

Potensi Reduksi dan Pengumpulan Sampah Fasilitas Pendidikan di Kecamatan Semampir Kota Surabaya

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ABSTRAK

Kecamatan Semampir yang berada di wilayah Surabaya Utara memiliki 521 fasilitas umum, fasilitas sosial dan kawasan komersial. Jenis fasilitas tersebut meliputi pasar, pusat perdagangan, rumah ibadah, panti sosial dan fasilitas pendidikan. Diantara jenis fasilitas tersebut yang memiliki jumlah paling banyak yaitu fasilitas pendidikan sebesar 104 unit. Jumlah fasilitas yang banyak dapat mempengaruhi jumlah timbulan sampah yang dihasilkan. Salah satu konsep pembangunan berwawasan lingkungan yaitu pendidikan lingkungan hidup yang diterapkan dalam program Adiwiyata. Sekolah yang menerapkan program adiwiyata yaitu sekolah pada jenjang SD, SMP, SMA dan SMK. Diharapkan peran pemilik fasilitas dalam program Adiwiyata ini dapat mengurangi laju timbulan sampah yang dihasilkan.

Penelitian dilaksanakan pada kawasan fasilitas pendidikan yang telah menjadi titik sampling di Kecamatan Semampir. Pengukuran laju timbulan dilakukan 8 hari dengan cara mengukur langsung laju timbulan sampah di 16 lokasi dari total 104 lokasi. Pemilihan lokasi sampling menggunakan metode *stratified random sampling*. Sistem pengumpulan sampah eksisting ditentukan dengan pengamatan langsung di lapangan dan mengikuti rute petugas pengumpul sampah. Data yang diperoleh saat mengikuti rute petugas pengumpul yaitu waktu pengambilan per ritasi, waktu total yang dibutuhkan tiap ritasi, dan jumlah ritasi per hari. Persentase reduksi sampah fasilitas pendidikan dan potensi reduksi didapatkan dari wawancara dan pengukuran komposisi sampah tereduksi oleh pihak pemilik fasilitas.

Hasil penelitian menunjukkan bahwa timbulan sampah fasilitas pendidikan untuk sekolah adiwiyata dan sekolah non adiwiyata berturut-turut yaitu 0,25 ton/hari dan 0,40 ton/hari. Dengan komposisi tertinggi berturut-turut yaitu sampah kertas dan sampah plastik sebesar 30,05% dan 44,46%. Potensi reduksi berdasarkan partisipasi pemilik fasilitas kondisi eksisting untuk sekolah adiwiyata sebesar 1,2%/tahun dan sekolah non adiwiyata sebesar 0,3% per tahun. Kondisi eksisting sistem pengumpulan, ritasi rata-rata gerobak sampah dan gerobak sampah ditarik motor yaitu 3 ritasi/hari dan 2 ritasi/hari. Optimasi berdasarkan potensi reduksi di sumber menjadikan jumlah alat pengumpul berkurang dengan jumlah awal sebanyak 83 buah menjadi 81 buah. Optimasi reduksi sampah berdasarkan partisipasi pemilik fasilitas menjadikan jumlah alat pengumpul berkurang dengan jumlah awal sebanyak 83 buah menjadi 72 buah.

Kata kunci: adiwiyata, fasilitas pendidikan, reduksi, sistem pengumpulan, timbulan sampah.

Potential of Solid Waste Reduction and Collection Activities in Education Facilities in Semampir District

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ABSTRACT

Semampir District that is located in North Surabaya has 521 public facilities, social facilities and commercial. The facilities are markets, trade centers, public transportation terminal, houses of worship, social institutions and educational facilities. Among the types of facilities, educational facilities have the highest number of facilities, 104 units. The high number of facilities could affect the amount of waste that is generated by the educational facilities. One of the concepts of environmental oriented development is living environment education that is applied in adiwiyata program. Schools that implemented adiwiyata program are elementary school, junior high school, senior high school and vocational school. It is expected that the role of facilities owner in Adiwiyata program can reduce the generation of waste.

This research was conducted in the area of educational facilities that has been the point of sampling in Semampir District. The measurements of generation rate were performed for 8 days by measuring directly the waste that is generated from a source of samples in 16 locations on a total 104 location. The researcher use stratified random sampling. The existing condition of collecting system waste is determined by direct observation in the field and following the route of the solid waste collectors. The data that were obtained when following the route of the solid waste collectors are the time to collect the waste each trip, the total time that is required each trip, and total trip per day. The percentage of waste reduction of educational facilities and potential reduction is obtained by interview and measuring the reduced waste composition by the facilities owner.

The results shows that the solid waste of educational facilities for Adiwiyata school and non Adiwiyata school respectively are 0.25 tons/day and 0.40 tons/day. The highest composition consecutively paper waste and plastic waste amounted to 30.05% and 44.46%. Potential reduction based on the facilities owner participation to the existing condition for the Adiwiyata school amounted to 1,2% and 0,3% for non Adiwiyata school. The existing condition of collecting system, the average trip of wheelie bin and wheelie bin with engine is 3 trips/day and 2 trips/day. The optimization based on potential reduction in the waste source reduces the collecting tools from 83 to 81. The optimization of waste reduction based on the participation of facilities owner reduces the collecting tools from 83 to 72.

Keywords: adiwiyata, educational facilities, reduction, collecting system, solid waste generation.