

Abstract

Abstract Petroleum exploration and production in Africa and export of oil and gas resources by the petroleum sector has significantly improved the nation's economy over the past decade. However, activities associated with petroleum exploration, development and production operation have local and global detrimental impact on the atmosphere, soil and sediments, surface, groundwater, marine environment and terrestrial system. Discharge of petroleum hydrocarbon and petroleum derived waste into streams have contributed to environmental pollution, adverse human health effect, socio-economic problem and degradation of host communities. This review examines implication of multinational oil company's operations and further highlight some of the past and present issues associated with environmental damages, degradation and importance of management strategies, the need of modifying approaches through multidisciplinary approach for sustainable risk mitigation and effective environmental protection of oil-bearing host communities in Africa. Some of the environmental impact associated with oil and gas production include the disturbance of forest and ground surface from related activities like clearance, construction of roads, tanks farms, brine pits and pipeline and other land modifications necessary for drilling of exploration and production wells. Petroleum refineries present major health hazards e.g. aromatic hydrocarbons including heterocyclic chemicals can mimic hormone causing deleterious developmental and reproductive effects in wildlife and human. Oil spill, gas flaring and venting, discharge of petroleum-derived chemicals waste, contamination of controlled water sources, contamination of soil and sediments, destruction of farmland and marine environment are also some of the major effect of petroleum product. In summary, major environmental issues arose primarily from improper disposal of large volume petroleum –derived hazardous waste into streams, such as oily and toxic sludge due to either equipment failure or oil spills. More laws need to be enacted to aid in health safety and environmental protection from the effect of petroleum product.