African Fisheries Management (Fisheries/Aquatic)

Methodological Foundations for Assessing Municipal Water System Adoption in Senegal: A Randomized Field Trial Framework

Mamar Ndiaye[1], **Diama Gueye**[2], **Binta Sarr**[3]

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

[2] Department of Agricultural Economics, Cheikh Anta Diop University (UCAD), Dakar

[3] Department of Soil Science, Cheikh Anta Diop University (UCAD), Dakar

Published: 16 October 2006 | **Received:** 14 July 2006 | **Accepted:** 22 August 2006

Correspondence: mndiaye@hotmail.com

DOI: 10.5281/zenodo.18827599

Author notes

Mamar Ndiaye is affiliated with Université Gaston Berger (UGB), Saint-Louis and focuses on Agriculture research in Africa.

Diama Gueye is affiliated with Department of Agricultural Economics, Cheikh Anta Diop University (UCAD), Dakar and focuses on Agriculture research in Africa.

Binta Sarr is affiliated with Department of Soil Science, Cheikh Anta Diop University (UCAD), Dakar and focuses on Agriculture research in Africa.

Abstract

The adoption of municipal water systems in Senegal has been a subject of interest due to its potential for improving public health and environmental sustainability. However, there is a need for robust methodological frameworks to evaluate the effectiveness and uptake of these systems. The study will employ a mixed-methods approach combining quantitative survey data with qualitative interviews to evaluate the effectiveness of municipal water systems. A random sample of households will be selected for intervention, and their adoption rates measured over time using statistical models. The randomized field trial framework provides a robust method for evaluating the adoption rates of municipal water systems in Senegal, offering valuable insights into system acceptance and utility. Future studies should consider extending this framework to other socio-economic contexts within Senegal and potentially across similar regions with varying levels of development. The empirical specification follows $Y = \beta_{0+\beta}^{\rightarrow} p\, X + varepsilon$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: *Sub-Saharan, randomized controlled trial, sustainability, governance, intervention analysis, water resources, public health*