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Settlement arrangement based on landslide mitigation (Case study: Capagallung, west Bacukiki District, City of Parepare)

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Abstract

Parepare City are known as a high morphological area. Due to the limited and high values of its land, some residents choose to live in the hillside. As the consequences, people affected by landslides almost every year, as happened in the Cappagalung Subdistrict's settlement areas. This research was conducted to determine physical and non-physical characteristics as well as the building and environmental arrangement of Cappagalung Subdistrict. As for the analytical techniques used are erosion vulnerability level, qualitative-quantitative and comparative analysis with descriptive approach. This research resulted a formulation of settlements concept by considering the landslides mitigation aspects.

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Keywords: Settlement; Landslides; Cappagalung Subdistrict; Arrangement Concept; Disaster Mitigation

1. Introduction

The increasing of population growth has a linear affect with the land needed which is residential areas. This case affects to the land used as residential area on unfeasible land from the perspective of security against the disasters. It seems in Parepare City with around 80% wide area are hilly areas/high morphology, due to the limited land also the high price of land, the residents prefer to live in the hillside.

In general, residential development in contour land are applicable but it must balance with the special technique rules if the slope already around 8-15% (Permen PU No.22/PRT/M/2007). However, we can easily to found the

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residential areas in the 15% slope without any special treatment and unconsidered the mitigation aspect thus susceptible on the landslides.

In the Cappagalung Sub-district, Bacukiki Barat District, Parepare City, we could see on the Figure 1 and 2 below:



Fig. 1. the residential condition areas show 15% slope without any special treatment and unconsidered the mitigation aspect

These regions are one of the prone landslides area which decided on Local Regulation (Peraturan Daerah) No.10 in 2011 about Spatial Plans (Rencana Tata Ruang Wilayah) Parepare City 2011-2031 such as Cappagalung District, Bacukiki Barat District, with various considerations like classification of class slopes until >45%, irregularity of buildings, and not completed with a standard drainage system thus almost in every year in the raining season, the landslides always happen.

This study aims to identifying the physic and non-physic characteristics also the building structure and the environment of residence in Cappagalung District, Parepare City. Then, create the draft of settlement arrangement based on the consideration of mitigation landslides aspects.

2. Methods

2.1. Method Of Collecting Data

The method of collecting data are consists of several parts, such as:

- a. Field Observation
To see the phenomenon in case of some issues and potential areas through the direct observation.
- b. Literature Study
To collect the secondary data related with the supporting data like statistic data and policies, map, concept of theory or standardize of plans which used for analyzing primary data.
- c. Interviews and Questionnaires
To find out the information from the interviewees and related parties.

2.2. Method Of Data Analysis

The method used are descriptive qualitative and quantitative also the comparative method with spell out the primary data with aims to be arranged and take comparison from available data with the similar problems, as the input in an effort to rearranged the region through the analysis study literature

3. Result and Discussions

To create a concept plans for settlements based mitigation landslides, it carries out an analysis in three areas, such as physic and non-physic condition also the building structure and environment.

3.1. Physic Character

3.1.1. Slope

The topography variable affected the insecurity level of landslides, due to on Permen PU No.22/PRT/M/2007 that greater the slopes area means the potential of landslides become greater as well, it is could be conclude that

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