

KARAKTERISTIK DAN RESPON SEDIMEN TERHADAP HUJAN PADA PENGGUNAAN LAHAN AGROFORESTRI DI DAERAH TANGKAPAN AIR TAMANSARI, DESA LEKSANA, KARANGKOBAR, BANJARNEGARA

Oleh :

Fajar Buana Ginting

14/362341/KT/07731

DTA Tamansari merupakan bagian Sub DAS Merawu Hulu yang berada di DAS Serayu. DTA Tamansari memiliki penggunaan lahan berupa agroforestri, yaitu perpaduan antara tanaman kehutanan dengan tanaman pertanian. Tanaman pertanian yang ditanam masyarakat DTA Tamansari adalah kentang, jagung, kol, dan lain-lain. Kegiatan pertanian yang dilakukan masyarakat adalah pertanian intensif, yaitu melakukan pengelolaan tanah secara terus-menerus pada lahan tersebut untuk meningkatkan produktifitas pertanian tersebut. Selain tanaman pertanian, tanaman kehutanan memiliki beberapa pola juga tidak dapat menutupi tanah. Tanaman kehutanan yang ditanam tidak memiliki penutupan lahan yang maksimal.

Kegiatan penelitian yang akan dilakukan memiliki beberapa tujuan yaitu menghitung besaran sedimen suspensi dan sedimen dasar di Daerah Tangkapan Air (DTA) Tamansari, serta menganalisis respon sedimen suspensi dan sedimen dasar terhadap hujan di Daerah Tangkapan Air (DTA) Tamansari. Data hidrograf suspensi diperoleh melalui analisis debit suspensi dengan alat *current meter*, *suspended sampler*, botol mineral 600 ml, kertas saring, oven, dan AWLR. Untuk data sedimen dasar diperoleh melalui alat bak penampung, pita meter. Data sedimen suspensi dan sedimen dasar akan dihubungkan dengan karakteristik hujan yang diperoleh melalui ARR. Sehingga, diperoleh respon analisis sedimen dengan karakteristik hujan melalui *Software SigmaPlot* dengan regresi linier berganda.

Kegiatan penelitian yang dilakukan dari tanggal 11 Oktober 2017 sampai dengan 8 April 2018 didapatkan hasil yaitu besaran sedimen suspensi yang diperoleh yaitu 23,73 ton/ha dan besaran volume sedimen dasar yaitu 26,28 m³ atau 1,6 m³/ha yang sama dengan tebal tanah DTA Tamansari yang tererosi sebesar 0,1603 mm/ha. Selain itu, didapatkan 35 hidrograf suspensi terpilih dari pengamatan selama penelitian. Dari karakteristik hujan yang diperoleh dari alat ARR, dapat ditentukan melalui regresi bahwa tebal hujan memiliki pengaruh yang besar terhadap besaran sedimen suspensi maupun sedimen dasar.

Kata kunci : DTA Tamansari, Agroforestri, Sedimen Suspensi, Sedimen Dasar

CHARACTERISTICS AND RESPONSE OF SEDIMENT TO PRECIPITATION ON AGROFORESTRY LAND-USE IN TAMANSARI CATCHMENT AREA, LEKSANA VILLAGE, KARANGKOBAR, BANJARNEGAR

By :

Fajar Buana Ginting

14/362341/KT/07731

Tamansari DTA is part of the Upper Merawu Watershed in the Serayu Watershed. Tamansari DTA has land use in the form of agroforestry, which is a combination of agricultural crops and agricultural crops. Agricultural crops planted by Tamansari DTA are potatoes, corn, cabbage, and others. Agricultural activities carried out are intensive agriculture, which is to carry out continuous land management to increase agricultural productivity. In addition to agricultural crops, forest plants have several patterns also cannot hear the soil. Plant life that is planted does not have maximum land.

The research activities that will be carried out have several objectives, namely calculating the amount of basic sediment and suspension sediments in the Tangkpan Air Region (DTA) of Tamansari, as well as analyzing the response of suspended sediments and basic sediments to rain in the Tamansari Catchment Area (DTA). Suspension hydrograph data was obtained through suspension discharge analysis with current meter equipment, suspended sampler, 600 ml mineral bottle, filter paper, oven, and AWLR. For basic sediment data data is obtained through means of collecting tanks, tape meters. Suspension and basic sediment sediment data will be linked to the characteristics of rain obtained through ARR. Thus, a sediment analysis response with rain characteristics was obtained through SigmaPlot Software with multiple linear regression.

The research activities carried out from October 11, 2017 to April 8, 2018 obtained the results of the amount of suspension sediments obtained were 23.73 tons / ha and the basic sediment volume amounted to 26.28 m³ or 1.6 m³ / ha which was the same as thick Tamansari DTA land is eroded by 0.1603 mm / ha. In addition, 35 selected suspension hydrographs were obtained from observations during the study. From the characteristics of rain obtained from the ARR device, it can be determined by regression that the thickness of rain has a large influence on the amount of suspended sediment and basic sediment.

Key Words : Tamansari Catchment Area, Agroforestry, Suspended Sedimen, Bedload