

Leicester researcher to lead global team tackling carbon 'time-bomb'

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A leading environmental researcher at the University of Leicester is to head an international team to protect an area that stores up to 70 billion tonnes of carbon.

Dr Susan Page, of the Department of Geography, has been awarded 458,000 Euros funding from the European Commission for the international project involving partners from Indonesia, Malaysia, Vietnam, Holland, Finland and the UK.

The CARBOPEAT project will investigate the Carbon-Climate-Human Relationships of Tropical Peatlands.

Dr Page said: "These peatlands are carbon-dense ecosystems that are extremely vulnerable to destabilisation through human and climate induced changes.

"Located mainly in Southeast Asia, they store 50-70 billion tonnes of carbon (3% global soil carbon) but poor land management practices and fire, mainly associated with plantation development and logging, are releasing some of this carbon and contributing to greenhouse gas emissions.

"The CARBOPEAT project will identify key issues and critical gaps in our understanding of tropical peatland carbon dynamics, analyse implications for policy, and formulate guidelines for optimizing the tropical peat carbon store that can be understood readily by policy

makers and decision takers in both European and Southeast Asian countries.

"It is anticipated that the project will contribute to future UNFCCC (UN Framework Convention on Climate Change) discussions on reducing global carbon emissions. "

At a kick-off meeting of the project partners held in the University of Leicester, Dr Page said: "I have been involved in several research projects investigating the ecology of tropical peat swamps, but with the CARBOPEAT project we now have the opportunity to present our findings to a wider audience.

"Tropical peatlands are a globally significant source of carbon emissions to the atmosphere. Hopefully, through this project, we can promote urgent international action to enable Southeast Asian countries to conserve their peat resources better".

Prof. Harri Vasander from the University of Helsinki, Finland agreed: "Now is the time to utilise our research data to demonstrate how globally important tropical peatland really is, especially in terms of its impact on the global climate. Over the last ten years many people have only been aware of this ecosystem when choking haze from peatland fires has engulfed Southeast Asia. We want to bring the value of tropical peatlands to the forefront of policy makers' thinking, even after the peatland fires have died down."

His colleague, Dr Jyrki Jauhiainen, also from the University of Helsinki, added: "The CARBOPEAT project can make an important contribution by informing land managers on the best ways to prevent further carbon losses".

Colleagues from Malaysia, Indonesia and Vietnam will be organising

several major events at which the profile of tropical peatlands will be raised. Prof. Bostang Radjagukguk, a soil scientist from Universiti Gadjah Mada, in Yogyakarta, Indonesia, is preparing for the first project congress, which will be held at the end of August this year. "We have just received information that the congress may be attended by the Vice-President of Indonesia. This demonstrates the high level of commitment that the Government of Indonesia is paying to the environmental value of its natural resources, including peatlands."

In 2008, the CARBOPEAT project will be organising a second regional congress hosted by Universiti Malaysia Sarawak. Representing his university, Professor Wan Sulaiman said "We are engaged in a number of research and educational activities to raise the profile of our country's peatland resources. We look forward to hosting a major international event on the dynamics of the tropical peatland carbon-climate-human system at which we can investigate the opportunities for improved land management. Information disseminated through CARBOPEAT will not only provide valuable guidelines but also reinforce some of the initiatives undertaken by Southeast Asian countries like Malaysia and Indonesia in the rehabilitation and restoration of degraded peatlands. One exciting dimension is the commitment to increase stakeholder awareness on how wise use and restoration efforts contribute to increased carbon sequestration that in turn will have a positive effect on global climate. It also brings to the forefront information on current and future international conventions that can influence government policy directions on peatlands".

Dr Henk Wosten, from Wageningen University and Research Centre, said: "With CARBOPEAT we are in an excellent position to propel the necessary actions so that informed decisions on the management of tropical peatlands can be taken by policy makers".

Detailed studies carried out by Dr Page and others over more than 10

years have shown that tropical peat swamp forest has an abundance of plants and animals, including the endangered orang-utan, and that the peatlands perform a range of valuable services, such as water storage, flood prevention and carbon storage.

The forest contains a number of valuable timber-producing trees plus a range of other products of value to local communities, such as bark, resins and latex. Tropical peatlands are, however, being deforested and drained at a rapid rate. The problems that result from development of tropical peatland stem mainly from a lack of understanding of the complexities of this ecosystem and the fragility of the relationship between peat and forest. In its natural state tropical peatland is a vast, globally-important carbon sink which locks away the greenhouse gas CO₂. But once the carbon allocation to the system is discontinued by forest removal and the peat is drained, the surface peat oxidises and loses stored carbon rapidly to the atmosphere. This results in progressive subsidence of the peat surface, leading to flooding, and contributes to climate change.

The CARBOPEAT project will play a critical role in bringing this information to a wider audience by providing sufficient information and insight on tropical peat and peatland to enable stakeholders to understand this ecosystem and its derivatives better, to anticipate problems before they arise and to put principles of wise use into effect. It will bring together international peatland scientists, policy makers and decision takers from the EU and DCs and other stakeholders in Southeast Asia to analyse the problems and potential of peat carbon globally, with an emphasis on Southeast Asia where most tropical peatland is located and the biggest problems are occurring.

Professor Jack Rieley of the University of Nottingham, who has studied the ecology and natural resource functions of tropical peatlands, commented that: "Peat swamp forests in Southeast Asia are one of the

last wildernesses on this planet with a large reservoir of biodiversity and carbon, both of which are being destroyed needlessly without producing socio-economic benefits."

Source: University of Leicester

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