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Oil and gas pipeline construction contributes to biodiversity loss in the niger delta, Nigeria

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Abstract

Investigation into the impacts of oil and gas pipeline construction on the forest and biodiversity in parts of the Niger Delta, Nigeria was conducted. Pipeline construction consists of acquisition and clearing the Right of Way (RoW) - felling of all trees and the open-cut method requiring use of excavators and other earth-moving equipment. The study methodology involved field sampling along the RoWs to inventorize the fauna and flora, visual assessment of the impacts and interview with locals. The results show that the study area had witnessed loss of biodiversity due to habitat displacement, deforestation and escalated exploitation of species. In all the locations assessed, the RoW had completely cleared all vegetal cover along its stretch, opened up previously inaccessible areas and exposed the adjoining forest and forest resources to lumbers and other exploiters. The cleared RoW had further fragmented the forests and provided usable access for unregulated logging of wood, hunting, harvesting of medicinals, and proliferation of invasive and exotic plant species. All these forces resulted in heightened threat and depletion of the various species involved. There were also a phenomenal increase in edge species and opportunistic rodents in the study areas. Poor backfilling of pipeline trenches with excavated soil along some stretches caused excessive flooding due to blockage of natural drainage pathways. Resultant anoxia in flooded areas led to death of forest trees, dislodgement of burrowing wildlife species and loss of agricultural land. The study identifies the most affected biodiversity, and proffers measures to mitigate such occurrences.

Key words: Pipeline Construction, Right of Way, Biodiversity loss, forest fragmentation.

Biography

Graduate of Botany with M.Sc. and PhD degrees in Biosystematics/Taxonomy from the University of Port Harcourt Nigeria where he works. He is a Senior Lecturer in Plant Science and Biotechnology and recently completed a postdoctoral research awarded by Third World Academy of Science Italy & Department of Biotechnology India at Indian Institute of Pulses Research, Kanpur. He serves as Consultant to the Federal Ministry of Environment Abuja on Biodiversity and Ecological issues on the environment. He is an EMP consultant to the World Bank through the Agricultural Research Council of Nigeria. He has published over 30 articles in reputable journals.