Kandungan Logam Berat Kadmium (Cd) dan Tembaga (Cu) pada Sedimen dan Ikan Mujair Oreochromis mossambicus (Peters, 1852) di Tambak Blanakan, Kabupaten Subang, Jawa Barat = Heavy Metals Content of Cadmium (Cd) and Copper (Cu) in Sediment and Mozambique Tilapia Oreochromis mossambicus (Peters, 1852) in Blanakan Ponds, Subang Regency, West Java

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Abstrak

Tambak Blanakan merupakan kawasan budidaya perikanan yang berada di daerah pesisir Kabupaten Subang, Jawa Barat. Kawasan di sekitar tambak merupakan tempat padat aktivitas yang berpotensi menyebabkan kontaminasi logam berat masuk ke dalam perairan tambak. Logam berat yang masuk dapat memengaruhi organisme akuatik seperti ikan. Ikan mujair (Oreochromis mossambicus) merupakan salah satu ikan budidaya yang dikonsumsi oleh manusia. Penelitian ini bertujuan untuk menentukan kandungan logam berat kadmium (Cd) dan tembaga (Cu) pada sedimen dan ikan mujair Oreochromis mossambicus, serta menentukan nilai Bioconcentration Factor (BCF) logam Cd dan Cu pada ikan mujair di tambak Blanakan, Kabupaten Subang, Jawa Barat. Penentuan lokasi pengambilan sampel dengan metode purposive sampling pada tiga stasiun dengan tiga titik, yaitu inlet, midlet, dan outlet. Sampel sedimen diambil sebanyak 500 g pada setiap titik dari ketiga stasiun dan sampel ikan mujair diambil sebanyak 5 ekor pada tiap stasiun dengan berat berkisar antara 50–150 g. Sampel sedimen dikeringkan sebanyak 200 g dan sampel bagian daging ikan mujair diambil sebanyak 100 g/stasiun sebelum dianalisis kandungan logam berat. Logam berat kadmium pada sedimen dan ikan mujair dianalisis dengan Atomic Absorption Spectrophotometry (AAS) dan Inductively Coupled Plasma (ICP), sedangkan logam berat tembaga pada kedua sampel dianalisis dengan AAS. Hasil analisis kandungan logam tembaga pada sedimen rata-rata berkisar antara 5,54–8,31 ppm, sedangkan analisis logam tembaga pada ikan mujair rata-rata sebesar 2,05 ppm. Hasil analisis kandungan logam kadmium baik pada sedimen maupun ikan mujair tidak terdeteksi (not detected). Nilai BCF logam tembaga adalah BCF<1, menunjukkan bahwa ikan mujair di tambak Blanakan termasuk dalam kategori dekonsentrator.

.....Blanakan ponds is an aquaculture area located in the coastal area of Subang Regency, West Java. The area around the pond is a dense place of activity that has the potential to cause heavy metal contamination to enter the pond waters. Heavy metals that enter can affect aquatic organisms such as fish. Mozambique tilapia (Oreochromis mossambicus) is one of the cultivated fish that is consumed by humans. This study aims to determine the content of heavy metals cadmium (Cd) and copper (Cu) in sediment and Mozambique tilapia Oreochromis mossambicus, as well as determine the value of the Bioconcentration Factor (BCF) of Cd and Cu metals in Mozambique tilapia in Blanakan ponds, Subang Regency, West Java. Determination of the sampling location by purposive sampling method at three stations with three points, namely inlet, midlet, and outlet. Sediment samples were taken as much as 500 g at each point from the three stations and samples of Mozambique tilapia were taken as many as 5 fish at each station with a weight ranging from 50–150 g. Sediment samples were dried as much as 200 g and samples of Mozambique tilapia meat were taken as much as 100 g/station before being analyzed for heavy metal content. Cadmium heavy metal in sediment

and Mozambique tilapia was analyzed by Atomic Absorption Spectrophotometry (AAS) and Inductively Coupled Plasma (ICP), while copper heavy metal in both samples was analyzed by AAS. The results of the analysis of copper metal content in sediments averaged between 5.54–8.31 ppm, while the analysis of copper metal in Mozambique tilapia averaged 2.05 ppm. The results of the analysis of the metal content of cadmium in both sediment and Mozambique tilapia were not detected. The BCF value of the copper metal is BCF <1, indicating that the Mozambique tilapia in the Blanakan ponds are included in the deconcentrator category.