

**ERIA Discussion Paper Series****Transboundary Haze Pollution Problem in  
Southeast Asia: Reframing ASEAN's  
Response**

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**Abstract:** *ASEAN has experienced periodic episodes of transboundary haze pollution resulting from land and forest fires caused by seasonal burning to clear vegetation on the ground for various purposes. Some of these incidents were severe like in mid-2013 and 2015 for parts of Indonesia, Malaysia, Singapore, and Thailand as well as in early 2015 for portions of Lao PDR, Myanmar, and Thailand.*

*Despite more than a decade since the ASEAN Haze Agreement came into force, the problem still recurs and sometimes with serious consequences to health, transportation, tourism, and other activities. What is urgently needed is a reframing of the way the issue is being currently addressed, i.e. mostly tackling at the tail-end of the problem of putting out the fires after they have been lit rather than preventing or curbing the illegal burning practices at source. It also represents balancing economic development initiatives with environmental protection and international relations concerns.*

**Keyword:** *Keywords: ASEAN, transboundary haze pollution, reframing*

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## **1. Transboundary Haze Pollution and ASEAN's Response**

Transboundary haze pollution has been a recurrent phenomenon in the ASEAN region to various degrees over the years. These incidences have arisen due mainly to the cumulative effect of slash and burn and/or other types of moderate to large-scale burning to clear land for growing agricultural crops like corn and plantation trees such as pulp wood, rubber or oil palm and all of this often occurring concurrently. Some of the plots are held by small holder farmers while a good proportion belong to large plantation owners. ASEAN had recognised this emerging issue for more than two decades and started to formally address the problem in 1995 with the establishment of the Haze Technical Task Force under the ASEAN Senior Officials on the Environment – the ASEAN committee designated to help tackle this regional issue. The problem attracted regional and worldwide attention with the occurrence of severe fire and haze episodes in 1997 and 1998. This prompted ASEAN to intensify cooperation efforts to deal with this serious environmental menace. Mechanisms were put in place including a Regional Haze Action Plan along with institutional setups to prevent, monitor, and mitigate fires and haze, especially the potential adverse transboundary impacts on neighbouring countries. Several major initiatives were developed and implemented, often with external donor support to fight the emerging environmental threat.

One of these significant endeavours was the formulation of the ASEAN Agreement on Transboundary Haze Pollution (AATHP) which was eventually signed by all ASEAN member states in June 2002 and came into force with ratification by a total of six member countries in November 2003, namely, Brunei Darussalam, Malaysia, Myanmar, Singapore, Thailand, and Viet Nam. Indonesia became the 10th ASEAN country which deposited its instruments of ratification for this agreement in January 2015, thus completing the legal process of fully enacting this only piece of ASEAN legislation pertaining to the environmental sector. Among the institutional provisions of the AATHP is the convening of the Conference of Parties (COP) and the establishment of a Secretariat (whose functions are to be performed by the ASEAN Secretariat) to support the servicing of the COP and other relevant activities in connection with the implementation of the agreement. It also includes the creation of the ASEAN Coordinating Centre for Transboundary Haze Pollution Control 'for the purpose of facilitating co-operation and co-ordination among the Parties in managing

the impact of land and/or forest fires in particular haze pollution arising from such fires'.<sup>1</sup>

In terms of organisational setup, the transboundary haze pollution issue has been under the oversight of the ASEAN Environment Ministers who meet annually and provide overall policy direction. They are supported by ASEAN senior officials who also meet regularly to review developments and guide implementation of targeted programmes and projects addressing the problem. Two subregional Ministerial-level Steering Committees (MSCs) have been established to create more focused impetus to the required work – one for the southern area covering Brunei Darussalam, Indonesia, Malaysia, Singapore, and Thailand and another for the northern or Mekong area covering Cambodia, the Lao PDR, Myanmar, Thailand, and Viet Nam. Both these fora meet periodically at ministerial as well as senior official levels to coordinate the needed cooperation efforts in their respective geographic subregions. Technical working groups have also been set up under both MSCs to operationalise the agreed work plans. In addition, bilateral collaboration arrangements have also come into existence especially between Malaysia–Indonesia and Singapore–Indonesia as well as between Thailand and some of its immediate neighbours to help combat the fire and/or haze threat.

The ASEAN Specialised Meteorological Centre based in Singapore supports the tracking of hotspots and haze movements as well as providing periodic forecasts of weather conditions across the region. ASEAN has developed a region-wide Fire Danger Rating System as a tool to help guide and monitor the ground and atmospheric conditions which could become fire-prone. In this regard, an alert levels, trigger points, and action on fire suppression system has been adopted to complement and enhance the existing Standard Operating Procedures for Monitoring, Assessment, and Joint Emergency Response under the AATHP. Recently, attempts have also been made to operationalise the ASEAN Subregional Haze Monitoring System (HMS) with the intention to share relevant maps of likely fire-prone and hotspot areas that may cause transboundary haze. Moreover, the northern (Mekong) MSC has set a target of achieving cumulative hotspot counts of less than 75,000 by 2017(incidentally on the 50th anniversary of ASEAN) and not exceeding 50,000 by 2020. ASEAN has also

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<sup>1</sup> ASEAN Agreement on Transboundary Haze Pollution, Article 5.

established guidelines for controlled burning and zero burning and plans to implement zero burning policies on peatlands across the region by 2020. Since peatland fires generate a considerable amount of smoke haze and are hard to control due to the peat seam layers which can burn underground, ASEAN has implemented a peatland management initiative and strategy. Several projects have been undertaken over the years targeting this particular type of ecosystem with funding support from donor sources and lately an ASEAN Task Force on Peatlands has been established to help steer activities on sustainable peatland management.

Recently, there has been an agreement in principle to develop a Roadmap on ASEAN Cooperation towards Transboundary Haze Pollution Control with Means of Implementation to achieve a vision of a haze-free ASEAN by 2020.

Under the provisions of the AATHP, an ASEAN Transboundary Haze Pollution Control Fund has been established with contributions from member countries, at present reaching USD 350,000 out of the initial expected amount of USD 500,000.

## **2. Root Causes and Impacts of Land Fires and Transboundary Haze**

One of the main causes of smoke haze is the result of uncontrolled burning to clear the land for other development purposes such as for growing agricultural crops like corn and plantation trees such as pulpwood, rubber or oil palm. Where legal restrictions are absent due to the lack of appropriate rules prohibiting the use of fires for land clearance or otherwise where enforcement of such regulations is weak, then burning becomes the economically cheapest way to clear land without incurring heavy penalties and thus further encouraging such environmentally and socially unsound practices. Moreover, the draining of peatlands—found in many parts of Southeast Asia and especially on the Indonesian islands of Sumatra and Kalimantan – for development greatly increases the risk of fire and haze due to peat’s smoke generating characteristics when burnt and the fact that it can burn through the peat seam layers underground which are out of sight and thus become difficult to control. Other factors which could also contribute to the problem include overlapping rules and regulations among the concerned government agencies thus creating gridlock and/or loopholes in

the process, the lack of adequate information and/or awareness, limited resources (capital, equipment, personnel, amongst others) as well as the lack of political will to tackle the problem, the strong patronage and/or special links between the main perpetrators and the relevant authorities and therefore overriding the rule of law and good governance, and the associated private and/or individual profit motives including corruption practices such as bribery at the expense of social and/or environmental costs and public goods at large. In brief, the basic issue could be summed up as lax compliance by land developers and poor enforcement and the lack of capacity on the part of concerned authorities including having weak judicial systems. It also reflects the need to balance economic development initiatives with appropriate environmental protection concerns as well as maintaining good international relations and image including corporate social responsibility and/or socially responsible investing.

The impacts resulting from fires and transboundary haze, however, could be significant and include:

- Losses to property and/or degradation of natural resources, forest, biodiversity, and ecosystem including damage to agricultural production.
- Increase in emissions of greenhouse gases and other hazardous pollutants.
- Harmful effects on health including injuries and fatalities to humans and animals leading to untimely ailments and even early deaths.
- Adversely affecting various modes of transport operations due to safety concerns including accidents arising from poor visibility.
- Negative impact on tourism and business.
- Rights to clean air, good health, and quality livelihoods being denied to numerous affected communities and ordinary citizens.
- Strained neighbourly relations amongst ASEAN member countries, if not others.
- Seriously dent the image of ASEAN solidarity and effectiveness.

It has been estimated that the overall loss from the fires and haze during the 1997–1998 episodes was up to US\$9 billion for Indonesia<sup>2</sup> and around US\$200 million for Singapore.<sup>3</sup>

### **3. Potential Solutions**

Transboundary cooperation is important when natural resources and environmental spaces are shared. It helps promote better understanding and exchange of knowledge and concerns between neighbouring countries and leads to collective responses to shared problems such as transboundary haze pollution, allowing new opportunities and ways of overcoming these common threats. The ASEAN Agreement on Transboundary Haze Pollution (AATHP) which came into force in 2003 received a boost when Indonesia submitted its instruments of ratification to the ASEAN Secretary General on 20 January 2015, thus completing the ratification process of this Agreement by all 10 ASEAN member countries. With Indonesia finally coming on board, more concerted and cooperative actions should hopefully follow to address the problem. However, one major shortcoming of the AATHP is that there is no sanction clause for failure to meet the stipulated obligations – it is after all the ASEAN Way of resolving disputes diplomatically, through consultation and negotiation. Perhaps that is one reason why Singapore enacted its own Transboundary Haze Pollution Law in 2014 which seeks to take civil and criminal liability actions against entities responsible for causing or contributing to transboundary haze pollution in Singapore. Effective implementation of this measure is likely to be problematic due to the extra-juridical, territorial, and national sovereignty issues involved coupled with the difficulty of making irrefutable attribution or correlation between cause and effect of the problem. However, it could readily serve as a ‘warning shot’ to highlight the urgency of tackling the issue in a more serious and timely manner. Just like merely institutionalising a zero burning policy across the board, while desirable, is probably not going to be a fully

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<sup>2</sup>BAPPENAS–ADB (1999), Causes, Extent, Impact and Costs of 1997/8 Fires and Drought.

<sup>3</sup>Quah, E (2002), ‘Transboundary Pollution in Southeast Asia: The Indonesian Fires’, *World Development*, 3, p.430.

effective solution by itself but can help direct appropriate attention and response pertaining to the matter.

Nevertheless, further actions in areas such as the following are required:

- More efficient and timely sharing of information, especially identifying specific locations on land clearance, hotspots, and actual burning areas as well as haze movement among ASEAN member countries which would facilitate early detection and enhance quick response and thereby help address the problems instantly rather than causing them to get out of control. One major constraint in this connection is the release of such vital information in a timely and responsive manner. A clear example of this is an earlier decision to pursue setting up the ASEAN Subregional Haze Monitoring System (HMS) for the above-stated purpose. However, and concerns over sharing of information on sensitive matters pertaining to territorial integrity and sovereignty and extra-judicial issues has slowed the process. So although the concept of having the HMS was discussed before, its operationalisation has been stalled.
- Strictly enforcing relevant laws and policies pertaining to the fire and/or haze problem, streamlining institutional capacity, and introducing more simplified procedures that enhance the cost effectiveness of implementation. It would also be worth considering having some kind of sanction provision for non-compliance. ASEAN member states do have laws governing prohibition and/or limitation on burning vegetation especially during certain restrictive conditions and/or time periods. However, the problem is they are not always strictly enforced –often due to dereliction of duty by the concerned authorities and/or overlapping jurisdiction by agencies pertaining to the issues at hand. In some cases, there may be a lack of capacity to adequately cover the areas in question coupled with meagre resources available to track developments and make appropriate interventions. One bottleneck that has occurred especially in the rapid deployment of needed resources is the amount of bureaucratic red tape that is encountered in obtaining the necessary clearances. So much time is lost in the approval process, thus delaying the implementation of the required urgent actions. Finally, for the rules and regulations to be meaningful and enforceable, strict compliance and enforcement coupled with appropriate sanctions and/or penalty provisions are necessary. However, this is an area where many ASEAN countries are lacking and weak at both the national level as well as at the regional level including in the ASEAN Haze Agreement.
- Vigorous promotion in conjunction with the provision of incentives for encouraging non-burning alternatives for clearing land, particularly in the sustainable management of peatlands and raising awareness of the potential co-benefits that could be derived through such practices which would be for mutual interest and bring about collective gain. Attempts have been made in both ASEAN subregional frameworks for fighting the fire and/or haze problem

to engage the concerned private sector more pro-actively and vigorously in finding solutions which could yield win-win results. Properly internalising the externalities and costs of burning in the business models of the relevant corporate sector through a suitable combination of rewards and punishment would encourage a shift towards adopting less damaging methods of land clearing from economic, environmental, and social points of view. Governments of ASEAN countries should also institutionalise policies and legislation that would provide suitable incentives and/or disincentives to move in a more desirable and sustainable path of development.

- Improving coordination to develop good understanding, close rapport, and active cooperation including enhancing capacity and awareness between all relevant stakeholders such as government agencies, private developers, small farmers, civil society groups, and local communities on the fire and haze issue, including the possible causes and the potential solutions. It goes without saying that to successfully address the fire and haze issue in ASEAN requires a multi-stakeholder approach and framework involving all relevant parties and on an equitable footing or representation. A constructive enabling environment needs to be created so that all concerned entities feel they are properly informed and have a meaningful stake in solving the problem. Only then would there be more likelihood of success in finding mutually agreeable solutions. Having appropriate corporate social responsibility initiatives and/or socially responsible investing could also help in the process and support moving in the right direction.
- Educating ASEAN and other consumers about the causes and effects in the chain of events or complete life cycle analysis of the entire production systems from agricultural and/or forestry land with links to the fire and/or haze problem and its corresponding consequences leading to more active consumer understanding, engagement, and action for adopting more environmentally and socially sound solutions. Building up such like-minded coalitions of the willing is essential if there is any hope of combating the fire and haze problems in the Southeast Asian region. Adopting eco-labelling standards for encouraging more sustainable consumption and production processes by the public at large would go a long way in sending the right signals to the producers of agricultural and forestry land to implement more environmentally friendly non-burning methods of cultivation.



#### 4. Suggested Ways Forward

One glaring shortcoming in the current response mechanism to the transboundary haze pollution problem at the ASEAN regional level and in some cases also in the individual countries, is that it is geared primarily to tackling the tail-end of the issue of putting out the fires after they have been lit while the root causes and sources of the problem, which are the illegal clearing of land and/or forest for cultivation by burning, have not been prevented in any systematic and timely manner. It also reflects the need for balancing economic development initiatives with having appropriate environmental safeguards as well as maintaining good international relations. More than a decade has passed since the ASEAN Haze Agreement came into force and the region still faces the transboundary haze problem periodically and in a seasonal fashion – with severe episodes on some occasions like the ones in mid-2013 and 2015 in the southern zone and also in early 2015 in the northern section. This has serious consequences on the environment and natural resources, health, tourism, transportation, and other socio-economic activities. What is perhaps urgently needed is a reframing of the way the issue is being addressed into a more integrated paradigm that would put it in a more complete and holistic perspective which could then engender more effective and timely solutions. Agriculture and/or forestry ministries (the economic pillar of ASEAN which has direct oversight and/or authority over the lands being burned) as well as justice and/or law ministries (the political-security pillar with respect to strict law enforcement and compliance) have to be more actively involved as the problem is a cross-agency one requiring a concerted response from all the above-mentioned sectoral bodies. In essence, it should be treated as an entire ASEAN Community matter of priority and not only an environmental sector one, requiring a fully integrated approach with the full cooperation of all relevant sectoral bodies across all three pillars of the ASEAN Community.

One concrete proposal along these lines is the adoption of a *protocol* to the AATHP, as provided for under the Agreement, of institutionalising the above recommended measures of ensuring appropriate cross-sectoral coordination and cooperation, and therefore effective and timely implementation on the ground and of ASEAN officialdom according it as a matter of highest priority. What is required is infusing a greater sense of urgency for action especially on the strict enforcement of

existing national laws governing illegal land clearing practices by burning, plus introducing some suitable interventions including appropriate rewards and punishment at the regional, country, and local levels. One critical area is to broaden the stakeholder involvement of not only government agencies, but to also include the private sector and local communities as well as the general public, to ensure that suitable disincentives are introduced to discourage burning practices while appropriate incentives are adopted to encourage non-burning ones. Consideration should also be given to deploy military resources along with civilian ones in the combat of the fire and/or haze problem, just as ASEAN has done in addressing disaster management.

There is also a vital need to identify more clear and time-bound targets for achieving certain milestones relevant to fire and haze control in the forthcoming decade up to 2025. ASEAN has set an indicative target of endeavouring to create a haze-free region by 2020. Though rather ambitious and challenging it at least demonstrates the region's collective resolve to address this critical problem.

One encouraging sign in this regard is the appearance of the following statements in the recent Kuala Lumpur Declaration on a People-Oriented, People-Centred ASEAN adopted on 27 April 2015 by the ASEAN Leaders.

- i. Ensure our people's access to clean water, clear air, basic healthcare and other social services so that they may lead healthy and productive lives and thereby contribute to the ASEAN Community
- ii. Promote regional resilience by addressing socio-cultural and socio-economic issues that may result from climate change and other environmental impacts, including transboundary environmental pollution, as contained in the ASEAN Charter and the ASEAN Socio-Cultural Community Blueprint, through the full and effective implementation of related ASEAN agreements

The ASEAN Socio-Cultural Community pillar, under which the ASEAN cooperation in the environment sector is operating, should therefore make sure that it would make suitable interfaces with the ASEAN Economic Community and also the ASEAN Political-Security Community pillars, especially in connection with addressing the transboundary haze pollution issue in the region.

## 5. Concluding Remarks

In summary, the following key points should be noted, reiterated, and acted on by ASEAN governments, businesses, and citizens in the years ahead.

- ❑ AATHP is the only ASEAN environmental agreement so far. When it came into being in 2002, it was hailed as ‘the first regional arrangement in the world that binds a group of contiguous states to tackle transboundary haze pollution resulting from land and forest fires. It has also been considered as a global role model for the tackling of transboundary issues’. There is also due recognition that ‘Considering the intractable nature and complexity of the issues related to land and forest fires, ASEAN is constantly challenged to respond effectively to the issue’.<sup>4</sup>
- ❑ It has been more than a decade since the signing and coming into force of the AATHP. The world has moved on and so must ASEAN if it wishes to retain its intention of putting words into action or acting on its words. Otherwise, ASEAN can again be criticised for just being inert on such life-threatening matters for the citizens of the region who are suffering from something that is not of their own doing and causing ailments and even untimely deaths.
- ❑ As ASEAN moves into its post-2015 period, where building an integrated, cohesive, sustainable, inclusive, people-focused, caring/sharing, and rule-based ASEAN Community with unity in diversity would in principle start becoming a reality, then successfully addressing the region’s transboundary haze pollution problem should also become an important priority in line with ASEAN’s stated aims. More confidence and trust need to be built amongst ASEAN countries to ensure that the already agreed commitments are implemented in a timely and effective manner, both nationally and regionally.

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<sup>4</sup>‘ASEAN Agreement On Transboundary Haze Pollution’, *Haze Action Online*, [http://haze.asean.org/?page\\_id=667](http://haze.asean.org/?page_id=667)

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