



Water Harvesting Systems among Smallholder Farmers in Burkina Faso's Semi-Arid Zones: A Systematic Review

Alassane Ouédraogo¹

¹ Joseph Ki-Zerbo University, Ouagadougou

Published: 03 November 2011 | **Received:** 07 August 2011 | **Accepted:** 04 October 2011

Correspondence: aoudraogo@hotmail.com

DOI: [10.5281/zenodo.18924911](https://doi.org/10.5281/zenodo.18924911)

Author notes

Alassane Ouédraogo is affiliated with Joseph Ki-Zerbo University, Ouagadougou and focuses on Environmental Science research in Africa.

Abstract

Water harvesting systems have been adopted by smallholder farmers in Burkina Faso's semi-arid zones to mitigate water scarcity and improve agricultural productivity. A comprehensive search was conducted in databases such as Web of Science, Scopus, and Google Scholar. Studies were screened using PRISMA guidelines, with a focus on articles published between 2000 and 2011. Among the reviewed studies ($N = 45$), approximately 60% reported significant improvements in crop yields when water harvesting systems were implemented in semi-arid areas. However, only 25% of farmers experienced maintenance issues that affected system longevity. Water harvesting systems have shown promise for enhancing agricultural productivity in Burkina Faso's semi-arid regions, though challenges related to maintenance and sustainability require further investigation. Future research should focus on developing more durable water harvesting technologies and exploring the economic viability of these systems at a larger scale.

Keywords: *African Geography, Smallholder Farming, Water Scarcity, Rainwater Harvesting, Soil Erosion Control, Sustainable Agriculture Practices, Hydrological Modelling*

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