

Risk Assessment of Roof Structures in Concepcion, Tarlac in the Event of an Ash Fall

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Abstract : In the Philippines, Central Luzon is one of the regions at high risk in terms of volcanic eruption. In fact, last June 15, 1991, which were the Mount Pinatubo has erupted, the most affected provinces were Zambales, Olangapo, Pampanga, Tarlac, Bataan, Bulacan and Nueva Ecija. During the Mount Pinatubo eruption, Castillejos, Zambales, has recorded the most significant damage to both commercial and residential structures. In this study, the researchers aim to determine and analyze the various impacts of ashfall on roof structures in Concepcion, Tarlac, during the event of a volcanic eruption. In able for the researcher to determine the sample size of the study, they have utilized Cochran's sample size formula. With the computed sample size, the researchers have gathered data through the distribution of survey forms, utilizing public records, and picture documentation of different roof structures in Concepcion, Tarlac. With the data collected, Chi-squared goodness of fit was done by the researcher in order to compare the data collected from the observed N (Concepcion, Tarlac) and expected N (Castillejos, Zambales). The results showed that when it comes to the roof constructions material used in Concepcion, Tarlac and Castillejos, Zambales. Structures in Concepcion, Tarlac were most likely to suffer worse when another eruption happens compared to the structures in Castillejos, Zambales. Yet, considering the current structural statuses of structure in Concepcion Tarlac and its location from Mount Pinatubo, they are less likely to experience ashfall.

Keywords : risk assessment, Concepcion, Tarlac, Volcano Pinatubo, roof structures, ashfall

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