

## Effectiveness of *Portulaca quadrifida* Linn. powder as an adsorbent in the Phytoremediation of Lake Water

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### ABSTRACT

Phytoremediation is the use of plants to partially or substantially remediate selected contaminants in contaminated soil, sludge, sediment, ground water, surface water, and waste water. It utilizes a variety of plant biological processes and the physical characteristics of plants to aid insite remediation. Heavy metals are dangerous because they tend to bioaccumulate. The abundance of organic compounds, toxic chemicals, nitrites and nitrates in water may cause unfavorable effects on human health especially cancer, other human body malfunctions and chronic illnesses. Heavy metal toxicity can result in damaged or reduced mental and central nervous function, lower energy levels, and damage to blood composition, lungs, kidneys, liver, and other vital organs. This work examined the phyto-remediating potential of the *Portulaca quadrifida linn.* plant powder in the treatment of lake water at different concentration (50 mg, 100 mg, 150 mg, 200 mg & 250 mg ). Result showed a significant improvement in the treated water compared to crude water. It has been observed that plant powder was not only able to remove heavy metals such as chromium, lead and nickel, but is also capable of reducing total dissolved solids and other elements of water also. Present study reports revealed that the plant powder had positive effect in the treatment of lake water, so *P. quadrifida linn.* is a suitable remediating agent in the phytoremediation of lake water.