

## INTISARI

Konsentrasi penduduk pada bentuklahan Fluviomarin di Jakarta menyebabkan peningkatan kebutuhan rumah, kebutuhan air dan pencemaran airtanah. Tujuan penelitian ini adalah mengkaji hubungan antara pendapatan total dengan kebutuhan dan proporsi pemanfaatan airtanah bebas serta merumuskan model hubungan antara pemanfaatan lahan permukiman dengan pencemaran airtanah bebas. Penelitian ini menggunakan survei dengan analisis kuantitatif dan kualitatif serta menggunakan sampel untuk mewakili populasi. Hasil menunjukkan bahwa semakin besar pendapatan total semakin besar kebutuhan air tetapi semakin kecil proporsi pemanfaatan airtanah. Terjadi peningkatan TDS di dekat pantai tetapi menurun di dekat hotel pada kedua musim. Peningkatan TDS pada musim hujan terjadi di dekat pabrik. Fluorida pada musim kemarau meningkat di dekat sungai dan pasar dan menurun di dekat TPS. Fluorida pada musim hujan meningkat seiring bertambahnya kepadatan bangunan dan semakin dekat dengan rumah tetangga, namun menurun bila KLB meningkat. Kesadahan pada musim kemarau meningkat pada tempat yang rendah dan dekat dengan tangki septik tetangga serta menurun di dekat pantai. Kesadahan pada musim hujan meningkat pada KDB yang besar dan dekat dengan TPS. Terjadi peningkatan Klorida di dekat pantai dan penurunan di dekat hotel pada kedua musim. Klorida meningkat pada musim kemarau sejalan dengan kepadatan bangunan namun menurun di dekat TPS. Mangan pada musim kemarau meningkat seiring dengan berkurangnya tinggi tempat dan bertambahnya luas lantai namun menurun di dekat TPS. Mangan pada musim hujan meningkat di dekat pasar. Zat organik pada musim kemarau meningkat bila jarak dengan rumah terdekat, pantai, dan apartemen semakin dekat namun menurun di dekat sungai. Zat organik meningkat di dekat pantai dan RS, namun menurun di dekat TPS pada musim hujan. Coliform total meningkat pada KDB yang kecil pada kedua musim. Coliform total pada musim kemarau meningkat di dekat TPS dan dekat dengan tangki septik tetangga, namun menurun di dekat pantai. Coliform total pada musim hujan meningkat bila jarak rumah semakin dekat.

**Kata Kunci :** Bentuklahan Fluviomarin di Jakarta; Kebutuhan Air; Pemanfaatan Lahan Permukiman; Pencemaran Airtanah Bebas

## ABSTRACT

Population concentration on fluviomarine landform in Jakarta has increased housing demand, water demand, and groundwater pollution. The research aims to analyse the relationship between total income and household water demand, to analyze the relationship between total income and the proportion of unconfined aquifer utilization and to formulate the relationship models between settlement and unconfined aquifer pollution. It uses survey method with quantitative and qualitative analysis as well as sampling method to represent the population. The results show that total income is proportional to household water demand but inversely proportional to groundwater utilization share. In dry and rainy seasons, an increase in Total Dissolved Solid (TDS) is found in settlement close to the coast, while a decrease is found close to the hotels. In rainy season, TDS is inversely proportional to distance to the factories. Fluoride is inversely proportional to distance to the river and the market in dry season. It is proportional to building density and distance to the nearest house but inversely proportional to Floor Area Ratio (FAR) in rainy season. In dry season, water hardness increases in lower area and area close to the nearest neighbor's septic tank but decreases in area closer to the coast. In rainy season, it is proportional to Building Coverage Ratio (BCR) and inversely proportional to distance to landfill. An increase in chloride is found close to the coast, while a decrease is found close to the hotels in both seasons. In dry season, chloride is proportional to building density and distance to landfill. Manganese is inversely proportional to elevation but proportional to floor area and distance to landfill in dry season. It is inversely proportional to distance to the market in rainy season in rainy season. In dry season, organic content is proportional to distance to the nearest house, coast, and apartments but inversely proportional to distance to the river. Meanwhile, in rainy season, it is inversely proportional to distance to the coast and the hospital but proportional to distance to landfill. Total coliform is inversely proportional to BCR in both seasons. In dry season, it is inversely proportional to distance to landfill and the nearest neighbor's septic tank but proportional to distance to the coast. In rainy season, the closer the distance to the neighboring house, the higher the total coliform.

**Keywords:** Fluviomarine Landform in Jakarta; Water Demand, Settlement, Unconfined Aquifer Pollution