

Thesis Rationale

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Overview

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Rationale

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Significance and Scope of the Study

Significance of the Study

The resulting models and program from this thesis will primarily benefit the population of the disaster-prone area of Hagonoy, Bulacan by optimizing allocation of shelters, thus leading to faster evacuation times and better distribution of resources for use in the welfare of its citizens. The resulting optimization of shelter locations also extends to the efficient use of financial and logistical resources, minimizing the costs required in the maintenance and operation of shelters, thus allowing reallocation of previously spent resources into other areas.

Scope of the Study

This thesis on the optimization of the allocation of evacuation shelters is geographically limited to Hagonoy, Bulacan due to the municipality being particularly vulnerable to natural disasters, especially flooding; however, this study has the capability to be applied to other disaster-prone areas with some adjustments, which will not be covered in this thesis. The thesis will utilize real-world information from Hagonoy, including existing shelter locations and geographic layouts, as well as cost estimates for shelter maintenance and other operations; this data will be acquired by the researchers as well as being provided by the government of Hagonoy. This thesis is also operating under assumptions regarding human behavior, and the unpredictability of disaster impacts.