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Chapter 11

Bioaccumulation of Heavy Metals in Water and Fish Tissues *Clarias gariepinus*

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Abstract

The present study focused on the determination of physicochemical parameter and heavy metal accumulation in water and in fish species (*clariusgarie pinus*) from Balugaon, Chilika, Odisha. The analysis of physicochemical properties of water carried out by some parameters such as water temperature, pH, conductivity, total dissolved solid, hardness, dissolved oxygen. Chilika lake is the largest brackish lagoon. Chilika lake have the highest ecological value in Odisha. It is polluted due to the industrial waste and anthropogenic activities. The heavy metal detection occurred by using XRF- Spectro photography. The heavy metals in water found to be Mn<Sn<Fe<S<P<Cl. The accumulation of heavy metals in liver found in following manner Mn<Sn<Cu<Fe<S<P<Ca<Cl, in gill Mn<Ti<Zn<Fe<S<P<Cl, in in flesh Mn<Cu<Ti<Zn<Fe<Cl. Flesh contains lowest amount of metals as compared liver and gill. This study is useful for the metal pollution and decrease the water pollution and increase the public awareness.

Key words: Pollution, Heavy metal accumulation, physicochemical parameters.

Introduction

The pollution of the aquatic ecosystem due to the heavy metal is a world-wide problem now a days [Diagomanolin et al.2004]. These pollutions are increased due to the advancement in human lifestyle due to science and technology causes environmental contamination [Muhammad Ifikhar khan et al.2018]. heavy metals are the pollutants that arises both natural and anthropogenic activities. The natural sources are wheathering of metal containing rock and volcanic eruption and anthropogenic sources are agricultural activities, mining, smelting activities. Increasing the urbanization, industrialization causes