

# Assessment of heavy metals in some commercial fishes from the Toe River Segment, Maubin Township, Ayeyarwady Region

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Abstract

To analyse the concentration of heavy metals such as arsenic, cadmium and mercury in the fish tissues, three commercial fish species were collected from segment of Toe River near Maubin, Ayeyarwady Region. The study was lasted from April 2022 to December 2022. Concentrations of heavy metals were analysed at the Analytical Laboratory, Department of Fisheries, Yangon. The highest concentration of arsenic ( $0.904 \pm 0.717$  ppm) and mercury ( $0.027 \pm 0.007$  ppm) were found in *Notopterus notopterus*. Condition factor of *Otolithoides pama* ( $0.676 \pm 0.090$ ) was lower than one which indicated that some health problems. Relationship between K and most heavy metal concentrations of three selected fish species were positively high correlated. Bioaccumulation factors (BAFs) of heavy metal in this evaluation were less than 1000 ( $BAF < 1000$ ) and less probability of accumulation. The concentrations of heavy metals in the sampled water were within the permissible limits of FAO/WHO. The concentration of arsenic in fishes was higher than the permissible limits of FAO/WHO. However, Cd and Hg were within the permissible limits of FAO/WHO standard for human consumption. The levels of arsenic in muscle tissues of fishes significantly exceed the permissible limit of FAO/WHO guide lines. Therefore, these fishes in the study area, commonly consumed by the local people may pose human health risks due to heavy consumption of contaminated fish. Further research with more sample of fish and large area coverage in this river is recommended to confirm these results.

**Key words:** Heavy metal, fish, Maubin

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