POLICY BRIEF #1
NOVEMBER 2023

WHY VALORISING KNOWLEDGE IS KEY FOR BUILDING SOCIETAL RESILIENCE?

Introduction

Different crises such ad COVID-19 pandemic, financial system shocks and refugee movements due to conflict and climate change have raised the **interest in resilience**, testing the capacities of different communities to cope, adapt and build back better. The effects of these adverse events highlighted inequalities in the public, private and civil society sectors and at all institutional levels (local, regional, national, European) in the way they are prepared to face unexpected crisis and to deal with uncertainty. **Research and Innovation (R&I), including social innovation, can play a key role in informing policy development and decision-making**, by providing a basis for a more flexible and responsive capacity of stakeholders, thereby strengthening resilience and preparedness for future crises.

The **FUTURESILIENCE project** aims to strengthen European economic and social resilience through an enhanced ability to quickly respond to future crises. This will be accomplished by facilitating the fast and effective use of policies based on R&I findings through 10 pilot cases called 'Future Resilience Labs'. During the experimentation, multiple stakeholders will discuss and test evidence-based strategies tailored to their specific context and matching their local needs.

The project **fosters knowledge valorisation for creating resilience** at local and regional levels. As defined by the European Commission *"knowledge valorisation is the process of creating social and economic value from knowledge by linking different areas and sectors and transforming data, know-how and research results into sustainable products, services, solutions and knowledge-based policies that benefit society."* It calls for the participation of all actors including users of research results and technological developments, policymakers and citizens.

Societal resilience: what is it about?

The international community will understand **resilience** as the degree to which a **social system** can organize itself to increase its ability to learn from past adverse events to better protect itself in the future. It describes the extent to which systems absorb threats or shocks, being able to maintain and adapt their inherent structure, performance, and behaviour.

Resilience could be understood as a comprehensive system composed of two key components: the **human communities**, embedded in values, beliefs and structures; the **physical system** where communities live, mainly linked to urban planning and composed of infrastructure, communications, energy facilities, geology and natural systems (Godschalk, 2003). Scientists have analysed the capacity of **resilient systems to promote transformation**, contribute to addressing societal challenges and increase future preparedness.

Societal resilience refers to the intrinsic ability of a community to manage and respond to shocks and adverse events, and it is highly shaped by societal pre-existing conditions (Cutter et al. 2008; Burton 2015). Similarly, the concept of community resilience is seen as the participation of citizens in creating resilience as well as managing the threats and the conditions of uncertainty. Some highlights:

- **Policies to build and strengthen resilience** should be developed at local level as the social, economic and cultural characteristics of a place may differ from others. Resilience is a process that emerges from sense-making and actions that are embedded in society, its structures, values and bonds. While solutions can have a degree of replicability, but should in any case be tailored to new, different contexts.

- **Societal resilience implies moving to a new paradigm**. It suggests an expansion of the more established discourse of societal safety and security that will allow safety science to reach out to a broader public audience, further engaging with citizens in the co-design of future resilience and promote democratic transformations.

- Societal resilience **needs from all the community to take part**. It is dependent on flexibility and the capacity to dynamically adapt to changing conditions, considering the varied needs of relevant networks, time constraints and impact of internal and external stakeholders.

Reflecting on Societal Resilience

- *What does resilience mean in your jurisdiction? Which policies have been implemented to build or strengthen resilience? Are those policies oriented to specific challenges or crisis, or do they look to be cross-cutting?*
- *What is the role of local communities in the process of making cities or regions resilient? What is the role of scientific evidence as basis for the policies?*

Using science-based approaches for policymaking

To valorise knowledge and encourage policy uptake of research results, **"evidence-based policymaking" emerges as a key concept in policy design**. As defined by the European Commission, Evidence-based policymaking refers to the idea that *"policy decisions must be based on, or informed by, objective evidence and/or scientific frameworks"*. Furthermore, public policies are decided in a complex process, including problem definition, agenda setting, policy formulation, implementation, and evaluation. These stages are not linear; rather, they run into each other as policies are constructed and negotiated by various actors, public and private, often at **different levels of governance**.

Science-based knowledge can contribute towards mitigating uncertainty of policy problems. However, it may be less effective when it comes to mitigate ambiguity, understood as the presence of multiple, conflicting, and irreconcilable interpretations of public events, situations, and processes. Indeed, levels of ambiguity are contingent on the policy sector. Regardless, for scientific knowledge to have policy impact, it must engage directly with the policy debate and use policy relevant language to have policy impact. Moreover, evidence should be capable of responding to increasingly interconnected challenges and promote dialogue among different policy areas in finding cross-cutting solutions.

Providing access to actionable knowledge and approaches to test its applicability for diverse groups enhances both innovation capacity and resilience. The consortium **developed a Knowledge Base** (published in beta version and planned to be openly accessible in 2025), with the objective of enabling wider access to user tailored R&I results, and with high capacity to inform policies and apply them in real life and so strengthen resilience and future preparedness by means of increasing capacities and reducing vulnerabilities.

The **Knowledge Base includes more than 600 entries**, including documents coming from research done within Horizon 2020 and Horizon Europe, as well as policy recommendations and good practices from international organisations, corresponding to a similar time frame. Most documents included in the database are i) based on scientific evidence, ii) have been previously tested in the society (following the Societal Readiness Level classification), and iii) policy relevant, meaning they provide well-grounded policy options with informed background on possible positive impacts. Finally, the database includes filters that facilitates the navigation, such as thematic areas of interest, type of intervention, intensity of change, societal readiness level and shock phase.

Reflecting on the Knowledge Base
- *What kind of knowledge do you consider to be evidence when deciding on a policy that aims to enhance resilience? What does societal resilience mean to you?*
- *What are the main barriers for using evidence-based solutions in your policy deliberations?*
- *What is the input of citizen groups in the process?*

Developing a toolbox for policy testing

A core element of the project is a toolbox to design and test policy relevant findings stemming from European R&I that can contribute to EU resilience and future preparedness. The toolbox was launched in August 2023 as beta version and will be available for the FUTURESILIENCE labs during the experimentation phase of the project (see section below). The toolbox will be made available in open access after a validation phase in 2025.

The FUTURESLIENCE Toolbox is composed of three main blocks:

- **Process tools:** it includes different methodologies for policy testing. While mainly based on Foresight and scenario development, it also includes a range of methodologies to map local challenges in collaborative way (e.g. Crowd-mapping), analyse barriers for policy implementation (e.g. Agent-Based Modelling) or test the appropriateness of policies against different plausible future events (e.g. Wind-tunnelling).
- **Policy tools:** a series of existing policy design tools that will help policymakers to work with evidence for policy design. It also includes a guide to navigate the Knowledge Base, aiming to create a bridge between science and policymaking process.
- **Thematic tools:** these are specific tools to work on concrete or interconnected challenges or crises (e.g. health, agriculture, finance, climate change, disasters, etc.). It includes tools developed by Horizon 2020 and Horizon Europe funded projects as well as tools designed by recognised international organisations.

Setting up such a process together with key stakeholders will enable policy makers to get a better **understanding of future challenges and stakeholder perspectives**. The process will also generate strategies to address these challenges and early warning signposts alerting them to the need for strategy revisions. The participatory joint learning process will enhance the **transformative capacity of the system**, so stakeholders will form **novel linkages**, learn about each other's perspectives, identify shared ground and develop **future oriented attitudes** including sensitivity for a wider range of emerging phenomena and recognition of uncertainty.

Reflecting on the Toolbox

- *What is in your experience a good way to test evidence-based policies? Why applying Foresight tools could be of benefit for future preparedness? When do you usually apply policy testing tools?*
- *What can policymakers learn from experimenting policy testing tools with different stakeholders?*

Experimentation as core strategy

When a crisis strikes, the classic tools of government policy and the market solutions may be inadequate, and the optimal response will require an active involvement of multiple stakeholders to find solutions and prepare for possible future scenarios. To address this challenge, **experimentation could be a way forward** and would be most useful if it results in active learning. Co-design methodologies create socially recognised value and have the capacity to generate impact through being formalised as pilots or programmes, where people can create, shape and experiment with new ideas meeting their needs.

Hence, by involving policymakers and stakeholders in process design and implementation, there is more chance to develop solutions that are informed not only by science, but also **shaped by citizens at local level**. In this respect, science and policymaking should be at the service of societies and aim to meet societal needs, today and tomorrow, in order to create a positive and transformational impact.

FUTURESILIENCE labs are at the core of the project. Organised in co-creation mode and mentored by a group of experts from the consortium, each lab will address one or more **thematic drivers requiring solutions to increase resilience in the long-term**. The priority of the labs is to match the needs at local, regional or national level with existing policy relevant R&I findings ensuring that these findings can be translated into policy and new societal solutions, and thereby provide policy makers and citizens with a high degree of confidence and trust in responding to new challenges.

The project already counts with 3 pilot cases (see figure on the right) working on specific challenges such as climate change, financial and migration crisis or healthcare system models. During Summer-Autumn 2023, we launched an open call to fund additional 7 pilot cases through a cascade funding mechanism. The experimentation phase will take place during 2024, including cross-learning activities between pilots and other EU-funded project pilot cases working on building resilience.

MURCIA Lab

The lab will work as co-creation space, supporting citizen science and crowd-mapping of climate change impacts, tailoring policy solutions aimed at improving urban performance. The labs will strengthen the governance of all urban actor, to be able to develop preparedness models to mitigate the impacts of some challenges such as reduce heat island, reduce flash rainfalls and flooding as well as increase the compactness of the city.

CHIOS Lab

The lab will focus on planning and developing a strategy to strengthen the ability to respond multidimensional and overlapping crises. This will be accomplished by considering multiple areas for action in areas such as social protection, community engagements, health provision, schooling, financial considerations and budgeting, thus strengthening the resilience of the administrations and the society.

BAPEMED Lab

The lab aims to develop a more resilient healthcare system, working with multiple stakeholders across the country. The pilot case will build on three key trends: demographic developments, the growing burden of non-communicable diseases, and the expanding role of technology. The focus will be on the shift happening within health systems towards increased prevention and more personalised health, which requires digital health literacy.

Policy implications and action items

The linkage between **science, society and policy is key to enhance societal resilience**. Science can help policymaking by providing knowledge, attitudes, and skills to address societal challenges and increased preparedness for future shocks. Society can contribute to policymaking by first, contributing to frame societal challenges from experience, and second, actively engaging in policy design and implementation. Finally, policymakers should better understand how people deal with complexity and how science-based policies can add positive value to societies and economies.

Some preliminary **recommendations** and challenges for upcoming implementation:

- We should tackle the nature of future threats: policymakers should be early listeners of scientific "signals" and not wait until shocks happen. There is a need for anticipatory governance, and this requires coordinated efforts in the science-policy-society triangle.
- We should work on the level of uncertainty: this implies focusing on solutions applicable to multiple scenarios. It means having plan A B C for X Y Z situations. Experiment, replicate and scale up/out.
- We should enhance community engagement: to operate at different geographical levels, we should reach more remote areas, reinforce regional approaches and look at increasing trust in science through societal engagement at local level.

Project Identity

Project Name	Creating FUTUre societal RESILIENCE through innovative, science-based co-creation labs **[FUTURESILIENCE]**
Consortium	**[Coordinator]** European Future Innovation Systems (EFIS) Centre – Belgium; NTNU Social Research – Norway; Fraunhofer ISI – Germany; University of Ferrara – Italy; University of Urbino – Italy; Maastricht University – Netherlands; Regional Development Institute – Greece; Polytechnic University of Cartagena – Spain; Copenhagen Institute for Future Studies – Denmark; Foresight Centre at the Riigikogu – Estonia; Mid-Sweden University – Sweden; Bulgarian Association of Personalised Medicine – Bulgaria; Municipality of Murcia – Spain; Municipality of Chios – Greece
Funding Scheme	**Horizon Europe /** HORIZON-WIDERA-2022-ERA-01: An experimentation space for the uptake and use of R&I results for EU resilience and future preparedness
Website	www.futuresilience.eu
Duration	36 months (January 2023 – December 2025)
Budget	€2,889,406.25

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References

- Burton, Christopher G. 2015. "A Validation of Metrics for Community Resilience to Natural Hazards and Disasters Using the Recovery from Hurricane Katrina as a Case Study." Annals of the Association of American Geographers 105 (1): 67–86.
- Cutter, Susan L, Lindsey Barnes, Melissa Berry, Christopher Burton, Elijah Evans, Eric Tate, and Jennifer Webb. 2008. "A Place-Based Model for Understanding Community Resilience to Natural Disasters" 18: 598–606.
- Godschalk, D. (2003) "Urban Hazard Mitigation: Creating resilient cities", Natural Hazard Review, Vol. 14, n. 3, pp. 136-143.