

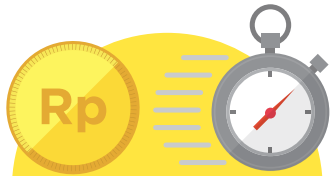
INDONESIAN FOREST FIRES: FROM CAUSE TO EFFECT

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Why Forest Fires Occur



Cheap and Fast Method for Clearing Land

Various actors (companies, small scale farmers) use fire to clear land for development and agriculture.



Instrument in Land Tenure and Land Use Disputes

Fires are often used to stake claims in land disputes between large scale companies and small scale farmers.



Accidental Fires

Drained peatlands are highly flammable during the dry season. Small-scale clearing and camp fires easily burn out of control.

Unlike boreal areas where lightning causes forest fires, most of fires in Indonesia are man-made.

Effects of Forest Fires



Climate Change

55% or 470 Mt

Indonesia's peatland annual CO2 emission due to peat fires.

Indonesia National Council on Climate Change, 2005

810-2,570 MT

Carbon released in Indonesia in the 1997 forest fires.

(Page, Susan E. et al., (2002) The amount of carbon released from peat and forest fires in Indonesia during 1997)



Health

In 1997, an estimated **20 million people** in Indonesia suffered respiratory problems due to forest fires.

Harrison, Mark E., (2009). The global impact of Indonesian forest fires.

Almost **50,000 people** in Riau suffered from respiratory illness during the March 2014 forest fires.



Economic

Forest fires meant a USD 4.5 billion loss to the Indonesian economy in 2013.

Indonesia lost IDR 15 trillion (USD 1.3 billion) in investments and growth during the March 2014 forest fires.

During the fires of 2013, Singapore claimed to suffer a loss of \$1 billion a week.

Severe haze and smoke from forest fires mean airports, businesses and school must close.



Biodiversity

Loss of habitat for Sumatran tigers, orangutan, and gibbons.





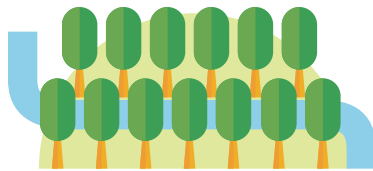
Other Unique Features



Priority Recommendations for Fire Prevention



FOCUS IN RIAU PROVINCE



FOCUS ON PEATLAND AREAS



FOCUS ON ILLEGAL BURNING & PROVIDE LAND-CLEARING ALTERNATIVES FOR SMALL FARMERS

- Between Jan 2013 – July 2014, **73%** out of 45,000 fire alerts in Sumatra occurred in Riau.
- Riau contributes **27%** or **284.67 Mt** in annual CO2 emissions.

BPRED, Indicative Historical National Reference Emission Level

- Between March 2013 – March 2014, **75%** of fire alerts in Sumatra overlapped with peatland. WRI (2014)
- Peat fires release **greater amounts of GHG** than fires in non-peat areas and are **much harder to put out.**

- Focus on controlling and regulating fires used to clear land.
- Address land claims and disputes between communities and companies
- Ramp up enforcement efforts targeting actors illegally setting fires.
- Provide small farmers with mechanical land clearing equipment.