Komposisi timbulan limbah padat dan kualitas air sungai Sugutamu pada sub-das Sugutamu = Composition of solid waste and river water quality of Sugutamu in Sugutamu sub watershed

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Abstrak

Permasalahan kepadatan penduduk yang tinggi di sub-DAS Sugutamu mengakibatkan berkembangnya permukiman di sub-DAS Sugutamu. Berbagai aktivitas penduduk menghasilkan berbagai jenis limbah. Sistem pengelolaan limbah padat yang kurang optimal dapat menimbulkan dampak negatif pada lingkungan sekitarnya. Hal ini terlihat pada banyaknya limbah padat yang tidak terkelola sehingga mencemari sungai Sugutamu. Dari masalah diatas, maka perlu dilakukan penelitian untuk mengetahui komposisi timbulan limbah padat dan kualitas air sungai Sugutamu pada sub-DAS Sugutamu. Penelitian ini dilakukan dengan cara mengukur sampel limbah padat di sub-DAS Sugutamu dan mengambil sampel air di hulu dan di hilir sungai Sugutamu sesuai dengan standar SNI 19-3964-1995 dan SNI M-02-1989. Lokasi pengambilan sampel limbah padat berada di kelurahan Harapanjaya, Cilodong, dan Baktijaya. Sumber penghasil limbah padat yang diamati berupa perumahan, pertokoan minimarket, dan pasar. Timbulan limbah padat perumahan di kelurahan Harapanjaya sebesar 0,176 kg/orang/hari, kelurahan Cilodong sebesar 0,180 kg/orang/hari, dan kelurahan Baktijaya sebesar 0,219 kg/orang/hari. Timbulan limbah padat pertokoan minimarket di kelurahan Harapanjaya sebesar 0,207 kg/petugas/hari, kelurahan Cilodong sebesar 0,180 kg/petugas/hari, dan kelurahan Baktijaya sebesar 0,192 kg/petugas/hari. Timbulan limbah padat di pasar sebesar 0,246 kg/m2/hari. Komposisi terbesar limbah padat perumahan berupa limbah organik, pertokoan minimarket berupa limbah kertas, dan pasar berupa limbah organik. Profil kualitas air sungai Sugutamu bagian hulu yaitu pH sebesar 6,71, TSS sebesar 15,67 mg/l, DO sebesar 3,14 mg/l, BOD sebesar 32,97 mg/l, dan COD sebesar 186 mg/l. Profil kualitas air sungai sugutamu bagian hilir yaitu pH sebesar 6,78, TSS sebesar 15,33 mg/l, DO sebesar 1,56 mg/l, BOD sebesar 19,63 mg/l, dan COD sebesar 124,27 mg/l. Dari hasil penelitian tersebut perlu ditingkatkan upaya 3R dan peningkatan pelayanan pengumpulan limbah padat di masing-masing kelurahan.

<hr><i>Problems a high population density in the Sub-Watershed Sugutamu resulted in the expansion of settlements in the Sub-Watershed Sugutamu. The various activities of the population produces various types of waste. Less optimum system for solid waste management can lead to a negative impact on the surrounding environment. This can be seen in the number of unmanaged solid waste making the Sugutamu River is contaminated. Of the above problems, it is necessary to conduct a study to know the composition of solid waste generation and river water quality of Sugutamu in Sugutamu sub-watershed. This study was conducted by measuring a sample of solid waste in Sugutamu sub-watershed and took water sampling at River upstream and downstream of Sugutamu in accordance with SNI 19-3964-1995 and SNI M-02-1989 standards. Location of solid waste sampling situated at village Harapanjaya, Cilodong, and Baktijaya. Source of solid waste generator observed was residential, mini-market shops, and markets. Residential solid waste generation at village Harapanjaya was 0.176 kg/person/day, Cilodong was0.180 kg/person/day, and Baktijaya was 0.219 kg/person/day. Solid waste generation derived from mini-market shops at village Harapanjaya was 0.207 kg/ official/day, Cilodong was 0.180 kg/official/day, and Baktijaya was 0.192

kg/official/day. Solid waste generation found in the market was 0.246 kg/m2/day. Largest composition of the residential solid waste was organic waste, mini-market shops were paper waste, and markets were organic waste as well. Profile of river water quality of Sugutamu on upstream part was 6.71 pH, 15.67 mg/l TSS, 3.14 mg/l DO, 32.97 mg/l BOD, and 186 mg/l COD. Profile of river water quality of Sugutamu on downstream part was 6.78 pH, 15.33 mg/l TSS, 1.56 mg/l DO, 19.63 mg/l BOD, and 124.27 mg/l COD. From the results of this study it needs to increase efforts of 3R and enhancement of solid waste collection services in each village.</i>