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Crude oil pollution in the Niger Delta, Nigeria: implications for food safety, the imperative and challenge of restoration

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The Niger Delta is the hub of oil and gas production in Nigeria, and is one of the world's most severely oil spill impacted areas. The exploration and exploitation of oil interfere with ecological and biodiversity integrity of ecosystems arising from flaring of associated gases, oil spills, use of drilling chemicals, etc. These processes can release heavy metals into coastal waters. Heavy metals are associated with crude oil in variable concentrations depending on the geologic background. Nigeria's dominant and internationally preferred crude petroleum, Bonny Light, has associated with it metals, the main metals occurring in the order nickel>vanadium>copper, lead. Recent pollution studies have revealed elevated levels of Zn, Cu, Pb, Cr, Ni, and V, in Niger Delta water, sediments and food species, thereby, compromising safety of the user population. Oil spills in the Niger Delta impact tremendously on the region's flora and fauna which serve as the main livelihood support structures of the inhabitants. A recent UNEP study on a section of the Niger Delta revealed widespread oil contamination of land, groundwater and surface waters. Drinking water from wells in one community had benzene, a known carcinogen, 900 times above WHO permissible limit. The UNEP study concludes that restoration of the investigated area would take minimum of 30 years. This paper discusses the incidents of oil pollution, and prospect and challenges of ecosystem restoration of Niger Delta oil degraded environments.

Biography

Nenibarini Zabbey holds PhD in Hydrobiology and Fisheries Biology. He possesses other professional Certificates, including Certificate in 210 Po Radiochemistry and Nuclear Applications related to Marine Pollution Studies. He is a senior lecturer at the University of Port Harcourt in 2011 and has published widely on Niger Delta river ecology.

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