DETERMINATION OF SELECTED HEAVY METALS CONCENTRATION IN PATIN FISH (*Pangasius sp.*) FROM KAMPUNG PANGSENAM, PAHANG RIVER.

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ABSTRACT

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Fish is one of the most important sources of protein for humans. Unfortunately, in recent years, studies show that human activities causes environmental pressure especially water pollution due to heavy metal waste on natural habitat of fish and other aquatic ecosystem. Patin fish is a popular freshwater fish in Malaysia especially in Pahang area. The water pollution due to the rise of urbanization is threatening as it could lead to serious health concern. In this study, the feed, water and 5 samples of *Pangasius* sp. were collected from Sungai Pahang (Kampung Pangsenam) and Sungai Tembeling. The heavy metals profiles of Al, Zn, Fe, Cu, As, Cd, K , Ni, Mn, Se , Co and Hg, in water, feed and fish muscle were analysed by Energy Dispersive X-Ray Fluorescence (EDXRF) Spectrometer. In fish, the metal with highest mean concentration at Sungai Pahang is Al (1327.6±110.86 mg/kg) same goes with Sungai Tembeling 1591.3±14.86 mg/kg. The fish feed mostly contain Zn, Al and Fe which concentration of 284.2±18.43, 462.1±15.49 and 477.3±180.95 mg/kg respectively. For water analysis, Al content was the highest in Sungai Pahang and the K in the Tembeling River. Zn was the lowest in water. Transfer factor concludes that the bioaccumulation of heavy metal comes from water. Most of the heavy metals were higher than the maximum of allowable levels sets by WHO and USEPA. This is an indication that the waste of industrial activities was discharged into the river. The fish species from both rivers are not recommended for consumption as it contains high concentration of heavy metals.

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