



P.O. Box 3524, La Romaine, Trinidad and Tobago, W.I. or UTT Building, Esperanza Road, Brechin Castle, Couva, Trinidad W.I. Website: www.the.gstt.org Email: thegstt@gmail.com

Integrating water, land and ecosystem management approaches to quarry rehabilitation in northeast, Trinidad

Author: ¹Arnott Jones and Tracey Oliveria-Harris (EMA)

¹ Arnott Jones- presenter, ajones@ema.co.TT, Water and Sewerage Authority, Trinidad and Tobago

Theme: GE: Geohazards and slope stability

Key Words: ecosystems management approaches, quarry rehabilitation, Trinidad

Land degradation caused by unsustainable quarrying affects more than 100 countries on all continents except Antarctica. Land degradation as a consequence of unsustainable quarrying has escalated in recent years in Small Island Developing States, leading to extensive and adverse environmental and economic effects. These unsustainable quarry practices, increase risk to vulnerable ecosystems and socio-economic development of territories.

The Global Environment Facility Small Grants Programme facilitated the four-year IWEco national sub-project. The IWEco sub-project employed an Ecosystem Management Approach that involved the delineation and assessment of baseline characteristics; explicit definition of intended management goals; adoption of temporally and spatially appropriate on-the-ground interventions; and identification of a socially appropriate model to facilitate linkages between social and environmental benefits. In addition, it allowed for the adoption of techniques to improve monitoring and evaluation, particularly regarding fulfilling the obligations of Multilateral Environmental Agreements.

The results demonstrated the holistic, inclusive and replicability of the Ecosystem Management Approach on the rehabilitation of 18 Hectares (Ha) of degraded quarry land in northeast Trinidad, in addition to three (3) demonstration and training sites, approximately 7.05 Ha in area and a nursery. Other project outcomes included evidence of replicability of rehabilitation techniques with two (2) privately operated quarries, each establishing 1- hectare pilot sites at their facility. A key outcome was also the production of the Quarry Rehabilitation Guidebook and Quarry Rehabilitation Training Manual - management strategies for public education and awareness and opportunities for carbon account training and institutional capacity building.

An Ecosystem Management Approach to sustainable quarry management is essential in the development of a robust rehabilitation plan. This innovative approach to quarry rehabilitation presented a paradigm shift that promotes ecological integrity and ecosystem functioning, livelihood opportunities and minimises the impacts of land degradation associated with unsustainable quarrying practices.