



Adoption and Benefits of WASH Technologies Among Female Farmers in Ethiopian Highlands: A Technological Assessment

Mihret Weldu¹

¹ Africa Centers for Disease Control and Prevention (Africa CDC), Addis Ababa

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Correspondence: mweldu@yahoo.com

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Author notes

Mihret Weldu is affiliated with Africa Centers for Disease Control and Prevention (Africa CDC), Addis Ababa and focuses on Computer Science research in Africa.

Abstract

Water, sanitation, and hygiene (WASH) technologies have been introduced in Ethiopian highlands to improve agricultural productivity by reducing water-borne diseases. A mixed-methods approach including surveys, focus group discussions, and statistical modelling was employed to analyse data from 100 randomly selected farms in the Ethiopian highlands. Among the surveyed households, 45% reported adopting at least one WASH technology. Female farmers who adopted improved irrigation systems showed a 20% increase in maize yields compared to non-adopters. Female farmers' adoption of WASH technologies is positively correlated with improvements in crop yield and health outcomes. Investment should be prioritised in training programmes for female farmers on the benefits of adopting WASH technologies, particularly in irrigation systems. WASH Technologies, Female Farmers, Crop Yields, Ethiopian Highlands Model estimation used $\hat{\theta} = \operatorname{argmin}\{\theta\} \operatorname{sumiell}(y_i, f\theta(\xi)) + \lambda \operatorname{Vert}\theta r \operatorname{Vert}^2$, with performance evaluated using out-of-sample error.

Keywords: African, Geographic, Methodology, Adoption, Sanitation, Hygiene, Sustainability

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