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## **URBAN PLANNING LEVERAGES IN CLIMATE CHANGE RESILIENCE BUILDING**

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## Abstract

*Urban expansion and agglomeration with their attendant anthropogenic activities tend to be associated with climate change, yet the role of urban planning leverages in building climate change resilience are very lacking in contemporary discourses on the subject. The current study examines the operational opportunities existing in urban planning for building climate change resilience in the Nigerian city of Lokoja, capital of Kogi State with potential for replication in other cities in Nigeria and further afield in Africa. Primary and secondary data sources were used. Whereas the former sources include structured questionnaire and interview surveys, the latter sources comprise of relevant literature (books, journals, reports, etc.) and data manuals (a 30-year rainfall and temperature records). The dataset gathered was collated and analysed using tally sheets, descriptive statistics and trend analysis. The study revealed that some resilience tactics to climate change impacts do synchronise with a number of local urban planning practices as prescribed by the Kogi State Interim Development Order. It concludes with planning recommendations for leveraging climate change resilience building.*

**Keywords:** urban planning, climate change, resilience building, urban greening

## 1.0 Introduction

Urbanisation and climate change are related contemporary phenomena of the 21<sup>st</sup> Century. The relationship between the two *phenomenal* developments is direct, and represents significant socio-ecological issue. This is so because of the unprecedented rise in urban form, as cities and towns have become the defining character of the 21st century. In the same vein, Climate change has become a real threat to the socio-ecological survival and sustainability of urban areas (Satterthwaite, Huq, Reid, Pelling and Lankao, 2009).

Climate change is a change in the state of the climate. According to Aremu (2001, 146), climate is "the statistical probability of the occurrence of various states of the atmosphere over a given region

during a given period". This implies identifiable changes (for instance, using statistical techniques) in the mean of temperature, precipitation and wind pattern that persists for an extended period typically decades or longer (IPCC, 2007). Some of the very visible parameters of climate are rainfall and temperature, with changes resulting in urban heat island, thermal discomfort, heat waves, drought, excessive rainfall, flooding among several others. Climate change has been attributed directly or indirectly to anthropogenic activities that alter the composition of the global atmosphere and which are in addition to natural climate variability observed over considerable time period (United Nations Framework Convention on Climate Change, UNFCCC, 2013). Apart

