



INTISARI

Permukiman adalah salah satu bentuk konversi lahan yang marak ditemukan. Salah satu sebabnya adalah peningkatan jumlah penduduk yang kemudian memicu konversi lahan baik untuk kebutuhan pangan maupun kebutuhan tempat tinggal. Studi erosi selama ini masih banyak terfokus pada lahan pertanian. Beberapa penelitian telah melakukan komparasi erosi pada penggunaan lahan permukiman dan non-permukiman akan tetapi pembahasan tentang karakteristik erosi permukiman tidak terlalu spesifik. Penelitian bertujuan untuk: (1) identifikasi distribusi spasial erosi yang berkembang dalam area permukiman di DAS Bompon, (2) identifikasi faktor antropogenik yang terlibat dalam proses erosi di DAS Bompon, (3) identifikasi kontribusi lahan terbangun (permukiman) terhadap dinamika erosi yang berkembang DAS Bompon dan (4) menjelaskan mekanisme sedimen hasil erosi yang ada di DAS Bompon. Penelitian ini dilakukan di satu *catchment* padat penduduk dalam area DAS Bompon. Terdapat enam jaringan aliran yang dominan dalam berkontribusi terhadap mekanisme erosi yang terjadi. Distribusi hasil erosi di jaringan aliran kemudian terakumulasi dalam erosi parit (*gully*) yang berfungsi sebagai saluran utama distribusi hasil erosi keseluruhan dalam *catchment area*. Metode yang digunakan adalah analisis *hidrologic response unit* (HRU) melalui stasiun pengamatan aliran sungai (SPAS) dan zona erosi yang dibagi berdasarkan jaringan aliran yang terbentuk dalam *catchment area*. Data yang diperoleh berupa variasi nilai sedimen suspensi kemudian ditelaah dengan merunut faktor erosi yang terlibat baik itu faktor natural maupun faktor antropogenik. Sehingga, korelasi antara faktor natural dan faktor antropogenik terhadap proses erosi dapat di analisis. Hasil studi menunjukkan pentingnya mempertimbangkan faktor antropogenik dalam penentuan batas DAS. Selain itu, faktor-faktor turunan dari *anthropogenic process* yang terdapat di DAS Bompon telah terbukti mempengaruhi mekanisme erosi yang terjadi. Peran faktor antropogenik berupa bangunan permukiman adalah dengan meningkatkan debit aliran permukaan yang juga berimplikasi pada peningkatan laju erosi pada fase transportasi erosi. Temuan lainnya adalah sedimen hasil erosi berasal dari dua sumber yakni dari hasil proses erosi dan hasil aktivitas *soil failure*.

Kata Kunci: Erosi, DAS Bompon, *Anthropogenic Process*, Lahan Terbangun, Jaringan Aliran



ABSTRACT

Settlement is form of land conversion that is often found. This is Probably initiated by the increasing of population. Over population then triggers land conversion both for food and housing needs. Erosion studies still focused on agriculture for last decade. Indeed some studies have compared erosion on residential and non-residential land use, however the discussion regarding to the characteristics of settlement erosion is not specifically discoursed. The research aims to: (1) identify the spatial distribution of erosion that develops in residential areas in the Bompon watershed, (2) identification of anthropogenic factors involved in the erosion process in the Bompon watershed, (3) identification of the contribution of built land (settlements) to the developing erosion dynamics Bompon watershed and (4) explain the mechanism of erosion resulting sediments in the Bompon watershed. It was conducted in a densely populated catchment in the Bompon watershed area. There are six dominant flow networks in contributing to the erosion mechanism that occurs. The distribution of erosion results in the flow network then accumulates in gully erosion which serves as the main channel for the distribution of the overall erosion results in the catchment area. Hydrologic response unit (HRU) analysis by river flow observation station (SPAS) is used then correlated to the erosion zone which is divided based on the flow network formed in the catchment area. Previous data from SPAS such as variation of suspension sediment values then examined by tracing the erosion factors involved both natural factors and anthropogenic factors. Thus, the correlation between natural factors and anthropogenic factors on the erosion process can be analyzed. The result shows the importance of considering anthropogenic factors in determining watershed boundaries. In addition, the differential factors of the anthropogenic process in the Bompon watershed have been shown the influence towards erosion mechanism process. The role of anthropogenic factors in the form of residential buildings is to increase surface runoff which also has implications for increasing the rate of erosion during transportation phase. In fact, the results of erosion sediments derived from two sources both from the results of the erosion process and soil failure activities.

Keywords: Erosion, Bompon Watershed, *Anthropogenic Process*, Built-up Environment, Flow Network