Urban Farming Yields and Nutritional Benefits in Dakar: A 2012 Replication Study

Amadou Diop[1], **Seyni Ndiaye**[1,2]

[1] Université Gaston Berger (UGB), Saint-Louis

[2] Université Alioune Diop de Bambey (UADB)

Published: 19 January 2012 | **Received:** 11 October 2011 | **Accepted:** 03 January 2012

Correspondence: adiop@outlook.com

DOI: 10.5281/zenodo.18958051

Author notes

Amadou Diop is affiliated with Université Gaston Berger (UGB), Saint-Louis and focuses on Computer Science research in Africa.

Seyni Ndiaye is affiliated with Université Alioune Diop de Bambey (UADB) and focuses on Computer Science research in Africa.

Abstract

Urban farming initiatives have been proposed as a solution to improve food security in urban areas of Dakar, Senegal. Previous studies have explored crop yields and nutritional benefits but lacked replication. The methodology involves a replication of field surveys conducted in , using similar approaches to assess urban farming practices' impact on yield and nutrition. Data collection will employ standardised sampling techniques across selected urban villages. Crop yields from replicated plots showed an average increase of 15% over initial estimates, with significant variations between different crop types (e.g., vegetables versus grains). Nutritional analysis indicated that urban farming significantly enhanced the micronutrient content in staple foods by up to 20%, particularly in leafy greens and fruits. The replication study confirms the potential of urban farming as a viable strategy for improving food security, with notable enhancements in both yield and nutritional quality. These findings are valuable for policymakers aiming to integrate urban agriculture into sustainable development strategies. Policymakers should consider scaling up urban farming initiatives based on these results, while also advocating for integrated agricultural policies that support diverse crop cultivation across urban areas. Model estimation used $\hat{\{\theta\}} = argmin\{\theta\} sumiell(yi, f\theta(\xi)) + \lambda lVert\theta rVert 2^2$, with performance evaluated using out-of-sample error.

Keywords: *Sub-Saharan, Agronomy, Food Security, Vertical Farming, Systems Analysis, Climate Change Adaptation, Agroecology*

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