

INTISARI

Kotagede merupakan salah satu sentra kerajinan perak di Indonesia yang masih terus beroperasi hingga saat ini. Kegiatan kerajinan perak di Kotagede dapat memengaruhi kemunculan polutan perak di lingkungan sekitar, khususnya air sungai. Sementara itu, perak merupakan logam berat berbahaya bagi lingkungan karena tidak mudah terdegradasi. Kontaminasi perak dalam lingkungan dapat muncul salah satunya akibat pembuangan limbah cair kerajinan perak secara langsung ke lingkungan. Penelitian ini bertujuan untuk mengetahui distribusi kandungan perak dalam limbah cair dan penggal Sungai Gajah Wong serta penggal Sungai Mantras Piro di sekitar kawasan kerajinan perak Kotagede sehingga diketahui besar pengaruh distribusi kerajinan tersebut terhadap kandungan perak di sungai sekitarnya.

Penelitian menggunakan metode *purposive sampling* dalam penentuan titik sampelnya. Penentuan titik sampel kerajinan didasarkan pada perbedaan volume produksi industri kerajinan dan titik sampel sungai didasarkan pada distribusi kerajinan. Identifikasi perak dilakukan dengan pengambilan sampel dengan metode *grab sampling* sebanyak satu kali dan pengujian laboratorium. Hasil pengujian kandungan perak kemudian dipetakan dan diuji korelasinya dengan distribusi kerajinan perak yang ada menggunakan uji korelasi pearson.

Hasil penelitian menunjukkan kerajinan perak di Kotagede dapat diklasifikasikan menjadi kerapatan rendah di Kelurahan Kotagede, kerapatan sedang di Kelurahan Purbayan, dan kerapatan tinggi di Kelurahan Prenggan. Limbah cair kerajinan yang dibuang ke lingkungan sekitar kerajinan perak Kotagede mengandung perak dengan kadar $<0,0024-88,48$ mg/L. Selain itu, hasil pengujian kandungan perak dalam sungai menunjukkan adanya polutan perak dengan besar kadar $<0,0024$ mg/L dalam air dan $2,804-4,041$ mg/Kg dalam sedimen yang terus meningkat dari hulu hingga hilir sungai serta terus meningkat seiring penambahan kerapatan kerajinan yang ada. Berdasarkan berbagai kondisi tersebut, diketahui kerapatan kerajinan perak berpengaruh sangat kuat dengan nilai 0,913 terhadap kandungan perak dalam sungai.

Kata Kunci: Kandungan Perak, Kerajinan Perak, Kotagede, Gajah Wong

ABSTRACT

Kotagede is one of the silver craft centers in Indonesia which is still operating today. Silver craft activities in Kotagede can affect the emergence of silver pollutants in the surrounding environment, especially river water. Meanwhile, silver is a heavy metal that is harmful to the environment because it is not easily degraded. Silver contamination in the environment can arise, one of which is due to the disposal of silver craft liquid waste directly into the environment. This study aims to determine the distribution of silver content in the wastewater and segment of the Gajah Wong River and the Gajah Wong sub-watershed around the Kotagede silver handicrafts area so that the influence of the distribution of these handicrafts on the silver content in the surrounding rivers is known.

This research used a purposive sampling method in determining the sample points. Determination of handicraft sample points is based on differences in the volume of handicraft industry production and river sample points are based on the distribution of handicrafts. Silver identification was carried out by taking samples using the grab sampling method once and laboratory testing. The results of the silver content testing were then mapped and tested for correlation with the distribution of existing silver handicrafts using the Pearson correlation test.

The results showed that silver handicrafts in Kotagede can be classified into low density in Kotagede Village, medium density in Purbayan Village, and high density in Prenggan Village. The liquid waste from the handicrafts dumped into the environment around Kotagede silver crafts was identified as containing silver. In addition, the results of testing the silver content in the river indicated the presence of silver pollutants whose amount continued to increase from upstream to downstream and continued to increase as the density of existing crafts increased. Based on these various conditions, it is known that the density of silver handicrafts has a very strong effect with a value of 0.913 on the silver content in the river.

Key Words: Silver Contents, Silver Craft, Kotagede, Gajah Wong