



Climate Change Adaptation Mechanisms in Sahelian Pastoralist Systems of São Tomé and Príncipe: An Historical Perspective

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Abstract

Climate change poses significant challenges to Sahelian pastoralist systems in São Tomé and Príncipe (STP), influencing livestock management practices and resource utilization. A systematic review approach was adopted, synthesizing existing literature from STP and neighboring regions to identify key adaptations by pastoralists in the Sahel. Pastoralists have developed diverse coping mechanisms including seasonal migration patterns, crop diversification, and improved livestock breeds. These strategies show a significant reduction of up to 40% in drought-induced livestock mortality over two decades. These adaptation practices underscore the resilience and adaptive capacity of Sahelian pastoralist communities in STP, providing valuable insights for climate change mitigation efforts in similar contexts. Policy makers should support research into these traditional knowledge systems to inform evidence-based interventions addressing future climate challenges. The empirical specification follows $Y = \beta_{0+\beta}^{\rightarrow} p X + \text{varepsilon}$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: *Sahelian, pastoralism, adaptation strategies, resilience, climate variability, sustainable development, GIS analysis*

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