



# Drought-Resistant Maize Varieties and Smallholder Farmers in Northern Nigeria: A Policy Analysis

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## Abstract

Drought conditions in northern Nigeria have significantly impacted maize yields among smallholder farmers, necessitating the development and adoption of drought-resistant varieties. A mixed-method approach combining survey data with farmer interviews to assess changes in crop yields, input usage, and financial outcomes following variety introduction. Farmers reported an average yield increase of 20% when using drought-resistant maize varieties compared to traditional hybrids. Input costs were reduced by 15%, with savings primarily attributed to lower water usage and reduced fertilizer needs. The policy analysis indicates that the introduction of drought-resistant maize varieties can enhance agricultural productivity, reduce input expenses, and improve environmental sustainability in northern Nigerian farming communities. Policymakers should prioritise targeted extension services for smallholder farmers to facilitate adoption of these new technologies. Funding mechanisms should be established to support research and development of additional drought-tolerant crops.

**Keywords:** *African geography, Smallholder farming, Methodology, Drought resilience, Yield variability, Policy implementation, Agricultural economics*

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