

## **An Examination of the Impact of Sand Dunes on Soils, Vegetation and Water Resources as the Major Means of Livelihood in Gada Local Government Area of Sokoto State, Nigeria**

**Authors :** Abubakar Aminu

**Abstract :** Sand dunes, as a major product of desertification, is well known to affect soil resources, water resources and vegetation, especially in arid and semi-arid region; this scenario disrupt the livelihood security of people in the affected areas. The research assessed the episode of sand dune accumulation on water resources, soil and vegetation in Gada local government of Sokoto State, Nigeria. In this paper, both qualitative and quantitative methods were used to generate data which was analyzed and discussed. The finding of the paper shows that livelihood was affected by accumulations of sand dunes as water resources and soils were affected negatively thereby reducing crop yields and making livestock domestication a very difficult and expensive task; the finding also shows that 60% of the respondents agreed to planting of trees as the major solution to combat sand dunes accumulation. However, the soil parameters tested indicated low Organic carbon, low Nitrogen, low Potassium, Calcium and Phosphorus but higher values were recorded in Sodium and Cation exchange capacity which served as evidence of the high or strong aridity nature of the soil in the area. In line with the above, the researcher recommended a massive tree planting campaign to curtail desertification as well as using organic manures for higher agricultural yield and as such, improvement in livelihood security.

**Keywords :** soils, vegetatio, water, desertification

**Conference Title :** ICGES 2024 : International Conference on Geography, Environment, and Sustainability

**Conference Location :** Madrid, Spain

**Conference Dates :** March 18-19, 2024