



Environmental Victimization: The Impacts of Transboundary Haze Pollution in Indonesia

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Abstract

Forest fires and transboundary haze pollution have become annual problems faced by countries in Southeast Asia, especially in Indonesia, Malaysia, and Singapore. Since most of the burning forests occurred in Indonesia, the country has been accused to be responsible for the problems. Regarding this matter, the ASEAN member states have established the ASEAN Agreement on Transboundary Haze Pollution (AATHP). A major obstacle in combating the problems occurred as a result of the differences in interests between Indonesia and other ASEAN member states. Indonesia itself also faces complex domestic problems related to the conversion of forests and oil palm plantations. As a result, this problem continues to drag on and cause a great number of casualties and losses. This paper then seeks to analyze the problem of transboundary haze pollution in Indonesia and its impacts using the environmental victimization approach. The results show that the political discourses, both among ASEAN member countries and Indonesia's domestic affairs, have become stumbling blocks to effectively combating the problem. As a result, these problems resulted in casualties and caused legal and security, economic, health, social and cultural impacts.

Key Words: transboundary haze pollution; Indonesia forest fire; AATHP; environmental victimization

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INTRODUCTION

The transboundary haze pollution in South East Asia, especially in Indonesia, Malaysia, and Singapore, has occurred almost every year. The haze pollution happened not merely because of a natural phenomenon, it is also believed as an anthropogenic disaster due to a complex problem on temporal, spatial, social, political, and economical conditions of the affected countries. However, the efforts made to preserve the environmental stability are often neglected in the attainment of economic objectives and mainly discussed exclusively at state-to-state level. The forests and lands are viewed as the natural resources and extraction activities is often considered more important than environment conservation.

The forest fires occurred in 1997-1998 were recorded as the worst forest fire and caused significant impacts to the region (Nurhidayah, 2014). Since then, the fires have become annual disasters with fluctuate intensities. In 2006, 2009, 2012, 2013, and 2015 the forest fire caused transboundary haze pollution and seriously affected neighbouring countries of Indonesia.

The recent case of transboundary haze pollution in Indonesia has become one of the major cases in the region. According to Swiss-based AirVisual Air Quality Index (AQI) in September 2019, the air condition in Kuala Lumpur has recorded a “very unhealthy” level with AQI of 286 while the other two stations in the city showed an “unhealthy” level with AQI of 159 and 154. At the same time, the air quality in Singapore ranged between 156 and 160. Meanwhile, based on the state-owned air quality monitoring system in Pekanbaru City, Riau, Indonesia, the city’s air quality reached a “hazardous” level with AQI of 580 (Rayda, 2019). The discussion about transboundary haze pollution has been dominated by the discourse at the regional level by putting the states as the preeminent actors whose interests are at stake. The lack of public awareness about the importance of environmental victims’ rights protection has become an actual restraint in solving the problem effectively. Instead of trying to protect the rights of environmental victims, the policymakers seem to address the issue only based on economic loss and gain perspective. This study aims to analyze the impacts of transboundary haze pollution in Indonesia using the perspective of environmental victimization. It argues that the inability of the Indonesian government to effectively overcome transboundary haze pollution and protect the victims of such harms caused by different political and economic interests in combating the haze pollution in the Southeast Asia region. Moreover, Indonesian domestic problems such as land-use change and forest fire-related to palm oil plantation also contribute to the occurrence of haze pollution in the region. This study starts by outlining the discourse of transboundary haze pollution regulation implementation in ASEAN and Indonesia. The study then tries to

emphasize the impacts of transboundary haze pollution in Indonesia experienced by the victims. Finally, the study concludes by discussing the importance of the victim’s perspective in addressing the haze pollution in the region.

THEORETICAL FRAMEWORK

Environmental Victimization

Environmental victimization is closely related to the act of human rights violation, abuse of power, and human suffering that occur regardless of whether the condition is within the scope of law (Williams, 1996). The conceptualization of environmental victimization then should go beyond the prevalent understanding of crime (Kramer, 2014). According to Williams (1996), ‘environmental victims’ can be defined as “those of past, present, or future generations who are injured as a consequence of change to the chemical, physical, microbiological, or psycho-social environment, brought about by deliberate or reckless individual or collective human act or omission,” (Williams, 1996).

Skinnider (2011) explained about the broad characteristics of environmental victims, which are: (i) The victims are mostly unaware of being victimized; (ii) The awareness of victimization comes late; (iii) The responsible entity is unknown; (iv) The affected victims are numerous that increase the seriousness of the victimization; (v) Victimization can be followed by offensive actions (Skinnider, 2011).

It is important to distinguish the conception between ‘environmental victims’ and ‘environmental casualties’. While ‘environmental casualties’ is described as suffering entities caused by natural phenomenon, the concept ‘environmental victims’ is an anthropogenic issue (Williams, 1997). Environmental victimization scholars believed that becoming a victim is never socially neutral (Pemberton, 2014).

Table 1. Key Dimensions of Environmental Victimization

Direct	Immediate	Local	Routine practices	Realized	Vulnerability
Indirect	Long-Lasting	Regional	Specific events	Potential	Proximity

Source: White, 2009-2010 Potential Proximity

There are five types of key dimensions of environmental victimization. First, the act of crime may be directly or indirectly targeted the victims. Second, the impact of reckless or omission acts may be immediate (e.g. forest fire and haze pollution) or long-lasting (e.g. global warming). Then, the scope of the victimization may be local or regional, through routine practices (e.g. industrial emission) or specific events (e.g. nuclear radiation accident). The threat also may be realized, due to the appearance or nonappearance of an entity in the environment, or may become a potential threat in the future. Lastly, the victims can be categorized based on their vulnerability (e.g. children and elders) or their proximity to the harm (White, 2009-2010).

A state can be actively or passively involved in causing environmental victimization through corruption, abuse of legitimacy for personal benefit, prioritize financial advantage and neglect environmental sustainability, lack of environmental regulation enforcement, systematically sugar-coating the acts of environmental harms caused by state entities or private industries, and not interfere to protect the people from the harm caused by third parties (White, 2009-2010).

METHOD

This study is an explanatory research study which aims to explain the causal relations of a phenomenon. In this context, the explanatory research method in this study aims to explain the causal relations of transboundary haze pollution in Indonesia and its impacts on the victims. Hereinafter, the data about ASEAN regional cooperation on transboundary haze pollution, existing regulations and efforts made by the Indonesian government, and the impacts of the harm are collected through secondary data collection and literature analysis. The secondary data is collected from journal articles, books, reports, newspapers, and websites. The authors then use a qualitative research method to analyze the collected data.

DISCUSSION and ANALYSIS

Asean and Transboundary Haze Pollution

The Association of South East Asian Nations (ASEAN) has been criticized for its tardiness to provide effective legal actions in order to tackle the issue of transboundary haze pollution in the region (Nguitragool, 2014). Although the regional cooperation to combat the pollution has already begun in 2002 through the signatory of the ASEAN Agreement on Transboundary Haze Pollution (AATHP), there are still the barriers that hinder the implementation of the

agreement in the region (Lee, et.al., 2016). A consensus is difficult to achieve considering the different threat perspectives among ASEAN member states.

The adherence to the “ASEAN Way”, especially the norm of non-intervention, has become a major stumbling block to the region to implement legal instruments such as dispute-settlement and law enforcement regarding the haze pollution (Gerstl & Helmke, 2012; Nguitragool, 2014; Heilmann, 2015). “It not only does not provide for a clear dispute settlement mechanism, but it also lacks any mention of legal consequences for non-compliance or breaching agreement,” (Heilmann, 2015, p.111). The “ASEAN Way” tends to be more state-centrist instead of emphasizing the social and environmental impact of transboundary haze pollution.

The establishment of the ASEAN Centre is one of the AATHP mandates to enhance the cooperation between ASEAN member states in combating forest fire and haze pollution. ASEAN Centre establishment is crucial to centralize the haze pollution database submitted by the state-parties and assists in an emergency under the authority of requesting member state (Heilmann, 2015). However, national sovereignty and non-interference norms are still become the main priorities in ASEAN regional cooperation (Varkkey, 2014; Arnakim, & Shabrina, 2019).

Table 2. ASEAN Cooperation on Transboundary Haze Pollution

Year	Agenda
1990	Kuala Lumpur Accord on Environment and Development
1992	Singapore Resolution on Environment and Development The First Workshop on transboundary Pollution and Haze in ASEAN Countries (Balikpapan, Indonesia)
1995	Cooperation Plan on transboundary Pollution Haze Technical Task Force (HTTF)
1997	ASEAN Ministerial Meeting on Haze Regional Haze Action Plan (RHAP)
1999	Zero-burning Policy
2001	Transboundary Haze Pollution Agreement proposal
2002	AATHP signed
2014	Indonesia AATHP ratification

Indonesia has been accused of being responsible for the problems because the forest fire mostly occurred under the territorial jurisdiction of Indonesia. Nevertheless, Indonesia had been delaying its ratification of the agreement until September 2014. The Indonesian parliamentarian conceived that the ratification of AATHP would harm Indonesia’s interests as the palm oil is one of the most important export commodities of Indonesia (Varkkey, 2014). Indonesia also believed that it is not merely Indonesia’s responsibility to end the haze pollution but it also becomes the

region's problem. The efforts to solve the haze problem should not only be carried out at the local or national level but also at the regional level due to its transnational social and political impacts. Indonesia also argues that most of the forest hotspots lie within the concession area of palm oil plantation that was under the ownership of Malaysian and Singaporean Companies (Lee, et.al., 2016; Varkkey, 2014).

Transboundary Haze Pollution In Indonesia

Indonesia's authorities have made various efforts to stop the occurrence of haze pollution. Since the end of the 1990s, the Indonesian government has already linked the thread of haze pollution to human security under the administration of President B.J. Habibie. President Habibie believed that haze pollution posed a serious threat to human life. Indonesian 6th president, President Susilo Bambang Yudhoyono, also declared "war on haze" by seeing haze pollution problem as a global problem (Edwards & Heiduk, 2015).

Despite the efforts that have been made by the Indonesian government, there are still major stumbling blocks to end the occurrence of transboundary haze pollution. A complicated bureaucracy, the lack of enforcement capabilities, and deep-rooted corruption hindered the progress to stop illegal logging (Gerstl, & Helmke, 2012; Edwards, & Heiduk, 2015). Decentralization and overlapping authorities between central and local governments, lack of monitoring and evaluation process have become a legal loophole for the disputing palm oil companies to illegally cleared the land (Edwards, & Heiduk, 2015).

The palm oil plantation activities have been accused as one of the major causes of forest fire in Indonesia. Almost 80 percent of forest fires occurred in plantation areas (Varkkey, 2013; Heilmann, 2015; Listiningrum, 2018). Illegal logging, land use and land-use change, land conflict, and deforestation also become the underlying causes of the occurrence of transboundary haze pollution in Indonesia (Nguitragool, 2014).

The conversion of peatlands through forest clearance and peat drainage to palm oil plantations will cause a rapid widespread of the forest fire. Peatlands play a significant role as global carbon pools which absorb approximately 32-46 percent of the total soil carbon reservoirs in the world. The area of peatlands in Southeast Asia region reaches 0.25 million km², and most of the peatlands are located in Indonesia and Malaysia. Peat swamp forests also important to keep the cycle of mineral groundwater. When the fire occurs, a high moisture peatland will limit the flaming process (Page & Hoolijer, 2016).

Table 3. Forest Fire Areas Recapitulation

Year	2014	2015	2016	2017	2018
Area (Ha)	44.411,36	2.611.411,44	438.363,19	165.483,92	529.266,64

Source: Direktorat PKHL Kementerian Lingkungan Hidup dan Kehutanan RI, 2019

Slash and burn techniques are frequently used to clear the land for palm oil plantation. The techniques are considered illegal techniques. Nevertheless, those techniques are still being used by various scales of farmers and industries, as it is the cheapest and easiest way to clear the land (Arnakim & Shabrina, 2019). The existing regulations of land burning prohibition are enacted in Indonesia’s Forestry Law No. 41/1999 and Regulation of Environmental Ministry of Indonesia No. 10/2010, but Environmental Law No. 32/2009 still permit to clear the land with fire maximum of 2 hectares for each local farmer households (Emba, 2016; Listiningrum, 2018)

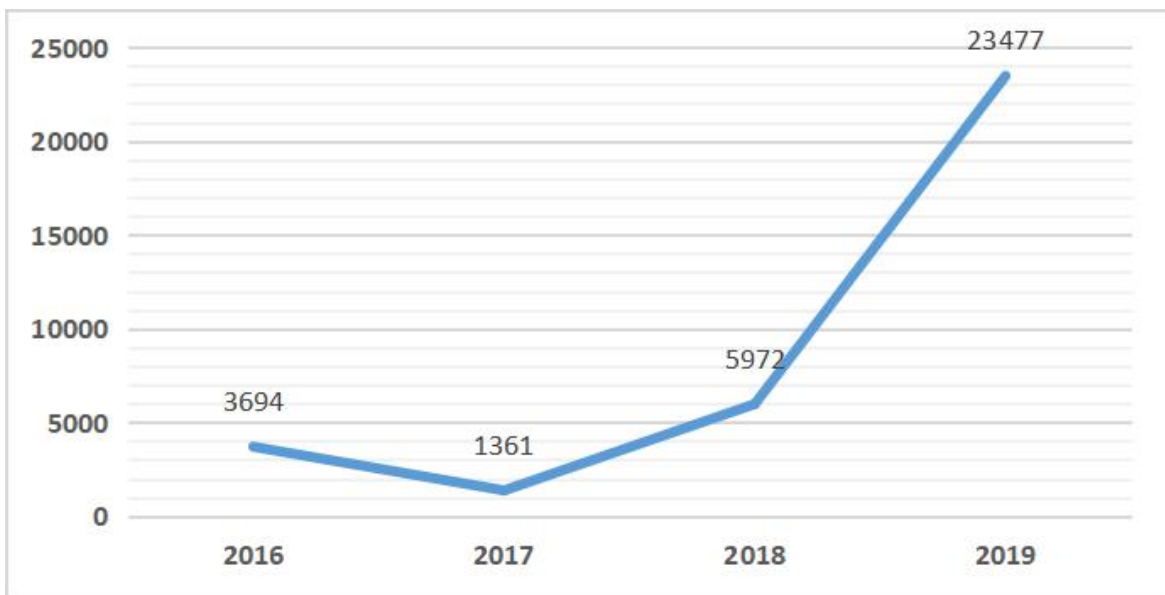


Figure 1. Forest Fire Hotspots in Sumatra and Kalimantan

Source: Processed from Direktorat PKHL Kementerian Lingkungan Hidup dan Kehutanan RI, n.d.

Since 2016, the number of forest fire hotspots in Sumatra and Kalimantan has been increasing every year. Data from Direktorat Penanganan Kebakaran Hutan dan Lahan (PKHL) or Directorate of Forest and Land Fire Control Indonesian Ministry of Environment and Forestry shows that the number of hotspots had slightly decreased in 2017 but it has been increasing in the next two years. The forest fire hotspots in 2019 have become the highest number compared to 2016, 2017, and 2019.

There is also a linkage between the palm oil land ownership and the interests of political elites in the government in affecting the policymaking process. The unclear identification between land ownership and land occupation of palm oil plantation makes it difficult to take a legal sanction to the perpetrator of the forest fire (Lee, et.al., 2016). One of the most influential lobby groups related to the palm oil industry in Indonesia is GAPKI or the Indonesian Sustainable Palm Oil Commission and Indonesian Palm Oil Association. The lobby group has the power to control and recommend the regulations to fit the interests of the industries. GAPKI was also against the ratification process of AATHP (Varkkey, 2014).

Transnational Haze Pollution In Indonesia And Its Victims

The problem of transboundary haze pollution that occurred in Southeast Asia, especially in Indonesia, has various adverse impacts on victims. In this case, Hall (2013) identified four types and scales of environmental harm impacts namely legal and security impacts, economic impacts, health impacts, social and cultural impacts.

Legal and Security Impacts

Environmental degradation might cause threats to security. The impact of the insecurities may take in different forms, either direct or indirect collision, but more likely to occur in less immediate or widespread than other threats in general. Protecting the rights and security of the environmental harm victims can be done through the legal approach by providing access to justice before legal authorities. In this case, access to justice can be done as a response to the violation of the human rights of the environmental harm victims. Another important aspect of access to justice in environmental matters is related to environmental democracy which embodies the principles of environmental information openness and public decision-making participation (Listiningrum, 2019).

Although the international consensus about the prosecution of companies causing trans-boundary harm has not been established yet, the legal action still can be taken

under three conditions: 1) environmental harm activities are carried out; 2) the impacts of the damage happened; 3) the polluting company is located within the jurisdiction of the state. Transboundary civil claims against the corporate polluter or transboundary haze criminals may be filed to Indonesian courts as the operation of the corporation that causes serious transboundary haze pollution has been held within the jurisdiction of Indonesia (Listiningrum, 2019).

Indonesia has already implemented several legal frameworks in addressing transboundary haze pollution, not only specifically regulate the forest fires but also broader regulations related to the case. The existing legal frameworks are: (i) Law No. 32/2009 on Environment Protection and Management; (ii) Government Regulation No. 4/2001 Concerning Control of Environment Degradation and/or Pollution Related to Forest and/or Land Fires; (iii) Presidential Instruction No. 16/2001 on Improvement in Controlling Land/Forest Fires; (iv) Law No. 41/1999 on Forestry; (v) Agriculture Law No. 18/2004; (vi) Law No. 5/1990 Concerning the Conservation of Living Resources and Their Ecosystem; (vii) Law No. 32/2004 on Local Government; and (viii) Law No. 24/2007 on Disaster Management (Nurhidayah, 2014)

Table 4. Forest Fire Cases that Have Reached the Court (Per-October 2019)

Investigation Stage	First Stage	Second Stage	Suspects	
147 cases	92 cases	69 cases	345 individuals	17 corporations

Source: Anugrahadi, 2019

Table 4 shows that there are 308 forest fire cases that had reached the court per-October 2019. One hundred and forty-seven cases were still under investigation stage while 92 cases had been analyzed by the prosecutors. Sixty-nine cases had reached the second stage of the court which means that the cases had already done. The court then ruled 345 individuals and 17 corporation suspects who responsible for the occurrence of forest fire in Indonesia.

Despite the existence of the legal basis, the unclear mandate of the institution and overlapping legislation in Indonesia might hinder the effectiveness of the implementation of the policies. The complicated legislation process may cause uncertainty and difficulties in protecting the security of the victims of environmental harm.

Economic Impacts

Environmental degradation also brings negative consequences in the economic aspect (Hall, 2013, p.30). There are two classifications of economic impact namely direct and indirect consequences. The direct consequences that may occur for example: economic loss due to the damage of the natural resources; higher and unexpected expenses for environmental restoration; regulation and technical reconstruction. Meanwhile, the indirect impact for example: decreased productivity due to the inability to work (can be related to health impact), and most likely lead to poverty for the victims who are dependent on natural resources for their livelihoods.

The haze pollution that occurred in 2015 caused high economic losses for the affected countries. The estimated total economic costs of forest fire and haze pollution in Indonesia in 2015 reached US\$16 billion or equal to 1.8 percent of Indonesia Gross Domestic Product (GDP). The losses have increased compared to 2014 forest fire which estimated 10 trillion rupiahs or US\$800 million of economic losses (Gunawan, 2014). The affected sectors include agriculture, forestry, infrastructure, and other potential damage such as the tourism and export trade sector.

Health Impacts

Health impacts are the most tangible and scientifically provable impacts of environmental harm (Hall, 2013, p.27). The impacts of environmental harm, including physical and mental health, can give both short and long-term negative health impacts. Such health effects bring more expenses for individual health treatment and communal health system in a broader scope. The social gap between the victims with medical treatment access and those who were not will bring a higher complexity of the issue related to other impacts.

Transboundary haze pollution also caused several health effects in ASEAN countries. A study conducted by Cheong, et.al. (2019) identifies five categories of health impact caused by haze pollution in Southeast Asia, there are: 1) Physical symptoms including sore throat or dry mouth, nose discomfort, eye discomfort, headache, shortness of breath, skin irritation, and psychological impacts that associated with mild psychological stress; 2) Respiratory diseases, such as bronchitis, emphysema, and chronic obstructive pulmonary disease; 3) Neurological diseases or cerebrovascular diseases, including migraine and stroke; 4) Cardiovascular or heart diseases; 5) Increasing rate of mortality, especially in

vulnerable group including elderly above 60 years old and children under 14 years old (Cheong, et.al., 2019).

A study conducted by Harvard and Columbia University researchers in 2015 found that the haze pollution has been linked to premature deaths in Southeast Asia, especially in Indonesia, Malaysia, and Singapore (Schonhardt, 2016). The study compared the early death toll of the pollution in 2006 and 2015. The result shows that in 2006, the estimated number of early deaths was 37,600. Meanwhile, in 2015, there were more than 100,000 deaths including 91,000 deaths in Indonesia, 6,500 in Malaysia, and 2,200 in Singapore, which means that the death toll has increased by 2.6 times compared to 2006.

Social and Cultural Impacts

The last impacts of environmental crime are social and cultural (Hall, 2013, p.34). Environmental damages as the result of neglecting actions may disrupt the social and cultural patterns of the affected communities.

The education sector also received an impact from haze pollution in Southeast Asia. In Palembang City, South Sumatra, about 500 schools ranging from preschools, primary, and secondary schools were temporarily dismissed due to a high concentration of haze pollution particulate in October 2019. Hence, the mayor of Palembang City also announced short working hours from 9 AM to 3 PM for teachers, schools staffs, and other officers (CNN Indonesia, 2019).

Various impacts arising from transboundary haze pollution that occurred in Indonesia shows the ineffectiveness of the Indonesian government's efforts in overcoming the problem. During this time, the handling of transboundary haze pollution in the Southeast Asia region, especially in Indonesia, has been dominated by reactive efforts that are not sustainable. Meanwhile, preventive measures carried out through law enforcement in Indonesia still have gaps due to overlapping regulations. The government should give more attention to the interests of the affected communities rather than the oil palm industries that burn forests.

Negotiations at the regional level need to provide space for advocacy for the protection of transboundary haze pollution victims. An exception is needed to implement the ASEAN Way principle in dealing with extraordinary problems such as the transboundary haze pollution. In this case, cooperation in handling the haze problem is carried out with the aim of preventing the increase in casualties, moral, and material losses. At a higher level, this cooperation is expected to create a sustainable resilience system to prevent the occurrence of the disaster in the future.

CONCLUSION

Indonesia faces political obstacles both from within and outside the country in implementing policies to deal with haze and victim protection efforts. The discourse on agreements at the regional level should not be dominated by state-to-state interests, but rather prioritize the victims affected by the haze disaster's needs. The ASEAN Way also needs to be seen in a broader context, especially if it relates to cross-border issues that require strong cooperation rather than maintaining normative egoism. Concerning domestic affairs, Indonesia needs to enforce the law regarding the protection and management of forest areas by paying more attention to the protection of victims. In addition, the efforts are needed both reactive and preventive ways to minimize the occurrence of forest fires and transboundary haze pollution.

REFERENCES

- Anugrahadi, A. (2019, October 21). 69 Kasus Karhutla Masuk Pengadilan. Retrieved December 23, 2019, from Liputan6.com website:<https://m-liputan6-com-news-read-4091701-69-kasus-karhutla-masuk-pengadilan>
- Arnakim, L. Y., & Shabrina, N. (2019). The Role of Indonesia in Managing Trans-Boundary Haze Pollution as Environmental Security Issue in Southeast Asia. *WoMELA-GG*. <https://doi.org/10.4108/eai.26-1-2019.2283130>
- Cheong, K. H., Ngiam, N. J., Morgan, G., Pek, P. P., Fu, A., & Ho, W. (2019). Acute Health Impacts of the Southeast Asian Transboundary Haze Problem – A Review. *International Journal of Environmental Research and Public Health*, *16*(3286).
- CNN Indonesia. (2019). Kabut Asap Ekstrem di Palembang, Sekolah Kembali Diliburkan. Retrieved January 14, 2020, from <https://m.cnnindonesia.com/nasional/20191014142219-20-439334/kabut-asap-ekstre-m-di-palembang-sekolah-kembali-diliburkan>
- Direktorat PKHL Kementerian Lingkungan Hidup dan Kehutanan RI. (2019). Rekapitulasi Luas Kebakaran Hutan dan Lahan (Ha) Per Provinsi Di Indonesia Tahun 2014-2019. Retrieved December 27, 2019, from http://sipongi.menlhk.go.id/hotspot/luas_kebakaran
- (2019). Data Matrik Titik Panas TERRA/AQUA (LAPAN) $\geq 80\%$ Tahun 2016-2019. Retrieved January 10, 2019 from http://sipongi.menlhk.go.id/hotspot/matrik_tahunan
- Emba, E. (2016). Indonesia's Haze: Should the Victims Pay the Polluters? Retrieved January 9, 2020, from The Diplomat website: <https://thediplomat.com/2016/07/indonesias-haze-should-the-victims-pay-the-polluters/>
- Edwards, S. A., & Heiduk, F. (2015). Hazy Days : Forest Fires and the Politics. *Journal of Current Southeast Asian Affairs*, *34*(3), 65–94. <https://doi.org/10.1177/186810341503400303>
- Gerstl, A., & Helmke, B. (2012). The Association of Southeast Asian Nations (ASEAN) and Climate Change : A Threat to National , Regime , and Human Security. In B. C. G. Teh (Ed.), *Human Security: Securing East Asia's Future* (pp. 135–156). <https://doi.org/10.1007/978-94-007-1799-2>
- Gunawan, Y. (2014). Pollution in the Perspective of International Law of State Responsibility. *Media Hukum*, *21*(2), 170–180.
- Heilmann, D. (2015). After Indonesia's Ratification: The ASEAN Agreement on Transboundary Haze Pollution and Its Effectiveness As a Regional

- Environmental Governance Tool. *Journal of Current Southeast Asian Affairs*, 34(3), 95–121. <https://doi.org/10.1177/186810341503400304>
- Kramer, R. (2014). Climate Change: A State-corporate Crime Perspective. In T. Sappens, R. White, & M. Kluin (Eds.), *Environmental Crime and Its Victims* (pp. 23–40). Surrey: Ashgate Publishing Limited.
- Lee, J. S. H., Jaafar, Z., Tan, A. K. J., Carrasco, L. R., Ewing, J. J., Bickford, D. P., ... Koh, L. P. (2016). Toward Clearer Skies : Challenges in Regulating Transboundary Haze in Southeast Asia. *Environmental Science and Policy*, 55, 87–95. <https://doi.org/10.1016/j.envsci.2015.09.008>
- Listiningrum, P. (2018). Transboundary Civil Litigation for Victims of Southeast Asian Haze Pollution : Access to Justice and the Non-Discrimination Principle. *Transnational Environmental Law*, 1–24. <https://doi.org/10.1017/S2047102518000298>
- Nguitragool, P. (2014). Negotiating the Haze Treaty. *Asian Survey*, 51(2), 356–378.
- Nurhidayah, L. (2014). *Transboundary Haze Pollution in the ASEAN Region: An Assesment of the Adequacy of the Legal and Policy Framework in Indonesia*. Thesis. Sydney: Macquarie Law School, Macquarie University Australia.
- Page, S. E., & Hoolijer, A. (2016). In the Line of Fire: The Peatlands of Southeast Asia. *Philosophical Transactions: Biological Sciences*, 371(1696), 1–9. <https://doi.org/http://dx.doi.org/10.1098/rstb.2015.0176>
- Pemberton, A. (2014). Environmental Victims and Criminal Justice: Proceed with Caution. In T. Sappens, R. White, & M. Kluin (Eds.), *Environmental Crime and Its Victims* (pp. 63–86). Surrey: Ashgate Publishing Limited.
- Rayda, N. (2019). Death Toll Rises as Millions in Indonesia Suffer from Raging Forest Fires. Retrieved January 9, 2020, from Channel News Asia website: <https://www.channelnewsasia.com/news/asia/death-toll-rises-as-millions-in-indonesia-suffer-from-raging-11902862>
- Schonhardt, S. (2016). Southeast Asia Hazard Caused Over 100,000 Deaths, Study Say. Retrieved January 14, 2020, from Harvard University Center for the Environment website: <http://environment.harvard.edu/news/faculty-news/southeast-asia-haze-caused-over-100000-deaths-study-says>
- Skinnider, E. (2011). *Victims of Environmental Crime – Mapping the Issues*. Vancouver: The International Centre for Criminal Law Reform and Criminal Justice Policy.

- Varkkey, H. (2014). Regional cooperation, patronage and the ASEAN Agreement on transboundary haze pollution. *International Environmental Agreements*, 14, 65–81. <https://doi.org/10.1007/s10784-013-9217-2>
- White, R. (2009-2010). Resistance to State Crime Environmental Victims and Through Transnational Activism. *Social Justice*, 36(3), 46–60.
- Williams, C. (1996). Environmental Victimization and Violence. *Agression and Violent Behavior*, 1(3), 191–204.
- Williams, C. (1997). Environmental Victims: Arguing the Costs. *Environmental Values*, 6(1), 3–30.