

Implications of climate change on ecosystems and ecosystem services. A case of Volcanoes National Park.

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Abstract

Globally climate change has had a profound impact on the ecosystems as well as their functioning activities. Ecosystems are exposed to the effects of changing climates in different measures and this in turn impacts on the services derived from them by the societies. Although the impacts of climate change are often combined with the effects of other activities, such as land use changes, climatic effects in some ecosystems are pronounced. The study is to assess the effects of climate change on ecosystems and their sustainability. The main aim is to establish different microclimatic elements that impact on sustainability of ecosystems. The problem is climatic changes stress ecosystems in and around the Volcanoes National Park. This is exacerbated in destruction of habitats, wet land degradation, forest destruction, erratic season change, migration of certain animals, change in feeding habits and encroaching among others. The problem is compounded by, intensive agriculture, forest fires, soil erosion and degradation of the ecosystems. These in turn impact on the ecosystem structure and resilience. The literature review mainly focused on ecosystem disturbance as a result of climate change.

The research design includes the use of qualitative data that will be in essay form and quantitative data that will comprise of statistical or measurable aspects like temperature, rainfall, population, land area and distances. The area of study is volcanoes national park that covers an area of 165km² and lies on volcanoes National park lies at the latitude of 1.47°S 1°28'0" S longitude of 29.492°E 29°29'30" E .The study will use a sample of 30 respondents especially the community leaders, conservationists in the field, the staff from RDB, the porters and tour guides, the tourism association leaders, cultural leaders and agricultural officers. Purposive random sampling will be utilized in conjunction with interview guides and oral interviews. Analysis of data will be done by use of excel and frequencies plus percentages.

Key words: Climate change, ecosystems, ecosystem services, disturbance, effects, sustainability.