Chapter 12
Preparedness on Seismic Risk:
A Case Study of a Community in Oaxaca, Mexico

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ABSTRACT

The book chapter presents some results on children's seismic risk knowledge and perception for a sample size of n=522. The study has been conducted in Huajuapan de Leon, Oaxaca, Mexico. The municipality is located in a highly seismic region. The data was collected by employing a questionnaire-based survey. Some of the main findings are the following: a) earthquakes (72.4%) and floods (34.1%) were recognized as a threat, but not drought, however, the lack of water is one of the major concerns of the community, b) around 40% perceived that they lack the knowledge on seismic risk; 57% recognized they live in a highly seismic region, around 95% responded that they know what to do in case of an earthquake while in a classroom, c) most of the students perceived that earthquakes would happen sometime in the future, e.g., 48.3% considered an earthquake would occur "next year", and d) around 68% of the participants "sometimes" feel scared or upset when thinking of earthquakes.

INTRODUCTION

Children and youth are one of the most vulnerable groups to disasters triggered by natural hazards. It is believed that disasters triggered more than 60% of the internal displacements in 2021 worldwide; moreover, more than half of the displaced people were children and youth individuals (IDMC, 2023). Some of the consequences of

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internal displacement are educational disruptions which can have long term impacts such as disengagement from school, fewer educational and professional opportunities, among others (Kousky, 2016). Given the great importance of the subject, children and youth's vulnerabilities have been taken into consideration in the 2030 UN agenda for Sustainable Development Goals (SDGs). The UN-SDGs aims at building an inclusive, sustainable, and resilient future for people and planet (UN-SDG, 2023). The 2030 agenda proposed 17 SDGs of which at least four are related to children, i.e.: Goals 1 ("End poverty in all its forms everywhere"), 4 ("Quality in education"), 11 ("Make cities inclusive, safe, resilient and sustainable"), and 13 ("Take urgent action to combat climate change and its impacts") (UN-SDG, 2023).

For example, regarding Goal 1, and target 1.5.,

"By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters."

Similarly, Goal 4, target 4.1, which states that,

"By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and Goal-4 effective learning outcomes."

Finally, Goal 11, target 11.B, states the following:

"By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels."

However, given the latest published data on children and youth (IDMS, 2023), these targets are difficult to achieve, and more actions need to be done. For example, the earthquakes that occurred on September 7 (Mw 8.1) and 19 (Mw 7.1), 2017 in Mexico, hit the states of Chiapas, Mexico City, Morelos, Oaxaca and Puebla (Santos-Reyes and Gouzeva, 2023). It is believed that 320 municipalities were declared in a state of emergency: 118 in Chiapas, 16 in Mexico City, 33 in Morelos, 41 in Oaxaca and 112 in Puebla. Moreover, it is estimated that 7 million children and adolescents live in the affected areas. The earthquakes caused the death of 369 people and 32 were children, and 155,674 homes were damaged. In Mexico City, 14,908 schools were damaged, of which 288 require complete reconstruction. It was estimated that 4 million students would be temporarily relocated to other schools (UNICEF, 2018).

The more recent strong earthquakes that occurred on 6 February 2023 hit Türkiye and Syria killing over 50,000 people and displaced millions with about 6.2 million children were affected (Reliefweb, 2024).

A great deal of effort has been made by scholars to investigate and develop approaches to better understand human behaviour to disasters triggered by natural