



« Analysis of Potential Landslides and Local Wisdom Approaches in Dealing with Them in the Naga Traditional Village Area, Tasikmalaya Regency »

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Introduction



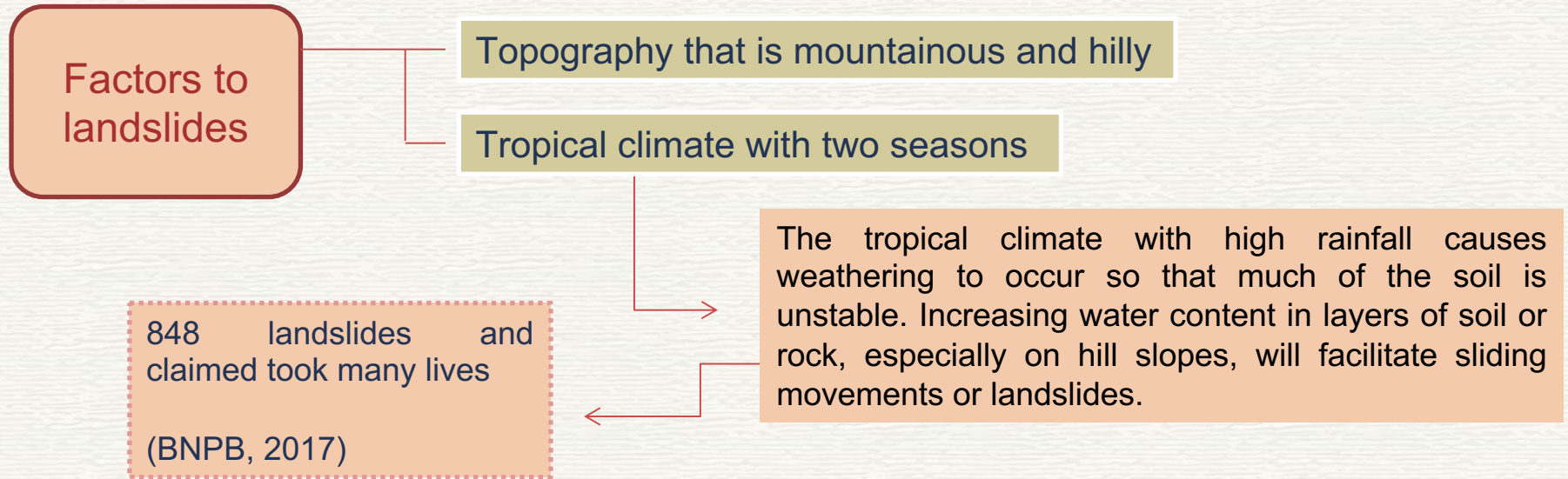
Indonesia has a lot of natural resource wealth, but on the other hand, Indonesia has various threats or risks of natural disasters as a logical consequence of Indonesia's geographical conditions.



Introduction



Indonesia has a lot of natural resource wealth, however, on the other hand, Indonesia has various threats or risks of natural disasters, one of which is landslides.



Kampung Naga is located in Neglasari Village, Salawu District, Tasikmalaya Regency



Located in a valley The distance is ± 1 km from the main road with a height of 488 meters above sea level

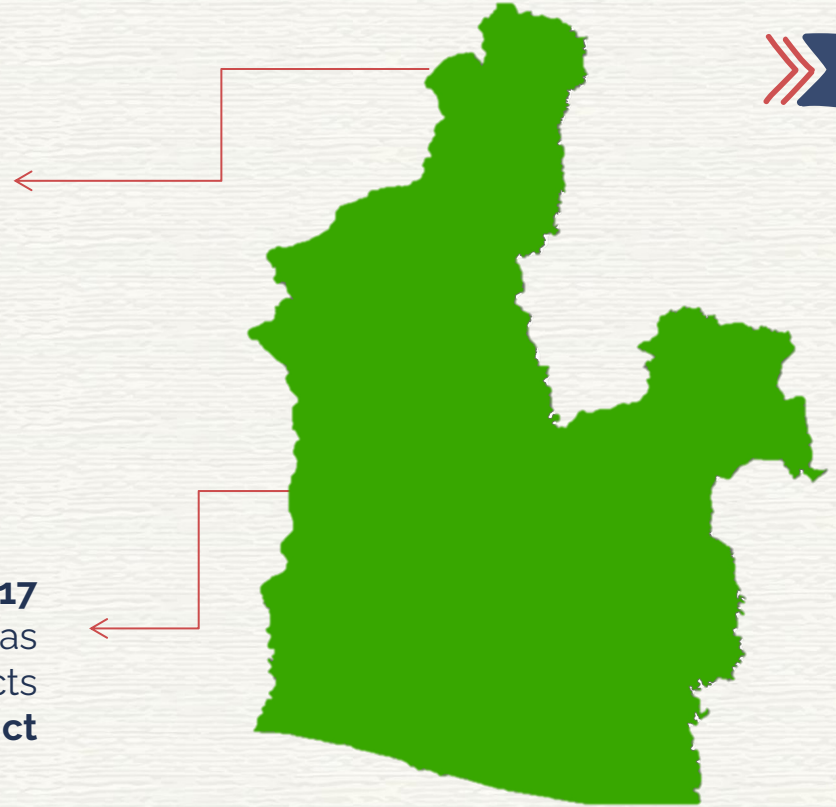
famous for its people who **uphold their ancestral culture**



BPBD data shows that Tasikmalaya Regency is one of the areas in West Java that is prone to **earthquakes** and **landslides**

Besides **landslides and flood** disasters also often occur in Tasikmalaya Regency, especially during the **rainy season**

According to **BPBD Tasikmalaya Regency**, there are **17 Sub-districts** in Tasikmalaya Regency which are areas prone to natural disasters, **one** of the sub-districts which is prone to disasters is **Salawu Sub-district**





Research Method



In this research, the method used is the scoring and weighting method, which involves several thematic data, namely data on land use, rainfall, soil type, geology and slope in the research area.

The model used to analyze the potential for landslides is an estimation model that refers to research by Puslittanak (2004) with the following formula:

$$\text{TOTAL SCORE} = 0.3 \text{ FCH} + 0.2 \text{ FBD} + 0.2 \text{ FKL} + 0.2 \text{ FPL} + 0.1 \text{ FJT}$$

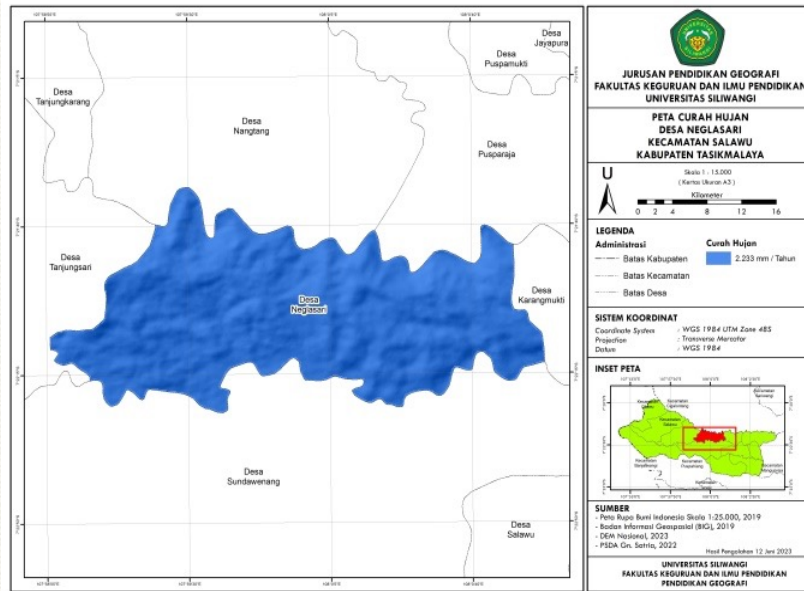
Information:

FCH	= Rainfall Factor
FBD	= Rock Type Factor (Geology)
FKL	= Slope Slope Factor
FPL	= Land Cover Factor
FJT	= Soil Type Factor
0.3;0.2;0.1	= Value Weight

The method used to analyze the traditional wisdom of the Naga Traditional Village community in dealing with landslides uses a qualitative descriptive method. In the field using survey and interview methods.



Result and Discussion – Rainfall



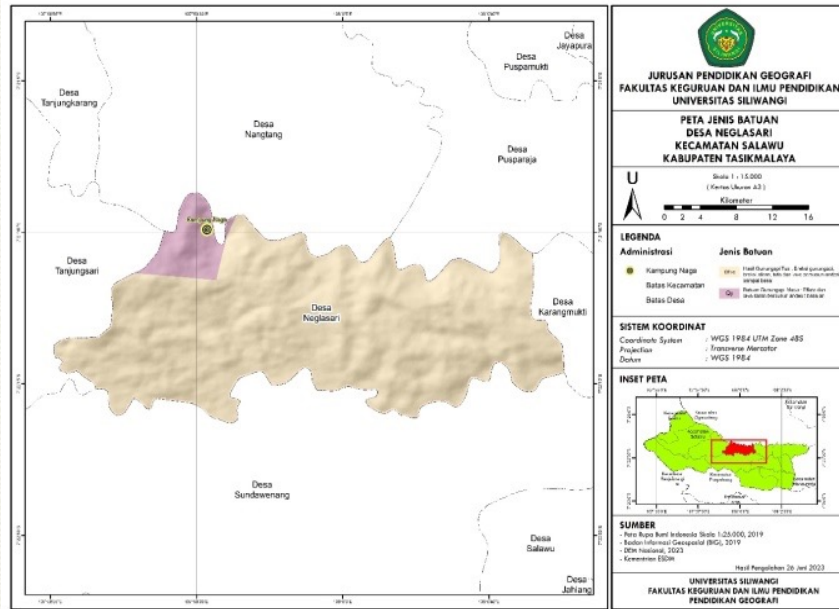
Based on rainfall data from Balai PSDA Mt. Satria, rainfall in the research area is considered high rainfall, namely 2,233 mm/year. Rainfall will determine how big the chance of landslides is.

Parameter	Weight	Score	Final Score
Medium (2001-2500)	30%	3	0.9

Based on this data, it is known that the rainfall in Neglasari Village is 2,233 mm/year with a score of 3 and multiplied by a weight of 0.3 which has a result of 0.9 and falls into Medium rainfall.



Result and Discussion – Geology

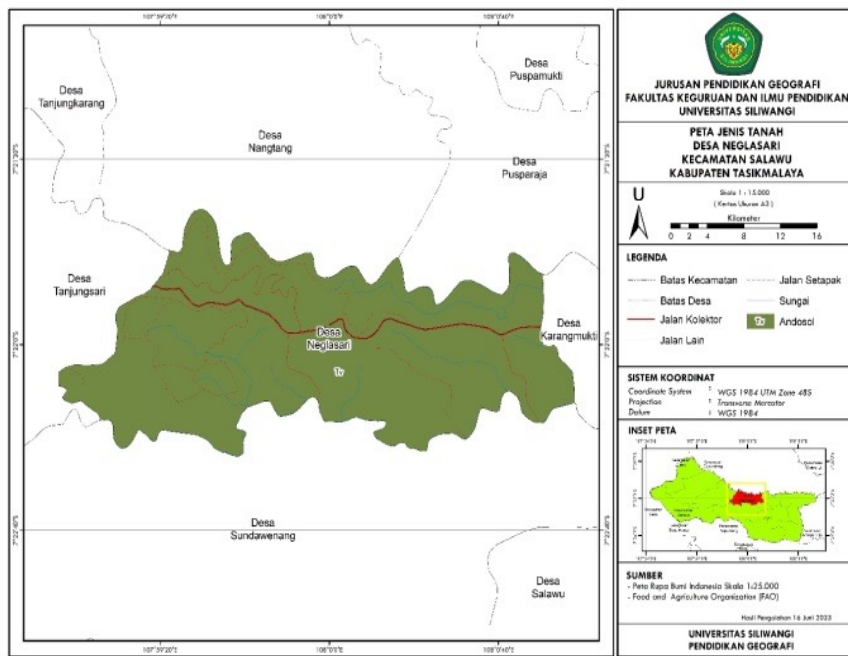


Parameter	Weight	Score	Final Score
Volcanic Rock	20%	3	0.6

Based on the classification from the Research Center, the rocks in Neglasari Village are volcanic rocks which have a score of 3 and a weight of 0.2 with a total of 0.6.



Result and Discussion – Type of Soil



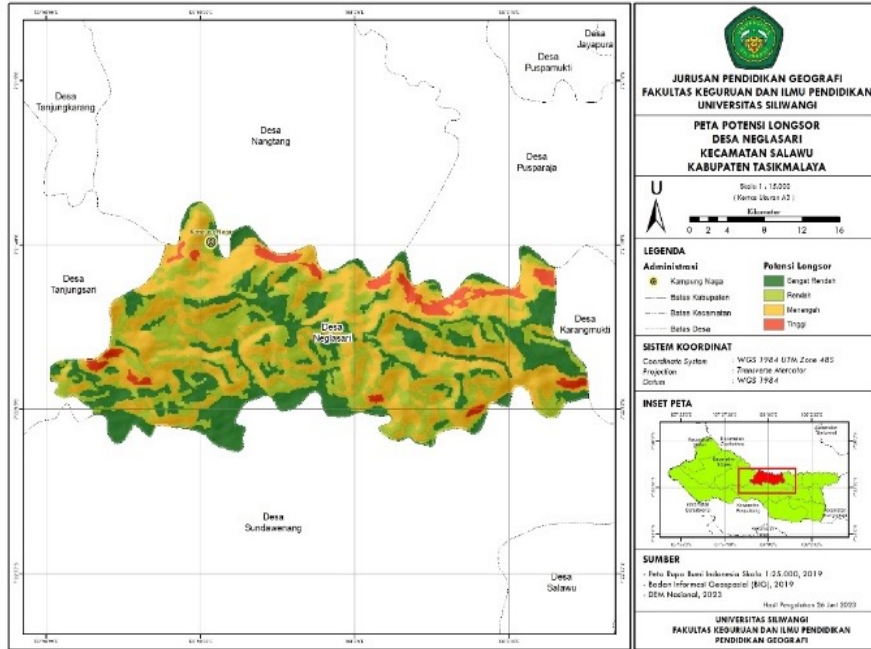
Soils that develop from volcanic products have distinctive and unique characteristics compared to other soils that develop from non-volcanic materials. In the classification of Dudal and Soeprattoharjo (1961) it is known as Andosol soil or in the soil taxonomy system (*Soil Survey Staff* 2014) it is known as the Andisol order and in the FAO/UNESCO classification (1974, 1988) it is known as Andosol.

Parameter	Weight	Score	Final Score
Andosol, Podsolik	10%	4	0.4

Based on the classification from Puslittanak, the type of soil in Neglasari Village is Anosol soil which has a score of 4 and a weight of 0.1 with a final score of 0.4.



Result and Discussion – Slope

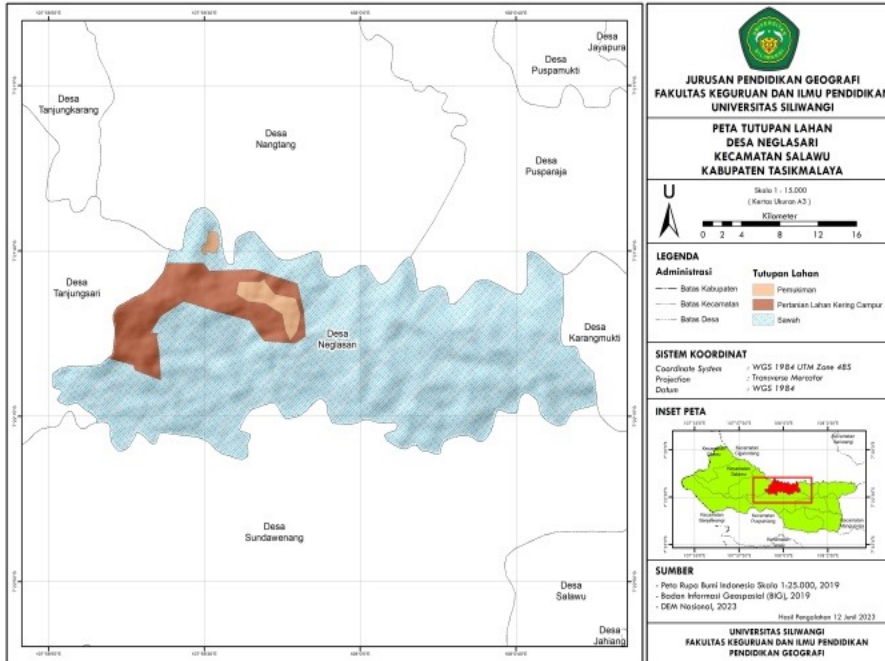


Parameters (%)	Weight	Score	Final Score
>45	20%	5	1
30-45		4	0.8
15-30		3	0.6
8-15		2	0.4
<8		1	0.2
Amount			3.0

Based on the classification from the Research Center, the slope of the slopes in Neglasari Village is quite varied, starting from <8% with a weight of 1 times a weight of 0.2 being in the flat class, 8-15% with a score of 2 times a weight of 0.2 being in the flat class. into the sloping class, 15-30% with a score of 3 times a weight of 0.2 into the rather steep class, 30-45% with a score of 4 times a weight of 0.2 into the steep class and >45% with a score of 5 times the weight 0.2 falls into the very steep class. The overall or final score of the 5 classes in Neglasari village is 3.0.



Result and Discussion – Land Cover



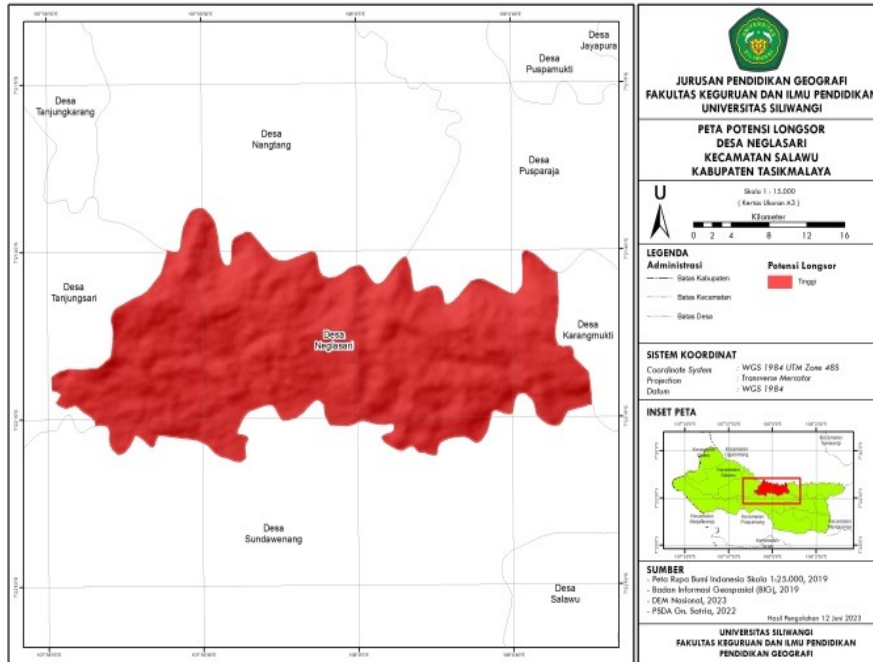
Land cover in an area is closely related to economic conditions and the type of community in that area. Land cover has different contributions in influencing the occurrence of landslides in an area, the following is a map of land cover in Neglasari village.

Parameter	Weight	Score	Final Score
Moorland, rice fields	20%	5	1
City/settlement		2	0.4
Amount			1.4

Based on the classification from the Research Center, land cover in Neglasari Village is rice fields and moorland with a score of 5 multiplied by a weight of 0.2 and cities/settlements with a score of 2 multiplied by a weight of 0.2, which has a total score of 1.4.



Result and Discussion – Potential Landslide



Based on the analysis of the total score results of all parameters at the location, a classification of vulnerability classes is obtained with the score intervals for each class listed in the following table:

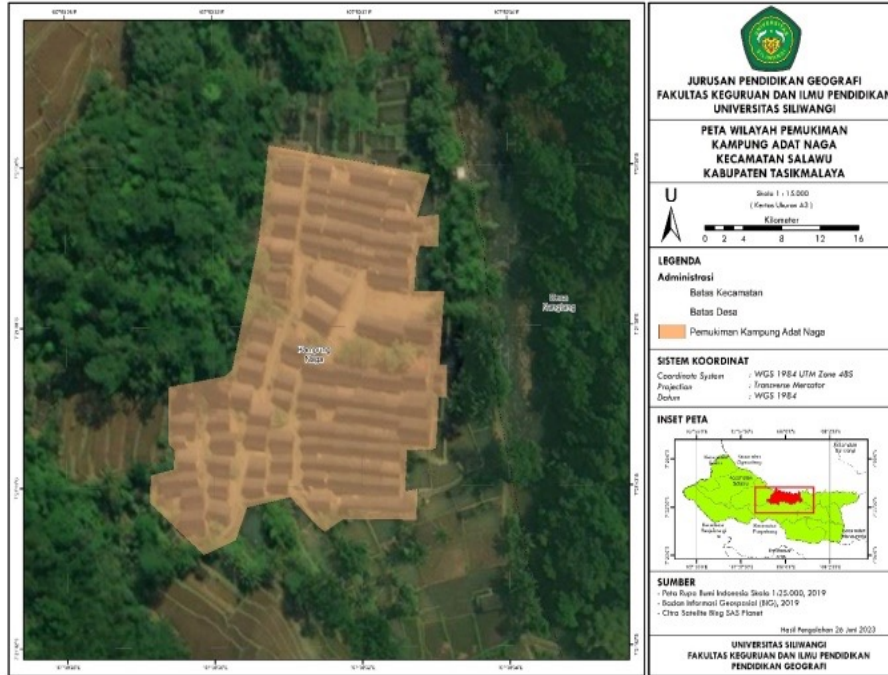
Score Interval (%)	Vulnerability Class
3.1 – 4.5	Low
4.6 – 6	Currently
6.1 – 7.5	High
7.5 – 8.9	Very High

Based on the explanation of the formula above, the final score for each parameter can be calculated which has been multiplied by the weight according to Puslittanak, 2004 as follows:

$$\text{TOTAL SCORE} = 0.9 + 0.6 + 0.4 + 3.0 + 1.4 = 6.3$$

This result is 6.3, which indicates that Neglasari Village has quite high potential for landslides, including the Naga Traditional Village which is right in Neglasari Village.

Result and Discussion

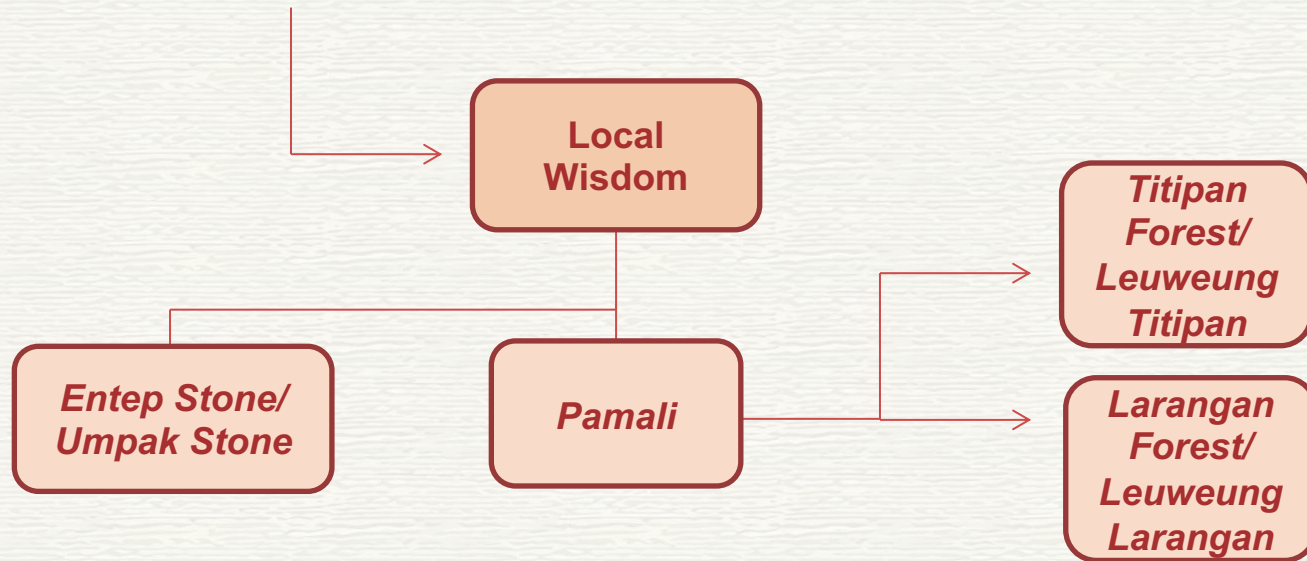


There are 113 houses stretching from west to east with doors facing north and south. Specifically in this residential area, by digitizing it can be seen that the potential level for landslides is from very low to medium. If you look at the slope percentage it is at 25% -45% which can also cause losses. So this indicates that there is potential harm to the local community .

The community's knowledge of potential landslide conditions makes the community adaptive and provide solutions, one of which is the local wisdom possessed by the Naga traditional village community to deal with disasters that can occur there at any time. The people of the Naga Traditional Village are very concerned about land use in their area, which seems to be set in such a way as to be adaptive to landslides, because the position of the Naga Traditional Village is on a fairly steep slope.



Reflecting on experience and the morphological conditions of the area around Kampung Naga, the community has adapted to these conditions.





Arrangement of Erosion Resisting Stone (*Entep Stone*)



Larangan Forest (*Leuweung Larangan*)



Titipan Forest (*Leuweung Titipan*)





Conclusion



Naga Traditional Village located in Neglasari Village, Salawu District, Tasikmalaya Regency. Based on the analysis, the potential for landslides is in the high category. Judging from this category, the Naga Traditional Village area is an area that is included in the potential location for landslides .

The Naga Traditional Village community certainly does not remain silent in facing the potential for landslides in their area, society has its ways with a traditional wisdom approach or local wisdom in dealing with it. The way for the people of Naga Traditional Village to anticipate or minimize losses that will arise from landslides is by making terraces. which is called *entep stone* or *umpak stone* , with stones obtained from the Ciwulan river next to the village.

Apart from that, the community also continues to protect the land cover on the hill by making it a prohibited forest (*Leuweung Larangan*) and a forest entrustment (*Leuweung Titipan*) , so that its use can be well controlled, and maintain the strength of the soil.





THANKS!

