

## Climate Change and Economic Performance in Selected Oil-Producing African Countries: A Trend Analysis Approach

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**Abstract :** Climate change is a real global phenomenon and an unquestionable threat to our quest for a healthy and livable planet. It is now regarded as potentially the most monumental environmental challenge people and the planet will be confronted with over the next centuries. Expectedly, climate change mitigation was one of the central themes of COP 28. Despite contributing the least to climate change, Africa is and remains the hardest hit by the negative consequences of climate change including poor growth performance. Currently, it is being hypothesized that the high level of vulnerability and exposure to climate-related disasters, low adaptive capacity against global warming and high mitigation costs of climate change across the continent could be linked to the recent abysmal economic performance of African countries, especially in oil-producing countries where greenhouse gas emissions, is potentially more prevalent. This paper examines the impact of climate change on the economic performance of selected oil-producing countries in Africa using evidence from Nigeria, Algeria and Angola. The objective of the study is to determine whether or not climate change influences the economic performance of oil-producing countries in Africa by examining the nexus between economic growth and climate-related variables. The study seeks to investigate the effect of climate change on the pace of economic growth in African oil-producing countries. To achieve the research objectives, this study utilizes a quantitative approach by using historical and current secondary data sets to determine the relationship between climate-related variables and economic growth variables in the selected countries. The study employed numbers, percentages, tables and trend graphs to explain the trends or common patterns between climate change, economic growth and determinants of economic growth: governance effectiveness, infrastructure, macroeconomic stability and regulatory efficiency. Results from the empirical analysis of data show that the trends of economic growth and climate-related variables in the selected oil-producing countries are in the opposite directions as the increasing share of renewable energy sources in total energy consumption and the reduction in greenhouse gas emissions per capita in the oil-producing countries did not translate to higher economic growth. Further findings show that annual surface temperatures in the selected countries do not share similar trends with the food imports ratio and GDP per capita annual growth rate suggesting that climate change does not impact significantly agricultural productivity and economic growth in oil-producing countries in Africa. Annual surface temperature was also found to not share a similar pattern with governance effectiveness, macroeconomic stability and regulatory efficiency reinforcing the claim that some economic growth variables are independent of climate change. The policy implication of this research is that oil-producing African countries need to focus more on improving the macroeconomic environment and streamlining governance and institutional processes to boost their economic performance before considering the adoption of climate change adaptation and mitigation strategies.

**Keywords :** climate change, climate vulnerability, economic growth, greenhouse gas emissions per capita, oil-producing countries, share of renewable energy in total energy consumption

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