

RESEARCHERS AT SINGAPORE'S *INSTITUTE OF SOUTHEAST ASIAN STUDIES* SHARE THEIR UNDERSTANDING OF CURRENT EVENTS

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### **No end in sight to haze dilemma**

*By Lee Poh Onn*

#### EXECUTIVE SUMMARY

- The recent haze episode in June 2013 is the worst in Singapore's recorded history.
  - After sixteen years, the haze now appears irresolvable and is recurring almost on an annual basis.
  - At 1 pm on 20 June 2013, the PSI index hit an all-time high 371 in Singapore.
  - The Indonesian authorities have attempted to shift part of the blame to Singapore and Malaysian palm oil companies operating in Riau.
  - The primary responsibility of enforcing laws however rests with Indonesia, since the violation of legislation by palm oil companies is happening on Indonesian soil.
  - Indonesia needs to ratify the ASEAN Agreement on Transboundary Haze Pollution as soon as possible.
  - Indonesia will also need to restructure its current forest management practices to create a centralised body that has the power and resources to manage palm oil plantations and the issue of open burning.
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## THE HAZE TURNS HAZARDOUS

The blanket of thick haze that has covered most parts of Singapore in June 2013 came with a vengeance that was quite unexpected. The Straits Times in Singapore reported on 18 June 2013 that this was the worst haze in sixteen years.

Back then, the pollutant standards index (PSI) hit 226. But at 10 pm on 19 June 2013, the situation got much worse, and the PSI reached as high as 321, making it the worst recorded haze in Singapore's history.<sup>1</sup> According to PSI grades, the situation is hazardous when it passes 300.<sup>2</sup>

Things got worse the next day at 1 pm, and the PSI increased to a stunning 371.<sup>3</sup>

That such a high level of pollution can be recorded in a neighbouring country not engaged in burning activity, and separated from the source by the sea (the Singapore and Malacca Straits) acutely demonstrates the severity of the problem. It also emphasizes how much more attention needs to be paid by the Indonesian government to tackle this problem.

After sixteen years, it has now come to the point where the haze issue is beginning to seem irresolvable, recurring almost on an annual basis between June to September.

Singapore is not the only neighbouring country affected. The state of Johor in neighboring Malaysia, also suffered the haze, which was also reported in Port Klang, located about 50 kilometres from Kuala Lumpur.

There were as many as 138 hot spots detected over Sumatra alone on 16 June 2013. On 18 and 19 June 2013, these had respectively increased to 187 and 173.<sup>4</sup> Indonesian officials have identified the haze to come from huge tracts of peat lands around the coastal city of Dumai, the second largest city in Riau Province, which is located on the coast of the Straits of Malacca, facing Singapore.

At 10 am on 19 June 2013, the PSI in the Dumai area had hit an incredible 400.<sup>5</sup> Health concerns throughout the affected areas are at accordingly high levels.

So far, criticisms have been levied by the Malaysian and Singapore authorities on the Indonesian government for not enforcing regulations on the ground.

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1 "Haze in Singapore Hits New High, PSI at 321 at 10pm", *The Straits Times Online*, 19 June 2013, <http://www.straitstimes.com/breaking-news/singapore/story/haze-singapore-hits-new-high-psi-321-10pm-20130619>. Retrieved on 19 June 2013.

2 "Haze in Singapore Hits New High, PSI at 321 at 10pm", *The Straits Times Online*, 19 June 2013, <http://www.straitstimes.com/breaking-news/singapore/story/haze-singapore-hits-new-high-psi-321-10pm-20130619>. Retrieved on 19 June 2013.

3 "PSI Hits All New Time High on Thursday", *Channel NewsAsia*, 20 June 2013, <http://www.channelnewsasia.com/news/singapore/haze-reaches-hazardous/717772.html>. Retrieved on 20 June 2013.

4 "Haze Level Hits All-Time High", *Today Online*, 20 June 2013, <http://www.todayonline.com/singapore/haze-level-hits-all-time-high>. Retrieved on 20 June 2013.

5 "ST Team in Dumai Brings You Latest Updates on the Haze", *The Straits Times Online*, 19 June 2013, <http://www.straitstimes.com/breaking-news/se-asia/story/st-team-dumai-brings-you-latest-updates-the-haze-20130619>. Retrieved on 19 June 2013.

On Monday, June 17 2013, the secretary general at Indonesia's forestry ministry, Mr Hadi Daryanto, attempted to shift part of the blame to Singapore and Malaysian palm oil companies operating in Riau.<sup>6</sup> Separately, Indonesia's Environment Minister Balthasar Kambuaya was reported to have said that he suspected the burning in Riau to have been carried out by irresponsible companies from Singapore and Malaysia. He also mentioned that these companies would be investigated.<sup>7</sup>

Singapore plantation companies (First Agri and Golden Agri Resources) stated in response that they had clear policies against the burning to clear land.<sup>8</sup> Wilmar, another Singapore company, also replied that the company is committed to a no-burn practice.<sup>9</sup> Singapore has in turn said that Indonesian officials have to enforce their own laws and name the errant companies involved in illegal burning, regardless of ownership. The primary responsibility of enforcing laws rested with Indonesia, since the violation of law by palm oil companies is taking place within Indonesia's jurisdiction.<sup>10</sup>

Indonesian and Singapore Foreign Ministers have agreed that both countries will continue to work together on solving the problem. The Indonesian Government offered reassurance that they would address the problem. Singapore, in turn, reaffirmed its commitment to help Indonesia fight its forest fires, and also reiterated its readiness to continue collaborating with Indonesia at the provincial level to mitigate the haze problem. This took place when President Susilo Bambang Yudhoyono and Prime Minister Lee Hsien Loong met at the Leaders' Retreat held in April 2013.<sup>11</sup> The Malaysian government also repeated its commitment to help the Indonesians fight the forest fires. Singapore's National Environment Agency (NEA) chief executive Mr Andrew Tan, led a delegation to Indonesia on Thursday (20 June 2013) to an emergency haze meeting convened by the Indonesian Foreign Ministry.

Since the sovereignty of nations is involved, the problem is harder to handle than one might assume. Some clear questions have nevertheless to be asked at this point, and practical answers sought. For example, what are the most pressing challenges

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6 See "Singapore Hit by Highest Haze Levels in 16 Years", *BBC News Asia*, 18 June 2013, <http://www.bbc.co.uk/news/world-asia-22935068>. Retrieved on 19 June 2013 and "Haze Update: Vivian Urge Indonesia to Name Companies Responsible for Forest Fires", *The Straits Times Online*, 18 June 2013, <http://www.straitstimes.com/breaking-news/singapore/story/haze-update-vivian-urge-indonesia-name-companies-responsible-forest-fi>. Retrieved on 19 June 2013.

7 "Spore, Indonesia Officials to Meet", *The Straits Times Online*, 20 June 2013, <http://www.straitstimes.com/the-big-story/asia-report/politicsdiplomacy/story/spore-indonesia-officials-meet-20130620>. Retrieved on 20 June 2013.

8 *Ibid.*

9 "Emergency Conditions' in Riau as PSI Hits 341", *The Straits Times Online*, 19 June 2013, <http://www.straitstimes.com/the-big-story/the-haze-singapore/story/emergency-conditions-riau-psi-hit-341-tuesday-20130619>. Retrieved on 19 June 2013 and "Haze Update: Palm Oil Companies in Singapore Deny Using Fire to Clear Land", *The Straits Times Online*, 20 June 2013, <http://www.straitstimes.com/st/print/1217964#>.

10 "S'pore Urges Indonesia to Name Firms Responsible for Causing Haze", *Channel NewsAsia*, 18 June 2013, <http://www.channelnewsasia.com/news/singapore/s-pore-urges-indonesia-to/714724.html>. Retrieved on 19 June 2013.

11 *Ibid.*

posed by the haze? What has been the role of ASEAN in this area? What are the current institutional and governance structures in place to handle the problem? And what are the most promising approaches and options that can enhance environmental governance of open burning?

Southeast Asian countries have largely elected to address transboundary haze pollution through collaboration within the Association of Southeast Asian Nations (ASEAN). The results have not been impressive. As Varkkey points out, this collaboration has achieved "limited success" as states have acted to protect their national rather than collective regional interests.<sup>12</sup>

The haze issue gained prominence back in 1997. The overall economic costs of the 1997-1998 fires were estimated by Indonesia's National Development Planning Agency, the Badan Perencanaan Pembangunan Nasional (BAPPENAS) to have been around US\$ 9.3 billion.<sup>13</sup>

Another study by EEPSEA-WWF, published in 1999 by the Institute of Southeast Asian Studies (ISEAS) and the International Development Research Centre (IDRC), put the costs of forest fires for 1997 alone at around US\$ 4.5 billion. Indonesia was particularly affected, shouldering about 85 percent of the impact, with Singapore and Malaysia bearing the remaining burden. In terms of short-term health, the cost to the region was in the vicinity of US\$ 940 million, and losses in terms of tourism were at US\$ 256 million in terms of tourism. Huge as these estimates were, they were nevertheless considered conservative, or at least at the lower-bound limits.<sup>14</sup>

By October 1997, around 200,000 people had sought medical treatment in Indonesia, Malaysia, and Singapore for exposure to high levels of pollution.<sup>15</sup> Then-Minister Sarwono of Indonesia estimated that plantation companies and the government's transmigration programme were responsible for more than 90 percent of the forest fires.<sup>16</sup> Currently, anecdotal evidence indicates that about 1 in 10 patients at the Emergency Department at the National University Hospital, Singapore, had been seeking asthma treatment in the last few days. This compares to 1 in 15 which is the usual rate. At the Changi General Hospital, its respiratory medicine specialists noted an increase in symptoms among patients with chronic respiratory conditions.<sup>17</sup> The situation is expected to get worse before it gets any better.

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12 Helena Muhamad Varkkey, "The ASEAN Way and Haze Mitigation Efforts", *Journal of International Studies* 8, (2012), p. 77.

13 Cited in C.V. Barber and J. Schweithelm, *Trial by Fire: Forest Fires and Forestry Policy in Indonesia's Era of Crisis and Reform*. United States: World Resources Institute, 2000, p.15.

14 See James Schweithelm, Timothy Jessup and David Glover, "Conclusions and Policy Recommendations" in David Glover and Timothy Jessup (eds), *Indonesia's Fire and Haze: The Cost of a Catastrophe*. Singapore: Institute of Southeast Asian Studies, 1999.

15 Peter Dauvergne, "The Political Economy of Indonesia's 1997 Forest Fires", *Australian Journal of International Affairs* 52, No. 1 (1998), p. 13.

16 *Ibid.*, p. 14.

17 "Haze Level Hits All-Time High", *Today Online*, 20 June 2013, *op. cit.*

Physically, the fires in 1997-1998 destroyed over 10 million hectares of forested land, which is equivalent to about 143 times the land area of Singapore. In 2006, the haze was estimated to have cost the Singapore economy US\$ 50 million in the month of October 2006 alone.

The haze possesses what economists would term characteristics of non-excludability and non-rivalry. This means that its impact is difficult to contain, with the effects spreading across individuals and areas. The haze is obviously a transboundary phenomenon, crossing the seas to other ASEAN countries. Because of this, there are risks for increasing inter-country tensions and even conflicts.

## THE ASEAN WAY

In December 1997, a Regional Haze Action Plan (RHAP) was produced by ASEAN governments, with the ambitious aim of preventing forest fires through better management policies (national preventative measures and laws), enforcement, effective monitoring and reporting capabilities, and a strengthening of regional and local forest fighting capabilities. Malaysia was entrusted with the role of coordinating preventative measures (providing fire fighting equipment and fire fighters), Singapore with coordinating regional monitoring mechanisms, and Indonesia with enhancing fire-fighting capabilities.

Building on the RHAP, the ASEAN Agreement on Transboundary Haze Pollution (a formal and legally binding document) was opened for signature on 10 June 2002. It has a caveat. It can come into effect only when six out of the ten ASEAN countries have ratified the Agreement. This was achieved in late 2003, when Brunei Darussalam, Malaysia, Myanmar, Singapore, Thailand, and Vietnam put their signature to the document.

With the haze raging at its worst this year, the question must be asked whether ASEAN, despite its best attempts, has proven itself to be an ineffective “vehicle” for resolving this problem. It does seem that the RHAP and the subsequent ASEAN Agreement on Transboundary Haze Pollution has been less than effective. After all, the issue of the haze has been around for over a decade, and as yet, no resolution is in sight.

Is this a clear failure of regional cooperation?

Not entirely. To be sure, all ASEAN member countries except Indonesia have ratified the ASEAN Agreement on Transboundary Haze Pollution. This indicates rather solid ASEAN solidarity.

But this seems a case of a miss being as good as a mile. Ten years since the Agreement came into force in June 2003, the spot on the document reserved for

Indonesia remains empty. ASEAN environment ministers stated in May 2012 that Indonesia had begun the process of ratification. In light of that, the Indonesian government cannot afford to drag its feet on this matter any longer. Not only does this put ASEAN in a very bad light, it will also damage Indonesia's standing in the international community.

But even if Indonesia finally does ratify the treaty, ASEAN may still not be completely effective in resolving this issue. According to Alan Khee-Jin Tan:

... the ASEAN states' distaste for what they perceive to be "confrontational" methods of dispute resolution and their prevailing instinct to uphold the principle of non-interference in member states' internal affairs have led to an Agreement containing the best of intentions, but severely lacking in effective sanctions and enforceability. This absence is particularly worrying given that the Agreement is probably one of the few multilateral treaties in existence that relies, almost exclusively, on *one* state party for meaningful compliance and effectiveness. That this state—Indonesia—is so crippled with political, administrative, financial and technical incapacities tends to deprive the Agreement of its usefulness in dealing with the fires and haze pollution problem.<sup>18</sup>

However, the ASEAN Way has certainly evolved over time. In the last decade, ASEAN governments have been more direct with one another, to the point of appearing to be "confrontational". In this haze episode, both the Malaysian and Singapore Ministers have communicated their concerns to the Indonesian Foreign Minister and also to the Indonesian Minister of the Environment. Both the Singapore and Malaysian authorities have also expressed their view that the enforcement of regulations needs to be carried out by the Indonesian authorities.<sup>19</sup>

## DECENTRALISATION AND ENFORCEMENT ISSUES

Decentralisation and corruption may also have played a part in exacerbating the problem. The World Bank in a study in 2001 already foresaw decentralisation and the enforcement of forest laws as potential trouble spots. It cautioned that the new regulations in 2000 lacked comprehensiveness and was ambiguous in terms of responsibilities and authority set out for forest resource management.<sup>20</sup> According to

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<sup>18</sup> Alan Khee-Jin Tan, "The ASEAN Agreement on Transboundary Haze Agreement: Prospects for Compliance and Effectiveness in Post-Suharto Indonesia", *NYU Environmental Law Journal* 13, No. 3 (2005), p. 652.

<sup>19</sup> "Johor Bears Brunt of Smoky Air", *The Straits Times Online*, 19 June 2013, <http://www.straitstimes.com/breaking-news/se-asia/story/johor-bears-brunt-smoky-air-20130619>. Retrieved on 19 June 2013.

<sup>20</sup> The World Bank, *Indonesia: Environment and Natural Resource Management in a Time of Transition*. US: The World Bank, February 2001.

Varkkey, decentralisation had shifted some of the incentives and opportunities for patronage and corruption from the central to sub-national level.<sup>21</sup>

A comparison between the costs of zero burning and burning on soils to clear land for palm oil plantations can explain why companies have less incentives to practice zero burning. Zero burning on mineral soils increases land clearing costs by between US \$50 to US \$150 per hectare in 2002 dollars.<sup>22</sup> Furthermore, as enforcement is lax on the ground, there is little or no incentive under the current structure to practise zero burning. Fire therefore remains the most cost-effective way for clearing forests.

Another important factor is that of patronage politics.<sup>23</sup> There are reasons to assume that the plantations' Indonesian counterparts do shield for their transgressions. With decentralisation, the role of local police chiefs, local governments, administrators and politicians have become even more important in the equation. Incentives and opportunities for patronage and corruption have shifted from the central to the sub-national level.

## POLICY RECOMMENDATIONS

At the least, Indonesia needs to ratify the ASEAN Agreement on Transboundary Haze Pollution, and do that as quickly as possible. This would be a very important first step to demonstrate to the international community that Indonesia is serious about protecting and conserving its natural environment. ASEAN on its part will have to play a more active role in persuading Indonesia to ratify this agreement.

It would bode well for Indonesia's future if it does sign this Agreement. President Susilo Bambang Yudhoyono had already made the commitment to reduce greenhouse gas emissions by 26 percent by 2020. The governments of Indonesia and Norway also signed a US\$ 1 billion partnership to reduce greenhouse gas emissions in Indonesia. Indonesia with its vast tracts of forests will continue to benefit from protection schemes like the Reduction from Emission from Deforestation and Forest Degradation (REDD) schemes under successive climate change treaties.

Indonesia will also need to restructure its current forest management practices so that there will be a centralised body given more power and resources to manage palm oil plantations and the issue of open burning. This structure would presumably have power over sub-national and local governments, and will overcome some of the issues related to decentralisation. The Indonesian government will also need to carry out enforcement more extensively, and devote more resources to prosecuting offend-

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<sup>21</sup> See Helena Varkkey, "Patronage Politics as a Driver of Economic Regionalisation: The Indonesian Oil Palm Sector and Transboundary Haze", *Asia Pacific Viewpoint* 53, No. 3 (December 2012), p. 319.

<sup>22</sup> Anne Guyon and Dicky Simorangkir, *The Economics of Fire Use in Agriculture and Forestry: A Preliminary Review for Indonesia. Indonesia: Project FireFight South East Asia, 2002*, p. 15.

<sup>23</sup> See Helena Varkkey, "Patronage Politics as a Driver of Economic Regionalisation: The Indonesian Oil Palm Sector and Transboundary Haze", *op. cit.*, pp. 314-329, and also Dauvergne, *op. cit.*, pp. 15-16.

ers on the ground for open burning. Granted that there are monitoring and prosecution costs to take into account, such measures cannot be overlooked in future forest management practices.

The Singapore-Jambi initiative is one of the practical and more immediate means of reducing the recurrence of the haze. Singapore signed a Letter of Intent in 2007 to kick-start anti-haze projects with a regency within Indonesia's Jambi province, followed by a SGD \$1 million commitment to help building fire-danger rating systems, training Jambi officers to interpret satellite data, and renewing the regency's fire fighting capabilities.

In addition to these fire-preventative measures, the Indonesian government was also working on steps to promote alternative livelihood in the area, in fields such as agriculture, aquaculture and tourism. This should be given more urgency and expanded to a larger scale in the months to come.

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