ASEAN and Environmental Security Taking Indonesian Haze Pollution as an Example

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Abstract
Military, economic, trade, and political issues traditionally have been the focus of many international organizations, however, environmental issues have increased in importance, given its impact on issues of both trade and national security. In organizations including the Association of Southeast Asian Nations (ASEAN), environmental pollution and climate change are becoming prominent topics of discussion, despite being a field traditionally limited to areas of scientific research.Indonesia is both the most significant contributor and victim of the Southeast Asian haze. However, haze pollution is a transregional environmental problem affecting all neighboring countries including Malaysia, Singapore, and Vietnam. Many of these countries recognize the importance of organizations such as the ASEAN in addressing these issues and hope that treaties and negotiations can form long-term solutions.This paper investigates environmental treaties belonging to the ASEAN framework, including the ASEAN Agreement on Transboundary Haze Pollution (AATHP) and the ASEAN Peatland Management Strategy 2006 – 2020. This study uses a 'level of analysis' system to explain the long-term impact of haze pollution on Southeast Asian countries and proposes further possibilities for transnational cooperation on environmental issues in the ASEAN.

Keywords: Levels of Analysis, Environmental Overnance, Haze Pollution, Climate Change, ASEAN

Introduction

In an international society system military, economic and political issues have been the focus of many international organizations, however environmental issues have become increasingly significant, given the impact of environmental factors on issues of both trade and national security. In response to issues of climate change, political considerations of individual countries are important meaning effective responses must be multilateral decisions (Giddens, 2011). Climate change is no only a natural science issue, but also an international political issue.

Every June to September, haze pollution originates from Indonesia, spreading to neighboring countries in Southeast Asia. Haze pollution has recently caught the attention of international community in 2019; with the air quality index of Indonesian Borneo area breaking the highest level of "dangerous level". Facing serious haze problems in Indonesia, at a public press conference in 2019. Malaysian Minster of Environment, Bee Yin Yeo expressed a wish in holding a conference with the Secretary General of Southeast Asian Nations, hoping to establish a more effective mechanism within ASEAN to solve the long-term problems of haze pollution.

The ASEAN was established in the post-cold war period, partially due to the rise of the Communist movements and the nationalism of Southeast Asian countries. At the same time, Southeast Asian countries have different national interests, national history and cultural backgrounds and must shape the integration of Southeast Asia by seeking common ground. When Southeast Asia countries face transnational environmental problems, in what role does ASEAN partake?

ASEAN Environmental Security Cross-Regions Cooperation

Background of Haze in Southeast Asia

In recent years, environmental issues have received widespread attention in Southeast Asia. The reasons why various regions are concerned about haze pollution include: 1) Haze pollution is a cross-regional problem 2) It will bring economic losses and human health problems. The issue of global warming is now widely concerned and occurrence of haze will make the effectiveness and management of environmental policies in Southeast Asia countries.

In the past, haze was typically caused by forest fires, propagated by El Niño-Southern Oscillation periodicity (James, 1999: 333). Nowadays, the primary cause of haze pollution are forest fires caused by human overcultivation and farming. Local farmers and commercial groups involved in farming and logging intentionally produce fires, particularly in Sumatra, Borneo, New Guinea and Java regions of Indonesia (Wun Cian Lin, 2006: 167). The Indonesian government encouraged develop commercial forest industry by felling tropical rainforest, resulting in rapid deforestation (James, 1999:333-334). Regions of tropical rainforest became cultivated land generally for large single cash crops such as palm, rubber, coffee, and coconut; following processing of these agricultural products and raw materials, many of these products have become the main export commodities of Indonesia. In order to maintain these economic interests, slash-and-burn strategies continue to occur.

Because of the prevailing southwest monsoon, haze pollution affects to Singapore, Malaysia and even southern Thailand; these Southeast Asia countries also to bear the problems caused by haze pollution from Indonesia. These problems including air traffic control, also affecting the economic problems caused by the delayed export of commodities. As the long-term problems of haze pollution in Indonesia have not been solved, these problems have become cross-regional environmental problems, with the ASEAN becoming a platform to solve these problems.

ASEAN Haze Governance Framework

We use level of analysis techniques to discuss the ASEAN governance framework of haze pollution, which is divided into four levels: global, regional, state, and local.

In the global level, under international environmental regimes include the United Nations Collaborative Programme on Reducing Emissions from Deforestation and forest Degradation (UN REDD+) project and the United Nations Forum on Forest and United Nations Framework Convention on Climate Change. From the emergence of environmental governance on the international stage, the World Climate Conference has been a platform for discussing the issue of environmental governance issues in the United Nations. Through multi-party of environmental conferences and scientific technological monitors, the increasingly serious environmental problem has been attributed to human factors. Scientific assessment reports penned by the Intergovernmental Panel on climate change have influenced the subsequent development of United Nations Framework Convention on Climate Change (UNFCCC), including the "Kyoto Protocol" and the "Copenhagen Agreement" to give a set of basic goals for countries, in addition with the vision announced in Agenda 21 to increase the practicality of UN environmental governance. However, the terms of implementation and the environmental costs borne differ from country to country, often affected by various levels of development. In recent years, the Paris Agreement has mentioned forests for the first time in the history of climate negotiations. A consultant to the REDD+ Safeguards Working Group, a coalition of civil society organizations. This universal agreement mandates all countries to conserve and enhance the ecosystems including oceans that draw carbon dioxide from the atmosphere. Through 'Nationally Determined Contributions' each country based on goals based on considerations of national interest including corresponding goals for various environmental issues. A more complete set of goals exist for sustainable forest development; through the United Nations Forum on Forests, more science reports have promoted sustainable forest management and restoration strategies.

At the regional level, ASEAN countries signed the "ASEAN Agreement on Transboundary Haze Pollution" in 2002, which came into effect in 2003. It established a legally binding haze governance within ASEAN to prevent, monitor, and mitigate land and forest fires, through the national, regional, and international cooperation. Among those countries, Malaysia was the first country to sign and approved the agreement in 2002, followed by Singapore, Brunei, Myanmar, Thailand, and Vietnam in 2003. Despite being the main contributor of haze pollution, Indonesia did not sign and approve until October 2014, being the last ASEAN country to sign to this agreement (Haze Action Online, 2014). All ASEAN countries signed the "Singapore Declaration on Climate Change, Energy and The Environment" in 2007, among which included Article 9, which stated a need to "Promote cooperation on

afforestation and reforestation, and to reduce deforestation, forest degradation and forest fires, including by promoting sustainable forest management, combating illegal, protecting biodiversity, and addressing the underlying economic and social drivers." To ASEAN has become a regional platform for express principled declarations on environmental issues in southeast Asia, allowing strengthened cooperation with other international organizations or non-governmental organizations. In 2019, ASEAN also submitted a statement on United Nations Framework Convention on Climate Change COP25, which include important decisions such as forest management and reducing greenhouse gas emissions from deforestation. ASEAN members also coordinate and discuss multiple times a year, examples of which include the first Technical Working Group (TWG) meeting held in Indonesia in 2007 setting up fire prevention mechanisms.

In the state level, Southeast Asian countries have cooperated with Indonesian government to reduce their own cross-regional pollution, carrying out disaster prevention by division of labor between member countries. Singapore has been responsible for supplying advanced high-tech equipment and technical personnel for pollution monitoring, together with Malaysian strengthened fire prevention, and Indonesian preparation for firefighting following an actual disaster (Yang Hao, 2006: 167). During the haze pollution in September 2019, Malaysian Minister of Environment BeeYin Yeo expressed publicly that Malaysia would be willing to help extinguish the forest fires in Indonesia's Kalimantan and Sumatra areas, as the haze also affected Borneo Sarawak areas. Hope to reduce severe haze as soon as possible by starting artificial seeding (cloud seeding) in cloudy areas to induce rainfall.

Last but not least, in local level, non-state actors play important actors in the regimes. For example, Singapore Institute of International Affairs(SIIA) has organized the "Regional Dialogue in Transboundary Haze" since 2006, penning a summary report was about the southern ASEAN region, to help predict the probability of haze in this region. The assessment includes weather, personnel, El Niño-Southern Oscillation, peat land and other indicators, with particular emphasis on an comprehensive assessment of recurrence of fire and haze in the peatlands of Sumatra and Kalimantan.

Case Study: Indonesian Haze

How to Governance

There has two reason that caused haze from Indonesia, the first part is that Indonesia's own peatland, the special soil environment and the natural factors caused by El Niño-Southern Oscillation. The second part is caused by human influence, developed rainforest and traditional cultivation way. I will focus on these two parts in the following paragraph, and under the ASEAN governance structure to put forward improvement policy and its prospect dilemma.

There are almost 25 million hectares' peatland in southeast asia, among them there are 70 percent in Indonesia. These peatlands breed more than three thousand species of plants and animals, and peatlands are the most important Carbon Storage and Its Spatial Pattern of Terrestrial Ecosystem. Extensive peatland are also the main storage places for carbon. Deforestation and conversion the land reduce to cultivated land, especially plantations of oil palm and pulp trees, and repeated fires recently caused

large carbon released into the atmosphere (Greenpeace, 2014). Peatlands from ASEAN countries drain, dry and degrade to burn 2 billion tons of carbon dioxide every year (ASEAN Haze Action Online, 2014). Among them, the fire caused by peatland is one of the important factors that cause haze in Indonesia. Peat soils is composed of plants. If the water in peat soil is drained let soils are easy to burn. And because burning occurs underground, it's easy to make thick smoke and also difficult to extinguish, caused serious forest fires and haze in Indonesia.

In order to increase Indonesia's rice production, Indonesian former president Suharto (*Haji Mohammad Suharto*) implement "Mega-Rice Project". He also took order to development of lowland peat soils in central Kalimantan, and more than one million hectares of forest peatlands were converted to commercial agricultural land (UDN News, 2015). This land cleaning method with serious El Niño Oscillation caused the worst peatlands and forest fire. About 1 million to 3 million hectares of vegetation were burned and most of them were peat without water. The fire went deep into the dry peat surface, causing serious haze pollution and soil problems.

Environment division of the ASEAN Secretariat discussed fire prevention and control actions related to peatlands in 2002, and adopted the "ASEAN Peatland Management Initiative" in ASEAN ministerial meeting 2003. There were four goals below. 1.Enhance awareness and knowledge on peatlands. 2.Address transboundary haze pollution and environmental degradation. 3.Promote sustainable management of peatlands. 4.Enhance and promote collective regional cooperation on peatland issues. The strategy sets out operational objectives that serve as guidance for ASEAN member states and other implementing departments, collaborating partners through actions and timeframe for these actions. The strategy can also play a greater role to provide the formal cooperation among ASEAN member states to solve peat-related problems in the region. Among them, it is mentioned in the management strategy that established sub-Regional Ministerial Steering Committee (MSC) and Technical Working Group on transboundary haze pollution (TWG) for monitoring and solving the haze problems in southeast asia regions. The 21st MSC hold on August 2019 in Brunei, and attended by ministers responsible for the environment, land, forest fires and haze, from, Indonesia, Malaysia, Singapore, and Thailand, and the Secretary-General of ASEAN. During the committee, those countries reiterated their willingness about provide assistance, such as providing technical resources for emergency firefighting assistance in emergencies. Through the ASEAN Meteorological Center, we, continue to monitor and evaluate regional climate and haze, strengthen haze control and management early warning, monitoring, and fire prevention and extinguishing, and improve the Fire Danger Rating System (FDRS). According to "ASEAN Agreement on Transboundary Haze Pollution" Standard operating procedures for monitoring, evaluation, and joint emergency response include alarm levels, trigger points, fire protection and suppression measures (ASEAN, 2018). Last, under the regional haze training network, establish bilateral cooperation between ASEAN members through AATHP.

About second part of the reason caused by human influence, Indonesian president Joko Widodo extended the suspension of granting new commercial concessions on primeval forests and peatlands, and suspended the issuance of new palm oil licenses for three years. And he set up the agency to restore peatlands -- Peatland Restoration Agency. 2.5 million hectares of degraded peatlands in seven provinces have been re-

maintained and restored since 2016. Under the rehabilitation of the Peatland Restoration Agency, and according to the report by Singapore Institute of International Affairs in 2019, it was mentioned that the hot spots in 2018 was much lower than in 2015 in Riau. Through the Peat Care Village (DPG) program, encourages the protection and management of peat ecosystems at the local level which contributed to strengthen the resilience of the forest-free disaster of the forest. Since 2018, it has cooperated with 262 villages, the provincial governments have participated in peatland restoration operations through directly managed financing mechanisms and also created online peatlands. The Peatland Restoration Information and Monitoring System (PRIMS) is used to monitor the recovery status of peat and provide alerts when there is new information. The Indonesian government and agri companies have strengthened the interaction between local government and rural communities, and improved the capabilities of fire prevention, detection, and rescue. Such as Free Fire Alliance (FFA), it is organized with multinational enterprise and NGOs, according APRIL, Asian Agri, Musim Mas Group, PM Haze and Sime Darby. Collaborate to share information, knowledge and resources to achieve the most economically efficient lasting solutions that would lead to a fire and haze-free Indonesia. There are three projects below：1. No burn village rewards. 2. Air quality monitoring. 3. Community fire awareness. In the no burn village program, it takes community as the center, develop the concept of fire prevention and community fire awareness, provide non- burning rewards, and provide agricultural assistance through community participation to further reduce burning risks. The fire-free village project was piloted in 2014 and officially launched in 2015. The project has been five years since last year (2019). At the same time, villages that reach the fire-free standard provided incentives of IDR 100 million per village. It also continued and expanded the scope of influence and village planning.

The challenges and visions of governance

The governance network provides funds, technology, platforms, etc. It made up for the Indonesian government's lack of relevant technology and funds, reduced economic doubts, and was more willing to carry reducing forest fire area, personnel training, and peatland management. Indonesian governance network is no longer limited to official institutions. according NGOs and Multinational Enterprise. Strengthen cross-border cooperation with other countries show the value of environmental sustainability.

The treaty and strategy of international environmental regime didn’t have responsibility to let countries abide. And smallholders find it increasingly hard to participate in these markets, they need the real benefits. Obtain financing and improve its agricultural practices, increasing its production and profits. Like Roundtable on Sustainable Palm Oil (RSPO). There are 8 principles for growers to be RSPO certified.

1. Commitment to transparency. 2. Compliance with applicable laws and regulations. 3. Commitment to long-term economic and financial viability. 4. Use of appropriate best practices by growers and millers. 5. Environmental responsibility and conservation of natural resources and biodiversity. 6. Responsible consideration of employees and of individuals and communities affected by growers and mills.7. responsible development of new plantings. 8. Commitment to continuous improvement in key areas of activity. And another company is Asian Agri. it is one of

the leading national private companies in Indonesia that produces crude palm oil through plantations that are managed sustainably. It has two projects. First, independent Smallholders Empowerment Programs. Second, no land burning policy -- is a pioneer of the smallholder partnership program with the objective to improve the welfare of smallholders' families as well as to support the sustainable palm oil management in Indonesia. Both are reducing the haze pollution in Indonesia.

Conclusion

The Indonesian haze problems is not only exist in Indonesia, it affected to other countries in Southeast Asia. It can also be seen from the case study that Indonesia has a contradictory relationship between economic development and environmental protection. Although the Indonesian government wanted to improve the problem of forest burning, the economic benefits are considerable by deforestation and burning. On the other hand, Indonesia lacks the technology and funds for environmental management to change the agricultural method of burning forests. The contradictory relationships often make relevant environmental policies ineffective. Through the ASEAN's environmental governance structure, the cooperation between transnational and non-governmental organizations, and the Indonesian haze problem is examined from the perspective of "cross-regional governance".

Under ASEAN Environmental governance network. There are three parts of environmental governance network. First, International sociality, Continue the AATHP and formulate more binding regulations to improve haze damage and forest protection. Second, Technology and Funds, through the United Nations, ASEAN Meteorological Center, ADRC and other international organizations, provide information and technology, increase communication and coordination between countries. And conduct supervision, increase fire warning systems, make the haze and fire detection network more comprehensive, and also more beneficial the establishment of a disaster prevention system. Last, Actual operation, in addition to promoting through national government policies, non-state actors must also be included in the governance structure. These non-governmental organizations or corporate organizations provide substantial technical assistance and information transmission.

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