Local Participatory Research on Water in Member States

Water Resilience Experiment

Arrigoni, O., Rajhi, A., Hamarat, Y., Almeida, R.P., Borg Christensen, J., Cipriani, L., Costa Monteiro, R., Gaižauskienė, D., Jacobsen, P., Leoni, F., Nižić, M., Urbis, V.

2025

Joint
Research
Centre

CONTACT INFORMATION
EU Policy Lab
Unit S.1 EU Policy Lab: Foresight, Design and Behavioural Insights Joint Research Centre, European Commission,
Brussels, Belgium jrc-design-for-policy@ec.europa.eu

EU Science Hub
https://joint-research-centre.ec.europa.eu

JRC140373

PDF ISBN 978-92-68-25690-9 doi:10.2760/4601120 KJ-01-25-187-EN-N

Luxembourg: Publications Office of the European Union, 2025

How to cite this report: European Commission: Joint Research Centre, Arrigoni, O., Rajhi, A., Hamarat, Y., Almeida, R.P., Borg Christensen, J., Cipriani, L., Costa Monteiro, R., Gaižauskienė, D., Jacobsen, P., Leoni, F., Nižić, M. and Urbis, V., Local Participatory Research on Water in Member States, Publications Office of the European Union, Luxembourg, 2025, https://data.europa.eu/doi/10.2760/4601120, JRC140373.

Water Resilience Experiment

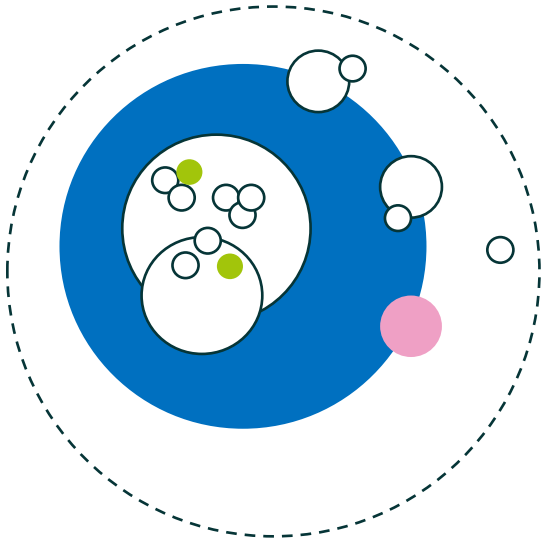
Abstract

The Water Resilience Experiment aims to contribute to the European Commission's Water Resilience Strategy through the lens of design for policy and behavioural insights. The project focused on increasing cross-DG collaboration around the water topic and reducing the policy-implementation gap by engaging stakeholders across different levels of governance. The project adopted a holistic, cross-cutting, and systemic approach. The experimentation built on various workstreams generating qualitative insights from governance across local, regional, national, and international levels. Workstreams included the collection of citizen stories, participatory research conducted by innovation labs engaging numerous regional stakeholders, an analysis of the media discourse on water in 9 EU languages, and a collection of case studies as basis for a serious game. During workshops and serious gaming sessions, 55 policymakers and over 60 scientists collaboratively analysed research outcomes using systemic and visual thinking approaches, fostering deeper insights and strengthening collaboration. We identified three essential dimensions for a comprehensive approach to water resilience: the framing of the topic, common internal organisational practices, and the interplay between EU and local knowledge in implementation. Based on these observations, the Water Resilience Experiment proposes eight transformative actions to strengthen the Commission's internal and external water resilience efforts, directed at policymakers, water-focused groups, and communities within and beyond the Commission.

See the main report of the project here: European Commission: Joint Research Centre, Arrigoni, O., Hamarat, Y. and Dupoux, M., WATER RESILIENCE EXPERIMENT, Publications Office of the European Union, Luxembourg, 2025, https://data.europa.eu/doi/10.2760/9430203, JRC140148.

Workstreams Overview

What we did



Water Stories from EU Citizens

Behavioural analysis of citizens' experiences with and perception of water

Water Reflections Game

A strategic role-playing game based on concrete cases

Local Participatory Research on Water in Member States

Maturity of capacity and capabilities of local interventions and discourse

EU Water Media Discourse Analysis

Maturity of the discourse and framing of the challenge

Contents

How to navigate the report

This report deals with the analysis of Local Participatory Research on Water in Member States developed to support and analyse innovative policy-making at the European Commission on water under the Water Resilience Experiment led by the EU Policy Lab of the Joint Research Centre from June 2024 to July 2025.

This report provides a visual summary of the project in a landscape format.

Overview

Workstream Overview

What we did

WHY

'Maturity assessment per Lab of where the county/region/city/community is and where it should be to address current and future challenges on water.

WHAT

- Grounding the project to local realities and concrete situations
- Bringing local insights to the European level

WHO

- 5 Member States Policy/Innovation Labs
- 1 coordinator
- EU Policy Lab: Design Team + Water Team

HOW

- Participatory research with collective sessions across the 5 Labs
- Individual supported fieldwork research

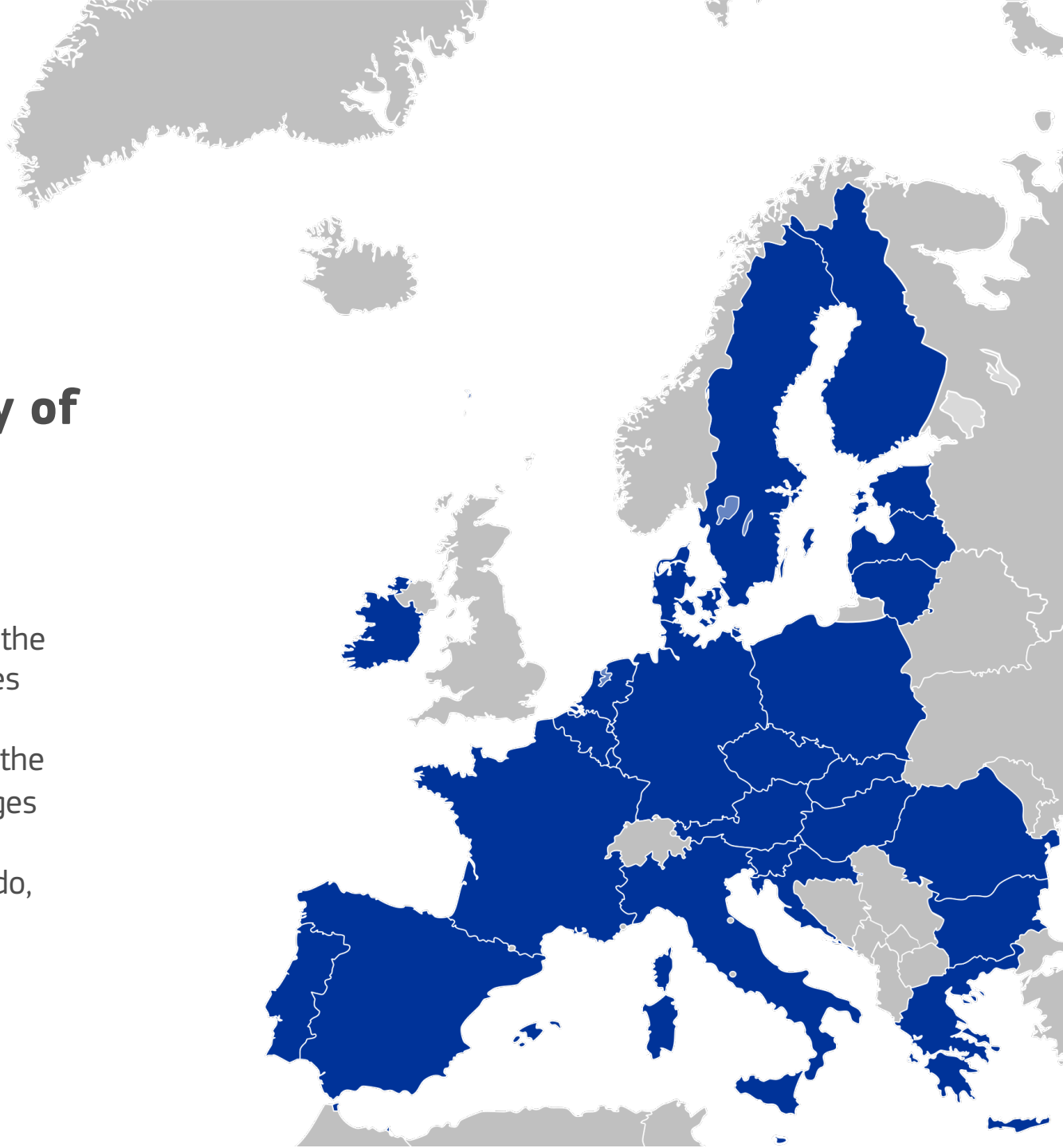
Workstream Overview

Aim and goals

Research Question:

What is the perception and maturity of the response to water challenges across Member States?

- Understand the opportunities arising from the gaps in the implementation of water policies across Member States
- Understand how actors on subnational level are using the existing space to deal with the different water challenges
- Gather lateral insights on what the commission could do, beyond the current frameworks and directives



Workstream Overview

Why

Analysis of the ‘synergies' across the countries

Policy instruments each case has and their capacities to act.

- Level of maturities across the cases analysed, not in comparison but identifying synergies and conflicts among them and with the EU level
- Type of topic area and interventions have been highlighted and comparing with current internal political and strategic discourse.
- Type of policy instruments and actions, how they are used, and which impact is enabled.

From Gaps to Opportunities: move from insights into systemic wider opportunity spaces at a European Level

- Implementation Opportunities on a European level to enable synergies and overcome conflicts or identifying other scales of intervention. Analysis of current instruments and priorities and eventual gaps .

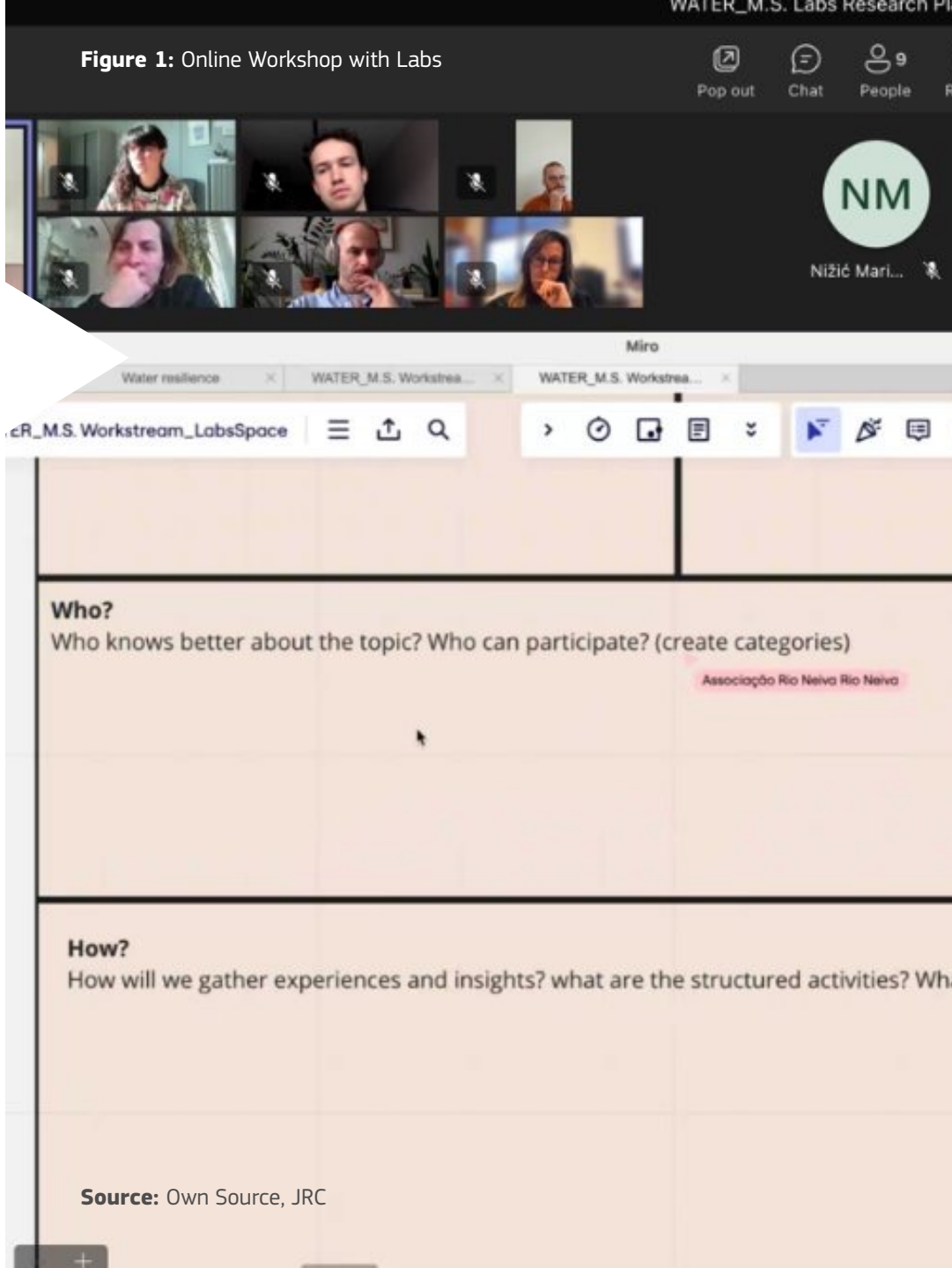


Figure 1: Online Workshop with Labs

Source: Own Source, JRC

Workstream Overview

What we did

Oct 23 - Feb 24
Identify Partners

Figure 2: Online call for Interest on EU Policy Lab website

Selection of 5 Labs from a call for Interest we launched on the EU Policy Lab blog of the European Commission

Call for Interest

Photos source: Own Source, JRC

March 23
Pre-Fieldwork

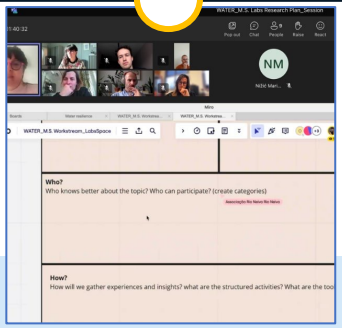


Figure 3: Online Workshop with Labs

Identifying and agreeing on the research strategy, synergies across the projects and concrete plans for reaching out and engage with the relevant stakeholders

Online Group sessions

Photos source: Own Source, JRC

April 23
Fieldwork

Figure 4: Local workshop in Person run by Lab

Each of the Lab run a participatory research in their Member States. All the labs gather on a regular base to review the materials, align and support each other through online sessions

Workshops & Interviews

Photos source: Victoria, Willy & Co

May 24
Sense-making

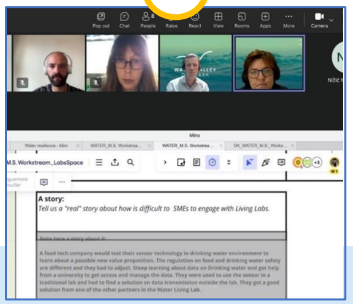


Figure 5: Online Workshop with Labs

Review of the materials, findings and patterns in group sessions supported by 1-2-1 to do sense-making

Sense-making Workshops

Photos source: Own Source, JRC

Workstream Overview

Our Conclusions

Insight 1

Engaging communities, tapping into their local knowledge could help building trust and agency

Insight 2

Place-based and alternative models of governance have the potential to deploy efficient emergency response and water management

Insight 3

Identities of places are shaped by water events, and recognizing an identity to water shape people response

Insight 4

Shifting narratives on water could foster deeper understanding, creating stronger connections and collective actions

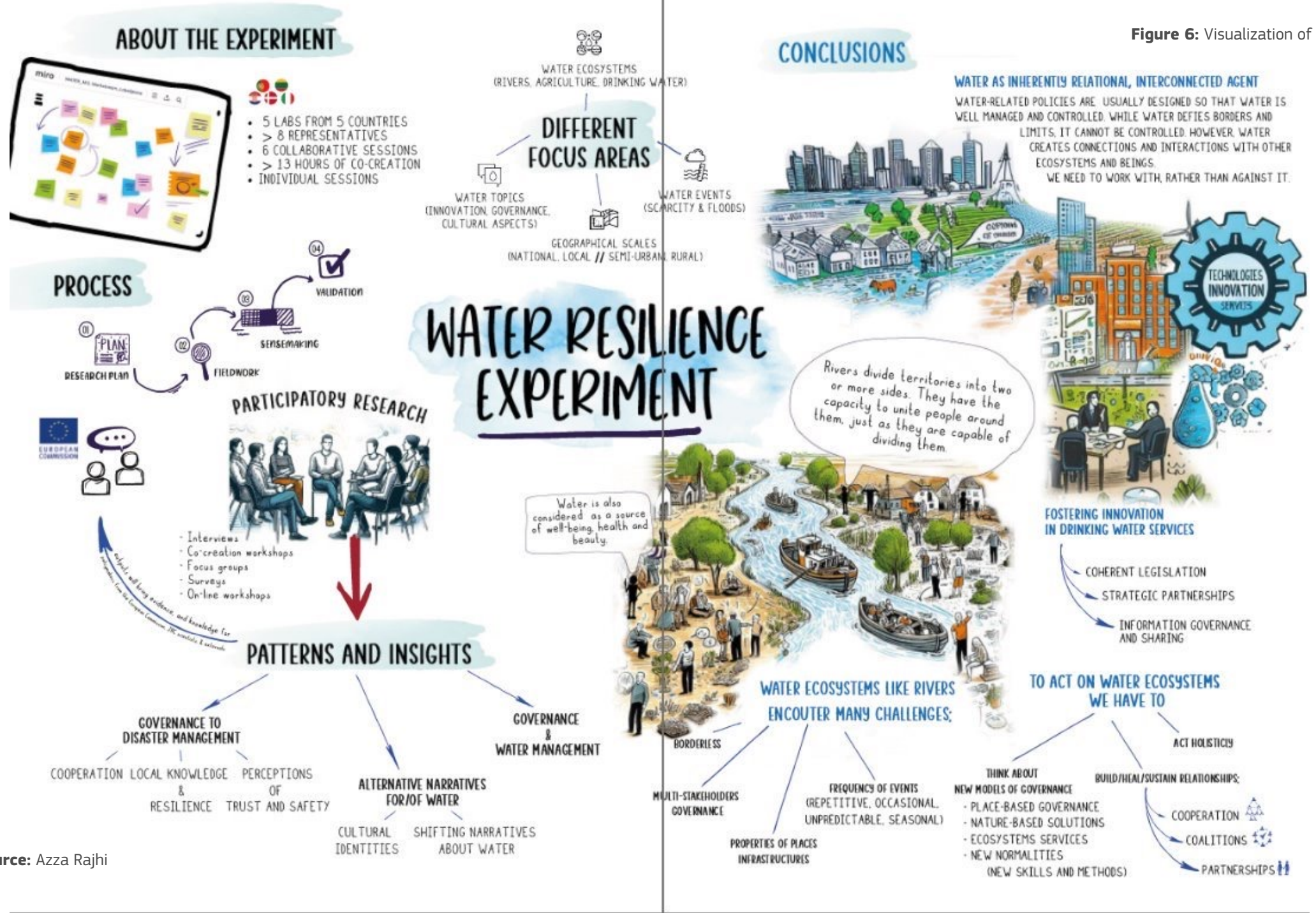


Figure 6: Visualization of the Project Process

Photos source: Azza Rajhi

Methodology

Overview of the workstream ecology, including methods, tools, and type of engagement of 5 Labs with the relevant stakeholders.

Methodology

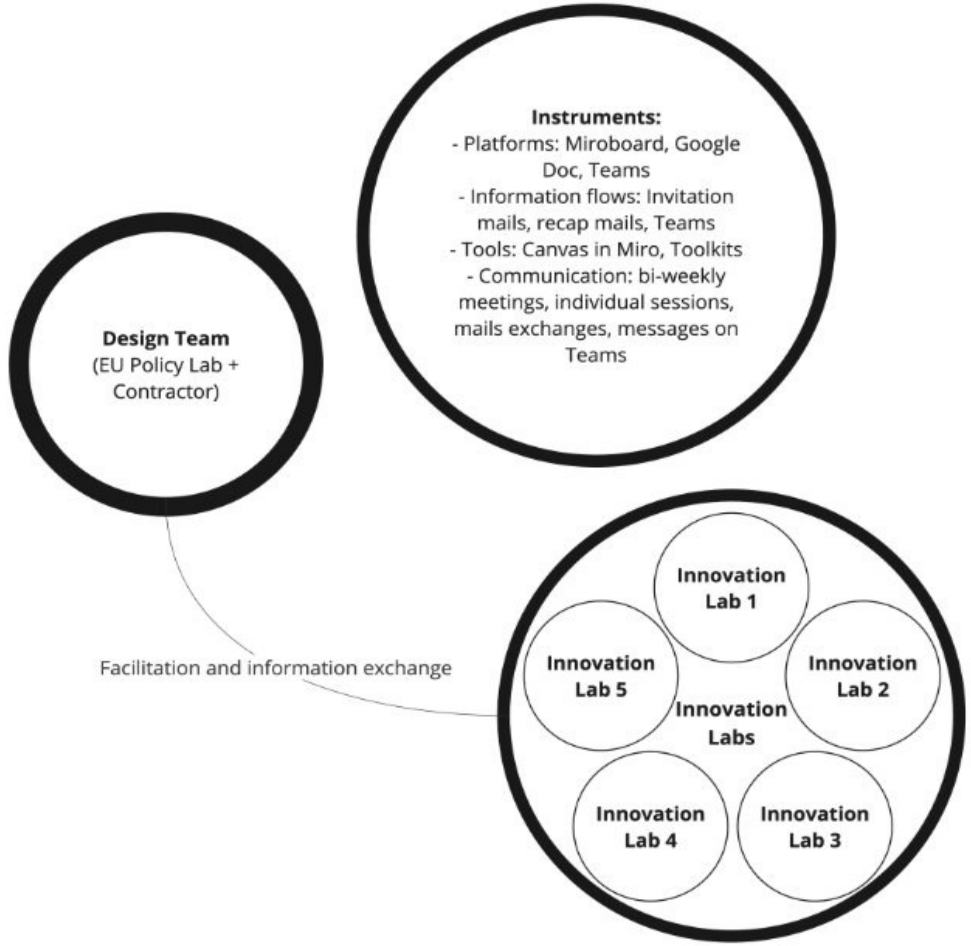
What we did

Member State Labs across EU

5 Labs lead local participatory processes to identify which water priorities they should bring to the European level and concrete local cases.

Each lab brings a different perspective and set of experiences to the table, helping us bridge the gap between multiple layers of insights on water resilience back to the Commission, particularly their capacities, capabilities and resources to manage a multitude of responsibilities, interlinking the levels of water governance (municipal, regional, national, EU).

The Labs have been selected through an open call and selected from 24 applicants.



Methodology

What we did

The team designed collaboratively a research strategy to guide the research process and ensure the participatory methodologies were aligning with stakeholders and lab needs. We held online co-designing interactive sessions on the platform Miro with the Labs across the EU.

The design team helped the labs to design their participatory research strategies through presentations about «participatory research», and toolkits delivery and tools generation. The tools were used to:

- define the specific research topic
- design a research plan

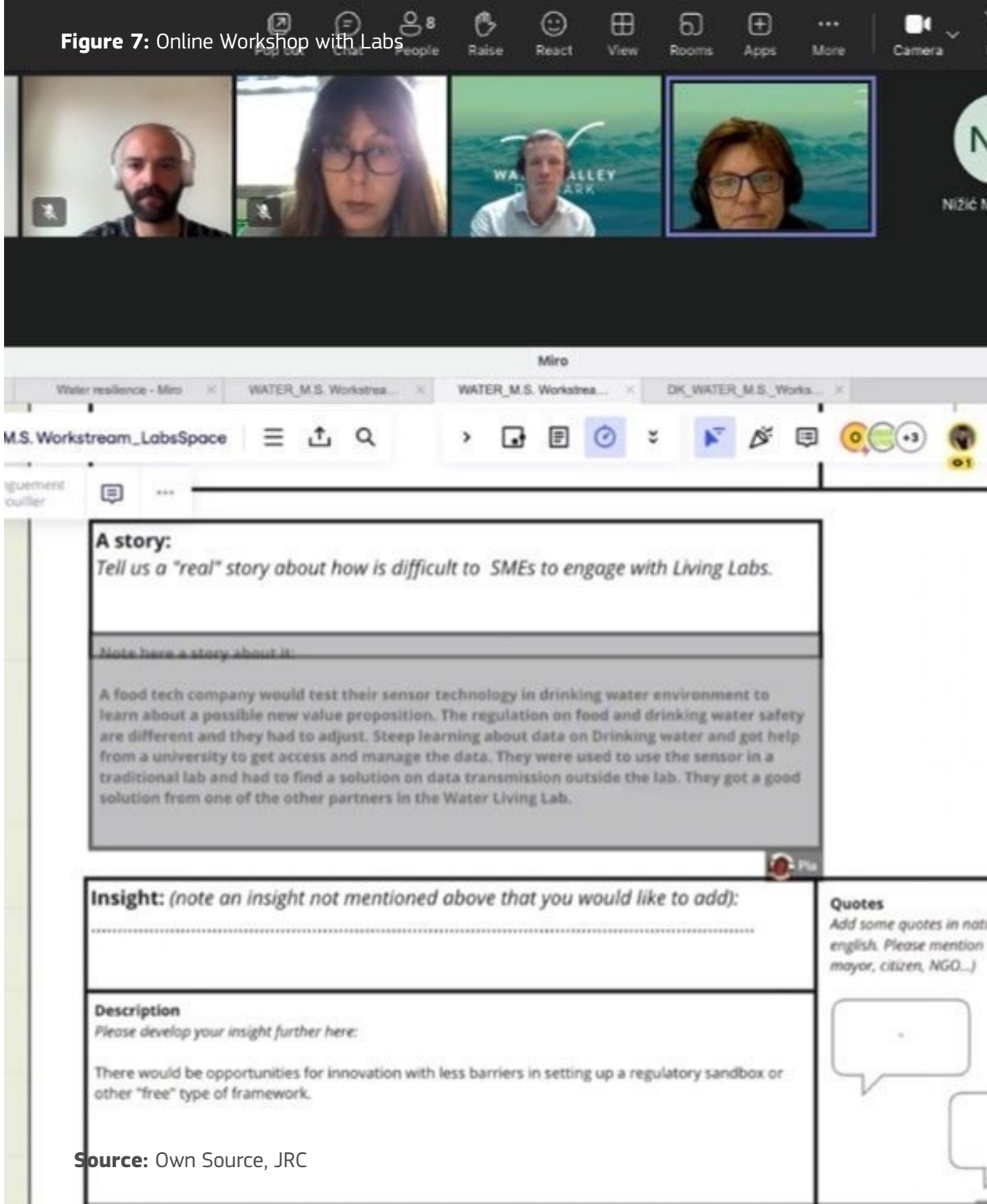


Figure 7: Online Workshop with Labs

Source: Own Source, JRC

Methodology

Overview of what we did

5 Labs across Member States:

Lithuania (LT)
Victoria, Willy & Co

- Location: West of Lithuania
- Private consulting agency
- Topics: Cultural heritage, public policy, design for policy
- Usual partners: Policy makers, local communities and groups, private sector and NGOs, academia, culture and art institutions

Croatia (HR)
Urbani separe

- Location: The river Rjecina in Rijeka
- Non-governmental Organization
- Topics: Community engagement, rivers, riverscape places, communities and natures
- Usual partners: Local and international organisations, municipalities, Rangers, cultural institutions, schools, academia

Italy (IT)
Design Policy Lab

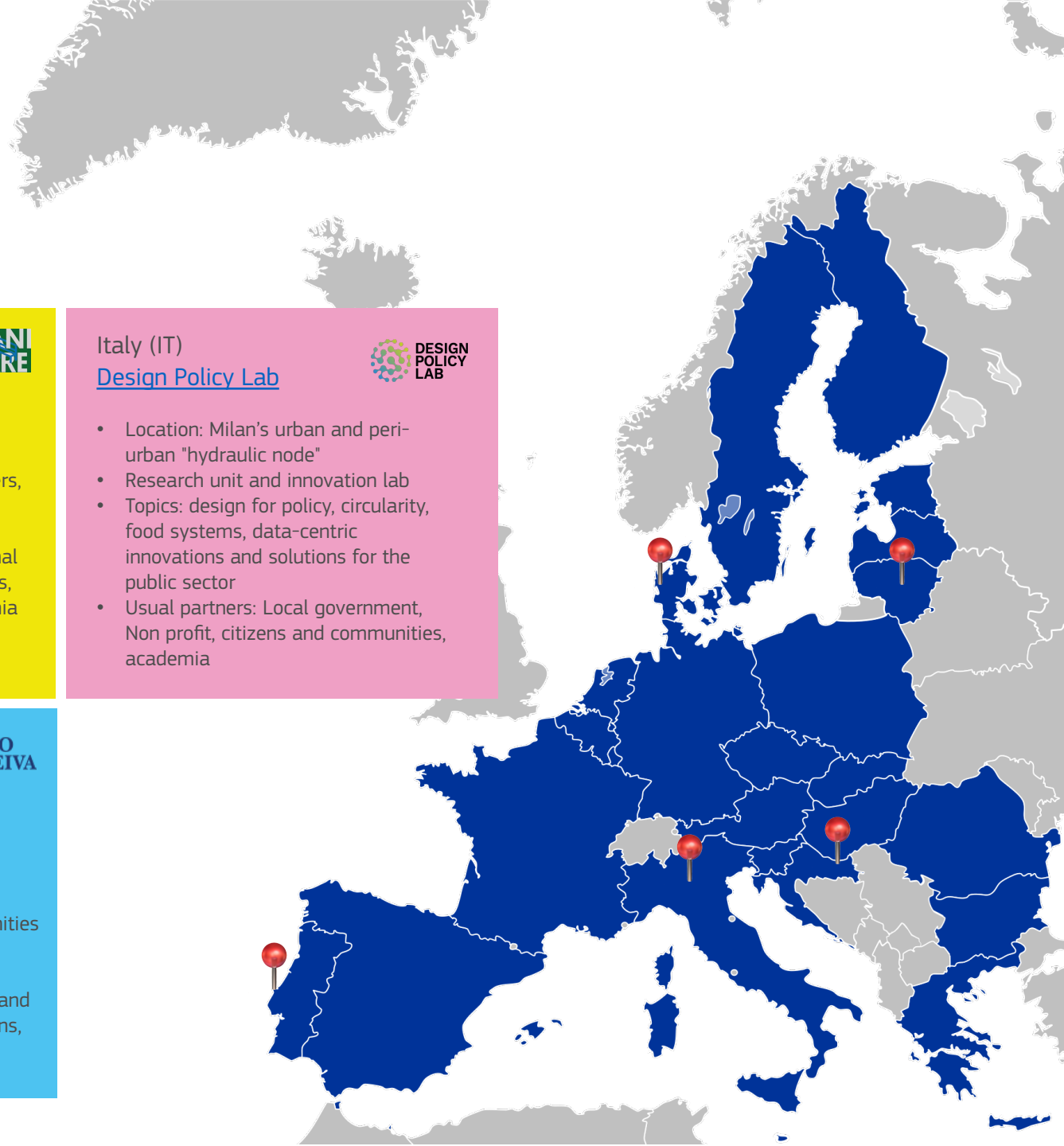
- Location: Milan's urban and peri-urban "hydraulic node"
- Research unit and innovation lab
- Topics: design for policy, circularity, food systems, data-centric innovations and solutions for the public sector
- Usual partners: Local government, Non profit, citizens and communities, academia

Denmark (DK)
Water Valley Denmark

- Location: Water Living Lab, Aarhus
- Non- profit association
- Topics: Innovation in the piped water system, open innovation, water tech ecosystem, urban water systems, digitalization of water systems, efficient drinking water services for citizens,
- Usual partners: SMEs, Academia, Stratups, ministries, water utilities

Portugal (PT)
Rio Neiva, Neiva Community Lab

- Location: Neiva River mouth area in a semi-rural area
- Environmental and community NGO
- Topics: Relation between local communities and water, sustainability, inclusion, culture/aesthetics, traditions
- Usual partners: Municipalities, schools and universities, environmental organisations, communities

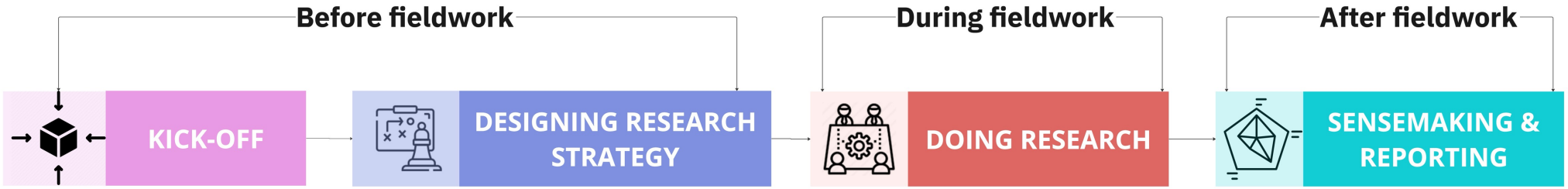


Methodology

What we did

The Labs were invited to identify urgent water related issues in their Member States through a participatory approach involving citizens, local communities or key national stakeholders. The Labs were responsible of the employment process, selection of the tools, delivery of research, documentation of the process and findings in English.

The project process comprises of three main phases:



Pre-fieldwork: the Labs partners defined their research questions, framing the participatory research strategies, identifying their participants, tools and survey methods according to the research needs and available resources. The team provided the labs with the necessary tools (toolkits, canvas, templates) and personalized support adapted to each one of them (individual sessions).

During fieldwork: the Labs carry out their research activities, transcribe the data and identify the knowledge gaps.

After fieldwork: sense-making and reporting. During the internal workshops between design team members, insights from each Lab were discussed and cross-checked with the other Labs.

Methodology

What we did

Each lab has run different research on the topic in their Member States following a participatory process, co-designed during the session.
Each Lab personalised the tools and methods based on what they were focusing on.

Figure 8: Workshop in Lithuania run by the local Lab

Source: Victoria, Willy & Co

Methodology

What we did

DOING RESEARCH

What does water level say about care?

The Challenge

The challenge defined by the lab is how to care for water in rural areas in the West of Lithuania. A challenge which is in correlation with water resilience through local responses to events such as floods, droughts etc. In fact, this can't be achieved only through temporary but at the same time constant change in the practices.

Sample

3 co-creation workshops with 19 people in Kintai, and online

The position of communities in revitalizing riverscapes

The Challenge

The challenges examined by the lab is first to imagine scenarios to bridge bottom-up and top-down efforts in order to revitalize rivers and second to make coalitions for the sake of establishing sustainable collaborations within local stakeholders.

Sample

1-2-1 interviews with communities, municipalities reps, and formal actors, 1 co-creation workshop with stakeholders involved in the case

Facing drought through collaboration in Milan

The Challenge

The challenge explored by the lab is to develop a case study of Milan municipality (Food Policy Office) which handled the drought crisis and to propose action points for designing climate resilient water management in European cities.

Sample

1-2-1 interviews, 1 focus groups with key stakeholders involved in the case

Effective innovation collaboration in Water Living Labs

The Challenge

The challenge explored by the lab is initially to determine how to make a Water Living Lab open and eye catching for companies and students to join with a special focus on SMEs and startups. Fieldwork activities have shown that there is a need to define what innovation means to water projects.

Sample

On-line co-creation workshop with 9 participants from private and public sector, online interviews

Youth forge specific connections with water, intertwining notions of well

The Challenge

The challenge explored by the lab is to understand how a younger generation interacts and perceives the value of surrounding water ecosystems (river and ocean). The lab doesn't assume that the youth of today don't care about water/nature. The lab admits that the youth do care but in their own way.

Sample

Online survey to 81 youngsters, 5 municipalities, 10 focus groups, 17 fields visits with local youngsters, open conversation between municipalities

Results

Data generated by the 5 Labs, including main analysis per Lab and overview of all the findings.

Results

What came up

This section displays the outcomes of each Lab work following the following structure:

1. Fieldwork strategy and methodology
2. Results
3. Insights and takeaways

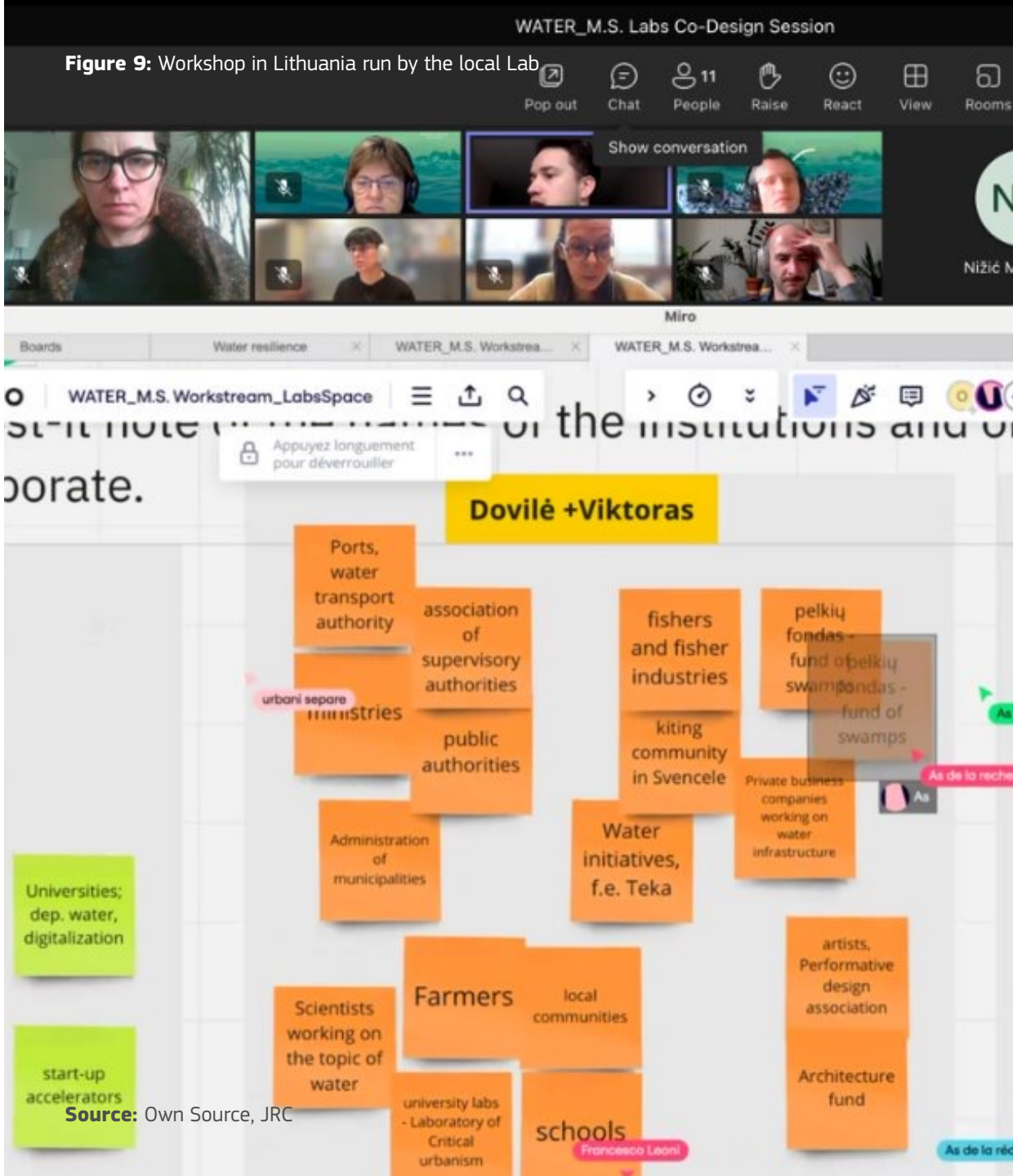


Figure 9: Workshop in Lithuania run by the local Lab

Source: Own Source, JRC

Framing Question

What does water level say about care?

Research goals

To investigate and map the practices related to water care in rural areas with the use of water level/ care level framework and to consider trade-offs in governance of water.

- To learn about water future vision(s) and practices of caring for water which are found in Western Lithuania. In other words, how they are perceived and who is responsible of these practices
- To learn from the participants about modes of governance and to explore existing practices (practices that them can proceed as they are, or to be modified, or stopped in order to "fit" water future vision(s).

Figure 10: Photos from local research run by the Lab

Lithuania (LT)

Source: Victoria, Willy & Co

Insight 1

(1) A systemic and holistic understanding of how to manage and care for water during floods and after them is lacking.

Insight 2

(2) Water is perceived as a transboundary power, that must be fought against during times of floods.

Insight 3

(3) Water events as floods are more frequent, less regular, affect a larger geographical area and influence cultural, social and economic changes in local identity - calling for a balance between nature conservation and human activity.

Insight 4

(4) Local communities believe they have the expertise to cope with floods because they have lived and experienced them, but they feel excluded from decision-making processes and are not empowered to contribute to water management and regeneration led by their local public authorities.

Insight 1

A systemic and holistic understanding of how to manage and care for water during floods and after them is lacking.

Governments face numerous challenges in developing and implementing effective emergency response strategies for floods. Flood management involves multiple agencies, including local governments, national authorities, emergency services, communities, and non-governmental organizations. In protected areas, it is even more difficult to prepare for flooding, to manage the event andits impact.

Floods are unpredictible events that need proactive and coordinated responses. The governance of water does not have one owner (many institutions in the ecosystem of management depending on type of water, infrastructure management and etc.). Engaging different stakeholders (including communities), however crucial, can also be very difficult to achieve if actions are reactive.

Related topics

These themes might be connected to feed other narratives such as:
- Cooperation
- Regulation
- Emergency responding processes
- Community Involvement

" If Klaipėda district designs higher embankments, and Šilutė district even higher embankments, to which district will the water run then? "

Participant from fieldwork

" No coordination between various ministries - problems at national level. "

Observations from Debrief sheet

Insight 2

Water is percieved as a transboundary power, that must be fought against during floods.

Water is being perceived as super power which cannot be completely controlled by humans. In times of flood, water is fought against as homes are inundated, roads become impassable, and lives are upended. The locals instinct is to «fight» back: sandbags are hastily stacked, makeshift barriers are erected in an effort to stem the tide. There's a sense of urgency and desperation as residents work tirelessly to «control» the water from coming to their homes.

Water is no longer seen as a resource or means for prosperity but rather as a peril, adversary. Locals feel the need to «fight back» and «work against» this natural force, which is controlled with rather fragmented and outdated infrastructure. Water is perceived as something sent by others from far away, rather unclean. In general, nature is perceived as endless.

Related topics

These themes might be connected to feed other narratives such as:
- Natural disasters
- Relationships between humans and natural forces
- Emergency strategies
- Narratives about water

" People use polders system, sand bags, other things to block water coming to their houses or fields. there the idea of 'others' sending the water or 'sending' the pollution."

Observations from a Labs partner's member

" Kur atrodo, kad gamtą skriaudi, bet iš tikrųjų balansą randi, kad žmogui būtų patogu. Yra tos gamtos daug aplinkui."

Participant from fieldwork

(Eng) "Sometimes it seems that you are abusing nature, but in reality you find a balance to make people comfortable. There is a lot of that nature around"

Insight 3

Water events as floods are more frequent, less regular, affect a larger geographical area and influence cultural, social and economic changes in local identity - calling for a balance between nature conservation and human activity.

Water events like floods can reshape the cultural and social identity of places by attributing a new meaning to culture, economy, and the new ways of life.

Even if frequent floods can present an opportunity for the development of new economic - entertainment, tourism and mobility, transportation - activities, they lead to more difficult conditions for traditional agriculture. With the appearance of additional restrictions and the disappearance of the fishing and agricultural sector in this region, new economic activities are emerging. Floods do not only change territories and remove the memory of places but they also change the features of the territory: settlers build houses near the Curonian Lagoon - city dwellers who come for recreation and entertainment, but their habits and needs are not always conducive to nature conservation. Floods are a direct reason for damaging buildings, displacing families, and disrupting livelihoods. And as local residents change, local identity is being rewritten.

With the emergence of new economic activities and new restrictions on regular economic activity, residents and institutions are looking for a balance between nature conservation and human activity.

Related topics

These themes might be connected to feed other narratives such a:
- Identity reclamation and land reclamation
- Floods as catalysts for change
- Loss and resilience
- Stories of grief and healing

"Mes esame priklausomi nuo gamtos sąlygų ir mūsų pagrindinė mūsų ekonominė veikla yra turizmas, žvejyba ir žemės ūkis - viskas yra draudžiama, ribojama"

Participant from fieldwork

(Eng) "We are dependent on natural conditions and our main economic activities are tourism, fishing and agriculture - everything is prohibited, restricted"

"My grandfather's house was 74th. The road through the swamp Aukštumala passed to the pier Land reclamation in 1970, many buildings were demolished."

Participant from fieldwork

"Mūsų kintiškių tikslas išlaikyti pusiausvyrą tarp gamtos ir žmogaus"

Participant from fieldwork

(Eng) "The goal of our people is to maintain the balance between nature and man"

Insight 4

Local communities believe they have the expertise to cope with floods because they have lived and experienced them, but they feel excluded from decision-making processes and are not empowered to contribute to water management and regeneration led by their local public authorities.

Local residents feel safer when they feel that local or national government is paying attention to their problems. However, their involvement in solving water issues is often reactive rather than proactive. In general, it is noticeable that the historical experience and knowledge of the local community is not used in water management policies and processes. Over the years, local residents have experienced many floods, adapting their homes and lifestyles to cope with the recurring threat. They have a great understanding of how to navigate and mitigate the effects of floods. Likewise, residents feel that they could contribute practically in preparing for flood threats or managing their effects, but are often limited by various regulations.

Related topics

These themes might be connected to feed other narratives such as:
- Local expertise through vivid daily life experiences
- Any flood is a new lesson about resilience and community solidarity
- Frustration with decision makers
- Community action and grass root initiatives
- Resilience and local knowledge

"Vietinių gyventojų buvo pasiūlymas Pakalnės upės geresnį išgilinimą padaryti, kad iš Nemuno deltos vanduo geriau išeitų į marias [o ne statyti estakadą]."

Participant from fieldwork

(Eng) "There was a proposal by the local residents to deepen the Pakalnė river so that the water from the Nemunas delta would flow better into the lagoon [instead of building a flyover]"

" Kiekvieną sprendimą priimant reikia diskutuoti daugiau su bendruomene."

Participant from fieldwork

(Eng) "Every decision needs to be discussed more with the community"

" Vietos bendruomenė mes nesame apatiški. Apatiškumas prasideda aukštesnėse instancijose."

Participant from fieldwork

(Eng) "We are not apathetic. Apathy begins in higher instances"

Framing Question

The position of communities in revitalizing riverscapes

Research goals

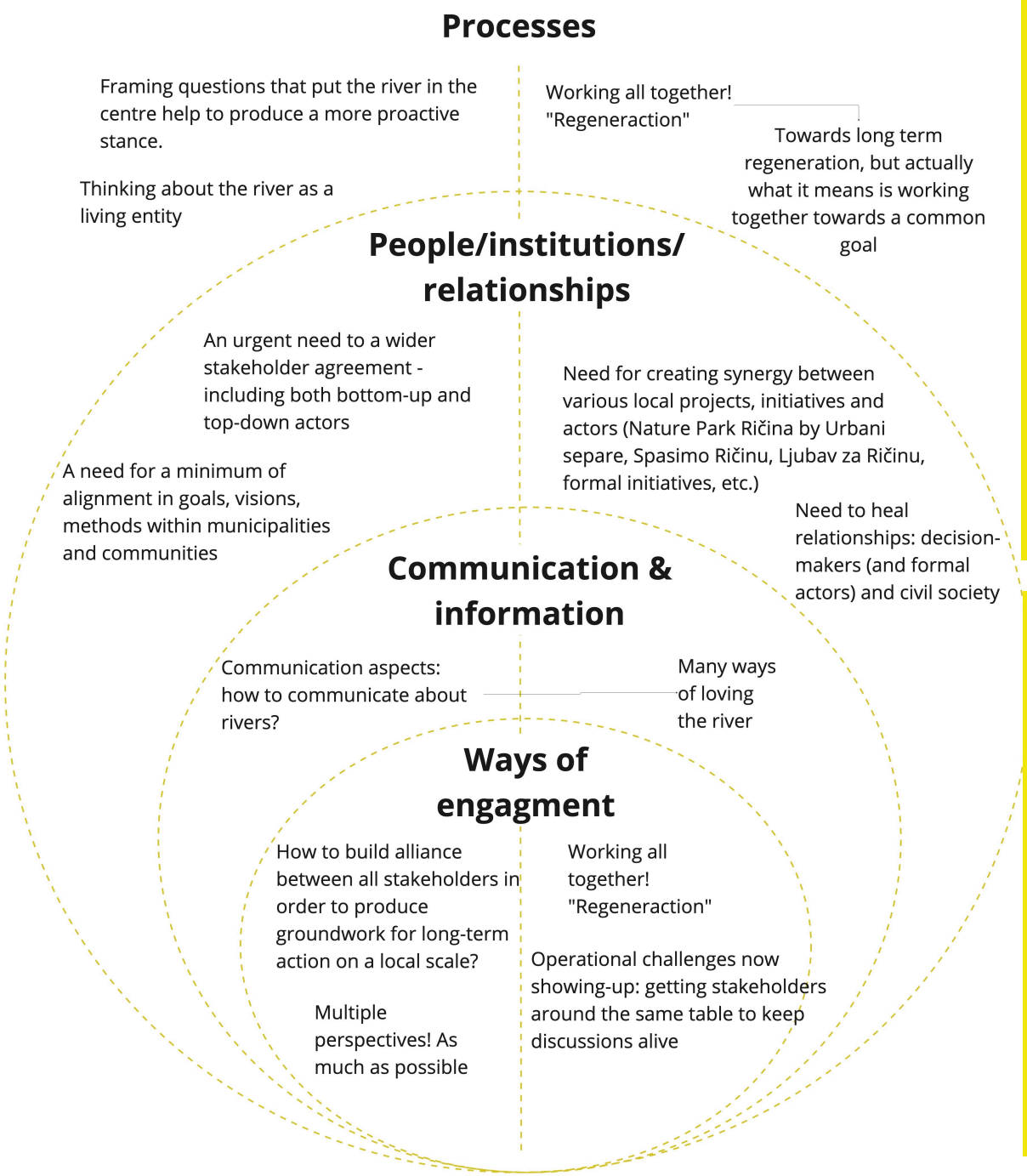
To explore what is and could be the role of the communities in revitalizing river landscapes and to learn how to connect bottom-up and top-down efforts to produce a lasting and sustainable change.

- What is the element that can define an agreement across all river landscapes stakeholders? (What is the current role of cross-sectoral collaboration? and what are the misalignments between different bottom-up and top-down perspectives?
- How to bargain a compromise with all river landscape stakeholders? What is the desired role of cross-sectoral collaboration? And how can communities boost and inform top-down efforts?

Figure 11: Photos from local research run by the Lab

Source: Urbani separe

Croatia (HR)



Insight 1

(1) Local players find it difficult to work together because of long-standing conflicts and diverging priorities, underlining the need for reconciliation to heal broken relationships.

Insight 2

(2) Forming coalitions has the potential to cultivate collaborative efforts among local stakeholders, fostering consensus and alignment for projects centered around rivers. The imperative of creating these coalitions could foster a fresh environment conducive to sustainable collaboration.

Insight 3

(3) Shifting focus towards fostering the emergence of distinctive local and regional water system identities can enhance our understanding of climate threats and empower proactive responses.

Insight 4

(4) As a new official document, The Rijeka Green Infrastructure Strategy could be a 'tool' for discussion and collaboration.

Insight 1

Local players find it difficult to work together because of long-standing conflicts and diverging priorities, underlining the need for reconciliation to heal broken relationships.

At the community level, it is obviously noticed that there is a clear strife among local actors. Because of all the previous conflicts and misunderstandings, one can clearly see how the activists, the community-oriented organizations and the governmental agencies are no longer able to collaborate and one can also notice the deceptive relationship between the civil society actors and decision makers. The whole context has led to a lack of any opportunity of collaboration. Indeed, even if all of the stakeholders share a common interest and motivation to engage with rivers and nature, their approaches and policies often diverge. In order to overcome all those differences and seek the same objectives, the stakeholders have to think seriously about establishing an honest dialogue that will be a path for harmonizing the collaboration and aligning identical priorities and goals.

Related topics

These themes might be connected to feed other narratives such as
- Bridging the gaps and harmonizing relationships
- Lack of trust among local stakeholder
- Misalignment of Goals and Priorities
- Transparency and accountability

"We have had our fall outs in the past, as well. It is hard to find a common language with those that attack and those that do not want to listen. It makes you think that working together is out of reach. Our Municipality is only one of the gears in a big mechanism. How can we do our part if there is clogging?"

Mayor of a Municipality

"... I feel that conversations aren't held at all. Inhabitants and activist groups often hold an aggressive tone, which in turn makes decision-makers hide and shield themselves. It is hard to blame them though, because changes are happening on their doorstep and nobody decided to knock and say 'Hello, here's what's up ..."

Community leader

Insight 2

Forming coalitions has the potential to cultivate collaborative efforts among local stakeholders, fostering consensus and alignment for projects centered around rivers. The imperative of creating these coalitions could foster a fresh environment conducive to sustainable collaboration.

In communities where multiple stakeholders have equitable interests in river-centered projects, making coalitions have become crucial. The concept of 'designing' coalitions emerges as a strategic approach to foster collaboration. Instead of relying on spontaneous alliances or bottom-up partnerships, this approach involves intentionally crafting coalitions that bring together diverse stakeholders with mutual interest in river-centered projects. In fact, making a coalition is to bridge identified gaps between bottom-up and top-down perspectives and to facilitate consensus and alignment among local actors. Coalitions are assumed to serve as forums for resolving conflicts and finding mutually acceptable solutions

Related topics

These themes might be connected to feed other narratives such as
- Set up foundations for sustainable cooperation and collaboration
- Ensure Stakeholders' engagement
- Build alignment and a mutual vision
- Establish new patterns of governance

"Are we scattered? I think we are. Can we join in a wider effort? I think we can. I have a vision for connecting the backbone of the river itself. I wonder who can lead the vision for connecting the backbone of people. A multi-stakeholder agreement regarding Ričina revitalization requires precisely that."

Biologist

"We might have different opinions, but it is important to consider that our job has a slow pace. Changing spatial plans, developing initiatives, offering sustainable touristic, recreational, educational, food-production or any other activities requires a multitude of steps and actions. It requires shaping new policies, opening new financial opportunities, negotiating, winning and losing."

Mayor

"A multi-stakeholder agreement regarding Ričina revitalization would mean that we, as humans in an environment, are able to acknowledge and therefore correct mistakes we have made both in the past, as well as in the present."

Activist

Insight 3

Shifting focus towards fostering the emergence of distinctive local and regional water system identities can enhance our understanding of climate threats and empower proactive responses.

Communities often have deep historical and cultural connections to their local water systems. On the one hand, we can notice that communities are more and more developing a stronger sense of identity related to their water systems, they have become more adapted to the impacts of climate change on their environments. On the other hand, we can conclude that encouraging the development of water system identities involves engaging community members in local collaborative projects. Guided nature walks, for example, help residents learn about the ecological functions of their local waterways and the threats they face from climate change. Indeed, by fostering cultural connections, communities can better protect and preserve water ecosystems (like rivers) in the face of a constantly changing weather; and since the emphasis is on encouraging the development of identities related to these water ecosystems these connections with water must be recognized and celebrated through storytelling, festivals or artwork.

Related topics

These themes might be connected to feed other narratives like:
- Cultural Connection to Water Systems
- Ecological Awareness
- Environmental education and citizenship
- Advocacy

"When we take a look at urban spatial planning in Rijeka and Croatia, we can see that there is a lack of public participation at all levels. This knowledge gap has become crucial when thinking about spaces such as the Ričina."

Citizen

"When you have these focal points in the middle of the city, but still so connected to its green ring how can there be a single and joint perspective? Can we allow space for multiple, even conflicting views?"

Architect

Insight 4

As a new official document, The Rijeka Green Infrastructure Strategy could be a 'tool' for discussion and collaboration.

The Rijeka Green Infrastructure Strategy represents a new and significant resource for the community, offering a valuable tool for joint support. As an official document, it provides a structured framework to handle environmental challenges and promote sustainability within the city and its suburbs. The Green Infrastructure Strategy offers a vision around which a broad coalition could be made in order to build and promote collectively (the Ričina) water system identity and therefore agency.

Related topics

These themes might be connected to feed other narratives such as:
- Long-term vision
- Making coalitions

"In 2024, we will be actively working to achieve this purpose by organizing events, activities, workshops, festivals, roundtable discussions."

Urbani separe

Framing Question

Facing drought through collaboration in Milan

a lesson learnt and action points for designing climate resilient water management in European cities.

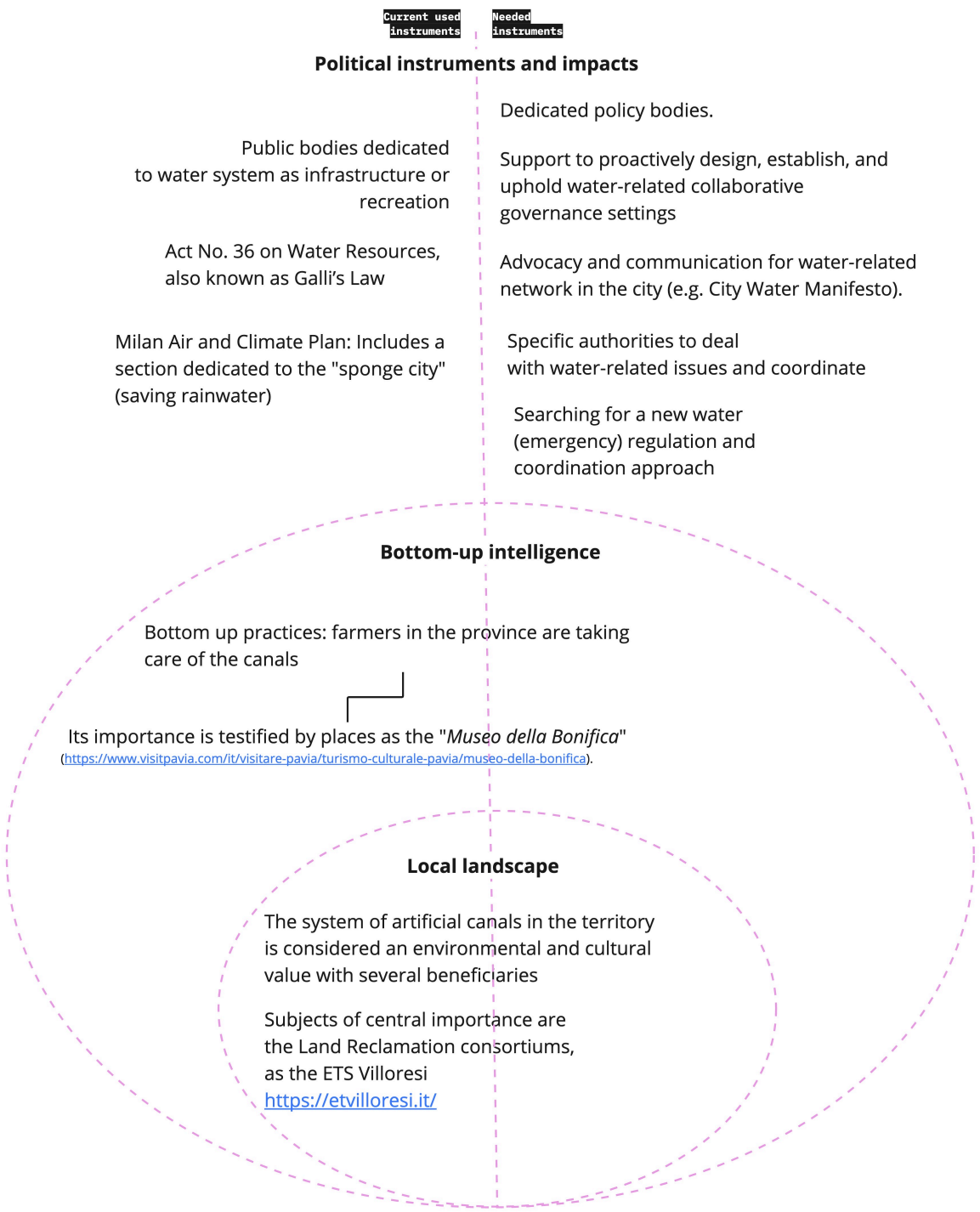
Research goals
To develop a case study about Milan municipality (Food Policy Office) which handled the drought crisis that occurred in 2022 through collaboration and collective learning with several stakeholders and to propose action points for designing climate resilient water management in European cities.

- Developing insights on the hydro-geographic area of Milan and its related water management and governance system
- Developing a lesson to be learnt from how Milan Food Policy Office and several stakeholders handled the drought of 2022
- Develop action points for designing climate resilient water management in European cities.

Figure 12: Photos from local research run by the Lab

Source: Design Policy Lab

Italy (IT)



Insight 1

(1) The timelessness and the exceptionality of the characteristics of climate-linked disasters, such as droughts, constitute significant challenges for emergency responders and decision makers who may struggle to coordinate response efforts effectively. Effective coordination and clearly defined roles are imperative.

Insight 2

(2) New conflicts over water usage may emerge in urban environments due to climate change: establish regulatory bodies more apt to the climate change normality and ensuring transparency on water use rights are necessary actions to ensure equitable water distribution across sectors, including agriculture.

Insight 3

(3) Water is considered as the nexus with the potential to uniquely reconnect urban and peri-urban areas in social terms.

Insight 1

The timelessness and the exceptionality of the characteristics of climate-linked disasters, such as droughts, constitute significant challenges for emergency responders and decision makers who may struggle to coordinate response efforts effectively. Effective coordination and clearly defined roles are imperative.

Climate-linked disasters, such as droughts, are increasingly widespread, complex, and unpredictable, making emergency protocols less effective in dealing with their impacts at the urban scale. As Climate-linked natural disasters are characterized by their timeless occurrence and exceptional magnitude, current emergency management protocols seem ineffective. There is therefore a necessity to think about a new normality in water management that anticipates climate change effects (new skills, new tools and new patterns).

Related topics

These themes might be connected to feed other narratives like:
- Emergency management
- Collaborative governance
- Climate-Linked Natural Disasters
- Climate change

"The city has for some time reflected on adopting its own Manifesto for Water and has included the topic in the city's plan for reducing pollution and mitigating climate change."

Municipality of Milan's Representative

"The 2022 drought emergency allowed these actors to get together for the first time and fill a gap made evident by the emergency. In light of climate change, local government will need to develop more water-related competencies."

Municipality of Milan's Representative

Insight 2

New conflicts over water usage may emerge in urban environments due to climate change: establish regulatory bodies more apt to the climate change normality and ensuring transparency on water use rights are necessary actions to ensure equitable water distribution across sectors, including agriculture.

Effective regulation of water use is essential for ensuring a fair and equitable distribution of water among farmers. However, the complexity of water management systems create challenges in achieving this goal. The Design Policy Lab's representatives noted that difficulties in retracing water allocation processes might be an obstacle to fair water distribution. The implication of having various intermediary actors can engender additional layers of complexity and a potential for conflicts about water rights. Agriculture, as one of the largest fields of water consumption, often finds itself in competition with other sectors, such as industry and urban development «The water entering the urban territory of Milan is for agricultural and recreational use» (from MiroBoard).

Related topics

These themes might be connected to feed other narratives like:
- Regulations and water rights
- Agriculture and cliamte change
- Transparency and accountability
- Equity and justice

"Water-related conflicts, which are common in other regions of the world, will become more common in this territory as a result of climate change."

Municipality of Milan's Representative

"Water is a valuable resource for agriculture and other sectors in the area (for example, livestock)."

Farmers Union Representative

"It may be difficult to fully assess water use due to the complexity of overview all single water legal rights. Because of this lack of information, some farmers may be advantaged in respect to others."

Farmers Union Representative

Insight 3

Water is considered to be a nexus that has the potential to uniquely reconnect urban and peri-urban areas in social terms.

Water ecosystems have served as economic and cultural exchange between urban and peri-urban communities. Water is the backbone in urban and peri-urban areas and communities rely on this natural source for drinking, sanitation, agriculture, industry, and recreation. At schools, a great effort is attributed for educational and training purposes.
Therefore, water may serve as a nexus that has the potential to uniquely reconnect urban and peri-urban areas in social terms by providing shared resources, cultural significance, economic opportunities...

Related topics

These themes might be connected to feed other narratives such as:

- Agriculture, Food and water
- Urban biodiversity
- Cultural significance of water
- Water as a social connector

Framing Question

Effective innovation collaboration in Water Living Labs

Research goals
To understand the barriers and opportunities for strategic and sustainable collaborations within the water ecosystem in Denmark; and to determine how to make the Water Living Lab open and eye catching for companies and students to join.

- To understand the barriers and opportunities for strategic and sustainable collaborations within the water ecosystem in Denmark.
- To determine how to make the Water Living Lab open and eye catching for companies and students to join.

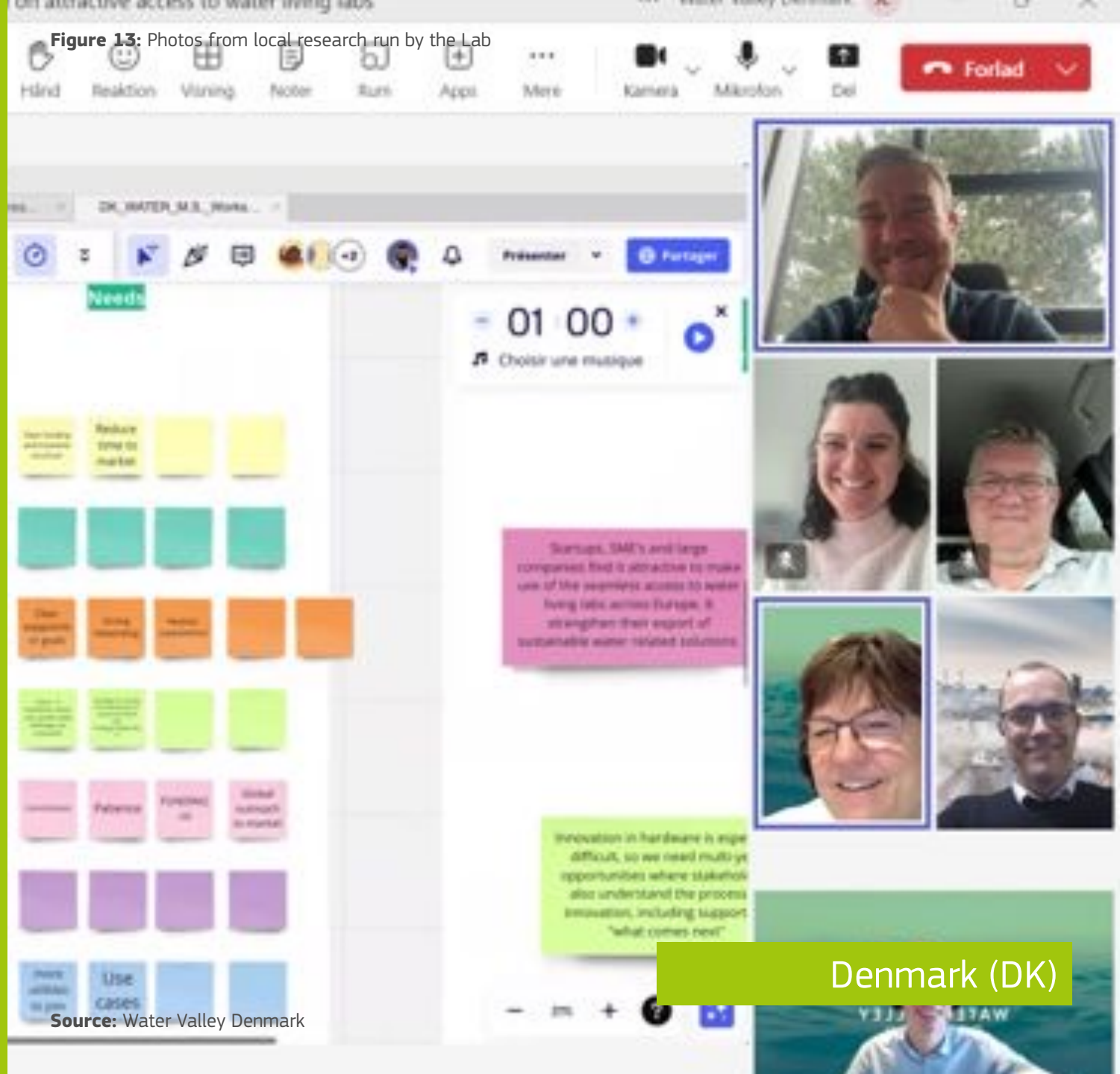
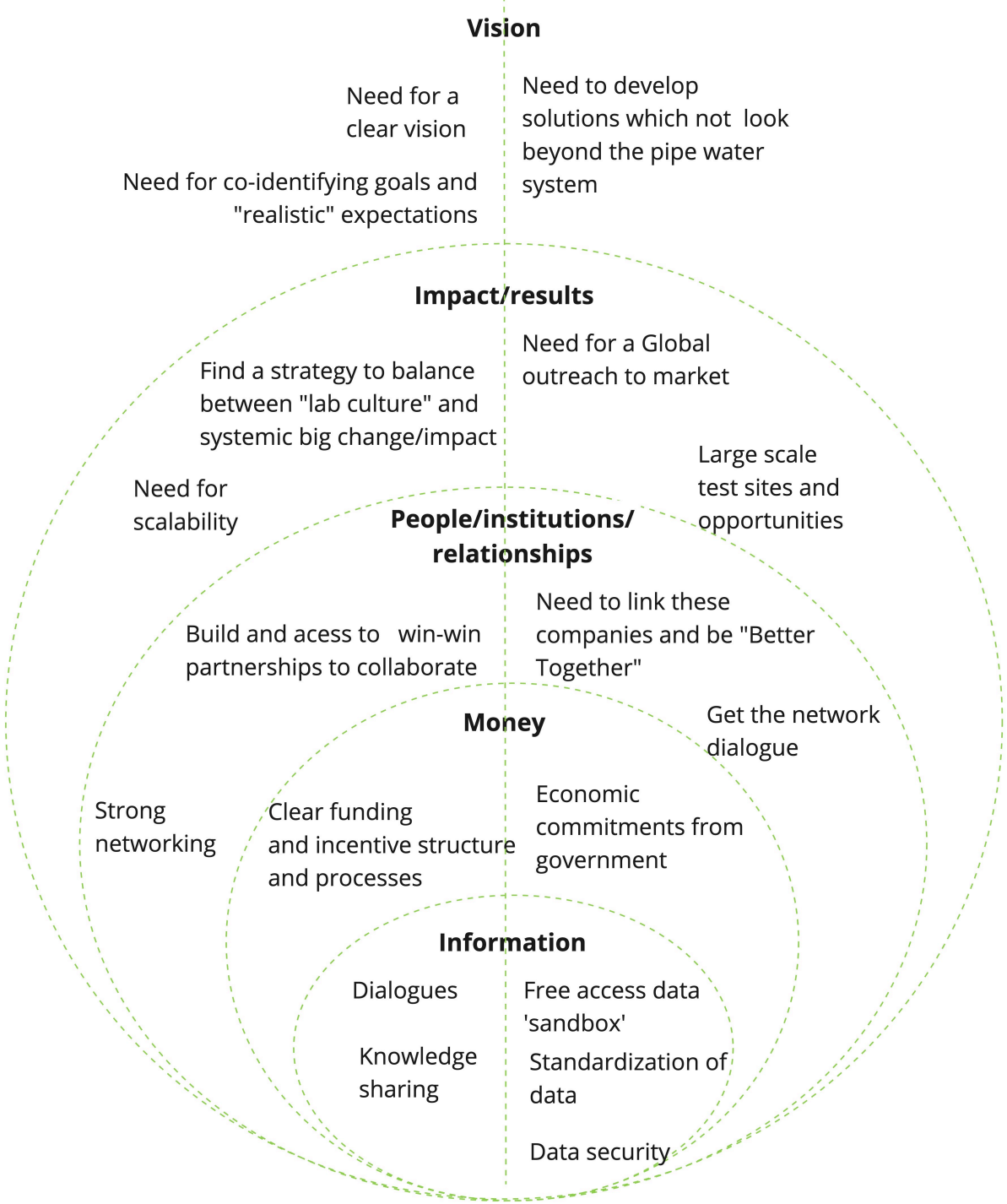


Figure 13: Photos from local research run by the Lab

Source: Water Valley Denmark



Insight 1

(1) Regulations and funding are considered notable challenges for collaboration within Denmark's water ecosystem.

Insight 2

(2) Creating water-related data management infrastructures and facilitating knowledge sharing among stakeholders can help overcome regulatory and financial obstacles.

Insight 1

Regulations and funding are considered notable challenges for collaboration within Denmark's water ecosystem.

Denmark water ecosystem is subject to a complex number of regulations that prevent utilities to test and experiment new innovative solutions and delay collaboration among water organizations. There is a lack of alignment between regulatory frameworks and the goals of collaboration (innovation and experimentation) within the water ecosystem. Funding constraints are a significant barrier to collaboration within Denmark water ecosystem. Competition for limited resources can lead to tensions and can hinder cooperation. Addressing the funding barriers to collaboration requires innovative financing and governance patterns.

Related topics

These themes might be connected to feed other narratives such as:

- Funding
- Private-public sector cooperation
- Regulation for innovation

Insight 2

Creating water-related data management infrastructures and facilitating knowledge sharing among stakeholders can help overcome regulatory and financial obstacles.

Organizations can provide the necessary skills and build the relationships needed to navigate complex regulatory frameworks and use resources effectively. Sharing best practices, lessons learned, and success stories can also inspire collaboration and collective action to engender positive change within the water ecosystem. But water stakeholders pointed out the importance of data privacy and data security. They noted also that some people are still concerned about changing the status-quo because of resistance of change and risk mitigation.

Related topics

These themes might be connected to feed other narratives like:

- Knowledge management
- Networking and knowledge sharing
- Data privacy and information flow
- Transparency

This is a story shared by the Lab Partner

A food tech company would test their sensor technology in drinking water environment to learn about a possible new value proposition. The regulations of food and drinking water safety are different and they have to adjust. Huge learning about data on drinking water and getting access and managing the data were required. They were used to use the sensor in a traditional lab and had to find a solution on data transmission outside the lab. They got a good solution from one of the other partners in the Water Living Lab.

Framing Question

Youth's experiences & water ecosystems

Research goals

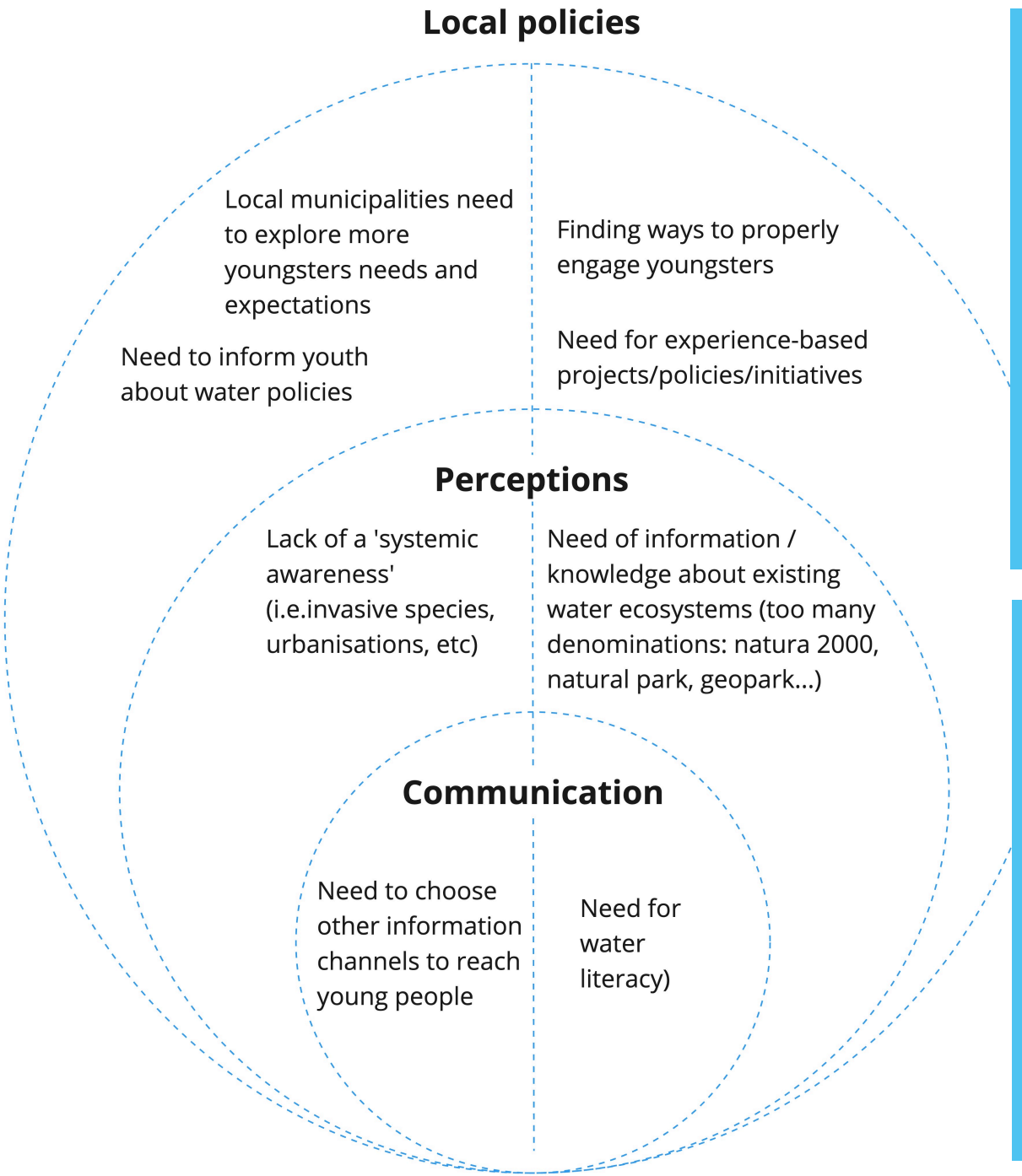
To understand how a younger generation interacts and perceives the value of surrounding water ecosystems (river and ocean) and identify the gaps, overlaps, or mismatches exist when looking at available activities and policies.

- To understand how young locals connect to water ecosystems in their daily life, to understand if and how they would like to be engaged in water conservation and why
- To learn more how local municipalities design their programmes targeting youngsters

Figure 14: Photos from local research run by the Lab

Portugal (PT)

Source: Rio Neiva, Neiva Community Lab



Insight 1

(1) Youth forge specific connections with water, intertwining notions of well-being, health, and aesthetic appreciation through personal experiences and daily activities.

Insight 2

(2) Municipalities are encouraged to create multidisciplinary, unconventional, experimental, and immersive water experiences for youth.

Insight 3

(3) The interaction between youth and water ecosystems has evolved markedly from that of preceding generations, reflecting a growing awareness among youth of the intrinsic interconnectedness between their well-being and the vitality of water ecosystems.

Insight 1

Youth forge specific connections with water, intertwining notions of well-being, health, and aesthetic appreciation through personal experiences and daily activities.

Investigating perceptions of relationships that the youth have with water ecosystems can help understand behavioral patterns. By exploring how young people interact with water ecosystems, the information that will be available is useful to inform educational initiatives, and policy interventions aimed at promoting sustainable water use and conservation practices.

Well-being and health topics can provide perspectives into the ways in which recreational opportunities and natural landscapes contribute to physical, mental, and emotional well-being of youth.

Related topics

These themes might be connected to feed other narratives like:
- Health and well-being
- Youth and percpetion of water
- Uses of water
- Inclusive decision making

I would like to do more "Sports such as surfing, body boarding, canoeing and inflatables

A 13 year old female

I would like to do more beach 'cleaning' activities

A 15 year old male

Insight 2

Municipalities are encouraged to create multidisciplinary, unconventional, experimental, and immersive water experiences for youth.

Immersive and surprising experiences can make water events more relatable and relevant to youth. Teachers stated the need to introduce those kinds of 'unconventional, surprising, experimental, and immersive' because that is effectively what works. Youth have expressed their motivation to participate in new programs that engage them in water ecosystems, from awareness and information, to active participation.They are more likely to engage in activities that allow for active participation rather than passive observation. Experiential learning opportunities, such as hands-on projects, exhibits, and collaborative workshops can foster a deeper connection to local water ecosystems and encourage proactive involvement. They might feel a greater sense of agency and empowerment when taking part in these experiences.

Related topics

These themes might be connected to feed other narratives like:
- Experiential learning
- Engagement and Participation through play and curiosity
- Empowerment
- Water and cultural policies

We should do performance based programs related to water for students, such as dance, theater, etc.

Teacher, Local secondary school

Insight 3

The interaction between youth and water ecosystems has evolved markedly from that of preceding generations, reflecting a growing awareness among youth of the intrinsic interconnectedness between their well-being and the vitality of water ecosystems.

Immersive and surprising experiences can make water events more relatable and relevant to youth. They are more likely to engage in activities that allow for active participation rather than passive observation. Experiential learning opportunities, such as hands-on projects, exhibits, and collaborative workshops can foster a deeper connection to local water ecosystems and encourage proactive involvement. They might feel a greater sense of agency and empowerment when taking part in these experiences.

Related topics

These themes might be connected to feed other narratives like:
- Experiential learning
- Engagement and Participation through play and curiosity
- Empowerment
- Water and cultural policies

What does water level say about care?

(1) A systemic and holistic understanding of how to manage and care for water during floods and after them is lacking.

(2) Water is perceived as a transboundary power, that must be fought against during times of floods.

(3) Water events as floods are more frequent, less regular, affect a larger geographical area and influence cultural, social and economic changes in local identity - calling for a balance between nature conservation and human activity.

(4) Local communities believe they have the expertise to cope with floods because they have lived and experienced them, but they feel excluded from decision-making processes and are not empowered to contribute to water management and regeneration led by their local public authorities.

The position of communities in revitalizing riverscapes

(1) Local players find it difficult to work together because of long-standing conflicts and diverging priorities, underlining the need for reconciliation to heal broken relationships.

(2) Forming coalitions has the potential to cultivate collaborative efforts among local stakeholders, fostering consensus and alignment for projects centered around rivers. The imperative of creating these coalitions could foster a fresh environment conducive to sustainable collaboration.

(3) Shifting focus towards fostering the emergence of distinctive local and regional water system identities can enhance our understanding of climate threats and empower proactive responses.

(4) As a new official document, The Rijeka Green Infrastructure Strategy could be a 'tool' for discussion and collaboration.

Facing drought through collaboration in Milan

(1) The timelessness and the exceptionality of the characteristics of climate-linked disasters, such as droughts, constitute significant challenges for emergency responders and decision makers who may struggle to coordinate response efforts effectively. Effective coordination and clearly defined roles are imperative.

(2) New conflicts over water usage may emerge in urban environments due to climate change: establish regulatory bodies more apt to the climate change normality and ensuring transparency on water use rights are necessary actions to ensure equitable water distribution across sectors, including agriculture.

(3) Water is considered as the nexus with the potential to uniquely reconnect urban and peri-urban areas in social terms.

Effective innovation collaboration in Water Living Labs

(1) Regulations and funding are considered notable challenges for collaboration within Denmark's water ecosystem.

(2) Creating water-related data management infrastructures and facilitating knowledge sharing among stakeholders can help overcome regulatory and financial obstacles.

Youth forge specific connections with water, intertwining notions of well

(1) Youth forge specific connections with water, intertwining notions of well-being, health, and aesthetic appreciation through personal experiences and daily activities.

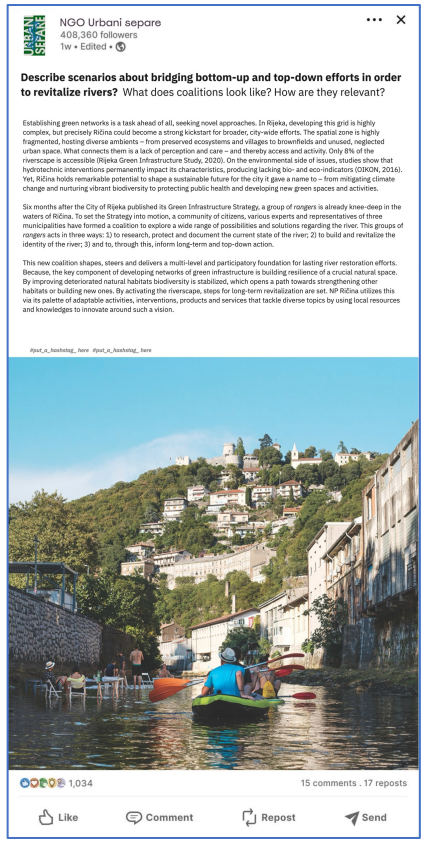
(2) Municipalities are encouraged to create multidisciplinary, unconventional, experimental, and immersive water experiences for youth.

(3) The interaction between youth and water ecosystems has evolved markedly from that of preceding generations, reflecting a growing awareness among youth of the intrinsic interconnectedness between their well-being and the vitality of water ecosystems.

Results

What came up

Each Lab during the last activity ideate and imagine what the project might look like going forward, including ideas for experimentations and prototypes that could be run to explore more the ideas in practice.



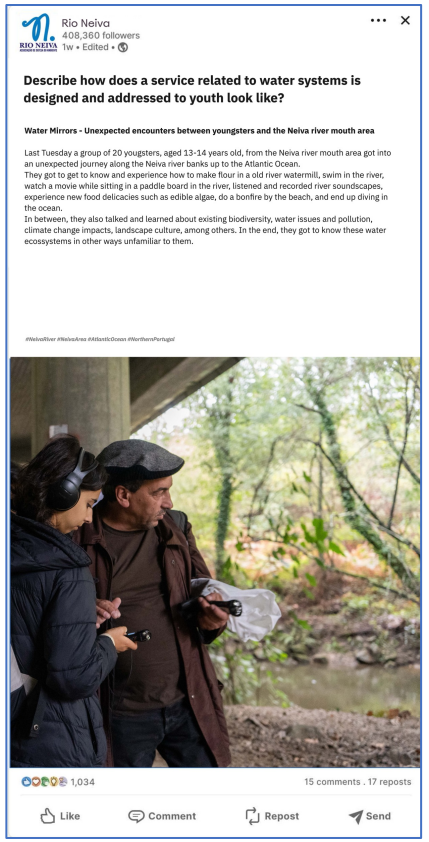


Figure 15: 5 artefacts created during a workshop

Source: Own Source, JRC

Limitations

Study set-up and circumstances constraints and limits

- Selection of the labs through an open call has limited the potential pool of Labs to choose from
- The specific types of Labs engaged, and their previous experience (e.g. local organizations working with local communities) have shaped the type of insights
- Selection of 5 Labs in specific areas has influenced the selection of the topics and insights due to the geographical characteristics
- The limited amount of time has made the engagement limited as well as the depth of the insights

Insights

Analysis of the overarching patterns and insights of the 5 Labs and what it means for the EC/EU level.

Insights

Analysis overview

Instead of strictly following cross-referencing insights to look for themes, we have chosen to propose recurring topics, interests and priorities raised by the fieldwork of the labs that present different perspectives on a particular phenomenon or pattern. To uphold the analysis and patterns, we will refer to the Labs experiments according to their order in this report (E1, E2, E3, E4, E5).

Insight 1

Engaging communities, tapping into their local knowledge could help building trust and agency

Insight 2

Place-based and alternative models of governance have the potential to deploy efficient emergency response and water management

Insight 3

Identities of places are shaped by water events, and recognizing an identity to water shape people response

Insight 4

Shifting Narratives on water could foster deeper understanding, creating stronger connections and collective actions

Insight 1

Engaging communities, tapping into their local knowledge fosters trust, a sense of accountability and encourages agency

Integrating the power of local knowledge and communities in the response

Local knowledge

Farmers, communities, and people living by the water bodies have learned how to cope with changes of the water levels and other phenomenon, relying on traditional techniques while also developing new schemes, and innovative hacks and skills. These strategies emerge from their deep understanding of the local environment, accumulated experience and traditional knowledge.

What the work highlighted as opportunity is the valorisation and integration of these local schemes into broader and context-specific emergency responses management might significantly enhance resilience and recovery efforts.

For example, in (E1) Communities have built physical barriers like sandbags walls to protect against flooding. Communities often establish informal support networks to provide care for each other.

Trust

The concept of trust emerged from (E1) and (E3) fieldworks. The perception of trust between the community and local authorities is partially shaped by how effective and efficient the response is. Quick and effective responses to emergencies, such as immediate rescue operations and relief distribution, show the skills of the local authorities, thereby building trust. But as mentioned in (E3), local authorities might face confusing situations and ethical dilemmas concerning the allocation of resources and the order of priorities.

In fact, trust can't be built only through establishing a culture of communication and accountability about resources allocations and decisions.

The lack of clarity about water rights can introduce additional layers of complexity and a potential for conflicts that might weaken relationships with local authorities.

Agency

Thoughts about «perception of safety»: The lesson learned from (E1) is that people experiencing floods have the perception of «feeling safe» only when they are involved in the decisions and responses to the event. People engage and act when they are well-informed, when they feel they have agency and a sense of control over their safety and well-being.

Insight 2

Place-based and alternative governance models can deploy efficient emergency response and water management

Creating roles, defining delivery models and coordinate multi-agencies responses

Governance Models Requirements

One of the topic that emerged from the fieldworks (E1, E3) is related to the multiple challenges that need to be addressed to deliver an effective emergency response, specifically for floods and droughts.

Effective emergency response's cooperation need to involve multiple agencies such as local authorities, experts, communities, environmental NGOs and emergency services. These bodies have different protocols, processes and instruments but they should ideally work in a collaborative way and in a short timeline. Cooperation means the coordination of existing resources to achieve shared goals. It is characterized by parallel efforts that enable each party to retain a level of autonomy and at the same time to contribute on the production of collective outcomes. So, it is important that each party provides clear well-defined roles (E3).

Alternative Models

The idea that emerged from the fieldworks, is that the governance of different water systems sometimes follows one-size-fits-all policies and processes and is organised in silos. The work of (E1, E3), for example, suggests that local authorities may find it difficult to respond effectively to emergencies because of the fragmentation and compartmentalisation of response services; on the other hand, the work of (E2) shows the difficulty of federating joint actions and inclusive processes concerning the revitalisation and conservation of rivers.

During a prototyping activity where the Labs partners developed speculative narratives about the development of their experiments, different scenarios for a “place-based governance” that have emerged as potentials and alternative models of water governance: Nature based-solutions «that support climate resilience into water management systems» (E3, E4), “ecosystems services“ (E2, E3), inclusive and youth-centred policies (E5).

Strategic Partnerships

What the prototyping activity highlighted as a focus area is the importance to act on the relationships through building win-win strategic partnerships within water ecosystem to overcome regulation barriers (E4), or reparing and rebuilding relationships within local actors to establish alignment in priorities and goals concerning water-centered projects (E2), or designing policies and experiences centred on youth expectations and aspirations (E5).

From (E3) and (E4) speculative scenarios, has emerged the idea that data/information management (analysis, sharing, technologies, prediction) can be an interesting tool that can foster a collaborative, multi-stakeholder, multi-level governance.

Insight 3

Identities of places are shaped by water events and recognizing an identity to water shape people's response

Identities influence action

Water events shaping places' identities

As emerged in almost all the labs' fieldwork, water events like floods, droughts and other phenomena, transform the social, cultural and economic identity of places. They often change the livelihoods and economic activities of communities dependent on water resources by banning, giving up or diversifying certain economic activities (E1, E3). In addition, memories of floods or droughts have also become an integral part of local memories that have shaped the cultural identity of the place itself.

Claiming identity for water ecosystems

Promoting Water identity has emerged as an entry point for taking care of water ecosystems (E2, E3, E5). By acknowledging their unique identities, local actors can foster a deeper appreciation for the ecological significance of water ecosystems, promote sustainable management and care practices, and community engagement.

Insight 4

Shifting Narratives on water could foster deeper understanding, creating stronger connections and collective actions

Water definitions, narratives and connected values

Narratives about loss, grief and resilience

The lesson learned from (E1) is that Natural disasters like floods often result in significant loss of life, property, memories and livelihoods leading to grievances and trauma within the affected communities. The work of (E1) suggests that when acknowledging these narratives, empathy can be fostered paving the way for healing and looking forward to inspire collective action towards building more resilient communities.

Aesthetic values of water

Water is also acknowledged for a source of well-being, health and beauty (E5). These narratives can promote environmental education programs that connect people with water ecosystems, fostering a deeper understanding and appreciation of their ecological, cultural, and recreational values, enriching overall well-being.

Water as inherently relational, interconnected agent

From across almost all the fieldworks (E1, E2, E3, E5), the need to change our perceptions of water strongly emerged. This new vision asks us to move away from considering water as a mere natural element to exploit. This shift requires us to start conceptualizing water by considering all its fundamental characteristics such as its interconnectedness with other entities including humans, ecosystems, biodiversity, and climate systems. For example, in (E3), water is seen as a connector of geographical spaces such as the urban and the peri-urban areas. This could be expanded to the idea of attributing new types of agency to water, perceiving it as an active participant in shaping environmental processes, ecosystem dynamics and human experiences. Water and humans could be conceptualized by being in a intertwined symbiosis in new models of place-based approaches that value the unique relationships between communities and their water ecosystems.

Perceptions of abundance and scarcity

Perception of water are shaped by a combination of socioeconomic, cultural and environmental factors. The work of (E1) and (E3) illustrate the perceptions of water according to its available quantity.

In our collective memory, the abundance of water can express a sense of prosperity, wealth and illimited. However, the work of (E1) shows that the abundance of water is associated with destruction and pollution. Water, thus, is no longer a resource but an “enemy” to “fight” and defeat. On the other hand, the scarcity of water might communicate ideas about water that is precious, rare and limited. These perceptions can translate and result in a general sense of fear for food, the economy and prosperity as whole (E3).

Next Steps

Workstream Reflections

What we learned from this

The selection of the final Labs has been made to grantee the diversity of the profiles, purposes, scales, backgrounds, past experiences, and expertise. This diversity made this workstream an interesting space for creative collaboration and exploration. The collaboration aims to provide insights and knowledge obtained through design methods to allows policymakers to identify trends, patterns, gaps, and correlations that may not be apparent at a broader level. This can offer features for strategic visions and lead to more informed and evidence-based decision-making and conversations to the EC. The Water Resilience project is also an experiment on collective learning of water local issues and priorities in 5 different contexts. The Labs put their expertise, capabilities in action to lead participatory fieldwork and they also collaborated and shared with each other.

Here's an overview of the collaboration key aspects and learnings.

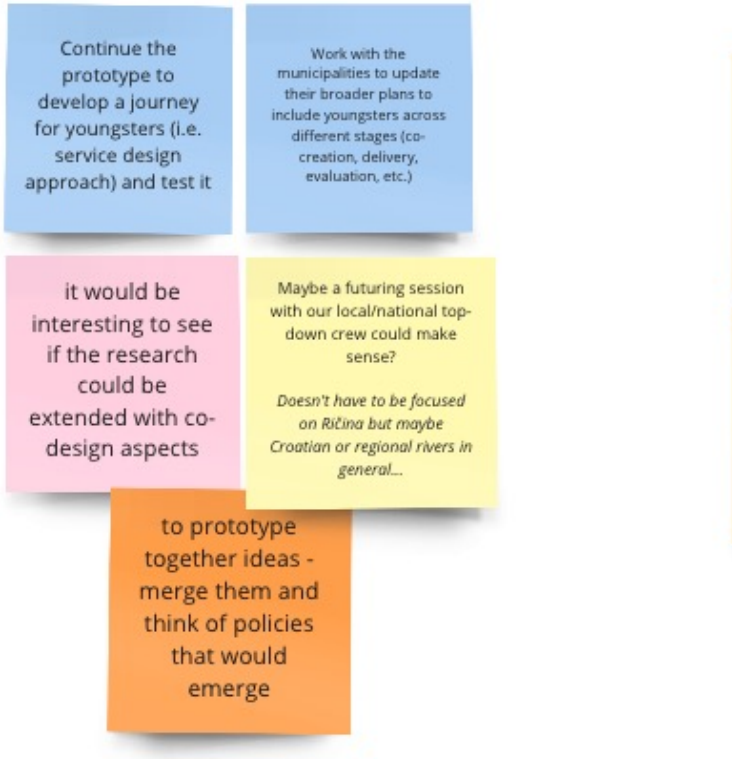
- Diverse perspectives of shared challenges: common issues, concerns and topics across diverse Labs and areas
- Capacity building and mutual learning: share diverse perspectives, approaches, and methodologies
- Alignment in Priorities and goals: identify common challenges and priorities in different local contexts
- Possible scaling and possible joint actions: enable cross-border projects that address trans-national water challenges needed to scale up research project

Workstream Reflections

Going forward

Mostly relevant examples, connected to specific situations that need attentions and clear and worthy examples to explore further.
Strategies towards solutions: focusing on solutions/incentives in local places, trying out simple tests and create business models. For example:

- Lithuanian: Designing together flood management plan and early warning signs for all (link to the UN priorities) connecting to local tradition and knowledge. How do you integrate these local knowledge with policy and local approaches.
- Croatia: Water systems identities and cooperation. Defining business models for engagement of communities centred on water, driven by being part of a 'river' community and identity.
- Portugal: connected to the media discourses, how can we leverage these local approaches to bring them to the EU level? What is needed? connecting to radical views and counterculture but thinking practically and about scalability.



Find out more

EU Science Hub
joint-research-centre.ec.europa.eu

@EU_ScienceHub

EU Science Hub - Joint Research Centre

EU Science, Research and Innovation

EU Science Hub

@eu_science

- EU Policy Lab: https://policy-lab.ec.europa.eu
- Blog Post on the Project: https://policy-lab.ec.europa.eu/news/exploring-water-resilience-labs-across-eu-design-driven-participatory-initiative-2024-04-03_en

Getting in touch with the EU

In person
All over the European Union there are hundreds of Europe Direct centres. You can find the address of the centre nearest you online (european-union.europa.eu/contact-eu/meet-us_en).

On the phone or in writing
Europe Direct is a service that answers your questions about the European Union. You can contact this service:
— by freephone: 00 800 6 7 8 9 10 11 (certain operators may charge for these calls),
— at the following standard number: +32 22999696,
— via the following form: european-union.europa.eu/contact-eu/write-us_en.

Finding information about the EU

Online
Information about the European Union in all the official languages of the EU is available on the Europa website (european-union.europa.eu).

EU publications
You can view or order EU publications at op.europa.eu/en/publications. Multiple copies of free publications can be obtained by contacting Europe Direct or your local documentation centre (european-union.europa.eu/contact-eu/meet-us_en).

EU law and related documents
For access to legal information from the EU, including all EU law since 1951 in all the official language versions, go to EUR-Lex (eur-lex.europa.eu).

EU open data
The portal data.europa.eu provides access to open datasets from the EU institutions, bodies and agencies. These can be downloaded and reused for free, for both commercial and non-commercial purposes. The portal also provides access to a wealth of datasets from European countries.

Science for policy

The Joint Research Centre (JRC) provides independent, evidence-based knowledge and science, supporting EU policies to positively impact society

EU Science Hub
Joint-research-centre.ec.europa.eu

Publications Office
of the European Union