**Research Analysts paper**

**Southeast Asian Haze - The Current Picture**

**KEY POINTS**

* Southeast Asia’s haze is back but will not be as bad as in 2015, mainly because of the prevailing La Nina weather conditions. A new study suggests that the 2015 haze episode may have caused 100,000 premature deaths.
* Indonesian President Jokowi promised action but many of the underlying challenges remain; weak regional compliance mechanisms, poor coordination and, despite a ban, the continuing use of fire to clear land in Sumatra and Kalimantan.
* Large paper and oil-palm companies bear some responsibility; they have drained large areas of peatlands which are then susceptible to fire. But the picture is complex with small-scale cultivators and landless migrants using fire to clear land to establish ownership, often protected by local elites.
* The long-term outlook is for this to continue to be an annual problem causing economic loss and serious health and environmental consequences, exacerbated in years when drier El Nino weather dominates.

DETAIL

1. August to October has come to be known as haze season in maritime Southeast Asia; where dry season forest and peatland fires in Sumatra and Kalimantan (the Indonesian part of Borneo) result in smoke and pollutants (commonly known as ‘haze’ or ‘toxic smoke’) drifting north and east over Singapore and Malaysia, as well as parts of Indonesia. The 2015 haze episode was devastating; exacerbated by the El Nino climate phenomenon which reduced rainfall and delayed the onset of the rainy season in Southeast Asia.
2. Tensions rose between the countries most affected as Singapore and Malaysia demanded action from Indonesia. In 2015 Indonesian President Joko Widodo committed to fixing the problem in three years – this paper examines the current situation, underlying issues and some of the factors which make it so hard to tackle.

**What is the haze?**

1. Land-clearing by small-scale cultivators and opportunists, as well as big commercial operators, is usually blamed for starting the fires.[[1]](#footnote-2) Large-scale logging accelerated through the 1980s, and was then superseded by oil-palm production in central and southern Sumatra and parts of Kalimantan, but low palm oil prices and zero deforestation commitments mean that rubber and other commodities are currently more profitable.
2. Fires are set to clear the land in the dry season and they often burn out of control, igniting underground peat, which can then burn for months at a time.[[2]](#footnote-3) Fires are also sometimes set to sabotage company operations that local people blame for evicting them from their land.
3. The haze causes a significant deterioration in air quality, putting airports out of action, closing schools and causing respiratory problems (500,000 were affected in Indonesia in 2015) and deaths. A new study suggests the 2015 haze episode may have caused 100,000 premature deaths.[[3]](#footnote-4) The World Bank estimated damages due to the 2015 haze episode at over US $16 billion for Indonesia. 1997 and 2013 were also particularly bad years.
4. Pollutant index readings above 100 (of PM10)[[4]](#footnote-5) are judged to be unhealthy and scores of well over 2,000 were reached in some places in Indonesia in 2015. The haze often contains toxic levels of cyanide, ammonia and carbon monoxide. Alongside the human health implications the fires released massive amounts of carbon into the atmosphere. WRI[[5]](#footnote-6) judged that Indonesia’s daily carbon emissions in October 2015 exceeded those of the US.

**Responses to the 2015 haze**

1. Indonesia has long been committed to taking steps to control the fires. In 2015 President Widodo (Jokowi) declared a state of emergency, called in the army and promised to take action against large corporations held to be responsible. A new Peatland Restoration Agency (BRG) was created to restore over two million hectares of peatlands within five years. In April 2016 Jokowi announced plans for a national moratorium on new palm oil and mining concessions in conservation areas, although this has not yet been enacted and it is not clear if it will apply to old licences or new ones. The Aceh Governor and Minister of the Environment and Forestry have jointly declared a moratorium on new oil-palm and mining concessions in a protected area in north Sumatra.
2. Activists pointed to the fact that many of the large corporations implicated, or their parent companies, were headquartered in Singapore or Malaysia and pressed those countries to take action. Some Singaporean companies began to boycott products thought to be contributing to the haze, eg toilet paper and tissues sourced from the large Asia Pulp and Paper (APP) Group. In 2014 Singapore passed the Transboundary Haze Pollution Act that allows it to prosecute local and foreign individuals and companies involved in illegal forest burning that affects Singapore. In 2016 Singapore began legal action against several firms but in June 2016 Indonesian Vice-President Kalla said Indonesia would not allow its citizens to be prosecuted under Singaporean laws and protested about a court warrant issued for a Director of an Indonesian firm when he was in Singapore.
3. Indonesia also launched investigations into Indonesian companies, many of which were dropped although they may yet be revived. The Indonesian Parliament has said it will examine why so many cases in Riau province were shelved and Jokowi has also raised concerns. In another important decision in mid August 2016 an Indonesian High Court overturned a lower court’s decision to clear a pulpwood company of charges related to illegal forest fires and imposed a fine of US $5.9 million, which was seen by many as a small but important step towards ensuring accountability.

**Underlying Problems**

1. Large areas of Indonesia are unaffected by the annual haze problems and the countries most seriously impacted do not have a strong track record of cross-border cooperation. Concerns over national sovereignty can undermine efforts to tackle the fires and their causes.
2. Setting fires is a cost effective way of acquiring land, clearing woodland for those without access to heavy machinery and preparing land for agriculture. The prevailing economic model in Indonesia is predicated on draining the typically swampy peatlands in order to allow crop growth. Alongside raising the risk of fires the drainage may have serious long-term implications including land subsidence leading to coastal flooding.
3. Decentralised decision-making in relation to agricultural concessions sometimes leads to multiple licensing of state controlled land. Research by CIFOR[[6]](#footnote-7) suggests that local political elites were able to capture most of the benefits of the illegal land market and oil palm production. In addition there was a correlation between years of higher fire (hotspots) incidents and local elections, indicating that land was being used for political leverage. Peatlands are attractive as they are generally uninhabited and relatively free of overlapping claims. A recent IPAC report on oil palm conflict in Kalimantan comprehensively illustrates some of the underlying governance and land-use management challenges.[[7]](#footnote-8)
4. Inter-agency coordination and fire-fighting capacity are improving but from a very low base, particularly in rural inaccessible areas. Once lit the fires are very difficult to extinguish, particularly when drained peatlands are affected, as underground peat, which may be many metres thick, can smoulder and re-ignite for months on end. The only sure way to put the fires out is to block the drainage canals and flood the peatland again, but this requires long-term commitments and a landscape approach to managing peat domes.[[8]](#footnote-9) Some companies, such as APP, are taking steps to flood concessions which have been deemed critical for carbon storage but many more will need to follow their lead and work together to reverse the current situation.

**Transboundary effectiveness of ASEAN**

1. In 2002 all 10 ASEAN countries signed the ASEAN Agreement on Transboundary Haze Pollution that aims to prevent and mitigate the problem. Observers maintain that there have been few results to show for it and note that Indonesia, a key party, took 12 years to ratify the agreement. As is characteristic of ASEAN’s way of working the agreement is premised on ‘amicable consultation and negotiation’ to address the problems and it has no effective compliance or dispute settlement mechanism.
2. A roadmap to a ‘haze-free ASEAN by 2020’ was agreed at a meeting in August 2016 but has not been published. The haze agreement focuses on sharing technical data and evidence collection related to illegal activities but it is unclear whether the political commitment to securing prosecutions, particularly in other jurisdictions, really exists.

**Prospects for 2016**

1. Forecasters are predicting a La Nina weather phenomenon through the rest of 2016 which should ensure higher than average rainfall, which will go a long way to reducing the severity of the fires. Although haze pollution levels rose in Singapore in late August (due to fires in Sumatra) the worst of the haze has gone north into the South China Sea and pollution levels have since fallen again. Indonesia was much quicker to declare a state of emergency in 2016 and seems better prepared to fight the fires this year but prevention is key to a long-term solution, along with resolving land disputes, clarifying tenure and improved land governance
2. The Indonesian police claim to have made double the arrests for setting fires in 2016 than were made in 2015 and raising the cost of illegal activities through better law enforcement is important but Indonesia and its regional partners still have some way to go to forge a comprehensive and lasting solution.

1. In 2013 [CIFOR](http://www.cifor.org/) estimated that almost 80% of fires stemmed from land owned or leased by small-holders. [↑](#footnote-ref-2)
2. fires.globalforestwatch.org [↑](#footnote-ref-3)
3. https://www.seas.harvard.edu/news/2016/09/smoke-from-2015-indonesian-fires-may-have-caused-100000-premature-deaths [↑](#footnote-ref-4)
4. PM10 measures particles less than 10 microns in diameter per m3 which can enter the respiratory system. [↑](#footnote-ref-5)
5. http://www.wri.org/ [↑](#footnote-ref-6)
6. Purnomo, H., Shantiko, B., Gunawan, H.2015 Political Economy study of fire and haze. CIFOR [↑](#footnote-ref-7)
7. http://file.understandingconflict.org/file/2016/08/IPAC\_Report\_31\_Oil\_Palm.pdf [↑](#footnote-ref-8)
8. Peat domes are especially deep peatlands [↑](#footnote-ref-9)