CRISIS RESILIENCE IN THE CONTEXT OF FLOODS

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Abstract - This study investigates the impact of the 2024 floods on individuals in Poland and Austria, focusing on those whose homes were flooded, as well as those involved in rescue operations, crisis management, and post-flood recovery. The research reveals that 70% of flood-affected individuals experienced post-traumatic stress disorder (PTSD), significantly affecting their daily lives. Six months post-flood, some impacts were addressed, but there are still no protections against another flood, and both individuals and institutions (cities, municipalities) fear another flood predicted for the summer of 2025. The research is conducted by Central European University in Vienna and Warsaw School of Economics.
Methodology: The study surveyed 70 individuals who were evacuated two weeks after the flood and again six months later. Additionally, 10 individuals involved in crisis management during the flood and in post-flood recovery were interviewed. These participants included representatives from local, regional, and national levels (municipalities, provinces, and governments).
Introduction: The study highlights the lack of response to weather warnings sent via SMS alert systems, leading to life-threatening situations and rooftop evacuations. Many residents have become desensitized to SMS alerts, ignoring them. Traditional methods, such as megaphone announcements, proved more effective locally. Additionally, residents failed to distinguish between different siren signals.
Findings: The research suggests the need for educating residents in flood-prone areas and developing a convincing warning system. This issue underscores the importance of trust in technology and local authorities, including firefighters who often delivered information in person, which was ineffective. A study on the Polish-Czech border highlighted the importance of cross-border cooperation. Thanks to this collaboration and the use of technology (statistical modeling) on the Czech side, which was lacking on the Polish side, it was possible for services to operate on the river (a border river), preventing many casualties.
Technological Needs: The study identifies technological needs for crisis management during floods. Artificial intelligence (AI) is essential for local modeling of water flow and flood extent, providing visualizations to inform and convince residents to evacuate. AI can also streamline flood response operations, such as distributing sandbags and transporting materials.
Conclusion: Trust in technology is crucial for the future, and educating residents on the importance, usefulness, and reliability of technology is vital. Additionally, new tools for crisis management, including AI, present opportunities for improving flood response.