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STEM - ENHANCING ACADEMIC CAPACITY AND AWARENESS OF THE CHALLENGES AND THREATS ON TROPICAL PEATLANDS

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SUMMARY

STEM is a 1.5 year long academic capacity building project between the University of Palangka Raya in Central Kalimantan Indonesia and the University of Helsinki Finland funded by the Ministry for Foreign Affairs of Finland. The main goals of the project are sharing knowledge in communications, internationalization, academic pedagogies, research methodology, global environmental policies, restoration and rehabilitation of degraded peat swamp ecosystems and carbon cycle. STEM complements the decade-long collaboration between CIMTROP and Finnish researchers concentrating on GHG-dynamics and restoration of tropical peatlands in Central Kalimantan.

**KEY WORDS:** tropical peatlands, capacity building, education, restoration, reforestation

INTRODUCTION

Tropical peatlands cover up to an estimated 37 million hectares in humid tropical areas, mainly in South East Asia, and it is estimated that tropical peat could form up to 15% of the global soil carbon (Page *et al.*, 2011). The main peat forming ecosystem in the tropics is peat swamp forest, where highly specialized rain forest vegetation grows on top of, and forms, peat massifs up to 20 m thick. During the latest 20 years, peat swamp forests have been subjects to large scale exploitation causing progressing degradation and recurring fires (Miettinen and Liew, 2011).

For the latest ten years scientists from the Department of Forest Sciences in the University of Helsinki have taken part into the international research activities by studying greenhouse gas (GHG) emissions and restoration strategies in degraded tropical peat areas (Tropical peatlands -blog). All the work has been done in cooperation with Indonesian scientists and students resulting in several joint publications and theses prepared by both Finnish and Indonesian students. To formalize the cooperation not only in research but also in education, a joint academic capacity building project was launched in May 2011 between the University of Palangka Raya (UNPAR) in Central Kalimantan Indonesia and the University of

Helsinki (UH) Finland. Collaborating institutions are the Master programme “Natural resources and environmental management” and Centre for International Co-Operation in Sustainable Management of Tropical Peatland (CIMTROP) from UNPAR and the Department of Forest Sciences from UH. The project is funded by the Ministry for Foreign Affairs of Finland under the HEI-ICI programme that is a Capacity Building Support Programme for Higher Education Institutions, and it is due to be completed by the beginning of the year 2013 (HEI-ICI, 2011, HEI cooperation programmes, 2012).

The main goal of the project is academic capacity building within UNPAR both in substance areas such as restoration ecology, global environmental policies and carbon cycle and in general academic performance such as university pedagogic, research methodology, communications, internationalization and scientific publishing. The aim is to engage the staff and students of UNPAR more tightly with the international scientific community to be able to take more active role both in science and in the development of the region.

## WORKING METHODS

Work includes organizing public seminars, sharing teaching and producing publicity materials on the topic at UNPAR campus in Palangka Raya. As the English skills of students and staff in UNPAR is limited, written materials are produced both in English and Indonesian. Practical restoration experimenting at peatlands near Palangka Raya and visits to study academic education methods in related topics in Finland form other parts of the cooperation. The effects of the project are monitored with external and internal evaluations throughout the project cycle. The STEM project is targeted mainly at UNPAR’s staff and students but it will benefit local society at various levels (Lampela, 2011).

## ACTIVITIES

An essential part of the project is establishing “village-forest-teaching-laboratories” to serve as experimental restoration and reforestation sites for UNPAR's teaching in courses, and to collect data for reports and for BSc and MSc theses. The site is in the degraded peatlands area of the so called Kalampangan zone 20 km from the city of Palangka Raya managed by CIMTROP. Seed collection and site preparations were started in autumn 2011, the nursery phase to produce seedlings for reforestation experimenting started in early 2012 and the planting phase will follow in late 2012. After the project ends in December 2012 the laboratories will remain as long-term educational sites for UNPAR.

Another long-term activity is the English club in the UNPAR Master programme that was established in October 2011 to enhance the language skills of both students and teachers. The idea is to get together once a week to discuss topics on nature and environment in English with support from Finnish colleagues.

Aside from long-term activities, the STEM project has organised a public seminar on “How REDD+ implementation in Central Kalimantan should benefit all the parties

involved?” in November 2011 with more than one hundred participants both from the university and local governmental organizations, NGOs, rural communities and private sector. Unfortunately, the number of participants was slightly less than expected due to the coincidence that United Nations Secretary-General Ban Ki-moon visited the same day Palangka Raya and CIMTROP's research areas in Kalamangan zone (UN News Centre). After a one day public seminar, experts from CIFOR and UH gave lectures to the Master programme students on climate policy issues (STEM-project blog).

The next planned activity is a workshop for UNPAR staff on “How to publish in international scientific journals?” in March 2012. The project partners have realized the need for improving the level of scientific writing and increasing the amount of scientific publications by UNPAR staff. During and after the course the participants will get guidance to edit their own materials and find suitable forums for publishing.

In May 2012 a field course on ecological research methodology for UNPAR students and staff will be organized. The “village-forest-teaching-laboratories” will be integrated into the teaching by learning ways to measure and analyze CO<sub>2</sub>-fluxes, radiation, temperature, moisture content, biomass, and by investigating different experimental designs. Later in August 2012 selected staff members and students of UNPAR will visit Finland. The Department of Forest Sciences will organize a 7-10 days tailored programme consisting of visits to forest industry sites, national parks, research institutes, restoration and research sites. Options for organising education on university pedagogic and a course on GIS and remote sensing are still being investigated.

The HEI-ICI funding instrument is still in its pilot phase and this first project cycle was shortened by 1.5 years from the preliminary plans made by the Ministry for Foreign Affairs. We wish the work started now could be continued also after the end of the year 2012 to better fulfill both the project specific targets and the overall development goals set by the Ministry.

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