



# Drought Resistant Sorghum Varieties Among Smallholder Farmers in Northern Ghana: An Impact Analysis

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## Abstract

Drought conditions in northern Ghana pose significant challenges to smallholder farmers who rely on sorghum as a staple crop. A mixed-methods approach combining farmer surveys, focus group discussions, and field observations was employed to gather data from 120 randomly selected households in four districts of northern Ghana. Farmers reported an average increase of 25% in sorghum yield when using drought-resistant varieties compared to traditional seeds. Socio-economic benefits included reduced input costs and increased income, with over 80% of farmers indicating improved food security. The adoption of drought-resistant sorghum varieties has yielded substantial improvements in both agricultural productivity and farmer well-being, highlighting the need for continued support and policy interventions to enhance resilience against climate change impacts. Government agencies should invest in extension services that promote best practices around drought-resilient crop management. Policies should incentivize smallholder farmers to adopt these varieties through subsidies or insurance schemes.

**Keywords:** *Geographic, Sub-Saharan, Smallholder, Agricultural, Methodology, Sustainability, Adaptation*

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