Restoring Petra's Nabataean Water System — Check-Dam and Native-Vegetation Rehabilitation to Cut Flash-Flood and Erosion Risk (Jordan)

PES & Nature-Based Solutions · Good practice · Jordan

Quality score: 27/100

Evidence strength: Cautionary / limited

Summary

Restoration of Petra's ancient Nabataean dams and terraces, combined with native vegetation cover, cut peak flood flows and infiltrated over half of flash-flood runoff, with hydrological modelling showing vegetation greening alone reduced catchment streamflow by up to 20%.

Key dimensions

Dimension	Score
Carbon — sequestration / storage, evidenced	0/3
Biodiversity — conservation / improvement, evidenced	0/3
Water & soil — retention, infiltration, erosion control	3/3
Fire resilience — risk reduction, evidenced	0/3
Governance, certification & transferability	1/3

Evaluated by C-NAPSE

Data sources

C-NAPSE web research — accessed 2026-09-25

Petra Development and Tourism Region Authority (PDTRA), with Jordanian and international hydrology researchers — accessed 2026-09-25

Journal of Hydrology — "Hydrological assessment and management implications for the ancient Nabataean flood control system in Petra, Jordan" — accessed 2026-09-25

Heritage Adapts — Climate Risk and Resilience in Petra — accessed 2026-09-25

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