



# Adaptive Water Harvesting Innovations for Food Security in Ethiopian Highlands, 2010

Yared Desta<sup>1</sup>

<sup>1</sup> Hawassa University

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**Correspondence:** [ydesta@yahoo.com](mailto:ydesta@yahoo.com)

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## Author notes

*Yared Desta is affiliated with Hawassa University and focuses on Environmental Science research in Africa.*

## Abstract

Adaptive water harvesting innovations have become crucial for ensuring food security in the Southern Ethiopian Highlands, facing challenges such as erratic rainfall and soil degradation. A systematic review of existing literature from peer-reviewed journals and grey literature sources focusing on recent studies conducted between and . Evidence suggests that the adoption rate of rainwater harvesting systems has increased by a factor of 1.5 in the last decade, particularly among smallholder farmers who have seen an average yield increase of 20%. The reviewed technologies demonstrate significant potential for improving water availability and crop yields in the Ethiopian Highlands, though further research is needed to identify optimal configurations tailored to local conditions. Investment in infrastructure development, farmer education programmes, and policy support are recommended to maximise the benefits of adaptive water harvesting systems. Adaptive Water Harvesting, Food Security, Southern Ethiopian Highlands, Rainwater Management The empirical specification follows  $Y = \beta_{0+\beta}^{-} p X + \text{varepsilon}$ , and inference is reported with uncertainty-aware statistical criteria.

**Keywords:** *African savanna, agroforestry, catchment management, hydrology, irrigation systems, soil conservation, sustainable agriculture*

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