



# Engaging multi-stakeholders in the co-creation and co-design of disaster management solutions: the Public-Private-Civil Partnership (PPCP) approach in C2IMPRESS

Date: May 7<sup>th</sup> 2024

Time: 12.00 – 13.00 pm CET

## Moderators



**Cenk Gureken  
(Moderator)**  
EU Projects Team  
Leader, SAMPAS



**Catherine  
Freissinet**  
Hydrologist,  
climate change  
adaptation expert,  
Artemia

## Speakers



**Juliette  
Rimlinger**  
International  
Social Studies  
Specialist, Artemia



**Ana Catarina  
Zozimo**  
Postdoctoral  
Researcher, LNEC



**Alexandra  
Jaumouillé**  
International social  
studies Specialist,  
ARTEMIA



**Mariana Carrillo**  
Master 2 Student,  
ARTEMIA



# Agenda

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**PART 1 Presentation of C2IMPRESS**

Cenk Güreken, SAMPAS

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**PART 2 The Public-Private-Civil Partnership approach**

Juliette Rimlinger, ARTELIA

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**PART 3 PPCP and polycentric governance**

Alexandra Jaumouillé and Mariana Carrillo, ARTE

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**PART 4 Implementation of PPCP: feedback from Portugal CSA**

Ana Catarina Zózimo, LNEC

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**PART 5 Q&A session**

Catherine Freissinet, ARTELIA



# PART 1

## Presentation of C2IMPRESS

Speaker : Cenk Güreken  
SAMPAS





# **Co-Creative Improved Understanding and Awareness of Multi-Hazard Risks for Disaster Resilient Society**

# Challenges

## Facts:



EU cost for the disasters triggered by natural hazards

**87,000+ lives**



Economic losses between year 1980 and 2017

**€400+ billion**



EU economic losses due to extreme weather every year

**€12 billion**

## Fuelling Factors:



Lack of representative static and dynamic data for disaster models



Lack of understanding and awareness of compound weather and climate extremes, and their impacts



Insufficient disaster risk management and governance function across related cross-cutting areas



**Multi-Hazard Risks**

# Disaster Resilience Requirements

## Representative data



Appropriate data (static and dynamic, qualitative and quantitative)



Big data from geospatial citizen science



Social media data



Assessment of data from legacy database

## Representative and Accurate models



Adequate understanding of past disaster extreme events



Anticipate future events



Reduced uncertainty



Capture uncertainty of forecasting weather events

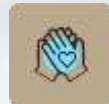
## Integrated Risk and Resilience Framework



Collaborative interdisciplinary approaches



Holistic and evidence-based

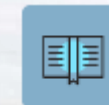


Robust and relevant



Local mitigation and adaptation strategies

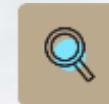
## Citizen Engagement



End-to-end preparedness and prevention approach



Co-creation of tailored tools



Co-production of knowledge



Public-Private-Civic Partnership

## Decision Making Tool



Early warning system



Decision support for policy makers



Knowledge and evidence based system



Citizen engagement tool





# C2IMPRESS Objectives and Challenges



**Place and People Centred Integrated Multi-Hazard Risk and Resilient Assessment Framework**



**Public-Private-Civic Partnership (PPCP)**



**System-of-Systems for Multi-Hazard Risk Intelligence Network (SoS4MHRIN)**



**Integrated Risk Assessment Framework**

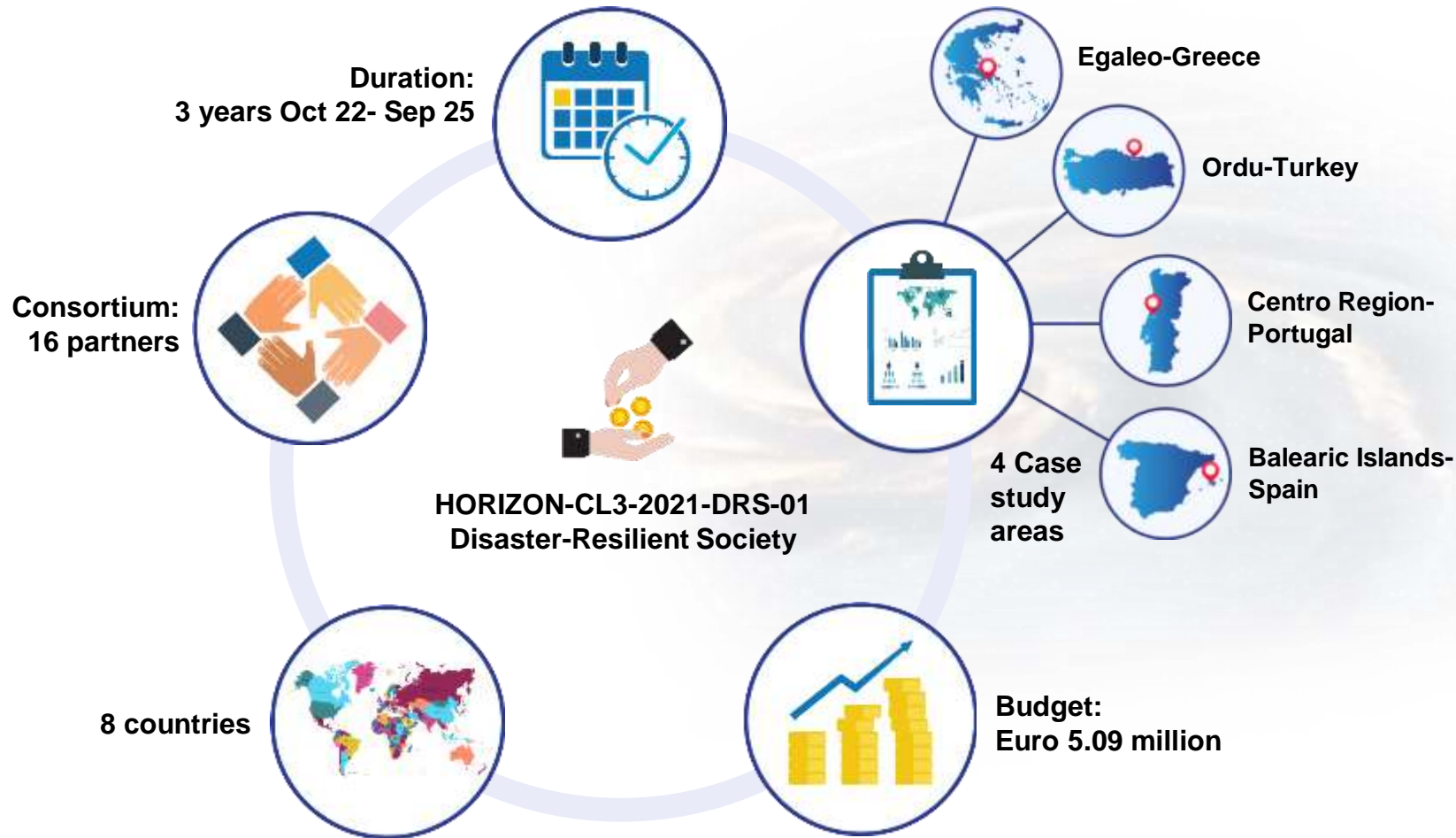


**Decision Support Platform and Microservices for Policy- and Decision-Makers**



**Human Behaviour and Agent Based Model**

# C2IMPRESS Project Information



## Main Hazards



Floods



Heat Waves



Wild Fires



Earthquake



Landslides

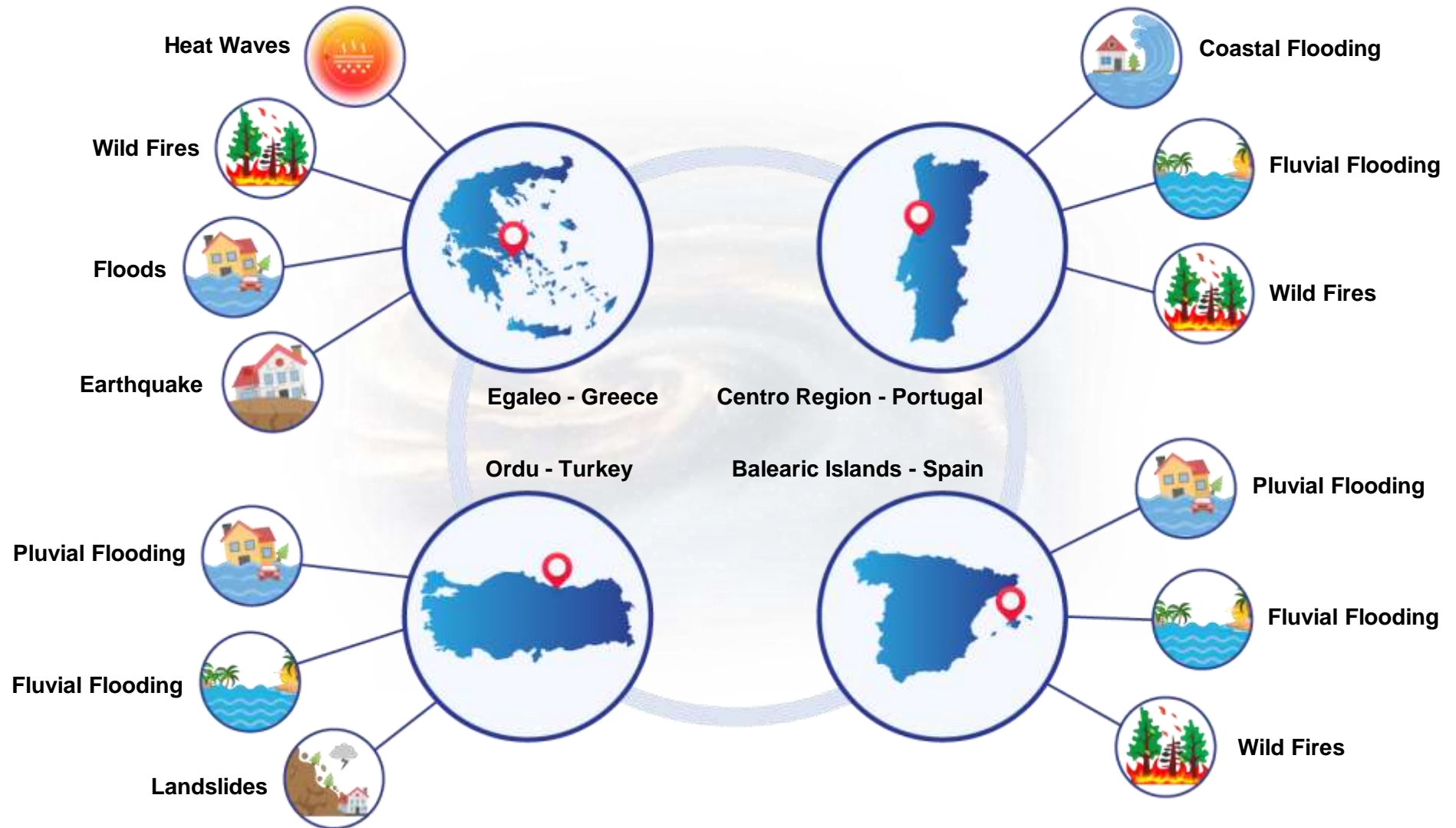
## Consortium



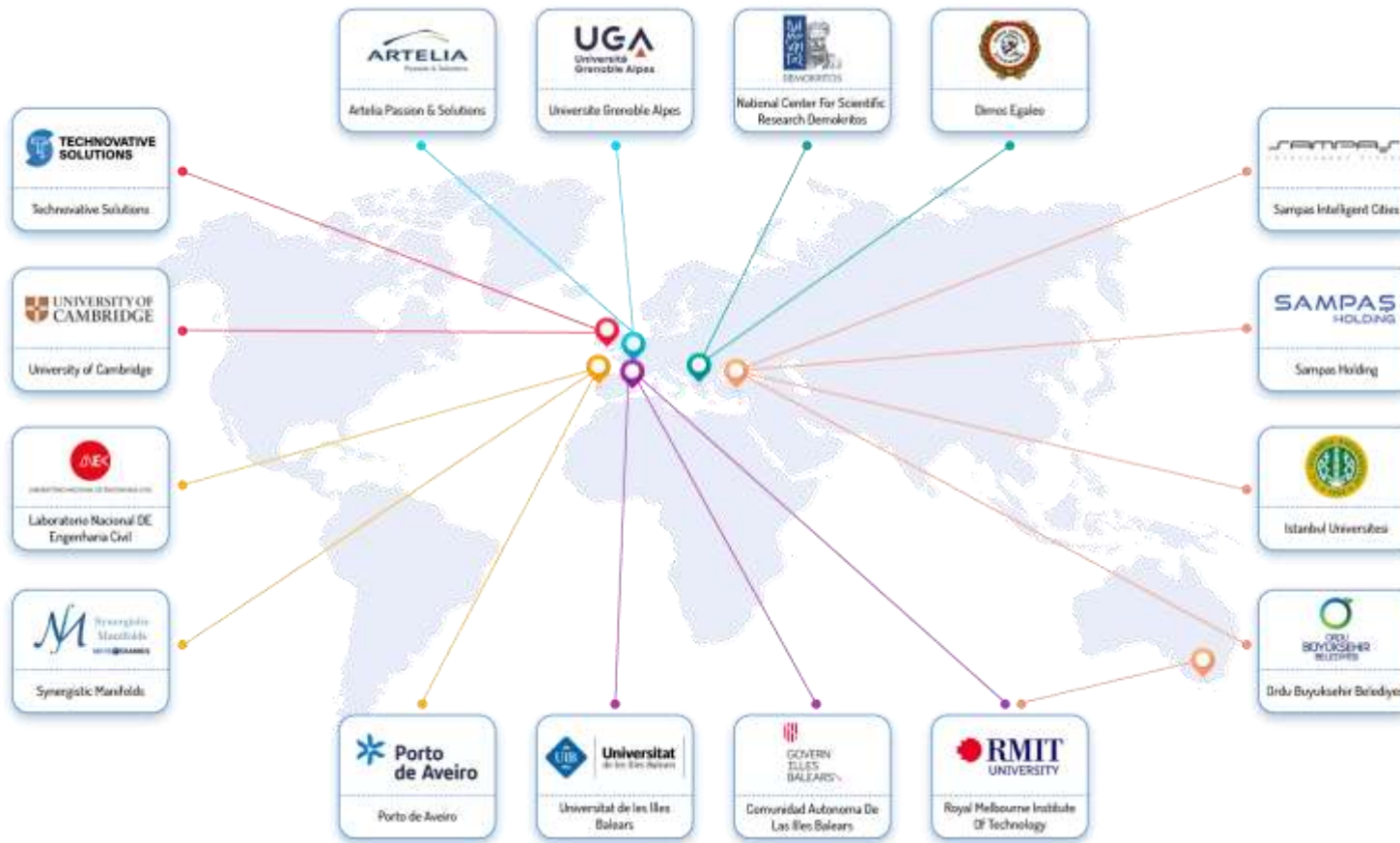
This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101074004



# Case Study Areas



# Consortium Members



**Coordinator:** SAMPAS Holding

**5 Universities:** RMIT, IU, UIB, UGA, UCAM

**4 Local Authorities:** Municipality of Egaleo, Porto de Aveiro, Ordu Municipality, Comunidad Autonoma de las Illes Belears

**4 ICT and Technology Providers**

TVS, SAMPAS, MET, Artelia

**2 Research Organisations:** NCSR, LNEK

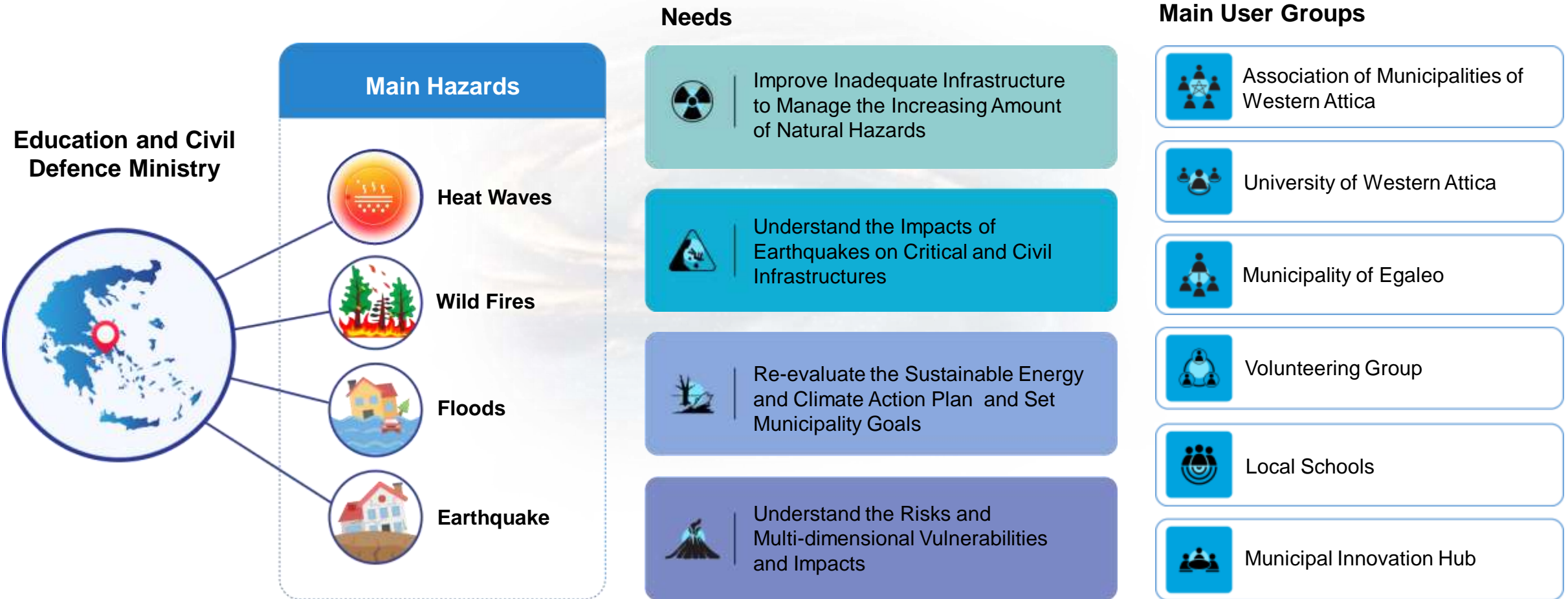


# Concept and Methodology



# Case Study Area: Egaleo-Greece

**A Coherent and Integrated Disaster Management Approach Considering Weather Extreme Events (Wildfires, Floods, Heatwaves and Earthquakes)**





# Case Study Area: Balearic Islands-Spain

## A Multi-Hazard Platform- from Science to Decision Making with the Island of Mallorca, Balearic Island

### Mallorca and other Balearic Islands



### Main Hazards



**Pluvial Flooding**



**Fluvial Flooding**



**Wild Fires**

### Needs



Understand the Risks of Flash Floods and Wildfires in the Tourist-Prone Area.



Assess the Impacts of Flash Floods and Wildfires on the Infrastructures



Develop a Cost-effective and Integrative Tool for Multi-Hazard risk Assessment



Interconnect Spatial scales of Multi-Hazard Assessment and Eco-social Resilience to Establish Future Climate Change Scenarios

### Main User Groups



Balearic General Directorate of Emergencies and Interior



Balearic Federation of Local Entities (municipalities)

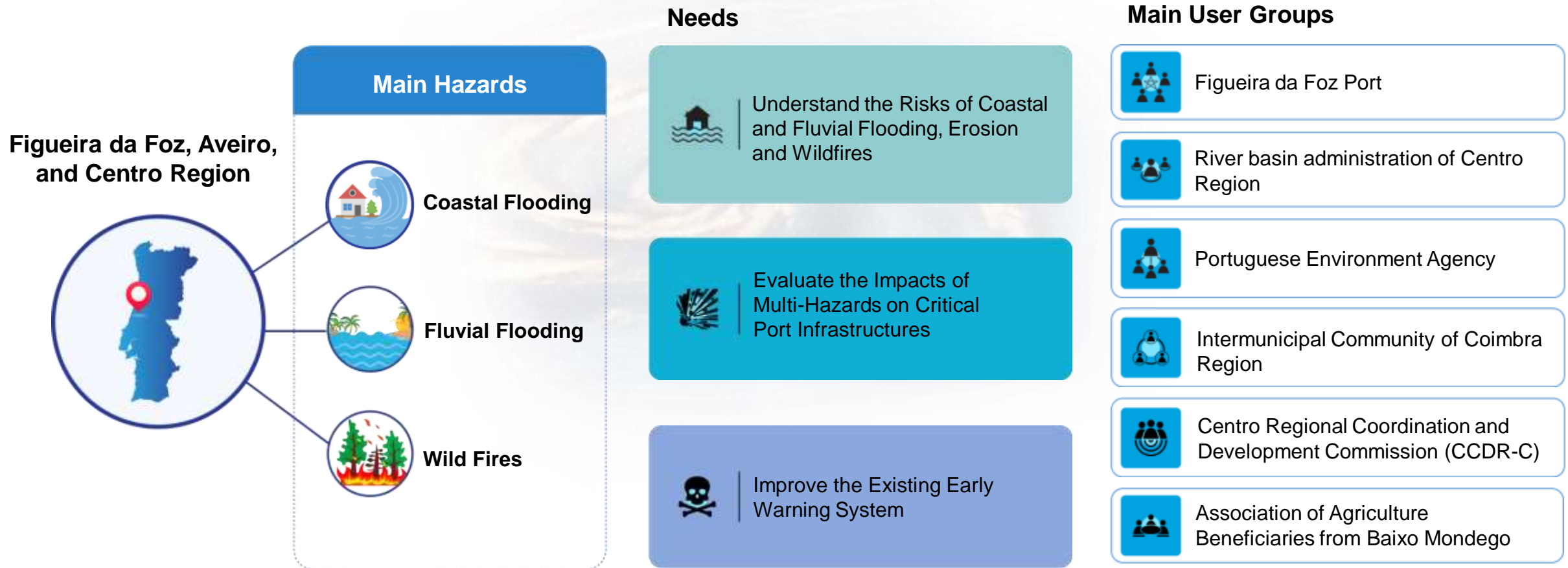


Balearic General Directorate of Natural Spaces and Biodiversity



# Case Study Area: Centro Region-Portugal

**Coastal Flooding (Including River Flooding) and Impact of Wildfires (on Surface Water and Groundwater Bodies) on Centro Region Main Harbours, Adjacent Coastal Areas, Surface Water and Groundwater Bodies of Mondego and Lis River Basins**



# Case Study Area: Ordu-Turkey

**Pluvial and Fluvial Flooding Connected to the Coastal Zone and their Cascading Effects for Urban Flooding and Regional landslides.**

**Black Sea Region in Turkey**



## Main Hazards



**Pluvial Flooding**



**Fluvial Flooding**



**Landslides**

## Needs



Understand the Existing Hazard Risks and Vulnerability Levels of Flooding and its Effects



Evaluate the Public's Response and Behaviour During and After a Hazardous Event



Improve Predictions for Future Multi-Hazards

## Main User Groups



Ordu Provincial Directorate of Disaster and Emergency



Ordu Metropolitan Municipality



Education and Civil Defence Ministry



# Impacts

Advanced Disaster/crisis Simulations and Impact Assessments Supporting Decision-making Processes, Ensuring Quantitative Hazard Information and Qualitative Information.

Novel Interdisciplinary Risk Approaches and Reaching the Most Vulnerable Segments of the Community



Risk and Resilience Assessment Solutions, Studies and Outputs in Support of Long-term Multi-Hazard Management Strategies Involving Interdisciplinary Teams

Advanced Data Management, Information Update and Forecast / early Warning Systems



Communication and Dissemination Platforms Supporting an Increased Dialogue and Cooperation



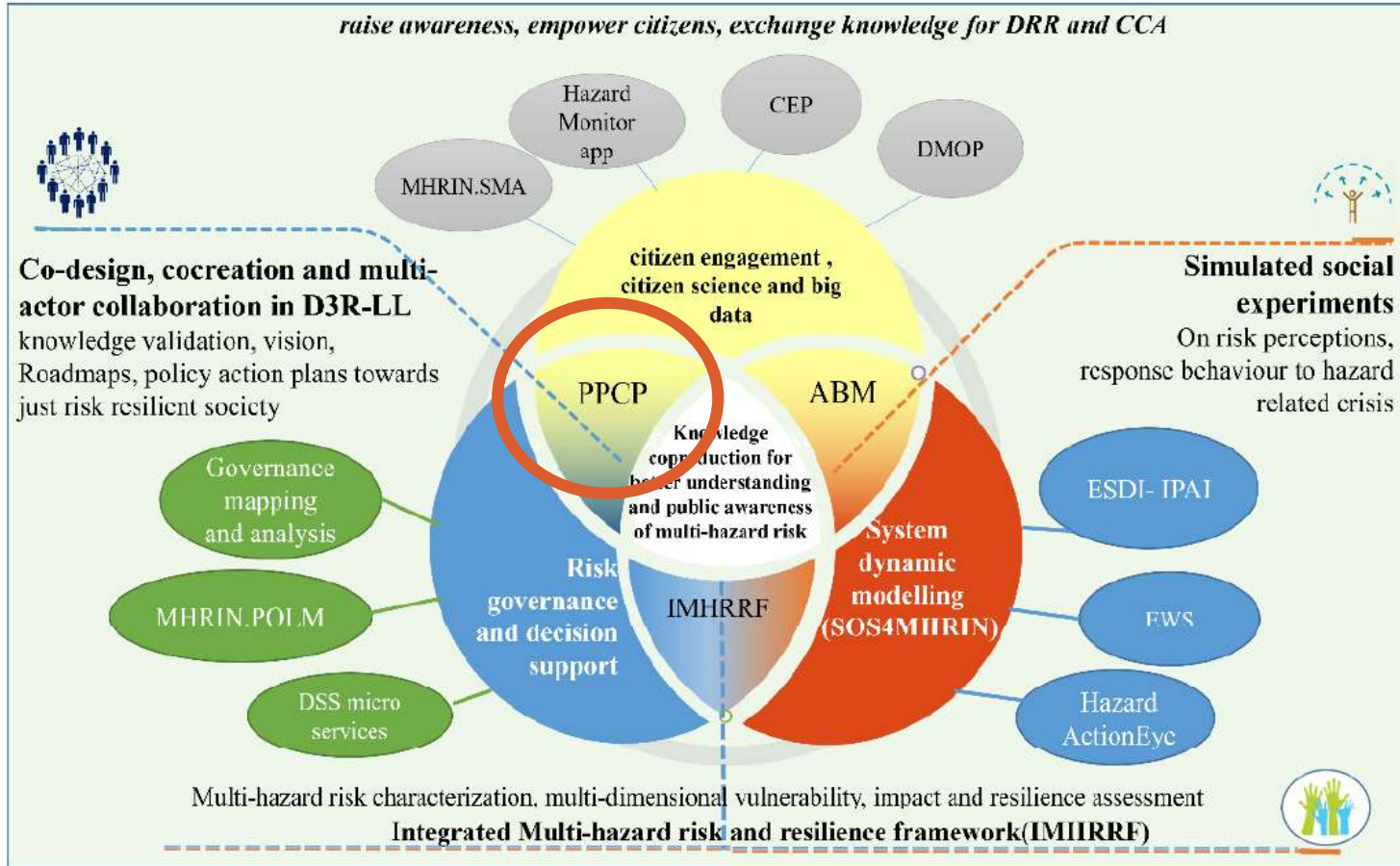
# PART 2

## The Public – Private – Civil Partnership (PPCP) approach

Juliette Rimlinger

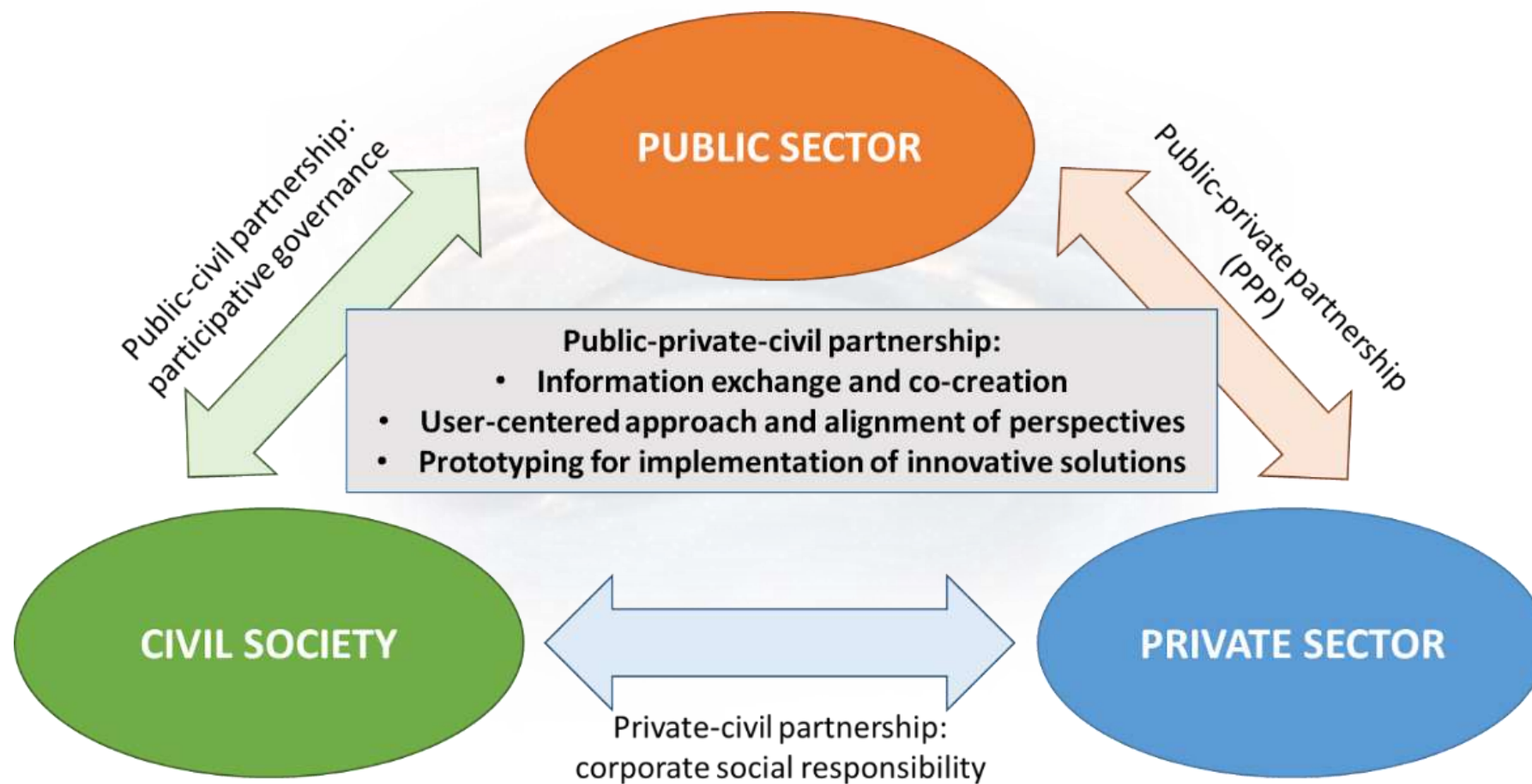


# Role and objectives

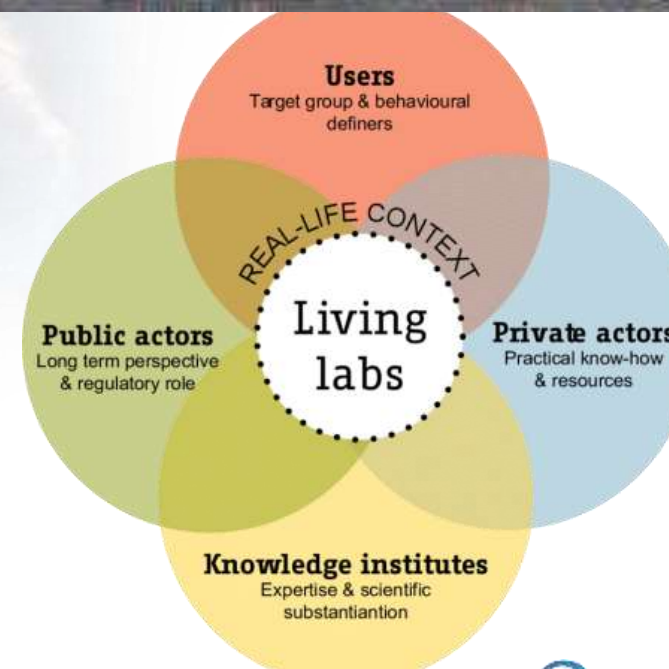


« Last but not the least,  
C2IMPRESS will adopt a novel  
**multi-actor collaborative  
codesign and cocreation**  
approach powered by public-  
private-civic partnership  
(PPCP) to **maximize the  
benefits of the project results**  
and **provide greater  
collective intelligence and**

# Definition of PPCP

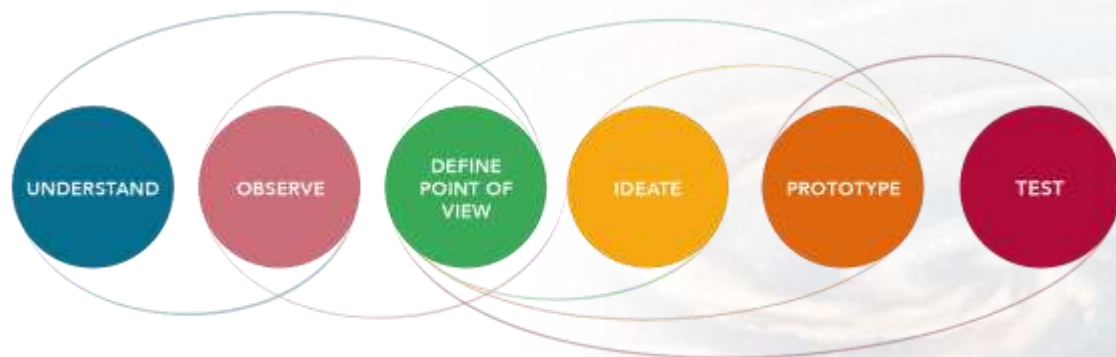


# Living Labs





# Design Thinking



UNCERTAINTY / PATTERNS / INSIGHTS

CLARITY / FOCUS



RESEARCH

CONCEPT PROTOTYPE

DESIGN

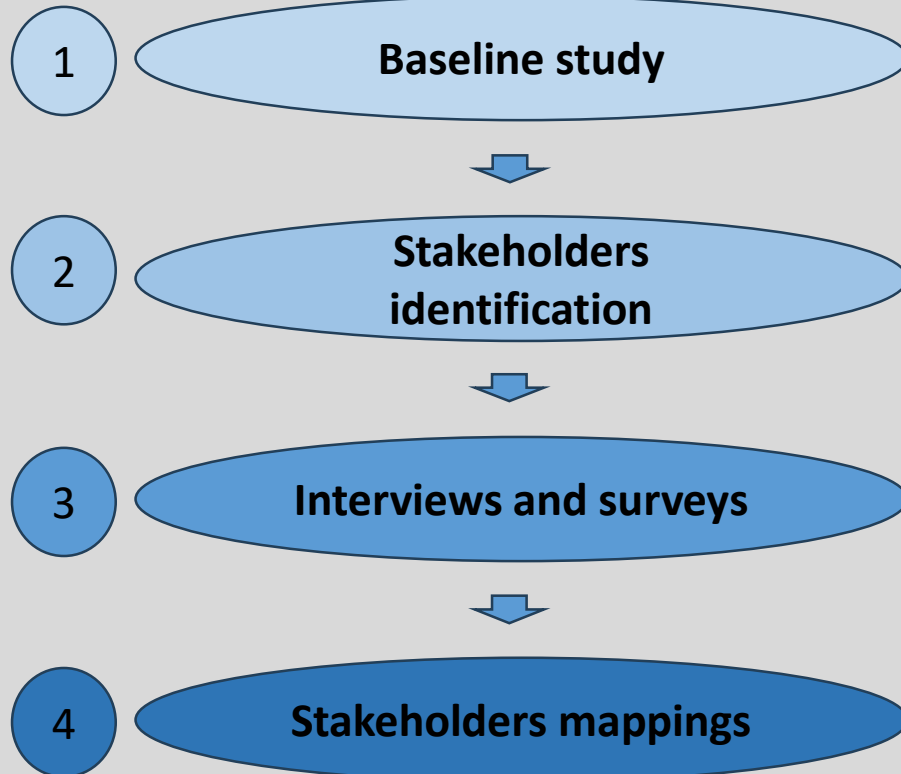


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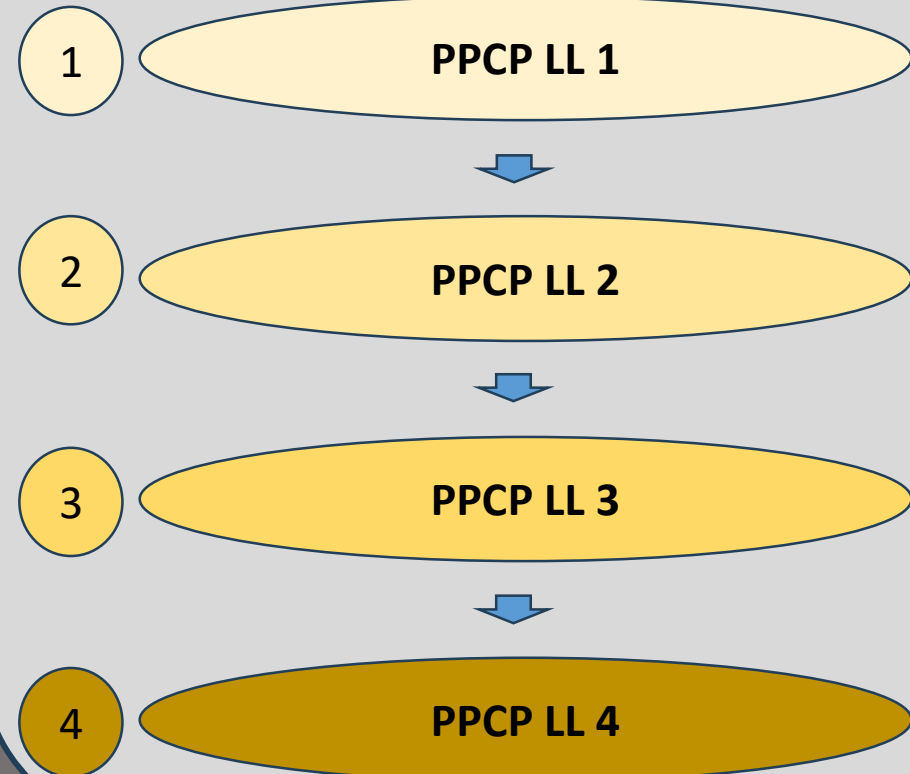
 C2IMPRESS

## PPCP approach

### Preliminary phase



### Implementation phase



# Preliminary steps

## 1 Baseline study

- Take a snapshot of the CSA at a given point in time for different subjects
- Assess the capabilities of each CSA
- Identify areas requiring particular attention and successful initiatives at territorial level, which will help guide the efforts of decision-makers

1. General context
  1. Geographic context
  2. Demographic background
  3. Economic context
2. Vulnerability and observed and projected impacts
  1. Territorial scale
  2. CSA scale
    1. Health
    2. Infrastructure
    3. Urban planning
3. Administrative management and governance
  1. National scale
  2. Territorial scale
4. Intervention measures
  1. Knowledge production
  2. Participatory governance and advocacy efforts
5. Policy and action plans
  1. National scale
  2. Regional scale
  3. Local scale
6. Grey/green adaptation measures implemented

## 2 Stakeholders identification

- Identify stakeholders relevant to the project

*What is a stakeholder?  
A group that is influenced and/or has influence over a project.*

*Please note that even if individuals are involved in LLs PPCP, they represent not their individual person, but the group/institution to which they are attached.*

## 3 Interviews and surveys

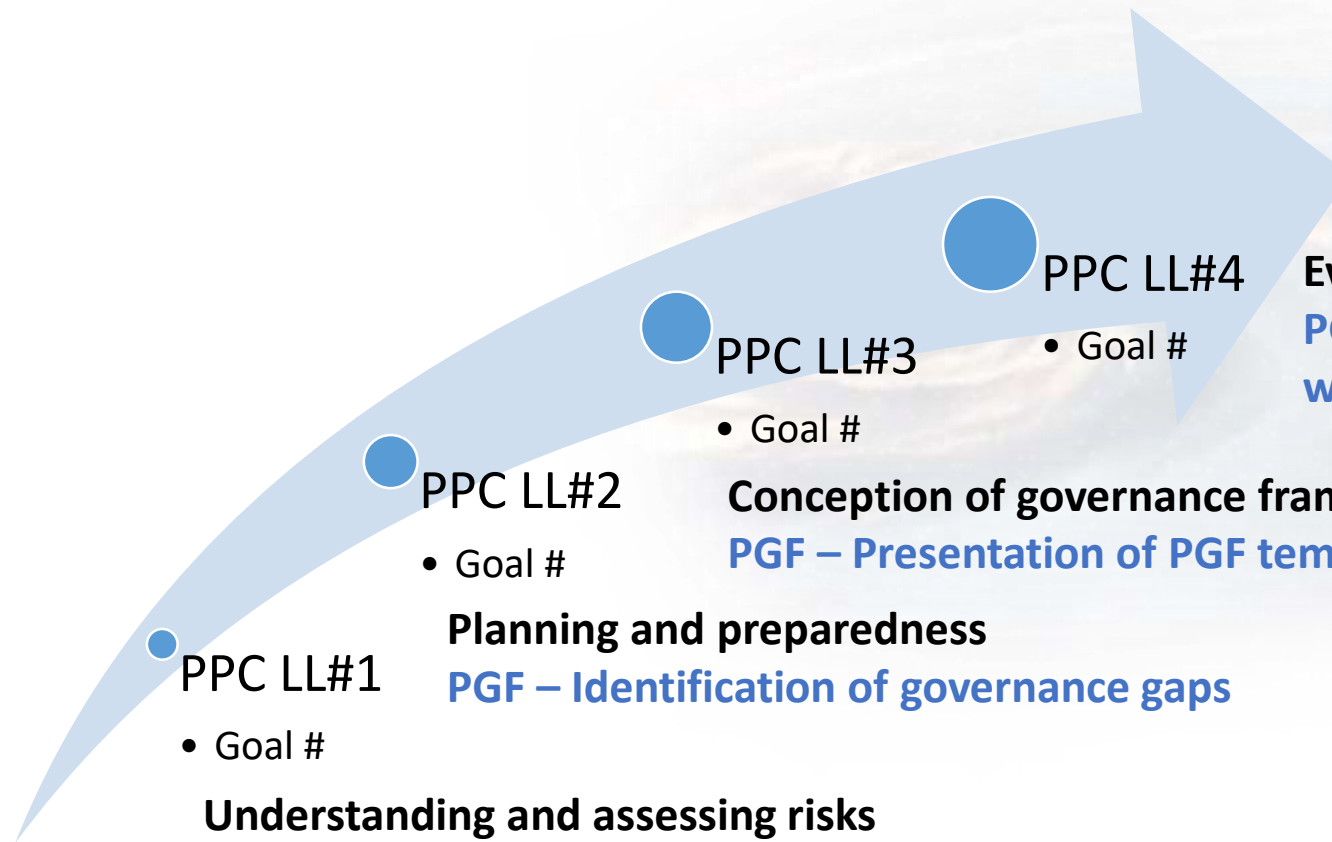
- Collect qualitative and quantitative data on identified stakeholders
- Problem with the quantitative questionnaire: too long, too few people completed it accordingly.

## 4 Stakeholders mappings

- Produce a first level of analysis of identified stakeholders:
- What are their levels of interest and influence in relation to the project?
- How are these stakeholders communicating at any given moment?



# Implementation phase



**Evaluation and sustainability of the draft governance framework**  
**PGF – Presentation of CSA-specific PGF and action plan, way forward)**

**Conception of governance framework through implementation of C2IMPRESS tools**  
**PGF – Presentation of PGF template, adaptability to the CSA, Feedback.**

**Planning and preparedness**  
**PGF – Identification of governance gaps**

**Understanding and assessing risks**  
**PGF – Meeting CSA stakeholders**

- Adapted to each CSA
- Designed for permanent implementation at the end of the C2IMPRESS project
- Observatory?





# PART 3

## PPCP and polycentric governance

Alexandra Jaumouillé & Mariana Carrillo

ARTELIA

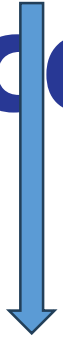


# Polycentric governance

COOPERATION DECENTRALIZATION  
INNOVATION **POLYCENTRIC GOVERNANCE** SELF-ORGANISATION  
COORDINATION BOTTOM-UP ORGANISATION  
EXPERIMENTATION INCLUSIVE PARTICIPATION FLEXIBILITY  
INTERACTION LOCAL AUTONOMY ADAPTIVE CAPACITY  
ADAPTABILITY RESPECT FOR RESILIENCE  
SHARED NORMS AND VALUES  
MITIGATION OF CONFLICTS

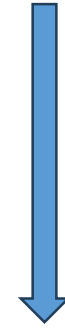


# Polycentric governance



as an alternative approach to the centralised model, where it responds more effectively to the diverse needs of the community.

system with multiple centers of authority, decision-making, and control.



process and structures through which a group, organization, or society manages its affairs, exercises authority, and makes decisions



# Top Down Approach



- Combination of both bottom-up and top-down dynamics
- Distinguishing feature in enabling bottom-up governance and fostering "self-organisation" among local communities.



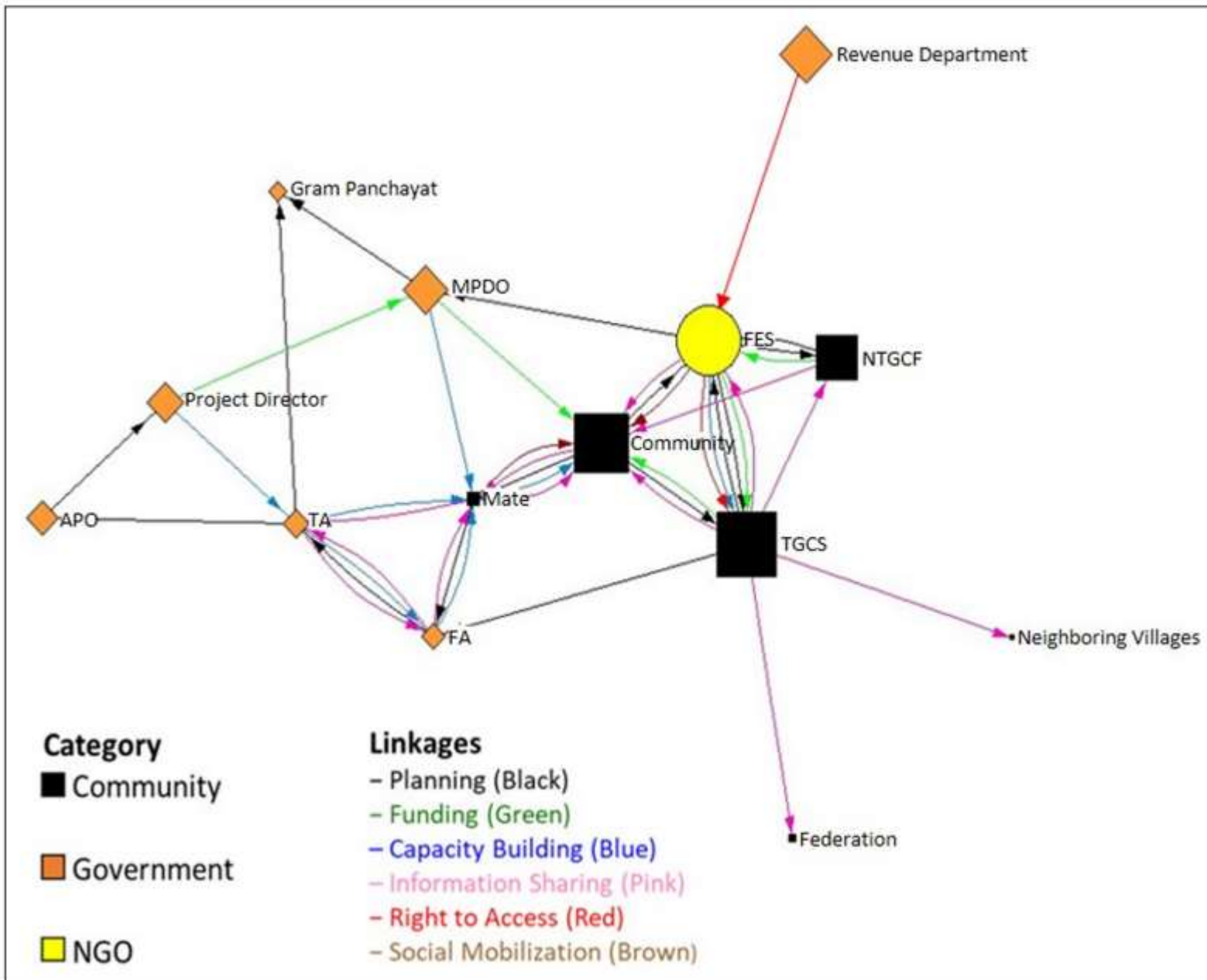


# PPCP

## outcome

The **Net-Map** as a tool for the implementation of **polycentric governance**. It provides:

- a visual representation of the relationships between actors
- helps to identify the central nodes and strengths and weaknesses of the system
- fosters participation and transparency.



(Securing the Commons in India: Mapping Polycentric Governance, Ruth Meinzen-Dick 2021)



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# How can PPCP help to the development of Polycentric Governance Framework?

- **COORDINATION**

Conflicts into opportunities, communication, collaboration



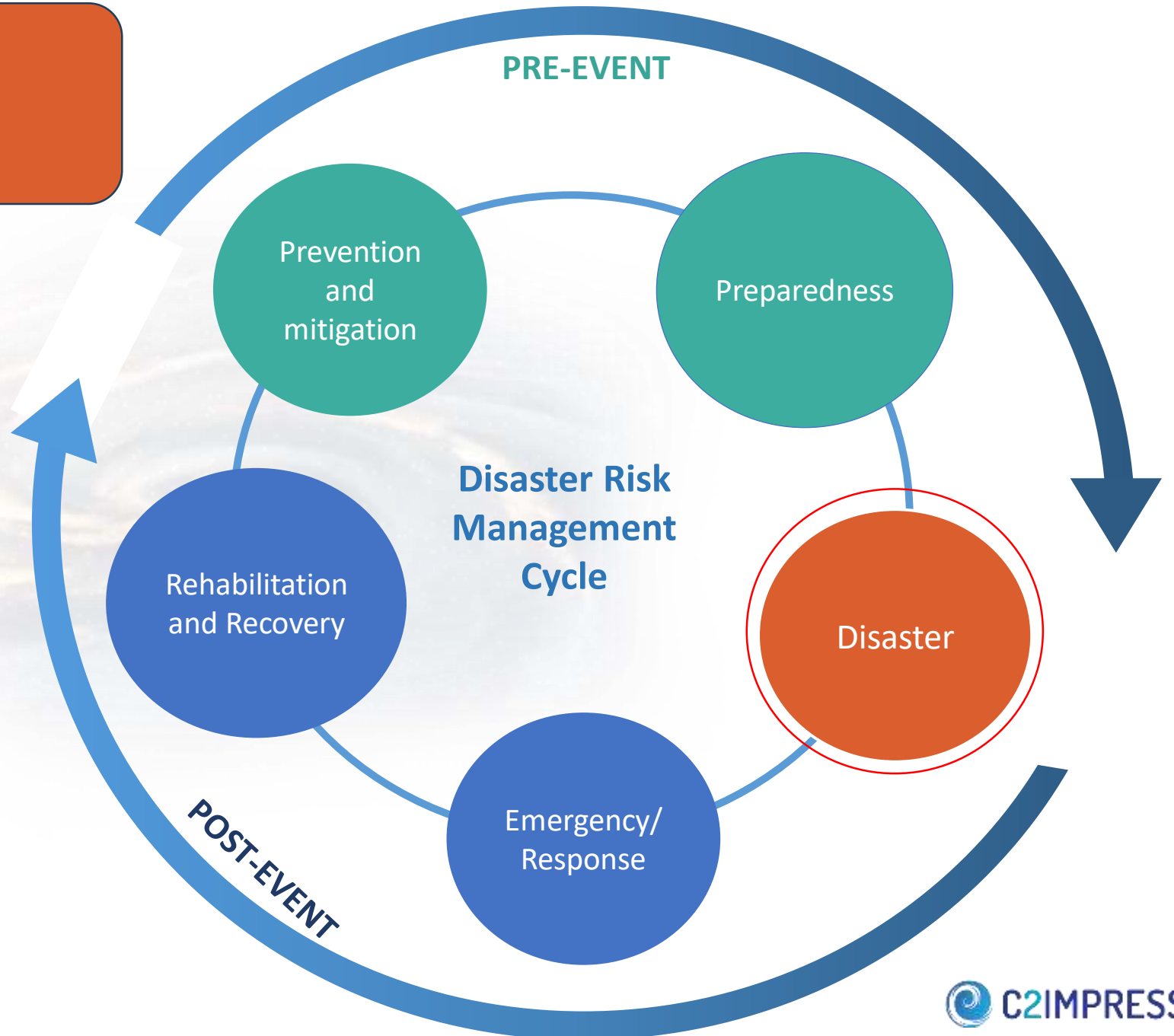
- **INCLUSIVE PARTICIPATION**

Importance of diverse perspectives and experiences of stakeholders

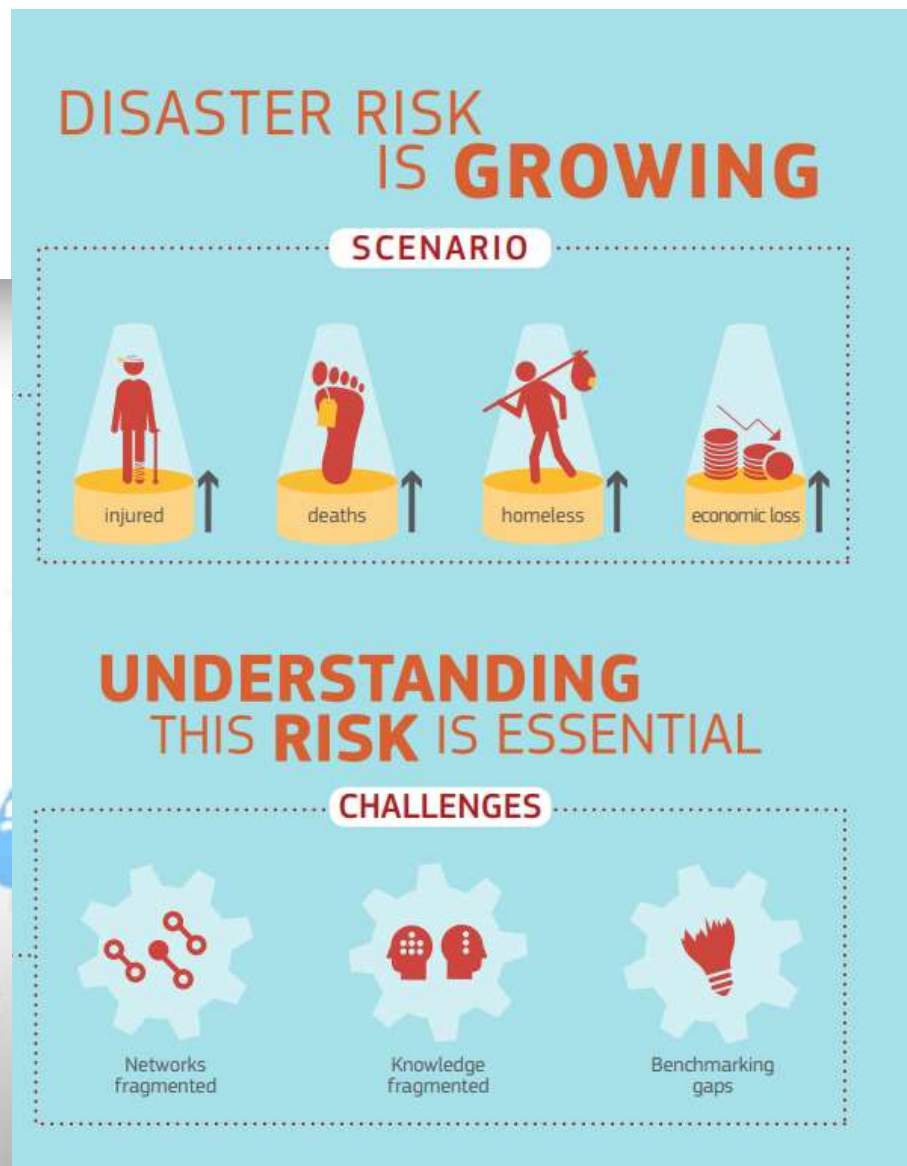


# What is disaster risk reduction ?

➔ Preventing new and reducing existing disaster risk and managing residual risk



# Why is governance important in disaster risk reduction?



Source : European Environment Agency and DRMKC



This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101074004



## FOR WHAT?



Prevention



Preparedness



Response



Recovery

TO MANAGE  
**DISASTER RISK**  
IN A MORE  
**COORDINATED WAY**

## HOW ?

**NEW APPROACHES ARE NEEDED,  
GOVERNANCES SYSTEMS MUST QUICKLY EVOLVE.**



## FOR WHAT?



Prevention



Preparedness



Response



Recovery

TO MANAGE  
**DISASTER RISK**  
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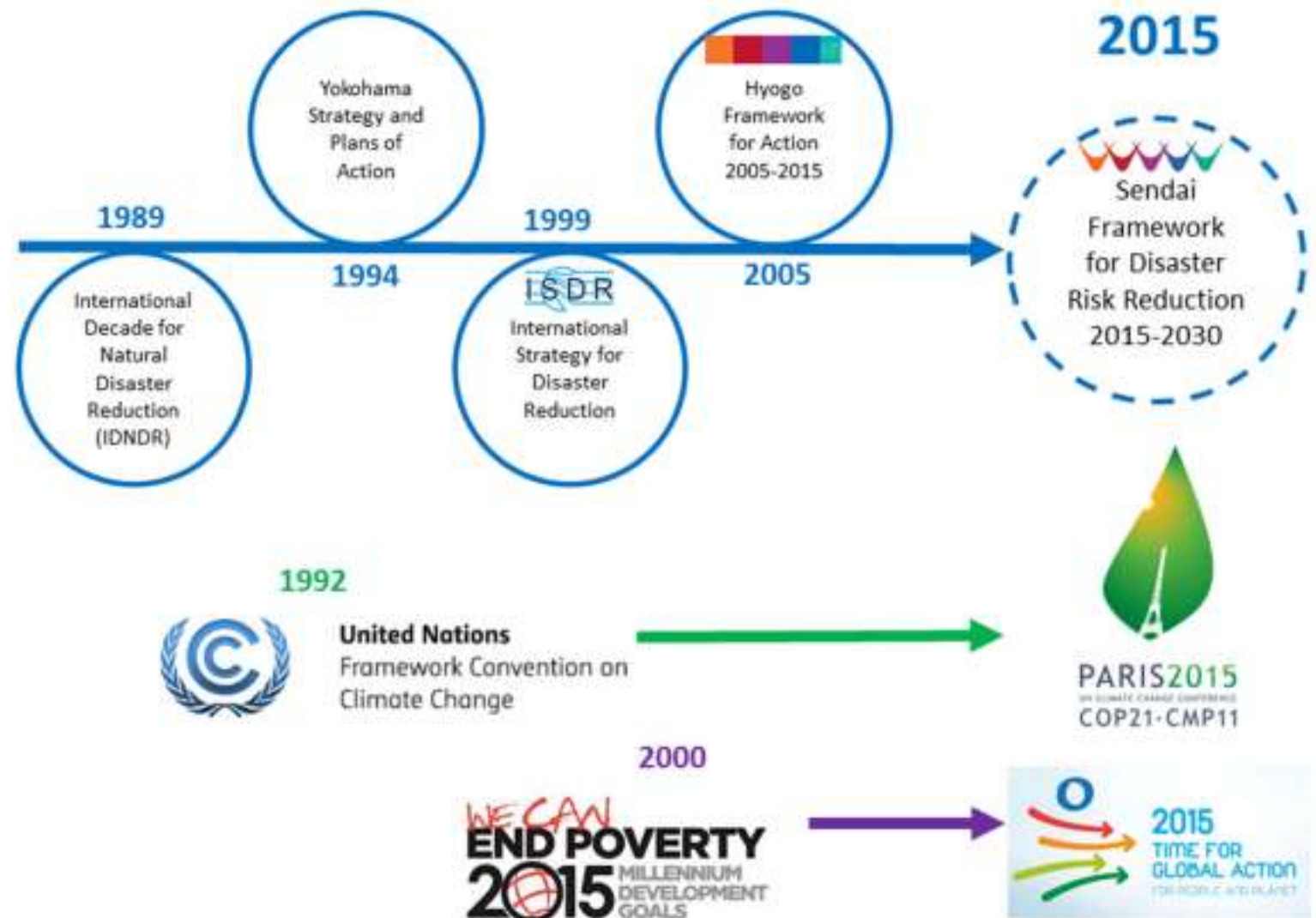
## HOW ?

**NEW APPROACHES ARE NEEDED,  
GOVERNANCES SYSTEMS MUST QUICKLY EVOLVE.**



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- Sendai framework for Disaster Risk Reduction
- Paris Agreement
- Addis Ababa Action Agenda
- The Agenda 2030 and the Sustainable Development Goals



# The Sendai Framework: Priorities for action



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## Priority 1

Understanding disaster risk

2

## Priority 2

Strengthening **disaster risk governance** to manage disaster risk

3

## Priority 3

Investing in disaster risk reduction for resilience

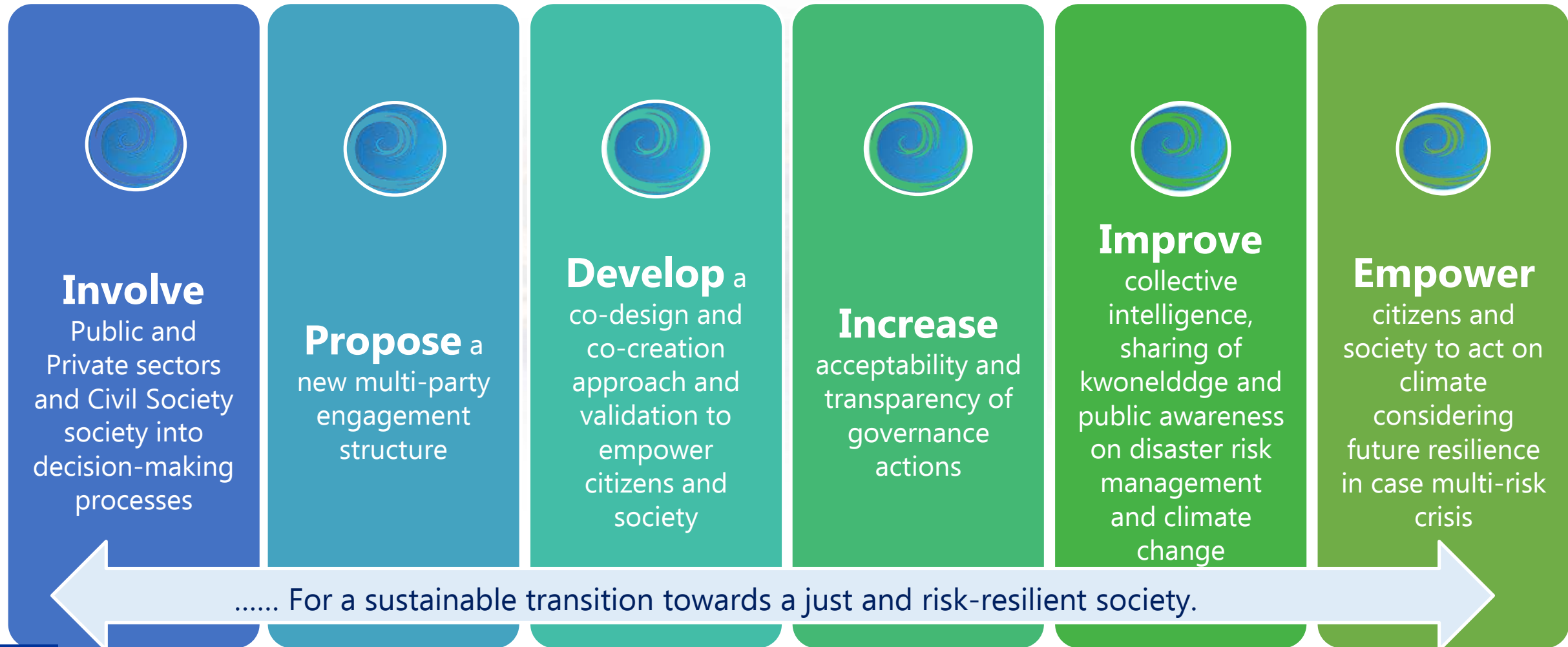
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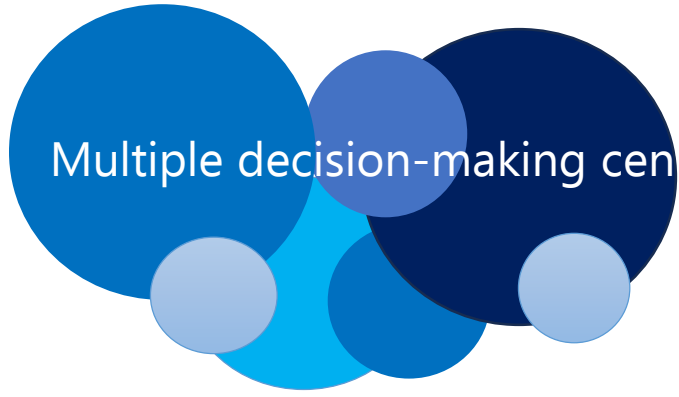
## Priority 4

Enhancing disaster preparedness for effective response and to “Build Back Better” in recovery, rehabilitation and reconstruction

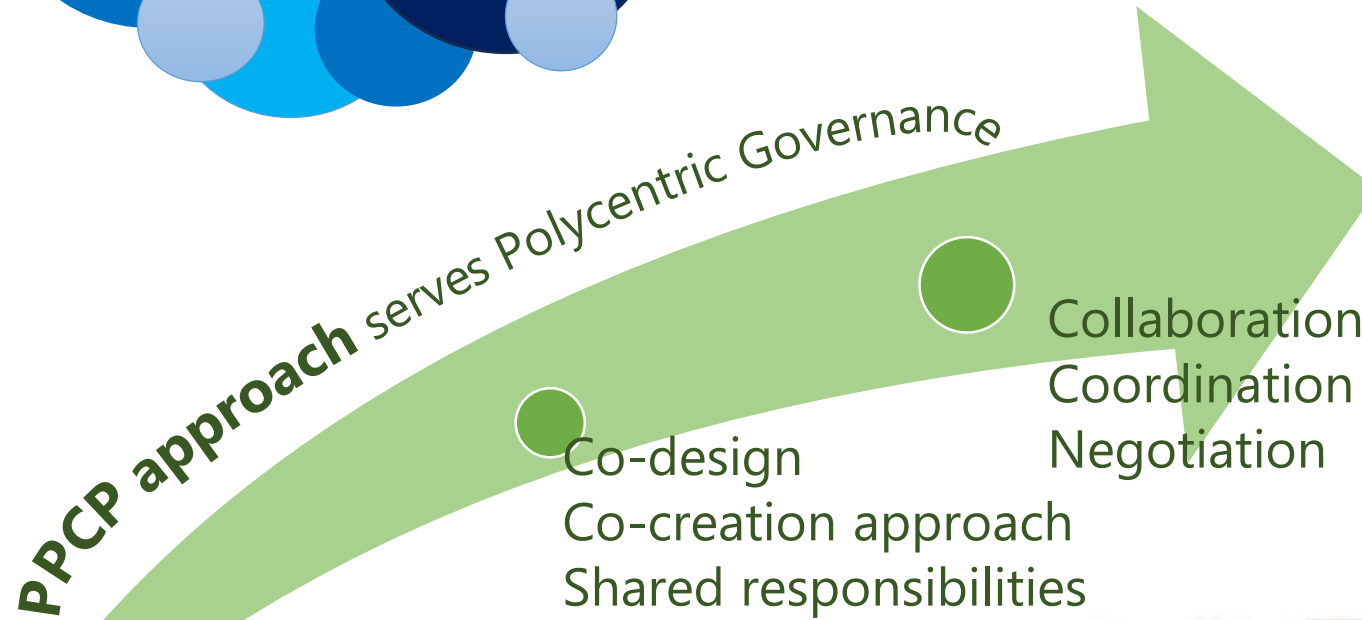


# How can the PPCP approach be used to co-construct a polycentric governance framework for better disaster risk management?





Multiple decision-making centres



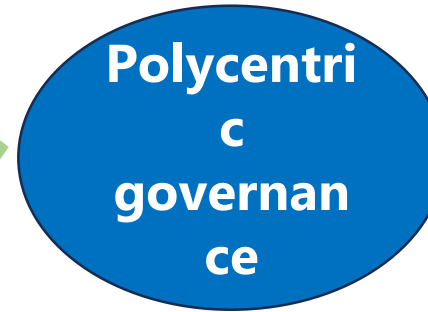
PPCP approach serves Polycentric Governance

Stakeholder engagement  
Participatory and inclusive  
approach  
*Workshops*  
*Living Lab*  
*Design Thinking*



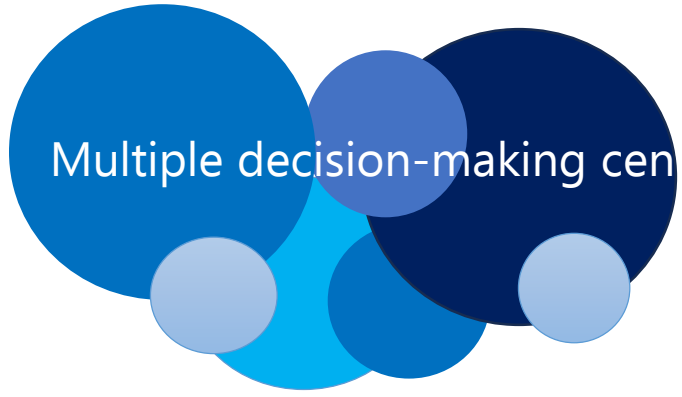
Co-design  
Co-creation approach  
Shared responsibilities

Collaboration  
Coordination  
Negotiation



Polycentric  
governance





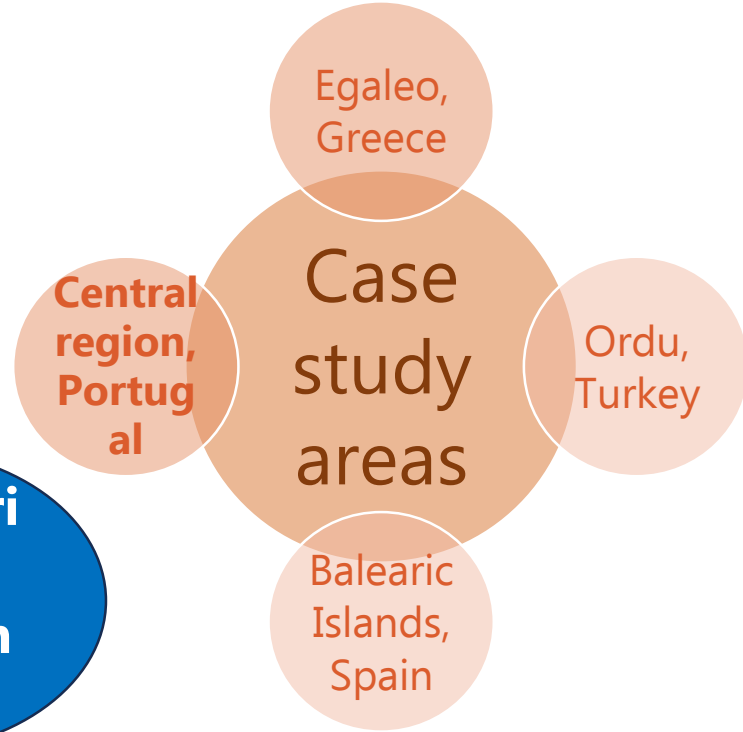
Risk-resilient society



Stakeholder engagement  
Participatory and inclusive approach  
*Workshops*  
*Living Labs*  
*Design Thinking*



**Polycentric governance**



# PART 4

## Implementation of PPCP: feedback from Portugal CSA

Speaker: Ana Catarina Zozimo (LNEC)

João Lutas Craveiro (LNEC), Manuel Oliveira (LNEC)

Maria Manuel Cruz (APA), Sofia Ventura (APA)

Esmée Klink (LNEC), João Nuno Fernandes (LNEC)



# Agenda



**Creating a more resilient region and managing the challenges of the future**





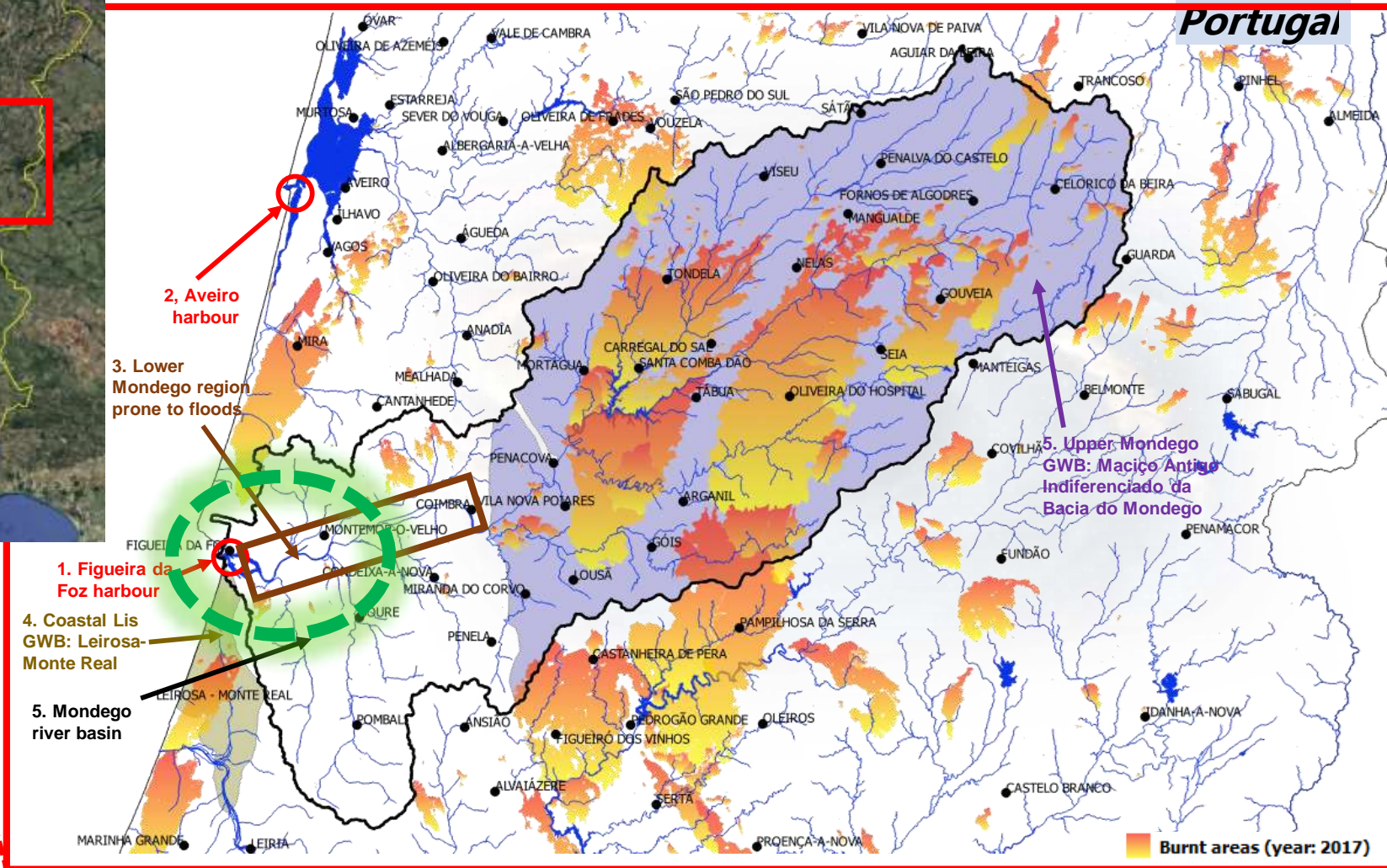
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# Case Study Area – some

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## Case study area 3: Centro Region –

Portugal



The studied region is characterized by **increasing exposure to climate change impacts**. **Coastal overtopping, river flooding, drought, heatwaves, and wildfires** are main challenges.

It is also a **region submitted to the abandonment of rural areas and primary sector**, and demographic phenomena that are increasing, such as the **aging of the population**, the **migratory balance that exceeds the natural balance**, the **growth of the foreign population**.

Also, besides an **aging population**, many of the residents **live alone** (11% in Figueira da Foz for example).



## 2 PPCP LL#1 and feedback

### Main objectives of PPCP LL#1

For the stakeholders to **identify the risks in the studied region** (municipalities of FIGUEIRA DA FOZ and MONTEMOR-O-VELHO), **the perception of their impacts**, and the **social groups and activities potentially affected**, as well as to consider responses and preparedness for disaster situations, the identification of measures and the involvement of stakeholders

### Main activities of PPCP LL#1

#### Participatory



#### Participatory Brainstorming



#### Key points and key question



21 Participants

13 Public sector  
5 Private sector  
3 Civil Society

### Duration

2 hours and 30 minutes







Map 1

Identify the **most likely type of environmental risk** in the region (e.g. river flooding, coastal flooding, coastal erosion, earthquake, fire, landslide, heatwave, ...)

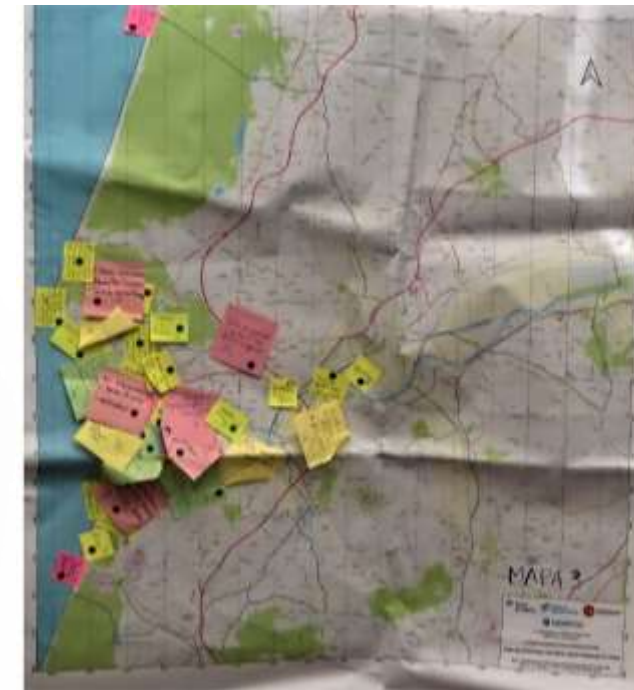
**Classify the severity of this risk** by the colour of the sticker:  
 less serious intermediate more severe



Map 2

**Identify the type of impact**  
 (economic / social / environmental / loss of service infrastructure / physical damage)

Use any colour of sticker



Map 3

**Identify groups and activities most affected**

Use any colour of sticker

**Stick a round label on each sticker with the sector to which the participant belongs**

Public:



Private:



Ci:







**Most of the environmental conditions are considered severe,** the Municipality of Figueira da Foz concentrates most of these more serious conditions. **All sectors point to coastal flooding as very serious, as well as river floods.**

However, among the risks considered **less serious, heat waves** stand out (a common perception across all sectors, perhaps due to the notion that people can do little against coastal overtopping and river floods, but against heat waves they can adopt protective behaviors, or simply not expose themselves to the sun).

**The perception of risk therefore seems to be dominated by a catastrophic dimension,** which can contribute to a feeling of impotence. It is the mission of C2IMPRESS to develop partnerships and commitments that promote proactivity and empowerment of local communities.

Stakeholders value social, economic and environmental impacts more. **Impacts due to the failure of infrastructures and services or physical damages are less mentioned.**



The most affected social groups are the **elderly, children and isolated populations.**



- All sectors see **intervention planning as a strength of the municipality**. This is identified in the fields of prevention, emergency and s



STRENGTHS OF  
MUNICIPALITY  
TOWARD  
DISASTER  
MITIGATION

BE  
IMPLEMENTED  
TO BETTER  
MITIGATE THE  
DISASTERS

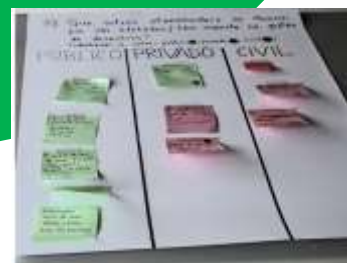


- Some measures mentioned included water quality control, deepening of the channel, understand invasive species, reforestation, preventive river cleaning, using agro-forestry surpluses; **all sectors identify both the need for structural and physical interventions in the territory as well as training and preparedness measures for emergency situations [...]**

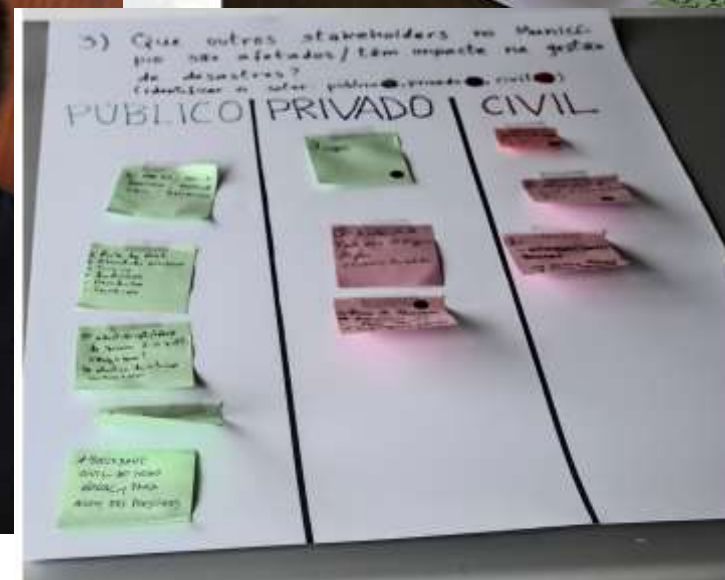
HOW CAN  
PARTICIPANTS  
BENEFIT FROM  
EACH OTHER'S  
SKILLS

OTHER  
STAKEHOLDER  
S AFFECTED

- Active collaboration can strengthen operational links, combine efforts, better involvement and improve knowledge and guidance. The **public** sector finds that the **clarification of competences/skills and roles of actors benefits each other. [...]**



- All sectors identify everyone residing in the area is impacted. **The civil society highlighted the people that use the beach. [...]**





## KEY POINTS

- **Communication methods**, from warning systems to better risk disclosure
- **Awareness-raising**, including actions among the school population and diverse target groups in risk areas
- **A better understanding of risks**, and their mapping, in terms of frequency and potential damage (exposure of critical infrastructure, accessibility, services affected, etc.)
- Differentiation of responsibilities, **clear definition of the roles of each entity/citizen** -> *who does what and when*
- **Collective empowerment** and resilience of local communities, involving the identification and prioritization of necessary measures and actions
- **Creation of a safety culture** and **Training** for population evacuation and intervention in emergency situations



### 3 PPCP LL#2 and feedback

#### Main objectives of PPCP LL#2

To **deepen the commitment of the PPCP working group** of the municipalities of Figueira da Foz and Montemor-o-Velho

To identify:

- the **actions to be taken in the various phases** of a specific disaster scenario (before, during and after)
- the **players involved** in each action and

**Main activity of PPCP LL#2** on the community concerned

Development of an action plan for a specific disaster scenario

Pre-disaster



During disaster



Post-disaster



**Duration**

**3 hours**

**14 Participants**

9

Public sector

4

Private sector

1

Civil Society



This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101074004



### 3 Disaster Scenario – built from the results of PPCP-LL#1

7<sup>th</sup> February 2025

After a **period of intense rainfall in the Mondego basin**, the Aguieira **reservoir reached its maximum levels** and it was necessary **to discharge flows that caused river flooding in the Mondego river**, mainly affecting the municipality of Coimbra and the municipalities downstream - Montemor-o-Velho, Soure and Figueira da Foz.

In this area of Baixo Mondego and on this day, **there was also the occurrence of a storm with wind gusts of over 120 km/h, heavy rainfall of over 30 mm/hour for 3 hours, extreme sea turbulence and rising sea levels due to storm surge.**

**Impacts:** These factors, combined with the high flows, caused the water level of the River Mondego to rise, causing dikes to overtop and break and flooding agricultural fields, isolating some villages and homes, forcing people to evacuate, cutting roads and railways, and leaving municipalities without electricity and water. There was also flooding in some urban areas, with extensive damage to homes, businesses and infrastructure.

During the high tide, there were also coastal flooding that affected some marginal areas (to the north from Cape Mondego to Tamargueira beach and Buarcos fortress and to the south at Cabedelo and Cova Gala Norte beaches), forcing road traffic to close. The harbour bar was closed to navigation and harbour operations were suspended. There were some incidents of broken cables on vessels moored in the harbour

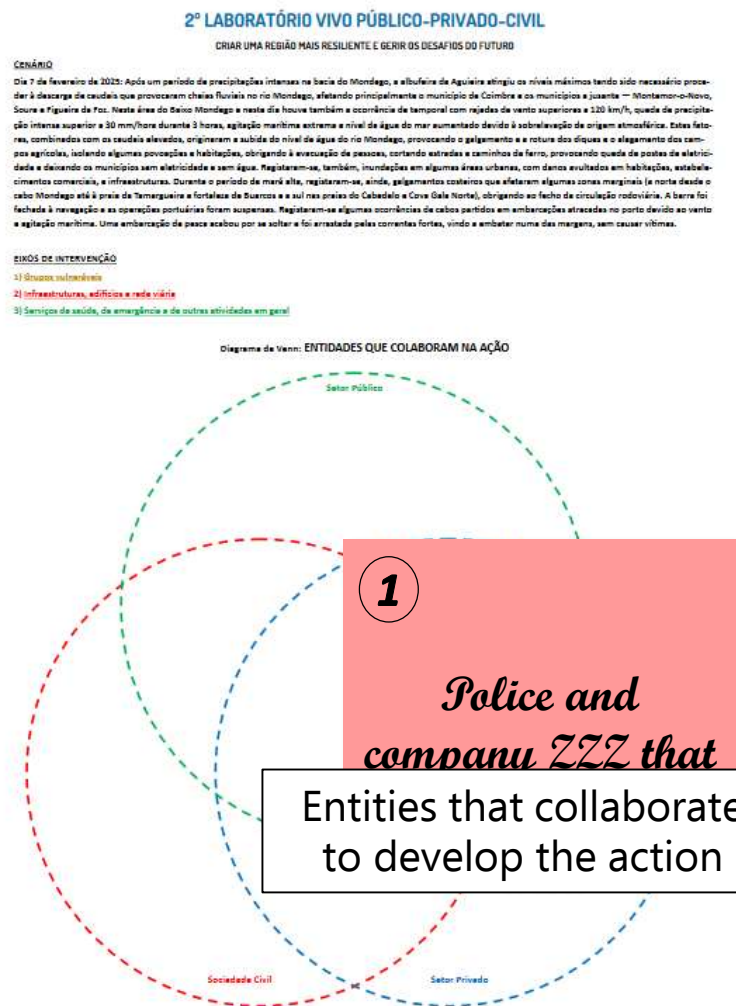
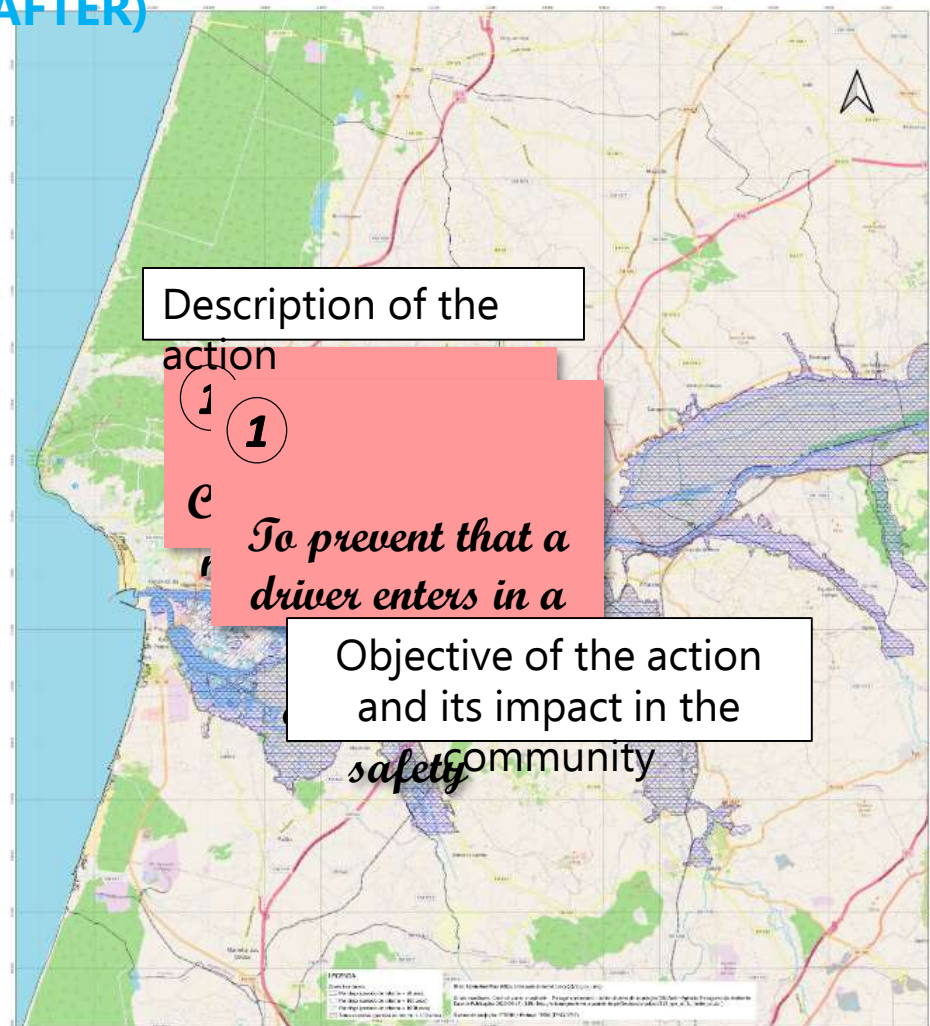
**due to the wind and sea waves.** A fishing boat broke loose and was swept away by the strong currents crashing into one of the banks, without causing any casualties.





## Participant activities

1 map for each working group -> **Pre-disaster (BEFORE)**, **During the disaster (DURING)**, **Post-disaster (AFTER)**



## 3 AXES OF

1) Vulnerable Group

- Seniors
- Children and babies
- People with Illness
- Foreigners
- Tourists, ...

2) Infrastructures, buildings, networks

- Housing
- Shops
- Buildings with public services
- Electricity network
- Water network
- Water Treatment Plant
- WWater Treatment Plant
- Water collection
- Fire

3) Health services, emergency services and other activities general

- Patient transportation
- Firefighters





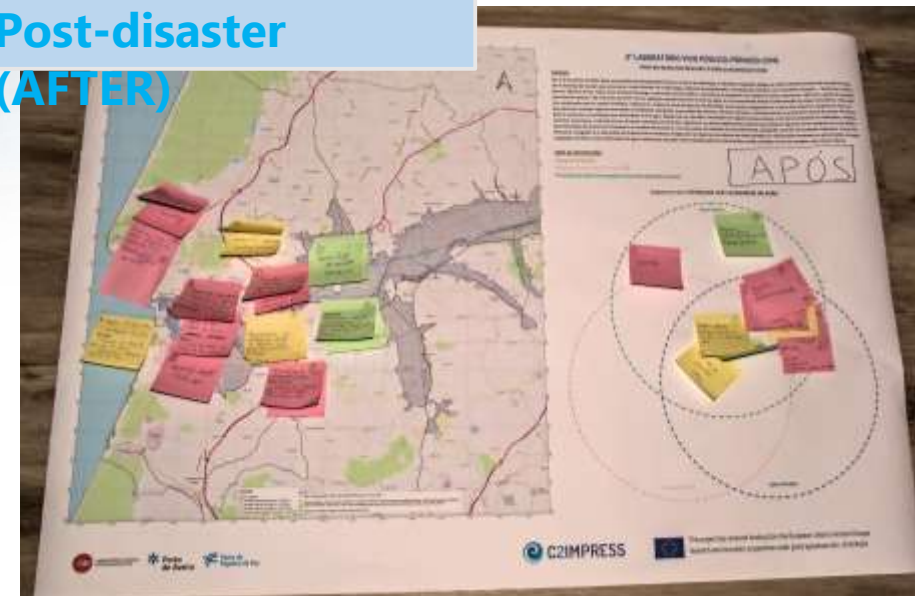
### Pre-disaster (BEFORE)



### During the disaster (DURING)



### Post-disaster (AFTER)



- Each group eliminates duplicates, renames the actions if needed, groups similar actions, etc
- The final actions are numbered in a table by chronological order and presented to the other groups
- After a debate, the actions are finalized and an action plan is achieved for the 3 phases of the disaster – before, during and after



## Pre-disaster (BEFORE)

**E2) MPRESS**

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**CRIAR UMA REGIÃO MAIS RESILIENTE E GERIR OS DESAFIOS DO FUTURO**

### Pré-desastre (ANTES)

Eixo de intervenção			Descrição da ação	Entidades envolvidas	Objetivo da ação e impacto na comunidade
Grupos vulneráveis	Infraestruturas, edifícios, vias	Serviços			
X			Identificação dos grupos mais precários	C.M.O.; End. Dist.; PSP; Bombeiros; Cidades, Escolas; C. Saúde; Jovens (as mesmas que antes + Pólo da Sociedade Civil)	Efetuar o diagnóstico dos grupos + afetados, identificação das questões que afetam as condições de vida das populações mais precárias
	X		Identificação e mapeamento das infraestruturas	(as mesmas)	Identificar as infraestruturas mais precárias
		X	Identificação dos serviços que estão a ser prestados	APA; DGRAP; ICNIP; CSP; Entidades locais; Associação de residentes; C.M.O.	Fazer o levantamento dos serviços que estão a ser prestados na área de intervenção
	X		Propostas de intervenção na infraestrutura de habitação	APA; C.M.; Autoridade Portuária	Aumentar a capacidade de resposta da cidade para as populações mais precárias
	X		Propostas de intervenção na infraestrutura de habitação		Propor as intervenções na infraestrutura de habitação na área de intervenção
		X	Propostas de intervenção na infraestrutura de habitação		Propor as intervenções na infraestrutura de habitação na área de intervenção
		X	Propostas de intervenção na infraestrutura de habitação		Propor as intervenções na infraestrutura de habitação na área de intervenção
		X	Propostas de intervenção na infraestrutura de habitação		Propor as intervenções na infraestrutura de habitação na área de intervenção
		X	Propostas de intervenção na infraestrutura de habitação		Propor as intervenções na infraestrutura de habitação na área de intervenção
		X	Propostas de intervenção na infraestrutura de habitação		Propor as intervenções na infraestrutura de habitação na área de intervenção
X			Identificação das entidades / grupos relacionados (bancos, associações, etc.)	Bombeiros, Bombeiros, famílias, Sociedade Civil	Subsequente as condições de vida das populações mais precárias
	X		Propostas de intervenção na infraestrutura de habitação	Enquadr. financeiro e municipal	Propor as intervenções na infraestrutura de habitação na área de intervenção
			Utilização dos recursos para a melhoria da infraestrutura		

## During the disaster (DURING)



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criar uma região mais resiliente e gerir os desafios do futuro

**Durante o desastre (DURANTE)**

[illegible]

## Post-disaster (AFTER)



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CRIAR UMA REGIÃO MAIS RESILIENTE E GERIR OS DESAFIOS DO FUTURO

**Pós-desastre (APÓS)**

[illegible]

**LEGEND:**

Priority	Axis of Intervention			Description of the action	Entities involved	Objective of the action and impact in the community
	Vulnerable Groups	Infrastructures, Buildings, Networks	Services			

# Development of the action plan

## Pre-disaster

- **P1/VG**/Identification of vulnerable groups
- **P1/IF**/Identify and map potentially affected infrastructures
- **P1/SE**/Identify the services that could be affected
- **P2/IF**/Preparing and maintaining the Mondego River's hydraulic system (dams, canals and dykes)
- **P2/IF**/Prepare coastal areas
- **P3/IF**/Safeguard port and fishing port equipment
- **P3/IF**/Preparing for the evacuation of the industrial park
- **P3/IF**/Identify schools to receive evacuees
- **P4/VG**/Identify entities with vulnerable groups (homes, schools, IPSS)
- **P5/IF**/Preparing historic and listed buildings

Majority of actions between the 3 sectors or between the public and civil

## During the disaster

- **P1/SE**/Activate the CCO - Command and Operation Centre
- **P1/VG**/Create advanced patient triage centre
- **P2/VG**/Search and Rescue
- **P3/SE**/Create operational zones to concentrate resources, including logistics/food
- **P4/SE**/Evacuate hospitals, health units and residences for the elderly: Cova-Gala Hospital; Cova-Gala Residence for the Elderly; Montemor-o-Velho Health Center
- **P5/IF**/Restoring infrastructures - assessment and action: Road network; Rail network; Telecommunications network; Energy and other networks; Placing dikes to protect against flooding; Water supply; Waterways and port facilities; Use dams as management tools
- **P6/SE**/Protect water catchment for human consumption
- **P6/IF**/Monitor infrastructures at risk of spills, plug outlets and place containment barriers - port area and fuel areas
- **P7/SE**/Reinforcement of police action

Majority of actions between the 3 sectors

## Post-disaster

- **P1/IF**/Restore basic infrastructures (water, electricity, networks)
- **P1/IF**/Cutting off roads that have been submerged
- **P1/VG**/Assessing the impact of the event on ecology and associated economic activity
- **P1/VG**/Creation of a task force to monitor the vulnerable population in places at risk
- **P1/IF**/Prepare infrastructures to better withstand a future event
- **P1/IF | VG | SE**/Report critical points during the event and preventive measures for these critical points
- **P2/IF | SE**/Restoring the operating conditions of the commercial and fishing port
- **P2/IF**/Removal of objects from the waterline
- **P2/VG | SE**/Reorganize destination health units based on affected access (for chronic patients, e.g. dialysis)
- **P3/IF/SE**/Revise the Municipal Territorial Plan to restrict placement of social action services and other services in risk locations
- **P3/IF**/Relocate affected infrastructures (beach facilities, support infrastructures for economic activities)
- **P3/SE**/Review emergency contact list
- **P3/SE**/Reorganize logistics, infrastructures and spatial distribution of civil protection agents

Majority of actions between public and private

LEGEND:

**P** Priority order / **VG** -vulnerable groups | **IF** -infrastructures | **SE** -civil protection agents

**S** Services / Action







### KEY POINTS

- **Dispersion** of information and entities, proliferation of management entities
- **Prior preparation, and emergency literacy**
- **Citizen involvement, school programs, raising awareness among the population (who often expose themselves)**
- **Risk literacy, stronger risk culture, more impactful awareness campaigns**
- Importance of the notion of **self-protection, there is a lack of responsibility from the citizens' side**
- Consider already existing management instruments
- **Little confidence in the warnings issued by the National Authority for Emergency and Civil Protection, as many warnings don't come true**

## Final Remarks

- It is **essential to have the support of a local entity** (Port Authority) as it is not easy to organize a LL remotely, as our team is based far from the studied region, e.g. **it's difficult to engage stakeholders when you are not locally known**
- **People hesitate to participate**, only register during the last days before the event, **but afterwards they enjoy it**
- Even when the foreseen **activities involved individual tasks, the natural behaviour of the participants was to work in a group** and not individually
- **The civil society stakeholders are the most difficult to engage** and, at first, they think they don't have a valid thing to say about disaster risk management
- However, it is essential to involve civil society more closely, **and develop the preparedness of social groups, especially the most vulnerable, for disaster scenarios. Even the best disaster management plan will fail if people don't know it, trust it and are not trained and follow it in case of a disaster**
  - We must continue to insist on the involvement of civil society, as the institutional dynamics of public and private entities seem more receptive to taking on shared responsibilities and common commitments than citizen organizations
- The implementation of **these collaborative workshops between the public, private and civil society sectors reinforces a collective sense of belonging to the same community**, makes the sectors **involved co-accountable** and allows for the **creation of a commitment to action**, rather than a mere consensus on the actions foreseen by the public authorities without involving the private sector and populations

# PART 5

## Q&A session

Catherine Freissinet

ARTELIA



# Consortium



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