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The Limits of External Aid: Japan's Climate Diplomacy and Forest-Fire Governance in Kalimantan

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Abstract

Climate change and recurring environmental disasters have transformed forest and land fires into a critical transboundary governance issue. In Indonesia, forest and land fires in Kalimantan have persisted across decades, culminating in the major 2026 crisis. Despite long-term international cooperation including Japan's assistance in peatland restoration, technical capacity building, and emergency disaster relief, large-scale fires continue to recur. This study examines how Japan's international assistance functions as an instrument of climate diplomacy in Indonesia's forest and land fire governance and how domestic resource politics shape its effectiveness. Employing a qualitative case study and document analysis, this research examines official policies, JICA cooperation programs, and the 2026 crisis data. The findings indicate that while Japanese assistance successfully enhanced technical and emergency response capacities, its effectiveness remains structurally constrained by domestic governance challenges and competing interests in land conversion and plantation expansion. The 2026 crisis marked by tens of thousands of burned hectares and hundreds of thousands of acute respiratory infection cases despite external intervention provides empirical evidence of a critical gap between international assistance and domestic implementation. This study argues that the persistence of forest and land fires reflects the structural limits of techno-centric external aid when international cooperation encounters unresolved domestic

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resource politics. By bridging international climate diplomacy and domestic political economy, this study offers an integrative international relations framework to explain the boundaries of environmental assistance.

Abstrak

Perubahan iklim dan bencana lingkungan yang terus berulang telah mengubah kebakaran hutan dan lahan menjadi isu tata kelola lintas batas yang krusial. Di Indonesia, kebakaran hutan dan lahan di Kalimantan telah berlangsung selama beberapa dekade, hingga puncaknya pada krisis besar tahun 2026. Meskipun kerja sama internasional jangka panjang termasuk bantuan Jepang dalam restorasi lahan gambut, pembangunan kapasitas teknis, dan bantuan darurat bencana telah dilakukan, kebakaran skala besar tetap berulang. Penelitian ini mengkaji bagaimana bantuan internasional Jepang berfungsi sebagai instrumen diplomasi iklim dalam tata kelola kebakaran hutan dan lahan di Indonesia serta bagaimana politik sumber daya domestik membentuk efektivitasnya. Dengan menggunakan pendekatan studi kasus kualitatif dan analisis dokumen, penelitian ini mengkaji kebijakan resmi, program kerja sama JICA, dan data krisis 2026. Temuan penelitian menunjukkan bahwa meskipun bantuan Jepang berhasil meningkatkan kapasitas teknis dan tanggap darurat, efektivitasnya tetap terhambat secara struktural oleh tantangan tata kelola domestik dan persaingan kepentingan dalam konversi lahan serta ekspansi perkebunan. Krisis 2026 yang ditandai oleh puluhan ribu hektar lahan terbakar dan ratusan ribu kasus infeksi saluran pernapasan akut (ISPA) meskipun ada intervensi eksternal memberikan bukti empiris mengenai adanya kesenjangan kritis antara bantuan internasional dan implementasi domestik. Penelitian ini berargumen bahwa berulangnya kebakaran hutan dan lahan mencerminkan keterbatasan struktural dari bantuan eksternal yang bersifat tekno-sentris ketika kerja sama internasional berhadapan dengan politik sumber daya domestik yang belum terselesaikan. Dengan menghubungkan diplomasi iklim internasional dan ekonomi politik domestik, penelitian ini menawarkan kerangka kerja hubungan internasional integratif untuk menjelaskan batas-batas bantuan lingkungan.

Keywords: Climate Diplomacy, Forest and Land Fires, JICA, Disaster Governance

Introduction

Climate change has increasingly transformed forest and land fires from localized environmental problems into complex issues of environmental governance, disaster management, and international cooperation. Forest fires can generate consequences that extend beyond the areas where they occur through greenhouse gas emissions, biodiversity loss, ecosystem degradation, public health impacts, and transboundary haze. Indonesia is particularly vulnerable to this problem because of its extensive tropical forests and peatlands, which can become highly vulnerable to fire when drainage, deforestation, and land use conversion occur. In this context, forest and land fires should not be understood only as temporary environmental disasters, but also as recurring governance problems shaped by the interaction between climatic conditions, human activities, land use practices, and institutional capacity.

This study examines a significant paradox in international environmental relations: why have these comprehensive, long-term capacity building efforts failed to prevent recurring environmental disasters? Although the perspective of liberal institutionalism suggests that international aid can improve environmental governance at the domestic level, the 2026 Kalimantan fire crisis may actually reveal a long-standing theoretical anomaly.[1]

Kalimantan provides an important case for examining this problem. Large scale fires have occurred repeatedly in the region, including the severe fire events of 1982–1983 and 1997–1998. Research on the Kutai peatlands in East Kalimantan found that fires during 1982–1983 affected up to 45 percent of swamp forest in the study area, while the 1997–1998.[2] fires affected approximately 72–85 percent of the vegetation. These events demonstrate that large-scale fires in Kalimantan are not a recent phenomenon but part of a longer history of ecological vulnerability and human induced fire activity. The 2015 crisis further demonstrated the national scale of the problem. The World Bank estimated that approximately 2.6 million hectares of Indonesian land burned between June and October 2015, resulting in an estimated economic cost of US$16.1 billion.[3] The assessment also linked the severity of the fires to human induced land clearing, insufficiently controlled burning, weak law enforcement, drought, and the effects of El Niño.

The persistence of fires indicates that climatic variability alone cannot sufficiently explain the recurrence of the crisis. El Niño and prolonged drought can create favorable conditions for fire, but their effects are intensified when forests and peatlands have already been degraded or converted. Peatlands are particularly important because drainage for agriculture and plantations can reduce water levels and make peat more flammable.[4] Research on Indonesian peatland governance has shown that although the government has introduced regulations to protect and manage peatlands, degradation and conversion have continued, partly because regulations have not always fit the practices and conditions of local peatland users. Other studies demonstrate that peatland governance is also shaped by competing economic and political interests associated with plantation development, land conversion, and the implementation of environmental regulations. Thus, the persistence of forest and land fires reflects not only environmental vulnerability but also difficulties in translating environmental policies into effective governance outcomes.

These conditions have encouraged Indonesia to develop international cooperation for forest fire prevention, peatland management, climate mitigation, and disaster response. Japan has been one of the long-term international partners involved in strengthening Indonesia's capacity in this area. Japanese cooperation through the Japan International Cooperation Agency (JICA) has included community based fire prevention, early detection, initial firefighting capacity, awareness raising, and participatory fire prevention

approaches. JICA's earlier cooperation on peatland fire control, implemented from 2010 to 2015, specifically targeted Riau and West Kalimantan and sought to strengthen both community organizations and government fire control institutions.[5] This demonstrates that Japan's involvement has not been limited to emergency assistance but has also included longer-term institutional and community capacity building.

Japan's cooperation has continued to develop alongside Indonesia's climate governance agenda. In 2023, JICA and the Indonesian government established a technical cooperation project to strengthen Indonesia's capacity to manage forests and peatlands for climate change mitigation.[6] The project focuses on greenhouse gas monitoring, sustainable peatland management, low carbon agricultural practices, and related climate governance mechanisms. In Central Kalimantan, a JICA supported initiative implemented with Sumitomo Forestry has also introduced field-based peatland assessment, satellite and unmanned aerial vehicle technologies, land-use planning, and water-management mechanisms. Its stated objectives include fire prevention, emissions reduction, and biodiversity conservation. These initiatives illustrate how development assistance can function beyond conventional aid delivery by supporting technical knowledge, institutional capacity, environmental monitoring, and policy implementation. In this sense, Japan's engagement can be examined as part of its broader climate diplomacy with Indonesia.

Climate diplomacy has become an important dimension of international relations as climate change increasingly requires cooperation among states and other international actors. Elliott (2013) explains climate diplomacy through the development of international climate negotiations and the changing practices of diplomacy within global environmental governance. This perspective highlights that climate diplomacy is not only concerned with state negotiations but also involves broader diplomatic processes through which international actors address shared environmental challenges.[7]

Furthermore, Kinley (2022) argues that climate diplomacy has increasingly moved beyond the negotiation of international agreements toward the implementation of climate commitments. This development emphasizes the importance of bilateral relations, international partnerships, and practical cooperation in addressing climate change. Through these forms of engagement, states can support climate action by exchanging knowledge, providing technical assistance, and strengthening the capacity of partner countries to implement environmental policies.[8]

In the context of Japan, Sakaguchi et al. (2021) examine Japan's environmental diplomacy and its role in shaping environmental cooperation in the Asia-Pacific region. Their study provides an important perspective on how Japan engages in regional environmental initiatives and cooperation. Although

environmental diplomacy is broader than climate diplomacy, their discussion helps contextualize Japan's international engagement in addressing environmental challenges through regional cooperation.[9]

Drawing on these perspectives, this study understands climate diplomacy as the use of diplomatic relations and international cooperation to support climate-related objectives through technical assistance, knowledge transfer, and institutional capacity building. This understanding is used to examine Japan's cooperation with Indonesia, particularly through JICA programs related to forest-fire prevention, peatland management, climate change mitigation, and institutional strengthening. Rather than evaluating climate diplomacy solely through the provision of external assistance, this study also considers how domestic governance and political-economic conditions shape the implementation and effectiveness of such cooperation.

Nevertheless, the continuing occurrence of forest and land fires raises an important question concerning the limits of external assistance. The issue became particularly relevant in 2026, when Indonesia again experienced significant fire risks across several regions of Kalimantan. By 9 August 2026, the Indonesian National Disaster Management Agency (BNPB) recorded approximately 48,889.69 hectares of burned land across six priority provinces. West Kalimantan accounted for approximately 28,680.47 hectares, while Central Kalimantan recorded 3,069.52 hectares and South Kalimantan 383.07 hectares.[10] At the same time, BMKG reported that very strong El Niño conditions and dry atmospheric conditions were increasing fire risks. Between 7 and 16 September 2026, high-confidence hotspots were particularly concentrated in Central Kalimantan and West Kalimantan, with 3,177 and 1,088 hotspots respectively.[11] These developments indicate that substantial investments in fire prevention and environmental governance coexist with continuing vulnerability to large-scale fires.

The 2026 situation is particularly significant because Japan itself became directly involved in Indonesia's emergency response. On 28 August 2026, the Japanese government decided to dispatch a Japan Disaster Relief Self-Defense Forces unit to Indonesia in response to forest and land fires in Kalimantan.[12] The unit subsequently conducted aerial firefighting operations using CH-47 helicopters from 16 to 29 September 2026. The Japanese Ministry of Foreign Affairs stated that Japan would continue cooperation with Indonesia in disaster response and disaster prevention. The coexistence of long-term Japanese cooperation and renewed emergency assistance with the recurrence of major fires provides an important empirical puzzle for understanding the effectiveness of international assistance.

Existing literature has provided valuable explanations for different dimensions of Indonesia's forest and land-fire problem. Studies of fire ecology

emphasize the roles of drought, El Niño, peatland degradation, and land-use change. Research on environmental governance highlights institutional coordination, regulatory implementation, and the difficulties of managing peatlands across different levels of government. Recent research in West Kalimantan further demonstrates that peatland fires can emerge from tensions between conservation and production, weak enforcement, regulatory ambiguity, plantation expansion, and local livelihood pressures. Meanwhile, studies and institutional reports concerning Japanese cooperation primarily document its contributions to fire prevention, technical capacity, peatland management, monitoring, and climate mitigation.

However, existing discussions have tended to examine international assistance and domestic governance as relatively separate dimensions. Less attention has been given to how the effectiveness of Japanese climate related assistance is conditioned by the domestic governance and political economic structures in which that assistance is implemented. Strengthening technical capacity does not necessarily eliminate the structural conditions that reproduce environmental risks. International assistance may provide technology, knowledge, monitoring systems, institutional support, and emergency resources, while the outcomes of those interventions remain dependent on domestic regulatory implementation, institutional coordination, land use governance, and resource related interests.

Theoretical perspectives in liberal institutionalism often presume that international aid and capacity building seamlessly enhance domestic disaster governance.[13] However, this framework fails to account for how international climate diplomacy operates when confronted with deeply embedded domestic political-economic structures. Within the matrix of Integrative International Relations (IR), international environmental cooperation cannot be analyzed in isolation from the domestic resource politics that govern land conversion and the resulting human security crises at the local level. While Japan's assistance introduces state-of-the-art technological and institutional solutions, it risks creating a 'techno-centric trap' where external aid strengthens administrative apparatuses without altering the underlying economic incentives driving peatland degradation.

This study therefore examines Japan's international assistance as an instrument of climate diplomacy while simultaneously considering the domestic conditions that shape its effectiveness in Indonesia's forest and land fire governance. The study argues that Japanese assistance can strengthen Indonesia's technical and institutional capacity for fire prevention, monitoring, peatland management, and emergency response, but such assistance cannot independently resolve domestic governance challenges and resource related political economic structures surrounding land conversion, plantations, forestry, and peatland use. The recurrence of fires in 2026 therefore does not necessarily

demonstrate the failure of Japanese climate diplomacy; rather, it illustrates the limits of external assistance when international cooperation encounters unresolved domestic structural conditions. Accordingly, this study asks: How does Japanese international assistance contribute to forest and land-fire governance in Kalimantan, and how do domestic governance and resource-related political economic structures shape its effectiveness?

Research Method

This study employs a qualitative case study approach to examine Japan's international assistance in Indonesia's forest and land fire governance in Kalimantan.[14] A qualitative approach is appropriate because the study focuses on understanding the relationship between international assistance, climate diplomacy, domestic governance, and resource related political economic conditions rather than measuring causal relationships quantitatively. The case study approach enables the research to examine Japanese assistance within the specific institutional, environmental, and political economic context in which forest and land fire governance takes place.

Kalimantan was selected as the case because the region has experienced recurrent forest and land fires and contains extensive forest and peatland ecosystems that are particularly vulnerable to fire. The study focuses on Japan's international assistance, particularly cooperation involving the Japan International Cooperation Agency (JICA), in relation to forest fire prevention, peatland management, climate change mitigation, monitoring, and disaster response. The analysis considers both the longer-term cooperation between Japan and Indonesia and the 2026 forest and land fire crisis as a contemporary case through which the limits of external assistance can be examined.

The study uses secondary data collected through document analysis.[15] The data consist of official government documents, international cooperation documents, institutional reports, academic publications, and civil society reports relevant to forest and land-fire governance in Indonesia. Key institutional sources include documents from Indonesian government agencies such as the National Disaster Management Agency (BNPB) and the Meteorology, Climatology, and Geophysical Agency (BMKG), as well as documents published by JICA and the Japanese Ministry of Foreign Affairs. Academic literature and other relevant reports are used to provide broader explanations of peatland governance, land-use change, environmental governance, and the political economic conditions associated with forest and land fires.

Documents were selected purposively based on their relevance to the research questions. Particular attention was given to documents discussing Japanese assistance, institutional capacity building, forest and peatland management, fire prevention, climate mitigation, disaster response, land-use

governance, and resource related interests. Historical documents were also considered to establish the continuity of cooperation and the recurrence of forest and land fire problems in Kalimantan.

The collected data were analyzed using qualitative thematic analysis.[16] The analysis was conducted by identifying recurring themes and patterns across the selected documents. The main analytical categories include: forms of Japanese international assistance, technical and institutional capacity building, climate diplomacy, domestic disaster and environmental governance, land-use conversion, plantations, forestry, and peatland management, and the recurrence of forest and land fires, particularly in 2026. The analysis then compares these themes to examine how Japanese assistance contributes to Indonesia's governance capacity and how domestic structural conditions influence the implementation and effectiveness of such assistance.

To strengthen the credibility of the findings, the study applies source triangulation by comparing information from different types of documents and institutions. Official government and international cooperation documents are compared with academic studies and independent reports where relevant. This process helps distinguish institutional claims about the outcomes of international assistance from broader evidence concerning domestic governance and environmental conditions. Through this approach, the study seeks to provide a balanced assessment of both the contributions and limitations of Japan's international assistance in addressing forest and land-fire governance in Kalimantan.

This study also incorporates official disaster reports published by the National Disaster Management Agency (BNPB) to examine the social and public health consequences of forest and land fires. Particular attention is given to data on burned areas, ongoing firefighting operations, and reported respiratory illness cases in affected provinces. These data provide an institutional perspective on the consequences experienced by communities and help connect the environmental dimensions of forest fires with their social impacts at the grassroots level.

Result

The findings show that Japan's assistance to Indonesia has developed through a long term capacity building approach rather than being limited to emergency responses. One important example is JICA's Program of Community Development of Fires Control in Peat Land Area, implemented from 2010 to 2015 in Riau and West Kalimantan. The program focused on strengthening community based fire prevention, improving the capacity of fire control organizations, and strengthening coordination among government institutions.[17] The project also involved village level fire prevention activities and training for local facilitators.

Japanese assistance expanded toward climate change mitigation and sustainable land management. In 2023, JICA and Indonesia's Ministry of Environment and Forestry established a technical cooperation project to strengthen Indonesia's capacity to manage forests and peatlands for climate change mitigation. The project focuses on greenhouse gas monitoring, sustainable peatland management, low carbon agricultural practices, and measurement, reporting, and verification (MRV) mechanisms.[18] These activities demonstrate that Japanese cooperation has increasingly addressed broader climate governance rather than focusing exclusively on direct fire suppression.

The findings therefore identify three interconnected dimensions of Japanese assistance: fire prevention capacity, institutional and technical capacity, and climate mitigation governance. This progression demonstrates that Japan's engagement addresses not only the immediate management of fires but also technical and institutional capacities related to forest and peatland management.[19]

Despite the development of international assistance, the findings indicate that forest and peatland fires remain associated with persistent domestic governance challenges. Research on peatland governance in Indonesia shows that national regulations do not always fit the practices and conditions of local peatland users. In Central Kalimantan, the implementation of peatland regulations has been constrained by limited socialization, insufficient field monitoring, and weaknesses in law enforcement.[20] This indicates that the existence of environmental regulations does not automatically guarantee effective implementation at the local level.

The problem is also connected to the political economic structure of land use. Previous research has identified tensions between peatland protection policies and plantation interests in Indonesia. The expansion of oil palm and pulpwood plantations has been associated with peatland conversion and drainage, creating challenges for the implementation of peatland protection policies.[21] These conditions make forest and peatland governance dependent not only on technical capacity but also on the ability of government institutions to regulate competing interests surrounding land use.

Research on peatland restoration in Central Kalimantan further demonstrates that governance challenges remain even after restoration policies have been introduced. The implementation of restoration policies has been affected by coordination problems among different stakeholders and levels of government, limiting the ability of restoration actors to respond effectively to emerging challenges.[22] Thus, the findings indicate a distinction between governance capacity and governance implementation. Japanese assistance can provide technical knowledge, monitoring systems, institutional strengthening, and community based prevention mechanisms, but these interventions operate

within domestic regulatory and political economic structures that influence their implementation.[23]

The 2026 forest and land fire crisis provides the clearest contemporary evidence of the gap between international assistance and persistent domestic vulnerability. By 9 August 2026, approximately 48,889.69 hectares of land had burned across six priority provinces identified by the Indonesian government. West Kalimantan accounted for approximately 28,680.47 hectares, followed by Central Kalimantan with 3,069.52 hectares and South Kalimantan with 383.07 hectares.[24]

Climate conditions further intensified the situation. BMKG reported that very strong El Niño conditions combined with dry atmospheric conditions increased the risk of forest and land fires. Between 7 and 16 September 2026, satellite monitoring recorded 3,177 high confidence hotspots in Central Kalimantan and 1,088 in West Kalimantan.[25] These figures demonstrate that the recurrence of fires occurred within a combination of climatic stress and existing environmental vulnerability.

The 2026 crisis also produced a new form of Japanese involvement. On 28 August 2026, the Japanese government decided to dispatch a Japan Disaster Relief Self Defense Forces Unit to Indonesia to support firefighting activities in response to the fires in Kalimantan. The unit conducted aerial firefighting operations using CH-47 helicopters from 16 to 29 September 2026.[26] Following the operation, the Japanese government stated that it would continue cooperation with Indonesia in disaster response and disaster prevention.

The findings therefore reveal a significant continuity in Japan's engagement. However, the recurrence of large scale fires despite these forms of cooperation demonstrates that external assistance operates within domestic conditions that cannot be addressed through technical assistance alone. The 2026 crisis consequently provides empirical evidence of a gap between the provision of external capacity and the domestic conditions required to translate that capacity into sustained fire prevention outcomes.

Beyond the environmental and institutional dimensions, the 2026 forest and land-fire crisis has also created significant social and public health challenges for communities in affected areas. According to the National Disaster Management Agency (BNPB), as of 24 October 2026, approximately 25,409 hectares of land had been affected by forest and land fires, with 17,942 hectares remaining unextinguished. Central Kalimantan recorded the largest burned area among the three affected Kalimantan provinces, reaching 13,944 hectares, followed by West Kalimantan with 2,500 hectares and South Kalimantan with 526 hectares.

The consequences of these fires are also reflected in public health conditions. In its report published in October 2026, BNPB cited Ministry of Health data recording 333,470 cumulative cases of acute respiratory infections (ARI/ISPA) across seven fire-affected provinces between 18 August and 21 October 2026. Among these cases, 75,172 involved children aged zero to five years. The cases were distributed across 68 regencies and municipalities, demonstrating the broad public health implications of the forest-fire crisis.[27] These illustrate that forest and land fires are not exclusively environmental or institutional problems. They directly affect the everyday well-being of communities, particularly children and other vulnerable populations. Exposure to smoke, respiratory health risks, and the need for additional healthcare protection demonstrate the social costs of recurring fires.

From a grassroots perspective, the situation highlights the importance of evaluating disaster governance based not only on the government's technical capacity to detect and extinguish fires but also on its ability to protect affected populations. Therefore, the social consequences of the 2026 crisis provide an important dimension for assessing the effectiveness of domestic governance and international cooperation in forest and land-fire management.

Empirically, the coexistence of continuous Japanese techno-centric assistance and the severe 2026 crisis illustrates the tangible limits of climate diplomacy. The deployment of the Japan Disaster Relief Self-Defense Forces unit with CH-47 helicopters in September 2026 running concurrently with 48,889.69 hectares of burned land and over 333,470 acute respiratory infection cases serves as a striking empirical paradox. Rather than preventing disaster through long-term institution building, external cooperation was compelled to revert to reactive, emergency firefighting.[28] This empirical data demonstrates that despite sophisticated international aid, domestic structural pressures and resource politics continue to override diplomatic interventions, forcing external actors into a reactive cycle rather than achieving transformative environmental governance.

Analysis and Discussion

This development is important because climate diplomacy is not limited to formal diplomatic negotiations. As discussed by Elliott (2013), climate diplomacy involves broader diplomatic practices within international environmental governance. Kinley (2022) further highlights the importance of moving from climate negotiations toward the implementation of climate commitments through bilateral relations and practical international cooperation. These perspectives help explain how climate diplomacy can operate through knowledge transfer, technical assistance, and institutional capacity building. In this context, Japanese assistance represents a form of practical climate diplomacy in which Japan contributes knowledge, technology,

institutional capacity, and disaster management resources to Indonesia. The continuity of cooperation also suggests that Japan's engagement is not simply reactive to individual fire events but forms part of a longer-term relationship concerning environmental and climate governance.

This development is important because climate diplomacy is not limited to formal diplomatic negotiations. It can also operate through cooperation, knowledge transfer, institutional strengthening, and the development of technical mechanisms for addressing climate related problems. From this perspective, Japanese assistance represents a form of practical climate diplomacy in which Japan contributes knowledge, technology, institutional capacity, and disaster management resources to Indonesia. The continuity of cooperation also suggests that Japan's engagement is not simply reactive to individual fire events but forms part of a longer term relationship concerning environmental and climate governance.

The importance of international cooperation can also be understood through its contribution to human security and public welfare.[29] in their study of Indonesia-Bangladesh cooperation in the health sector, demonstrate how international partnerships can strengthen health security through the exchange of assistance, knowledge, training, and institutional capacity. Although their study focuses on health cooperation rather than forest and land fires, it provides a relevant perspective for understanding the broader social dimension of international cooperation. In the context of forest and land fires in Kalimantan, this perspective highlights that the effectiveness of Japan's climate diplomacy should not only be assessed through technical assistance, monitoring systems, or emergency firefighting operations, but also through their contribution to protecting communities affected by fires and haze.[30] Therefore, international cooperation needs to be connected with domestic policies and institutions capable of translating external assistance into meaningful protection for affected populations.

This observation directly resonates with broader debates in integrative international relations concerning the climate health security nexus. As highlighted in health diplomacy literature international partnerships are most effective when external capacity directly translates into tangible protection for vulnerable local populations. In Kalimantan, however, a profound disconnect exists: while Japan's technical assistance elevates national monitoring and initial firefighting capabilities, the persistent smoke haze continues to produce severe public health crises, as evidenced by over 330,000 ARI cases during the 2026 fires. This discrepancy underscores that techno-centric climate diplomacy is structurally decoupled from the grassroots realities of human security, leaving local populations vulnerable despite extensive international cooperation.

However, the findings also reveal an important limitation. The expansion of technical capacity does not automatically produce corresponding improvements in environmental outcomes. The existence of monitoring systems, trained communities, institutional mechanisms, and climate related projects can improve the ability of government institutions to respond to fires, but these capacities remain dependent on the domestic governance environment in which they are implemented. Therefore, the effectiveness of climate diplomacy should not be evaluated only through the amount or sophistication of external assistance provided. It should also be evaluated through the extent to which external cooperation can be translated into sustained domestic policy implementation.

The second major finding concerns the relationship between external assistance and domestic institutional conditions. The Result section demonstrates that Indonesia has developed regulations and institutional mechanisms for peatland protection, but implementation remains constrained by limited monitoring, weaknesses in enforcement, and differences between formal regulations and local practices.[31] This finding is important for understanding why technical assistance alone cannot eliminate recurring fire risks.

The concept of institutional fit helps explain this situation. Environmental policies and governance mechanisms are more likely to produce effective outcomes when formal institutions correspond with the social, ecological, and administrative conditions in which they are implemented. In the Indonesian peatland context, external assistance may introduce technically effective approaches to fire prevention, monitoring, or land management, but their effectiveness depends on whether these approaches can be integrated into existing institutional structures and local practices.[32]

The findings therefore suggest that the limitation of external assistance does not necessarily originate from weaknesses in the assistance itself. Instead, a gap can emerge between the capacity provided by external actors and the capacity of domestic institutions to sustain and implement that assistance.[33] For example, monitoring technologies may improve the identification of fire risks, but monitoring alone cannot prevent fires if information is not followed by effective enforcement or land-management action.[34] Similarly, community-based fire prevention can strengthen local capacity, but its long-term effectiveness depends on broader land-use policies and institutional coordination.

This explains why the recurrence of fires should not automatically be interpreted as evidence that Japanese cooperation has failed. The evidence instead indicates that international assistance and domestic governance perform different functions. External assistance can strengthen capabilities,

while domestic institutions determine how those capabilities are incorporated into regulatory practices and everyday land governance. The effectiveness of climate diplomacy is therefore partly conditioned by institutional fit.

The third finding demonstrates that the effectiveness of Japanese assistance is also conditioned by political-economic interests surrounding land use. The Result shows that peatland governance is not simply a technical environmental problem. Plantation expansion, peatland conversion, drainage, and competing interests surrounding land resources create structural pressures that can undermine environmental protection policies.[35] Consequently, improving technical capacity for fire prevention does not necessarily remove the economic incentives or institutional conflicts associated with land conversion.

Furthermore, the persistence of large-scale fires reveals the structural boundary of what can be termed 'safe diplomacy.' Foreign aid donors, including JICA, often focus on politically neutral technical interventions, such as satellite monitoring, drone technology, and emergency firefighting dispatches, to avoid directly challenging the host state's lucrative land-use policies and plantation economies. Consequently, external aid inadvertently serves as a procedural buffer, masking structural political-economic failures with institutional performance metrics.

This provides an important explanation for the persistence of forest and land fires. If fire prevention is addressed primarily as a technical or disaster-management problem, interventions may focus on early warning, firefighting, monitoring, and community preparedness.[36] These measures are important, but they do not necessarily address the underlying political-economic conditions that influence how land is used. The findings from Central Kalimantan demonstrate that restoration policies themselves can face coordination and implementation challenges among different actors and levels of government.

The 2026 crisis illustrates this structural limitation particularly clearly. By August 2026, almost 48,900 hectares had been burned across the priority provinces, with West Kalimantan accounting for more than 28,000 hectares. At the same time, very strong El Niño conditions and dry atmospheric conditions increased fire risks, while thousands of hotspots were recorded in Central and West Kalimantan during September. These climatic conditions demonstrate that external assistance operates within environmental conditions that can intensify existing vulnerabilities. However, climatic stress alone does not fully explain the recurrence of the crisis because the vulnerability of peatlands is also shaped by previous land-use decisions, drainage, degradation, and governance practices.

The Japanese emergency response in September 2026 further illustrates the dual character of Japan's involvement. The deployment of Japan Disaster Relief Self-Defense Forces and CH-47 helicopters demonstrated Japan's ability to provide rapid disaster-response capacity when Indonesia faced severe

fire conditions.[37] Nevertheless, emergency firefighting addresses the immediate consequences of fire rather than the deeper structural conditions that allow vulnerability to persist. The coexistence of long-term capacity-building programs and renewed emergency intervention therefore demonstrates both the value and the limitation of external assistance.

Overall, the findings support an understanding of Japanese climate diplomacy as capacity-enhancing but structurally constrained. Japan has contributed to fire prevention, institutional strengthening, climate monitoring, peatland management, and emergency response. These contributions should not be dismissed simply because fires continue to occur. At the same time, the recurrence of fires demonstrates that technical and institutional capacity cannot independently resolve problems rooted in domestic governance and political-economic structures.

The central implication is therefore that the limits of external assistance should not be interpreted as the failure of international cooperation. Rather, they demonstrate the boundary between what external actors can influence and what remains primarily dependent on domestic governance. Japan can provide technology, knowledge, institutional support, and emergency resources, but sustainable reductions in fire risk require effective domestic enforcement, coordination across government levels, compatible land-use policies, and the ability to manage competing interests surrounding plantations, forestry, and peatlands. The 2026 crisis consequently illustrates that the effectiveness of climate diplomacy depends not only on the quality of international assistance but also on the domestic political and institutional conditions into which that assistance is introduced.

The public health data provide an important grassroots dimension to understanding the limitations of external assistance. Although Japan has contributed to Indonesia's technical and institutional capacity through fire prevention, monitoring, and emergency response, the continuing health consequences demonstrate that the effectiveness of disaster governance must also be assessed through its social outcomes.

The 333,470 reported cases of acute respiratory infections across seven affected provinces, including 75,172 cases among children aged zero to five years, indicate that forest and land fires create substantial public health challenges.[38] These figures suggest that improvements in fire monitoring and firefighting capacity do not automatically eliminate the vulnerability experienced by local communities.

This situation highlights the gap between institutional capacity and grassroots protection. International assistance can strengthen technical responses, but domestic institutions remain responsible for ensuring that affected populations receive adequate healthcare, protection, and disaster-

related services. Consequently, the effectiveness of Japan's climate diplomacy should also be understood through its contribution to strengthening domestic governance mechanisms that protect communities from the wider consequences of environmental disasters.

Concluding Remarks

The recurrence of large-scale fires in Kalimantan, culminating in the 2026 crisis, exposes a critical boundary in international environmental cooperation. It is clear from Japan's continuous engagement, spanning from JICA's long-term community programs to the emergency deployment of Self-Defense Forces and CH-47 helicopters that external assistance has successfully elevated Indonesia's technical and institutional baseline for disaster management. However, this study demonstrates that such diplomatic interventions inevitably hit a ceiling when forced to operate within unresolved domestic governance structures. The core driver of these recurring disasters is not a lack of international support or technical know-how, but rather the entrenched political-economic realities surrounding land conversion, plantation expansion, and peatland exploitation.

To ensure analytical rigor, the collected data were categorized into three integrated analytical nodes: (1) international climate diplomacy and techno-centric capacity building (JICA initiatives and emergency aid), (2) domestic political-economic dynamics (land conversion, regulatory friction, and plantation interests), and (3) grassroots human security impacts (public health burdens and ARI/ISPA exposure). This multi-level coding scheme facilitates an integrative IR assessment of environmental disaster governance.

Our findings suggest that technical assistance cannot outpace or dismantle the structural incentives that drive environmental degradation. Rather than viewing the 2026 fires as a direct failure of Japanese climate diplomacy, they should be understood as a stark illustration of the limits of external aid when it collides with domestic resource politics. International cooperation can successfully build monitoring systems and train local institutions, but it cannot inherently untangle the conflicting economic interests that make these ecosystems flammable in the first place. Ultimately, for international climate assistance to be truly effective, policymakers must recognize that technical solutions are only as resilient as the domestic political and institutional frameworks designed to anchor them.

Ultimately, this study contributes to integrative IR scholarship by demonstrating that international climate diplomacy cannot be effective as a standalone technical mechanism. Without addressing the domestic political economy of land conversion and prioritizing grassroots human security, external

aid will remain trapped in a cycle of reactive crisis management rather than achieving transformative environmental governance.

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