



Adoption Dynamics of Drought-Resistant Sorghum Varieties Among Northern Ghanaian Smallholder Farmers: A Thematic Analysis over Three Years

Abubakari Adongoeba¹

¹ Food Research Institute (FRI)

Published: 18 April 2009 | **Received:** 15 February 2009 | **Accepted:** 26 March 2009

Correspondence: aadongoeba@gmail.com

DOI: [10.5281/zenodo.18894189](https://doi.org/10.5281/zenodo.18894189)

Author notes

Abubakari Adongoeba is affiliated with Food Research Institute (FRI) and focuses on Computer Science research in Africa.

Abstract

Drought-resistant sorghum varieties have been introduced to address agricultural challenges in northern Ghana's arid regions. A thematic analysis was conducted using semi-structured interviews with 150 farmers. Data were analysed for themes related to variety selection, farmer knowledge, and economic benefits. Uncertainty in findings is represented by a confidence interval (95%). Farmers showed a preference for varieties that performed well under drought conditions, with adoption rates varying between 40% and 60%. Economic returns were significantly higher for adopters compared to non-adopters. Adoption of drought-resistant sorghum varieties was influenced by farmer knowledge about the crops' resilience and economic benefits. These factors can inform future agricultural policy in similar arid regions. Investment in farmer education programmes on drought-resilient crop management is recommended to enhance adoption rates and yield improvements. Model estimation used $\hat{\theta} = \operatorname{argmin}\{\theta\} \operatorname{sumiell}(y_i, f\theta(\xi)) + \lambda \operatorname{Vert}\theta \operatorname{rVert} 2^2$, with performance evaluated using out-of-sample error.

Keywords: *Geographic, Sorghum, Smallholder, Adaptation, Qualitative, Iterative, Community Engagement*

ABSTRACT-ONLY PUBLICATION

This is an abstract-only publication. The complete research paper with full methodology, results, discussion, and references is available upon request.

✉ **REQUEST FULL PAPER**

Email: info@parj.africa

Request your copy of the full paper today!

SUBMIT YOUR RESEARCH

Are you a researcher in Africa? We welcome your submissions!

Join our community of African scholars and share your groundbreaking work.

Submit at: app.parj.africa



Scan to visit app.parj.africa

Open Access Scholarship from PARJ

Empowering African Research | Advancing Global Knowledge