ABSTRAK

Tahun 2019 Pemerintah Kota Tegal telah membangun Kolam Retensi Tegalsari di Sistem Drainase Siwatu Kecamatan Tegal Barat Kota Tegal dengan *catchment area* 226 ha, namun saat ini banjir dan genangan masih rutin terjadi di wilayah tersebut. Kajian bertujuan untuk mengevaluasi kinerja Sistem Drainase Siwatu dan Kolam Retensi Tegalsari. Kajian ini menggunakan metode kualitatif deskriptif, dengan mengambil data-data lapangan berupa pengukuran langsung di lapangan, wawancara, kuesioner, foto dokumentasi dan data-data dari dokumen resmi milik instansi di lokasi penelitian. Berdasarkan data curah hujan bersumber Dinas PSDA Pemali Comal Provinsi Jawa Tengah selama 15 tahun (2014 -2018), diperoleh parameter statistik Cs : 0,0027 Ck : 1,904, Sd : 15,91, Cv : 0,144 sehingga digunakan distribusi Metode Gumbel, curah hujan periode ulang 20 tahun 149 mm debit banjir Qr.20 tahun 10,40 m^3/dtk. Hasil kajian pompa existing 4 m^3/dtk dan volume kolam tampung 37000 m^3 tidak mampu menampung volume debit rencana Qr.20 tahun. Tiga alternatif penyelesaian : penambahan pompa 4 m^3/dtk, penambahan *long storage* (8x2,75x700) m dan, gabungan penambahan pompa 2 m^3/dtk dengan *long storage* (8x2,00x500) m, sehingga dengan mengimplementasikan salah satu alternatife tersebut banjir dan genangan dapat diselesaikan.

Kata kunci : Polder, Kolam Retensi, *Long Storage*, Pompa

ABSTRACT

In 2019 the Tegal City Government has built the Tegalsari Retention Pond in the Siwatu Tegal Barat Drainage System, Tegal City with a catchment area of 226 ha, but currently flooding and still routinely occur in the area, The purpose of the study is to evaluate the performance of the Siwatu Drainage System and the Tegalsari Retention Pond. This study uses a descriptive qualitative method, by taking field data in the form of direct measurements in the field, interviews, photo documentation and data from official documents belonging to the agency at the research location. Based on rainfall data sourced from the PSDA Office of Pemali Regency, Central Java Province for 15 years (2014 -2018), the statistical parameters obtained are Cs : 0.0027 Ck : 1.904, Sd : 15.91, Cv : 0.144 so that the Gumbel Method distribution is used, rainfall rain return period 20 years 149 mm flood discharge Qr.20 years 10.40 m^3/sec. The results of the study of the existing pump of 4 m^3/s and the volume of the 37000 m^3 holding pool are not able to accommodate the planned discharge volume of Qr.20 years. Three alternative solutions: the addition of the pump capacity of the 4 m^3/s , the addition of long storage (8x2.75x700) m and, combination addition of additionals pump 2 m^3/s and long storage (8x2.00x500) m, It is hoped that by implementing one of these alternatives, flooding and inundation can be resolved.

Keywords : Polder, Retention Pond, Long Storage, Pump