



RRADEW

Resilience to Radiological Events  
in Wartime

## WP3 – Ukraine case study Experts



The role of experts in crisis situations has been neglected in the literature. When it has been addressed, it has mainly focused on two aspects:

### Experts for Social Media ( Lin, Wu, 2025)

- the science-brokers,
- the opinion-expressers,
- the information-transmitters,
- the sense-givers.

### Experts for Decision makers (Brinks, Ibert, 2023) :

- ☐ the *trouble shooter*,
- ☐ the *emergency expert*,
- ☐ the *situative expert*,
- ☐ the *accidental expert*
- ☐ the *trusted advisor*..



# The role of Expert for resilience ?



◆ **Space is socially constructed, not just physical**

→ **Lefebvre (1974)**: Experts operate across **physical, mental, and social dimensions**, shaping risk perception, infrastructure, and community trust.

◆ **Resilience is about re-inhabiting space, not just recovering**

→ **Ingold (2000)**: Dwelling is an active process—experts help communities adapt to transformed spaces through risk mapping and spatial strategies.

◆ **Resilience requires adaptation, not just stabilization**

→ **Reghezza-Zitt (2012)**: Experts **co-develop flexible recovery strategies**, integrating local knowledge and adjusting solutions over time.

◆ **Making sense of crisis is key to action**

→ **Weick (1995)**: Experts provide **narratives that structure uncertainty**, making scientific knowledge actionable and stabilizing public perception.



**Experts are not just advisors—they could actively contribute to resilience. How ?**



# Method

## Semi-Structured Interviews: Key Themes

- **Background & Position Before the Invasion**
- **First Moments of the Invasion** → Immediate reactions and initial responses.
- **Reactions and Actions in Two Key War Phases:**
- **Chornobyl** – Expert interventions and crisis management.
- **Zaporizhzhia** – Navigating uncertainty and nuclear risk.
- **Role & Contributions as an Expert** → Explanation, advisory functions, and strategic input.
- **Impact of Expertise on Personal Life** → Navigating stress, ethical dilemmas, and personal resilience.

ISP NPP

We investigated the role of **ISP NPP** experts

Entretiens semi-directif, N = 3+2



# Background



**ISP NPP researchers** conducted extensive studies, including field-based research in Chornobyl

Some experts had already acted as science brokers before the war.

They published *The Terrible, the Beautiful and the Ugly in Chornobyl: From the Disaster to the Laboratory* to:

- **Explain** radioactivity and the post-disaster environment.
- **Provide** a nuanced view of Chornobyl, balancing danger, resilience, and memory.
- **Bridge** past and future, framing Chornobyl as both a research site and an identity marker for Ukraine.





# The Case of Chornobyl



## **1. A Territory of Nuclear Disaster**

1. Chornobyl remains globally known for the 1986 nuclear disaster.
2. Initially, it was perceived solely as a contaminated and dangerous zone.

## **2. From Ruin to Scientific Laboratory**

1. Over the years, the site became a research hub for studying long-term radiation effects.
2. Experts monitored environmental changes, wildlife adaptation, and radioactive decay.
3. Chornobyl transitioned from a risk zone to an experimental and memorial space.

## **3. An attacked territory**

1. The Russian invasion in February-March 2022 disrupted research and monitoring efforts.
2. Chornobyl once again became a site of fear, uncertainty, and geopolitical tension.

## **4. Loss of Control and Monitoring Capabilities**

1. The occupation led to the shutdown of radiation surveillance systems.
2. Experts lost real-time access to contamination data due to Russian control.
3. The lack of information fueled anxiety and uncertainty about potential radioactive risks.

## **5. Scientific Assessment despite missing key parameters**

1. The Russian military's presence and activities (digging trenches, troop movements) increased contamination risks.
2. Traditional dose calculations were unfeasible due to missing key parameters.
3. Experts relied on "dust leafing" and historical data to approximate exposure levels.

## **6. Who Faced the Greatest Risk?**

1. Those on the ground, not around the exclusion zone

## **7. The Personal Cost of Expertise**

1. Some joined the army or remained in their professional roles to contribute through expertise.
2. Their engagement was significant and time-consuming, balancing duty with personal risk.
3. Others fled the war, fearing for their families.
4. Those who stayed provided critical assessments to counter misinformation.
5. Refusing to speak meant leaving the floor to non-experts, increasing the risk of disinformation.



# The case of Zaporizhzhia



## 1. A Crisis Beyond Imagination

- Before November 2021, a nuclear plant as a warzone was unthinkable.
- Warnings were dismissed as Cassandra hysteria.

## 2. The Worst-Case Scenario Becomes Reality

- The unimaginable happened—Zaporizhzhia became a battleground.
- Nuclear infrastructure turned into a strategic military asset.

## 3. Inability to Measure Radiation Exposure

- No real-time data, missing parameters made dose calculations impossible.
- Decision-makers hadn't ask for this type of request.
- Experts relied on alternative calculations, .

## 4. Risk vs. Perceived Danger

- Public concern over nuclear risks emerged months after the crisis.
- Immediate survival (war) took priority over long-term radiation exposure.

## 5. Who is Most at Risk?

- Not civilians, but Ukrainian plant operators under Russian control.
- Forced labor, stress, and sabotage risks compromised nuclear safety.

## 6. Experts as Information Brokers

- Official channels blocked, forcing informal data-sharing.
- Regulators used themselves expert networks to bypass bureaucracy.

## 7. Experts Had to Redefine Their Own Boundaries

- They were forced to expand their expertise beyond their usual domain.
- "I am not a specialist in Z, but..." became a survival mechanism.

## 8. Blurred Lines Between Professional and Personal Life

- "I fled. I feared for my child. Yet, I had to provide expert commentary to the media."
- A turning point into a career : more general competences, less academic recognizing



## The role of Expert for resilience ?

1. Constructing New Narratives to Redefine Territories
2. Connecting Actors and Expanding Available Resources
3. Evaluating the Danger





# 1. Redefining Territories Through New Narratives



- Experts shape how crises and affected territories are understood and managed.
- By producing **coherent crisis narratives**, they might provide **stability amid uncertainty**, helping populations and decision-makers make sense of chaos.
- Experts can bypass **bureaucratic inertia of official communication**.

**Resilience Outcome:** Experts don't just analyze crises; they help reframe risk and response strategies, shaping how territories are understood and managed.



## 2. Connecting Actors and Expanding Available Resources



- Experts **link past, present, and future crises**, using prior disasters (e.g., Chornobyl) to **set realistic risk expectations** for present challenges (e.g., Zaporizhzhia).
- Their position at the intersection of different networks allows them to **bridge technical expertise with operational action**, for example:
  - ➔ Connecting nuclear risk assessments with **demining operations** in war zones.
- Make international cooperation to benefit from and to them and to shed light on Ukrainian stakes
  - ➔ RRADEW, Japan
- By **improvising ("bricolage")**, experts create **actionable solutions from limited resources**, adapting to real-world constraints.

**Resilience Outcome:** Crisis recovery is not just about technical expertise—experts activate cross-sector collaborations, transforming their networks to support resilience beyond the immediate crisis.



### 3. Evaluating the Danger

- Experts contribute to **define the scale of risk**, identifying **what should truly be feared**—which is not always what the public or media assume.
- They **prioritize threats dynamically**:
  - At Zaporizhzhia, experts emphasized **operators security risks over nuclear disaster** when power outages became the more immediate crisis.
  - At Chornoby, they identified that the **greatest risk was not radiation itself but the political control over crisis data**.

**Resilience Outcome:** Experts structure threats by prioritizing what should truly be feared, ensuring that responses focus on the most critical risks rather than assumed dangers.



## Next Step : Comparison

# Experts in the wake of Fukushima NPP

**1/ Emergence, Formation**

**2/ Challenges Faced**

**3/ Biographical Rupture**



Thank you for your attention