

The Role of Phycoremediation in the Sustainable Management of Aquatic Pollution

Authors : Raymond Ezenweani, Jeffrey Ogbebor

Abstract : The menace of aquatic pollution has become increasingly of great concern and the effects of this pollution as a result of anthropogenic activities cannot be over emphasized. Phycoremediation is the application of algal remediation technology in the removal of harmful products from the environment. Harmful products also known as pollutants are usually introduced into the environment through variety of processes such as industrial discharge, agricultural runoff, flooding, and acid rain. This work has to do with the capability of algae in the efficient removal of different pollutants, ranging from hydrocarbons, eutrophication, agricultural chemicals and wastes, heavy metals, foul smell from septic tanks or dumps through different processes such as bioconversion, biosorption, bioabsorption and biodecomposition. Algae are capable of bioconversion of environmentally persistent compounds to degradable compounds and also capable of putting harmful bacteria growth into check in waste water remediation. Numerous algal organisms such as *Nannochloropsis* spp, *Chlorella* spp, *Tetraselmis* spp, *Shpaerocystics* spp, cyanobacteria and different macroalgae have been tested by different researchers in laboratory scale and shown to have 100% efficiency in environmental remediation. Algae as a result of their photosynthetic capacity are also efficient in air cleansing and management of global warming by sequestering carbon iv oxide in air and converting it into organic carbon, thereby making food available for the other organisms in the higher trophic level of the aquatic food chain. Algae play major role in the sustenance of the aquatic ecosystem by their virtue of being photosynthetic. They are the primary producers and their role in environmental sustainability is remarkable.

Keywords : Algae , Pollutant, , Phycoremediation, Aquatic, Sustainability

Conference Title : ICES 2020 : International Conference on Environment and Sustainability

Conference Location : Miami, United States

Conference Dates : March 12-13, 2020