

عنوان مقاله:

Hazard Analysis of Trace Metals in Muscle of Sarotherodon melanotheron and Chrysichthys nigrodigitatus from Okulu River, Rivers State, Nigeria

محل انتشار:

فصلنامه بهداشت محیط و توسعه پایدار، دوره 6، شماره 3 (سال: 1400)

تعداد صفحات اصل مقاله: 17

نویسندگان:

Ayobami Omozemoje Aigberua - *Department of Environment, Research and Development, Anal Concept Limited, Elelenwo, Rivers State, Nigeria*

Sylvester Chibueze Izah - *Department of Microbiology, Faculty of Science, Bayelsa Medical University, Yenagoa, Bayelsa State, Nigeria*

Glory Richard - *Department of Community Medicine, Faculty of Clinical Sciences, Niger Delta University, Wilberforce Island, Bayelsa State, Nigeria*

خلاصه مقاله:

Introduction: An instance of fish deaths in marine waters surrounding some communities in Bonny and Andoni Local Government Areas in Rivers State was reported in March-April ۲۰۲۰. This study investigated trace metals hazard in muscle of Tilapia (*Sarotherodon melanotheron*) and Silver Catfish (*Chrysichthys nigrodigitatus*) from Okulu River, Rivers State, Nigeria. **Materials and Methods:** Tissues of ۲۴ samples of *Sarotherodon melanotheron* and *Chrysichthys nigrodigitatus* obtained from the river were analyzed using atomic adsorption spectrophotometer, and the health risk was estimated based on estimated daily intake (EDI), target hazard quotient (THQ), and total target hazard quotient (TTHQ). **Results:** The concentration (mg/kg) of iron, zinc, manganese, copper, cadmium, lead, and chromium in both species ranged ۴.۰۰ – ۱۹۷.۳۰, ۹.۲۰ – ۳۵.۳۰, ۰.۲۰ – ۵.۰۰, ۰.۰۰ – ۷۳.۱۰, ۰.۰۰ – ۱.۳۰, ۰.۰۰ – ۵۴.۷۰, and ۰.۰۰ – ۰.۵۰, respectively. The EDI of trace metals resulting from the consumption of both fish species was higher than the permissible tolerance intake (PTI) mg/day/۶۰kg body weight. The THQ and TTHQ were < ۱, indicating that the consumption of this food fish portends no known health concern. However, the carcinogenic risks exceeded the threshold level of ۱۰-۶ - ۱۰-۴, thus, reflecting carcinogenic tendency. Based on the results obtained, it must be ensured that the effluents discharged into open water bodies meet the recommended limits. **Conclusion:** There is a need to create awareness among consumers of food fish in the study area. There should be periodic monitoring of trace metals in surface waters and its food fish population to forestall potential health impact on humans.

کلمات کلیدی:

.Aquatic Ecosystem, Environmental Health, Food Fish, Risk Assessment, Surface Water Contamination, Nigeria

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1278263>



