

Effect of Gas Flaring on Tree Species Diversity, Richness and Evenness around Oshie Gas Flaring Station, Ahoada West Lga, Rivers State, Nigeria

Eludoyin O.S^{1*}, Akinola O¹, Adus P.O¹ and Saadu O.A²

¹Department of Geography and Environmental Management, University of Port Harcourt, Nigeria

²West Africa Limited, Lake Chad Crescent, Nigeria

The study examined the effects of gas flaring on tree species diversity and richness around Oshie Gas Flaring Station, Ahoada West LGA, Rivers State, Nigeria. Three quadrats of 20m x 20m were laid at random in a radius 100m, 200m and 300m from the gas flaring station. In each quadrat, tree species at ≥ 10 m diameter at breast height (1.37m) were identified and enumerated from which the individual tree stand, tree diversity, richness and evenness were computed using standard methods. Both descriptive and inferential statistics were used to analyse the data in the study. Findings revealed that a total of 22 tree species were identified and enumerated in the entire study area. The total tree stands that were 241 and majority (40.2%) were found at the radius of 300m. The species diversity was 0.872, 0.908 and 0.884 at the radius of 100m, 200m and 300m respectively. The species richness was highest (2.5248) at the radius of 200m. The species evenness was least (0.3967) at the distance of 100m and highest (0.4023) at the radius of 300m. There was a significant correlation between the number of tree stand and species diversity ($r=0.954$; $p<0.05$). The study recommended that gas flaring activities should be reduced to reduce its detrimental effect on biodiversity. Finally, effective understanding of the overall impact of gas flaring on the environment should be encouraged for effective management of sustainable natural resources for man's existence and livelihood in the Niger Delta.

Keywords: Gas flaring, Species diversity, Richness, Evenness, Oshie, Niger Delta

Biography:

Dr Olatunde Sunday Eludoyin holds B.Sc (Ed) Geography from Obafemi Awolowo University (Adeyemi College of Education, Ondo Campus) in 1999. Thereafter, he proceeded to the University of Ibadan where he obtained M.Sc. (GIS) in 2002; M.Sc. (Geography) in 2004 and Ph.D (Biogeography) in 2016. He has about forty (40) publications in the national and international journals. Dr Eludoyin has been involved in many projects as a GIS Analyst. He has been an Online Editor for British Journal of Environment and Climate Change; South African Journal of Plant and Soil; Asian Journal of Agricultural Extension, Economics and Sociology; Time Journal of Social Sciences; American Chemical Science Journal; Journal of Geography and Regional Planning and Sage Open Journal. Dr Eludoyin is a member of various international and national professional bodies including Association of Nigerian Geographers (Nigeria), Forestry Association of Nigeria (Nigeria) and International Society for Development and Sustainability (Japan). Dr Eludoyin got married to Mrs Esther Bosede Eludoyin and has three children (Iyanuoluwa, Inioluwa and Ireoluwa).