Interested Statement Of Flood And Potential Area Flood In Samarinda City

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Abstract: Areas susceptible to flooding in Karangmumus Sub Watershed is predicted from the slope of the slope is obtained on the slope of North Samarinda slope there is a slope of 0-8% area 12,356.3 ha flat slope class and slope class 8-15% of area 4,141.2 ha slopes of slopes 15-25% area 1,831.6 ha steeper slope class, slope slope 25-40% area 269.2 ha steep slope class and slope> 40% area 12,7 ha class of slope very steep. For flat slope classes and ramps that result in the occurrence of puddles. On the steeper rather steep and steep slopes that result in flooding and erosion in the river flow. For cover / use of scrubland 12,700,7 ha 31,8913%, mining area 1,627,4 ha 4,0864%, settlement with wide of 1,814,9 ha 4,557,2%, open land with wide of 781,5 ha amounted to 1.9623%, forest cover with an area of 47.1 ha of 0.1183% and a puddle area of 1.506 ha of 55.72%. with the potential of flood prone areas in the Karangmumus Sub Watershed , which is indicated by the size of the flood puddle causing flood prone areas.

Index Terms: area of flood puddle, flood potential area.

1 Introduction

SOME areas of Samarinda City with flood problems in the Karang Mumus Sub Watershed are predicted to be potentially flooded areas if there is no serious handling. The misuse of land use of the area and the change of land use from the water catchment area into the puddle area, resulting in an increase in surface runoff on the watershed, accelerate the process of flooding. Karangmumus River is a river that flows through the city of Samarinda, most of the river cliffs are very gentle. During the rainy season, the drainage area of the Karangmumus River often floods due to the river flow can not accommodate flood water perfectly. The high channel topography condition, the roadside channel that should be for the catching of rain water is less functional so it will disrupt the transportation, the various efforts that have been done have not been optimal in overcoming the flood problem. The effort is in the form of maintenance and improvement of Rivers across the city, in this watershed is predicted to potentially become flooded area if there is no handling early.

2 Procedure for Paper Submission

2.1 Research objectives

Predicting the extent of puddle floods and potential flood-prone areas in Karangmumus Sub Watershed.

2.2 Expected Results

Can provide an overview of potential flooding areas in the flow of the Karangmumus River.

2.3 Research Methods

Location and time of research

This research was conducted on Sub Watershed Karangmumus.

Object of research

The research object covers the rivers and water catchments of the Karangmumus, and conducts field surveys on actual conditions on the Karangmumus River.

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Data analysis

Analysis of flood-prone areas on Karangmumus Sub Watershed: determination of slope, flat, flat, steep and very steep slope based on slope / topographic slope, flat and sloping slopes causing puddles. Determination of a flood-prone area with an area of inundation based on the wide map of the flood puddle.

4 Result And Discussion

The slope of the slope is a very big factor affecting the flood vulnerability. Topographic condition of Karangmumus Sub Watershed based on slope slope map and result of research in Samarinda Ilir Subdistrict there is slope 0-8% slope area 169,8 ha flat slope class and slope class 8-15% wide 44,7 ha slope class slope, slope slopes 15-25% area 63.2 ha slope grade rather steep, and slope of 25-40% area of 15.9 ha steep slope class. In Samarinda City District there is a slope of 0-8% area of 292.9 ha flat slope class and slope class of 8-15% width of 6.8 ha of sloping slopes class. In Samarinda Ulu Subdistrict there is a slope of 0-8% of the area of 432.3 ha of flat slope class and slope class of 8-15% of 93.2 ha of sloping slopes, slope of 15-25% of 24.5 ha of steep slopes , and slope slope of 25-40% area of 6.7 ha steep slope class. In North Samarinda District there is a slope of 0-8% area of 12,356.3 ha of flat slope class and slope class of 8-15% of area of 4,141.2 ha of sloping slopes, slope of 15-25% of area of 1,831.6 ha of steep slope class , slope 25-40% slope area 269.2 ha steep slopes and slope> 40% area 12,7 ha slope class is very steep. In Sambutan subdistrict, there is a slope of 0-8% of 81.5 ha of flat slope and 8-15% of 60,9 ha of sloping slopes, slope of 15-25% of 27 ha of steep slope, slope 25-40% area of 4.9 ha steep slope class. In Sungai Pinang subdistrict there is a slope of 0-8% of area of 1,592.7 ha of flat slope class and slope class of 8-15% of 518.2 ha of sloping slopes, slopes of 15-25% of 119.6 ha of slope rather steep slope, slope of 25-40% slopes of 3 ha of steep slopes. For flat slope classes and ramps that result in the occurrence of puddles. On the steeper rather steep and steep slopes that result in flooding and erosion in the river flow. The soil in the Karangmumus Sub Watershed consists of alluvial and Podsolic soils yellow red. Alluvial soil types are predominantly located along river streams with slopes of less than 8%, and are subtle materials resulting from river sediments that are highly water-absorbing high infiltration power. Yellow yellow Podsolic soils mostly cover

a ridge area of above 8%, Podsolic soils are derived from quartz sandstones with sandy to sandy texture, which has a somewhat inconvenient nature of low infiltration water, resulting in an overflow zone of 8% in the event of rain which causes floods and puddles. Seen from the topography map for flat and sloping slopes that resulted in the occurrence of floodwaters and when viewed from the land cover / land cover map on the Karangmumus Sub Watershed the land cover conditions are dominated by shrubs with an area of 21,450.4 ha of 53.8829%, large settlements 3,503.4 ha of 8.797%, mining area of 2,125.3 ha of 5.317% and open land area of 1461.1 ha of 3.6752% and forest cover area of 2,212 ha of 5.5543%. The condition of soil type which is dominated by Ultisol / Podsolik yellow red soil which is relatively sensitive to erosion from Sub Watershed shape resembles fan with dendritic network pattern which has characteristic can accelerate surface water runoff and topography condition which is relatively bumpy / hilly, so mix of condition -the conditions accelerate surface water runoff.

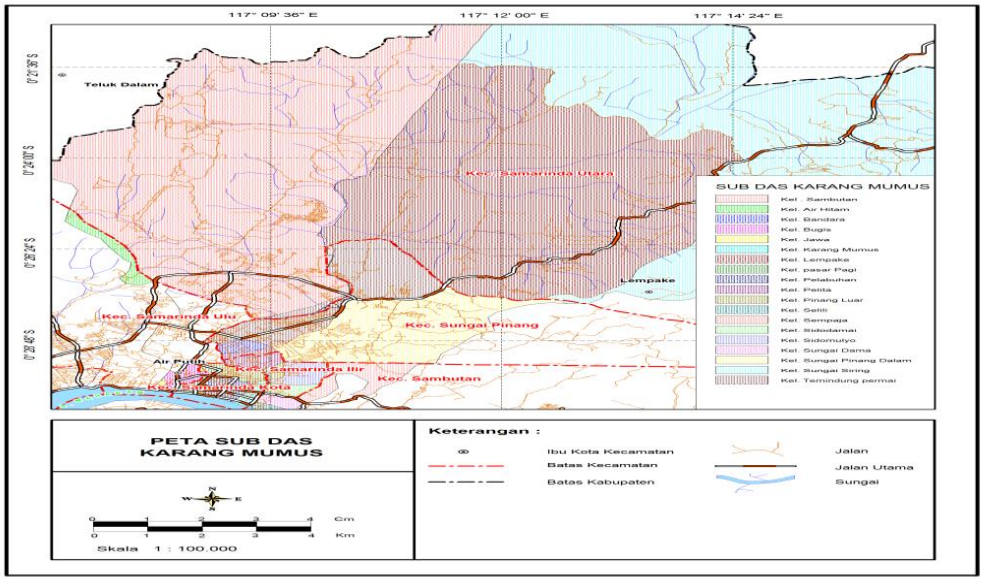

Figure 1. *Map of Karang Mumus Sub Watershed*

In Karangmumus Sub Watershed for districts that is susceptible to flood, North Samarinda Subdistrict slope of 0-8% flat slope with an area of 269.2 ha sebesr 0.6760%, slope> 40% slope class is very steep with an area of 12.7 ha of 0.0319%. For cover / use of scrubland 12,700,7 ha 31,8913%, mining area 1,627,4 ha 4,0864%, settlement with wide of 1,814,9 ha 4,557,2%, open land with wide of 781,5 ha amounted to 1.9623%, forest cover with an area of 47.1 ha of 0.1183% and a puddle area of 1.506 ha of 55.72%. For the Sungai Pinang subdistrict, the slopes slope 0-8% of the flat slope class with an area of 1,592.7 ha of 3.9992%. For closure / use of scrubland with an area of 954.8 ha of 2.3975%, mining with an area of 109, 7 ha of 0.2755%, settlements with an area of 875.8 ha of 0.6137% and 473 ha inundation area of 17.5%. For Samarinda District City slopes with an area of 12,356.3 ha of 31.0265%, slope of 25-40% slopes of steep. Slope of slope 0-8% flat slope class with an area of 292.9 ha of 0.7355%, cover / land use for shrubs with an area of 59.6 ha of 0.1497%, settlements with an area of 298.8 % of 0.7503%, 148 ha inundation area of 5.48%. The development of urban and rural areas has exceeded the inundation limit

5 Conclusion

5.1 Conclusion

Potential flood-prone areas from predicted results in Karangmumus Sub Watershed occurred in the District of Samarinda Ilir puddle pool area 86 ha, Samarinda City puddle 148 ha, Samarinda Ulu puddle 68 ha, North Samarinda puddle 1.506 ha and Sungai Pinang District puddle 473 Ha.

5.2 Advice

In relation to the potential of flood prone areas in the Karangmumus Sub Watershed, which is indicated by the extent of flood floods exceeding the main channel capacity, it is necessary to implement technical civil actions such as the normalization of river channels including drainage networks, optimizing the catchment areas and water catchment areas.

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