



Assessing perception of debris flood risk in the village of Villa Restrepo, Colombia

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There are several definitions of risk due to different approaches of natural, applied and social sciences. The definition from natural and applied sciences considers the risk as the probable damage, and can be expressed by numerical values and social sciences have given more relevance to social vulnerability than physical vulnerability and hazard assessment. The risk is multidimensional, the same risk is perceived differently by each individual. Knowing the level of perceived risk of each individual in a community constitutes an indicator of their vulnerability, and contributes to improve the effectiveness of mitigation measurements. In this work we study the level of risk perception by individuals of Villa Restrepo community. On one hand, we carried out an engineering study to identify and quantify debris flood hazard zones and then we evaluated the physical and functional vulnerability of the elements exposed to hazard. It was indicated three types and intensities of possible damage and the probability of occurrence of six risk scenarios at the village of Villa Restrepo, which are referred as "expert risk assessment". Three risk scenarios correspond to probable debris floods generated at "El Salto" watershed and the others are related to "La Sierra" watershed. On the other hand, we assessed the level of risk perception of the community through a survey, it was used relevant questions to estimate respondent's knowledge of risk and the actions that they have undertaken to reduce it. The level of risk perception was assessed from 0 to 100 and classified in three categories: high, medium and low. High perception is related to an active participation in risk reduction actions, medium perception refers to a satisfactory knowledge of risk, but without participating in risk reduction activities; and low perception concerns to a poor knowledge of risk. Residents of Villa Restrepo have a medium perception of risk and they say to live with it, because of they are aware of hazard and vulnerability. They don't want to leave the village for fear of exposing themselves to additional risks.