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Introduction

e Mgbede Oil Fields has been in operations since the 1960s by a member of the ENI Group, the Nigerian Agip Oil Company Ltd. In course of a drilling operation in 2012, a large quantity of drilling waste was discharged into a nearby freshwater wetland (Ode Swamp) causing massive ecosystem destruction and the pollution of traditional sh ponds. e livelihoods of people are usually tied to their immediate

hydrocarbons are when spilled into the aquatic system either oat in water surface where they may su ocate sh or sink to the bottom and accumulate in sediments where they become available to bottom feeders like the water snail. ese hydrocarbon compounds, particularly the smaller compounds such as benzene, toluene, and xylene can a ect the human central nervous system or cause death if exposure is very

case, digested gently and slowly, by heating in a water bath until the contents got to near dryness. It was then set aside to cool. e digest was ltered into a 50ml volumetric ask, made up to mark with distilled water and the concentrations of selected metals were determined by atomic absorption spectrophotometry using the Buck Scienti c Model 200a Spectrophotometer, equipped with a high sensitivity nebulizer. Calibration of Buck Scienti c Model 200a Spectrophotometer was performed before every run by successive dilution of a 100mg/l multi-element instrument calibration standard solution (Fisher Scienti c) [13].

Polycyclic Aromatic Hydrocarbons were extracted from macerated biota tissues and shells a er digesting with potassium hydroxide and the digest extracted with 1,1,2-trichlorotri uoroethane (TCTFE). e extracts were further puri ed to avoid interferences by aliphatic hydrocarbons, porphrins, chlorins, and carotenoids using I alumina as an adsorbent. Concentrated extracts were then dissolved in hexane and subsequently introduced to the wet adsorbent and eluted with hexane to remove aliphatic hydrocarbons. A second eluant was benzene, which removed the aromatic components with su cient purity for the

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have on man who is the ultimate consumer in the food chain. is study showed that the chromium, zinc, DO and PO_4^{3-} load concentrations that could cause acute and chronic impacts on biota. It was also revealed that apart from zinc all other contaminants had concentrations that could engender health problems in man and biota. is study also reveals that the concentration of PAH was highest in the shell of the snail *P. Ovata* while concentrations of metals in the environment was highest in sh (Cd>Pb>Ni>Cr>Zn) followed by the water lettuce (Ni>Cr>Cd>Zn>Pb), snail shell (Zn>Cd>Pb>Cr>Ni) and water [(Cd,Pb)>Ni>Cr>Zn]. Concentrations in sh showed a direct pattern with concentrations in the water column indicating a most direct impact of pollution. While the snail showed a preferential biomagni cations of cadmium and lead, the water lettuce biomagni ed lead. Consumption of water and sh from this wetland therefore exposes the consumers to high levels of cancer risk and other diseases.

e study also showed that nutrient levels may trigger eutrophication, while dissolved oxygen is at a level where changes in aquatic community structure which may lead to sh kill incidents and create undue environmental stress on the sh is plausible.

In the light of the foregoing, it is hereby recommended that the government's health ministry place an o cial ban on the consumption of sh from the swamp while the polluting company should be made to clean up or remediate the environment and pay the pond owners adequately for environmental and livelihood damages.

References

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