The Geomorphic Hazards in Maaloula Town

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Abstract

Maalulla town has a high religious, historic and cultural position internationally and it is one of the Syrian mountain towns which is located on the eastern slops of the eastern cliffs mountain and the western cliffs mountains of the first Qalamoon mountain range. Due to such a geographical site, strict conditions were set on the town's building plans especially because of the several geo-morphological hazards which threaten the town such as the spreading of rocky masses in the higher sections of slops in addition to other factors which contribute in identifying such hazards levels such as the distances between the rocky masses and houses, economical and service constructions, their size and number in addition to their morphologic characteristics, moving and resisting forces, slops shapes, distribution of sections, fractures and cracks system which affect the degree of Qusta front cliff stability through their distribution and directions, in addition to all geological, topographic, climate and geo-morphologic states of the area.

In order to achieve the main objective of the research which is "Identifying the types of geo-morphologic hazards which threaten the town", a detailed field study was made to the slops by drawing topographic sections of the slops to identify their nature and characteristics and to determine the areas of rocky masses distribution and their morphologic characteristics and to observe the most obvious types of hazards on some houses in the town. In addition to the mentioned study, another one was made to the choke origin and some

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carestic aspects. Therefore, a geo-morphologic map was prepared to show the types of earth surface's shapes according to their origin, distribution and some of its morpho-metric characteristics. The geo-morphologic hazards were also identified such as selecting bad building sites, spreading of rocky masses above some buildings, falling of rocky masses due to the unstable cliff nature in addition to the forms of surface and deep water flow and carestic aspects. Then an applied geo-morphologic map was prepared to show the types of geo-morphologic hazards and the degrees of danger and to identify the most secure areas to direct human investment towards them.

The research finished with several proposals and solutions to the abovementioned problems from geographic geo-morphologic point of view such as removing the rocky masses, flattening the slops and direct building works towards secure areas such as Qusta surface faraway from its cliff.