

**STUDI TIMBULAN, KOMPOSISI, KARAKTERISTIK  
DAN POTENSI DAUR ULANG SAMPAH RUMAH TANGGA  
DAN NON RUMAH TANGGA KECAMATAN TANJUNG RAYA  
TUGAS AKHIR**

Sebagai salah satu syarat menyelesaikan  
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## ABSTRAK

Kecamatan Tanjung Raya merupakan Kawasan Strategis Nasional dan Kawasan Strategis Pariwisata Nasional yang belum memiliki data persampahan. Tujuan Penelitian ini untuk mengukur dan menganalisis data timbulan, komposisi, karakteristik dan potensi daur ulang sampah. Metode pengambilan sampel dan penentuan jumlah sampel dilakukan berdasarkan SNI 19-3964-1994. Hasil penelitian rata-rata timbulan sampah rumah tangga berdasarkan pendapatan *high income* 0,352 kg/orang/hari atau 2,290 L/orang/hari, *medium income* 0,301 kg/orang/hari atau 2,248 L/orang/hari dan *low income* 0,272 kg/orang/hari atau 1,436 L/orang/hari. Satuan timbulan sampah non rumah tangga berdasarkan sumber sarana pasar 0,084 kg/m<sup>2</sup>/hari atau 0,240 L/m<sup>2</sup>/hari, rumah makan 0,105 kg/m<sup>2</sup>/hari atau 0,465 L/m<sup>2</sup>/hari, kesehatan 0,005 kg/m<sup>2</sup>/hari atau 0,034 L/m<sup>2</sup>/hari, industri 0,024 kg/m<sup>2</sup>/hari atau 0,117 L/m<sup>2</sup>/hari, objek wisata 0,024 kg/m<sup>2</sup>/hari atau 0,175 L/m<sup>2</sup>/hari, peribadatan 0,0005 kg/m<sup>2</sup>/hari atau 0,0050 L/m<sup>2</sup>/hari, toko 0,148 kg/orang/hari atau 2,045 L/orang/hari, kantor 0,050 kg/orang/hari atau 0,628 L/orang/hari, pendidikan 0,011 kg/orang/hari atau 0,135 L/orang/hari, hotel 0,452 kg/tempat tidur/hari atau 1,739 L/tempat tidur/hari. Satuan timbulan Kecamatan Tanjung Raya 0,487 kg/orang/hari atau 2,793 L/orang/hari dengan total timbulan 18,299 ton/hari atau 105,137 m<sup>3</sup>/hari. Komposisi sampah yaitu makanan 38,57%; halaman 13,66%; kertas 13,78%; plastik 19,26%; tekstil 2,19%; kaca 2,29%; logam 4,14%; dan lain-lain 6,12%. Rata-rata berat jenis sampah rumah tangga 0,142 kg/L, sampah non rumah tangga 0,290 kg/L. Karakteristik kimia sampah berturut-turut yaitu kadar air 32,10%; kadar volatil 60,79%; kadar abu 5,39%; *fixed carbon* 1,71%; dan rasio C/N 19,47. Nilai uji *biodegradable* sampah yaitu 10,14% kadar lignin dan 54,60% fraksi *biodegradabilitas*. Rata-rata potensi daur ulang sampah makanan 78,43%; halaman 100%; kertas 69,08%; plastik 98,09%; kaca 100%; logam 99,21%.

**Kata kunci:** Karakteristik, Kecamatan Tanjung Raya, Komposisi, Potensi Daur Ulang, Timbulan Sampah.



## ABSTRACT

*Tanjung Raya District is a National Strategic Area and National Tourism Strategic Area that does not yet have solid waste data. This research aims to assess and examine data related to the generation, composition, characteristics, and potential for recycling of waste. The sampling approach and determination of sample size adhere to the guidelines outlined in SNI 19-3964-1994. The results showed that the average household waste generation based on the high-income level was 0.352 kg/person/day or 2.290 L/person/day, medium income 0.301 kg/person/day or 2.248 L/person/day and low income 0.272 kg/person/day or 1.436 L/person/day. Non-household waste generation units based on market sources are 0.084 kg/m<sup>2</sup>/day or 0.240 L/m<sup>2</sup>/day, restaurants 0.105 kg/m<sup>2</sup>/day or 0.465 L/m<sup>2</sup>/day, health 0.005 kg/m<sup>2</sup>/day or 0.034 L/m<sup>2</sup>/day, industry 0.024 kg/m<sup>2</sup>/day or 0.117 L/m<sup>2</sup>/day, tourist attractions 0.024 kg/m<sup>2</sup>/day or 0.175 L/m<sup>2</sup>/day, place of worship 0.0005 kg/m<sup>2</sup>/day or 0.0050 L/m<sup>2</sup>/day, shops 0.148 kg/person/day or 2.045 L/person/day, offices 0.050 kg/person/day or 0.028 L/person/day, education 0.011 kg/person/day or 0.135 L/person/day, hotels 0.452 kg/bed/day or 1.739 L/bed/day. In Tanjung Raya District, the per-person daily waste generation is 0.487 kg or 2.793 L, resulting in a total daily generation of 18,299 tons or 105,137 m<sup>3</sup>. The waste composition includes 38.57% food, 13.66% yard waste, 13.78% paper, 19.26% plastic, 2.19% textile, 2.29% glass, 4.14% metal, and 6.1% other materials. The average specific gravity of household waste is 0.142 kg/L, and non-household waste is 0.290 kg/L. The waste's chemical attributes included a 32.10% moisture content, 60.79% volatile content, 5.39% ash content, 1.71% fixed carbon, and a C/N ratio of 19.47. The biodegradable test results revealed a 10.14% lignin content and a 54.60% biodegradability fraction. The estimated recycling potential of the waste is as follows: 78.43% for food, 100% for yard waste, 69.08% for paper, 98.09% for plastic, and 100% for glass; additionally, the recycling potential for metal is 99.21%.*

**Keywords:** *Characteristics, Composition, Recycling Potential, Tanjung Raya District, Waste Generation*