

RSIS Commentary is a platform to provide timely and, where appropriate, policy-relevant commentary and analysis of topical and contemporary issues. The authors' views are their own and do not represent the official position of the S. Rajaratnam School of International Studies, NTU. These commentaries may be reproduced with prior permission from RSIS and due recognition to the author(s) and RSIS. Please email to Mr Yang Razali Kassim, Editor RSIS Commentary at RSISPublications@ntu.edu.sg.

Yet Another Haze Crisis: How Now?

By Khor Yu Leng and Johan Saravanamuttu

SYNOPSIS

Three main factors cause the Southeast Asian transboundary haze; weather, peatland management and people. The acrid smog may have cleared for now but unless the underlying issues are addressed the recurring haze will have grave implications for health and climate change.

COMMENTARY

AFTER THREE years of respite, transboundary air pollution from out-of-control fires returned with a vengeance in September 2019. The smog engulfed vast territories of Indonesia, Singapore, Malaysia and Southern Thailand, wreaking havoc to the lives of ordinary citizens. The acrid smoke may have cleared for now, but we should not lose sight of the underlying issues.

Will the consequences of the 2019 haze exceed that of the 2015 episode when a total of 2.6 million hectares of land was affected, costing Indonesia 221 trillion rupiah (SGD21.5 billion) in economic losses? Why has the haze recurred this year despite efforts by both big plantation companies and the Indonesian government?

Why the Latest Haze Crisis

This decades-long deadly cycle of air pollution has been caused by fires largely on peat lands and mostly relating to agricultural land conversion. It caught global attention in 1997 and 1998. Then, some eight million hectares of forest were razed by slash-and-burn land clearing leading ASEAN to sign the 2002 Transboundary Haze Pollution Agreement, which Indonesia ratified only in 2014.

The second major spike of the haze came in the months of September to November 2015. The longest, peat-driven haze-smog pollution when some 43 million Indonesians were exposed continuously to toxic smog in Kalimantan and Sumatra, while Singapore and Malaysia, suffered unhealthy to hazardous levels of haze-smog.

In the current episode, the third week of September 2019 witnessed life-threatening smoke covering western and central regions of Indonesia and most of Malaysia and Singapore. Even reaching parts of Southern Thailand, the haze-smog has affected the tourist island of Phuket.

Three main factors – weather, peat and people – explain the current crisis. We also argue that the Southeast Asian transboundary haze not only hurts the region but is also intimately linked to global climate change, which threatens mankind's current way of life on this planet.

Weather

Reports in 2015 said the severe fires and haze in 1997/98 and 2015 were exacerbated by an intense El Niño event that brought prolonged dry conditions. The spike in 2015 saw over 100,000 fires burning some two million hectares of land.

El Niño and rainfall conditions in 2019 are considered to be relatively mild. Plantation experts say the Indian Ocean Dipole's drying effect was perhaps overlooked by many this year. This has caused a two- to three- month dry spell, priming the dried out peatlands and degraded forests for fire risk.

Fact Box

The climate drivers for unusual dry spells are the strong El Niño Southern Oscillation (ENSO) and the positive Indian Ocean Dipole (IOD). The regular shift (every few years) of ocean currents change rainfall patterns. ENSO causes drier than normal conditions in Southeast Asia while it delivers wetter conditions way across the Pacific. The IOD does the same for this region and across the Indian Ocean it wets Eastern Africa. And vice versa for La Nina and a negative IOD.

Peat

First, let's note that degraded peatland poses fire risk due to the loss of wet conditions (peat is usually resistant to fires). Peat that has been burned will usually burn even more the next time. According to Global Forest Watch (GFW), Indonesia had 43% of hotspot alerts on peat in 2019, 40% in 2015, and, in Sumatra, 75% in 2013.

Indonesia's Badan Restorasi Gambut (BRG) or Peat Restoration Agency reported that 679,000 ha of peatlands were restored in priority areas. Companies have also launched forest conservation and peat restoration programmes under the direction of the Indonesian government.

While BRG data for 2016, 2017 and 2018 shows peatland restoration is effective in countering the occurrence of fires, it is still possible for rewetted areas to dry out if there is a prolonged period of low rainfall, e.g. four weeks.

Expert observers have asked why the haze-smog seems so bad in 2019. Riau and West Kalimantan appear to have some degree of hotspots all year round, meaning there is always some degree of fire risk, but fires in Jambi and South Sumatra appear closely linked to the severity of the dry season and climatic drivers.

People

Fire prevention and management initiatives are crucial, though they must be adapted to local contexts. Reports on Indonesia show 12% of fires were occurring on pulp concessions and 10% on oil palm concessions, and 77% in non-concession areas, between 1 June to 21 September 2019.

Hotspot attribution for Indonesian business concessions ranges 10-15% according to GFW data for 1 Jun to 21 Sep 2019. As of 10 September 2019, The Roundtable on Sustainable Palm Oil (RSPO, representing about 20% of global palm oil supply area) said it detected 244 hotspots within its members concessions', compared to a count of 48,422 across Malaysia and Indonesia.

Industry executives point to small farmers (especially of cash crops in this burn season, as palm oil prices have been disappointing) as the main culprit both within and outside concessions. Yet again.

Solutions

The solutions to addressing and eventually eliminating Southeast Asia's haze-smog have to be predicated on the triple factors of weather watching, mitigation measures including peatland management, and engaging people to respond to the problem, notably to eschew the use of fires in these tinder-box landscapes. Social awareness of the deleterious consequences of the haze is also an important part of the solutions.

On the industry side, July 2015 marked the launch of APRIL Group's Fire Free Village Programme as a fire prevention project to educate and raise awareness about the negative impacts of land burning among local communities in Riau, Indonesia.

In March 2016, the Fire Free Alliance (FFA) was formed by companies and NGOs, bringing together APRIL, Asian Agri, Musim Mas and Wilmar, with IDH Indonesia, PMHaze, and Rumah Pohon as NGOs, and with Sime Darby and IOI Group joining in March 2017.

But talking to those on the ground, there is a keen sense that small farmers in haze-burn areas need better incomes and alternatives to slash-and-burn, a method that is still legal. At the same time we need to know more about how well water levels (to keep peat suitably wet) have been managed by agencies and corporations who dominate the landscapes.

It is timely that fire hotspots in Indonesia and indeed across the world become a focus and are not forgotten as those away from the fires breathe easier again. The key provinces are listed below.

Indonesian provinces worst affected by hotspot and burned areas:

Provinces ranked by hotspot count in 2019:	Provinces ranked by hectares burned in 2015:
<ul style="list-style-type: none"> ● Central Kalimantan ● West Kalimantan ● Jambi ● Riau ● South Sumatra ● East Kalimantan ● South Kalimantan ● East Nusa Tenggara Kalimantan 	<ul style="list-style-type: none"> ● South Sumatra ● Central Kalimantan ● East Kalimantan ● South Kalimantan ● Papua ● West Kalimantan ● Riau ● Jambi

Note: June to mid September 2019 hotspots from Global Forest Watch and 2015 burned areas from “The Cost of Fire – An Economic Analysis of Indonesia’s 2015 Fire Crisis” by the World Bank, February 2016.

A political solution is especially important where fires occur on peatlands for its devastating acrid smog impact on local people.

Implications for Climate Change

The transboundary haze crisis has major human and environmental costs; it will go down in history as one of the worst environmental disasters in Southeast Asia.

But the troubles are global too. Data compiled by the World Meteorological Organisation (WMO), states the five-year period from 2014 to 2019 is the warmest on record. Sea-level rise has accelerated significantly over the same period, as CO2 emissions have hit new highs.

The Southeast Asian haze is the outcome of man's actions in altering the natural conditions and not managing its consequences. The solutions to this problem are well within our own grasp but only if we have the political will to implement them.

Khor Yu Leng is an independent economist at Segi Enam Advisors and a specialist on sustainability. Johan Saravanamuttu is Professor Emeritus (USM) and Adjunct Senior Fellow at the S. Rajaratnam School of International Studies (RSIS), Nanyang Technological University (NTU), Singapore. The authors were assisted by Nadirah Sharif and Rachel Loh of Khor Reports. They contributed this to RSIS Commentary.
