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# Evaluating Climate-Resilient Agricultural Practices Among Senegalese Smallholder Women Farmers: A Methodological Framework

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## Abstract

Climate change poses significant challenges to agricultural productivity in Senegal, particularly affecting smallholder women farmers who rely on rain-fed agriculture. These farmers often lack access to climate-resilient practices that could enhance their resilience and sustainability. The methodology involves a mixed-methods approach combining quantitative surveys and qualitative interviews. A total of 100 smallholder women farmers were surveyed using a structured questionnaire designed to assess knowledge, attitude, and practice regarding climate-resilient agriculture. Interviews with 20 selected farmers provided in-depth insights into their experiences and challenges. The survey revealed that while over 75% of respondents had heard about climate-resilient practices, only 30% reported using them regularly. The main barriers identified were financial constraints (48%) and lack of technical knowledge (32%). This study highlights the need for targeted interventions to improve access to information and resources, thereby increasing the adoption rate of climate-resilient practices among smallholder women farmers in Senegal. Policy makers should prioritise funding for extension services and technology dissemination programmes. Additionally, capacity building initiatives focused on improving agricultural literacy and financial management skills are recommended. climate change, agriculture, resilience, women farmers, Senegal 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:** *African Geography, Climate Change Impact Studies, Participatory Evaluation, Grounded Theory, Quantitative Methods, Qualitative Research, Social Network Analysis*