

Indonesian wildfires a 'fixable problem'

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Forest fire in Sebangau. Credit: Borneo Nature Foundation, Suzanne Turnock

Indonesian wildfires that cause widespread air pollution and vast carbon emissions are a "fixable problem", according to the leader of a project set up to help tackle the issue.

In dry years, Indonesia peatland fires burn for months—and smoke exposure from 2015 alone is expected to lead to up to 100,000 premature deaths.

The 2015 fires, described as the year's "worst environmental disaster" (Guardian, 2015), also emitted four-and-a-half times as much carbon as the UK economy in a whole year.

A combination of factors including deforestation and [climate change](#) play a role, and Project "KaLi" (Kalimantan Lestari—Sustainable Kalimantan) will investigate the causes and possible solutions.

This project is funded by UK Research and Innovation (UKRI) through the Global Challenges Research Fund.

"The recurring peat fires in Indonesia are a huge problem and some of the statistics on their implications are just mind-boggling," said project leader Professor Frank Van Veen, of the Centre for

Ecology and Conservation on Exeter's Penryn Campus in Cornwall.

"Ultimately though, this is a fixable problem and there is clearly a strong desire in Indonesia to get on top of this.

"This funding provides us with a fantastic opportunity to contribute to these efforts.

"It is really very exciting to be part of such an interdisciplinary team, conducting collaborative research that can make a real difference to people's lives and to the environment."

Indonesia's Central Kalimantan province on the island of Borneo is home to extensive peatlands, and is the epicentre of the country's wildfires.

Most fires in this region are started deliberately, primarily as part of agricultural practices, but the duration and severity of fires are strongly linked to El Niño-driven droughts, which may be exacerbated by ongoing deforestation.

"In their intact, naturally waterlogged, forested state, these peatlands rarely burn, therefore fires are concentrated in the extensive areas that have dried to some degree due to deforestation and drainage for agriculture and timber extraction," said Professor Susan Page of the School of Geography, Geology and the Environment at the University of Leicester.

"Here, smouldering fires burn down into the underlying peat, often continuing for months and generating immense clouds of toxic haze.

"This is the primary cause of the air pollution events that are now happening in South East Asia in most years."

Dr. Muhammad Ali Imron, Vice Dean for Research, Community Service and Cooperation of Forestry Faculty at Gadjah Mada University, said: "The drivers behind the peatland fires are a combination

of climatic processes, land use and ignition by humans.

"The resulting impacts are, therefore, to a large extent preventable—but effective action requires a more detailed understanding of future climate-associated risks, physical conditions and human systems and behaviour."

The project aims to develop this understanding and identify the groups and communities most at risk from wildfires.

The team will then identify priority actions and policies to support Indonesian-led initiatives to reduce the risk of future fires.

They will also identify "hurdles" that might prevent progress, with the goal of "better environmental and socio-economic circumstances for all".

Dr. Darmae Nasir, Director of the Center for International Cooperation in Sustainable Management of Tropical Peatland (CIMTROP), University of Palangka Raya, said: "The ultimate aim of this project is to build long-term resilience to the multiple hazards associated with drought and [fire](#) in Central Kalimantan's peatlands.

"Fully understanding the human costs can guide the appropriate action to take to minimise the impacts when a disaster does occur.

"Our proposed research on building resilience emphasises the need to do this in the context of sustainable development and building positive economic opportunities for people in Indonesia."

Project partners include Indonesian government agencies and departments, an NGO with significant experience of engaging rural communities in the region and equal partnerships between UK and Indonesian universities.

The Indonesian institutions involved are Badan Restorasi Gambut (Peatland Restoration Agency), Yayasan Borneo Nature Indonesia and the universities Gadjah Mada, Indonesia and Palangka Raya.

The UK institutions are the universities of Exeter, Leicester, Leeds and East Anglia, and the London School of Economics.

Provided by University of Exeter

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