



The Political Economy of Fire and Haze in Indonesia

The impacts of the toxic smoke from Indonesian peatland and forest fires have generated considerable concern from multiple sectors. The associated costs include global impacts on climate and ecosystem services; regional, national and local effects on health; and direct and indirect economic losses. With 43 million people exposed to hazardous air pollutants and 1.2 billion tons of CO₂ equivalent emitted into the atmosphere, the 2015 fires prompted President Joko Widodo to declare a national state of emergency and commit to fire prevention to avert a repeat performance. In January 2016, he inaugurated the Peatland Restoration Agency with the specific remit of restoring two million hectares of drained peatlands in the next five years.

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Project duration

Phase 1: 2015–2016

Phase 2: 2016–2017

Funding partner

UK government

Objective

To provide government, the private sector, civil society organizations and local communities in Indonesia with information, analysis and tools to identify and implement long-term solutions to fire and haze.



About the project

Fires related to land use and land-use change in Indonesia are extensive, and now include peatland conversion fires in contested landscapes. The recent and rapid conversion of peatlands involves novel and complex drivers, and these contemporary changes mean new research is required.

In 2015, the Center for International Forestry Research (CIFOR) embarked on a project entitled “The Political Economy of Fire and Haze” to produce policy-relevant data to fill knowledge gaps and inform solutions. The project applies a trans-disciplinary approach to understanding the fires, and targets hotspots of land-use change in peatlands associated with fires.

The research covers issues related to the on-the-ground economic, socio-institutional and political dimensions contributing to widespread fire events. The project applies remote sensing and spatial technology to assess fire extent, policy performance and fire management interventions. The research also identifies the perspectives and coalitions of multiple stakeholder groups on the costs, benefits and solutions to peatland fires.

Research methods

- Policy content analyses
- Social network analyses
- Geospatial analyses/mapping
- Stakeholder perception analyses
- Participatory observation
- Surveys
- Remote sensing analyses



What we know: Phase 1 results

The first phase of the project started in 2015, utilizing a range of scientific approaches and methods to understand a complex issue. Research focused on three major themes:

Broader drivers and the political economy

A diverse network of powerful actors including local elites, absentee investors and migrant groups, as well as a “culture of patronage”, are involved in the political economy of fire and haze. This context demands that policy measures are designed to reflect this situation. One example is to employ appropriate mixes of carrots and sticks depending on the target group, fire risk and landscape context.

Led by Herry Purnomo, h.purnomo@cgiar.org

Role of satellite-based technology

Overlapping land claims limit the role of technology in identifying drivers of fire and the actors involved, and assessing fire management policy performance. The widespread reliance on satellite data (e.g. hotspots) overlaid with spatial data (e.g. concessions) is insufficient given the mismatch between *de jure* and *de facto* land management and claims. One suggestion for improvement is to combine high-resolution satellite imagery with extensive field investigations of *de facto* land ownership, claims and disputes inside and outside concessions. Such activities could fall under Indonesia’s One Map Policy and its remit to identify and resolve overlapping land claims, and also feed into Indonesia’s centralized Land Registry.

Led by David Gaveau, d.gaveau@cgiar.org

Stakeholder perceptions: Solutions, benefits and burdens

The solutions for sustainable peatland management that are perceived as most effective also generate the most disagreement. These options include peat rewetting, revoking rogue company licenses and the increased use of canals to fight fires. Given the many actors involved, efforts at mediation and dialogue between them will be necessary to reach mutually agreed solutions. Regarding the burdens of fire, areas of consensus relate to impacts on health, environment and quality of life. Such uniformly prioritized burdens could provide part of a powerful language for communication designed to encourage behavioral change.

Led by Rachel Carmenta, r.carmenta@cgiar.org

Partners

- Climate Change Control Directorate-General, Ministry of Environment and Forestry
- University of Riau
- Riau provincial government
- Riau Forest Rescue Network (JIKALAHARI)
- King’s College London
- Lancaster University
- University of Cambridge





Looking ahead

The second phase of the project in 2016–2017 will focus on:

Activity	Goal
Assessing the political economy of fire practices in targeted landscapes in Riau	To assist key policy makers to understand the importance of fire prevention over firefighting
Exploring the effectiveness of fire management interventions through geospatial and policy analyses for improved institutional designs	To ensure multiple stakeholders have the evidence basis to adopt best practices in fire management initiatives
Using geospatial analyses to map incidences and spread of fires related to forest transition, deforestation and plantation development	To support local governments and planning agencies to understand the need for clear spatial planning for peat areas and identify areas for planting and restoration
Assessing peatland fire emissions of greenhouse gases along with various other gas and particulate matter	To inform multiple stakeholders on the impacts of peatland fires on the climate and human health

Communications and engagement

CIFOR supports policy-relevant research for impact. “The Political Economy of Fire and Haze” has been, and will continue to feed into workshops, seminars and dialogues between key stakeholders in the knowledge-policy-action arena relevant to peatland management. Blogs, videos, infographics, social media and engagement with traditional media will further support the uptake of research findings into outcomes and impact.

Photo by Aulia Erlangga/CIFOR, Aris Sanjaya/CIFOR, Yayan Indriatmoko/CIFOR



RESEARCH PROGRAM ON
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Agroforestry

This research was carried out by CIFOR as part of the CGIAR Research Program on Forests, Trees and Agroforestry (CRP-FTA). This collaborative program aims to enhance the management and use of forests, agroforestry and tree genetic resources across the landscape from forests to farms. CIFOR leads CRP-FTA in partnership with Bioversity International, CATIE, CIRAD, the International Center for Tropical Agriculture and the World Agroforestry Centre.



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