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CPS Paper

The impact of climate change on urbanization: A case study on two Egyptian Governorates ■■(Dakahlia and Ismailia)■

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Brief Description

Urbanization is defined as “a socio-economic process that shifts the spatial distribution of the ■population from rural to urban areas ” (Montgomery, 2003; UNDESA, 2019, P.3).

Thus, bringing ■about changes in dominant occupations, lifestyle, culture and behaviour.

Additionally, it changes ■the demographic structure of urban and rural areas, leading to an increase in the area and ■population of metropolitan cities compared to rural areas.

Urbanization is formed through the ■development of cities, making them a centre for transport, trade and information flow.

A close ■link between urbanization and economic growth appears by attracting residents to cities that ■provide diverse opportunities for education and work, especially in the sectors of Industry and ■services.

Urbanization can be planned or spontaneous.

Each has its determinants; planned ■urbanization might have disparate economic, social, and climate determinants.

However, if ■urbanization is unplanned, its main determinants are internal migration and natural increase.

■Climate change, including the scarcity of precipitations, heat stress, and moisture level change, ■might harm agriculture and push agricultural labour to migrate to urban areas.■
Additionally, studying the impact of climate change is scarce at the level of the Egyptian ■Governorates.

Our study aims to estimate the effect of heat stress, moisture level, and ■precipitation on the urbanization degree (percentage of the urban population).

The analysis will be ■focused on two Egyptian governorates (Dakahlia and Ismailia) from 2000 to 2020.

The chosen ■Governates include urban and rural areas.

The analysis will draw on the compiled data on ■climate conditions from the Annual Bulletin of Environment Statistics, CAPMAS.

The data on ■the urbanization degree are pooled from the Statistical Year Book, CAPMAS.

We will use time ■series regression to estimate the plausible impact of climate change in the two governorates under ■study.

For future research, the study will be extended to cover the remaining Egyptian ■Governorates, including rural and urban areas■.

Abstract

Abstract
Urbanization is formed through the development of cities, making them a centre for transport, trade and ■information flow. A close link between urbanization and economic growth appears by attracting residents to ■cities that provide diverse opportunities for education and work, especially in the sectors of Industry and ■services. Urbanization can be planned or spontaneous. Each has its determinants; planned urbanization might ■have disparate economic, social, and climate determinants. However, if urbanization is unplanned, its main ■determinants are internal migration and natural increase. Climate change, including the scarcity of precipitations, ■heat stress, and moisture level change, might harm agriculture and push agricultural labour to migrate to urban ■areas.■
Additionally, studying the impact of climate change is scarce at the level of the Egyptian Governorates. Our ■study aims to estimate the effect of heat stress, moisture level, and precipitation on the urbanization degree ■■(percentage of the urban population). The analysis will be focused on two Egyptian governorates (Dakahlia and ■Ismailia) from 2000 to 2020. The chosen Governorates include urban and rural areas. The analysis will draw on ■the compiled data on climate conditions from the Annual Bulletin of Environment Statistics, CAPMAS. The ■data on the urbanization degree are pooled from the Statistical Year Book, CAPMAS. We will use ■Autoregressive Distributed Lag Model (ARDL) to estimate the plausible impact of climate change in the two ■governorates under study. The results show that maximum temperature and humidity significantly affect ■urbanization in Dakahlia. However, the effect of the lagged values of urbanization is the only significant ■variable in the Ismailia model. For future research, the study will be extended to cover the remaining Egyptian ■Governorates, including rural and urban areas■.■