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Green Assessment in Siargao Island Protected Landscape and Seascape (SIPLAS) Stage 2

COMPREHENSIVE APPRAISAL: GROUND-TRUTHING THROUGH REMOTELY PILOTED AIRCRAFT SYSTEM

TECHNICAL REPORT

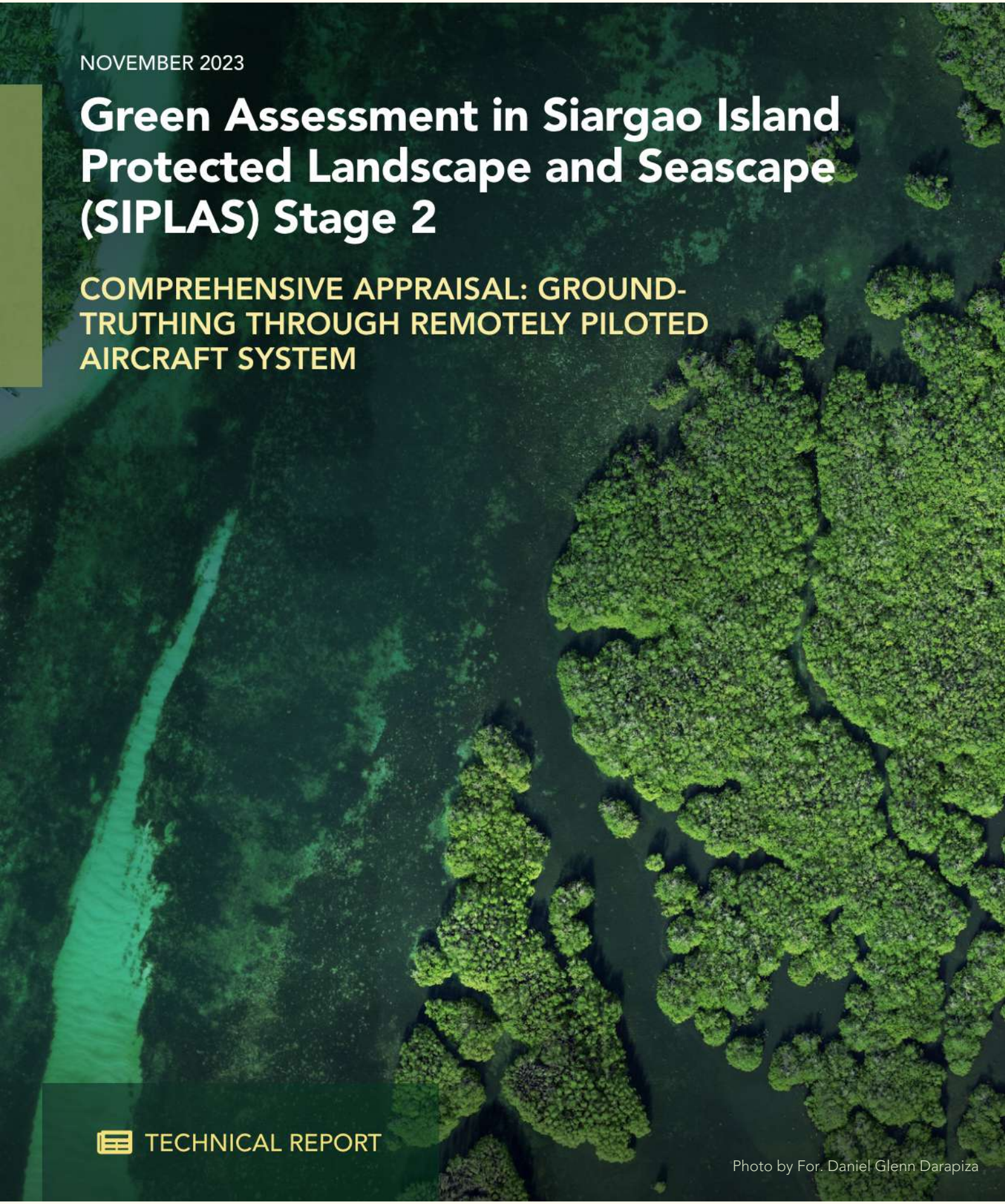

Photo by For. Daniel Glenn Darapiza

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ABSTRACT

Months after Typhoon Odette made its landfall over Siargao Island in Surigao del Norte, the extensive devastation is still being felt by this famous tourist island. Almost 99% of the island's population, including tourists, were affected by the typhoon. Despite the wide destruction, the island is slowly recovering, where progress in repairing damaged infrastructure and settlements is noticeable, but the ecological landscape lacks a thorough post-disaster assessment to determine the typhoon's ecological impacts. A comprehensive appraisal was therefore conducted to capture ground-truthed post-disaster information on defined damaged hotspots using a Remotely Piloted Aircraft System (RPAS). The ground-truthing team had 132 flight data acquisitions and observed signs of vegetation having already recovered in some parts. Most of the areas with defoliated and damaged trees were located in hilly areas above limestone and at the highest point of 300 masl. Based on field observations, the entire Siargao Island is anthropogenically influenced even before Odette, the most prevalent of which is the change in land cover and land use, disrupting the different ecosystems and landscapes. Appropriate restoration strategies and recovery planning is needed for future disaster resilience.

Keywords: *Green Assessment, Remotely Piloted Aircraft System, Ground-truthing, Damage Assessment*

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Imprint

The "Green Assessment in Siargao Island Protected Landscape and Seascape (SIPLAS) Stage 2 - Comprehensive Appraisal: Ground-truthing through Remotely Piloted Aircraft System Technical Report" is prepared by Center for Conservation Innovation Ph, Inc. (CCIPH) for the USAID Sustainable Interventions for Biodiversity, Ocean, and Landscapes (SIBOL) Activity. This technical report is part of a series of technical reports made on the second stage of the green assessment in SIPLAS, the others being, Rapid Biodiversity Assessment, Study of Drivers of Land-Use Change, and Data Analysis and Interpretation.

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1 Introduction

Assessing the severity of damages caused by typhoon Odette across the landscape has been one of the challenges in SIPLAS. Identifying ecosystem and landscape changes on a map guides the location of where field surveys need to be prioritized. This is one of the critical steps before ground-truthing during Stage 2 of the Green Assessment Framework (Figure 1). Ground-truthing surveys are set to gather technical information on defined damage hotspots as evaluated from Stage 1 of Green Assessment. The ground-truthing team uses the Remotely Piloted Aircraft System technology, making the process more efficient in terms of assessing a large area in a short time. This provides critical information that will be used for post-processing, and identifying land cover classification and change detection in Stage 2 - Analysis and Interpretation.

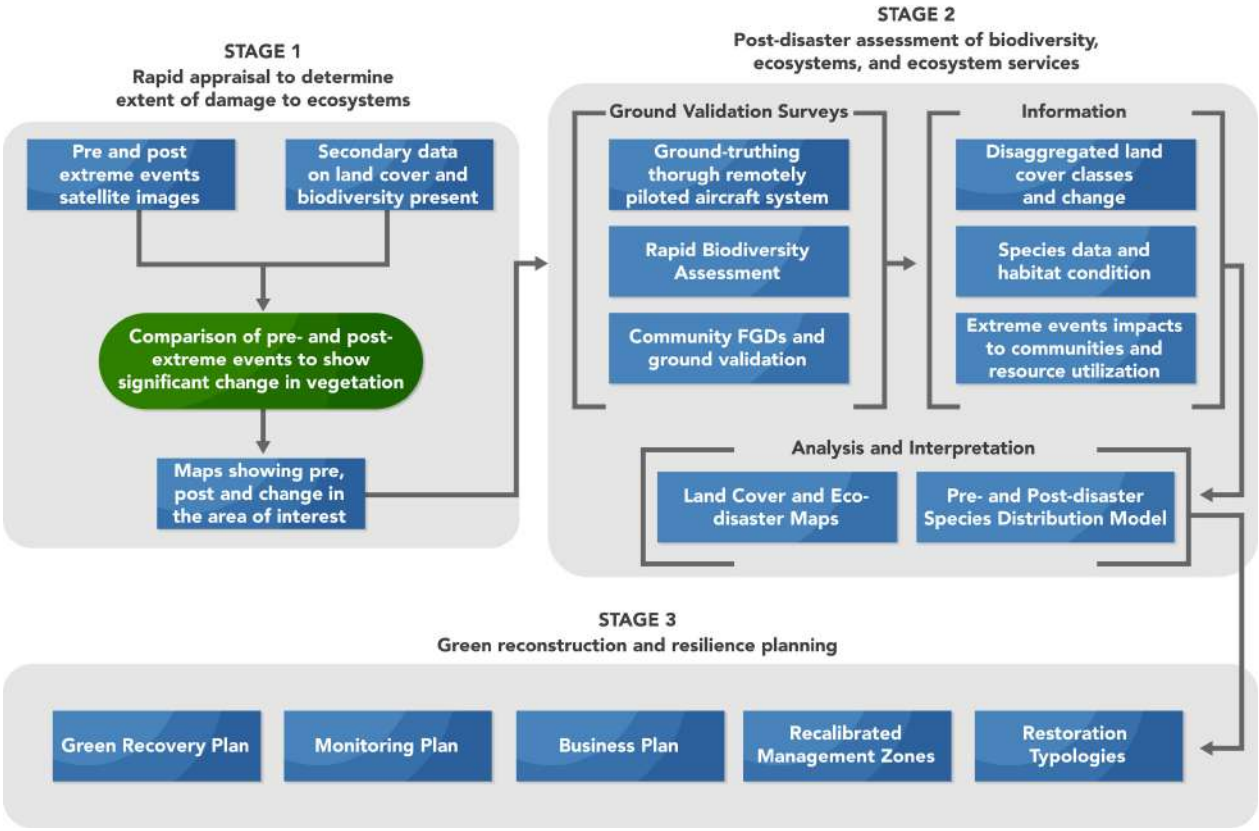

Figure 1. The Green Assessment (GA) Framework diagram shows the three stages: (1) rapid appraisal to determine the extent of damage to ecosystems; (2) post-disaster assessment of biodiversity, ecosystems, and ecosystem services; and (3) green reconstruction and resilience planning. The red box represents the sub-activity that will be the subject matter in this report.

Methodology