DISCUSSION

Heavy metalspollution in aquatic environment has become a serious problem (Anand and Kumarasamy, 2013) and also an important factor in the decline of water sediments and fish quality. Fish are one of the most important and the largest groups of vertebrates in the aquatic system. Trace metals can be accumulated via both food chain and water in fish (Anand and Kumarasamy, 2013). Anand and Kumarasamy, (2013) reported bio-magnification of Cr, Cu, manganese (Mn), iron (Fe), Pb and Zn from bacteria to tubificid worms in fish through the food chain. Fish have been considered good indicators for heavy metal contamination in aquatic systems because they occupy different trophic levels with different sizes and ages (Anand and Kumarasamy, 2013). Meanwhile, fish are widely consumed in many parts of the world by humans, and polluted fish may endanger human health.

The increase of industrial activities has intensified environmental pollution problems and the deterioration of several aquatic ecosystems, with the accumulation of metals in the target organs. Trace elements are essential to life but at high concentration may become hazardous. Heavy metals are considered the most important form of pollution of the aquatic environment because of their toxicity an accumulation by marine organisms (Anand and Kumarasamy, 2013).