African Journal of GIS and Spatial Analysis
(Environmental/Earth Science

Revisiting Urban Food Security Systems in Dakar: A Study of Community Gardens and Urban Agriculture Adoption Over Three Years

Toure Sylla Mamadou[1,2], **Mamoudou Diop**[1,3]

[1] Cheikh Anta Diop University (UCAD), Dakar

[2] Institut Pasteur de Dakar

[3] Department of Data Science, Institut Pasteur de Dakar

Published: 25 October 2007 | **Received:** 01 August 2007 | **Accepted:** 05 October 2007

Correspondence: tmamadou@outlook.com

DOI: 10.5281/zenodo.18847793

Author notes

Toure Sylla Mamadou is affiliated with Cheikh Anta Diop University (UCAD), Dakar and focuses on Computer Science research in Africa.

Mamoudou Diop is affiliated with Department of Data Science, Institut Pasteur de Dakar and focuses on Computer Science research in Africa.

Abstract

Urban food security systems in Dakar, Senegal have been under study for their effectiveness in addressing local agricultural needs and improving community well-being. Data were collected through surveys administered to participants at community gardens across Dakar. A mixed-methods approach combining quantitative survey data with qualitative interviews provided comprehensive insights into the adoption trends and factors influencing garden participation. A significant proportion (75%) of participants reported increased engagement in urban agriculture over the three-year period, driven by government subsidies that lowered costs for materials and equipment. The replication study validates previous findings on community garden participation but identifies a notable increase due to subsidized resources. These findings underscore the effectiveness of targeted interventions in boosting urban food security initiatives. Future research should further investigate long-term sustainability strategies, including environmental impact assessments and economic feasibility studies for supported community gardens. Model estimation used $\hat{\{}\theta\}=argmin\{\theta\}sumiell(yi,f\theta(\xi))+\lambda lVert\theta rVert2^{2}$, with performance evaluated using out-of-sample error.

Keywords: *Sub-Saharan, AgriculturalEconomics, SustainableDevelopment, CommunityEngagement, CrossSectionalAnalysis*

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