

Climate Change, Conflicts and Food Security in North Darfur State, Sudan: Risks and Implications

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Abstract

Climate change and the conflicts in Sudan have severely impacted food security in the North Darfur State in Western Sudan with profound risks and implications for household diets, safety, coping strategies, and overall food security levels. This research paper investigates the impact of climate variability and the conflict on food security in North Darfur State by using climate time series data over the period 2000 to 2024. The study applied the Rainfall Anomaly Index (RAI) to investigate drought events and the impact of drought on agricultural production was evaluated using the Standardized Variable Crop Yield (SVCY) equation. Furthermore, employing the Kobo Toolbox and Enketo Express methodology, a comprehensive survey of the internally displaced persons (IDPs) household food security was conducted amid a significant national conflict and siege on Al Fashir town and Zamzam camp. An internet-based questionnaire was designed and randomly distributed to assess the nexus between climate change, conflicts, and agricultural production on household food security. The results showed a trend of marked increases in annual precipitation and a reduction in drought intensity. However, the results indicated that climate change and conflict over the last two decades have had a negative impact on the food security status of households. Moreover, the results showed that North Darfur State experienced severe food shortages between 2000 and 2024 with more than a million people food insecure in 2024. Furthermore, we found that conflict and climate change severely affected the cultivated area, disrupted agricultural activities, disrupted markets, reduced food supply and increased food prices. The study finds that, there is urgent need for humanitarian aid to protect IDPs at risk of famine and recommends international community intervention for ceasefire, the opening of humanitarian safe corridors and lifting of the siege of Al Fashir.

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