

From Layering to Conversion
Investigating ASEAN's Gradual Shift in Dealing with
Transboundary Haze Pollution (2015-2016)

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Abstract

Since the implementation of the ASEAN Agreement on Transboundary Haze Pollution (AATHP) in 2003 ASEAN has undergone a gradual institutional change, transitioning from layering to conversion processes. This transformation, observed from 2003 to 2020, entailed the introduction of new elements, the engagement of additional stakeholders, and the adoption of the Haze-Free Roadmap (2016–2020). The strategic framework of the Roadmap reinterpreted AATHP articles to comprehensively address transboundary haze pollution. However, the shift from layering to conversion during 2015–2016 remains a relatively unexplored aspect.

This study utilizes Koreh et al.'s (2019) dynamic theoretical framework of gradual institutional change to shed light on the circumstances and key actors behind ASEAN's transition during the period 2015–2016. Crucial roles were played by ASEAN committees, notably the Sub-Regional Ministerial Steering Committee on Transboundary Haze Pollution in the Mekong Sub-Region (MSC-Mekong), led by Thailand, and the ASEAN Ministers responsible for the environment under the Conference of the Parties to the AATHP (COP). Two pivotal events in 2015, particularly the haze crisis, acted as catalysts prompting change agents to transform ASEAN's institutional framework, culminating in the launch of the Haze-Free Roadmap (2016–2020) in 2016. This transformation amplified their commitment to achieving

ASEAN haze-free by 2020 and enhanced cooperation in addressing transboundary haze pollution in the region.

Keywords: ASEAN, Institutional change, Transboundary haze, Change agents, Regional agreement

**การเปลี่ยนแปลงทางสถาบันของอาเซียน
ในการพัฒนาการแก้ไขปัญหามลพิษจากหมอกควันข้ามแดน
ระหว่างประเทศ (พ.ศ. 2558 - 2559)**

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บทคัดย่อ

นับตั้งแต่มีการดำเนินการตามความตกลงอาเซียนว่าด้วยมลพิษจากหมอกควันข้ามพรมแดน (AATHP) ในปี พ.ศ. 2546 อาเซียนได้มีการเปลี่ยนแปลงเชิงสถาบันอย่างค่อยเป็นค่อยไปตั้งแต่ปี พ.ศ. 2546 - 2563 จากกระบวนการเปลี่ยนแปลงแบบ layering เป็น แบบ conversion ซึ่งการเปลี่ยนแปลงทางสถาบันดังกล่าวเกี่ยวข้องกับการเพิ่มองค์ประกอบสนับสนุนและผู้มีบทบาทในการดำเนินการตามข้อตกลงระดับภูมิภาค รวมทั้งการนำโรดแมปอาเซียนปลอดหมอกควันข้ามแดน (พ.ศ. 2559 - 2563) มาใช้ โดยมีการตีความบางมาตราของความตกลง AATHP ใหม่ให้อยู่ภายใต้การดำเนินงานตามกรอบยุทธศาสตร์ของโรดแมปอาเซียนปลอดหมอกควันข้ามแดนเพื่อจัดการกับปัญหาสิ่งแวดล้อมดังกล่าวอย่างครอบคลุม อย่างไรก็ตาม การเปลี่ยนแปลงสถาบันอาเซียนจากแบบ layering เป็น conversion ในระหว่างปี พ.ศ. 2558 - 2559 ยังคงเป็นประเด็นที่ยังไม่ได้สำรวจ

การศึกษานี้ใช้กรอบทฤษฎีเชิงพลวัตของ Koreh et al. (2019) เกี่ยวกับการเปลี่ยนแปลงเชิงสถาบันอย่างค่อยเป็นค่อยไป เพื่อให้ความกระจ่างเกี่ยวกับสถานการณ์และผู้มีบทบาทหลักที่อยู่เบื้องหลังการเปลี่ยนแปลงสถาบันของอาเซียนในช่วงปี พ.ศ. 2558 - 2559 ข้อค้นพบของการศึกษานี้ ได้เน้นย้ำถึงบทบาทที่สำคัญของคณะกรรมการอาเซียน โดยเฉพาะคณะกรรมการขับเคลื่อนระดับอนุภูมิภาคว่าด้วยมลพิษจากหมอกควันข้ามแดนในอนุภูมิภาคกลุ่มแม่น้ำโขง (MSC-Mekong) ซึ่งนำโดยประเทศไทย และรัฐมนตรีสิ่งแวดล้อมอาเซียนภายใต้การประชุมประเทศภาคีต่อความตกลงระดับภูมิภาคดังกล่าว (COP) การศึกษานี้ยังพบว่า มีเหตุการณ์สำคัญสองเหตุการณ์ในปี พ.ศ. 2558 โดยเฉพาะอย่างยิ่งวิกฤตหมอกควันในภูมิภาคเอเชียตะวันออกเฉียงใต้ได้ทำหน้าที่

เป็นตัวเร่งปฏิกิริยากระตุ้นให้เกิดการเปลี่ยนแปลงเชิงสถาบันของอาเซียน ในการพัฒนาการแก้ไขปัญหาล้างแ้วระหว่างภูมิภาคดังกล่าว ซึ่งนำไปสู่ การดำเนินการโรดแมปอาเซียนปลอดหมอกควันข้ามแดนในปี พ.ศ. 2559 กระบวนการเปลี่ยนแปลงนี้ได้เพิ่มความมุ่งมั่นในการบรรลุเป้าหมายของอาเซียน ในการกำจัดหมอกควันให้หมดสิ้นภายในปี พ.ศ. 2563 รวมทั้งเป็นการส่งเสริม ความร่วมมือที่เพิ่มขึ้นในการจัดการกับมลพิษหมอกควันข้ามพรมแดนทั่วทั้ง ภูมิภาคด้วย

คำสำคัญ : อาเซียน, การเปลี่ยนแปลงทางสถาบัน, ตัวแทนการเปลี่ยนแปลง, หมอกควันข้ามพรมแดน, ข้อตกลงระดับภูมิภาค

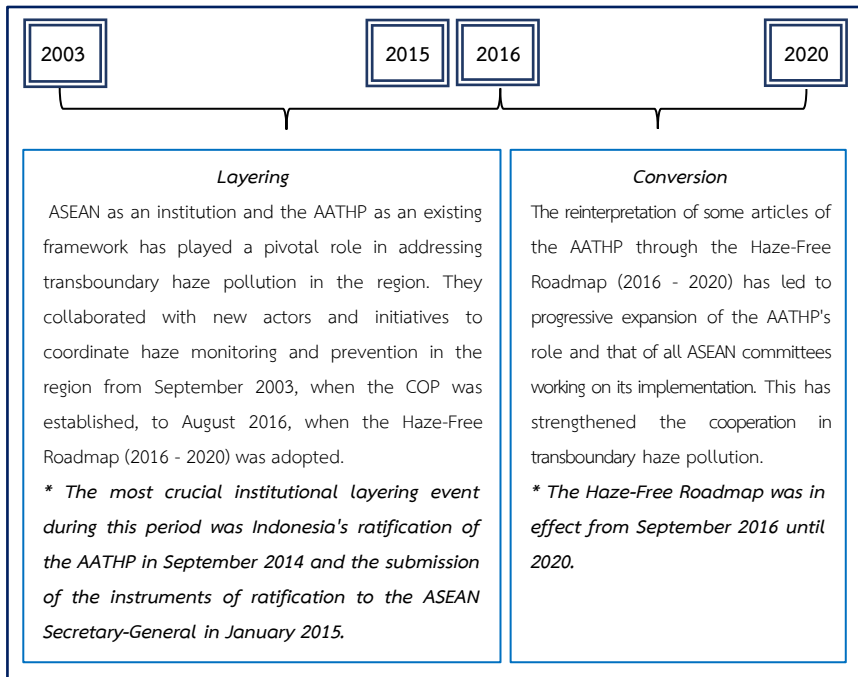
1. Introduction

In June 2002, the Association of Southeast Asian Nations (ASEAN) initiated the ASEAN Agreement on Transboundary Haze Pollution (AATHP), a regional agreement of 32 articles aimed at preventing and monitoring transboundary haze pollution. This environmental issue remains one of the most serious challenges in the Southeast Asia region, posing significant threats to the health and lives of its inhabitants (Caberello-Anthony, 2018). Despite the AATHP being in effect since November 2003, Indonesia, the primary cause of dangerous haze, ratified the agreement in 2014 following a prolonged delay of 12 years (Nazeer & Furuoka, 2017). From 2003 to 2020, haze pollution remained highly controversial among ASEAN member states, with land and forest fires occurring almost every dry season, particularly in 2006, 2009, 2013, 2015, and 2019 (Nurhidayatulloh et al., 2020).

Scholars widely agree that the mechanisms of the agreement are too weak to effectively reduce the haze pollution in the region, as the AATHP was designed based on the ASEAN Way, an approach that emphasizes nonbinding principles of state sovereignty and non-interference (Nguitragool, 2011; Varkkey, 2012; Heilmann, 2015; Alam & Nurhidayah, 2017). Consequently, it is unlikely that the agreement itself will bring about significant change, despite all 10 ASEAN member states, namely Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar,

the Philippines, Singapore, Thailand, and Vietnam, having ratified it (Heilmann, 2015).

Although previous studies have argued that ASEAN has failed to address transboundary haze pollution through the implementation of the AATHP due to its alignment with the ASEAN Way, a recent study by Charusombat (2023) suggests a different perspective. According to Charusombat's analysis, ASEAN gradually adapted its institutions to improve their effectiveness in addressing transboundary haze pollution during the period of 2003–2020, despite the acknowledged limitations. Her study employs Mahoney & Thelen's (2010) theory of incremental institutional change, along with the concepts of institutional layering and institutional conversion. On one hand, institutional layering involves the addition of new elements to an existing institution without replacing it, leading to a gradual change in the institution's status and structure (Mahoney & Thelen, 2010; Van Der Heijden, 2011). On the other hand, institutional conversion occurs when existing elements of an institution are repurposed or reinterpreted by actors within, or affected by, the institutional environment without altering the institutions themselves (Mahoney & Thelen, 2010).



* All additional stakeholders, meetings, and initiatives added during 2003–2020 to address haze pollution were decided upon by the Ministers of Environment of the ASEAN Member States during the Conference of the Parties to the AATHP (COP) meeting. This meeting serves as the highest forum to annually discuss the progress in implementing the AATHP.

Figure 1 ASEAN's Incremental Institutional Change in Addressing Transboundary Haze Pollution (2003–2020)

Source: Charusombat (2023)

As depicted in Figure 1, Charusombat (2023) highlights how ASEAN employed both institutional layering and institutional conversion to address transboundary haze pollution. Through these

strategies, ASEAN worked with new actors and initiatives to coordinate haze monitoring and prevention in the region and reinterpreted the articles of the AATHP through the key strategy of the Roadmap on ASEAN Cooperation towards Transboundary Haze Pollution Control with Means of Implementation (2016–2020), or the Haze-Free Roadmap. Her study concludes that these two strategies represent a preferred form of institutional change for strengthening ASEAN environmental cooperation (Charusombat, 2023). The Conference of the Parties to the AATHP (COP), established in 2003, serves as the highest forum where the progress of the AATHP implementation is discussed annually, and new ASEAN mechanisms to address haze pollution were developed during these meetings (Sunchindah, 2015; Varkkey, 2017; Caballero-Anthony, 2018).

In the context of the theory of gradual institutional change, the research literature has largely relied on Streeck & Thelen (2005) and Mahoney & Thelen (2010) theoretical frameworks. However, the recent study by Koreh et al. (2019) introduces a dynamic theoretical framework of gradual institutional changes, focusing on how the implementation of one mode of change impacts the opportunity of change agents to induce additional modes of gradual transformation. Figure 2 illustrates the pattern of institutional transformation from layering to conversion, which holds significance for analyzing ASEAN's cooperation in addressing transboundary haze pollution. However,

Charusombat's (2023) work has not yet analyzed the specific actors considered change agents in this institutional transformation who decided to shift ASEAN's gradual institutional change mode from layering to conversion.

To address this research gap, this study aims to answer the research question: **“Under the implementation of the AATHP, what situations and actors led ASEAN's gradual change in addressing transboundary haze pollution through the mode of institutional change from layering to conversion in 2015–2016?”** The purpose of this study is to determine which actors were considered “change agents” in the decision to transform ASEAN institutions gradually in addressing transboundary haze pollution from layering to conversion during the period 2015–2016, and particularly during the drafting of the Haze-Free Roadmap (2016–2020) before its adoption in 2016. Furthermore, this research contributes empirical evidence to the theory proposed by Koreh et al. (2019), as there are no previous studies analyzing change agents within the dynamic theoretical framework of gradual institutional change in environmental policy.

By addressing this research question, it is hoped this study will provide valuable insights into the factors influencing ASEAN's institutional adaptation in addressing transboundary haze pollution and shed light on the dynamics of gradual institutional change in

regional environmental cooperation. This paper is organized as follows: Section 1, Literature Review, develops an analytical framework by clarifying the definition of change agents in the incremental gradual change theory and explaining the dynamics of the incremental institutional change theory (Mahoney & Thelen, 2010; Koreh et al., 2019). The Koreh et al. (2019) framework is used to test the empirical case of ASEAN incremental institutional change in transboundary cooperation on haze pollution. Following with methodology and research scope. Section 2, Results and Discussion, examines the main actors considered to be change agents and clarifies the situations that led to ASEAN's gradual institutional change from layering to conversion in the period 2015–2016 using the analytical framework developed in Section 1. The final section consists of the conclusions, summarizes the findings of this research, and provides implications for ASEAN's environmental policy and institutional change.

2. Literature Review

Analytical Framework

Definition of Change Agents in the Gradual Institutional Change Theory: In the framework of incremental institutional change theory proposed by Mahoney & Thelen (2010), change agents are the driving forces behind institutional change. They are characterized by their commitment to both preserving and adhering to existing institutional rules. This definition is further elaborated on by Van Der

Heijden (2010), who emphasized that change agents are the primary actors responsible for instigating institutional change. Importantly, multiple change agents can operate within a single institution and policy context, and they may pursue different modes of change.

Moreover, Koreh et al. (2019) suggested that changes in the institutional context provide change agents with opportunities to apply various modes of change. These modes, including drift, layering, and conversion, enable change agents to advance the institutional transformation even after utilizing one mode to its fullest potential. Additionally, Koreh et al. (2019) emphasized that change agents' strategies evolve over time as they adapt to the changing opportunities and limitations resulting from their previous actions.

To apply the definition of change agents in the analytical framework of this study, the change agents include ASEAN member states, ASEAN committees responsible for implementing the AATHP, and other stakeholders, such as task forces working on haze pollution control. These stakeholders actively work together to influence and shape incremental institutional change within ASEAN. Their collective efforts are aimed at moving ASEAN from a layering approach to a conversion approach, especially during the critical period of 2015–2016, with the ultimate goal of fostering increased cooperation among ASEAN member states in effectively addressing transboundary haze pollution.

A Dynamic Theoretical Framework for Gradual Institutional Change: Koreh et al. (2019) introduced a framework that interconnects layering, drift, and conversion as gradual-change modes, as each of these modes can lead to transformation and create new opportunities for actors, as illustrated in Figure 2.

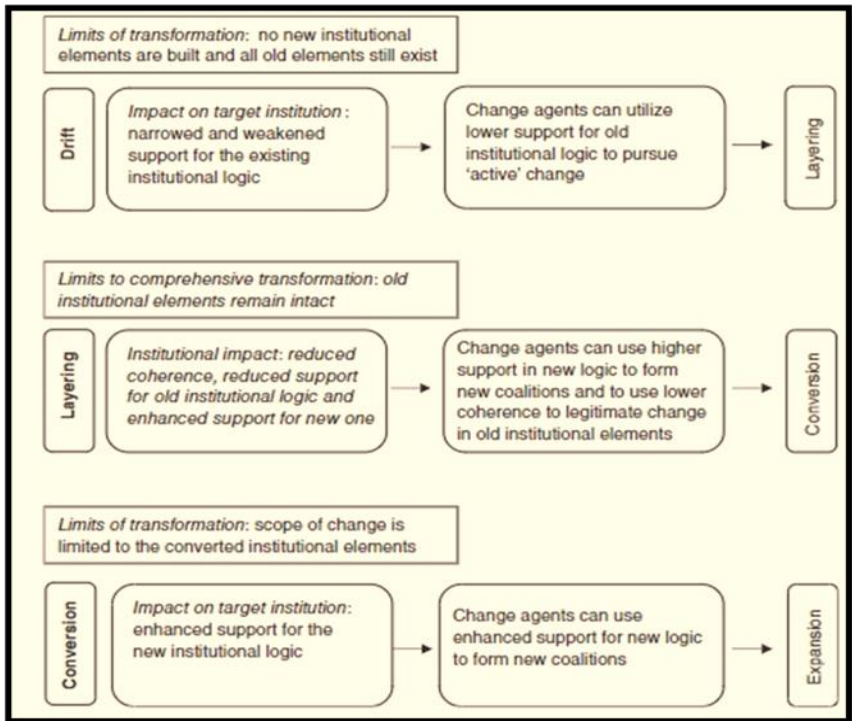


Figure 2 The Dynamic Theoretical Framework of Gradual Institutional Change

Koreh et al. (2019) introduced a dynamic theoretical framework for gradual institutional changes, highlighting how implementing one mode of change can create opportunities for additional modes of transformation. Implementing a single incremental change mode can alter the characteristics of the targeted institutions, including their coherence and feedback loops. Less coherent institutions offer greater flexibility for change agents, enabling broader transformations.

In summary, this dynamic framework posits that in gradual transformation processes, there are two fundamental aspects of gradualness. The first aspect aligns with the original concept of gradual change, where each mode of change operates incrementally. The second aspect of gradualness pertains to transitioning from one mode of change to another, where both modes are interconnected within a single causal chain. This second dimension of gradual change is crucial for comprehending gradual institutional transformations, as it elucidates how change agents can further drive institutional transformation after fully leveraging one mode of gradual change. This significance becomes more pronounced when we consider that each mode of change has distinct institutional effects and limitations, and achieving comprehensive institutional transformation often entails combining the complementary effects of multiple modes of change.

Consequently, this dynamic framework proposed by Koreh et al. (2019) can be applied to analyze the transformation pattern from

layering to conversion in ASEAN's development to address transboundary haze pollution in 2015–2016, potentially filling the research gap identified in the work of Charusombat (2023).

3. Methodology

Research Scope: This study is primarily limited to explaining which actors are considered “change agents” in the decision to gradually transform ASEAN institutions in addressing transboundary haze pollution from layering to conversion in the period 2015–2016, and what situations prompted the change agents to do so, especially the situation during the process of drafting the ASEAN Haze Free Roadmap (2016–2020) prior to its adoption in 2016.

Research Methods: The main analysis of this study is based on descriptive research, utilizing a comprehensive review of existing literature. The data comes from various documents, such as official reports published by ASEAN, peer-reviewed journals and book chapters, research on official websites on the subject, and the conference decisions of key ASEAN institutional committees on the implementation of the AATHP, such as the COP meetings in 2015–2016, especially before the launch of the Haze-Free Roadmap (2016–2020).

4. Results

Change Agents: Key Players in ASEAN's Institutional Adaptation to Address Transboundary Haze Pollution

As this paper is limited to explaining which actors served as change agents in the gradual transformation of ASEAN institutions addressing transboundary haze pollution from layering to conversion in 2015–2016, the author has already provided the definition of change agents in the previous section. In essence, it is valuable to examine the key actors who have contributed to the institutional layering process since 2003, particularly before the launch of the Haze-Free Roadmap (2016–2020), to gain an understanding of their role in the transformation of ASEAN institutions from layering to conversion in the period 2015–2016.

Figure 3 shows the key actors and the main ASEAN committees working on the implementation of the AATHP since September 2003. The first, and most important, actor is the Ministers of Environment of ASEAN Member States, who play a crucial role in the implementation of the AATHP. They act under the COP, established in September 2003. According to Article 18(3) of the AATHP, the COP has seven powers, namely taking measures to ensure effective implementation, considering reports of the Secretariat, adopting protocols under Article 21, amendments, amending the Annex,

establishing subsidiary bodies, and taking measures to achieve the objectives of the Agreement (ASEAN Secretariat, 2016). In addition, the Committee under the COP on the AATHP (COM) was established in November 2007 to assist the COP in the implementation of the AATHP, with successive meetings held prior to the agenda of the COP meetings that year (ASEAN Secretariat, 2021).

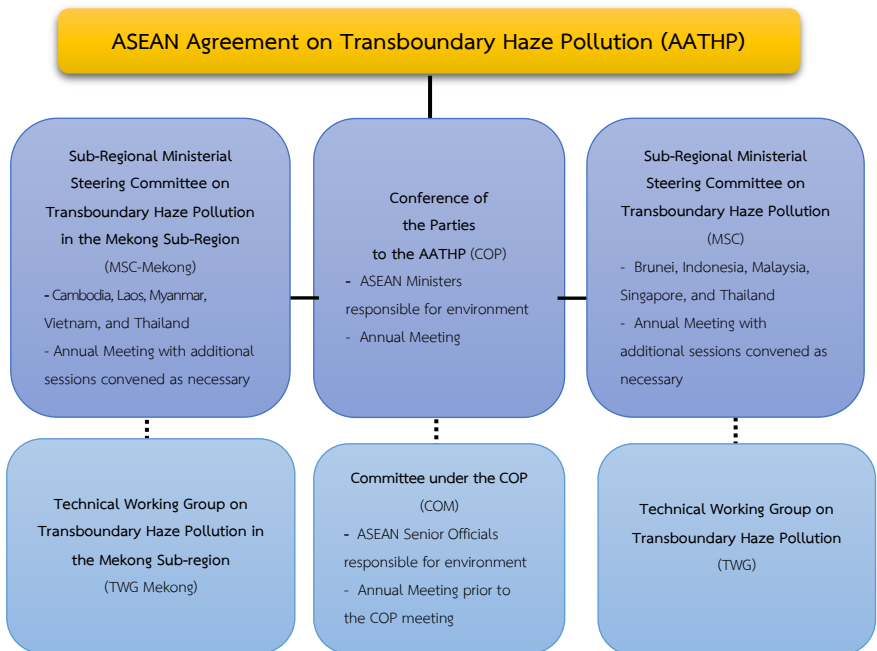


Figure 3 The Main ASEAN Institutional Committees on the Implementation of the AATHP

Source: Adjust from Caballero-Anthony (2018), Charusombat (2023)

The implementation framework divides transboundary haze management in the Southeast Asia region into two areas, with the committee of each area depending directly on COP (Caballero-Anthony, 2018). This division is due to the different challenges these two areas face with transboundary haze pollution. These two areas have established Transboundary Haze Pollution Process Implementation Committees to address the issues and hold annual meetings at the lead committee and ministerial levels (Fongissara & Buddharaksa, 2022).

The first committee is the Sub-Regional Ministerial Steering Committee on Transboundary Haze Pollution in the Mekong Sub-Region (MSC-Mekong) and is composed of representatives from Cambodia, Laos, Myanmar, Vietnam, and Thailand (Caballero-Anthony, 2018). The committee is supported by the Technical Working Group on Transboundary Haze Pollution in the Mekong Region (TWG Mekong) to gather information for the Mekong Sub-Regional Steering Ministerial Committee (Sunchindah, 2015; Varkkey, 2017).

The second committee is the Sub-Regional Ministerial Steering Committee on Transboundary Haze Pollution (MSC), and it includes representatives from Brunei, Indonesia, Malaysia, Singapore, and Thailand. This committee is supported by the Technical Working Group on Transboundary Haze Pollution in the Southern Part of ASEAN (TWG), which collects information for the Sub-Regional Ministerial Steering Committee on the Mekong River in the Southern

Part of ASEAN (Sunchindah, 2015; Varkkey, 2017). In addition, Thailand is the only country participating in the meetings in both areas, as it is affected by transboundary haze pollution from both mainland Southeast Asia and the southern part of ASEAN (Fongissara & Buddharaksa, 2022).

Major Conferences of the Main ASEAN Committees in 2015–2016: The Process of Preparing the Haze-Free Roadmap (2016–2020)

After Indonesia ratified the AATHP in September 2014, the AATHP received a boost when Indonesia submitted its instrument of ratification to the ASEAN Secretary-General on January 20, 2015, which led to Indonesia taking on the responsibility of joining forces with other ASEAN countries and stakeholders to address transboundary haze pollution (Sunchindah, 2015). This also means that Indonesia has been actively involved in annual meetings and decision-making since the eleventh COP of 2015 (Nurhidayatuloh et al., 2020).

Table 1 Major Conferences of Key ASEAN Committees in 2015–2016

Date and Place of Conference/ Type of Committees	Key Decision of Conferences
20 August 2015 in Nay Pyi Taw, Myanmar The 5 th meeting of the MSC Mekong	Recognized the need to develop a roadmap for ASEAN cooperation in addressing transboundary haze pollution with means of implementation to achieve the vision of a haze-free ASEAN by 2020.

Date and Place of Conference/ Type of Committees	Key Decision of Conferences
	<p>Welcomed Thailand's offer to hold a workshop next year to develop a roadmap to promote the sharing of experiences and lessons learned, enhance institutional capacity, human resource development, and technology transfer.</p>
<p>29 October 2015 in Hanoi, Vietnam The 11th meeting of the COP to the AATHP</p>	<p>Commitment to develop a roadmap on ASEAN cooperation towards transboundary haze pollution control with means of implementation, or in short, the Haze-Free Roadmap (2016-2020).</p>
<p>7-9 March 2016 in Chiangmai, Thailand A three day-workshop of Task Force</p>	<p>Developed the first draft of the Haze-Free Roadmap (2016 –2020) (The Task Force consisted of high-level officials and experts from various ASEAN member countries responsible for fire management and transboundary haze pollution, as well as external experts and partners who were also invited.)</p>
<p>11 August 2016 in Kuala Lumpur, Malaysia The 12th meeting of the COP to the AATHP</p>	<p>Approved the Haze-Free Roadmap (2016–2020) to be used specifically as a framework for cooperation among member states to control transboundary haze pollution.</p>

Sources: Adjust from ASEAN Secretariat (2015), Sunchindah (2015), Varkkey (2017), ASEAN Secretariat (2016), Caballero-Anthony (2018), ASEAN Secretariat (2021), Nurhidayatulloh et al. (2020)

However, a challenging situation arose in late June 2015 when the El Niño weather phenomenon, coupled with persistent hot and dry weather conditions, triggered intense and prolonged forest and peat fires in Indonesia (Quah & Tan, 2018). This resulted in an extended period of heavy haze engulfing the region, making 2015 the year of the worst transboundary haze episode in Southeast Asia this century (Quah & Tan, 2018). The repercussions of this crisis were severe, with studies estimating that between 40,000 and 100,000 additional deaths in Southeast Asia were linked to the 2015 haze period (Varkkey, 2022).

In the wake of this environmental catastrophe, it became evident that the existing mechanisms outlined in the AATHP were insufficient to address the recurring haze crisis. Consequently, the ASEAN committees responsible for AATHP implementation (as depicted in Figure 3) decided to collaborate with each other and engage with external stakeholders to seek innovative solutions. This collaborative effort aimed to adapt ASEAN institutions, strengthen cooperation, and establish a progressive institutional framework capable of effectively addressing this regional environmental challenge (Charusombat, 2023). The focal point of this narrative is the series of ASEAN committees' conferences that laid the foundation for the Haze-Free Roadmap (2016 –2020). This roadmap, introduced as an additional institutional framework alongside the AATHP, was conceived as a comprehensive

strategy to combat transboundary haze pollution in the region. The details of these pivotal conferences and their outcomes are outlined in Table 1 for reference.

Table 1 provides a chronological overview of key meetings and decisions in ASEAN cooperation to address transboundary haze pollution. Central to these decisions is the development and adaptation of the Haze-Free Roadmap (2016–2020), which is designed as a comprehensive strategy to address and mitigate haze pollution in ASEAN member states. In the wake of the severe haze crisis in late June 2015, the MSC-Mekong, one of the key ASEAN committees responsible for implementing the AATHP, took the first steps to identify critical indicators and take action to address the problem of persistent haze.

At the eleventh COP meeting in October 2015, environment ministers from ASEAN member countries came together to pledge and reaffirm their commitment to developing the Haze-Free Roadmap. Following this commitment, Thailand, one of the ASEAN member countries, took a leadership role by hosting the ASEAN Haze-Free Roadmap Committee Meeting in Chiang Mai in 2016. During this meeting, stakeholders reviewed the draft roadmap that would describe the critical indicators, actions, and implementation framework essential to achieving the vision of a haze-free ASEAN by 2020 (Fongissara & Buddharaksa, 2022). This Haze-Free Roadmap is a

strategic plan for ASEAN's coordinated response to the annually recurring challenge of haze pollution. It comprises a set of well-thought-out strategies to help ASEAN effectively address and resolve the persistent problem of transboundary haze pollution that plagues the region. Ultimately, the roadmap was officially adopted at the twelfth COP meeting in August 2016.

The Haze-Free Roadmap (2016 –2020) consists of four main components, namely the vision, the overall goal with indicators, key strategies with measures of progress, and actions (ASEAN Secretariat, 2021). According to the Roadmap's Key Strategies with Action, “the following key strategic components translate the principles of the AATHP into concrete and collective action under the Roadmap” (ASEAN Secretariat, 2021). One of the key strategies of the Roadmap is the implementation of the AATHP (Nurhidayatulloh et al., 2020). As Charusombat (2023) noted, the principles of the AATHP introduced in 2002 have remained the same (32 articles), although some of the articles have been reinterpreted to improve the implementation of the AATHP. In her study, she noted that Article 5 of the AATHP, which concerns the establishment of the ASEAN Coordination Center for Transboundary Haze Control (ACC THPC), has been reinterpreted by the Roadmap Strategy, resulting in an adaptation of ASEAN institutions for cooperation in regional haze control, and this process is called institutional conversion. As a result, ASEAN and AATHP do not lose

their current roles, although they would change significantly over time (Charusombat, 2023).

5. Discussion

In terms of change agents, as expected, this study identifies the six main ASEAN committees responsible for implementing the AATHP. These committees were added between 2003 and 2015 through a process known as institutional layering, as discussed by Charusombat (2023). According to Van der Heijden's (2010) definition, multiple change agents can operate within a single institution and policy context, a point emphasized in the analytical framework section of this paper. However, it is crucial to recognize that each change agent wielded a distinct level of influence on the transformation of ASEAN in the period 2015–2016. Among these committees, the MSC-Mekong was the first to acknowledge the necessity of developing a roadmap, while the COP served as the highest forum for ASEAN Environment Ministers to make decisions regarding the launch of the Haze-Free Roadmap (2016–2020) during its final phase. Significant progress has been achieved within this forum.

Nevertheless, from the author's perspective, Thailand emerges as the most pivotal change agent in this institutional transformation process. Thailand's significance in this context stems from its initiation

of the roadmap development process and its willingness to host the essential 3-day workshops, as detailed in Table 1. Another noteworthy factor is that Thailand is the only country participating in both the MSC and MSC-Mekong meetings. Since both committees are affected differently by transboundary haze pollution originating from mainland Southeast Asia and the southern part of ASEAN, Thailand's early initiatives have laid a solid foundation for regional cooperation in addressing this pressing environmental issue (Fongissara & Buddharaksa, 2022). Moreover, this study underscores the varied roles of change agents within the ASEAN committees working on AATHP implementation. While each committee contributes to the institutional transformation, Thailand's proactive involvement and early initiatives position it as a central driver of change in this regional context.

Regarding the situations that led the change agents mentioned above to launch the Haze-Free Roadmap (2016–2020) there are two important situations that occurred in 2015. The first was that Indonesia submitted its instrument to the ASEAN Secretary-General in January 2015 after ratifying the AATHP the year before. This situation led Indonesia to take the responsibility to work with other ASEAN countries and stakeholders to address transboundary haze pollution and to actively participate in annual meetings and decision-making at the eleventh COP of 2015 (Sunchindah, 2015; Nurhidayatulloh et al., 2020). The other important situation was the recurring transboundary

haze pollution crisis in late June, the worst crisis in this century in the Southeast Asia region. These two situations mark important milestones that led change agents to create the Haze-Free Roadmap (2016–2020), which is an important tool to lead the region to a haze-free future as part of ASEAN's joint efforts to address transboundary haze pollution and promote regional environmental cooperation. The events of 2015 were a critical catalyst for ASEAN's gradual shift in tackling transboundary haze pollution from layering to conversion during the period 2015–2016.

Analyzing within the framework presented by Koreh et al. (2019) has provided valuable insights into the dynamics of gradual institutional change and its relevance within the context of comprehensive transformation. This dynamic framework posits that implementing one mode of change can pave the way for additional modes of gradual transformation, as exemplified in Figure 2. In the context of ASEAN's incremental institutional change, this study demonstrates how the transformation process, illustrated in Figure 4, elucidates the evolution of ASEAN's institutional response to transboundary haze pollution cooperation, progressing from layering to conversion. This shift signifies a concerted effort by change agents, including ASEAN key committees and other stakeholders, to address the recurring crisis of transboundary haze pollution. Notably, the events of 2015 played a pivotal role as catalysts for this strategic shift.

In this context, it becomes evident that change agents adapt in response to changing circumstances. The transition from layering to conversion aligns with the preferred forms of incremental institutional change in regional environmental cooperation in Southeast Asia during 2015–2016, as highlighted by Charusombat (2023)

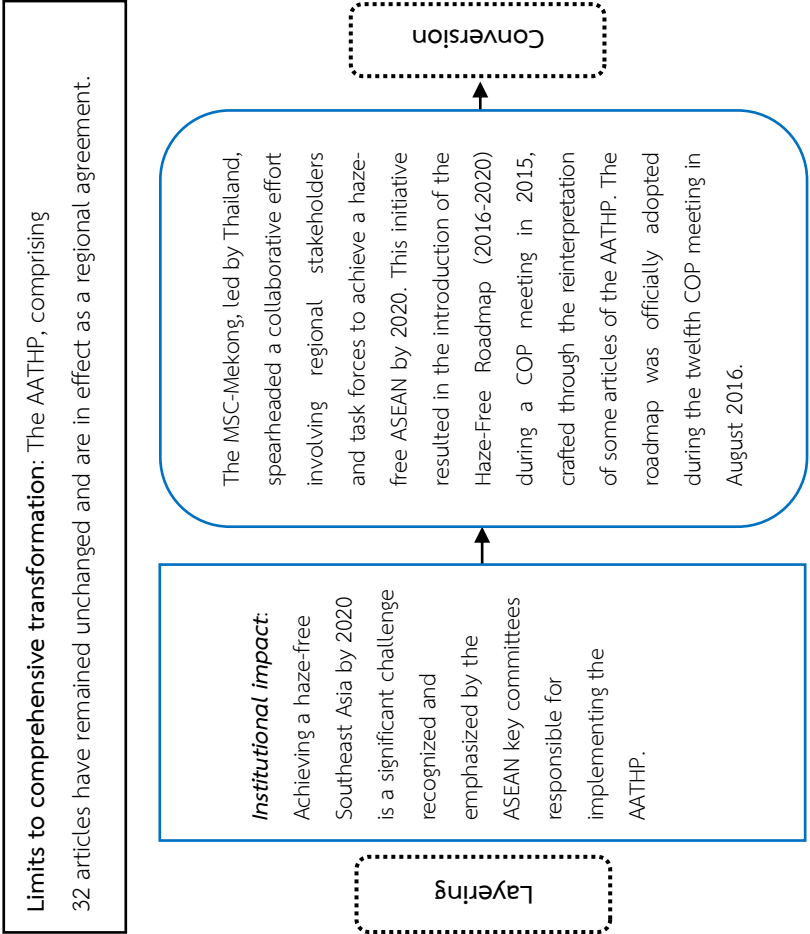


Figure 4 ASEAN's institutional transformation in 2015–2016

6. Conclusions and Policy Implications

This study highlights the paramount importance of understanding gradual institutional change in the field of regional environmental cooperation. The analysis of this change, from layering to conversion, has shown how ASEAN has adapted to environmental challenges while maintaining the principles of the ASEAN Way, namely emphasis on cooperation and respect for the sovereignty of member countries. The study's contribution lies in its ability to describe the change agents and shed light on the driving forces behind ASEAN's institutional transformation in dealing with transboundary haze pollution in 2015 –2016, thus filling the research gap of Charusombat (2023).

While this study has shed light on the process of institutional change in Southeast Asia, there remain numerous opportunities for future research. A more in-depth study of the long-term impact of the Haze-Free Roadmap (2016 –2020) and an assessment of its effectiveness in achieving a Haze-Free ASEAN by 2020 would provide valuable insights.

Moreover, exploring how ASEAN's adaptive institutional approach can leverage technologies, including generative AI, to monitor and combat transboundary haze pollution is a promising avenue for future research. Integrating technology and generative AI into ASEAN's institutional toolkit signals a promising environmental

future for the region, underscoring the importance of staying at the forefront of technological advancements to enhance monitoring and abatement capabilities against transboundary haze pollution.

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