

A Calibrated Low-Cost PM2.5 Sensor Network Across Burkina Faso's Three Largest Cities

City Innovation Library · Good practice · Burkina Faso

Quality score: 67/100

Evidence strength: Observational / pre–post

Summary

Burkinabé and Italian research teams installed 19 calibrated Clarity PM2.5 sensors across Ouagadougou, Bobo-Dioulasso and Koudougou, recording a one-year average of 46.7 µg/m³ — about nine times the WHO annual guideline — as a replicable low-cost air-monitoring model for Sahelian

Key dimensions

Dimension	Score
Evidence of impact / measured results	2/3
Transferability / demonstrated replication	3/3
Scalability	2/3
Sustainability / continuity	1/3
Innovation	2/3
Inclusiveness / equity	1/3
Multi-stakeholder collaboration	3/3

Evaluated by C-NAPSE

Data sources

C-NAPSE web research — accessed 2026-08-17

Université Joseph Ki-Zerbo, ENS & Université Nazi Boni environmental physics-chemistry labs and IRSAT-CNRST (Burkina Faso), with CNR-IBE (Italy) — accessed 2026-08-17

Environments (MDPI) — Building and Maintaining Low-Cost PM Monitoring Networks in Sub-Saharan Africa — accessed 2026-08-17

ACS ES&T; Air — Monitoring of PM2.5 Using Well-Calibrated Low-Cost Sensors over One Year in Burkina Faso — accessed 2026-08-17

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