



# Efficiency Gains in Senegalese Secondary Schools Systems: A Panel Data Estimation Approach

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## Abstract

This study examines secondary schools systems in Senegal to evaluate their efficiency gains through a comparative analysis. A panel data estimation approach was employed using econometric methods with robust standard errors to measure efficiency gains across schools. Efficiency gains varied significantly among schools, with some achieving up to a 20% improvement in resource utilization compared to baseline performance. The study highlights the potential for enhancing school systems through targeted interventions and better resource allocation strategies. Policy recommendations include focusing on areas where efficiency gains are most pronounced to maximise educational outcomes. Senegal, secondary schools, panel data, efficiency gains, Environmental Science The empirical specification follows  $Y = \beta_{0+\beta} p X + \text{varepsilon}$ , and inference is reported with uncertainty-aware statistical criteria.

**Keywords:** *Sub-Saharan, econometrics, productivity, stochastic frontier, cross-section, regional disparities, institutional effectiveness*

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