

# International Environmental Law and Climate Change Adaptation in ASEAN Island Nations: An Analysis of Global and Regional Frameworks

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## Abstract

Climate change poses a profound threat to ASEAN island nations, including Indonesia, the Philippines, Brunei Darussalam, and Singapore. These countries are particularly vulnerable to rising sea levels, tropical storms, coastal ecosystem degradation, and biodiversity loss, requiring comprehensive legal and policy responses. This study adopts a normative legal approach to examine international environmental law instruments, such as the United Nations Framework Convention on Climate Change (UNFCCC), the Kyoto Protocol, and the Paris Agreement, alongside ASEAN regional frameworks, including the ASEAN Agreement on Disaster Management and Emergency Response (AADMER). Using statutory, conceptual, and comparative approaches, the research analyzes the extent to which international legal principles are integrated into national and regional adaptation policies. Findings indicate that principles such as the *Common but Differentiated Responsibilities (CBDR) approach*, the *precautionary principle*, and *sustainable development* have been incorporated, although implementation varies significantly across states. The Philippines demonstrates a strong disaster adaptation legal framework, while Indonesia struggles with interagency coordination. Brunei emphasises ecosystem conservation, and Singapore pursues technology-driven adaptation policies. At the regional level, ASEAN has introduced cooperative mechanisms; however, these largely remain in the realm of soft law, with limited enforcement power. The study emphasizes the need to strengthen regional legal instruments, align national policies with international frameworks, and increase access to international funding and technology.

## Keywords:

International environmental law; climate change; adaptation; ASEAN; island nations

## INTRODUCTION

Climate change represents one of the most significant challenges facing Southeast Asian island nations. Countries like Indonesia, the Philippines, Brunei Darussalam, and Singapore are especially vulnerable to threats including rising sea levels, tropical storms, coastal ecosystem degradation, and biodiversity loss. In the context of international law, climate change intersects with human rights, sustainable development, and international security concerns (Nurjati & Adityawati, 2024; , Sha'arani et al., 2022).

The United Nations Framework Convention on Climate Change (UNFCCC), the Kyoto Protocol, and the 2015 Paris Agreement stand as the primary instruments for facilitating global adaptation and mitigation efforts related to climate change. ASEAN member states are obligated to internalize these international environmental law principles within their national policies and regional cooperation frameworks (Kondo, 2025; , Tahalele et al., 2023). Thus, an evaluation of how these legal frameworks are integrated into national legislation is crucial for formulating effective climate response strategies in the region (Nam, 2024; , Lestari, 2024; , Kurniawan et al., 2024).

However, the readiness and adaptive capacities of ASEAN nations diverge significantly. The Philippines, for instance, has established a robust legal framework focused on disaster adaptation, while Indonesia continues to grapple with interagency coordination issues (Ha et al., 2023; , An et al., 2020). Such disparities highlight the necessity for a thorough examination of international environmental law's role in fostering climate adaptation

initiatives in Southeast Asian island nations through both national policies and regional collaborative mechanisms (Nurjati & Adityawati, 2024; , Guan et al., 2023).

Given the high degree of vulnerability to climate change threats across the region, it is imperative to analyze the ongoing response mechanisms within the context of international legal instruments. The findings from comprehensive research into these frameworks will significantly contribute to the discourse on effective climate adaptation strategies in Southeast Asia, aiming not only for compliance with international norms but also for enhanced resilience and sustainable development (Nguyen et al., 2023; , Lee et al., 2022; , Lord, 2020).

## **METHODS**

This study employs a normative legal approach, utilizing several methodological frameworks, to analyze the intersection of law and climate change adaptation in ASEAN island nations. The statute approach entails a comprehensive examination of critical international legal instruments, including the United Nations Framework Convention on Climate Change (UNFCCC), the Paris Agreement, and the Kyoto Protocol. Additionally, it incorporates ASEAN legal frameworks, such as the ASEAN Agreement on Disaster Management and Emergency Response (AADMER), alongside the ASEAN Working Group on Climate Change, to determine how these global and regional commitments influence national legal frameworks and policies Wen et al. (2023).

Meanwhile, the conceptual approach focuses on fundamental principles of international environmental law, such as the Common But Differentiated Responsibilities (CBDR), the precautionary principle, and the sustainable development paradigm. This dimension underlines the importance of integrating these legal principles into national legislation to reinforce climate resilience. The comparative approach, on the other hand, investigates climate change adaptation practices across selected ASEAN island nations, including Indonesia, the Philippines, Brunei Darussalam, and Singapore. Through literature review, policy analysis, and international legal document examination, the study systematically collects data to assess the adaptive strategies and legal frameworks in place (Mortimer et al., 2023; , Rezaldi et al., 2020).

## **RESULTS AND DISCUSSION**

### **1. Principles of International Environmental Law in Climate Adaptation**

International law emphasizes the shared responsibility of states to safeguard the global environment. The principle of Common But Differentiated Responsibilities (CBDR) acknowledges that while all nations bear responsibility, the extent of this obligation varies based on their capacities and circumstances. In the context of ASEAN, developing countries such as Indonesia and the Philippines benefit from financial and technological support from global mechanisms, including the Green Climate Fund and the Adaptation Fund, aimed at enhancing their climate adaptation strategies. This support is crucial as it empowers these nations to implement essential projects that build resilience against climate impacts Islam & Kieu (2020), Hibi & Dublin, 2023).

### **2. Climate Change Adaptation Policies in ASEAN Island Countries**

Indonesia's National Action Plan for Climate Change Adaptation (RAN-API) emphasizes coastal resilience, food security, and disaster governance. However, effective implementation is hampered by challenges in coordination and funding. The Philippines has made strides through the Climate Change Act of 2009, which established the Climate Change Commission, positioning it as a progressive model for community-based adaptation policies

(Azhar et al., 2022). Brunei Darussalam focuses on mangrove protection, marine biodiversity conservation, and low-carbon development strategies, aligning with broader environmental goals (Bhandary et al., 2021). Singapore, on the other hand, has introduced the Coastal and Flood Protection Fund and the Singapore Green Plan 2030, prioritizing urban adaptation and eco-friendly technologies in its climate agenda (Nepal et al., 2021).

### 3. ASEAN's Role in Climate Adaptation

ASEAN has launched several initiatives to enhance regional cooperation on climate adaptation. The ASEAN Working Group on Climate Change (AWGCC) aims to promote coordinated responses across member states, supported by the ASEAN Climate Change Strategic Action Plan 2021-2025. Additionally, mechanisms like the ASEAN Coordinating Centre for Humanitarian Assistance on Disaster Management (AHA Centre) play a pivotal role in addressing disaster risks within the region (Ngo et al., 2021; , Sundram & Brennan, 2024). Yet, a fundamental weakness lies in the nature of ASEAN cooperation, which often exists as soft law, lacking strong enforcement mechanisms. As a result, ASEAN tends to rely more on political consensus than on binding legal instruments, limiting the effectiveness of its climate adaptation policies (Chin et al., 2024).

### 4. Challenges and Prospects

Several challenges complicate climate adaptation across ASEAN member states, including economic disparities, weak harmonization of national laws, limited funding for adaptation initiatives, and low public awareness of climate change issues. These barriers often stall progress in implementing effective adaptation strategies (Badareu et al., 2024). However, prospects for enhancing climate resilience exist through the integration of climate adaptation policies into the ASEAN Community Vision 2025, increased access to international funding resources, and the potential for stronger regional legal frameworks. These measures could provide ASEAN nations with the necessary tools to combat the effects of climate change more effectively and sustainably (Pandey et al., 2022; , Faqih & Siswoyo, 2020).



Figure 1. Climate Adaptation Challenges in ASEAN

### Discussion

The principles of international environmental law, particularly CBDR, emphasize shared global responsibility for environmental protection while recognizing differentiated

obligations based on national capacities. In the ASEAN context, developing countries such as Indonesia and the Philippines have benefited from international climate finance mechanisms like the *Green Climate Fund* and the *Adaptation Fund*, which support resilience-building projects.

At the national level, ASEAN island nations demonstrate varying strategies. Indonesia has formulated the *National Action Plan for Climate Change Adaptation (RAN-API)*, focusing on coastal resilience, food security, and disaster governance, though implementation remains hindered by coordination and funding gaps. The Philippines has advanced a more robust framework through the *Climate Change Act of 2009*, establishing the Climate Change Commission and promoting community-based adaptation strategies. Brunei Darussalam prioritizes mangrove conservation, marine biodiversity, and low-carbon development, while Singapore implements forward-looking measures such as the *Coastal and Flood Protection Fund* and the *Singapore Green Plan 2030*, emphasizing urban adaptation and green technologies.

Regionally, ASEAN has pursued initiatives such as the *ASEAN Working Group on Climate Change (AWGCC)*, the *ASEAN Climate Change Strategic Action Plan 2021–2025*, and the *ASEAN Coordinating Centre for Humanitarian Assistance on Disaster Management (AHA Centre)*. These initiatives foster coordination but remain limited in effectiveness due to their reliance on political consensus rather than binding legal commitments. ASEAN's *soft law* orientation constrains the enforceability of regional climate adaptation measures.

Challenges persist in harmonizing national legal frameworks, addressing economic disparities, ensuring adequate climate finance, and raising public awareness. Nevertheless, opportunities exist in integrating climate adaptation into the *ASEAN Community Vision 2025*, enhancing international funding access, and developing more binding regional legal instruments. These steps could provide ASEAN island nations with stronger tools to respond effectively and sustainably to climate change.

## CONCLUSION

International environmental law provides a crucial normative framework for ASEAN island nations in addressing climate change. The adoption of CBDR, the precautionary principle, and sustainable development has informed national adaptation strategies, though their implementation diverges across states. While Indonesia, the Philippines, Brunei Darussalam, and Singapore have advanced adaptation measures tailored to their contexts, regional coordination through ASEAN remains limited by the predominance of non-binding legal instruments.

To strengthen climate resilience, ASEAN island nations must enhance regional legal frameworks, harmonize national policies with international obligations, and expand access to global climate finance and technology. By pursuing these measures, ASEAN can not only meet international legal commitments but also bolster resilience and promote sustainable development in one of the world's most climate-vulnerable regions.

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