The Utilization of Labeo catla Fish Scales for the Effective Defluorination of Water With Excessive Fluoride Concentrations to Refine Water in Developing Countries

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In Bangladesh, the concentration of fluoride in the water is typically high. High levels of fluoride can lead to severe health issues in the future, such as bone damage. However, Labeo Catla is a major South Asian carp and is a successful bio-absorbent that is available to the majority of the population. Theoretically, using these scales, lessening fluoride concentration in water should be possible. By creating solutions of sodium fluoride with varying concentrations, allowing the flossy powdered fish scales to soak, and measuring the concentration over a certain period, determining the effectiveness of the scales was made possible. Through testing, data stated that Labeo Catla fish scales are effective in lowering the concentration of fluoride and were able to decrease the concentration by 60%. Labeo Catla fish scales, being an effective and functional bio-absorbent, will provide the population of Bangladesh with cleaner drinking water.

Awards Won: