FutuResilience
Building sustainable futures together

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D2.6 Report on mutual learning activities

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Abstract: This report summarises the outputs of the three mutual-learning workshops conducted under the FUTURESILIENCE project. The workshops engaged representatives from ten FUTURESILIENCE Labs, advisory boards, and project partners, focusing on challenge framing, scenario development, and policy design. Participants shared experiences, identified barriers, and co-developed strategies to improve stakeholder engagement and policy alignment. Key themes included inclusive participation, cross-sector collaboration, and the integration of local knowledge. The workshops also discussed the use of the FUTURESILIENCE Toolbox and Knowledge Base, highlighting their usefulness and areas for improvement. Findings emphasise the value of innovation, uptake of policy tools, and building adaptive, context-specific resilience strategies to better prepare communities for future uncertainties.

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Executive summary

In a complex and uncertain world, developing societal resilience is crucial for individuals, organisations, and communities. A ***challenge-driven approach*** is a problem-solving strategy that fosters different stakeholders to identify challenges, find solutions, and understand how to effectively implement them. This deliverable reflects on this approach emphasising the importance of cross-learning and mutual learning activities under the FUTURESILIENCE project. Cross-learning involves the exchange of knowledge, practices, and insights across different organisations, disciplines, or communities, while mutual learning emphasises the co-creation of knowledge through the equitable participation of multiple stakeholders. The addressed challenges often reflect systemic issues, prompting a holistic understanding of problems and fostering more sustainable solutions.

As part of the FUTURESILIENCE project, three mutual learning workshops have been conducted with the involvement of partners and lab members as well as the project's advisory and ethical boards. Through an analysis of various follow-up evaluations and contextual analyses of these workshops, we have identified key themes that underline successful resilience-building initiatives. These include ***"diverse perspectives"***, the ***"active participation"*** in learning processes, and the benefits of ***"knowledge exchange"*** among stakeholders. Findings point to the idea that, by prioritising collaborative efforts and mutual engagement, organisations and communities can be better prepared for the uncertainties of the future. Indeed, ***"creating spaces"*** for shared learning and the collective knowledge that emerges from such interactions ultimately contribute to enhancing resilience at various levels, as well as fostering communication and collaboration within the network of Labs.

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1 Introduction

The FUTURESILIENCE project aims to strengthen the economic and societal resilience of Europe and thereby the ability of European societies to quickly respond to upcoming crises. The core activity of the project is the experimentation phase, which includes 10 pilot cases called "FUTURESILIENCE Labs". The Labs work on diverse societal resilience challenges that may be impacted by different crises. Facilitated by consortium partners and involving local, regional or national stakeholders, the Labs discussed and co-created solutions to build societal resilience for specific contexts and needs.

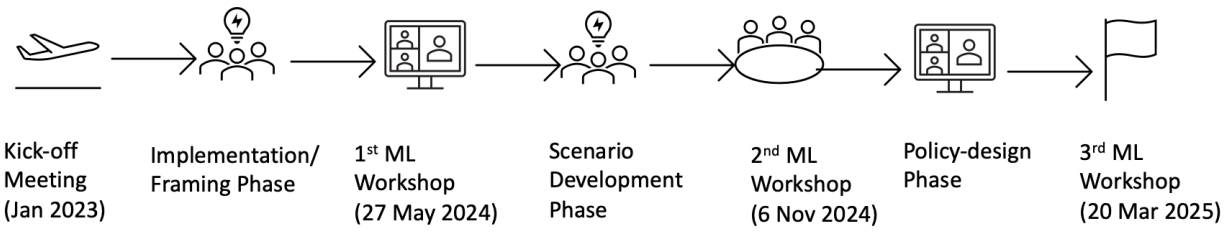
The project Task 2.6 would promote a learning community through mutual learning activities among Labs and project partners. The main objectives are ***identifying good practices, lessons learnt, strengths and barriers, other than fostering communication and collaboration within the network of Labs***. In this context, three mutual learning activities were organised, aligned with the phases of implementation of the Labs (framing, scenario development and policy analysis).

1.1 Designing mutual learning workshops

The UNIURB team (Università di Urbino Carlo Bo, Italy) is the lead partner for organising mutual learning workshops, with the collaboration and support of other partners and Labs' members. Two mutual learning workshops (1st and 3rd) were held remotely, while one took place in person (2nd) as part of a project activity (see figure 1). The workshops were designed and facilitated by partners with expertise on the phases and activities under discussion:

- 1st Mutual Learning, 27th May 2024, facilitated by UNIURB, EFIS Centre and Fraunhofer ISI.
- 2nd Mutual Learning, 6th November 2024, facilitated by UNIURB, Fraunhofer ISI, Foresight Centre and Copenhagen Institute for Futures Studies.
- 3rd Mutual Learning, 28th March 2025, facilitated by UNIURB, EFIS Centre and NTNU SR.

Figure 1 Phases of the project's mutual learning workshops



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2 Mutual learning workshops

2.1 The 1st mutual learning workshop

2.1.1 Setting the scene for the workshop

The first mutual learning workshop was organised as an interactive online activity. Fraunhofer ISI and EFIS Centre supported the UNIURB team with the design and setup of the Miro board[1]. All useful information for preparing participants for the workshop was sent in the invitation email.

Table 1 1st mutual-learning workshop agenda

Time	Activity
14.00 - 14.20	**Welcome and Introduction to the Workshop (Giovanni Marin, UNIURB; Matias Barberis, EFIS Centre, Charlotte Freudenberg, Fraunhofer ISI)**
14.20 - 15.50	**Small Working Groups: Facilitated Mutual Learning Activities** **Group 1: MURCIA + TIMES + IMMER + MULTILOCAL** **Group 2: CHIOS + COSIGHT + LIQUIDHOUSING** **Group 3: BAPEMED + SCRL + FICTIONS**
15.50 - 16.10	***Coffee Break***
16.10 - 16.55	**Plenary: Highlights of the Group Work (Facilitation: Chiara Lodi, UNIURB)**
16.55 - 17.00	**Closing and next steps (Matias Barberis, EFIS Centre)**
17.00	***End of Workshop***

For the working groups, each Lab was asked to present the main activities of the Lab to the other participants. As a first step, UNIURB team prepared a brief introduction and informed participants about the workshop's objectives. Subsequently, three virtual rooms were set up to facilitate the Labs' discussion, and participants were assigned to one of them depending on the addressed subject[2]. In each room, a UNIURB team member acted as moderator, while Labs

[1] Online and interactive whiteboard that can be used for brainstorming, mind mapping, design, and planning.

[2] The first breakout room includes involved labs working on climate-related issues: MURCIA, TIMES, IMMER, and MULTILOCAL Labs; the second includes labs working around social integration: CHIOS, COSIGHT and LIQUIDHOUSING Labs, while the third room includes labs with a digital component in their approaches: BAPEMED, SCRL and FICTIONS Labs.

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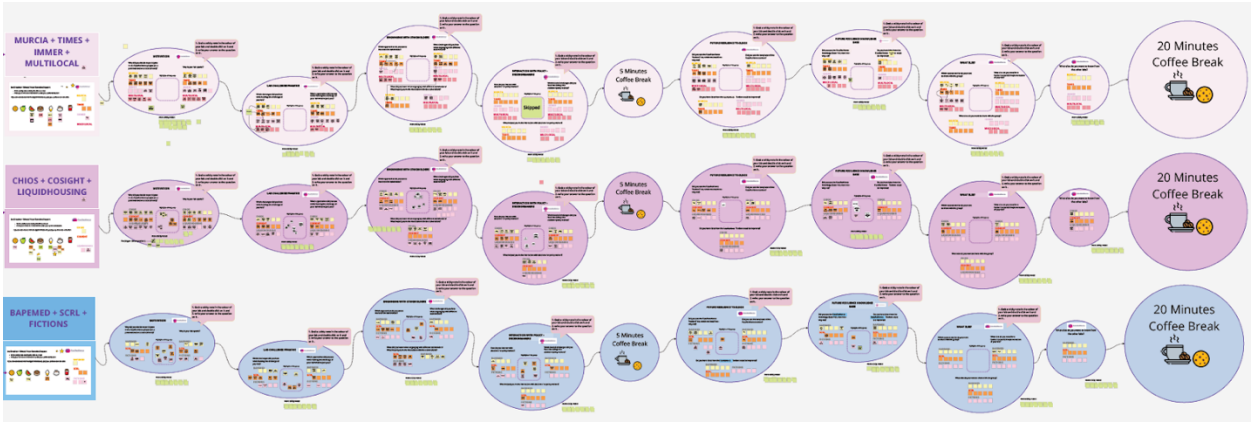
answered and discussed pre-defined questions and topics. These questions are aimed at collecting information about Labs' ***implementation and framing phase*** of their projects. The pre-defined questions and topics were:

1. **MOTIVATION:** Why did you decide to participate in the FUTURESILIENCE project?
2. **CHALLENGE FRAMING:** Which challenges did you face while framing the challenge of your lab? Which approaches did you use while framing the challenge of your lab?
3. **ENGAGING WITH STAKEHOLDERS:** Which approaches did you use to interact with stakeholders? what challenges did you face when engaging with different stakeholders? What did you learn when engaging with different stakeholders, what helped you in the interaction with the stakeholders?
4. **INTERACTION WITH POLICYMAKERS:** How do you interact with policy – or decision makers? Which kind of challenges did you face interacting with policy/decisionmakers? What helped you in the interaction with policy- or decision makers?
5. **PROJECT TOOLS:** Did you use the FUTURESILIENCE Toolbox? Yes, which methods? No- why not? Did you use the templates of the FUTURESILIENCE toolbox? Do you have ideas how the FUTURESILIENCE Toolbox could be improved?

The time allocated for the discussion of each question/issue was around 10/15 minutes. The Miro board was used to capture answers, so that insights and lessons learned from each Lab remained visible to everyone. A screenshot of the final Miro board is reported in Figure 2 (detailed explanation in results section below). As a final step, a plenary session was organised to discuss the highlights reported by each Lab.

Figure 2 Final MIRO board – including breakout group sessions



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2.1.2 Key results of the 1st mutual-learning workshop

One of the most significant achievements of the first mutual learning workshop was the exchange of knowledge and insights between the Labs and partners. During the breakout discussions in small working groups, Labs presented key lessons learnt (similarities and/or differences, challenges and outcomes). This activity allowed a thorough exploration of the complexities of the FUTURESILIENCE Labs, promoting a culture of collaboration and shared learning.

Participants found their first exposure to the Miro board platform beneficial for interactive discussion, widening their horizons, sharing insights, etc. In other words, this interaction fostered discussion and knowledge sharing among attendees (also related to stakeholders and policymakers' engagement), showed the potential of teamwork, communication, and constant learning, which represented inspirations for each Lab to bring to their own labs and keep discussing on the process of building societal resilience in their respective areas.

For the purpose of the project, this workshop was also crucial because attendees were asked questions about the FUTURESILIENCE Knowledge Base and Toolbox, sharing how they have used it, and suggesting improvements. This feedback loop is essential for refining FUTURESILIENCE tools.

2.1.2.1 Challenges and proposed solutions during the Labs' framing phase

The participants shared several challenges that arose during the framing and implementation phases of proposed projects. Stakeholders often had different ideas about societal resilience and the approaches that could be implemented to create a good level of it; this can hinder effective collaboration and communication. Moreover, engaging a broad and diverse range of stakeholders is difficult because they have varying interests, goals, and perceptions, so conflicts of interest could have potentially arisen. Finally, incorporating many disciplines into a multidisciplinary framework could be challenging and requires considerable coordination efforts to ensure successful collaboration across different fields.

Given these challenges, participants highlighted possible solutions. First, they found crucial to encourage a constant dialogue among stakeholders through regular workshops and meetings, serving as platforms for sharing experiences and addressing issues collaboratively. The development and use of collaborative tools, such as the FUTURESILIENCE Knowledge Base and Toolbox, were highlighted as strategies to provide standardised methodologies, streamline engagement processes, and tailor approaches to specific local contexts. Building trust and strong relationships through informal interactions, such as community events and casual networking sessions, were also identified as vital for enhancing collaboration. Additionally, engaging local communities and leveraging their knowledge was seen as essential to ensure that solutions are contextually relevant and supported by stakeholders.

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2.1.2.2 Perception of FUTURESILIENCE Toolbox and Knowledge Base

Participants contributed to a preliminary reflection on the perceived degree of usefulness of the supporting tools (Toolbox and Knowledge Base) developed by the project.

Concerning the FUTURESILIENCE Toolbox, two main advantages have been identified. First, its ***utility and practicality***. This tool is a valuable resource that provides structured methodologies and templates for engagement and foresight driven approaches for building resilience. It helps streamline processes, especially when working with stakeholders. Second, the tool is suitable for ***customisation***. Stakeholders appreciate the flexibility of the toolbox, enabling them to tailor methods and approaches to fit their specific local contexts and challenges. This adaptability allows Labs to pursue relevant and effective initiatives. On the other hand, according to some participants, the Toolbox should be ***upgraded*** with additional resources, methodologies, or it must better report the integration of local knowledge and case studies to enhance its applicability (which is planned to do in its final version). Moreover, participants underscored the need for ***higher dissemination*** of the toolbox and further workshops or ***training*** sessions to familiarise with it.

Focusing on FUTURESILIENCE Knowledge Base, it was perceived as an ***essential repository of information and research*** that can provide insights and evidence to support decision-making in resilience-building efforts. Nevertheless, some participants noted the need for ***easier access*** to information and understand them to maximise its usage by various stakeholders, particularly those who may not have a strong research background. The Knowledge Base helped in the ***integration of local knowledge*** because it incorporates different local context examples. This would not only enhance its relevance but also encourage stakeholders to utilise it more frequently. Finally, participants considered the Knowledge Base needs ***constant updates***. Participants suggest that ongoing engagement with local projects and research initiatives could help maintain the Knowledge Base as a living database that evolves with new insights and findings.

In summary, the two FUTURESILIENCE tools were positively perceived by Lab's representatives, which emphasise their utility, adaptability, and potential for improvement.

2.2 The 2nd mutual learning workshop

2.2.1 Setting the scene for the workshop

The second mutual-learning workshop was organised as part of a project face-to-face meeting held in Ferrara on 5th and 6th November 2024. It was led by Fraunhofer ISI, Foresight Centre and Copenhagen Institute for Futures Studies. The workshop focused on the second phase of Labs' implementation: ***scenario development,*** with learning modules in the afternoon reflecting on the interlink between scenarios and the policy design phase (see agenda below).

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Table 2 2nd mutual learning workshop agenda

Time	Topic
09:00 - 12:15	**Mutual Learning Activities: Scenario Development** *09:00 – 09:15 Welcoming and wrap up from ML1 (Giovanni/Chiara)* *09:15 – 09:20 Brief introduction* *09:20 - 10:20 Labs Pitching on Scenarios (Three main challenges ca 5 min per Lab)* *10:20 - 10:40 Plenary discussion – what are the main shared challenges?* *10:40 – 11:00 Coffee break (flexible, Foresighters form groups)* *11:00 – 11:45 Group discussions (3 groups facilitated by the three Foresighters)* *11:45 – 12:15 Plenary harvesting*
12:15 - 13:30	*Lunch & Official Picture*
13:30 - 14:30	**Learning Module I: Policy Entrepreneurs, crises, and policy change** Led by NTNU SR – Evangelia Petridou and Jörgen Sparf
14:30 – 15:30	**Learning Module II: Resilience as common good** Led by UNIURB – Giovanni Marin, Chiara Lodi, Aung O.
15:30 - 16:15	*Networking Coffee break*
16:15 - 17:15	**Learning Module III: Agent Based Modelling** Led by UM – Burak Can & UM Team
17:15 – 17:30	**Closing of the day** Matias Barberis, EFIS Centre

The workshop started with a recap about the 1st mutual learning workshop by UNIURB team, followed by an overview of the ideal type of scenario process by Fraunhofer ISI team (Figure 3).

Figure 3 Interactive discussion of the participants with the organiser at UNIFE

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The workshop was then divided into different activities. First, participants were grouped into three teams, moderated by one of three main organisers, focusing to different topics: *problem solving and uncertainty*, *stakeholder engagement difficulties* and *policy development and testing*. The decision to join a group or another was voluntary. In each team, everyone reported experiences and knowledge about the chosen topic. As it is shown in figure 4, sticky notes and guiding posters were used.

Figure 4 Example of interactive outcomes of the experience sharing from Labs

After the breakout groups work, participants joined a plenary session to reflect on the key outcomes of the previous activity as well as lessons learnt throughout the group discussions.

2.2.2 Feedback from breakout groups

The moderators made a brief wrap-up of the groups' discussion. Feedback can be clustered into multiple topics. The main one is devoted to the ***engagement of representative entities***. Labs steemed relevant to deal with all institutional levels (national, regional, provincial and municipal), also because each one has its challenges. The involvement of citizens is also crucial, not only in workshop settings, but also by running surveys and ensuring that the grassroots are not lost (e.g. results could represent inputs for the workshop with stakeholders).

In terms of ***communication***, tailored invitations could be used, but the message should be clear to avoid leading to different expectations about the workshop. As an alternative, standard invitations can be made combined with follow-up calls to explain the relevance of the activity for each stakeholder. During the engagement of stakeholders, high-quality moderation is required to avoid the most important stakeholders taking over.

Another identified topic is the ***relevance of existing policies***. Thanks to foresight approaches, outputs could be framed as potential tools to enhance existing policies rather than creating new

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ones. To do this, it is essential to link foresight insights with short-term priorities and measurable outcomes, such as economic growth, resilience, or cost savings, and collaborate with government officials to co-create foresight outputs that align with the immediate priorities of politicians and the policy cycle. Foresight is also fundamental because it helps in identifying and mapping key institutions to ***avoid*** isolated ones (***silos***), which hinder the implementation of cross-sectoral foresight insights.

Furthermore, it is difficult to achieve the optimal solution that results from the foresight process, due to multiple constraints. Institutions must accept the ***second-best option***, often built upon existing policies. Despite the usefulness of foresight and other long-term approaches, governments still prefer more familiar and short-term methodologies (***status quo***). This is not just a methodological preference, but also a cultural issue. Working with uncertainty can be uncomfortable. For this reason, it is important to integrate multiple approaches, as well as to highlight the risks of status quo adherence using historic parallels. Institutions must be engaged to **build trust** and demonstrate that foresight can be a complement to conventional tools.

2.2.3 Key results from the 2nd mutual learning workshop

The second mutual learning activity highlighted four core challenges regarding the scenario development phase, including:

1. **Diverse stakeholder interests**: Different stakeholders have different interests and priorities, so an alignment of perspectives is required through a careful stakeholder analysis to understand their motivations and concerns.
2. **Political awareness and policy alignment**: There is a notable challenge in ensuring that community-level insights are reflected in policy processes. It highlighted the importance of aligning local challenges with overarching policy frameworks to develop effective and relevant solutions.
3. **Timely engagement**: The discussions identified issues related to timing and delays in stakeholder engagements, which may hinder the progress of scenario development and implementation of solutions.
4. **Strategic planning**: The factor selection and projection workshops were useful for strategic planning, where Labs used the insights gathered to inform future actions and align their strategies with broader initiative goals. This collaboration ensured a coordinated approach to resilience-building efforts across different regions.

2.3 The 3rd mutual learning workshop

2.3.1 Setting the scene for the workshop

The third mutual learning workshop focused on ***policy design*** led by NTNU SR and EFIS Centre team. It brought together representatives and mentors from the 10 FUTURESILIENCE Labs. This

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workshop looked at sharing experiences that could lead to actionable insights for developing resilience strategies and policies. It was designed to exchange the multi-faceted dimensions of resilience as a concept and cross-cutting topics, as well as a discussion about the role of evidence and sources of knowledge in policy design.

The workshop began with a recap of previous mutual learning workshops by the UNIURB team and a brief presentation on the topic of valorising knowledge through evidence for policymaking by the NTNU SR research team. Given the context of ongoing global challenges—from climate change and migration to technological disruptions—this dialogue was vital for understanding how to translate theoretical solutions into real-world applications.

Table 3 3rd mutual learning workshop agenda

Time	Topic
14:00 – 14:15	**Welcome and introduction** Giovanni Marin, UNIURB & Evangelia Petridou, NTNU SR
14:15 – 15:45	**Exchange of experiences in policy design** Moderated by Matias Barberis, EFIS Centre
15:45 – 16:00	*Coffee Break*
16:00 – 16:50	**Open discussion** Moderated by Jörgen Sparf, NTNU SR
16:50 – 17:00	**Closing remarks** Matias Barberis, EFIS Centre

After the introduction, each Lab representative shared their experiences and insights related to challenges and solutions for policymaking and designing processes. They received beforehand the guidelines for this workshop, including the following questions:

1. **EVIDENCE IN POLICY DESIGN**: While designing the policy actions/instruments against the proposed scenarios, what kind of knowledge have you used? To what extent did you use the FUTURESILIENCE Knowledge Base? What other sources have you used? Did you consciously exclude certain knowledge and/or sources? At the end of the process, what knowledge types constitute the foundation of the policy design?
2. **LEARNING FROM THE PROCESS**: What were the main successes and failures in the policy engagement process? Can you provide examples of what worked well and what did not in the process of enabling the uptake or upscaling of policy actions/instruments? Please reflect on why certain things worked well and how you overcame barriers. Did you apply a learning strategy? If so, what did that look like?

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3. **POLICY UPTAKE**: How did you arrange access to policymakers? What was the level of commitment to upscaling solutions? What pathways for policy uptake and implementation have you discussed during the workshop?

In the "Open discussion" session, the focus shifted to questions emerging from the Labs and reflected on the "resilience" aspects of the policy design.

2.3.2 Key results from the 3rd mutual learning workshop

2.3.2.1 Evidence, process and policy uptake

The third mutual learning workshop revealed critical insights about the challenges faced in fostering societal resilience through policy innovation. One of the primary challenges identified was the difficulty in ***maintaining sustained engagement and long-term commitment from policymakers***. Frequent shifts in political agendas and priorities were reported to obstruct the adoption of innovative resilience strategies. Siloed thinking across government departments further exacerbated this issue, resulting in fragmented and often disconnected policy efforts. Furthermore, the inherent complexity of societal resilience - encompassing environmental, social, and economic dimensions - posed a significant challenge in ***formulating solutions that are broadly applicable yet locally grounded***. Labs noted the difficulty in ***reconciling divergent stakeholder perspectives*** within a single policy framework. The prevailing short-termism in policy environments often hinders efforts that require long-term investment and planning. Additionally, limited access to funding and institutional support was cited as a major constraint in scaling research outputs and innovative concepts into concrete, actionable policies. These findings highlight the essential role of empirical, context-sensitive evidence in shaping policies that are both realistic and resilient.

In response to these structural and contextual challenges, the Labs employed a variety of ***participatory and iterative processes*** designed to foster collaborative policy development. For instance, the ***early involvement of policymakers*** in the design and co-creation of policy interventions was the prevalent choice – even though associated with challenges in sustained engagement due to volatile policy agendas and commitments. This approach helped to establish ***trust***, align objectives, and facilitate open channels of communication throughout the policy cycle. Regular engagement was instrumental in reinforcing stakeholder collaboration and responsiveness. The Labs also actively engaged in interactive prototyping, creating mock-up versions of proposed policies that were tested collaboratively. This allowed participants to explore multiple strategic options, assess feasibility, and refine approaches in a practical setting. The use of standardised methodologies and digital tools such as the FUTURESILIENCE Knowledge Base and Toolbox, provided structure and comparability across different policy contexts, while remaining adaptable to local needs. Workshops further enabled scenario testing and creative drafting, encouraging innovation and providing a safe space for stakeholders to deliberate on potential consequences before policy implementation. Notably, the emphasis on user-centric

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design and the integration of community perspectives ensured that policies were not only evidence-informed but also socially legitimate and contextually appropriate.

Facilitating the uptake of proposed solutions requires ***attention to stakeholder dynamics, resource availability, and institutional capacity***. The Labs highlighted the importance of clearly defined ***roles and responsibilities***, as well as informal mechanisms for sustained engagement. Building trust across government, academia, and civil society was found to be crucial in securing stakeholder buy-in and long-term commitment to resilience-building strategies.

By ***incorporating local knowledge and community priorities*** into formal policy processes, the Labs increased the likelihood of successful implementation and public acceptance. Adaptive strategies were used to address resource constraints, manage expectations, and maintain momentum. The iterative nature of engagement also allowed for ***continuous refinement of policy*** proposals based on real-time feedback. In doing so, the Labs contributed to the creation of more robust, inclusive, and effective policy solutions, tailored to the realities of diverse local contexts.

2.3.2.2 Reflections from open discussion

Beyond the technical and procedural aspects, the third mutual learning workshop also provided a space for ethical reflection and deliberation. Participants acknowledged the ***complexity of ethical decision-making in resilience planning***, especially in contexts where choices may result in unequal outcomes or emotional distress. The discussions highlighted the need to manage moral dilemmas with sensitivity, particularly in balancing competing interests, and the psychological impacts, for instance, in the case of disaster response. Ethical considerations around uncertainty, responsibility, and the distribution of benefits and burdens were identified as central to the legitimacy and sustainability of policy interventions. Recognising that no single solution can be morally unambiguous, participants emphasised the value of transparent dialogue, inclusive participation, and mutual respect in guiding decision-making processes.

The workshop confirmed the added value of the Labs' contribution to advancing the goals of enhancing societal resilience through science-based, co-creation and policy innovation.

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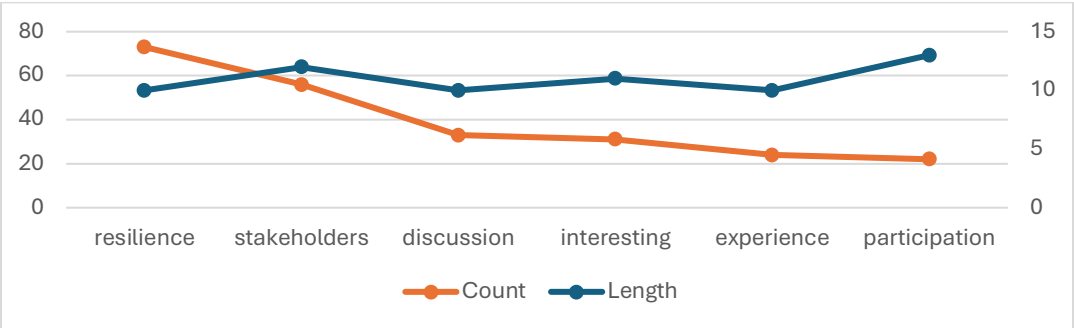
3 Content analysis

The UNIURB team has conducted a cross-cutting assessment of the mutual learning activities to understand similarities and differences between Labs and covered topics. The involved qualitative data processing is based on the use of the NVivo software. For online workshops, automatic text transcripts were subjected to data cleaning to remove special characters, punctuation, and stop words. We employed techniques, such as the “Bag of Words” approach, analysing the frequency and relevance of multiple terms to identify key themes and discussed concepts. Additionally, word embedding methods were used to capture contextual relationships among words, providing deeper insights into recurring topics related to resilience and stakeholder engagement. The in-person workshop primarily relied on qualitative analysis of outcomes recorded on flipcharts and participants’ feedback. This approach summarises insights on faced challenges, good practices, and lessons learned, ensuring a comprehensive understanding of participants' experiences across different workshop formats.

3.1 Key findings of the NVivo content analysis

Figure 5 displays the word count (words with >20 appearances) and their lengths in the transcript. The analysis reveals key themes and topics that are prominently discussed during the workshop. The most frequent words include "resilience," "stakeholders," "discussion," "interesting," "experience," and "participation”. Changes in word lengths suggest a focus on both concise and more complex concepts. Longer words potentially identify subject-specific terminology or detailed concepts related to mutual learning activities and resilience-building strategies. Overall, the figure emphasises the collaborative dialogue, stakeholder engagement, and insights within the workshop, reflecting the core themes of the events.

Figure 5 Word count (>20 appearances) of their lengths in the transcript



During the third mutual learning workshop, the most cited words were "stakeholders," "participation," "communication," "recommendations," and "institutions", highlighting the key concepts and actors involved in resilience-building processes. Their complexity and specificity

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confirm the comprehensive and multi-layered aspects of societal challenges and responses. These words are interconnected with other important terms like "resilience," "government," "strategies," and "challenges", forming a network that emphasises the importance of inclusive participation, effective communication, and structured policies.

Across the three mutual learning workshops, participants connected the topic of resilience-building in a process shaped by five main ideas: stakeholders, mutual learning, experience, policy, and policymakers:

- Stakeholders and policymakers emphasise the importance of inclusive governance and decision-making processes in strengthening resilience.
- Mutual learning signifies the value of shared knowledge and continuous engagement of different actors to enhance common understanding.
- Experience and policy reflect the lessons learned from past initiatives, informing future resilience strategies, while noting that broader evidence (beyond scientific research) is also at the basis of policy design.

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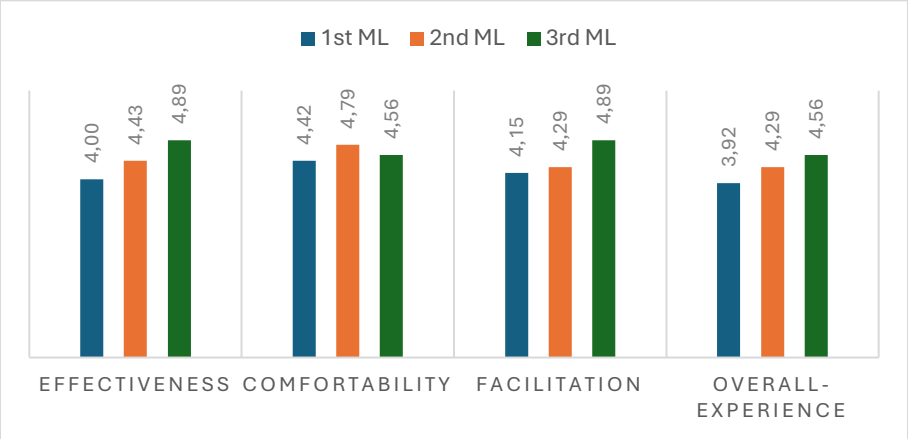
4 Assessment of mutual learning workshops

At the end of each mutual learning workshop, a satisfaction survey was sent to attendees. Figure 6 shows the average evaluation scores (Likert scales 1-5) of three workshops across four aspects: *Effectiveness*, *Comfortability*, *Facilitation*, and *Overall Experience*.

Figure 6 Evaluation of the effectiveness and experiences with the mutual learning workshops



The rate increases from the 1st to the 3rd workshop, identifying improved participant satisfaction and perceived value over time. The 3rd workshop received the highest rates (4.9 for Effectiveness and Facilitation; approximately 4.6 for Comfortability and Overall Experience). These results suggest that the workshops became more effective and engaging for participants as they progressed. The high scores reflect positive feedback and highlight the success of workshops in fostering mutual learning and collaboration.

Figure 7 shows **a word cloud analysis** of the evaluation outcomes of mutual learning workshops. It highlights participants positive evaluation of the workshops by asserting their helpfulness for participatory processes, facilitating effective knowledge exchange and learning. The workshops created an engaging environment where participants shared experiences, collaborated on projects, and openly discussed challenges. Through interactive activities and discussions, they were able to deepen their understanding of participatory learning processes and develop practical solutions collaboratively. In general, the workshops significantly contributed to enhancing the participants' capacity for collective learning and problem-solving.

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Figure 7 Word cloud analysis on the evaluation feedback of participants

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5 Conclusion and remarks

Three mutual learning workshops were organised with the active involvement of FUTURESILIENCE project partners and Lab representatives, with participation of project's Advisory and Ethic boards. Analysis of post-workshop evaluations and contextual reflections revealed several recurring themes that characterise the mutual learning process. Notable among these were the value of integrating ***diverse perspectives***, the centrality of ***active participation in learning***, and the role of structured ***knowledge exchange*** in supporting collective capacity-building.

The workshops highlighted the critical importance of inclusive dialogue, particularly in engaging stakeholders with differing needs and priorities. Challenges identified included limited resources, constrained access to relevant data, and variability in policymaker engagement across contexts. Despite these obstacles, the workshops demonstrated that participatory methods - underpinned by transparent communication and the systematic exchange of experiences - can significantly enhance the effectiveness of scenario development and policy design. Furthermore, thematic analysis underscored the inherently multidisciplinary and multi-scalar nature of resilience. Achieving meaningful outcomes in this domain requires ***ongoing learning***, ***cross-sectoral collaboration***, and a ***shared commitment to adaptation*** among all stakeholders involved. The findings reinforce the need to sustain collaborative mechanisms and address systemic barriers to develop resilient, context-specific solutions capable of responding to evolving societal and environmental challenges.

Overall, the workshops highlighted the idea that resilience-building is a continuous process, driven by shared learning, co-creation, and long-term stakeholder engagement. They also affirmed the strategic importance of creating and maintaining spaces for structured interaction, where collective knowledge and foresight-based practices can inform and guide robust policy development.

Declaration of generative AI and AI-assisted technologies in the writing process: the authors have used the AI language model developed by OpenAI to help improve the grammar and refine the language of the report. The authors declare that their use of generative AI and AI-assisted technologies is fully compliant with the 'Living guidelines on the responsible use of generative AI in research' (European Commission, April 2025).

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