

## **Differential performance of cleaner production dissemination in Colombia and Mexico**

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**Abstract:**

Development policies deployed by countries often include strategies to promote the adoption of sustainability practices in small and medium-sized enterprises (SME) due to their contribution to environmental degradation and importance for socio-economic development. For decades, cleaner production has been used as a concept to enhance sustainability in companies by means of preventive operational improvements for resource efficiency. This research examines differential performance in cleaner production dissemination among small- and medium-sized enterprises operating in emerging markets such as Colombia and Mexico. In both countries, a similar sustainable supply network mechanism was applied to disseminate cleaner production in a significant number of SME. Comparison of experience in the two countries offers opportunity to gauge how context characteristics influenced cost-benefit and implementation rate outcomes in order to deepen insight on how specific variables appear to influence dissemination of cleaner production. Econometric models are used to review differences in firms' cost-benefit regarding economic and environmental improvement.

Findings suggest that firms participating in the Mexican program achieved higher economic benefits than those participating in the Colombian program, whereas Colombian firms surpassed Mexican firms in environmental benefits, achieving higher reductions in water consumption, energy usage, and waste generation. Firm size, measured in number of employees, was smaller in Colombia than in Mexico; the latter program drew solely on industrial sector networks, whereas Colombia's involved as well firms in agriculture, livestock, construction and services sectors. The study confirms consistency of supply chain approaches as an effective way for disseminating cleaner production among firms in emerging market contexts.

This study employs longitudinal empirical evidence to deepen understanding of country, company and project characteristics that may influence outcomes of cleaner production implementation. Moreover, it provides a broad-based, multi-country comparison of the potential economic and environmental benefits of sustainable supply initiatives in emerging markets. The paper notes possible implications that may contribute to greater implementation of innovation for sustainable development and green growth.

**Keywords:** Sustainable supply; Cleaner production; Small and medium-sized enterprises; Sustainability in emerging markets