



Smart Irrigation Systems and Maize Farmers' Water Usage in Zimbabwe: An Engineering Perspective 2007

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Abstract

Smart irrigation systems have been introduced to improve efficiency in water usage for agriculture in Zimbabwe. A mixed-method approach was employed, including surveys and interviews with farmers to gather data on their practices and perceptions regarding smart irrigation systems. Farmers reported reduced water usage by approximately 20% when using smart irrigation systems compared to traditional methods. The findings suggest that smart irrigation systems can significantly enhance agricultural productivity in Zimbabwe, particularly for maize farmers. Policy makers should consider incentivizing the adoption of smart irrigation technologies among maize farmers to improve water efficiency and sustainability. Smart Irrigation Systems, Maize Farmers, Water Usage, Agriculture, Zimbabwe The maintenance outcome was modelled as $Y = \beta_0 + \beta_1 X + u_i + \epsilon_i$, with robustness checked using heteroskedasticity-consistent errors.

Keywords: *Smart Irrigation Systems, Maize Production, Agricultural Engineering, Water Management, Precision Agriculture, Geographical Information Systems, Remote Sensing Technology*

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