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Using serious games to communicate disaster risk: Insights from interrupted implementation in Eastern DR Congo

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Improving understanding and awareness of natural disaster risks remains a key objective of disaster risk reduction (DRR), particularly in contexts where risk knowledge is limited, unevenly distributed, and where crises reinforce existing vulnerabilities. Innovative approaches to risk education and communication are therefore crucial, not only to engage communities, but also to ensure resilience in conflict-affected contexts.

In eastern Democratic Republic of Congo (DRC), highly interactive educational games—Hazagora (a board game for secondary school students) and Chukuwa (a card game for primary school children)—have been developed and tested as tools for disaster risk awareness. These games aim to facilitate experiential learning, stimulate discussion on DRR strategies, and foster the dissemination of risk knowledge beyond the classroom, particularly through children acting as drivers of communication to their families and friends. This approach lies at the interface between science, policy, and practice, and involves teachers, scientists, and civil protection practitioners.

However, the implementation of these tools has been significantly affected by a deterioration of the security context in the region, limiting field activities and long-term institutional anchoring. This situation has provided an opportunity for critical thinking about the robustness, adaptability, and communication potential of game-based DRR education in fragile contexts. Drawing on several years of interrupted experimentation and implementation, this contribution focuses on the lessons learned regarding contextualization, stakeholder engagement, and integration of such tools into educational systems, with a view to achieving sustainability of these initiatives.

Our research highlights how educational games can serve not only as learning tools, but also enable flexible communication that takes into account uncertainty, institutional constraints, and evolving local realities. These insights inform ongoing discussions on adapting games to new contexts – and, consequently, strengthening their sustainability – thus offering broader perspectives for innovative risk education and communication strategies in crisis-prone

environments.