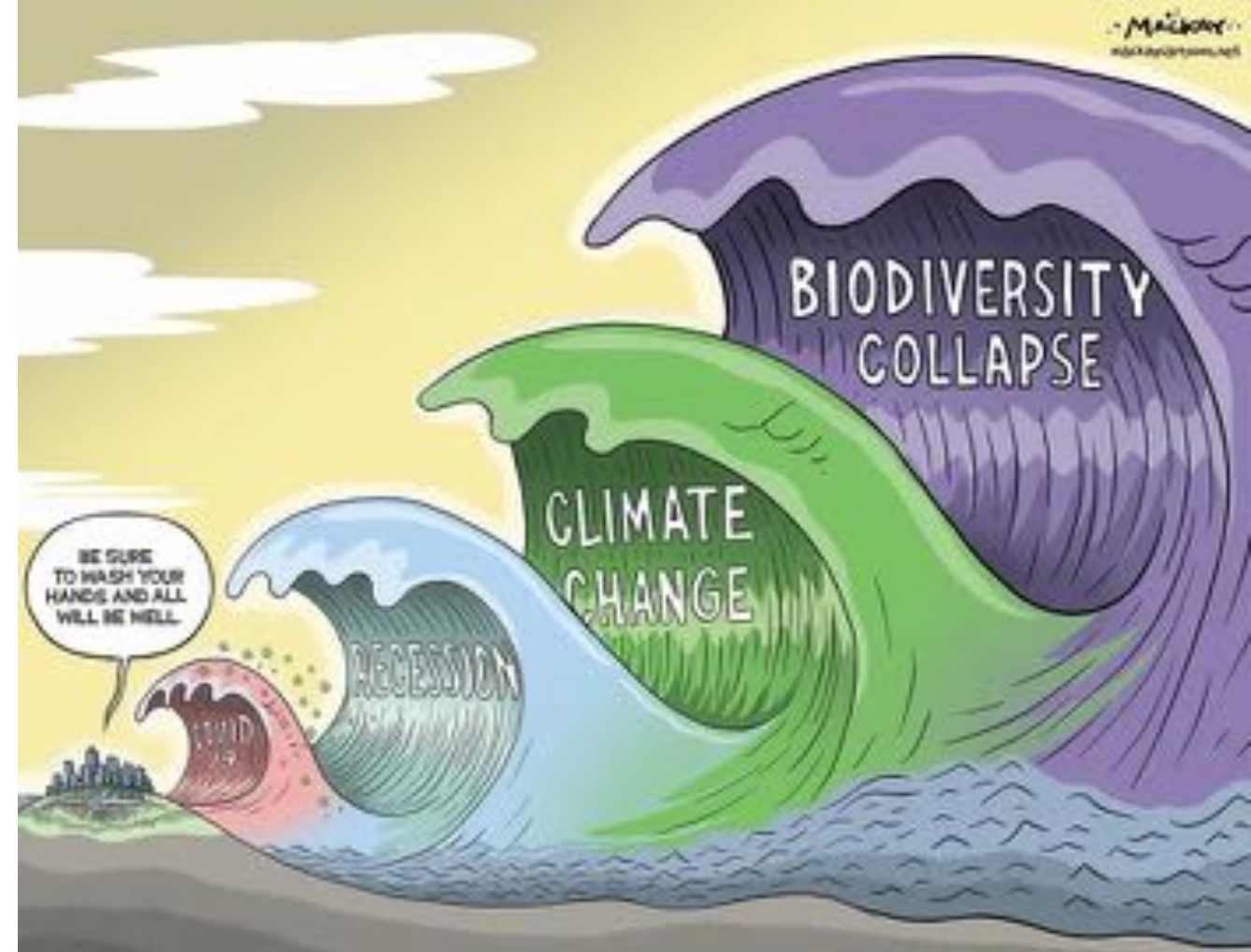
**Integrated local  
implementation**

# Cities in the world of global agendas



## Cities in times of multiple crisis

- Progress made towards achieving SDGs has declined due to several crises
- The pandemic halted years of progress towards eradicating extreme poverty
- The war in Ukraine threatens access to food globally, energy crisis
- Local governments under extreme pressure – more than ever support is needed!

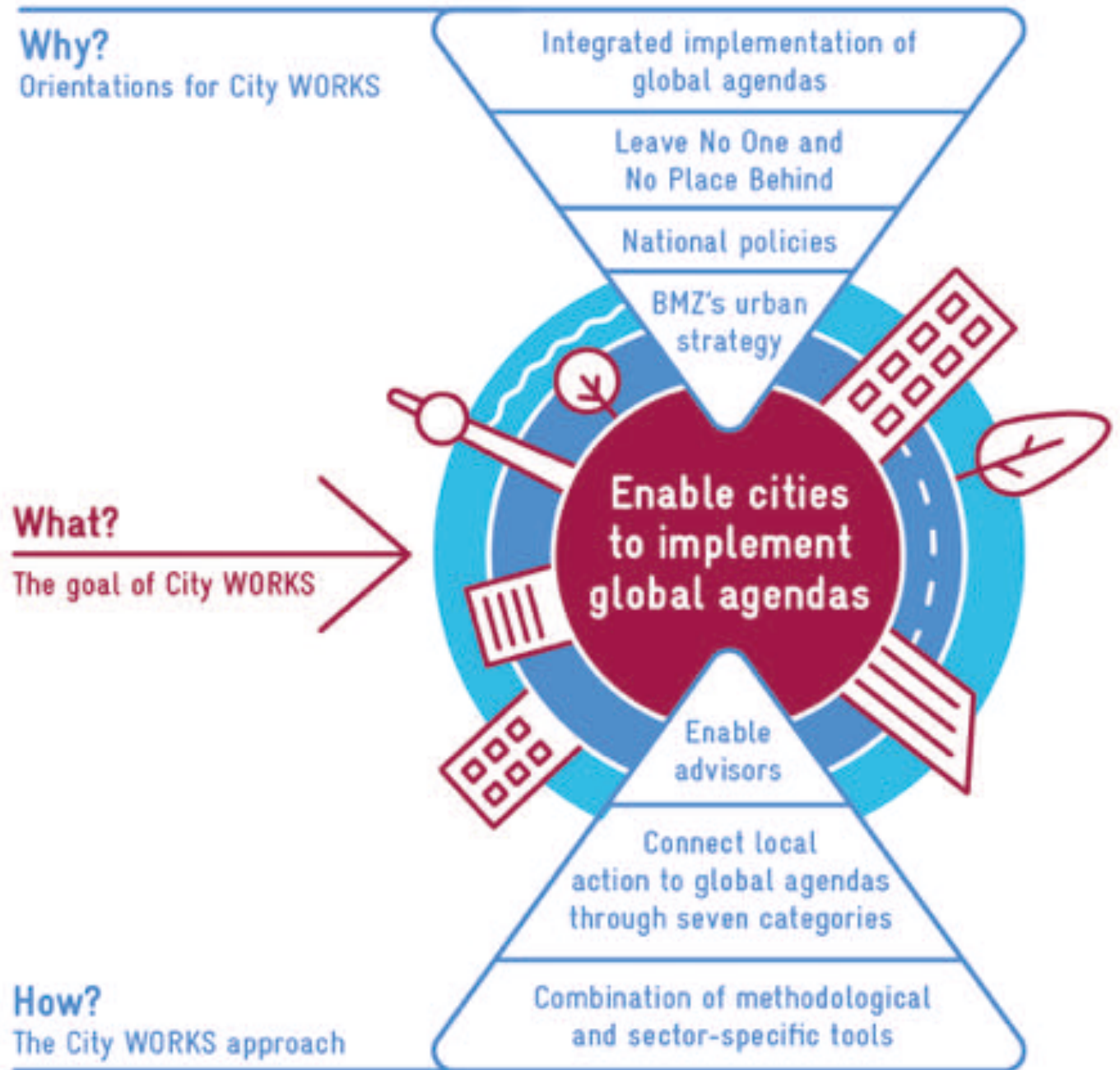


<https://mackaycartoons.net/tag/climate-change/>



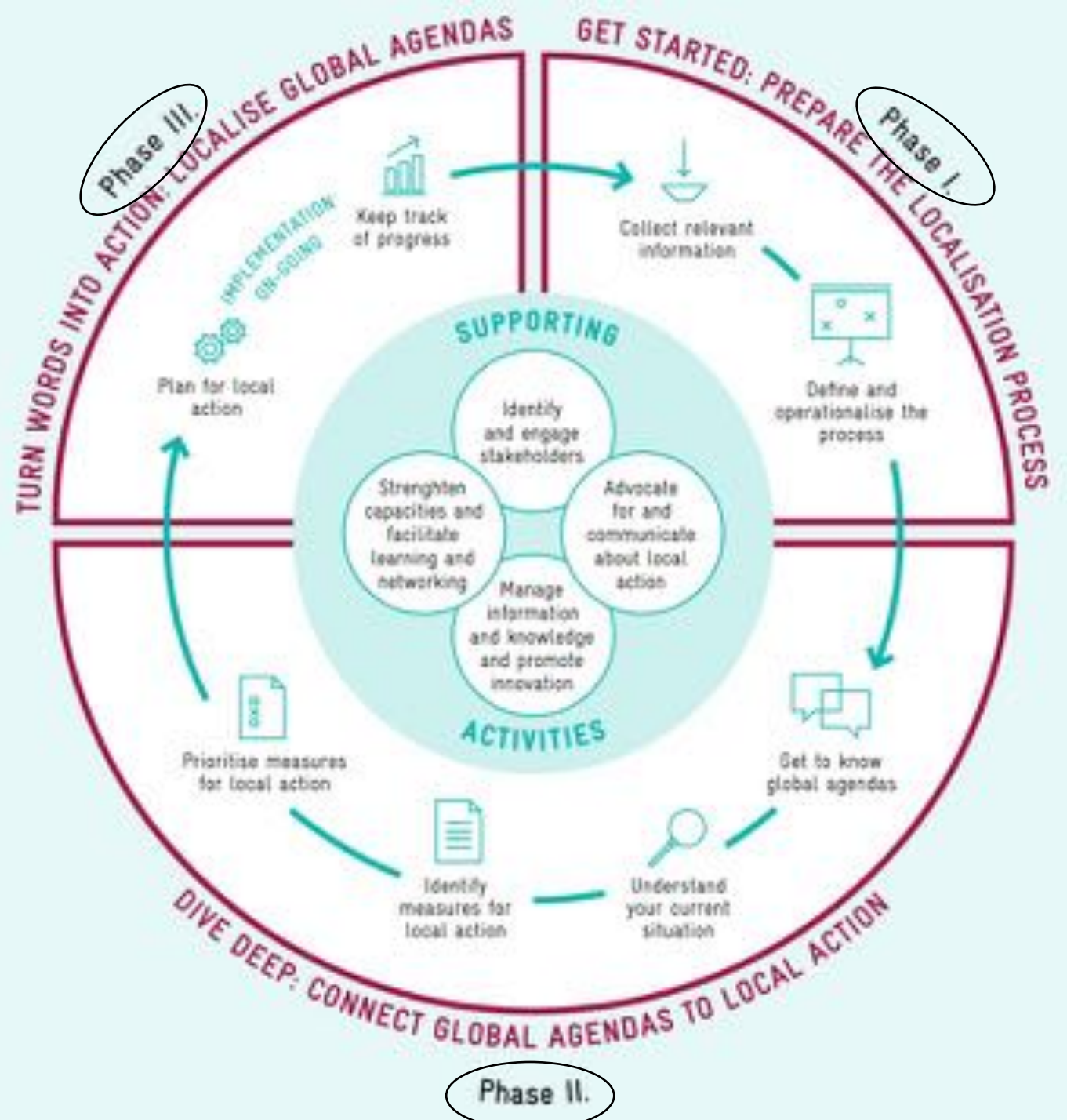


# City WORKS Approach



# City WORKS

## Phases & Steps



# City WORKS – Products



City WORKS Concept



Concept Study: Linking Urban Action with Global Agendas



City WORKS Factsheet

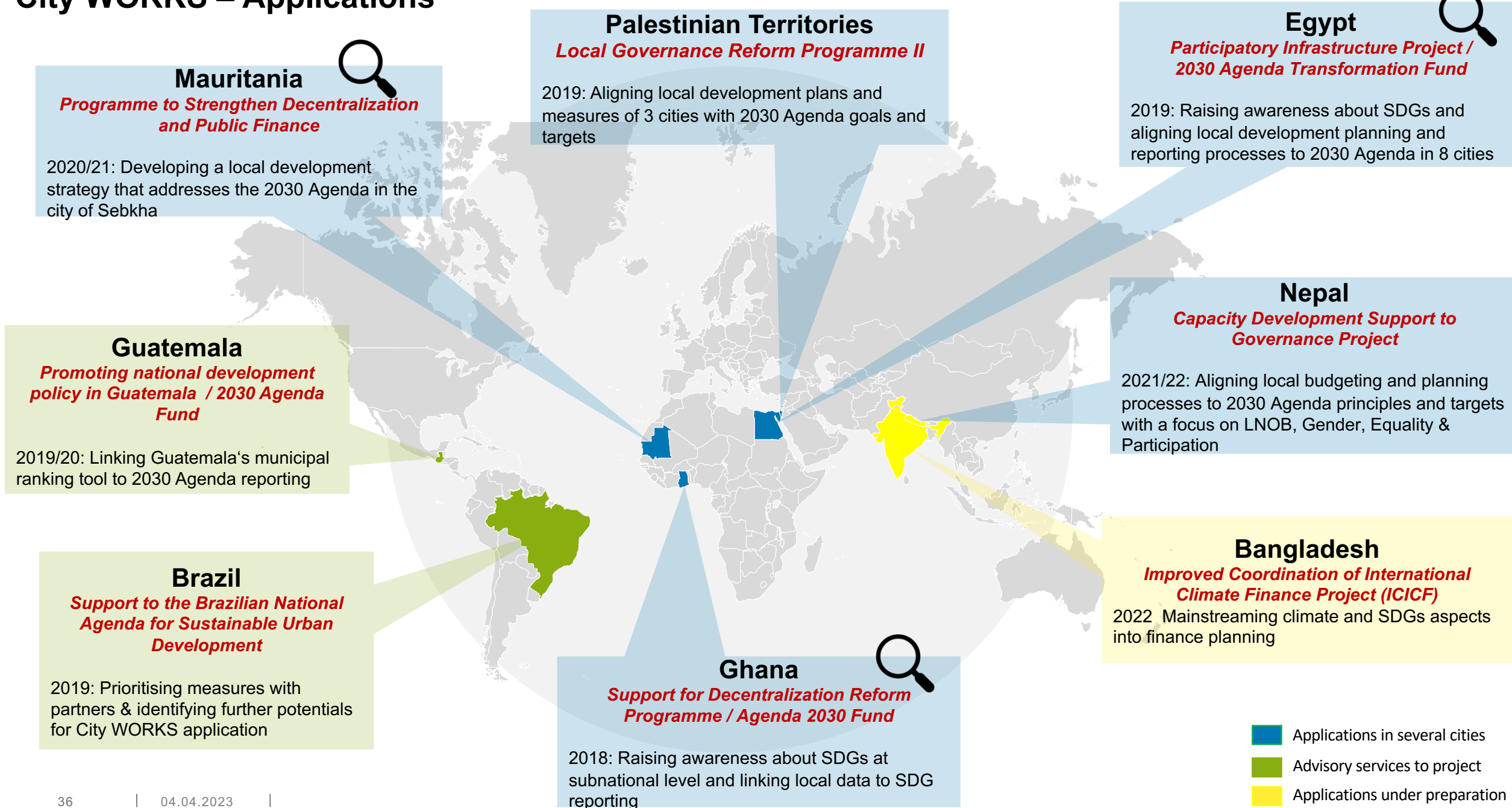


City WORKS Quick Guide



City WORKS Trainings Hand Out

# City WORKS – Applications



- Applications in several cities
- Advisory services to project
- Applications under preparation

## Success Story 2 - Egypt

**Context:** Participatory Infrastructure Project (PIP), Training for 8 Egyptian governorates

**Objective:** Strengthen local government employees in evidence-based planning and monitoring of urban projects, align projects to 2030 Agenda, foster multi-level dialogue

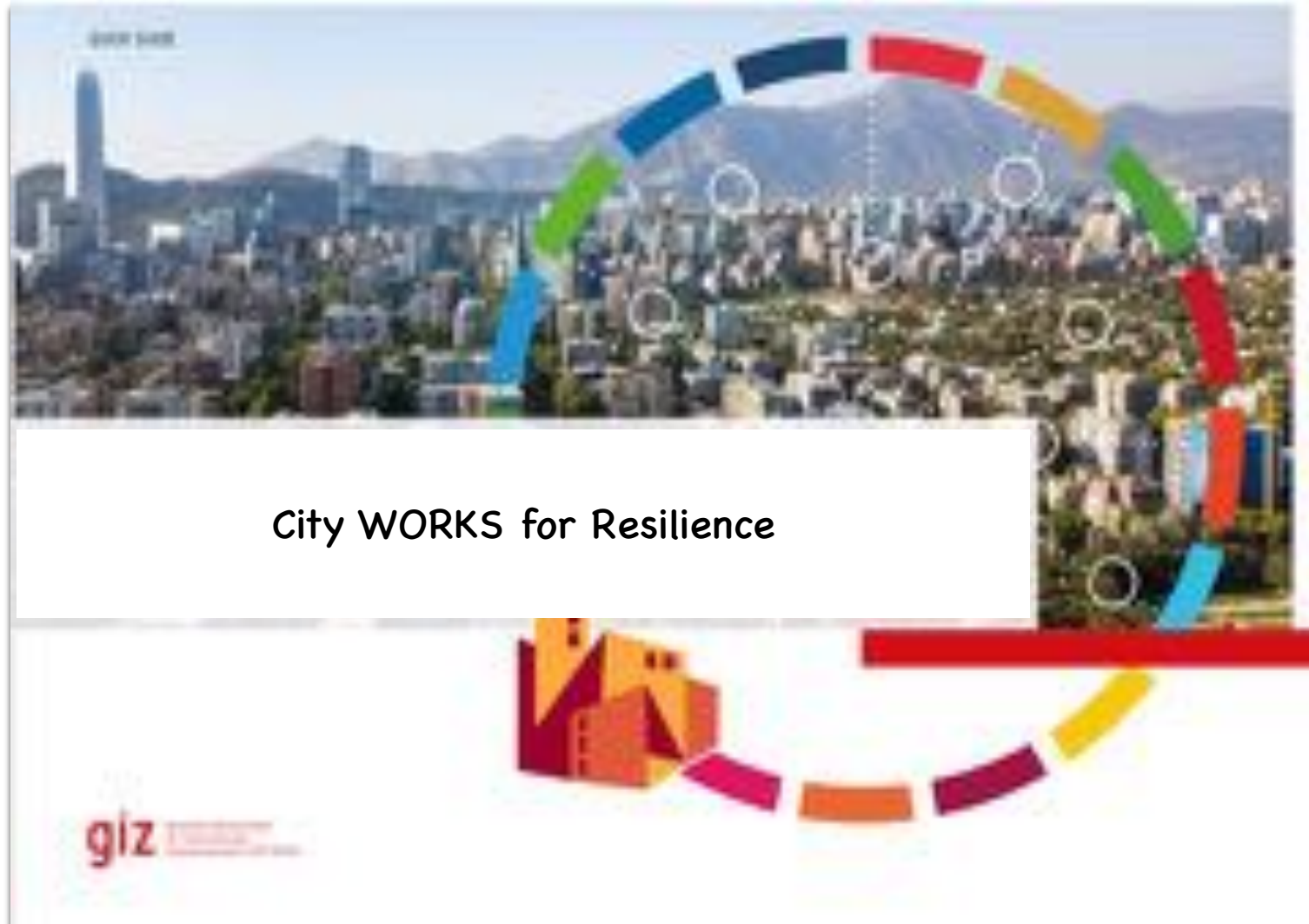
**Process:** 2x 3-days workshops with assignments, July & August 2019

**Participants:** >50 representatives from local authorities, Informal Settlement Development Fund (ISDF), academia and NGOs

**Success stories:** Workshops helped local government employees to raise **awareness** on SDGs and **methods** to develop and monitor urban measures that address the SDGs.



# City WORKS for Resilience



# 2. Urban Resilience & Global Agendas

## Areas of Urban Resilience



# 2. Urban Resilience & Global Agendas

## Agenda 2030 and the SDGs





## 2. Urban Resilience & Global Agendas

# The City Resilience Framework



# City WORKS for Resilience



**Objective:** Selected cities are better able to implement plans and measures for a resilient recovery from the COVID-19 pandemic.

**Context:** Collaboration between GIZ, ICLEI, R-Cities and Cities Alliance for the Resilient Cities Action Package (ReCAP21) in 3 countries.

**Means:** Complementing the City WORKS approach and toolkit with a new Green Recovery / Resilience entry point and providing respective tools & orientation for cities

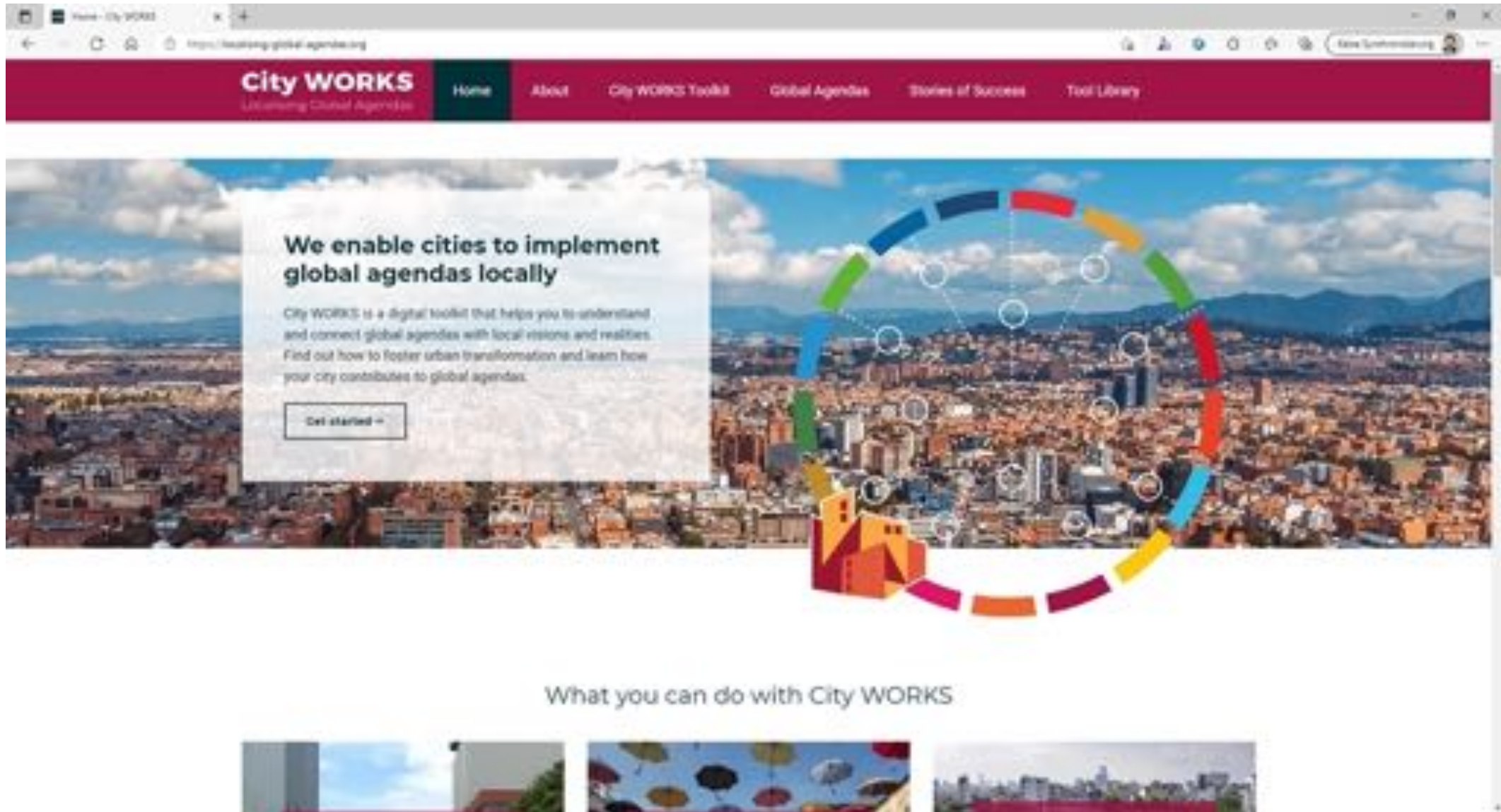
**Outcome:** Combination of current City WORKS approaches with existing methodologies of ReCAP21 implementation partners. Resilience extension with 6 specific tools on resilience.



## Objectives




# Website



# City WORKS for “Resilience”


One dedicated document and a couple of selected tools already integrated into the website  
 + one new application

Phase II. Connect to Global Agendas	
<i>Step 1. Raise Awareness</i>	
<a href="#">1. Video Collection</a>	Addition to existing tool
<a href="#">2. Rapid Assessment of Long-Term Vision</a>	Addition to existing tool
<i>Step 2. Understand Current Situation</i>	
<a href="#">3. Spatialising Challenges and Opportunities</a>	Addition to existing tool
<a href="#">4. Brainstorming Challenges and Opportunities for Urban Action</a>	Addition to existing tool
<i>Step 4. Prioritise Measures</i>	
<a href="#">5. Linking Urban Action to Resilience</a>	New tool
Phase III. Implement	
<i>Step 1. Plan for Action</i>	
<a href="#">6. Bankability Assessment</a>	New tool




**SPATIALISING CHALLENGES AND OPPORTUNITIES (RESILIENCE ADDITION)**

[View Tool ->](#)




**BRAINSTORMING CHALLENGES AND OPPORTUNITIES FOR URBAN ACTION (RESILIENCE ADDITION)**

[View Tool ->](#)



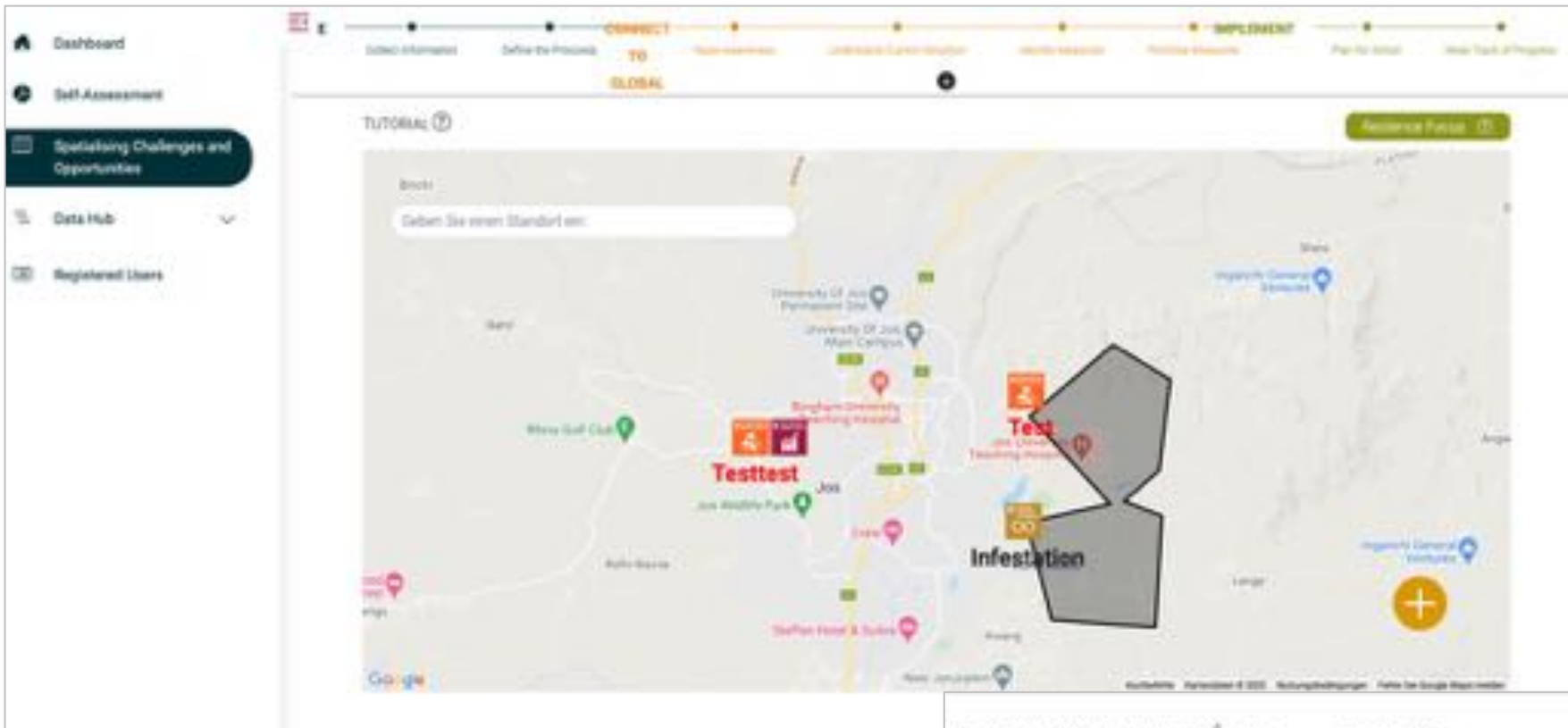
**RAPID ASSESSMENT OF LONG-TERM VISION (RESILIENCE ADDITION)**

[View Tool ->](#)



**LINKING URBAN ACTION TO RESILIENCE**

[View Tool ->](#)



ID	CHALLENGE/OPPORTUNITY	TYPE	SDG LINKAGE	STRESS/SHOCK	EVENT	EVENT TYPE	ACTION
17	prueba editada	Opportunity		Stress	Earthquake	Secondary	
21	Terremoto	Opportunity		Stress	Wildfire	Primary	
22	Opp1	Opportunity		Shock	Wildfire	Primary	
23	asentamiento	Challenge		Stress	Mass Movement	Primary	
25	Electricity	Challenge		Stress	null	Secondary	
26	Flooding	Challenge		Shock	Flood	Primary	

## Taskforce – urban resilience

- Since September 2022, colleagues from FMB and GloBe have been jointly working together in a **taskforce on urban resilience**
- Objective is to:
  - **map the existing approaches** in the areas of urban resilience and
  - create a **knowledge product/toolbox** for easy access to key information on these approaches

# Mapping template for urban resilience

- Type of approach
- Potential climate/disaster impacts addressed by approach
- Process of implementation
- Results and impacts
- Cooperation partners
- Resources required
- Level of intervention of approach (national/regional/city/neighborhood)
- Sphere of approach (governance/economic/environmental)
- Main hazards being addressed
- Urban function protected by approach (for e.g. housing, water supply, etc)
- Type of risk management (prevention, resistance, transformation)

Clustering tool for Urban Climate & Disaster Resilience Approaches

Project title	Project Number (ID)	Type of approach	Title of approach	Country of implementation	Potential climate/disaster impacts addressed by approach & justification	Process of implementation	Results and impacts	Cooperation partners	Resources required	Links to relevant documents, reports, publications	Contact person (name, email, phone)
Resilient, City-Enabling Resilience Resilient	2013-0011	Urban resilience support tool	Supports development and process patterns in the application of the Sustainable Urban Resilience Planning	Costa Rica	Climate and urban landscapes are complex systems where the interplay between natural and human systems and natural resources. Local governments have the mandate to regulate land use, however, urban planning processes are often fragmented between various actors, ineffective and uncoordinated. Therefore, local governments need a tool which helps them identify social and economic drivers, enabling processes and institutions, particularly effective strategies for sustainable, equitable use of land and resources and	In collaboration with UN-City and the organization for Interdisciplinary Urban Resilience (IDUR) was identified as a common platform for cooperation between stakeholders from several participating countries. IDUR established the IDUR working group in the context of the Urban Resilience Planning (URP) project, which aims to develop and implement a set of guidelines and standards for urban resilience, and to create urban	Local government resilience	UN-City, IDUR, local government	Financial resources	<a href="#">https://www.un-city.org/en/urban-resilience-planning</a>	Urban Resilience Planning (URP) project
Green-City Compact		Urban resilience support tool	Green-City Compact	Costa Rica	Green-City Compact is a policy instrument that aims to address the growing problems of land use, urban sprawl, inadequate housing and employment, poor air quality, and other challenges in terms of quality of life in the city.	Green-City Compact is a policy instrument that aims to address the growing problems of land use, urban sprawl, inadequate housing and employment, poor air quality, and other challenges in terms of quality of life in the city.	Green-City Compact is a policy instrument that aims to address the growing problems of land use, urban sprawl, inadequate housing and employment, poor air quality, and other challenges in terms of quality of life in the city.	UN-City, IDUR, local government	Financial resources	<a href="#">https://www.un-city.org/en/green-city-compact</a>	Urban Resilience Planning (URP) project
Participatory Development Programme in Urban Areas	10.1702.2-001.00	Urban resilience support tool	City Climate Change Strategy	Egypt	There is a national adaptation strategy for the city of Cairo, which is a key element of the national adaptation strategy. The approach is based on a participatory approach and will be implemented in the context of the national adaptation strategy.	The approach is based on a participatory approach and will be implemented in the context of the national adaptation strategy. The approach is based on a participatory approach and will be implemented in the context of the national adaptation strategy.	City Climate Change Strategy	UN-City, IDUR, local government	Financial resources	<a href="#">https://www.un-city.org/en/city-climate-change-strategy</a>	Urban Resilience Planning (URP) project
Adaptation to Climate Change in the National and Local Development Planning II (MCSN-DF II)	10.2111.4-001.00	Urban resilience support tool	The Bangladesh Planning Commission	Bangladesh	There is a lack of capacity of the national government to develop and implement a national adaptation strategy. The approach is based on a participatory approach and will be implemented in the context of the national adaptation strategy.	The approach is based on a participatory approach and will be implemented in the context of the national adaptation strategy. The approach is based on a participatory approach and will be implemented in the context of the national adaptation strategy.	The Bangladesh Planning Commission	UN-City, IDUR, local government	Financial resources	<a href="#">https://www.un-city.org/en/bangladesh-planning-commission</a>	Urban Resilience Planning (URP) project
Climate Resilient Inclusive Smart Cities (CRISI)	10.2009.1-001.00	Urban resilience support tool	Climate Resilient Inclusive Smart Cities (CRISI)	Bangladesh	The approach is based on a participatory approach and will be implemented in the context of the national adaptation strategy. The approach is based on a participatory approach and will be implemented in the context of the national adaptation strategy.	The approach is based on a participatory approach and will be implemented in the context of the national adaptation strategy. The approach is based on a participatory approach and will be implemented in the context of the national adaptation strategy.	Climate Resilient Inclusive Smart Cities (CRISI)	UN-City, IDUR, local government	Financial resources	<a href="#">https://www.un-city.org/en/climate-resilient-inclusive-smart-cities</a>	Urban Resilience Planning (URP) project

# Tentative results of the mapping

**Respondents:** Roughly 35 projects with approx. 90 resilience approaches

## **Interesting statistics on cluster categories:**

- 41% (37/90) approaches on (inter-)national and subnational level (**macro and meso level**)
- > 80% socio-political sphere of intervention/ governance & **environment** (economic approx. 33%)
- >50% (46/90) approaches on **flood** risk management, 13% (12/90) on geologic related hazards (**landslides and earthquakes**), 19% (17/70) on **all hazards**
- Type of risk management strategy: prevention, resistance and transformation all above 50%



## Taskforce: next steps

- Consolidating, cleaning and quality controlling the data
- Clustering of resilience approaches
- Short-description of the 90+ approaches
- Turning the excel „master list“ into something usable in project-contexts worldwide

-> ideally by summer 2023





**Phillip Reviere**

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Technical Advisor Urban Development

Sectorial Department (FMB), Eschborn

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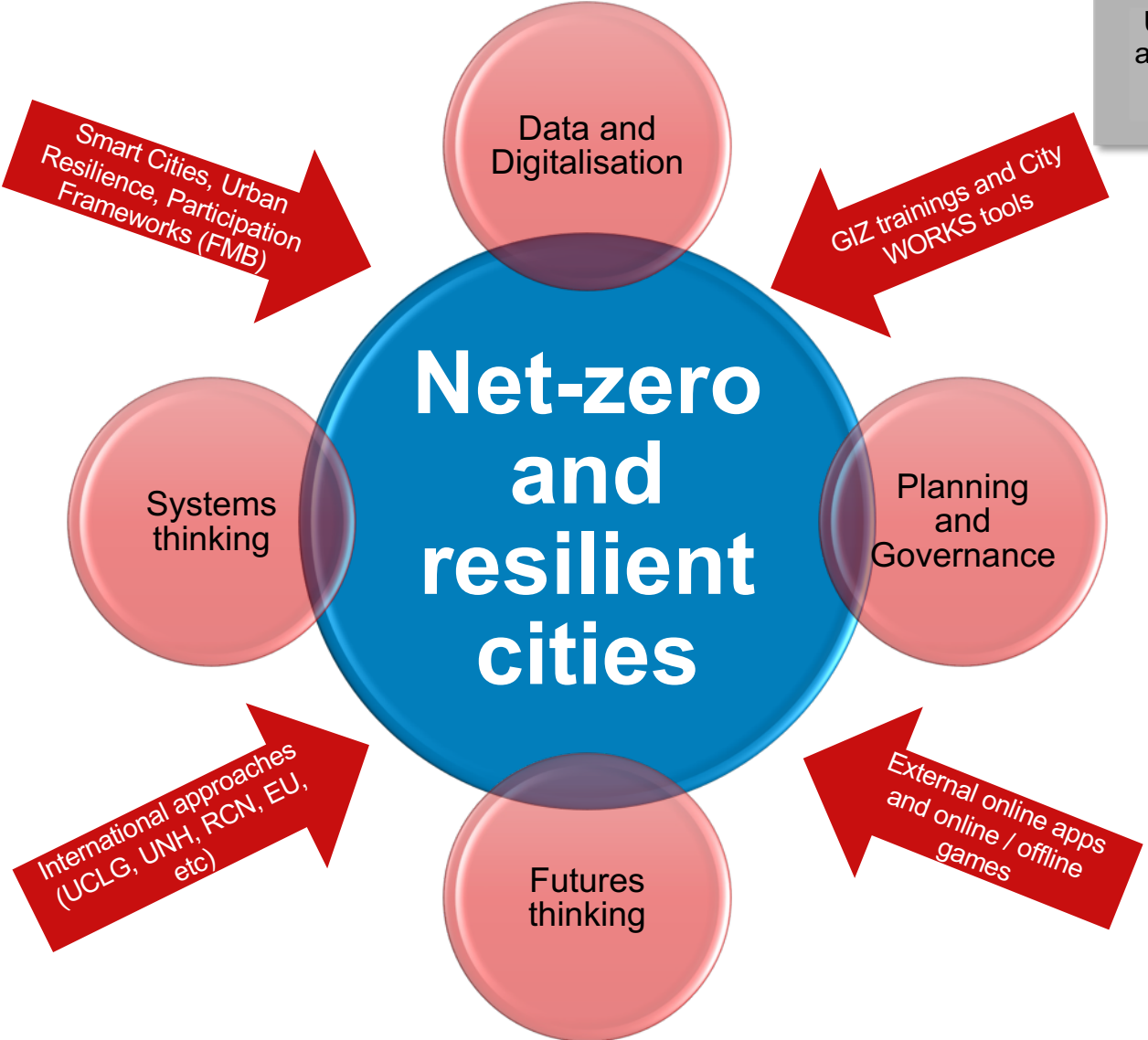
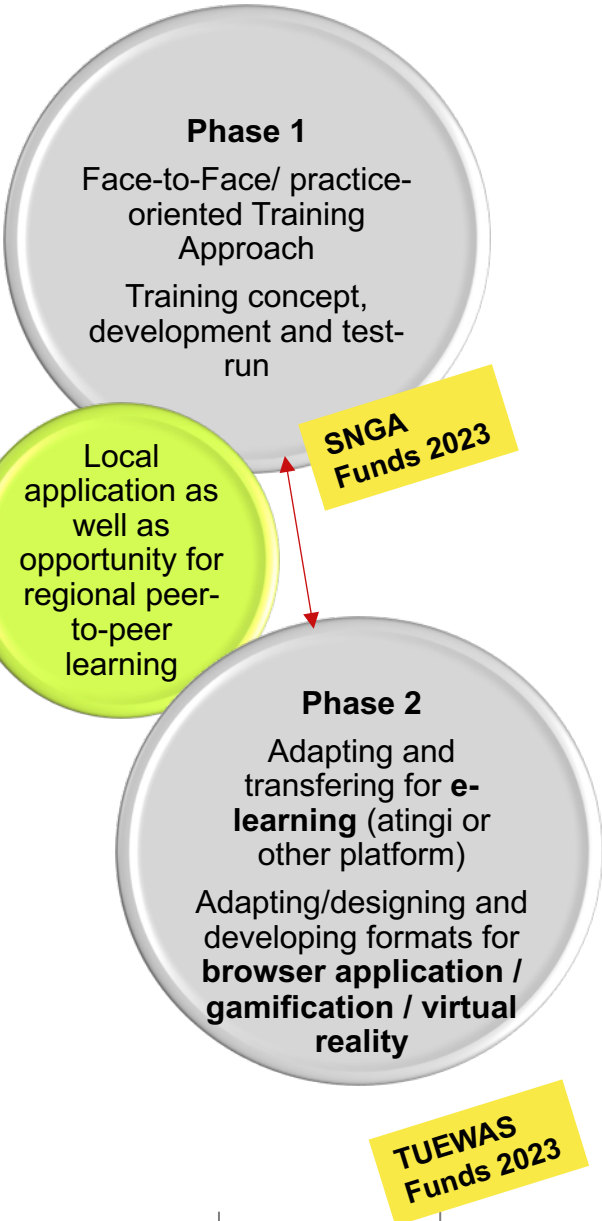
# Joint Discussion



# Programme

- **Sebastian Markart** and **Mohammad Ishtiuq Hossain** - Joint Speakers of TUrbOcliC
- Check-in – **Luciana Maia**, TUrbOcliC consultant
- Where to start? How to use risk assessments for effective climate change adaptation for infrastructure - the PIEVC Protocol – **Katharina Lotzen** - Advisor, IKI Global Project Enhancing Climate Services for Infrastructure Investments (CSI)
- City WORKS and Analytical framework for Urban Resilience – **Eva-Maria Graf** - Advisor, Sector Program Cities and **Philipp Reviere** - Planning officer, Competence Centre Democracy, Policy Dialogue, Urban Development
- **Q&A in-between and kick-off of training development on resilient and net-zero cities**

# Net-zero resilient cities approaches



City WORKS – Sector Project Cities

URBAN Act – Regional – PH, TH, IN, ID, CH

UNESCAP and national partners

SUD-SC II – India

Others in BD, PK

Enhance capacities of staff and partners via tools, skills, peer-learning and case studies

# Welcome Clurb

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# Training and Apps/Games/VR



**Your ideas, wishes, suggestions in the chat**