Genetically Modified Crops in Ghana: Perspectives and Policy Analysis

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Abstract

Genetically modified (GM) crops have been introduced in various African countries, including Ghana, to address challenges such as food security and climate change. However, there is a significant debate surrounding their adoption due to concerns about health impacts, environmental effects, and socio-economic implications. The study employs a mixed-methods approach combining qualitative interviews with focus groups and quantitative surveys among farmers, policymakers, researchers, and the general public in selected regions of Ghana. Data analysis will include thematic content analysis for qualitative data and structural equation modelling (SEM) for quantifying relationships between variables related to GM crops. The survey revealed a mixed attitude towards GM crops with approximately 35% of respondents expressing support, while 42% were neutral or opposed. There was significant variation in acceptance levels across different demographic groups and regions within Ghana. This study provides insights into the complex landscape of GM crop development and adoption in Ghana, highlighting the need for nuanced policy approaches that consider diverse stakeholder perspectives and regional contexts. The findings suggest a balanced approach to GM crops involving phased implementation with monitoring mechanisms. Policymakers should engage more closely with local communities and involve them in decision-making processes regarding GM crop deployment. The empirical specification follows $Y = \beta_{0+\beta}^{\rightarrow} p\, X + varepsilon$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: *African geography, genetic modification, biotechnology, sustainable agriculture, policy analysis, stakeholder engagement, participatory methods*

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