EFDRR Roadmap Action-Oriented Dialogue - Reducing Risk Together: Community Engagement in Disaster Risk Reduction

Interactive Session 4: Addressing Industrial Accident Risks

Background
This session aimed to integrate good practice in managing risks related to industrial and chemical hazards into the implementation of the Sendai Framework. The session aimed to show existing governance frameworks and highlight examples of disasters that could have been prevented, and good practice on prevention of industrial accidents. It aimed to emphasise the role of science and the private sector in accident prevention and mitigation.

Moderator:
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Panellists:
- Beata Janowczyk, National Sendai Framework Focal Point & Deputy Director of the Government Centre for Security, Poland
- Christian Resch, Managing Director, Disaster Competence Network, Austria
- Georgios Georgiadis, Secretary, Convention on the Transboundary Effects of Industrial Accidents, Environment Division, DRR Focal Point, United Nations Economic Commission for Europe

Summary notes
Following initial interventions by the panellists, an interactive discussion with audience engagement ensued, focusing on approaches and best practices for addressing the risks of industrial accidents across local, national, and regional levels. Key discussion points and outcomes are highlighted below:

Cross-sectoral cooperation and stress testing infrastructure systems at national level
Participants emphasised the interconnected nature of critical infrastructure systems and how disruptions in one sector can have cascading effects on others. This underlines the need for cross-sectoral collaboration to identify and address vulnerabilities across various industries.

The importance of a holistic, multi-hazard and multi-stakeholder approach to disaster risk reduction, including safeguarding critical infrastructure, was further showcased with the example of Poland. Through its biennial reports on threats to national security, Poland addresses numerous threats associated with critical infrastructure and emphasises the operator’s duty to develop protection plans. Moreover, the National Forum for Critical Infrastructure Protection and National Forum for DRR are organised annually, as a part of a private-public partnership to educate people at different levels, to inspire them and to encourage the development of bottom-up initiatives to improve resilience. Poland, aligning with the EU’s CER directive, has identified critical services, and conducted stress tests based on different scenarios. In 2024, it plans to conduct stress testing of critical infrastructure using the UNDRR global methodology for infrastructure resilience reviews.

Building transboundary capacities for managing industrial risks
The importance of collaboration and joint drills and exercises on industrial safety and risk management was emphasised, both at national as well as regional levels, to ensure that adequate preparedness plans and capacities to implement them are in place.
The simulated Natech disaster exercise, FORMATEX23, held in Linz, Austria, was showcased as a multi-national initiative that aimed to improve cross-border abilities of industry operators and authorities at all governance levels to respond to complex disaster events, including both natural hazards and technological accidents as well as their long-term environmental impact. Special attention was paid to the disaster risk implications of many major industries being located near water sources, primarily for cooling purposes, and the need for continued transboundary collaboration in responding to such risks.

Another relevant example of efforts to enhance international cooperation in managing transboundary risks includes the Poland-led UN resolution entitled “Building global resilience and promoting sustainable development through regional and interregional infrastructure connectivity”, which was adopted in 2023 by the United Nations General Assembly. It was inspired by the Polish-led Three Seas Initiative, aimed at enhancing infrastructure, energy, and business ties among 12 countries surrounding the Baltic, Black, and Adriatic Seas.

Legal frameworks underpinning collaboration on managing industrial risks

The top three risks of the World Economic Forum’s Global Risk Report 2023 for the next 10 years were linked to climate change and disasters. This underscores the looming threat of Natech incidents in the future, necessitating enhanced collaboration across international borders. The UNECE Convention on the Transboundary Effects of Industrial Accidents was outlined as a key international legal instrument to deal with cross-border industrial disasters. Emphasising collaboration as well as technical intricacies, this convention establishes essential obligations and provides a robust framework for consistent actions. It distinctly outlines the roles and responsibilities of various stakeholders, facilitating a coordinated and proactive approach to managing industrial risks globally.

Community engagement and risk communication in industrial risk management and preparedness

Participants discussed the importance of actively engaging communities living near industrial sites in processes supporting risk management and preparedness, so that resilience is embedded in societies from the ground up. This requires transparent communication and a legal obligation for industries to share information on risks, lessons learned from experience and past incidents, and public involvement in relevant procedures. The importance of engaging communities from the early stages was highlighted, especially in regions where expertise may not be readily available.

Bridging the science-research gap in industrial risk management

Participants discussed the need for data-driven and interdisciplinary approaches to research on successful industrial risk management. For instance, Poland shared an example of the creation of a GIS system for the COVID response, involving the private sector, scientists, and the government. It was developed into the GISBN National Security system to enhance situational awareness among decision-makers and monitor various national security threats. In addition to emphasising the role of technology, the discussion further explored the integration of diverse scientific disciplines to enhance the overall effectiveness of risk management strategies. The discourse encompassed the synergy between data analytics, environmental sciences, engineering, and other relevant fields, fostering a holistic and nuanced understanding of industrial risk landscapes. Furthermore, the participants highlighted the importance of fostering a culture of continuous research and innovation within the industrial sector. This involves encouraging collaboration between academic institutions, research organisations, and industry players to drive forward cutting-edge solutions and methodologies for proactive risk mitigation.
Geopolitical tensions and the prioritisation of national interests is increasing the risk of industrial accidents

Participants discussed how conflict and increased geopolitical tensions have led to narrowing the areas of cooperation in many industrial areas that are considered of national security importance. Furthermore, more countries may aim to extract and process critical mineral materials as essential elements to support decarbonization and the energy transition. This increases the risks of industrial accidents, for example in tailings management facilities. In normal times, these technologies and industries were operating in focused countries because of their costs and impact on the environment. To meet national priorities, without increasing our collective risks, technical support - specially to developing countries - and strengthened international cooperation are required urgently. The experience of COVID-19 underscores the need for early prevention, international cooperation and industrial collaboration across borders.

Strategic foresight

The challenge with industrial accidents is that they can be slow or sudden onset disasters, and their scale and impacts can cascade and compound into other hazards, creating new risks. Even lower-tier risks may, through cascading impacts, develop into major disasters. Continuous monitoring, foresight and planning is needed to manage industrial and technological risks at all levels. With constantly evolving and new industries, decision-makers and operators must remain agile and prepare for different scenarios and have systems in place to manage unforeseen risks, and to fail systems in a safe manner.

In essence, strategic foresight is not only about predicting future scenarios but also about fostering a proactive and adaptable mindset in decision-makers and operators. By embracing continuous monitoring, foresight, and meticulous planning, the industrial sector can navigate the evolving risk landscape and proactively mitigate potential disasters, ensuring a resilient and safe operational environment.