

**INSTITUTIONALIZING
ENVIRONMENTAL PEACEBUILDING:
LEGAL AND POLITICAL
COLLABORATION BETWEEN JAPAN
AND INDONESIA IN PEATLAND
RESTORATION AND TRANSBOUNDARY
HAZE GOVERNANCE**

A Thesis

**Submitted to the Master's Study Program of Political Science
at the Faculty of Social Sciences in partial fulfilment of the
requirements for the degree of**

Master of Arts (M.A.)



by:

Dotto Koyage Philipo

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**UNIVERSITAS ISLAM INTERNASIONAL INDONESIA
DEPOK
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ABSTRACT

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This thesis aims to examine on how two differences in institutional designs and cooperation mechanisms can shape the ecological and peacebuilding outcomes in Indonesia's peatland governance and transboundary haze mitigation from 2015 and 2025. This thesis's focus is based on a comparative analysis of the ASEAN Agreement on Transboundary Haze Pollution (AATHP) under the multilateral framework and bilateral cooperation under Japan- Indonesia cooperation through JICA and BRGM. This thesis also aims to address an important gap in the literature, whereby the existing scholarship tends to analyze these two institutional mechanisms on separately rather than comparatively. By applying core neoliberal institutionalism and environmental peacebuilding theories, this thesis develops two important hypotheses to assess how variations in implementation capacity and multi-level engagement influence on ecological effectiveness and peace-related outcomes in Southeast Asia. Methodologically, this thesis has employed a qualitative comparative case study combined with process tracing, using policy documents, institutional reports, and secondary empirical data to examine both frameworks within the same gap. The findings show that bilateral cooperation has been more effective in delivering targeted ecological outcomes. For example, peatland restoration mechanisms, fire prevention processes, and localized livelihood support have been implemented, particularly in priority regions such as Riau and Central Kalimantan in Indonesia. In contrast, the multilateral level under the AATHP played a more significant role in maintaining interstate dialogue. For example, this multilateral framework has facilitated information sharing among member states and preventing the escalation of diplomatic tensions caused by transboundary haze despite its limitations in enforcement and implementation due to a lack of enforcement. However, both institutional frameworks have exhibited structural constraints. Therefore, this bilateral initiative is geographically limited and limited in addressing broader political-economic issues, while this multilateral framework struggles to coordinate into tangible ecological improvements domestically. Therefore, this thesis concluding that institutional designs matter significantly for environmental governance outcomes and that effective environmental peacebuilding requires combining the strengths of both multilateral and bilateral approaches. Therefore, this thesis contributing to the literature by offering a systematic comparative analysis of institutional effectiveness in Southeast Asia and provides policy-relevant insights for improving peatland governance and haze mitigation strategies across the region.

Keywords: *Environmental peacebuilding, ASEAN, haze governance, AATHP, peatland restoration, Indonesia, Japan–Indonesia cooperation, Neoliberal institutionalism, Transboundary haze.*

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ABBREVIATION DIRECTORY

AATHP	: <i>ASEAN Agreement on Transboundary Haze Pollution</i>
ASEAN	: <i>Association of Southeast Asian Nations</i>
BRG	: <i>Badan Restorasi Gambut</i>
BRGM	: <i>Badan Restorasi Gambut dan Mangrove</i>
JICA	: <i>Japan International Cooperation Agency</i>
MRV	: <i>Monitoring, Reporting, and Verification</i>
NGOs	: <i>Non-Governmental Organizations</i>
COP	: <i>Conference of the Parties</i>
IVs	: <i>Independent Variables</i>
DVs	: <i>Dependent Variables</i>
IR	: <i>International Relations</i>
UNEP	: <i>United Nations Environment Programme</i>
UNDP	: <i>United Nations Development Programme</i>

CHAPTER I

INTRODUCTION

1.1 Research Background

Recent studies and scholarship on large-scale environmental degradation and the rise of haze episodes in Southeast Asia have intensified serious concerns about which global governance institutional frameworks are effective in tackling severe ecological damage and haze outbreaks originating in Indonesia. For more than twenty years, reports have shown that many countries around the world have joined various multilateral treaties, such as ASEAN Agreement on Transboundary Haze Pollution (AATHP) in Southeast Asia, as well as regional agreements and bilateral partnerships, such as cooperation between Japan and Indonesia through Japan International Cooperation Agency (JICA) and *Badan Restorasi Gambut dan Mangrove* (BRGM). These efforts share a common goal. Cooperation aims to address core environmental challenges, such as transboundary haze in Southeast Asia. For example, some forms of multilateral regional governance include the Paris Agreement at the global level, ASEAN's Agreement on Transboundary Haze Pollution (AATHP), and other bilateral cooperation, such as Japan-Indonesia projects on peatland restoration through its agencies and collaboration with local communities. There are still researchers, academic scholars, and policymakers who debate how far these arrangements translate into concrete ecological improvements and reductions in haze episodes in Southeast Asia. However, in Southeast Asia, recurring peatland fires in Indonesia and the transboundary spread of haze have continuously tested the capacity of international and regional institutions' designs to safeguard, for example, ecosystem management, health, and regional stability since the late 1990s.

The continuation of transboundary haze pollution in Southeast Asia has revealed significant institutional gaps at both the domestic and regional levels. The recurring fire and surge of haze pollution in Southeast Asia have contributed to the existence of an institutional gap driven by weak enforcement and limited incentives, particularly regarding regional cooperation under the AATHP agreement's non-

interference principle, which hinders mutual assistance among neighboring countries and makes it difficult to respond effectively to transboundary environmental issues in Southeast Asia. Recent studies and scholarship on this multilateral agreement, especially the ASEAN Agreement on Transboundary Haze Pollution (AATHP), have shown that although this regional multilateral agreement has provided a solid formal framework for regional collaboration, its outcomes are constrained by inconsistent implementation and by issues such as a lack of enforcement tools and differing national policy priorities among member states (Chaves et al., 2025; Fadilah & Tobing, 2025).

However, the existing limitations and gaps are particularly evident from 2015 to 2025, when severe fires and haze were reported across Southeast Asia. Therefore, the recurring haze episodes are a stress test for the existing governance system. This led to a high demand for stronger institutional capacity and more coordinated transboundary responses during periods of high environmental risk in Southeast Asia. According to studies and scholarship, the rise of transboundary haze pollution in Southeast Asia often occurs during the dry season and regularly turns into a governance crisis due to high levels across the region. The transboundary character of haze pollution is illustrated by the concentration of fire hotspot activity across Sumatra during the September 2019 haze episode.

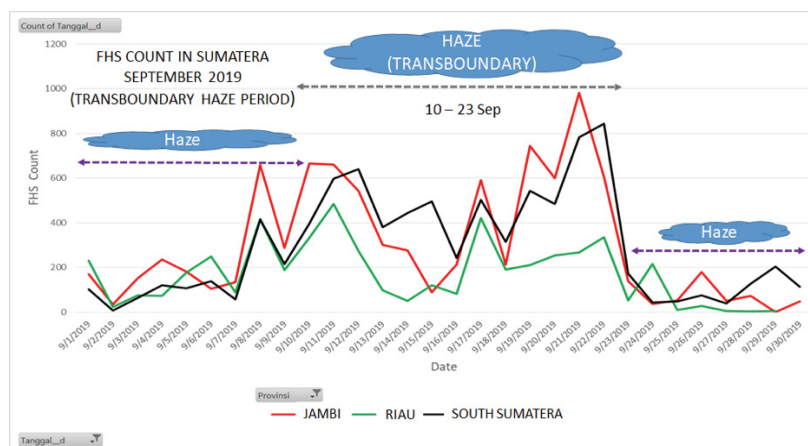


Figure 1.1: Fire hotspot (FHS) counts in Jambi, Riau, and South Sumatra during September 2019, showing the identified transboundary haze period (10–23 September).

This figure shows that FHS counts in Riau, Jambi, and South Sumatra peaked between September 10 and 23, 2019. Therefore, according to Greenpeace's analysis, this period marked the peak of the haze pollution surge and coincided with days when smoke rose from these provinces, blanketing neighboring countries such as Singapore and Peninsular Malaysia and creating transboundary haze that worsened air quality in downwind states (Greenpeace Southeast Asia, 2019, ASEAN Haze 2019: The Battle of Liability).

1.3 Problem Statement

In this thesis, I address a key gap in the study of transboundary haze governance and peatland restoration in a Southeast Asia case study in Indonesia. Although the ASEAN Agreement on Transboundary Haze Pollution (AATHP) is a multilateral instrument, this institutional design has been widely examined in existing scholarship, particularly its weaknesses and sovereignty-protective soft-law design (Tan, 2005; Varkkey, 2015). In contrast, the bilateral cooperation between Japan and Indonesia under JICA and BRGM has received less attention and has more effective on-the-ground outcomes. Moreover, existing studies often treat multilateral and bilateral mechanisms as separate domains of analysis the existing problem gap on transboundary haze and environmental degradation in Indonesia and Southeast Asia As a result, the ASEAN Agreement on Transboundary Haze Pollution (AATHP) is commonly analyzed as a regional governance mechanism and maintain regional diplomacy while the cooperation between the Japan and Indonesia is often framed primarily as development assistance or technical collaboration on restoration process and on ground practice by cooperate with local community to restoral water level on depredated peatlands, rather than as a distinct institutional framework with implications for environmental governance and peacebuilding in the context of the haze crisis and peatland degradation on region (Indonesia Ministry of Environment and Forestry, 2025; Sopha et al., 2024).

This separation creates a gap in the literature, as there is limited comparative and integrated analysis of how differences in institutional design and cooperation mechanisms between multilateral and bilateral frameworks shape ecological and

peace-related outcomes. These outcomes include peatland restoration, fire prevention, management of interstate tensions, reduction of local grievances, and the building of trust among stakeholders. Therefore, this thesis conducts a systematic comparison to examine how variations in institutional design influence both environmental effectiveness and environmental peacebuilding outcomes in Indonesian peatlands.

1.4 Research Questions

- A. How do AATHP and Japan–Indonesia bilateral cooperation differ in institutional design and cooperation mechanisms for peatland and haze governance?
- B. How do these differences affect ecological and peace-related outcomes in Indonesian peatlands from 2015 to 2025?

1.5 Objectives of the Study

This thesis's main objective is to examine how the institutional design and cooperation mechanisms of the ASEAN Agreement on Transboundary Haze Pollution (AATHP) and Japan–Indonesia bilateral collaboration operate through agencies such as JICA and BRGM. This thesis is grounded in the environmental peacebuilding concept and neoliberal institutionalist ideas, which address that international institutions can help to foster cooperation by sharing information and reducing costs through obligation, clarity, and delegation (Keohane, 1984; Abbott et al., 2000; Keohane & Martin, 1995). My thesis also responded by highlighting the soft-law and sovereignty-protective nature of these arrangements, especially at the multilateral level, whereby member states are limited from interfering in other countries' internal affairs. This limitation slowed ecological management. In contrast, the bilateral cooperation between Japan and Indonesia, as another institutional framework, is more concrete and project-based in the restoration of peatlands on the ground (Indonesia Ministry of Environment and Forestry, 2025; JICA, 2025).

This thesis aims to examine how the institutional design and cooperation mechanisms of the ASEAN Agreement on Transboundary Haze Pollution (AATHP) and Japan–Indonesia bilateral collaboration shape ecological and peace-related outcomes in Indonesian peatland governance between 2015 and 2025. Specifically, the study compares how differences in multilateral and bilateral frameworks influence peatland restoration, fire prevention, management of interstate tensions, reduction of local grievances, and trust-building among stakeholders.

1.6 Scope

This thesis focuses on the effectiveness of two institutional frameworks in managing Indonesia’s peatland fires and transboundary haze pollution: the ASEAN Agreement on Transboundary Haze Pollution (AATHP) as a multilateral framework, and bilateral cooperation between Japan and Indonesia through JICA and BRGM. The analysis examines how differences in institutional design and cooperation mechanisms between these frameworks shape ecological outcomes such as peatland restoration and fire prevention, as well as peace-related outcomes including interstate tension management, local grievances, and trust in peatland governance. The study focuses on Indonesia, particularly in priority provinces such as Central Kalimantan and Riau, which are heavily affected by peatland degradation and haze. The timeframe of analysis covers the period 2015 to 2025, capturing key developments such as Indonesia’s ratification of AATHP and the establishment of BRGM.

1.7 Limitations

This thesis also has important substantive limitations related to the scope of analysis. While it focuses on the institutional design and effectiveness of the ASEAN Agreement on Transboundary Haze Pollution (AATHP) and bilateral cooperation between Japan and Indonesia, it does not examine the role of corporate actors, global supply chains, or alternative international funding mechanisms such as climate finance institutions. These factors may also significantly influence peatland governance, fire incidence, and environmental outcomes in Indonesia,

particularly given the role of commercial agriculture and international market dynamics in driving peatland degradation. The exclusion of these dimensions means that the analysis remains centered on institutional cooperation frameworks and therefore does not fully capture the broader political-economic forces shaping haze governance and peatland restoration in Southeast Asia.

This thesis also has limitations in its research design, as it struggled to empirically trace causal links between specific institutional features and observed ecological or peace-related outcomes due to data limitations and overlapping policies and programs in the same locations. For example, some materials, such as internal evaluations, detailed project reports, and diplomatic communications, are not fully accessible; as a result, the empirical record may be biased toward publicly available documents and secondary data. In addition, some of the evidence is based on local impact, grievances, and trust drawn from existing studies, Non-Governmental Organization (NGOs) reports, and testimonies from local communities living in hotspot areas, rather than on original fieldwork across all affected communities. As a result, the local perspective may be less detailed and less representative.

Therefore, from the analytical perspective, this thesis has chosen the qualitative case-study approach, which will make the findings context-specific. For example, these case studies can provide theoretical and policy insights that may be useful for other regions and for institutional design, including Tanzania, South American countries such as Brazil, Colombia, and Guatemala, and all countries across the Amazon rainforest. But these case studies are not intended to be universally applicable beyond Indonesian peatlands and ASEAN's haze governance.

1.8 Thesis Structure

Chapter one of this thesis begins by presenting the background, then moves to the problem statement, research Questions, objective of the study, scope, limitations, and structure. Chapter two, of this thesis starting with develops the theoretical and conceptual frameworks by link with the primarily theme of this

thesis, where, I beginning by reviewing literatures and studies on neoliberal institutionalism, and the concept of environmental peacebuilding and combine these strands into analytical lens for comparing multilateral under ASEAN through ASEAN Agreement on Transboundary Haze Pollution (AATHP), and bilateral framework between Japan and Indonesia cooperation Through its agencies JICA and BRGM, especial or ecological restoration and transboundary haze crisis in Southeast Asia. Chapter three of this thesis dives deep into the research design and methodology, including case selection, data sources, and analytical strategies for evaluating institutional features and their outcomes. Chapter four will provide all the empirical analysis of institutional design and cooperation mechanisms applied by both AATHP and Japan-Indonesia bilateral cooperation. In this analysis, the thesis will apply the analytical dimension developed in the theoretical framework.

Chapter five of this thesis will come to a conclusion by giving the conclusion and recommendations based on my understanding and suggestions for future researchers, where expectations for observation on ecological and environmental peacebuilding will be discussed, including the outcome between 2015 and 2025, as well as my recommendations on the effectiveness and implementation of Indonesia's environmental peacebuilding strategy. And my conclusion will summarize the main findings and discuss their theoretical and policy relevance. Also, suggestions on direction for future research on institution design, environmental design, and peacebuilding in Southeast Asia and globally.

Therefore, drawing on the research background, problem statement, and research questions outlined in Chapter One of this thesis, the next chapter will address the thesis's theoretical and conceptual framework. This thesis reviews key scholarship and studies, particularly on environmental peacebuilding and theory, such as neoliberal institutionalism, ASEAN haze governance, and bilateral cooperation between Japan and Indonesia, as well as the limitations of international environmental governance, to clarify the concepts.

CHAPTER II

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Environmental Peacebuilding: Concepts and Debates

In this thesis, I explained existing literature on environmental peacebuilding, which highlights the relationship between environmental governance and conflict mitigation in Southeast Asia. Therefore, scholars and researchers argue that environmental cooperation can reduce tensions and foster trust, particularly through shared resource management and inclusive governance frameworks (Conca & Dabelko, 2002; Ide, 2021). However, most studies focus on general theoretical debates, while limited attention has been given to specific cases such as peatland governance and transboundary haze in Southeast Asia, whereby there few scholars have described these cooperative institutional frameworks, especially transboundary haze pollution in Southeast Asia.

2.2 ASEAN Haze Governance and AATHP

Building on the discussion from this thesis, Chapter One, where ASEAN's response to recurring fires and transboundary haze across Southeast Asia has focused on the ASEAN Agreement on Transboundary Haze Pollution (AATHP), which was adopted in 2002 as the first regional, legally binding treaty specifically targeting the haze crisis in Southeast Asia. Multilateral cooperation is being built through ASEAN, under the umbrella of the ASEAN Agreement on Transboundary Haze Pollution (AATHP), with a focus on responding to recurring peatland fires and transboundary haze crises across Southeast Asia. This multilateral agreement was adopted in 2002 as the first regional multilevel, legally binding treaty designed to address haze. This agreement was primarily established to foster cooperation, for example, through monitoring, prevention, and mitigation, by encouraging measures such as information sharing and capacity building among member states. This was the milestone in the adoption of regional environmental governance (ASEAN, 2002; Nazeer & Furuoka, 2017).

ASEAN member states adopted the AATHP agreement in 2002 as their primary regional legal response to recurring fires and haze in Southeast Asia. This

was a legally binding multilateral treaty that sets out principles and procedures for regional cooperation on haze crises (ASEAN, 2002; Nazeer & Furuoka, 2017). The ASEAN Agreement on Transboundary Haze Pollution (AATHP) core objectives include promoting information sharing, joint monitoring, and emphasizing capacity building to prevent, detect, monitor, and mitigate the transboundary Haze crisis in the surrounding region (ASEAN, 2002; Heilmann, 2015).

However, even after its establishment, the haze crisis continues to recur. The report on the 2015 haze episodes, following Indonesia's delay in ratifying the agreement until 2014, has raised many questions about the effectiveness of the multilateral agreement signed by ASEAN member states, particularly regarding AATHP's ability to improve environmental conditions and protect affected communities and their livelihoods. Therefore, this Empirical research has identified several systemic challenges that slow progress, including an inconsistent enforcement structure grounded in soft law, continued dependence on local community land burning, and a fragmented governance structure at both the domestic and regional levels. Despite improvements in coordination, sustained haze reduction through multilevel cooperation remains difficult. For example, AATHP faced limited legal clarity, sanctions, insufficient interagency cooperation, and insufficient community involvement (Safitri, 2021; Dewi, 2023). Further, this thesis cites studies and scholarship suggesting that, due to a lack of strong sanctions and Indonesia's delayed ratification. Therefore, in this thesis, the multilevel mechanism underlying AATHP's operational impact was limited, making long-term haze reduction dependent on stronger national enforcement and more coordinated collective governance efforts to tackle haze episodes affecting Southeast Asia (Alvin, 2022; Chaves et al., 2025).

However, scholars and academic researchers argue that AATHP's soft-law design relies on sovereignty-protective voluntary reporting and weak implementation of consistency by member states. These factors have placed limits on the institutions' ability to change state behavior and address haze pollution challenges (Heilmann, 2015; Nazeer & Furuoka, 2017). Indonesia only ratified AATHP in late 2014 under Law No. 26/2014 to prevent severe haze episodes, but

a major haze crisis occurred the following year. For example, the massive fires and haze crisis of 2015 led many observers to question the applicability of regional institutions, particularly AATHP, in improving ecological conditions or protecting affected communities in Indonesia and the region at large (Heilmann, 2015; Nazeer & Furuoka, 2017).

Recent research shows that the multilateral aspect of the ASEAN Agreement on Transboundary Haze Pollution (AATHP) remains empirically understudied with respect to its governance-related problems. Some of the most pressing issues are the lack of national-level enforcement, conflicting interests among ASEAN members driven by their pursuit of development, and insufficient regional instruments to ensure compliance (Alvin, 2022; Chaves et al., 2025). In other words, these problems prevent AATHP from being sufficiently efficient at minimizing haze occurrences and their negative impact on the region. This is why current researchers, including scholars and policy-makers, seek ways to address the problem through non-AATHP solutions. One of them can involve Japan-Indonesia collaboration aimed at solving governance-related problems and improving regional coordination. Research further shows that Indonesia is guided by several national priorities related to its economic interests, land ownership, and sovereignty when joining ASEAN agreements (Gunawan, 2019; Luerdi, 2022).

Indonesia's peatlands are burned by local communities and corporations for land clearance and to prepare cash-crop plantations, such as palm oil and timber. This process has contributed to surges of thick haze that blanketed Southeast Asia. For example, Singapore, Malaysia, and surrounding regions have reported haze. These transboundary haze pollution crises have exposed weaknesses in regional environmental governance. For example, between 2000 and 2025, haze-related health problems in Southeast Asia have been reported to have caused around 100,000 premature deaths, and economic losses linked to haze have caused problems such as flight cancellations, reduced tourism, and workplace disruptions, with estimates totalling more than 43 billion US dollars (Varkkey, 2015).

The continuation of the transboundary haze pollution crisis is closely linked to peatland degradation, driven primarily by traditional land-clearing practices by local communities, such as the slash-and-burn method, and the rapid expansion of palm oil plantations on drained peat soils, especially in regions such as Riau and Kalimantan. Therefore, the transboundary haze pollution crisis has become one of the major regional governance challenges in Southeast Asia, straining coordination among ASEAN countries and creating visible cross-border impacts on public health, economic activity, and diplomatic relations.

Recent studies show that adopting sustainable peatland management is central to reducing fires and haze in Indonesia and Southeast Asia, for example, through initiatives such as Indonesia's Zero Burn Policy and the ASEAN Peatland Management Strategy. Most research on Indonesian peatlands highlights that policies and strategies are key tools for preventing fires and restoring degraded peatlands. However, serious problems remain with enforcement, coordination among government agencies, and the clarity and consistency of legal rules across Southeast Asia (Tjahjadi et al., 2025). Also, there are bibliometric and roadmap studies and scholarship shown on haze governance and health impacts, which argue that Southeast Asia needs stronger regional cooperation, effective, systematic monitoring, and clear improvements in governance (Yap & Setyawan, 2025).

The establishment of Indonesia's Zero Burning Policy under the Presidential Instruction (*inpres*) No.11 of 2015 on Forest and Land Fire Control, by the Indonesian Ministry of Environment, which was closely aligned with ASEAN member states, serves as a key driver of domestic adoption and, later, strict enforcement through directives such as the 2015 presidential instruction on forest control. This policy strictly prohibited the widespread use of slash-and-burn techniques due to the low cost of land preparation. For example, most targeted activities include large-scale commercial land clearing by corporate entities for palm oil production and paper plantations, as well as the traditional burning of forests in highly flammable peatlands by smallholder farmers to clear fields for subsistence crops (ASEAN Secretariat, 2003). However, Indonesia's Zero Burning Policy has achieved limited success and effectiveness, facing challenges in its

applicability due to socio-economic drivers, including Indonesia's status as a major global producer and supplier of palm oil. Therefore, this reason can challenge efforts to translate regulatory goals into enforcement at both the domestic and regional levels, for example, the reduction of peatland fires, which play a major role in the Southeast Asia haze crisis (Hanafi & Ansari, 2023; Tjahjadi et al., 2025).

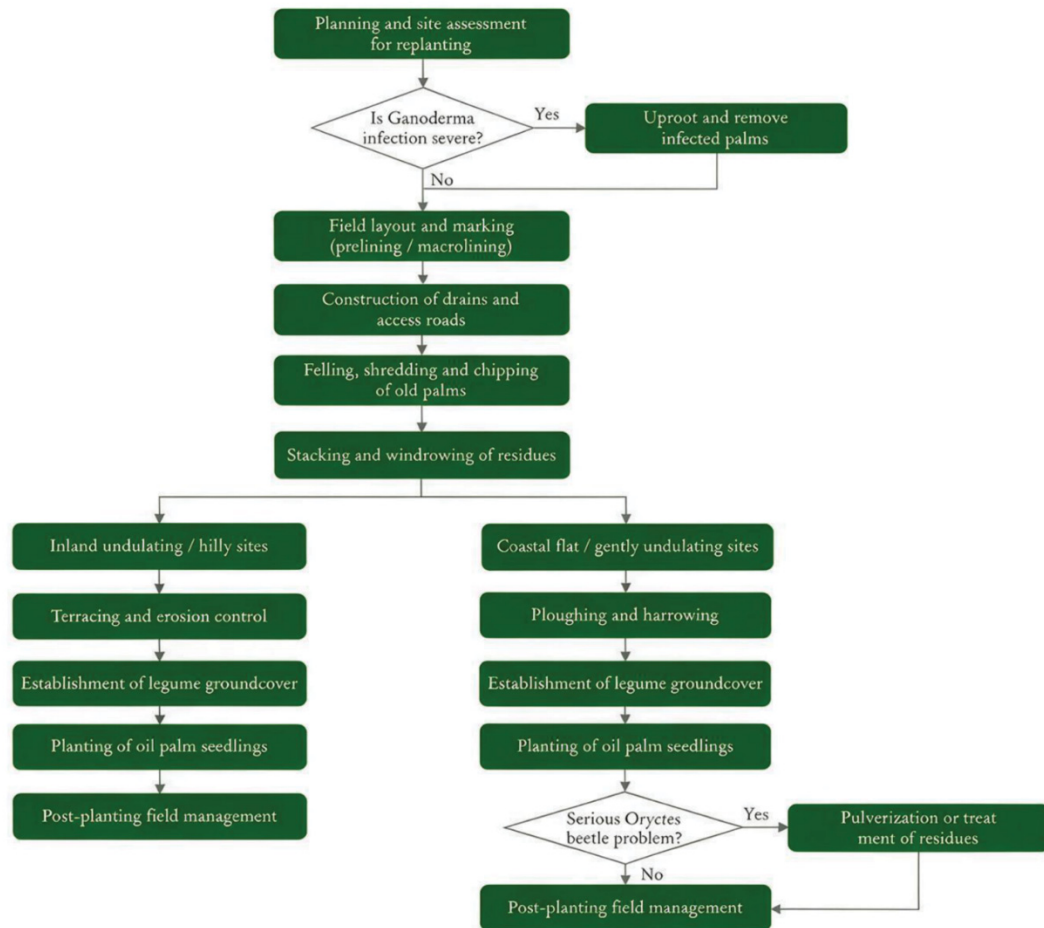


Figure 2.1. Zero-burning oil palm replanting procedure (author's illustration, adapted from ASEAN Guidelines for the Implementation of the ASEAN Policy on Zero Burning).

2.3 Japan–Indonesia Bilateral Cooperation on Peatlands

The bilateral cooperation between Japan and Indonesia on peatland restoration and transboundary haze governance was initiated by the Science and Technology Research Partnership for Sustainable Development (SATREPS),

which ran from 2009 to 2014. This partnership was fully supported by an initial Japanese funding commitment. For example, Japan invests about 384 million yen to develop an integrated peat-forest management and carbon monitoring system (JICA, 2016). In Indonesia, the Japan initiative worked together with Indonesia's Peatland Restoration Agency (*Badan Restorasi Gambut dan Mangrove*, BRGM). This foundation partnership achieved numerous successes in reducing peat fires and environmental degradation in Indonesia, particularly in provinces such as Central Kalimantan and Riau on the island of Sumatra. For example, this initiative has established village-based fire facilitation teams for a robust introduction of technology-driven initiatives, such as advanced pilot projects like the restoration of 10000 hectares of severely degraded land, for example, in the Mega Rice Project site in Central Kalimantan, using drones supported by AI and also satellite monitoring (Sumitomo Forestry Co., 2024).

Alongside ASEAN's multilateral framework, Japan and Indonesia have established bilateral cooperation on peatland management and haze reduction campaigns under the JICA Memorandum of Understanding. Japan provides technical assistance and funding to support the restoration of peatlands, strengthen fire prevention, and enhance community-based initiatives in selected priority provinces (JICA Indonesia, 2025). Indonesia's Peatland Restoration Agency (BRG) served as a key institution in this cooperation and was established by the government in 2016. In collaboration with JICA, this Indonesian Agency (BRGM/BRG) successfully implemented practical measures. For example, canal blockings, peatland rewetting, village-level fire management, and livelihood support for communities in Central Kalimantan and Riau (BRGM, 2021).

In contrast to the ASEAN multilateral level under the ASEAN Agreement on Transboundary Haze Pollution (AATHP), which relies on soft-law commitments and state sovereignty. The bilateral partnership between Japan and Indonesia has focused primarily on specific, time-limited projects with clearly defined activities. For example, installing canal-blocking measures, rewetting degraded peatlands, revegetating, and improving community-based fire prevention programs, especially in Riau and Kalimantan.

2.4 Bilateralism, Multilateralism, and Cooperation Mechanism in Environmental Governance

Beyond specific institutions, for example, the ASEAN Agreements on the Transboundary Haze Pollution (AATHP) and the bilateral cooperation between Japan and Indonesia under JICA and BRGM. There is broader literature debating the relative strengths and weaknesses of bilateral and multilateral arrangements in international environmental governance. Whereby, the multilateral agreements are often valued for their inclusiveness and ability. For example, these institutions can set common norms, create regional forums, and also help to coordinate responses across multiple states within the ASEAN member states. However, the AATHP is limited and relies on soft-law commitments to its member states, and other factors, such as consensus-based decision making and voluntary reporting, where these factors can cause limitations on enforcement and slow implementation in politically sensitive issue areas, for example, the transboundary haze crisis in Southeast Asia. In contrast, the bilateral frameworks have tended to be more targeted and operational, both on ground effectiveness and reduction of haze episodes in Southeast Asia, whereby the bilateral cooperation between Japan and Indonesia through its agencies JICA and BRMG has specific projects on the mission of peatland restoration. For example, this bilateral cooperation has funding schemes and also technical assistance, whereby the effectiveness covers fewer actors and may be confined to selected locations, rather than addressing regional problems comprehensively, which is different from the ASEAN multilateralism mechanism.

In other words, researchers and scholars have explained in this context of development cooperation, whereby the scholars have highlighted how different “*cooperation mechanisms*” can shape the outcomes on the ground with clear examples of the effectiveness of the bilateral cooperation between. Indonesia and Japan, through their agencies JICA and BRGM, are working in priority provinces such as Riau and Kalimantan in Indonesia. Therefore, these institutions’ mechanisms play important roles. For example, grant-based technical assistance, joint research programs between Japan and Indonesia expert especial on ecological

management and peatland restoration issues, capacity-building initiatives, funding, and providing community-level livelihood support.

These multilateral bodies, for example, the ASEAN Agreement on Transboundary Haze Pollution (AATHP) and the United Nations (UN) agencies, play their role by sharing different issues within institutions, such as environmental degradation, like traditional clearing of land likes slash and burn method, which causes environmental degradation. For example, these multilateral organizations can emphasize regional strategies, action plans, and coordination platforms in various issues within or outside their member states. In contrast, bilateral cooperation between Japan and Indonesia through JICA and BRGM has shown that donors like Japan commonly work; for example, JICA has detailed project documents on the ground, steering committees, and long-term partnerships with national agencies. Although there are debates in the development studies that suggest that, while multilateral institutions can help articulate shared goals and standards, and the bilateral arrangements may be better positioned to deliver concrete interventions, adapt to local conditions, and experiment with innovative tools such as sensor networks, early-warning systems, and community-based fire brigades especially on ground project especially on targeted, for example in Kalimantan and Riau In Indonesia.

At the same time, critical perspectives warn that both bilateralism and multilateralism are embedded in wider political-economic structures. Multilateral agreements may reproduce power imbalances and prioritize regional stability over local justice, while bilateral cooperation can reflect donor interests and create dependencies on external expertise. For Southeast Asia's haze and peatland crisis, this means that institutional design alone cannot fully explain environmental and peace-related outcomes; domestic politics, market pressures, and global commodity chains also matter. Nevertheless, comparing multilateral and bilateral cooperation mechanisms within the same national context, as this thesis does for Indonesia, can reveal how different institutional logics translate into distinct patterns of intervention, coordination, and engagement with local communities.

Situating AATHP and Japan–Indonesia cooperation within these broader debates helps to clarify the analytical focus of this thesis. Rather than asking which type of institution is universally superior, the study examines how one multilateral regime and one bilateral partnership have functioned as complementary and sometimes overlapping responses to peatland degradation and transboundary haze in Indonesia, and what kinds of ecological and peace-relevant effects are associated with their respective cooperation mechanisms between 2015 and 2025.

2.5 Identified Research Gap and Contribution

Therefore, in this chapter, we have discussed the literature reviews, scholarship, and studies that reveal the theme of this thesis, which points to a clear empirical and analytical gap across environmental peacebuilding, the key theory of neoliberal institutionalism, and Southeast Asia haze governance challenges, both at the domestic and regional levels. Environmental peacebuilding studies and scholarship have paid limited attention to Southeast Asia and have not specifically examined peatland restoration and transboundary haze mitigation as peacebuilding efforts, despite their clear implications for interstate relations, including local grievances, environmental justice in Indonesia, and Southeast Asia member states. In Southeast Asia, most research on ASEAN haze governance focuses on the applicability of the AATHP's soft law and its sovereignty-protective design. However, most of these studies primarily evaluate agreement through institutional development and policy outputs rather than by comparing ecological and peace-related outcomes achieved by these institutional frameworks. These gaps and limitations identified in the existing literature provide the foundation for the theoretical framework developed in the next chapter, which outlines how institutional design and environmental peacebuilding concepts are applied to analyze the Indonesian peatland and transboundary haze context.

2.6 Theoretical Framework

This chapter of this thesis will focus on building on the conceptual and empirical discussion through employing a theoretical framework which will link between these two institutions addressed in this thesis, on the basis of the

multilateral level under ASEAN's presented by the ASEAN Agreement on Transboundary Haze Pollution (AATHP), and ongoing bilateral collaboration between Japan and Indonesia on the peatland restoration process and monitoring the transboundary haze crisis in Southeast Asia through its agencies such as, JICA and BRGM. Therefore, in this chapter, this thesis will employ neoliberal institutional theory as the primary theoretical framework to address key ideas, reveal its concepts, and examine how environmental peacebuilding can serve as an outcome framework. Generally, this chapter will underscore this foundation by setting out an integrated analytical framework that links institutional design features to ecological and peace-related outcomes, and by developing testable hypotheses supported by both independent and dependent variables.

2.7 Neoliberal Institutionalism and International Regimes

The core concept of neoliberal institutionalism in International Relations is that states can cooperate even in an anarchic system. For example, institutions, through cooperation, can help reduce uncertainty, lower transaction costs, share information, and make commitments more credible. The founder of this theory is Robert O. Keohane, who explains it in his work *"After Hegemony."* Keohane's idea has been captured by defining this theory as;

"...international regimes perform the functions of establishing patterns of legal liability, providing relatively symmetrical information, and arranging the costs of bargaining so that specific agreements can more easily be made..." (Keohane 1984, p. 85)

In this context, these international regimes are sets of implicit norms, rules, and even decision-making procedures that can help states to coordinate their expectations and sustain cooperation. Therefore, cooperation is possible because institutions and rules not only reflect, but also affect world politics in one way or another. Through this theory, the state can achieve mutually beneficial outcomes by improving communication and monitoring, and trust across its regions and globally. In this thesis, the theory aligns well with the comparison of the effectiveness of two major institutions in addressing the same ecological crisis, as the core institutions

can be treated as mechanisms that shape state behavior in different ways. By comparing these institutions' rules, achievements, goals, enforcement, information sharing, and coordination capacity, this thesis will assess each institution's effectiveness and weaknesses based on the outcomes.

Within the concept of environmental governance, neoliberal institutionalist scholars have suggested that regimes and organizations can shape the state's behavior through information sharing, monitoring, reporting, technical assistance, and interaction on specific issues that are shared among states (Young, 2010; Chayes & Chayes, 1995). By establishing common rules and procedures, states can reduce transaction costs by sharing data and linking it to environmental commitments, thereby creating reputational benefits and financial support, improving transparency, and shaping incentives (Keohane & Martin, 1995; Raustiala & Victor, 1998). Therefore, in this thesis, the concept of institutional design and operation is not merely a legal or formal detail but a key factor in explaining how the state can effectively implement policies and tackle environmental challenges at both the domestic and regional levels, especially the haze crisis in Southeast Asia.

In this thesis, the theory of neoliberal institutionalism is employed as a central but limited lens for analyzing the two case studies I chose: Kalimantan and Riau in Sumatra Island. This thesis examines the multilateral level under the ASEAN Agreement on Transboundary Haze Pollution (AATHP) and the bilateral cooperation between Japan and Indonesia through JICA and BRGM. Both frameworks reflect state recognition of interdependence and the need to manage cross-border externalities such as transboundary haze pollution affecting Southeast Asia. However, their effectiveness differs in how they organize information sharing and implementation strategies within their institutional designs. Therefore, the analysis uses neoliberal institutionalist concepts to interpret the effectiveness of how rules, procedures, and cooperation mechanisms may influence incentives and patterns of interaction in combination with other political-economic factors within the country, for example, the large-scale production of palm oil in Indonesia. Therefore, these institutional designs can be treated as important, but not exclusive.

In contrast, bilateral cooperation between Japan and Indonesia through JICA and BRGM mainly focuses on targeted hotspots, especially Riau in Sumatra and Central Kalimantan, where these agencies are committed to providing technical support and funding. Therefore, this theory of neoliberal institutionalism aligns with my thesis and core argument, helping to explain how these two institutional designs shape incentives and effectiveness, and how their differences can produce distinct ecological and peace-related outcomes in the Indonesian peatland fire crisis and the reduction of the transboundary haze crisis in Southeast Asia. Therefore, grounded in this theory, my thesis will view institutions not as background factors but as essential elements in environmental peacebuilding and ecological restoration driven by massive haze originating from Indonesian peatland areas. Therefore, this approach moves the analysis beyond broad discussions of cooperation and non-cooperation and focuses more precisely on how different institutional choices in Southeast Asia shape issues such as managing peatland degradation, easing haze-related tension, and addressing the grievances of affected local communities' livelihoods.

2.8 Alternative Theoretical Approaches and Rationale for Neoliberal Institutionalism

In this thesis, I employ neoliberal institutionalism as the primary analytical lens, with full awareness of alternative theoretical approaches that could also be applied to environmental governance and development cooperation. These perspectives are drawn from development studies, political ecology, and critical international relations. For example, I emphasize how power asymmetries, global markets, and domestic political economies can shape environmental outcomes such as peatland degradation and institutional behavior by highlighting structural inequalities, corporate interests, and the role of external funding in driving both degradation and restoration. Therefore, these approaches can offer rich insights into how haze and peatland crises are embedded in wider patterns of capitalist development and donor-recipient relations, for example, JICA funding over peatland restoration in Indonesia, especially in the province of Riau and Kalimantan, and they are particularly relevant for understanding issues such as land

dispossession, community vulnerability, and the political economy of palm oil in the region.

However, given the specific focus and design of this thesis, neoliberal institutionalism is chosen as the main framework because the empirical analysis centres on comparing two institutional responses to the In this thesis, the theory of neoliberal institutionalism is employed as a central but limited lens for analyzing the two case studies I chose: Kalimantan and Riau in Sumatra Island. This thesis examines the multilateral level under the ASEAN Agreement on Transboundary Haze Pollution (AATHP) and the bilateral cooperation between Japan and Indonesia through JICA and BRGM are Both frameworks reflect state recognition of interdependence and the need to manage cross-border externalities such as transboundary haze pollution affecting Southeast Asia. However, their effectiveness differs in how they organize information sharing and implementation strategies within their institutional designs. Therefore, the analysis uses neoliberal institutionalist concepts to interpret the effectiveness of how rules, procedures, and cooperation mechanisms may influence incentives and patterns of interaction in combination with other political-economic factors within the country, for example, the large-scale production of palm oil in Indonesia. Therefore, these institutional designs can be treated as important, but not exclusive.

2.9 Operationalizing Key Concepts for AATHP and Japan- Indonesia Cooperation

Building on the integrated analytical framework, this subsection in my thesis elucidates the operationalization of the primary concepts utilized in two institutional case studies I selected, such as the ASEAN Agreement on Transboundary Haze Pollution at the multilateral level and the cooperation between Japan and Indonesia through JICA and BRGM as a bilateral joint partnership. Therefore, in my thesis, I indicated that the independent variables concentrate on institutional design and cooperation mechanisms, whereas the dependent variables encompass both ecological and peace-related outcomes as the main findings of this thesis.

First, legal obligation, institutional responsibility, and rule clarity are operationalized by examining whether each institutional framework can establish binding rules, detailed procedures, and formal responsibilities for member states or partners. For example, under the ASEAN Agreement on the Transboundary Haze Pollution (AATHP), this multilateral framework includes treaty provisions on prevention, monitoring, information sharing, and emergency response, such as the Regional Haze Action Plan and the Haze-Free ASEAN roadmap of 2025. In the case of bilateral cooperation between Japan and Indonesia, the main themes are that legal obligations are assessed through memoranda of understanding, project documents, and BRGM's mandate, which specify target areas such as Riau and Kalimantan in Indonesia, and reporting requirements for peatland restoration and fire prevention through giving training to local communities and supporting their livelihoods.

Second, the implementation capacity and technical support are evidenced by institutional resources and tools. Under the ASEAN Agreement on the Transboundary Haze Pollution (AATHP), which includes the ASEAN Coordinating Center for Transboundary Haze Pollution Control established in Kuala Lumpur, Malaysia, regional monitoring systems track transboundary haze pollution, and capacity-building workshops are held, especially on this regional crisis of the transboundary haze pollution affecting Southeast Asia. In contrast, the bilateral cooperation between Japan and Indonesia under JICA and BRGM has led to concrete measures. For example, Japan has offered funding to support the installation of canal-blocking infrastructure, groundwater-monitoring sensor networks, community fire brigades, and livelihood programs implemented in districts like *Kepulauan Meranti*, *Ogan Komering Ilir*, and *Pulang Pisau* in Indonesia.

2.10 Integrated Analytical Framework (IVs, DVs, mechanisms)

Taken together in the previous addressing of these two institutions, we come close and suggested that the ASEAN Agreement on Transboundary Haze Pollution (AATHP) and the bilateral cooperation between Japan and Indonesia has distinguish institution response over the same problem of haze crisis across

Southeast Asia, where it's their response and impacts are evaluated through using an environmental peacebuilding perspective. In this thesis, I will analyze by establishing an integrated framework linked to differences in institutional design. For example, this thesis will address this framework in the Independence Variable, examining variation in ecological management and restoration and peace-related outcomes, which will be presented under dependence variables through a specific mechanism. The independent variables (IVs) will address the main institutional features and cooperation practices of both the multilateral cooperation under AATHP and the bilateral cooperation between Japan and Indonesian peatland programs. These features will focus on how these institutions organize information provision, monitoring mechanisms, technical support, and coordination across these two institutions. Drawing on neoliberal institutionalism, this thesis will treat these institutions as rules-based arrangements that can, for example, share information, reduce transaction costs, implement commitments, and foster cooperation (Keohane & Martin, 1995, p. 42). In parallel, perspectives and scholarship on environmental peacebuilding suggested that environmental cooperation can support peace only when institutions engage with local communities, ensure transparency, support local communities' livelihoods, and reduce their exposure to environmental risks.

The dependent variables (DVs) can be divided into two categories: ecological and peace-related outcomes, which together provide an operational definition of environmental peacebuilding in relation to the core theme of the haze crisis and the Indonesian peatland context. The ecological indicators are based on the scope and effectiveness of peatland restoration, for example, the expansion of rewetting degraded peatlands, the installation of canal blocking, and the reforestation process. On the other side, this improvement can foster peace-related outcomes through the handling of haze outbreaks across Southeast Asia through state management, for example, ensuring the livelihoods of local communities, and education on using fire prevention mechanisms that replace the slash-and-burn mechanism (Conca & Dabelko, 2002; Johnson et al., 2023). Taking Central Kalimantan as an example, the results show that recurrent fires are more concentrated in degraded areas, especially peatland hotspots, where hydrological management and early warning systems for fire detection are needed (Putra et al.,

2019; Sopha et al., 2024). Therefore, recent studies suggest that comparative research is still needed to test environmental cooperation as an independent variable (IV) and to clarify the conditions under which environmental governance succeeds in achieving peace-related outcomes (Johnson et al., 2023).

In my thesis, I link the Independent Variables (IVs) to the Dependent Variables (DVs) and outline several causal mechanisms that build on institutionalist and environmental peacebuilding scholarship. The first mechanism, which I will test, is the mechanism for information sharing and monitoring, for example, tools like hotspot data sharing, joint haze early-warning detection (satellite assistance), and project-level MRV (Monitoring, reporting, and verification). By measuring this mechanism, it is possible to shape how quickly risks are detected, the credibility of compliance claims by states and agencies, and the creation or avoidance of reputational costs (Young, 2010; Oberthür & Gehring, 2006). For example, under the multilateral level, the ASEAN Agreement on Transboundary Haze Pollution (AATHP) has coordinated the organization, like the Coordinating Center for Transboundary Haze Pollution, which intended to facilitate regional information sharing, but its effectiveness remains limited by voluntary reporting and limited enforcement powers (Tan, 2005; Sunchindah, 2015).

The second mechanism is technical and financial support or funding. This mechanism is applied through bilateral cooperation between Japan and Indonesia, via its agencies JICA and BRGM. For example, JICA fully funded the canal-blocking installation process, supported community fire brigades, and funded local communities' livelihood programs. This mechanism helps determine how far national agencies and local communities can shift towards less fire-prone practices and proper land use (BRGM, 2021; JICA, 2016). The third mechanism relies on participation and grievance, which have shaped perceptions of fairness, recognition, and ownership. The concept of peacebuilding practice, for example, emphasizes that "peace must be built from within societies" and that inclusive processes can endure only when they lead to tangible changes in how needs and grievances are addressed (Interpeace, 2022). Therefore, this mechanism can be applied to peatlands to highlight who holds decision-making power, how local knowledge is

used, and whether communities can challenge damaging decisions or enforcement abuses (Ide, 2021; Dresse et al., 2019).

2.11 Hypotheses and Theoretical Expectations (H1–H2)

In this chapter's theoretical framework, it has been suggested that the ASEAN Agreement on Transboundary Haze Pollution (AATHP) and bilateral cooperation between Japan and Indonesia, through agencies such as JICA and BRGM, can be used to examine how the designs of these specific institutions shape environmental peacebuilding outcomes during the haze crisis across Southeast Asia and in peatland restoration in Indonesia between 2015 and 2025. From a neoliberal institutionalist perspective, it has been suggested that international institutions become influential when they share information, provide monitoring, offer material support, and foster repeated interactions that reshape actors' incentives and expectations (Keohane & Martin, 1995; Young, 2010).

The concept of environmental peacebuilding can be used to assess whether these cooperative institutional designs foster ecological effectiveness, better manage tensions and grievances, and build trust between stakeholders and local communities (Conca & Dabelko, 2002; Ide, 2021). Therefore, these insights can be translated into two hypotheses that are set out to test these expectations about how the difference between the multilateral level under AATHP and bilateral cooperation under Japan-Indonesia are likely to influence the peatland restoration goal, the reduction of fire and haze pollution dynamics, the maintenance of interstate relations across Southeast Asia, and the improvement of local communities' livelihoods in Indonesia, especially in Central Kalimantan and Riau in Sumatra. Thereby, as the core theme of my thesis.

In response to this empirical and analytical gap, this thesis develops two main hypotheses that translate the research questions into specific expectations about how differences in institutional design and cooperation mechanisms between multilateral and bilateral frameworks shape ecological and peacebuilding outcomes. These hypotheses are grounded in neoliberal institutionalism as the primary international relations framework and in environmental peacebuilding

scholarship, linking institutional design and cooperation mechanisms with governance and conflict-related outcomes in the context of peatland restoration and transboundary haze in Southeast Asia (Keohane, 1984; Keohane & Martin, 1995; Conca & Dabelko, 2002; Ide et al., 2021; Anghie, 2004). Together, these hypotheses provide a clear basis for comparison between multilateral cooperation under the ASEAN Agreement on Transboundary Haze Pollution (AATHP) and bilateral cooperation between Japan and Indonesia.

H1: Institutional Design and Implementation Effectiveness

The first hypothesis suggests that bilateral cooperation between Japan and Indonesia entails higher legal obligations, greater precision, and greater delegation than ASEAN's cooperation under the ASEAN Agreement on Transboundary Haze Pollution (AATHP) framework. The results show that bilateral cooperation is associated with better peatland restoration performance. The improvement can be seen through expanded hectares of rewetted peatland. For example, among the improvements are the installation of more canal-blocking projects and a lower incidence of fires through the provision of knowledge to local communities, especially in priority provinces, between 2015 and 2025. The neoliberal institutionalist perspective focuses on rule design and argues that more binding, precise, and delegated arrangements can usually increase compliance and policy effectiveness by clarifying expectations, improving monitoring, and encouraging implementation (Abbott et al., 2000; Raustiala & Victor, 1998; Chayes & Chayes, 1995). Bilateral cooperation fits all these features through binding project commitments. For example, there are clear, specific targets in a specific area, and this project has delegated authority to specialized agencies from JICA and BRGM. By contrast, the AATHP frameworks place greater emphasis on consensus and sovereignty, which often leads to more aspirational soft-law commitments and less effective enforcement tools. Therefore, H1 predicts that variation in institutional design will lead to observable differences in implementation capacity and environmental results.

Neoliberal institutionalist perspectives and scholars suggest that institutions are more effective when they are supported, for example, in reducing transaction costs between states, supplying technical expertise on addressing problems like transboundary haze and environmental degradation in Southeast Asia, and strengthening implementation capacity, with a focus on concrete problems (Keohane & Martin, 1995). For example, in Indonesia, this bilateral cooperation between Japan and Indonesia through its agencies such as JICA and BRGM has been successful in implementing a set of focused projects, especially in prioritized provinces such as West and Central Kalimantan and Riau on Sumatra Island, where haze cases rise, and most peatland hotspots are affected. There are mechanisms, such as the provision of technical assistance, capacity-building, and the allocation of financial assistance for canal-blocking installations, peatland rewetting, reforestation, and community-level fire prevention programs, that have been implemented since the establishment of this bilateral cooperation. Therefore, Empirical studies and scholarship on peatland restoration cases and environmental degradation continue to suggest that these interventions can reduce local fire outbreaks by restoring hydrological conditions and lowering fuel loads, leading to fewer and less severe fires in treated sites (Putra et al., 2019). Therefore, the first hypothesis suggests that bilateral cooperation between Japan and Indonesia entails higher legal obligations, greater precision, and greater delegation than ASEAN's cooperation under the ASEAN Agreement on Transboundary Haze Pollution (AATHP) framework. The results show that bilateral cooperation is associated with better peatland restoration performance

H2: Peacebuilding Through Livelihood Security and Grievance Reduction

The second hypothesis posits that bilateral frameworks with stronger implementation capacity and direct investment in local communities, such as livelihood investments, are more likely to reduce local grievances over land access and livelihood insecurity in peatland communities. This can also help reduce conflict between authorities and local communities and build stronger trust between state agencies and local communities. Neoliberal institutionalism has suggested that institutions that provide material resources and information, and can monitor, are

more likely to encourage cooperative behaviour (Keohane, 1984; Keohane & Martin, 1995). Based on environmental peacebuilding scholarship, there are suggestions that cooperation on environmental issues can reduce conflict by addressing key sources of tension, such as livelihood insecurity and resource-access disputes (Conca & Dabelko, 2002; Ide et al., 2021). In Indonesia, this bilateral cooperation project, for example, livelihood programs, village-level fire prevention training, and community-based resource management, is expected to create more direct peace-related effects locally than multilateral frameworks that operate mainly at the diplomatic level.

The neoliberal institutionalist perspective argues that institutions can reshape behavior by embedding cooperation mechanisms within dense networks of repeated interactions across multiple levels of governance, thereby making defection more costly and cooperation more attractive (Keohane & Martin, 1995). In the context of environmental peacebuilding studies and scholarship, it has been suggested that environmental initiatives can contribute to peace by reducing local grievances, making resource access more equitable, and improving the effectiveness of authorities' responses (Conca & Dabelko, 2002; Ide, 2021; Johnson et al., 2023). Therefore, this bilateral cooperation between Japan and Indonesia is designed to involve provincial governance, local NGO and community engagement in restoration and fire prevention programs, for example, village-level fire brigades and supporting livelihood programs in peatland villages allocated, while the multilateral level under AATHPO mainly focuses on operational through intersections among national governments and ASEAN bodies, with the effect that reaches local actors only indirectly.

On this basis, **H2** proposed that:

“Institutional frameworks that work more directly with sub-national authorities and peatland communities, such as JICA and BRGM, are more linked to greater mitigation of local grievances related to land use, fire risk, and livelihood insecurity, as well as higher reported trust in relevant

institutions, compared to frameworks that mainly operate through interstate consultation, like AATHP.”

Therefore, this hypothesis links neoliberal institutional theory to the environmental peacebuilding concept by focusing on reducing local grievances and building trust as the key peace-relevant outcomes of the institutional design employed. In empirical terms, H2 examines how this thesis will use qualitative data sources, such as project reports, institutional documents, and local communities’ testimonies, to address the issue. For example, the haze crisis illustrates how this bilateral cooperation between Japan and Indonesia, as well as regional initiatives, is viewed in peatland areas, with particular attention to effectiveness, inclusion, and transparency.

Therefore, these hypotheses H1-H2 are intended to provide a structured set of neoliberal institutionalist perspectives by showing how the different institutional designs between multilateral cooperation under the ASEAN Agreement on Transboundary Haze Pollution (AATHP) and bilateral cooperation between Japan and Indonesia. These hypothesis testing will rely on an assessment of how these institutional frameworks foster ecological and peace-related development in Indonesia between 2015 and 2025. Therefore, based on these hypotheses, the following chapter applies the analytical framework to empirical cases in Indonesia, examining how institutional design and cooperation mechanisms under AATHP and Japan–Indonesia bilateral cooperation shape ecological and peacebuilding outcomes between 2015 and 2025.

CHAPTER III

RESEARCH METHODOLOGY

3.1 Research Design and Methodology

In this thesis, I employed a qualitative comparative case study design to trace their outcomes on effectiveness, where I examine how the multilateral level under the ASEAN Agreement on Transboundary Haze Pollution (AATHP) and bilateral cooperation between Japan and Indonesia can affect environmental peacebuilding outcomes in Indonesian peatland management and the transboundary haze pollution crisis in Southeast Asia during the period 2015 to 2025. This comparison follows the most-similar cases approach, whereby both frameworks I employed are applied to the same challenge faced by Indonesian peatland management for decades. However, these institutional frameworks differ in their designs, with AATHP, as a regional body relying on a consultation-oriented multilateral regime, and JICA and BRGM keeping a stronger focus on project-based bilateral cooperation. The design I employed aligns with the neoliberal institutionalist approach by emphasizing how these two institutional frameworks differ in their rules and practices, while sharing a common challenge that shapes cooperation and behavior (Keohane and Martin, 1995). The comparative case-study and process-tracing design is therefore directly aligned with the operationalization of key concepts in the theoretical framework: institutional design and cooperation mechanisms are treated as independent variables, while ecological and peace-related indicators derived from reports, statistics, and secondary studies function as dependent variables for assessing AATHP and Japan–Indonesia cooperation within the same national context.

The comparative case study approach is appropriate for this thesis because it allows for a systematic comparison between two institutional frameworks that address the same environmental problem within a shared national context. By focusing on the ASEAN Agreement on Transboundary Haze Pollution (AATHP) and the bilateral cooperation between Japan and Indonesia, the thesis compares how different institutional arrangements produce varying ecological and peace-related outcomes under relatively similar environmental and political conditions. The use

of a most-similar systems design helps isolate institutional differences as a key explanatory factor while reducing variation caused by broader external conditions.

The combination of comparative case study and process tracing strengthens the analytical framework of this thesis by enabling both cross-case comparison and detailed tracing of institutional processes. Through this approach, the thesis assesses not only whether differences exist between multilateral and bilateral cooperation frameworks but also how these differences influence institutional effectiveness within the Indonesian peatland context. In this comparative framework, the thesis applies process tracing to construct and evaluate causal pathways linking institutional effectiveness to observed changes in peatland governance and peace-relevant relations across Southeast Asia. Process tracing within these institutional frameworks can identify the intervening causal processes and mechanisms linking the independent variables (IVs) to outcomes by providing qualitative evidence (George and Bennett, 2005; Vennesson, 2008).

First, this thesis has constructed the institutional design and functioning of ASEAN Agreement on Transboundary Haze Pollution (AATHP) and the bilateral cooperation between Japan and Indonesia under JICA-BRGM, where I this thesis will go through treaties archives, ASEAN published documents, and JICA and BRGM project reports and supported with secondary sources on legal and political analyses on issue of haze governance and peatland management policy across Southeast Asia. Second, this thesis has compiled and interpreted evidence on ecological and peace-related outcomes in Indonesian peatlands between 2015 and 2025, drawing on existing datasets, government reports, and donor reports, as well as empirical studies of peatland restoration, including reductions in recurring fires and hotspot patterns, as well as local social impacts. Third, this thesis has brought these strands together through a structured comparison of the two institutional frameworks and assessed the extent to which they are explained by alternative explanations. For example, a shift in domestic politics, commodity prices, or climate variability. Therefore, through this design, this thesis translates the neoliberal institutionalism approach and the claim that institutional design matters for cooperation and for fostering the environmental peacebuilding approach into a

systematic, empirical framework through grounded testing in Indonesian peatland management and the transboundary haze crisis in Southeast Asia.

3.2 Data Sources and Data Collection

In this thesis, I employed an empirical analysis based on multiple qualitative data sources that together captured how these institutional designs can lead to effective outcomes through implementation practices, and ecological and peace-related outcomes in restoring peatland issues in Indonesia between 2015 and 2025. The source of data to reveal the challenge can be obtained from various sources, including the ASEAN legal and policy instruments on the ASEAN Agreement on Transboundary Haze Pollution (AATHP), and other data source expected from Indonesian legislation and regulations on peatland and haze governance, and official documentation on Japan-Indonesia cooperation, such as JICA and BRGM projects in prioritized province of Kalimantan and Riau reports and last the government statements on progress of handling and managing peatland and transboundary haze pollution across Southeast Asia. Together, these data sources and documentation can be complemented by scholarly studies on ASEAN haze governance and peatland management. For example, through technical and evaluated reports from international and non-governmental organizations, and also through media coverage of major fire outbreaks and transboundary haze episodes. Therefore, these sources will provide additional insight into the implementation process, local impacts, and issues of diplomatic tension.

The data collection in this thesis has reached a major stage. First, the sources collected were targeted on finding and identifying the principal on legal and institutional documents by defining these two institutional frameworks of the ASEAN Agreement on Transboundary Haze Pollution (AATHP) by looking at ASEAN and Indonesian governmental repositories and the bilateral cooperation between Japan and Indonesia through open JICA databases, and official press releases. Second, the data collection relies on a broader finding by gathering empirical evidence on the effectiveness of ecological and peace-related outcomes, using all available government statistical reports, special data on the restoration process, and data on fire outbreaks. Other collection information is project-level

monitoring and evaluation documents, and the use of existing case studies, NGO's reports based on the local communities experience and livelihood of peatland governance and transboundary haze episodes.

Therefore, due to limited access to internal evaluations and the absence of original fieldwork across all affected communities and provinces, this thesis analysis relies predominantly on publicly accessible documents, and based on secondary empirical data, this thesis's constraints are explicitly taken into account when assessing the strength of the causal inference and the extent to which the findings can be generalized beyond the Indonesian context.

CHAPTER IV

FINDINGS AND ANALYSIS

This chapter follows the integrated analytical framework developed in Chapter Two by moving in three steps. First, Sections 4.1 to 4.5 describe the institutional design and cooperation mechanisms of AATHP and Japan–Indonesia cooperation, focusing on legal obligation, implementation capacity, and multi-level engagement. Second, Section 4.6 examines ecological and peace-related outcomes between 2015 and 2025 using the operational indicators specified in the theoretical framework. Third, Section 4.7 links these institutional features to the observed patterns of outcomes in a cautious, context-specific way, taking into account overlapping programs and data limitations. This structure is intended to make the relationship between theory and evidence clearer and to provide a transparent basis for the comparative assessment of multilateral and bilateral responses to Indonesia’s peatland and haze crisis.

4.1 Institutional Design of AATHP and Japan–Indonesia Cooperation

In this section of the thesis, I examine how the ASEAN Agreement on Transboundary Haze Pollution (AATHP) and the bilateral cooperation between Japan and Indonesia constitute separate but overlapping frameworks for addressing Indonesian peatland challenges and the transboundary haze crisis in Southeast Asia. Building on the theoretical lens of neoliberal institutionalism as I introduced in Chapter Three, this thesis aimed to address theoretical objectives, core instruments, and implementation practices to show how a regional, consultation-oriented regime and a set of bilateral, project-based initiatives through information sharing and interaction in different ways (Keohane and Martin, 1995).

4.2 AATHP and ASEAN haze governance

The ASEAN Agreement on Transboundary Haze Pollution (AATHP) was signed in June 2002 in Kuala Lumpur in direct response to the severe 1997–1998 land and forest fires, and entered into force in November 2003 as the world’s first legally binding regional treaty devoted specifically to transboundary haze. Its stated objective is;

“to prevent and monitor transboundary haze pollution as a result of land and/or forest fires, which should be mitigated, through concerted national efforts and intensified regional and international cooperation.”

Another primary objective of this agreement was to control the sources of such fires by developing monitoring, assessment, and early warning systems, exchanging information, and coordinating emergency responses (ASEAN, 2002). Institutionally, the agreement is embedded in ASEAN’s broader environmental governance architecture through a Conference of the Parties (COP) composed of environment ministers, a Committee under the COP that prepares and follows up on decisions, and an ASEAN Coordinating Centre for Transboundary Haze Pollution Control that is mandated to facilitate cooperation and coordination among national focal points; at present, the ASEAN Secretariat functions as this interim coordinating centre (ASEAN Haze Portal, 2023).



Figure 4.1: This figure shows the Inauguration of the ASEAN Coordinating Center for Transboundary Haze Pollution Control (ACC THPC) Secretariat Office in Jakarta, April 2026. The photograph illustrates the formal establishment of the ACC THPC secretariat hosted by Indonesia, which operationalizes AATHP’s provision for a regional coordinating center and underscores Indonesia’s dual role as both a major source of haze and the hub for ASEAN’s coordination on transboundary haze management. Source: <https://ecobiz.asia/indonesia-launches-asean-haze-control-secretariat-to-strengthen-regional-coordination/>

The ASEAN Agreement on Transboundary Haze Pollution (AATHP) is further operationalized through associated instruments, including the Regional Haze Action Plan (1997), the ASEAN Peatland Management Strategy (2006–2020), and the Roadmap on ASEAN Cooperation towards Transboundary Haze Pollution (“*Haze-Free Roadmap*”), which outlines strategic measures for monitoring, prevention, preparedness, and capacity-building to achieve a “haze-free ASEAN” (ASEAN, 2016). Indonesia, although central to the haze crisis in Southeast Asia, ratified the AATHP only in 2014 through Law No. 26/2014 and formally deposited its instrument of ratification in January 2015, making it the last ASEAN member to join the agreement (ASEAN, 2015; Nazeer & Furuoka, 2017). The ASEAN Secretary-General accepted Indonesia’s instrument of ratification in January 2015, completing ASEAN-wide participation in the treaty (Nazeer & Furuoka, 2017; ASEAN, 2015). Analysts suggest that this shift reflected Jakarta’s desire to repair its international reputation, respond to mounting external criticism, and reduce recurring diplomatic tensions over haze at ASEAN meetings (Ghani et al., 2017; Nazeer & Furuoka, 2017).

4.3 The bilateral cooperation between Japan and Indonesia on peatlands

The cooperation between Japan and Indonesia on peatlands has developed into a dense set of technical and project-based initiatives that link Indonesian institutions, especially the Peatland Restoration Agency and its successor BRGM, with JICA and other Japanese partners. Following the 2015 fire and haze crisis and the establishment of BRG in early 2016, JICA and Indonesian counterparts launched “*urgent technical cooperation*” on peatland restoration in priority districts such as *Kepulauan Meranti (Riau)*, *Ogan Komering Ilir* and *Musi Banyuasin* (South Sumatra), and *Pulang Pisau* (Central Kalimantan), focusing on hydrological management, canal blocking, and community engagement. These activities built on earlier Japan-supported research projects and were subsequently complemented by the Community Movement Program on Fire and Land Prevention (2017–2022), which sought to create model districts with fewer hotspots through capacity-building for local governments, support for community fire brigades,

partnerships between concession holders and villagers, and livelihood alternatives to burning for land clearing.



Figure 4.2: Groundwater level (GWL) monitoring interface developed under the BRG–JICA cooperation. Screenshot from the BRGM Project Final Report showing a laptop and a mobile-phone application used to visualize peatland groundwater levels, rainfall, soil moisture, and short-term weather forecasts, enabling Indonesian and Japanese partners to track fire risk in near-real time and support decisions on canal blocking and rewetting. Source: https://openjicareport.jica.go.jp/pdf/12320909_01.pdf

In line with BRGM’s “3R” mandate,” *rewetting, revegetation, and revitalization*” of local livelihoods, Japan-Indonesia projects have combined technical interventions such as canal blocking and water-table monitoring with economic revitalization schemes in peat villages, including agroforestry and small-scale business support in provinces like Riau and Central Kalimantan. More recently, this cooperation has expanded into closely related ecosystems through joint initiatives on mangrove restoration and the development of a Mangrove Information Center as part of the World Mangrove Center network, signaling a broader, long-term partnership on climate and forest resilience beyond peatlands alone.

Institutionally, this bilateral cooperation between Japan and Indonesia has been organized through joint steering mechanisms and project implementation teams that bring together national ministries, BRGM, provincial governments, and JICA, and are supported by clear project documents specifying target areas, indicators, and timelines. Regular field missions, technical workshops, and monitoring and evaluation exercises create repeated interactions between

Indonesian and Japanese officials and local stakeholders, which, from a neoliberal-institutionalist perspective, can help lower transaction costs, share information, and build trust around agreed restoration practices (Keohane & Martin, 1995).

These arrangements provide significant technical assistance and financial support to Indonesian agencies and communities while formally remaining under Indonesian authority, thereby aligning with Indonesia's sovereignty concerns but still structuring cooperation through detailed operational rules and joint problem-solving. Some BRGM programs explicitly reference regional goals, such as the "*Haze-Free ASEAN 2020*" roadmap, indicating that bilateral projects are not only domestic development tools but also indirectly contribute to regional expectations for haze reduction and to Indonesia's efforts to demonstrate credible action to its neighbors.

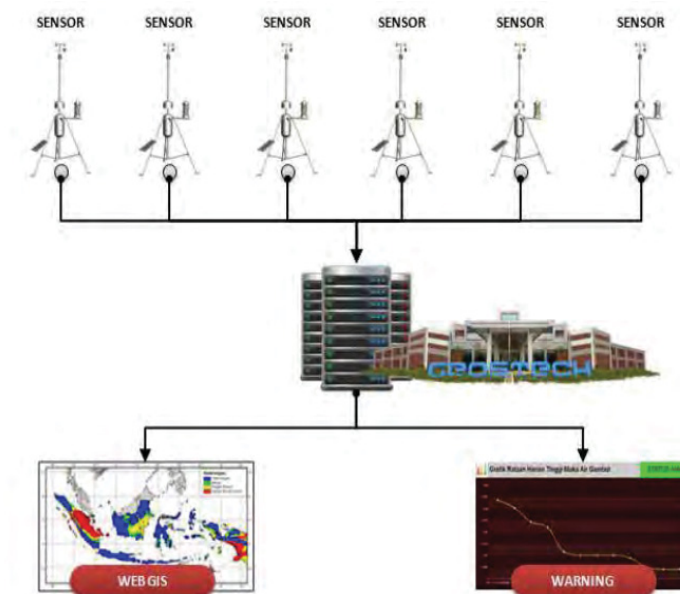


Figure 4.3: Sensor network and early-warning system for peatland groundwater monitoring. Schematic from the BRG Project Final Report illustrating how multiple field sensors transmit groundwater and weather data to a central server and research center, which then feeds a web-GIS platform and warning dashboard used by Indonesian agencies and JICA experts to assess fire risk and coordinate responses. Source: https://openjicareport.jica.go.jp/pdf/12320909_01.pdf

4.5 Ecological and Peacebuilding Outcomes (2015–2025)

Therefore, this section compares these institutional frameworks in terms of their observable patterns and documented indications of ecological and peace-related outcomes in Indonesian peatlands between 2015 and 2025, without claiming a full causal assessment. It is important to note that the empirical material used in this section is drawn largely from publicly available reports, secondary studies, and aggregated hotspot statistics rather than from original fieldwork in all affected communities. As outlined in Chapter Three and in the limitations section, internal evaluations, detailed project-level datasets, and comprehensive local surveys are only partially accessible, and multiple policies and donor programmes overlap in the same regions. For this reason, the analysis that follows does not claim to establish strict causal links between specific institutional features and particular outcomes; instead, it traces observable patterns and documented indications of ecological and peace-related change that can reasonably be associated with AATHP and Japan–Indonesia cooperation, while remaining transparent about the limits of the available evidence.

Indonesia’s peatland governance landscape was reshaped by a combination of major institutional reforms and large-scale restoration programs, producing measurable, though uneven, changes in fire and haze patterns. In response to the 2015 crisis, the government established the Peatland Restoration Agency (BRG) in 2016 with a mandate to accelerate the recovery of two million hectares of degraded peatland in seven priority provinces, and in 2021, this mandate was renewed and expanded through the Peatland and Mangrove Restoration Agency (BRGM), which added a large mangrove component across thirteen provinces. By 2016–2024, BRGM reports that approximately 1.6 million hectares of peatland had been restored and around 84,000 hectares of mangroves rehabilitated, supported by the construction of 22,349 units of hydrological infrastructure, such as canal blocks and wells, and the engagement of more than 2,900 community groups in restoration activities. These figures are reported by BRGM and national agencies and should be interpreted cautiously, as they reflect aggregated programme statistics and

coincide with wider regulatory changes and climatic variability that also influence fire and haze patterns.

The government and independent assessments also show a marked decline in fire incidence and burned area compared to 2015: the agency estimates a 29.59 percent reduction in land fires over its operating period, while national hotspot statistics indicate that the number of recorded hotspots and the total area burned in 2016–2017 fell sharply from 2015 levels, though partly under wetter, non–El Niño conditions. These ecological outcomes reflect a combination of national regulatory measures (such as the peat moratorium), BRG/BRGM’s “3R” strategy (*rewetting, revegetation, revitalisation*), and support from bilateral and multilateral partners, including Japan–Indonesia projects that have piloted rewetting and community-based fire management in villages like Tanjung Leban in Bengkalis Regency and in priority districts of Central Kalimantan, where community fire brigades and canal-blocking schemes have contributed to lower fire incidence and changing local practices.

A clear pattern of increased fire activity is also visible in Kalimantan, which also experiences high fire activity, particularly in Central Kalimantan

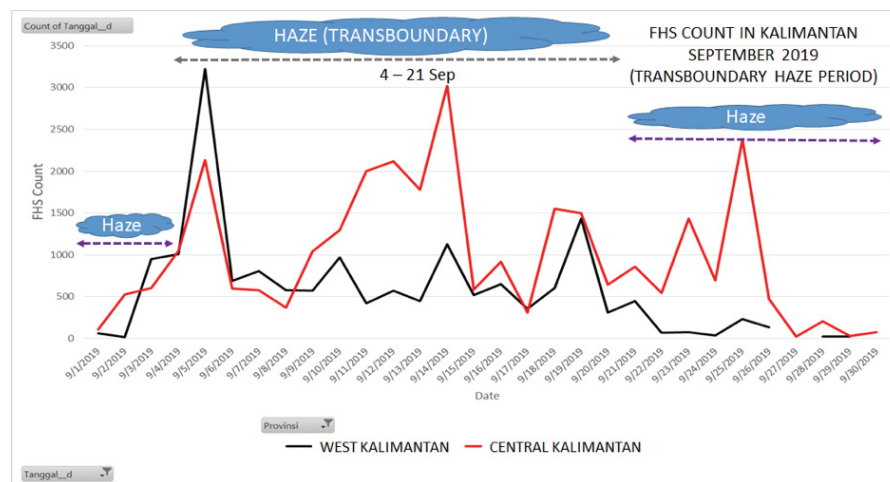


Figure 4.5: Fire hotspot (FHS) counts in West and Central Kalimantan during September 2019, showing the identified transboundary haze period (4–21 September).

As shown in Figure 1.3, the number of fire hotspots in Central and West Kalimantan increased sharply in early September 2019, with consistently high activity from September 4 to 21. Greenpeace's analysis identifies this period as when smoke from Kalimantan crossed into Malaysian Borneo, causing transboundary haze (Greenpeace Southeast Asia, 2019).

Therefore, from an environmental peacebuilding perspective, the period between 2015 and 2025 also reveals important, but incomplete, shifts in how haze-related tensions, local grievances, and trust in governance are managed. At the interstate level, AATHP has provided ASEAN members with regular forums to discuss haze, exchange information, and issue joint statements, which have helped keep disputes between Indonesia and downwind states within cooperative channels; nonetheless, severe episodes in 2015 and 2019 still triggered strong public criticism and formal complaints from Singapore and Malaysia, and civil society reports continue to highlight frustration over recurring transboundary pollution.

At the local level, BRGM's programmes such as the Peatland Care Village (*Desa Peduli Gambut*) initiative and village-level stewardship schemes have sought to link restoration with livelihood support, tenure clarification, and participatory planning in hundreds of peat villages, and evaluations of these programmes suggest that they can improve awareness, promote zero-burning practices, and integrate peat restoration into village development plans when community involvement is strong. However, NGO and human rights investigations document ongoing conflicts over land and resource control in peatland landscapes, including unresolved disputes with plantation companies, weak enforcement of environmental regulations, and perceptions that powerful concession-holders enjoy impunity, all of which continue to generate grievances and distrust among local communities.

Overall, between 2015 and 2025 period, thus presents a mixed pattern: ecological indicators point to significant but partial gains in restoration and fire control, while peace-related outcomes show both enhanced institutional capacity and persistent tensions, providing a nuanced empirical basis for testing this thesis's neoliberal-institutionalist hypotheses about how different institutional

arrangements AATHP's regional regime and Japan–Indonesia's bilateral projects shape environmental peacebuilding in Indonesian peatlands.

4.6 Linking Institutional Design to Outcomes (assessment of H1–H2)

In this thesis, I synthesize the institutional analyses in Section 4.3 and the outcome patterns in Section 4.4, where the core theme I am focusing on the institutional design of the ASEAN Agreement on Transboundary Haze Pollution (AATHP) and bilateral cooperation between Japan and Indonesia through JICA and BRGM in peatland restoration and transboundary haze reduction in Southeast Asia. Therefore, in my thesis, this section aims to evaluate how well the empirical record supports the two hypotheses developed in Chapter Three of this thesis and a focus on the period between 2015 and 2025. These institutional analyses and frameworks are broadly consistent with the mechanisms predicted in H1 and H2, but only in a conditional and context-specific way, especially on peatland degradation and the transboundary haze pollution crisis in Southeast Asia. Therefore, this assessment remains cautious about attribution problems arising from different angles. For example, through overlapping programs, national policy reforms, climatic variability, and gaps in available data on fires, restoration, and local grievances, especially on the priorities of the provinces of Riau and Kalimantan in Indonesia, this assessment remains cautious about attribution problems arising from different angles and does not claim to provide definitive proof of institutional effects in this issue.

Overall, both the ASEAN Agreement on Transboundary Haze Pollution (AATHP) and the bilateral agreement between Indonesia and Japan can be seen as institutional responses to environmental degradation in peatlands and haze pollution in Southeast Asia. They operate through different institutional logics and at different levels. According to recent studies, AATHP represents an important institutional framework for regional cooperation but appears to fall short due to weak national-level enforcement mechanisms and regional political tensions, including conflicting priorities and questions of sovereignty and intervention. The AATHP's primary operations occur through cross-border interactions among member states. For example, by offering a legal mechanism to coordinate the

management of transboundary haze pollution, which often causes conflicts between Indonesia and downwind countries such as Malaysia and Singapore. Through joint monitoring, cooperation, and capacity building, the treaty aims to minimize the risk of conflict escalation and increase its effectiveness in reducing uncertainty. Nevertheless, the informal nature of AATHP, coupled with weak enforcement, prevents it from generating ecological benefits and peace outcomes in the region. In particular, according to the current literature, although Indonesia, as a signatory to the treaty, had to ratify it, the treaty's effects remain insignificant because the ratification process took time, thereby negatively affecting its deterrent capability (Dannhauer, 2024; Chaves et al., 2025).

On the other hand, this multilateral cooperation under the AATHP and the bilateral cooperation between Japan and Indonesia occur at both the interstate and local levels. From an interstate perspective, Japan's involvement in Indonesia's peatland rehabilitation and fire prevention program helps build bilateral trust between the countries. Therefore, Japan's involvement in this peatland restoration effort in Indonesia has helped enhance Indonesia's credibility among its neighbors concerned about the haze problem. Regarding a local perspective, this bilateral collaboration between Japan and Indonesia has helped to alleviate environmental degradation and conflict by establishing facilities to rehabilitate peatlands, prevent fires, and diversify local livelihoods.

Despite these attempts, many concerns remain about the effectiveness of such measures in reducing tensions, addressing local problems, and achieving sustainable environmental improvement. In this regard, Indonesia falls within the purview of various institutions addressing the same ecological problems, including peat fires and transboundary haze. This situation does not imply that Indonesia faces only two possible institutions, but the focus of this study will be on the efficiency question: what and why makes these different institutions, which work in ASEAN as multilateral AATHP and Japan-Indonesia as bilateral cooperation, produce different results in terms of ecology and peace building in Indonesia.

H1 Targeted institutional support and ecological outcomes

In this thesis, Hypothesis (H1) proposes that institutional frameworks can provide more targeted and continuous support for peatland restoration and management mechanisms, through generating greater ecological improvements in the targeted areas (Riau and Kalimantan). For example, this evidence emerged after the establishment of Indonesia's Peatland Restoration Agency (BRG, later BRGM) in 2016, and its cooperation with bilateral partners, including JICA under the Ministry of Foreign Affairs of Japan, has yielded positive outcomes and reduced the impact of the haze crisis in Southeast Asia. Since its establishment, the BRGM has been mandated to coordinate and restore nearly two million hectares of degraded peatland, with restoration taking place in seven priority provinces, including Riau, Jambi, South Sumatra, West Kalimantan, Central Kalimantan, South Kalimantan, and Papua. This effort used an integrated approach of rewetting, revegetation, and livelihood revitalization. Within these provinces, the BRGM and JICA have installed extensive rewetting infrastructure, including canal blocks, satellite monitoring, fire-detection tools, and deep wells, and have supported livelihood packages for local communities in selected peat hydrological units in Indonesia.

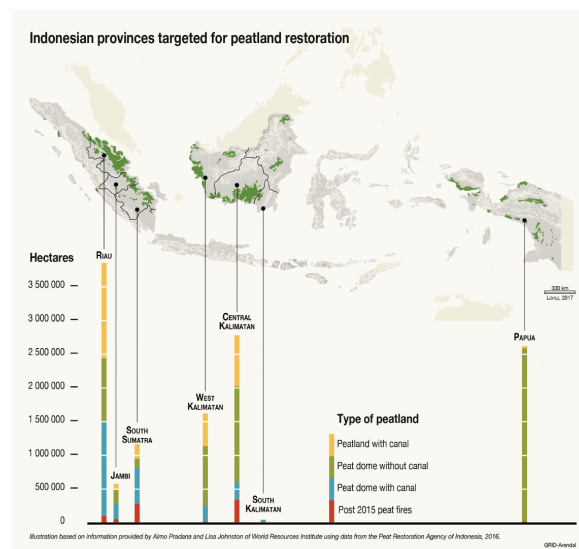


Figure 4.6: Indonesian provinces targeted for peatland restoration from 2016. This map shows Indonesian provinces prioritized for peatland restoration under national peat

policies and BRGM programs, including key peatland regions in Sumatra, Kalimantan, and Papua. Source: GRID Arendal- <https://www.grida.no/resources/12540>

Therefore, the empirical studies and programmatic reviews based on this thesis have indicated that most of these targeted interventions and mechanisms are associated with measurable reductions in fire incidence and burned area across several targeted areas in Indonesia. For example, a preliminary analysis of BRGM interventions in Pulang Pisau and Kapuas districts found that, on average, the density of fire detections and burned-area cases declined dramatically between 2016 and 2018, in the years after rewetting and local communities' livelihood support began. In contrast, when we compared the period from 2003 to 2015, before the BRGM was established. Therefore, the steepest decline occurs in zones near canal-blocking structures. Another good example is a separate modeling study of peatland rewetting in Riau province, which indicates that raising groundwater levels through restoration mechanisms significantly reduces fire risk and transboundary haze across Southeast Asia under comparable climatic conditions, providing quantitative evidence that hydrological restoration can dampen extreme fire risk in restored landscapes and prevent fire outbreaks.

Therefore, the overall process of peatland restoration and the fire-reduction mechanisms cannot be fully achieved if progress is uneven across provinces where similar cases have occurred, such as Riau and Kalimantan. Also, reports and studies indicate that fire spikes can still occur during strong El Niño events, such as in the 2019 event. Although there are other policies and initiatives, such as tighter land-use regulation for concessionaires and national peatland protection rules, as well as contributions from other donors, that complicate attempts to attribute improvements achieved through collaboration between BRGM and JICA, which have supported a positive impact on ecological management and reduction of the transboundary haze crisis in the region. Therefore, this thesis has shown that the clearest and most durable reductions in fire risk are observed in districts with the most intensive restoration and support, which provides conditional support for this hypothesis (H1).

H2 Multi-level engagement and local peace-relevant outcomes

In this thesis, Hypothesis (H2), which presented multi-level and local peace-relevant outcomes, argued that institutional designs that have directly engaged sub-national authorities and local communities' participation are more likely to reduce local grievances and foster trust in governance than frameworks that rely primarily on interstate consultation, such as ASEAN at the multilateral level through bring together local communities engagement on the campaigning of restoration and education on other alternative rather than slash-burn on clearing the land. Therefore, the bilateral cooperation between Japan and Indonesia, through its agencies, including JICA and BRGM, is structured around a program architecture comprising several components operating at the village level and explicitly framed in terms of local community participation. For example, these include *the Desa Peduli Gambut* (Peatland Care Village) scheme and various community-based fire prevention initiatives linked to the “3R” restoration mechanisms. For instance, if we look at the case studies of *Desa Peduli Gambut* in areas such as *Pulau Tebing Tinggi*, it suggests that combining such as, canal-blocking maintenance with livelihood support, for example, *paludi-culture crops* and value-added processing, can foster and strengthen local engagement in the restoration process, reduce reliance on burning, and modestly improve household income.

Therefore, in this thesis, I reviewed how community-based fire prevention groups, for example, groups like *Masyarakat Peduli Api* and *Kelompok Tani Peduli Api*, have successfully shown positive outcomes, such as how communities participate in local fire-monitoring capacity, the issue of awareness and knowledge of peat ecology benefits, and the enhancement of collaborative networks that can channel grievances and negotiate with state agencies to tackle the haze crisis and support ecological management in Indonesia.

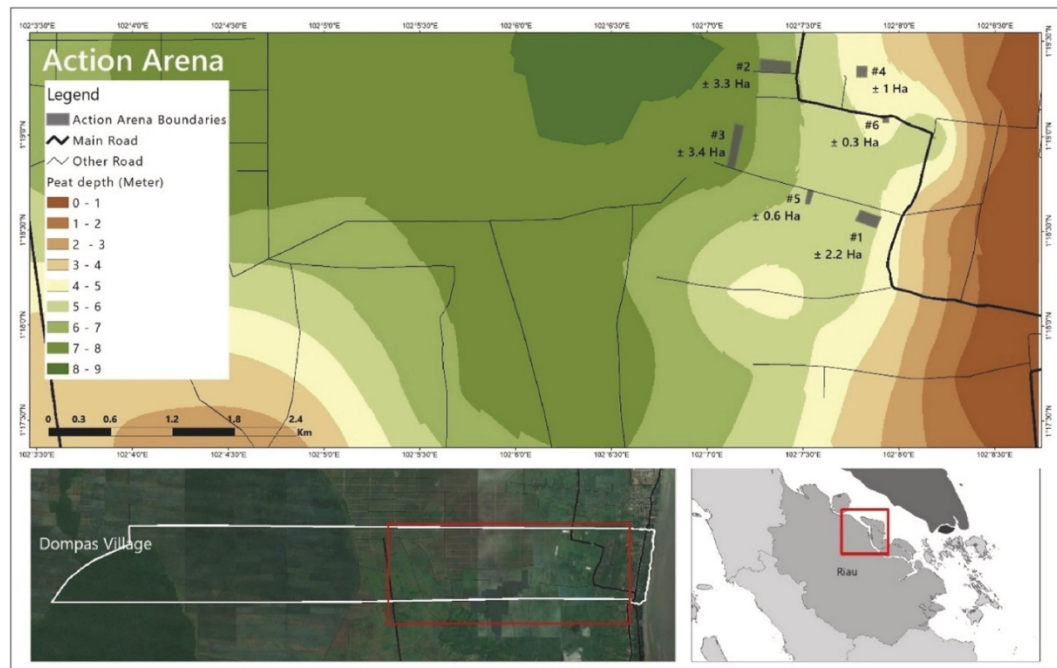


Figure 4.7: Community-based fire prevention and peatland restoration in Riau, Indonesia. Schematic representation of the “*action arena*” for community-based fire prevention, showing interactions between village-level groups, facilitators, local government, and external organizations in a peatland landscape. “*Community-based fire prevention and peatland restoration in Indonesia: A participatory action research approach*”. Source: <https://www.sciencedirect.com/science/article/pii/S2211464524000095?via%3Dihub#fig1>

The bilateral cooperation between Japan and Indonesia, through its agencies JICA and BRGM, has contributed in many aspects, including support for technical cooperation projects such as live-fire detection information via satellite, Japanese experts who develop village-based fire prevention models and mechanisms by providing knowledge to the local communities, and facilitation teams in provinces such as Riau and West Kalimantan, where the haze crisis is more often happening. Therefore, this bilateral cooperation between Japan and Indonesia has facilitated the implementation of projects. For example, the projects mainly focus on training local fire-prevention mechanisms, strengthening coordination between local communities and government agencies to tackle the haze crisis in the region, and embedding early-warning and prevention practices into village routines using satellite detection.

In this thesis, there will be a critical assessment of peatland governance and environmental enforcement in Indonesia, focusing especially on Riau and

Kalimantan - the prioritized provinces in the region. However, it will be highlighted that good cases remain spatially limited and are part of a wider political-economic system that still creates major hindrances to preventing peatland destruction associated with palm oil, timber, and pepper plantations. For example, some studies in the legal literature and those conducted by civil society reveal asymmetric law enforcement and regulation that tend to favor large companies by granting leniency and leniency in enforcement, thereby fueling claims of injustice and mistrust.

Other studies conducted in Sumatra provinces, such as Jambi and other peatland provinces, have found the continued dominance of top-down and reactive approaches to fire-related problems, focused on emergency management without institutionalizing community-led prevention efforts or granting access rights to larger areas. Thus, this thesis argues that, given these findings, local involvement in projects will increase trust and resolve specific issues in specific areas. Nevertheless, such achievements are limited and sporadic, constrained by structural dynamics shaped by political-economic forces. This leads to partial validation of Hypothesis (H2) under conditions of varying levels of multilevel collaboration in specific locations, such as Kalimantan and Riau.

In sum, in this thesis, the comparative assessment of Hypothesis H1 to H2 are suggested that these institutional mechanisms have highlighted in the theoretical framework, namely targeted support, multi-level engagement, regional consultation, and attention to participation and transparency, have observable counterparts in the Indonesian peatland context and across regional impact, however their effectiveness is consistently mediated by resource allocation, the broader political economy of land use, and the limited reach or depth of certain programs. Therefore, in this thesis, I argued that these findings can serve as a substantive bridge to Chapter Five, which consolidates the thesis's recommendation and conclusion and offers insights and suggestions regarding implications for institutional design, environmental peacebuilding strategies, and Indonesian policy choices within a landscape of overlapping multilateral and bilateral frameworks.

CHAPTER V

CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

In my thesis, I set out to address a question central to Southeast Asian environmental governance that has been largely neglected in existing scholarship. For example, how do differences in the institutional design and cooperation mechanisms of two frameworks, the ASEAN Agreement on Transboundary Haze Pollution (AATHP) at the multilateral level, and the bilateral cooperation between Japan and Indonesia through JICA and BRGM on the peatland restoration campaign in the Indonesian provinces of Riau and Kalimantan Islands, differ. And how have these institutions' designs shaped ecological and peace-relevant outcomes in the context of Indonesia's peatland fire crisis and transboundary haze pollution across Southeast Asia between 2015 and 2025? To answer this question, I develop a comparative empirical analysis in Chapter Four, which is neither simple nor symmetrical.

This evidence produced a composite and differentiated picture of both frameworks that address the same underlying environmental problem, such as showing how they approach that problem through fundamentally different institutional logics, generate distinct patterns of outcomes across dimensions, and perform unevenly when measured against ecological, interstate, and local peace-relevant criteria. Therefore, the central theoretical claim of my thesis, drawing on neoliberal institutionalism, is that institutional arrangements can influence state behaviour and outcomes, for example by clarifying expectations, lowering transaction costs, and creating monitoring and compliance incentives. The empirical material from the Indonesian peatland case and the haze crisis across Southeast Asia provides partial and context-bound support for this claim, while also revealing important structural limits that the theory itself does not systematically address, especially regarding domestic political economies and corporate power.

The bilateral cooperation between Japan and Indonesia through its agencies, JICA and BRGM, appears, on the basis of available evidence, to be associated with

more targeted ecological improvements in specific geographic areas than the ASEAN Agreement on Transboundary Haze Pollution (AATHP), particularly in priority provinces such as Riau and Central Kalimantan where haze crises are often reported. This institutional design has been identified under Hypothesis One (H1) to address legal precision, delegated authority to specialized technocratic agencies such as JICA and BRGM, for example, through clearly defined project boundaries, and sustained technical and funding support for ecological recovery in peatland-degraded areas. This institutional design has helped create a delivery mechanism capable of translating interstate commitments into on-the-ground environmental interventions to tackle this environmental challenge. For example, these mechanisms include the installation of Canal blocking, peatland rewetting, revegetation programs, and the provision of a knowledge-village-level fire-prevention mechanism, and all these implementations are based on a specific peat hydrological unit where this bilateral partnership concentrated its resources and attention. For example, the use of satellite-based fire monitoring and hydrological mapping added capacities that Indonesian institutions were not always able to mobilize independently. Therefore, this bilateral cooperation between Japan and Indonesia has solved a specific and targeted problem in a limited area rather than transforming the structural conditions that produce the peatland fire crisis across Southeast Asia.

At the multilateral level within regional organizations, my thesis has revealed and supports a different conclusion. For example, at the multilateral level under the ASEAN Agreement on Transboundary Haze Pollution (AATHP), this thesis addressed the challenge that, despite documented weaknesses, such as the principle of non-interference in internal affairs and the sovereignty of member states, including the inability to impose sanctions on the host state, like Indonesia, in haze crises, this has remained the central forum through which interstate haze relations have been managed and disputes have been contained between 2015 and 2025, based on my data collection.

The empirical record I found has confirmed this pattern. For example, between 2015 and 2019, haze crises were addressed through ASEAN ministerial

meetings, joint communiqués, technical coordination by working groups, and the established AATHP regional architecture from 2002. Although the affected countries, such as Singapore and Malaysia, have continued to raise their voices in frustration at recurring haze episodes, in Indonesia's domestic enforcement gaps, these kinds of expressions of concern have remained within domestic channels, where they have never escalated into trade sanctions on palm oil production and large-scale rice fields, or into severe political ruptures with Indonesian territories.

Therefore, this outcome matters because the multilateral level under the ASEAN Agreement on Transboundary Haze Pollution (AATHP) operates through its soft-law mechanism and consensus-based design. In this thesis, I revealed that several studies and pieces of scholarship have criticized the AATHP's effectiveness in handling haze crises across Southeast Asia, even though the AATHP has provided a stable procedural space in which strained interstate relations have been preserved and managed in response to this environmental challenge.

Also, in this thesis, I present progress made at the multilateral level, such as the inauguration of the Second ASEAN Haze-Free Roadmap (2023–2030), which was adopted in August 2023 at COP-18, which was held in Doha, Qatar, where this meeting has helped to build directly on this foundation and adopt a more comprehensive, science-based approach to transboundary haze governance across the Southeast Asia. In contrast, the bilateral cooperation between Japan and Indonesia through agencies such as JICA and BRGM has played no role in this interstate function. Its contribution to regional stability is therefore indirect. For example, bilateral cooperation to support Indonesia's domestic capacity to address the root causes of haze may reduce the external pressure that drives interstate tension, but it does not substitute for a regional consultation and coordination forum such as the AATHP commitment.

In this thesis, I assess Hypothesis Two (H2), which produced the most geographically bounded and qualified findings of the two hypotheses (H1-H2). For example, if I look at village-level programs such as *Desa Peduli Gambut* and community-based fire-prevention groups, including *Masyarakat Peduli Api* and

Kelompok Tani Peduli Api, they have demonstrated effectiveness through the participation of local communities, especially in the target regions of Riau and Kalimantan Island in Indonesia. This effort is measured by increased awareness of peat ecology and fire risk prevention across the targeted hotspot. For example, this group developed alternative income sources such as *paludi-culture* and non-timber forest products, and a stronger sense of state presence in areas that were previously neglected.

Therefore, this bilateral cooperation, driven by JICA and Indonesia technical cooperation projects under BRGM, has further reinforced these local gains through various mechanisms, including training programs in fire prevention and alternative land-clearing methods rather than the traditional slash-and-burn method; support for on-the-ground teams stationed in high-risk provinces, especially in Riau and Kalimantan; and the provision of real-time imagery for fire detection via satellite-based early-warning systems embedded in village routines. In this thesis, these positive experiences remain isolated and lack a formal pathway into national planning due to their bilateral structure as technical support for haze reduction and peatland restoration in Indonesia.

In many peatland areas across Indonesia, governance remains centralized and reactive. For example, land rights remain unresolved, especially in Riau, Sumatra Island, and in some cases, are linked to corporate actors (large companies) responsible for large-scale fires, and drainage remains largely unaccountable and unsanctioned by the government due to its negligence in addressing recurring fires. For example, companies such as PT ABP, PT SKM, and PT KS were found to have acted negligently in fire prevention, resulting in ecological degradation of peatland areas on the island of Kalimantan. Therefore, the multi-level approach in this thesis has shown that the engagement I hypothesized to be a source of locally peace-relevant gains has not been institutionalized at scale.

In contrast, the multilateral mechanism under the ASEAN Agreement on Transboundary Haze Pollution (AATHP) has offered limited direct channels for affected local communities, who are forced to raise concerns about their livelihoods.

Therefore, the outcomes based on the institutional designs of these two frameworks are structurally mismatched. For example, when it comes to measurable ecological effectiveness and some local trust-building in peatland restoration and in reducing haze outbreaks across Southeast Asia, the outcomes are structurally mismatched. Also, solving issues like coexistence with persistent inequality in land access, especially in Riau and Kalimantan, where there are ongoing land disputes, and the last obstacle is the limited voice of local communities in institutional decision-making, especially in the whole process of restoring degraded peatlands.

Therefore, in my thesis, I bring together these four hypotheses (H1-H2) to conclude that the outcomes are neither a story of institutional design success at the multilateral level under the AATHP nor of bilateral cooperation between Japan and Indonesia (JICA and BRGM), nor of failure. Despite these outcomes, I conclude in this thesis that bilateral cooperation between Japan and Indonesia is more effective at producing concentrated ecological improvements in specific areas. For example, this includes installing canal blocks, detecting fires in real time via satellite, and supporting local communities' livelihoods, especially in affected areas such as Riau and Kalimantan Island in Indonesia. By contrast, at the multilateral level under the AATHP, it is more effective at managing interstate relations and preserving regional dialogue through its meetings, and it avoids physical interference in the internal affairs of other member states.

However, in this thesis, both of these institutional frameworks have demonstrated real limitations. For example, bilateral cooperation between Japan and Indonesia through agencies such as JICA and BRGM faces geographical limitations and cannot address systemic land-use incentives or structural injustice, since the central government treats this institutional design as technical support. Meanwhile, the ASEAN Agreement on Transboundary Haze Pollution (AATHP) cannot ensure domestic enforcement or deliver on-the-ground ecological outcomes due to the limitation imposed by the principle of non-interference in the internal affairs of ASEAN member states. For example, in Indonesia, this policy implication is straightforward, and relying on either framework alone is insufficient given their limitations in effectiveness and overall outcomes in ecological restoration and haze

reduction in Southeast Asia. Addressing the democratic and justice deficits in both offers the best prospect for sustainable environmental peacebuilding in Indonesia's peatlands and in Southeast Asia more broadly.

5.2 Policy Recommendations

Building on the findings of this thesis, I develop at least five policy recommendations on the main theme of reducing haze episodes and restoring degraded peatland areas, particularly in selected case studies from the Riau and Kalimantan islands. Whereas my thesis focused on Indonesia as the key driver. For example, these two institutional frameworks address similar challenges through bilateral and multilateral partners. Therefore, in my thesis, I addressed these recommendations to examine the institutional gaps identified across the two institutional frameworks and to assess how these institutional design changes strengthen the effectiveness of sustainable environmental peacebuilding in the Indonesian peatland context and the wider Southeast Asian region.

5.2.1 First, Indonesia should institutionalize multi-level governance mechanisms that formally connect national restoration decision-making with sub-national authorities and community representatives.

In this thesis, I showed that village-level programs can generate measurable local benefits, but the gains are fragmented and lack a clear formal pathway into national planning due to limited participation of the local communities. My thesis shows that these institutional designs, such as provincially anchored peatland restoration councils that include community representatives, civil society organizations, and local government officials alongside national agencies like JICA and BRGM, can help to embed local priorities into future restoration planning and reduce the coordination gap that has undermined implementation in the past on haze episodes across Southeast Asia. In contrast, this thesis addressed the multilateral level through its achievements, including the ASEAN Peatland Management Strategy for 2023-2030 and the Second ASEAN Haze-Free Roadmap (2023-2030), both of which emphasize the importance of sub-national coordination and

community participation as essential elements of sustainable peatland governance at the national level and regional levels.

5.2.2 Second, bilateral cooperation partners, particularly Japan through JICA and other donors, should shift from isolated project-based interventions toward long-term capacity-building programs that explicitly link ecological restoration with procedural justice and land tenure clarity.

In this thesis, I argued that the bilateral cooperation between Japan and Indonesia through its agencies, JICA and BRGM, has been effective in deploying technical tools and achieving targeted ecological improvements, for example, the installation of the canal block, fire detection via satellites, and funding peatland restoration to support local communities' livelihoods. But these interventions have not systematically addressed structural inequalities in land access or corporate accountability when land use is violated, such as slash-and-burn traditional land clearing, which causes haze outbreaks across Southeast Asia and harms ecosystems. Therefore, in this thesis, I suggest that future bilateral cooperation agreements should include measurable justice-related indicators alongside ecological targets, especially in the priority provinces of Riau and Kalimantan. I suggest this could take the form of community-level grievance mechanisms tied. For example, restoration projects with funding and technical support, legal aid for smallholders navigating land disputes, and transparency requirements on corporate concession compliance, all of which are shared with affected local communities, especially in Riau and Kalimantan. Therefore, my recommendations in this thesis should be translated into concrete features of the design of bilateral cooperation rather than remain general statements of intent.

5.2.3 Third, ASEAN Member States should work together to strengthen the enforcement architecture of the AATHP without abandoning its consensus-based diplomatic foundations.

In this thesis, I found that the AATHP, guided by its non-confrontational design, has preserved interstate dialogue among ASEAN member states. But this

principle under AATHP lacks credible enforcement and compliance incentives across Southeast Asia. For example, the Second ASEAN Haze-Free Roadmap (2023-2030), adopted in 2023, has provided a forward-looking operational framework that can serve as the basis for this reform, especially for addressing regional haze crises. This ASEAN Haze-Free Roadship is limited in its pursuit of a formal sanctions regime, which would be politically unworkable within ASEAN's institutional culture. The ASEAN member states should focus on building incentives for reputational and procedural compliance. For example, the ASEAN member states should conduct peer reviews of national action plans, public transparency dashboards on hotspot data, especially the haze-outbreak hotspot, domestic enforcement and regulations, and graduated reporting requirements tied to the AATHP Conference of the Parties. Therefore, in this thesis, all these mechanisms can fit within the "ASEAN Way" while improving practical accountability and reducing the compliance gap that has undermined the agreement's effectiveness since its adoption in 2002 for haze reduction.

5.2.4 Fourth, Indonesia should strengthen inter-agency coordination among its national institutions responsible for peatland restoration, fire prevention, law enforcement, and land-use planning.

My thesis has addressed fragmented governance and management across line ministries and local communities as a persistent issue in Indonesian peatlands, particularly in Riau and Kalimantan. For example, disputes have been reported in Kalimantan and Riau between local communities and the government, contributing to inconsistent enforcement and reduced program effectiveness during haze episodes across Southeast Asia. In this thesis, I identified this challenge as a key domestic factor limiting the impact of both bilateral and multilateral cooperation frameworks. Therefore, my thesis showed that a dedicated inter-ministerial coordination body with authority is necessary. For example, the processes of restoration planning, enforcement, and concession policy would help close the gap between Indonesia's environmental commitments and their domestic implementation, tackling the challenge of ecological management and the haze crisis across Southeast Asia.

5.2.5 Fifth, Indonesia and its bilateral partners should prioritize long-term livelihood alternatives for communities in high-risk peatland areas as a core pillar of the environmental peacebuilding strategy.

My thesis has addressed fragmented governance and management across line ministries and local communities as a persistent issue in Indonesian peatlands, particularly in Riau and Kalimantan. For example, disputes have been reported in Kalimantan and Riau between local communities and the government, contributing to inconsistent enforcement and reduced program effectiveness during haze episodes across Southeast Asia. In this thesis, I identified this challenge as a key domestic factor limiting the impact of both bilateral and multilateral cooperation frameworks. Therefore, my thesis showed that a dedicated inter-ministerial coordination body with authority is necessary. For example, the processes of restoration planning, enforcement, and concession policy would help close the gap between Indonesia's environmental commitments and their domestic implementation, tackling the challenge of ecological management and the haze crisis across Southeast Asia.

In this thesis, I showed that mechanisms such as fire prevention, peatland restoration efforts, and community awareness programs, especially on the restoration process, for example, installation of canal blocks and other alternatives to clearing the land as a replacement to the traditional method, help to generate positive local outcomes in the reduction of haze outbreaks and peatland restoration campaigns in Southeast Asia. For example, supporting local community groups' efforts in Paludi-culture, non-timber forest products, and sustainable peatland-compatible aquaculture has been identified as a promising way to restore degraded peatland in Indonesia and reduce haze episodes across Southeast Asia. Therefore, in this thesis, I suggested that bilateral and multilateral donor cooperation should work together to support. For example, in developing market accessibility, value chains, and financial instruments that make these alternatives economically viable at scale, without addressing the livelihood foundations of peatland use patterns, any institutional framework will continue to fall short of sustainable environmental peacebuilding and peatland management in the Indonesian context.

5.3 Theoretical Implications

In this thesis, I developed two important principal theoretical contributions: first, neoliberal institutionalism theory, and second, environmental peacebuilding scholarship. Together, these contributions suggest a more refined understanding of how institutional design mediates ecological and social outcomes in Southeast Asian environmental governance.

In this thesis, I have addressed the theory of neo-liberal institutionalism, which holds that the classic institutionalist focus on legal precision, monitoring, and delegation is empirically validated in the Indonesian peatland case and haze reduction campaign in Southeast Asia. However, this thesis argued that the framework must be extended to account for the domestic political economy of environmental governance by including local communities in the restoration and management processes, especially in delegated areas such as Riau, in Sumatra Island, and Kalimantan Island, whereby these regions have been reported to be sources of haze episodes outbreak and peatland degradation due to poor management and using traditional ways of clearing the land for farming and cash crop like Palm oil and timber production, these claims has been reported from various scholarship and studies. In this thesis, I argued that the bilateral cooperation between Japan and Indonesia through its agencies JICA and BRGM) has succeeded in achieving precise, focused ecological results; for example, this bilateral cooperation featured clear legal obligations, delegated authority to technocratic agencies, and the capacity for continuous monitoring.

These institutional features, which the neoliberal institutionalist tradition has long argued would improve compliance, policy effectiveness, and haze reduction across Southeast Asia. For example, according to Robert Keohane's book, the argument that institutions shape state behavior by clarifying expectations, reducing transaction costs, and creating monitoring incentives is directly borne out in the bilateral case and its measurable outcomes. Therefore, in this thesis, I address this finding, which points to a necessary theoretical refinement. For example, this institutional framework may be effective at producing ecological outputs, but its social and political sustainability depends on factors that the core neoliberal

institutionalist framework does not systematically incorporate due to the internal and external political limitations Indonesia has set. The tension between effectiveness and legitimacy is not absent from Keohane's work, but it has not been adequately developed in the environmental governance literature that applies his framework.

For environmental peacebuilding scholarship, this thesis has made a contribution by empirically revealing that environmental cooperation can simultaneously generate outcomes, such as ecological gains, preserve interstate relations, and produce modest local trust-building outcomes within the same conflict-prone environment and haze crisis; however, these outcomes are structurally limited by the political economy of land use and the democratic deficit in both bilateral and multilateral frameworks. The thesis, therefore, advances a more realistic and empirically grounded conception of environmental peacebuilding in Southeast Asia: not as a straightforward path from environmental cooperation to sustainable peace, but as a contested process in which cooperation can produce parallel and often contradictory outcomes across different dimensions.

This finding challenges more optimistic accounts in the environmental peacebuilding literature that assume that cooperation on environmental issues will naturally reinforce trust and reduce conflict. In the Indonesian peatland context, trust and resentment can coexist in the same place at the same time. Environmental peacebuilding theory must therefore be attentive to the political and economic structures that mediate cooperation outcomes, not only to the existence of cooperation itself. The concept of "everyday peace", developed by Roger Mac Ginty and others, provides a useful theoretical lens for understanding modest local gains in the Indonesian case, but this thesis shows that everyday peace cannot substitute for structural justice in governance arrangements.

In this thesis, I took into account the broader international relations literature on Southeast Asian regionalism by demonstrating that ASEAN, through its "soft-law" institutional design, is widely criticized. For example, the institutional frameworks I developed in my thesis indicated a lack of enforcement capacity due

to governance limitations and the non-interference principle set forth in the AATHP Agreement, which serves a distinct and valuable function in managing interstate environmental disputes. Therefore, this thesis suggests that both hard-law and soft-law institutional designs have context-specific comparative advantages, and that the evaluation of institutional effectiveness should be based on the particular outcomes that a given design is best suited to produce, for example, the ability to insist on sanctions for any member who fails to adhere to the regional organizations' objective, such as the "Zero pollution campaign". Therefore, these kinds of soft-law arrangements may be more effective at preserving dialogue and preventing escalation, while hard-law or delegated bilateral arrangements may be more effective at delivering concentrated ecological outcomes and reducing haze episodes across Southeast Asia. Therefore, this thesis developed a differentiated understanding of institutional effectiveness that is sensitive to the specific dimension being evaluated, such as urgent environmental management in the Indonesian and Southeast Asian context.

Therefore, this thesis brings together these theoretical implications and suggests that environmental peacebuilding scholarship, studies on neoliberal institutionalism, and Southeast Asian regionalism studies would benefit from greater dialogue among them through fostering cooperation within ASEAN member states. For example, the Indonesian peatland case shows that environmental cooperation and conflict outcomes are shaped simultaneously. For example, international institutional design, domestic political structures, and local distributional arrangements. Therefore, no single theoretical framework adequately captures all these dimensions, especially regarding issues such as the rise of the haze crisis in Southeast Asia. This thesis suggests that both institutions should work together to bridge the existing gap to foster ecological resilience and peacebuilding at the domestic and regional levels.

5.4 Suggestions for Future Research

In this thesis, I identified several areas where future research could advance both scholarly understanding and policy design in the fields of environmental peacebuilding and Southeast Asian environmental governance, particularly

regarding the haze episode crisis affecting the region. The following are five directions I proposed, namely.

First, I suggested that future research should conduct systematic fieldwork-based studies of community perceptions and experiences of peatland restoration and fire-prevention programs in high-risk provinces. For example, in this research, I chose two priority provinces, such as Riau, Jambi, South Sumatra, and Kalimantan, as my case study. My thesis relied primarily on secondary data, institutional reports, and published case studies to enrich the findings and inform the conclusion and recommendations. Therefore, my research is intended to be particularly valuable in certain areas. For example, *Desa Peduli Gambut* and *community-based fire-prevention groups* are most active, and where the gap between stated program intentions and local experiences is least documented, according to previous studies and scholarship in this area.

Second, my suggestion for future research is to examine the role of corporate actors and private-sector governance mechanisms in peatland restoration and fire prevention. In this thesis, I focused primarily on state-led and bilateral cooperation frameworks to address the mechanism. However, these large plantation corporations remain central actors in the Indonesian peatland context due to the government's prioritized political economy, and this makes their compliance or non-compliance with fire-prevention rules have a decisive impact on restoration outcomes and the surge in haze episodes across Southeast Asia. Therefore, conducting research into corporate, for example, through supply-chain policies, voluntary certification schemes such as the Roundtable on Sustainable Palm Oil, and the interaction between corporate self-regulation and state enforcement would significantly extend the analysis of institutional design and outcomes in this field and the successful reduction of the haze crisis in Southeast Asia. Therefore, most of the persistent patterns of corporate impunity identified in this thesis are both a governance problem and a research gap that deserve systematic attention through taking action at both the domestic and regional levels.

Third, my suggestion for future research is to adopt a comparative approach to environmental peacebuilding in Southeast Asia, examining other ecologically significant and conflict-prone areas in the region. For example, the Mekong Delta, the marine ecosystems of the Sulu-Sulawesi Seas, and the forested border regions of Myanmar and Thailand. These comparative case studies could test whether the theoretical insights generated by the Indonesian peatland case, including the tension between ecological effectiveness and legitimacy, and the different outcome profiles of bilateral versus multilateral institutional designs, hold across other Southeast Asian contexts. Therefore, such research can contribute to a more general theory of environmental peacebuilding in Southeast Asia and inform the design of regional environmental governance frameworks beyond the peatland-and-haze context.

Fourth, I suggest that future research investigate the interaction between global climate finance mechanisms and peatland restoration in Indonesia. This thesis has identified livelihood security and economic incentives as essential to sustainable restoration, but it did not examine in detail how international climate finance works. For example, REDD+, the Green Climate Fund, and bilateral climate cooperation agreements interact with domestic governance structures and local community participation, especially during the decision-making process to restore peatlands and promote sustainable farming, thereby helping reduce haze episodes across Southeast Asia.

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