

## Tsunami Education Activities in Complex Contexts. Challenges and Opportunities at Mexico Case (English Presentation)

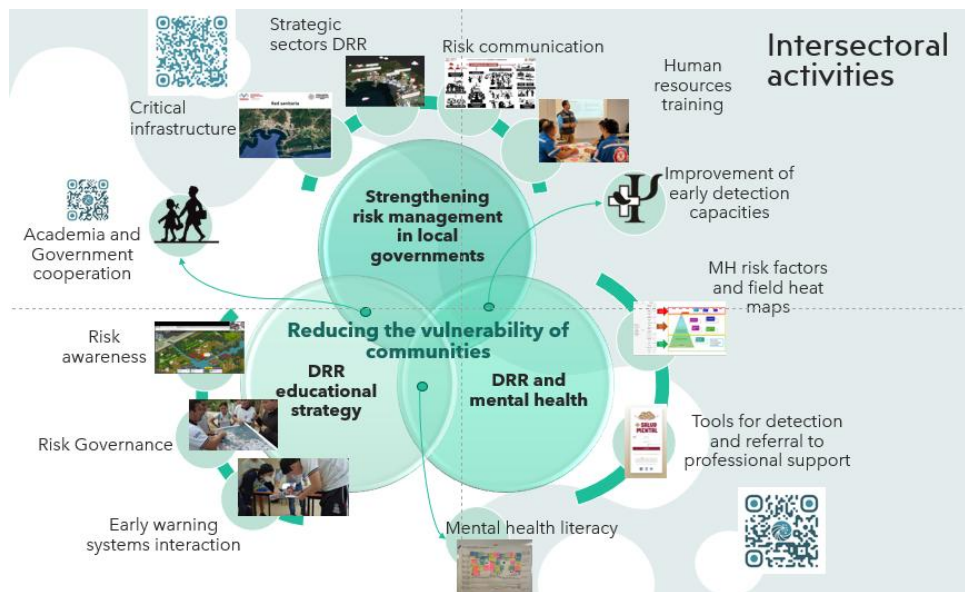
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Disaster risk reduction educational activities in complex scenarios imply working with multilayered systems concurring in the same geographical space. Social dimensions like security, education, welfare, and culture (between others) permeate educational values and influence people's behaviors, interests, plans and concerns, as well as their cognitive patterns and action development, both in their cognitive decision space and in a practical sense restricted also by environmental constraints.

To increase society awareness, engagement and preparedness, implementing disaster risk reduction educational activities is one of the possible approaches to improve communities' standing point when facing high magnitude disruptive events, usually part of a bigger and more comprehensive strategy, which usually starts by identifying possible hazards, drivers and their effects considering the interrelations between themselves and environmental and social systems. Moving later to develop countermeasures and response capabilities in an all-society engagement disseminated through formal and informal education as a starting point to promote risk understanding on wide scales.

It is possible to start disaster risk understanding if we think about it as a way to refer to a group of adverse effects happening in very short time in a specific area overflowing response capabilities of the coping mechanism, making then clear that by separating the possible problematics in smaller units, it is possible to propose operational measures tackling the universe of disruptions according to their probability of occurrence vs. their magnitude and consequently selecting adequate countermeasures that can prevent the breakdown of the system functionality as well as reducing the probability of cascading effects.

DRR then looks to consider systems interconnectivity, multiagent engagement, relevance of ecological services, live hood mechanisms and local capabilities within their cultural paradigms to weave suitable narratives and educational materials to achieve the educational objectives in the targeted communities. However, field work in heterogenic societies can face not only the natural challenges of any educational program directed toward the unique nature of risk reduction, but also can happen to develop on locations in which fragility pockets coexists with community development, increasing the difficulty of the strategy implementation due to cognitive, physical, cultural and pragmatismal barriers of the residents and local governments that have to be tackled in a systemic way contributing to increase the means of survival of the families, helping them to identify ways to cope with local environmental and social risks, as well as promoting the appropriation of practices through risk governance. Ex. Figure 1.



*Figure 1 Current DRR Educational Activities in Manzanillo*

The DRR activities developed in Manzanillo, Mexico, through the SATREPS project called “Compound Disaster Risk Reduction associated with Large Earthquakes and Tsunamis” presents an interesting picture regarding challenges for implementing tsunami related preparedness in a complex scenario, where one of the main objectives is that students can perform timely evacuations to higher grounds.

The fieldwork developed in some of the Manzanillo schools showed that around 1 in every 10 students have severe learning problematics, due to mental problems like autism or learning disabilities as well as other mental health disorders like anxiety or depression, which do not receive close follow up by specialists. The economic conditions of various families force children to spend a lot of time alone without proper care or healthy diets, resulting in obesity or child labor after school to contribute to family income. Regarding the areas near schools, children identify health, security and infrastructure risks close to schools and along evacuation routes, which was reinforced by some teachers’ attitudes, which had very low disposition for performing evacuation exercises appealing to security and responsibility issues together with low level of confidence in local law enforcement institutions.

The former conditions forced a close and robust cooperation between different agencies of the local government to tackle possible barriers to the development of the activities, increasing the perceived confidence in the government capabilities. Simultaneously, the high need of emotional and psychological support detected through the activities guided the creation of a detection and attention mechanism between schools and state level mental health services.

Complex scenarios convey specific challenges for the development of disaster educational activities needed to reach the learning objectives. Nevertheless, integration and engagement between different agencies and community actors can prove to be beneficial to the communities not only for tsunami preparedness, but for everyday challenges.