Synthesis Workshop IMMER
21/11/2024

I.   Introduction

On November 21, 2024, the second IMMER project workshop took place in Strasbourg bringing together representatives from private and public sectors of the Strasbourg-Kehl region.[1] The aim was to take over the outcome from the first workshop (July 4th), refine it and use it to simulate a journey into the future.

Divided into three groups, participants addressed specific disaster scenarios for 2050 that had been developed during the first workshop : "Tsunami 2050", "Blackout 2050" and "Collapse 2050". The goal was to immerse the participants into these three dystopian scenarios, examining key factors, discussing concrete resilience measures, and exploring identified threats and opportunities.

This method of fictitious time travel offers a better understanding of *the issues at stake* after having "experienced" situations in several dimensions (technical, political, but also emotional ones). It also serves as an effective tool for encouraging both individual and collective reflection on potential critical situations and fostering preparedness for resilience if needed.

The first phase of the workshop was devoted to immersion in the narratives.

After this, each group began with the **analysis of a "TOSA"** (Threats, Opportunities, Stakes, Actions) framework adapted by the IMMER team. Participants were encouraged to think creatively and immerse themselves deeply in the scenarios. The analyzed societal sectors included energy (electricity, gas, oil), mobility, water, information systems, social cohesion, and territorial self-organization.

In the last phase, **a role-playing exercise** was conducted featuring three distinct "personae": the Minister-President of Baden-Württemberg, the head of the disaster management unit, and a young, successful entrepreneur. Three participants played these roles, engaging the groups by raising scenario-specific issues from the perspective of their persona. The exercise aimed at identifying measures that each persona could implement in their respective role. At the end of this phase, each persona presented the proposed measures to the plenary session.

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[1] A list of the organizations represented is provided in the annex.

II.   Immersive stage

To reactivate memories and emotional connections to the scenarios, the current workshop utilized three videos created by the IMMER team using AI. Two of the videos featured news anchors reporting on the events and conveying government instructions to the public. The third video, which introduced the Blackout scenario, depicted a car broadcasting information from a radio host—a deliberate choice, as in a blackout scenario, televisions and other online information sources would likely be unavailable.

The objective of incorporating videos was to reactivate the participants' emotional responses. By providing vivid and dynamic depictions of the scenarios, the videos aimed to create an immersive experience that would foster deeper emotional and cognitive engagement. The videos can be accessed via the following link:

https://www.youtube.com/@user-wg8gz6cw8p

III.   Results TOSA-Analysis

A Threats, Opportunities, Stakes, and Actions (TOSA) framework served as a cornerstone of the workshop, guiding participants in systematically analyzing critical aspects of societal resilience across a range of disaster scenarios. This chapter presents the results of the TOSA analysis, offering insights into how different sectors—such as energy, mobility, water, and social cohesion—might respond to and be impacted by the challenges posed in each scenario. By addressing potential threats, uncovering opportunities, identifying key stakes, and formulating actionable measures, the participants were encouraged to develop a nuanced understanding of the interdependencies and vulnerabilities within these systems.

The findings are structured according to the four dimensions of the TOSA framework—Threats, Opportunities, Stakes, and Actions—and are summarized for each scenario using bullet points that capture the most significant insights and proposals from the participants.

3.1 Collapse

Threats :

- A societal collapse caused by a dangerous virus triggers widespread fear, isolation, anarchy, and violence, disrupting social order.

- Critical infrastructures such as food supply chains, water systems, energy grids, and communication networks fail, causing severe shortages and chaos.
- The rapid spread of the virus overwhelms healthcare systems, while panic and mistrust lead to non-compliance with safety measures.
- Supply chain breakdowns create scarcity of essential goods, unmanaged waste poses additional health risks, and nuclear emergencies arise from neglected maintenance of critical facilities.

These interconnected threats create a cascading crisis with devastating consequence

3.1.2 Opportunities:

- A societal collapse creates opportunities for a return to simpler, sustainable solutions such as manual water pumps, dry toilets, and transportation by horse, bicycle, or boat.
- Local communities strengthen as people build closer relationships with neighbors and form smaller, more connected social circles.
- Communication adapts through traditional means like church bells, reducing reliance on large-scale communication systems and fostering more direct, localized interactions.

This shift encourages resilience through practical, low-tech solutions and deeper social bonds.

3.1.3 Stakes:

- A societal collapse imposes critical challenges centered on energy dependency, with shortages arising from insufficient production.
- A high infection rate paralyzes essential services due to a lack of healthy personnel.
- Governance faces a dilemma between enforcing authoritarian rules or adopting more flexible measures based on evolving needs.
- Mobility decreases to limit the virus's spread, while secondary needs vanish as survival becomes the primary focus.
- Urban areas empty as people limit their movements, leading to reduced population density.

These pressing issues require decisive action to maintain a minimal level of societal functionality.

3.1.4 Actions

- In terms of energy and communication, communities could rely on individual batteries, autonomous energy sources, satellites, old communication systems like radios and Morse code, and local newspapers.
- For water and food supply, water purification tablets, activated carbon filters, and localized food production within a 5 km radius could ensure a basic survival.
- Transport and mobility could be maintained with cargo bikes, trailers, and even steam engine technology.
- Local cooperation becomes essential through shared toilet facilities, community information relays, and simplified bureaucratic procedures for cross-border collaboration.
- Practical aids such as survival brochures and local beer brewing could support community resilience.
- A legal framework should include clauses promoting local autonomy during emergencies, enabling communities to manage crises more effectively.

3.2 Tsunami

General remarks

- We should not treat this crisis by silo thinking since it's all systemic and therefore all interlinked; cascade effects have to be taken into consideration!
- The basis of all actions should be Maslow's pyramid of needs (i.e. considering the hierarchy of needs, from the very basic and urgent ones like food, shelter, etc., to the upper levels like self-esteem, creativity, etc.)

3.2.1 Threats (mainly in the short term)

- Almost the entire energetic infrastructure is concerned, with impacts on all services (from transportation to hospitals…). Survival is threatened. Note that the impact would probably be different between the beginning and the end of the scenario
- Destruction of the mobility infrastructure
- Impact on public health:
  - Water pollution, that can threaten public health (impact on the drinking water system)
  - A lack of drug supply (medications) can also threaten public health
  - Cold chains of groceries are threatened to break down

3.2.2 Opportunities (at longer term)

- Development of new technologies in the energy sector

- Opportunity to reconstruct the territory in a less dense way and as a more decentralised system – developing therefore more resilient solutions to future crises
- Establishing autonomic mobility structures
- Strengthening of the values of autocracy, self-organisation and solidarity

3.2.3 Stakes

- The supply with groceries, medications and fuel is at stake
- Medical care is a central issue
- Supply of electricity and gas
- Pure survival of people and enterprises
- People are locked in one place and cannot move due to the broken-down mobility system
- Finding the right balance between the mobility of civil protection actors and the mobility of inhabitants
- The role of longer-distance mobility networks

3.2.4 Actions

- Setting up of (heated) evacuation centres that provide food, drinking water, medications and cloths (and all basic needs considered in the Maslow's pyramid)
- Establishing decentralised energy structures and/or resilient networks
- Increasing energy autonomy, efficiency and also self-sufficiency
- Increasing the stock of public boats and alternative mobility devices
- Training of civil protection agents (for instance in the supply of drinking water)
- Public actors have also to be active in social media.
- Development of tools to strengthen social cohesion and solidarity
- Education of resilience and solidarity from early ages on
- Implementing civil communities dedicated to civil protection (like the Community Emergency Response Teams (CERT) in San Francisco -> [Community Emergency Response Team (CERT) - City of South San Francisco](#))
- Individual stock keeping of physical money (cash)
- Establishing structures of engage and coordinate volunteers
- Establishing coordination structures for the reconstruction work
- Establishing a register with vulnerable people and people with special needs in every municipality (exists in Kehl already)
- Setting up cooperation structures between hospitals in Germany and France

3.3 Blackout

General remarks:

For some participants it has been hard to think that such a blackout could happen.

3.3.1 Threats

- Without media, only direct communication is possible, isolating communities.
- Religion gains influence as people seek structure and hope.
- Energy-free transport (bicycles, walking) limits mobility.
- Reliance on wood for cooking and heating leads to deforestation and air pollution.
- Nuclear plants risk failure, contaminating water and the environment.
- Hospitals fail, causing mass casualties from untreated conditions.
- Contamination and poor sanitation create widespread disease and stench.
- Security and social order deteriorate, violence increases, law of the strongest prevails.
- Self-supply theft: Scarcity of resources forces people into theft and looting, destabilizing communities further and eroding trust.
- Ownership/property is now unprotected, deepening social instability.
- Cities become ghost towns, while survival is easier in the countryside, straining rural resources.

3.3.2 Opportunities

- Dynamo generators and bioenergies (biogas, hydroelectricity, solar power) offer renewable energy solutions.
- Energy-free mobility options (river transport, horses, bicycles) become essential.
- Battery-powered radios, Morse code, smoke signals enable information sharing. Due to the specificity of the region, multilingual tools might be developed to share information more broadly.
- Libraries and community boards provide knowledge, know-how and real-time updates.
- Swap systems replace money, fostering local exchanges of goods and services.
- Smaller groups and town-countryside networks strengthen community resilience.
- Repairing items and valuing craftsmen become essential, shifting societal priorities toward practical skills.
- Urban areas may provide better health protections, keeping some people in towns despite challenges.

3.3.3 Stakes
- Access to filtered water ensures survival and hygiene.
- Churches and religious values foster social cohesion, becoming meeting points for communities. However, these spaces may also heighten tensions between groups.

- Self-organization based on individual skills (e.g., first aid, barter systems) empowers communities to adapt.

3.3.4 Actions
- Decentralization of energy systems, including solar-powered mobility and mill restoration for energy production.
- Water-saving policies, wastewater treatment, and creative cooling solutions (e.g., subterranean/clay coolers).
- Fitness and health initiatives to reduce population vulnerability.
- Weed supply for stress management, reducing violence during crises.
- Crisis communicators in neighborhoods to share information and provide first aid during emergencies.
- Survival kits and plans, with survival classes in schools teaching farming basics and foraging skills
- Development of urban farming, recycling plants, and robust local supply chains to create circular economies.
- EU or state-owned resilience funds for proactive crisis planning.
- Initiatives to increase trust in authorities and ensure reliability during crises.

The actions could be resumed as follows: training, education, decentralisation and relocation.

How can we get crisis preparedness for governments, children and for the overall society ?
How strong can the solidarity of the community be in case of a crisis ?
What could be the points where we could see that influence factors will turn positive ?
Comparing an optimistic view with a pessimistic one to see what could be different.

4. Synthesis of the scenarios by fictional personae

In order to establish a tangible and immersive synthesis of the TOSA-analysis of the different scenarios, three participants slipped into the roles of fictional personae. In the last phase of the workshop, they went from scenario to scenario collecting from every group the necessary information and synthesised the scenarios from their point of view. After the workshop, this collected information has been transformed into narratives.

4.1 Persona A

I'm Mats-Benjamin Gnamm, a young entrepreneur from the Kehl-Strasbourg region. My vision has always been to create something meaningful - a business that is not only economically successful, but also really helps the people in my home region. But the world I live in has changed radically. There is no longer any normality, challenges that my

generation could hardly have imagined. Three scenarios in which I have to find my way around drive me to develop creative solutions and break new ground.

4.1.1 Chapter: The blackout

The world I knew collapsed one day. No electricity, no mobility with petrol or diesel engines. Suddenly bicycles and our own feet were the only means of transport. Clean drinking water? Rare. Medicine, food? In short supply. In my neighbourhood, people began to grow their own food, often on the outskirts of the city or in small gardens. But the greatest needs remained: water, electricity, security and medical care.

There was no longer any centralised leadership, only local leaders in small communities. Without clear rules, the law of the jungle was the order of the day. I sensed that people were desperate for stability and security.

I saw my opportunity here. I started to look into the circular economy and sustainable production. I organised small communities that used their resources efficiently and worked to build stable food sources. It wasn't easy - every decision had to be well thought out. But in the midst of the chaos, my business grew. I was not only a trader, but also a bridge builder, creating trust and structure.

4.1.2 Chapter: The river tsunami

The tsunami came unexpectedly and left a trail of destruction in its wake. After a while, communication was possible again thanks to private initiatives such as Starlink, but the roads and railways were unreliable. The Rhine was the only stable transport link out of our region.

I quickly realised that people needed basic infrastructure - roads, houses, drinking water facilities. Official cooperation with the authorities was almost impossible. Corruption was the order of the day. Instead, I sought direct contact with local leaders and found ways to work with them informally.

With high unemployment in the region, I had a large, cheap labour force at my disposal. I founded a construction company that helped with reconstruction - bridges, drinking water systems, safe living spaces. The problem of financing was huge, but I learnt to allocate resources wisely and to find creative solutions together with the people.

4.1.3 Chapter: The social collapse

It was the worst nightmare. No electricity, no telephones, hardly any security. Hygiene was catastrophic, diseases were spreading and people's labour was dwindling. Mobility was severely restricted as the Rhine acted as an insurmountable barrier.

I saw how people began to grow their own food - uncoordinated and inefficient. There was no trade, no money, no markets. Everything came down to bartering, and yet there was mistrust everywhere.

That was my turning point. I started to create small networks of farmers, coordinated their work and installed decentralised food markets. We traded with what we had - services, goods, sometimes just mutual trust. It was not about financial profit. The real profit was in the power of building a community and giving people back a piece of hope.

Three scenarios, three challenges, but also three opportunities. I have learnt that innovation and community spirit can emerge in the midst of chaos and destruction. My goal remains to make the Kehl-Strasbourg region a place where people have a perspective again - no matter how dark the times are.

4.2 Persona B

I am Lydia Ringeissen Kassa, head of the civil protection unit of the Eurometropole Strasbourg. My life is a constant balancing act between disaster management and the responsibility to protect the lives and safety of thousands. Every crisis brings new challenges, but also new opportunities to make the most of resources and create structures that can withstand even the most difficult times.

4.2.1 Chapter: The blackout

The sudden power cut hit us like a slap in the face. No electricity, no mobility, no communication - society fell into darkness. But it was precisely in this darkness that our commitment shone brightest.

My first step was international communication. I activated emergency channels to ensure that we were not isolated. At the same time, we installed satellite phones for citizens to ensure at least minimal security and alleviate the worst fears.

A blackout also means that the law is often temporarily enforced more strongly to prevent chaos. But I knew that we had to rethink the structures of civil defence afterwards. This crisis was an opportunity to rebuild people's trust in our organisation and create a foundation for future resilience.

4.2.2 Chapter: The river tsunami

The tsunami was a catastrophe that affected us all deeply. But it also brought a key realisation: our previous centralised structures were not sufficient to react quickly and efficiently.

My strategy was clear: we had to decentralise resources in order to be able to help people on the ground more quickly. I organised a network of local coordination centres that were in close contact with the communities. It was essential to network the stakeholders - from volunteers to international partners.

Thanks to the European Civil Protection Mechanism, we were able to mobilise help from other countries and dovetail it effectively with our own measures. Communication was key, and I made sure that everyone involved - from mayors to international organisations - was in constant communication.

4.2.3 Chapter: The social collapse

The collapse of society was the most profound turning point in my life. Without functioning state structures, chaos broke out. Diseases spread rapidly and the gap between infected and non-infected people became a potential fuse for violence.

I knew that we had to restore order. First of all, I reactivated the civil defence to prevent possible confrontations. It was a race against time to get medicines and medical supplies to the region. Emergency plans for such cases that I had once regarded as purely theoretical suddenly became a lifeline for the population.

Communication was another challenge. Without telephone networks, contact with the communities was almost impossible. So we set up a system of civilian relay groups to relay information and instructions. Every step was designed to give people hope and structure as we laid the foundations for a return to stability.

My goal was and is to protect people, no matter how big the challenge. In every crisis, I see the opportunity to grow and learn from the mistakes of the past. I have learnt that civil protection is not just about responding to disasters, but also about giving people hope and a perspective. Together, we can survive any crisis - and emerge stronger

4.3 Persona C

I am Merdan Seker, Minister President of Baden-Württemberg. In times like these, my task is clear: to ensure security, stability and hope for the people of our country. These crises that have hit us are unprecedented, but I am determined to lead the population through these challenging times.

4.3.1 Chapter: Safety comes first

From the moment the crises hit us, my top priority was the safety of our citizens. Every action, every decision we take at a political level has one goal: to protect people. Whether by securing food, providing medical care or maintaining order - my job is to lay the foundations for a functioning society, even in the midst of chaos.

4.3.2 Chapter: Coordination and communication

One of the biggest challenges was logistics. The transport of goods, be it food, medicine or other essential resources, was completely taken over by the public authorities. I made sure that our country had sufficient alternative means of communication, such as satellite phones, to stay in touch at all times - both with the population and with international partners.

Every measure has been carefully planned and we have a clear goal in mind: not only to inform people, but also to strengthen their trust in the government. In these times of uncertainty, it is crucial that people know that we take their concerns seriously and act decisively.

4.3.3 Chapter: Health and social cohesion

The health of the population and their families is particularly important to me. We have done everything we can to ensure that medical facilities are functioning and medicines are available. At the same time, I was aware that this crisis would not only bring physical challenges, but also psychological ones. That's why I focussed on clear and empathetic communication to alleviate fears and create confidence.

The strength of our country lies in its cohesion. This crisis have challenged us all, but it has also shown what we are capable of doing together. My message to the population is clear: we will overcome this crisis together. Every step we take brings us closer to the goal of regaining stability and normality.

Baden-Württemberg has always been a role model for innovation, strength and solidarity. Now, too, we will show that we can put these values into practice. Together, we will not only overcome the crises, but also emerge from it stronger.

5. Conclusion

Our aims were to test a foresight method using narratives in order to think very realistically about what the future could look like in many details, and to put at work various stakeholders from France and Germany together (located in the Strasbourg-Kehl area). The operation fulfilled the objectives, in the sense that:

- the staging of the three catastrophic scenarios revealed a rich variety of issues and solutions (a considerable added value compared to the June 2024 workshop);

- the participants demonstrated a high level of engagement, which suggests that the goal of motivating them to take actions was also met.

The workshop also performed well on the operational level in terms of communication. Major steps have been achieved in English, but a significant proportion of the discussions was in both French and German languages.

The results reflect the collaborative effort of the workshop participants, who were tasked with thinking creatively and critically about the cascading effects of disasters. The insights generated through this process could provide a basis for developing strategies about risk mitigation, harnessing opportunities, and building resilience in critical cross-border societal systems.

6. Appendix: list of organizations represented

ADEUS - Agence d'urbanisme de Strasbourg Rhin Supérieur
Agglomération de Haguenau
APR - Association de Prospective Rhénane
Fraunhofer ISI
Hafen Kehl
Hochschule für öffentliche Verwaltung Kehl
Hochschule Offenburg
ifuG - Institut für Unternehmensgestaltung
Klumpp & Müller
Landratsamt Ortenaukreis
Ports de Strasbourg
R-GDS
SIS 67 - Services d'incendie et de secours du Bas-Rhin
SNCF Réseaux
Stadt Kehl
Université de Strasbourg