

Sari, N. K., 2019. Desain Tempat Pengolahan Sampah 3R (TPS 3R) di Desa Tanjung sebagai Pengembangan Sarana Pengelolaan Sampah Kabupaten Lombok Utara. Skripsi ini di bawah bimbingan Nita Citrasari, S.Si., M.T. dan Dr. Sucipto Hariyanto, DEA., Program Studi S1 Teknik Lingkungan, Departemen Biologi, Fakultas Sains dan Teknologi, Universitas Airlangga.

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### ABSTRAK

Pengelolaan sampah di Desa Tanjung yang belum seluruhnya terlayani menyebabkan tingkat sanitasi desa memburuk dan memicu munculnya masalah kesehatan terutama penyakit Demam Berdarah di musim penghujan. Penelitian ini diharapkan mampu memperbaiki masalah tersebut dan berfungsi sebagai pemenuhan berbagai kebijakan pemerintah. Penelitian ini bertujuan untuk menentukan persentase area terlayani dan unit-unit dalam TPS 3R berdasarkan komposisi dan karakteristik sampah serta luas lahan tersedia; menghitung nilai *mass balance*, total persentase *recovery*; BOQ dan RAB TPS 3R. Timbulan dan komposisi sampah dianalisis sesuai SNI 19-3964-1994, sedangkan karakteristiknya diuji *proximate* dan *ultimate analysis*. Persentase area terlayani sebesar 36,02%. Unit dalam TPS 3R, yaitu lahan penerimaan dan pemilahan; pencacahan dan penjemuran sampah organik; pengomposan sampah aktif; pematangan, pengayakan dan pengemasan kompos, gudang penyimpanan kompos, gudang penyimpanan barang lapak, kantor, lahan parkir, gudang peralatan; lahan penampungan lindi dengan luas yang dibutuhkan sebesar 347,26 m<sup>2</sup>. *Mass balance* menunjukkan sampah yang dikelola sebesar 753,08 kg/hari, sampah basah *terecovery* 416,57 kg/hari, sampah kering *terecovery* 141,25 kg/hari, dan residu masuk ke TPA 195,27 kg/hari sehingga total persentase *recovery* 74,07%. *Bill of Quantity* meliputi pekerjaan persiapan; pondasi; beton bertulang; dinding, pintu, dan jendela; atap; lantai; saluran dan bak penampung lindi dengan Rencana Anggaran Biaya sebesar Rp. 320.015.846,00.

**Kata kunci:** *Mass balance* sampah, *Recovery* sampah, Tempat Pengolahan Sampah 3R (TPS 3R)

*Sari, N. K., 2019. Design of 3R Solid Waste Processing Facility (TPS 3R) in Tanjung Village as the Development of Municipal Solid Waste Management Facilities in North Lombok Regency. This script was supervised by Nita Citrasari, S.Si., M.T. and Dr. Sucipto Hariyanto, DEA., Undergraduate Program of Environmental Engineering, Department of Biology, Faculty of Science and Technology, Universitas Airlangga.*

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### **ABSTRACT**

*Municipal solid waste management in Tanjung Village that has not been fully served has caused the village sanitation level to deteriorate and triggered health problems, especially Dengue Fever in the rainy season. This research is expected to be able to correct the problem and function as a fulfillment of various government policies. This study aims to determine the percentage of areas covered and units in the 3R TPS based on the composition and characteristics of the waste and available land area; calculate the value of mass balance, total percentage recovery; BOQ and RAB of TPS 3R. Waste generation and composition were analyzed according to SNI 19-3964-1994, while the characteristics were tested using proximate and ultimate analysis. Percentage of area served is 36.02%. Units in TPS 3R, namely land receiving and sorting; enumeration and drying of organic waste; active waste composting; maturation, sifting and packing compost, compost storage warehouse, stall storage warehouse, office, parking lot, equipment warehouse; leachate holding area with total land needed 347,26 m<sup>2</sup>. Mass balance shows that managed waste is 753,08 kg/day, wet waste recovered is 416,57 kg/day, dry waste recovered is 141,25 kg/day, and residual waste goes to landfill 195,27 kg/day so that the total percentage of recovery 74.07%. The Bill of Quantity includes preparatory work; foundation; reinforced concrete; walls, doors and windows; roof; floor; leachate canisters and tanks with a Budget Plan Cost required is Rp. 320,015,846.00.*

**Keywords:** *Solid waste mass balance, Solid waste recovery, 3R Waste Processing Facility (TPS 3R)*