Resilience Development Initiative

RDI Op-Ed, No. 9 (DCR-1) 20211013

Transboundary Haze Pollution in Southeast Asia: Effect and Forest Fire Management in Indonesia

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In recent decades, clearance for land cultivation and industrial plantations on a massive scale have increased the seasonal fires that happen in Indonesian forests and farmland, particularly peat soils. Oftentimes, winds carry the smoke haze from Indonesia towards Singapore, Malaysia and to a lesser extent, Southern Thailand and other Southeast Asian countries and thus, causing transboundary haze pollution across the region. These fires and transboundary haze have caused significant and worrying impacts, such as: economic losses; natural resources and ecosystem degradation; increase in greenhouse gases emissions; harmful effects on human health; losses in tourism and business; and many more.

ASEAN had recognized this transboundary haze issue for more than two decades. One of the organization's most significant efforts was the formulation of the ASEAN Agreement on Transboundary Haze Pollution (AATHP) which came into force with ratification by a total of six member countries in 2003 (ratification by all member countries was completed in 2015). However, recurring episodes of transboundary haze despite the ratification and adoption of the AATHP raises a question on what went wrong and what can be improved in addressing this issue in Southeast Asia.

Peat Fires vs. Greenhouse Gas (GHG) Emission Reduction and Community Engagement

Indonesia, which has more than 14 million peat areas, has been experiencing a considerable amount of forest and peat fires. Taking into consideration, although the fire only consumed 1.6 million hectares of peatlands, it equates to 2 billion tons of GHG emission. From 2018 to 2019, several regions in Indonesia experienced notable increase in peat fires. South Sumatra alone had experienced a 64% increase of peat fires in a year. GIS-based technology is one of the strategies in peat fires and GHG emissions management that can be considered. The data provided from the technology is critical for monitoring wildfire smoke, and thus, aiding forecasters and decision makers. The data is also essential for first responders, because it enables them to locate and set up base camps or stage resources during a fire accident.

In addition to the implementation of the GIS-based technology, several recommendations are identified: canal blocking to protect the peatland areas; multilevel and cross-sector collaborations; and deep analysis on the substance that is burning (because when it comes to peat fires, it is hard to determine the origin of the fire, and what substance that is essentially burning). Community engagement is also an important element. There are several things that need to be taken into account, such as the conflict between communities who are benefited from the forest resources, challenges in balancing the urban development and forest management, identifying the key driver of resilience fragility, and collaboration from all relevant stakeholders.

Haze in Southern South East Asia: Regional effects, cooperation, and engagement

There are several haze producing activities in Southeast Asia, for example: fires found in Indonesia and Malaysia mostly caused by agricultural activities (both community and privatization-based conflicts); while fires

located in Brunei mostly linked to infrastructure development (road establishment over peatlands). However, in ASEAN, the change of agricultural function of peat and forest into palm oil and pulp plantation is one of the biggest contributors to transboundary haze issues. Transboundary haze in ASEAN is also caused by anthropogenic activities and can also be triggered or driven by natural causes.

After the discussants delivered their feedback, the webinar was continued to Q&A session from the audiences to the keynote speakers. The webinar was then finished by closing remarks from the moderator, followed by a photo session. After successfully wrapping up this webinar, RDI will maintain and improve networking and further discussions regarding future opportunities of forest fire management in Southeast Asia. RDI team has noted down all the important key takeaways delivered by the keynote speakers and discussants in this webinar, hence, it can serve as a reference in planning and arranging future events in the topic of forest fire management, whether in the form of webinar, workshop, or other possible forms.

In the 2015 haze issue in the region, 40.000 to 100.000 people have died, and it also caused many social and economic losses. Overtime, ASEAN has been taking an important role in acknowledging and addressing the issue of transboundary haze issues. The landmark of the regional treaties is the 2003 transboundary haze pollution. The treaty established the need for National Monitoring Centers (NMCs), regional Standard of Procedure (SOPMAJER), ASEAN haze fund, panel of experts for consultation, ASEAN Coordination Centre for Transboundary Haze Pollution Control (ACC THPC). However, the implementation of this treaty in ASEAN is faced with challenges posed by the inter-governmental and non-intervention principle held in ASEAN, or what is called 'The ASEAN Way'. Better cooperation and shared trust are needed in ASEAN in order to improve the region's forest fires management efforts.

What's next?

From the above discussion, it can be understood that industrial plantations and agricultural activities are the main drivers of forest or peat fires and transboundary haze pollution in Southeast Asia. Thus, there is an urgent need to strengthen the implementation and/or adoption of the ASEAN Agreement on Transboundary Haze Pollution (AATHP). This agreement is already a good start for regional cooperation, therefore, albeit the difficulties regarding the 'ASEAN Way', all cooperation and collaborative actions under this agreement should always be promoted and strengthened.

Governments of each member state should also strictly enforce laws regarding forest or peat fires and transboundary haze management. Lastly, a multilevel and cross-sector cooperation have to be implemented where there is an effective information sharing, close rapport mechanism, capacity building activities, and include all relevant stakeholders throughout the process, such as government agencies, private developers, farmers, nongovernmental organizations, and local community.

Acknowledgement

The materials in this article were presented by keynote speakers: Dr. Emmanuel Tsekleves from Lancaster University; Prof. Dr. Ir. Bambang Hero Saharjo, M.Agr from Bogor Agricultural University; and Dr. Helena binti Muhammad Varkkey from Universiti Malaya in a Webinar titled 'Transboundary Haze Pollution in Southeast Asia: Effect and Forest Fire Management in Indonesia' which was hosted by RDI and held in August 24th, 2021. The webinar was also attended by two discussants: Dr. Arief Wijaya from World Research Institute Indonesia and Dr. Ir. Lailan Syaufina, M.Sc from Bogor Agricultural University.

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