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## Phytoremediation of heavy metal-polluted aquatic ecosystem (Ologe Lagoon) by water hyacinth (*Eichhornia crassipes* [mart.] solms) and the socio-ecological implications

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The indiscriminate discharge of industrial effluents containing harmful substances such as heavy metals has become a global problem because of the negative effects of these substances on humans. Water hyacinth (*Eichhornia crassipes*) has been considered a menace since it entered Nigerian inland waters through neighbouring Republic of Benin in the 80's. Attempts to eradicate it has not been successful. Thus, there is a need to explore its useful potentials. It is used in paper production, feed formulation, phytoremediation, etc. Phytoremediation is a bioremediation process that uses plants to remove, transfer, stabilize, and/or destroy pollutants in the soil and water. This study investigated the ability of water hyacinth in passive phytoremediation of heavy-metal polluted aquatic ecosystems and the socio-ecological effects of the plant's invasiveness. The study was conducted over a period of 18 months (July, 2013 – December, 2014) and 5 sampling stations (Owo River, Agbara, Otto Jetty, Morogbo and Etegbin) were chosen based on proximity to points of discharge of effluents, presence of water hyacinth and human activities. The metals investigated are Cu, Zn, Pb, Fe, Cd and As. The result showed that water hyacinth absorbs heavy metals from its environment and the rate of absorption depends on concentration of the metal. It was also discovered that the presence of water hyacinth and illegal sand-mining has adversely affected the delivery of ecosystem services such as fisheries, tourism, etc. The consequences of these unregulated anthropogenic actions cause loss in biodiversity, food insecurity and ultimately threat human lives.

### Biography

Isreal Ugochukwu Oshiojum is currently working in Department of Fisheries at Lagos State University, Nigeria. He is an expert with specialization in Aquaculture and Ecology.

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