

Trial of techniques to empower community and government monitoring and evaluation of Indonesian peatland restoration



Key details

Location

Indonesia

Duration

Start Jun 2018

End Jun 2020

Budget

AUD 175,000

Commissioned organisation

RMIT University

Partners

Charles Darwin University; Borneo Orangutan Survival Foundation; University of Palangka Raya

Project Leader

Dr Samantha Grover, RMIT University

ACIAR Research Program Manager

Dr James Quilty

Program

Soil and Land Management

Project code

SLAM/2018/122

Indonesia, due to the devastating effects of peat fires on local and regional public health and economies. The Indonesian Peatland Restoration Agency (BRG) is mandated to restore 2 million hectares of degraded peatlands by 2020. This ambitious initial target will trial a range of methods in a variety of peatland sites. Full peatland restoration, including rewetting the peat, revegetating the land and revitalising local livelihoods, will take decades. In the short to medium term, how can peatland restoration be assessed?

With an estimated additional 7 million hectares of degraded peatlands awaiting restoration, the most efficient and effective restoration protocols need to be identified. In order to pursue successful and cost efficient approaches and adapt and refine less successful restoration techniques, restored peatlands need to be meaningfully monitored and assessed.

This project will trial two techniques: eddy covariance flux towers and Chameleon sensors, which directly measure the carbon and water dynamics of the soil-plant-atmosphere continuum. These techniques have the potential to empower Indonesian researchers, government officials and community members to monitor and assess the success of peatland restoration.

Overview

This project aimed to empower local communities and government agencies to monitor and evaluate the success of peatland restoration.

Peatland restoration has become a high priority in

Project outcomes

- An initial assessment of feasibility of using eddy covariance techniques to quantify evolution of water, CO₂ and CH₄ to the atmosphere from peatlands with the precision required to identify changes associated with peat rewetting.

- An initial assessment of feasibility of using Chameleon sensors to quantify changes in water content in peatlands with the precision required to identify changes associated with peat rewetting.
- A preliminary estimation water, CO₂ and CH₄ emissions from rewetted peatland, including estimation of the uncertainties of the estimates, and recommendations for improving accuracy/precision.
- Preliminary evaluation of feasibility of the methods for peatland condition monitoring and research.



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