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# Empowering change: implementation of civil society climate actions in Southeast Asia

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## ABSTRACT

Civil society organizations (CSOs) – including non-governmental organizations, charities, youth groups, local communities, and indigenous peoples – play a unique role in advancing climate action at all levels. This study systematically examines the implementation of CSO climate actions across ten Southeast Asian countries, leveraging a unique and comprehensive data repository. Drawing on theoretical and empirical insights from civil society and non-state climate action literature, we analyze CSOs' climate strategy priorities (mitigation vs. adaptation), geographic distribution, implementation mechanisms, and programme delivery. Additionally, we assess their collaborations with the public and private sectors and their receipt of government funding. Our analysis yields three important findings. First, CSO climate actions generally align with the national climate strategies and Nationally Determined Contributions (NDCs) of the countries in which they operate. Second, despite this alignment, there is a notable gap in implementation: efforts are predominantly advocacy-oriented, with a considerable deficiency in direct programme delivery. This gap is often due to limited organizational capacity and fundraising challenges. Third, CSOs tend to engage more with businesses than with government entities on climate initiatives, possibly because of limited state capacities. By examining CSOs' climate actions in a vulnerable yet understudied region, this research enhances our global understanding of non-state climate efforts. The findings can help refine CSO strategies in the region, inform more effective policy design, and facilitate greater business involvement and cross-sector collaboration in Southeast Asia's climate policymaking.

## Key policy insights

- In a climate-vulnerable and socioeconomically diverse region like SEA, CSOs fill critical implementation gaps, particularly in community engagement and localized service delivery, making them vital to national climate agendas.
- Governments and donors should prioritize capacity-building programmes to help CSOs overcome challenges in fundraising and organizational sustainability.
- Given transboundary climate risks, mechanisms such as ASEAN should be leveraged to facilitate cross-border CSO collaboration and knowledge exchange.
- To enhance financial resilience and climate impact, CSOs in SEA should diversify fundraising strategies and service delivery by engaging broadly with government agencies, businesses, local communities, and international partners.

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## KEYWORDS

Non-state climate action; mitigation; adaptation; advocacy; developing countries; Global South

## Introduction

Non-state and subnational actors are increasingly recognized for their crucial role in supporting national governments to reach existing climate policy goals and/or set higher targets (Derman, 2014; Hsu et al., 2019; Hsu et al., 2020). Among these actors, CSOs – encompassing a diverse array of non-governmental organizations,

charities, youth representatives, local communities, and indigenous peoples' groups – play a uniquely important role in advancing climate action at all levels (Derman, 2014; Marquardt et al., 2022). In particular, CSOs contribute by raising climate awareness, cultivating public support through community engagement and fundraising, advocating for climate equity and justice, and providing critical mitigation and adaptation services such as facilitating low-carbon transportation alternatives and promoting water-saving agricultural techniques like drip irrigation (Fritz et al., 2024; Gazley & Prakash, 2023). As the climate crisis evolves, the demand for civil society climate action is likely to increase, especially in areas such as climate refugee relief and disaster response (Colding et al., 2020). Despite its critical impact, CSO-led climate action remains understudied, hindering effective policymaking and cross-sectoral collaboration. Along this line, current research on civil society climate action reflects a notable imbalance, focusing predominantly on Western developed economies and a few developing ones, such as China and India (Lorch & Sombatpoonsiri, 2023). This imbalance overlooks the diverse contributions and challenges faced by civil societies in other regions, leading to a substantial gap in our global understanding of non-state and subnational climate action.

Among the regions understudied, Southeast Asia (SEA) stands out given its exceptional vulnerability to climate change. It is one of the regions most severely affected by climate change worldwide and is especially at risk of losing settlements and infrastructure to sea-level rise (IPCC, 2023; Petzold et al., 2023). For instance, SEA is projected to experience the world's highest average coastal-population-weighted relative sea-level rise by 2050, placing millions of Southeast Asians at high risk of floods, settlement loss, and freshwater scarcity (Jens Marquardt et al., 2021; Nicholls et al., 2021). Additionally, despite recent developmental achievements – and with Singapore as an exception – SEA remains one of the world's economically underdeveloped regions, heavily reliant on agriculture and tourism (OECD, 2023). At the same time, the region's carbon-intensive development path, driven primarily by deforestation and land degradation, further compounds its vulnerability. For example, climate change is projected to reduce the region's GDP by eleven percent by the end of this century, impacting key sectors such as agriculture, tourism, and fishing, in addition to human health and labour productivity (Araos et al., 2021). Consequently, communities in SEA face low resilience. Lastly, SEA is arguably one of the world's most diverse regions, encompassing a wide array of cultures, ethnicities, and religions (Marquardt et al., 2022). Navigating such diversity is essential for ensuring climate equity and justice both in the region and beyond (Araos et al., 2021; Petzold et al., 2023).

One of the key barriers to studying non-state and subnational climate action globally is the lack of reliable data, which often makes comprehensive analyses difficult or unfeasible. When available, such data frequently suffer from incompatibility and/or incompleteness, an issue that is especially pronounced in SEA and, more broadly, in the Global South, where actors are underrepresented and data reporting tends to be inconsistent or low in quality (Hsu et al., 2023; Marquardt et al., 2022). Our study aims to bridge these knowledge gaps by systematically examining the implementation of CSO climate actions in SEA. Utilizing a standardized codebook, we collected primary data from individual organizations across ten Southeast Asian countries – Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam – for enhanced data granularity. To our knowledge, this is the first systematic data repository documenting CSO climate actions in the region. Moreover, drawing on theoretical and empirical insights from civil society, third-sector studies, and the non-state climate action literature, we examine several key dimensions of CSO climate action: their focus on climate strategies (mitigation vs. adaptation), geographic distribution, implementation mechanisms, and programme delivery. In addition, we investigate the extent of CSOs' collaboration with public and private sectors, and their receipt of government support.

Our study represents a major first endeavour to systematically examine the implementation of civil society climate action in SEA. In doing so, it makes several contributions. First, by focusing on SEA – a region notably vulnerable to climate change but often overlooked in climate action research – our study fills an important gap in the understanding of non-state and subnational climate efforts. Moreover, it contributes to improving the availability, quality, and compatibility of data on civil society climate action in the region. Second, our study offers a detailed analysis of how CSOs implement climate action strategies and manage programmes. This assessment not only identifies both strengths and areas for improvement, particularly the need for capacity building to enhance the impact of CSOs in addressing climate challenges. Third, our study explores collaborations between civil society, the business sector, and governmental actors in SEA. Understanding these

collaborations offers insights into the complexities of multi-stakeholder engagement in climate action and has implications for creating synergistic pathways for greater impact. In summary, our findings help enhance civil society climate strategies, inform more effective policy design, and facilitate greater business involvement and cross-sector collaboration on climate actions in SEA. Beyond its regional relevance, our research adds to the global discourse on non-state and subnational climate governance and offers a practical resource for real-world policy development.

In what follows, the next section details our data collection, variable coding, and analytical methods. We then present our empirical findings in the Results section. The Discussion section reflects on the implications of the findings and outlines key study limitations. The final section offers the conclusion and policy recommendations.

## Data and methods

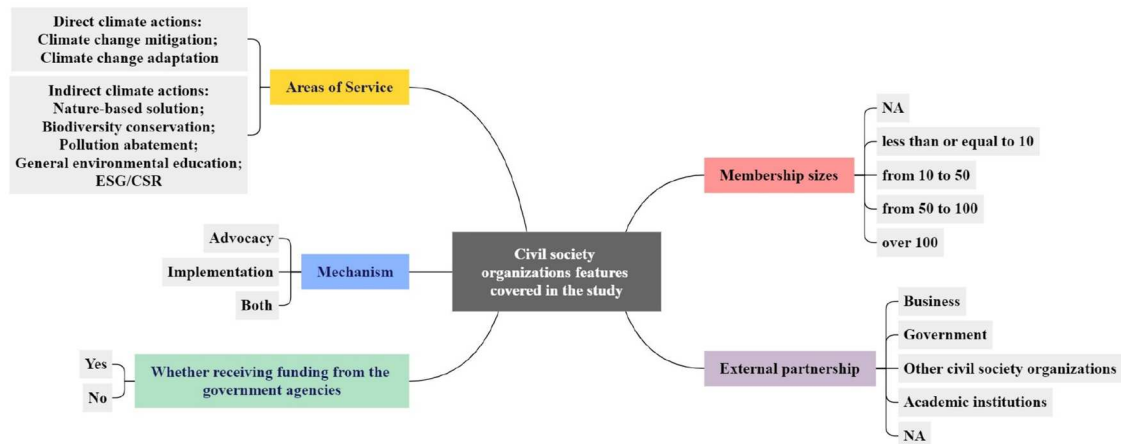
### CSO data collection

We analyze CSO climate action in SEA using original data from the *Southeast Asian Climate NPOs Repository* (SEACNR; <https://www.seaclimatenpos.org/>). SEACNR is periodically updated and catalogs organizations actively engaged in addressing climate change throughout Southeast Asia. Currently, the database provides detailed information on CSO climate actions across all ten member states of the Association of Southeast Asian Nations (ASEAN): Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam, comprising a total of 150 CSOs. These CSOs were identified through a snowball sampling process. This non-probability sampling method was chosen due to its effectiveness in reaching and engaging with hard-to-access populations (Parker et al., 2019). We began with 20 initial ‘seed’ organizations selected for their strong networks within the CSO community and their representation across a diverse range of climate action areas. This referral process was then iterated until we compiled the full repository of 150 CSOs in the first edition of SEACNR. For large international CSOs operating in multiple countries, we documented their activities separately under each country, in recognition of the cross-national variations in missions and projects conducted. Importantly, while SEACNR strives to provide comprehensive coverage of climate CSOs in SEA, we acknowledge that the snowball sampling process may not capture the entire universe of these organizations – especially grassroots or community-based groups that make significant contributions on the ground but lack an online presence. Accordingly, we urge caution when drawing generalizable inferences from our findings.

### Classification of categorical variables

In its current edition, SEACNR contains the following attributes for each organization: name, description, mission, projects, funding source, external collaborations, number of employees, geographical focus, and nationality. From these attributes, we derived five qualitative variables for our descriptive and correlational analysis: areas of service, project mechanism, receipt of government funding, external partnership, and membership size (Figure 1).

Specifically, drawing on international policy frameworks (e.g. IPCC, IUCN) and the literature on non-state and subnational climate action (Chan et al., 2018; Hale et al., 2021; Hilburn & Ronish, 2023; Tosun & Levario Saad, 2023), we classified CSOs’ areas of service into seven categories based on their stated missions, objectives, and project activities: (1) Climate change mitigation, which encompasses efforts to reduce or prevent greenhouse gas emissions via technologies, improved management, or behaviour changes (IPCC, 2022). Examples include promoting renewable energy, enhancing waste reduction, recycling, and reuse, and advocating for vegetarian-tilted diets. (2) Climate change adaptation, which refers to adjusting to present or future climate and its consequences, moderating harm, or seeking beneficial opportunities (IPCC, 2023). Examples include vulnerable group assistance, neighbourhood resilience projects, capacity building, and disaster defense (Satterthwaite et al., 2020). (3) Nature-based solutions: defined by the International Union for Conservation of Nature (IUCN) as actions that protect, manage, and restore ecosystems to address societal challenges while promoting biodiversity and human well-being (Le Gouvello et al., 2023). Examples include the restoration of forests, wetlands, and watersheds. (4) Biodiversity conservation: compared to the nature-based solutions, biodiversity conservation in our classification refers to practices that target species abundance and diversity, independent of



**Figure 1.** The classification framework of CSO attributes investigated in the study.

broader social challenges. (5) Pollution abatement: this category refers to measures taken to reduce, control or eliminate pollution from open environments, particularly in air and water. (6) General environmental education: this captures programmes aimed at raising public awareness and understanding of environmental issues. (7) ESG/CSR: This targets collaborative efforts with companies to drive sustainability practices, including sustainability transitions and standard-setting. Here, our classification is driven by the principal focus of each CSO, a strategy intended to streamline data analysis and interpretation. That said, we acknowledge that many CSOs may engage in activities spanning multiple service areas. Although the capacity constraints of many CSOs in the context of our study may lead them to concentrate on one primary area, we urge caution in interpreting our findings, as this classification may risk oversimplifying the complex and multifaceted nature of CSO activities in practice.

Based on the seven service areas outlined above, we then identify climate change mitigation and adaptation as direct climate actions, with other environmental protection activities examined as indirect climate actions, in recognition of their potential benefits in the fight against climate change. For instance, nature-based solutions such as enhancing carbon sinks and reinforcing natural flood defenses may contribute to climate change mitigation and adaptation (Kabisch et al., 2016; Osaka et al., 2021; Seddon et al., 2020). Biodiversity conservation programmes facilitate the rehabilitation of species affected by alterations in abiotic factors (e.g. temperature, rainfall) due to climate change (Mawdsley et al., 2009; Watson et al., 2012). Moreover, initiatives aimed at raising public environmental awareness and general environmental education could promote more receptive attitudes and/or proactive behaviours toward climate actions at the individual level (Jorgenson et al., 2019; Vignola et al., 2013). Finally, emerging ESG and CSR projects encourage the business sector to inventory carbon emissions and implement transition strategies (Rishi, 2022).

### **Project implementation mechanisms**

Drawing on the literature on CSO climate action and recognizing the diverse pathways through which these organizations achieve their missions (see Büchs, 2014), we categorize the mechanisms employed by CSOs into three distinct groups: Advocacy, Implementation, and Combined (i.e. Advocacy and Implementation). The Advocacy category encompasses activities aimed at influencing public policy and promoting behavioural change – such as education, workshops, tours, roadshows, seminars, and campaigns. Implementation involves direct participation in engagements and interventions such as conservation, restoration, clean-ups, recycling, and farming practices (Büchs, 2014; Kagan & Dodge, 2023). The combined category applies to cases where advocacy and implementation activities are both mentioned in their project descriptions.

## Government funding, membership size, and external partnership

Government support, organizational size, and external partnerships are widely recognized as critical to nonprofit operations and sustainability. Drawing on nonprofit management literature (AbouAssi et al., 2016; Pope et al., 2015; van Wessel et al., 2021), we incorporate the variables of government funding, membership size, and external partnerships into our analysis. Government funding is coded as a binary variable: ‘Yes’ if verifiable evidence of support exists, ‘No’ if such funding is clearly absent, and ‘Not available (NA)’ where information was missing or not captured. Membership size is categorized into five groups: NA (not available), up to 10 members, 11–50, 51–100, and over 100 members. Regarding external partnerships, we define them broadly as collaborative activities – such as resource sharing and network participation – in which stakeholders from the civil society sector or other sectors (e.g. government agencies and private businesses) work together with the focal CSOs to achieve shared objectives in climate action. We categorize these partnerships into five types: private businesses, government entities, CSOs, academic institutions, and NA for cases where partnership information or external collaborators are not available.

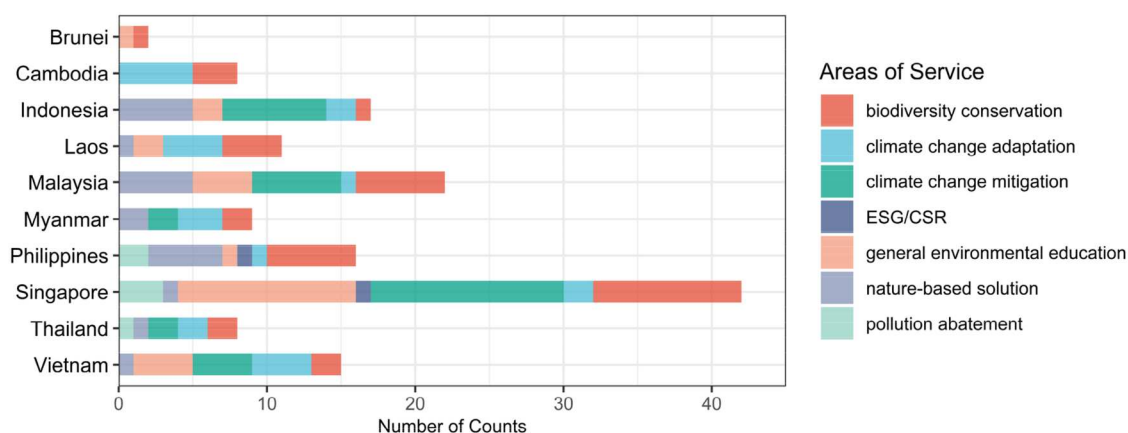
In examining the relationships between project themes and external partnerships and the receipt of government funding, we employed Cramer’s V for correlational analysis. Cramer’s V is a statistical measure that quantifies the strength of association between two nominal variables (Prematunga, 2012). It provides a value between 0 and +1, where 0 indicates no association, and 1 indicates a perfect association (Prematunga, 2012). In our analysis, the Cramer’s V correlation is conducted using the ‘vcd’ package in R, with statistical significance set at  $p < 0.05$ .

## Results

### Civil society’s contributions to climate actions in Southeast Asia

CSOs in SEA play a crucial role in both direct climate actions – such as mitigation and adaptation – and in supporting related environmental efforts, including nature-based solutions, biodiversity conservation, environmental education, pollution abatement, and CSR/ESG initiatives. Among the 150 CSOs surveyed, biodiversity conservation and climate change mitigation emerged as the most prominent areas of service (Figure 2), echoing the region’s prioritization of biodiversity preservation and emissions reduction as key environmental goals (Elliott, 2012).

As for civil society’s contribution to national climate change mitigation, Singapore has the highest proportion of CSOs focused on climate change mitigation, with 13 out of 42 (31.0%) engaged in this area (see Figure 2). Of these, seven focus on recycling and pollution control, four promote responsible consumption behaviours – such as climate-friendly diets and food waste composting – and two engage in mitigation



**Figure 2.** Distribution of CSOs across Areas of Service in Southeast Asia.



policy advocacy. This distribution reflects Singapore's climate agenda, which emphasizes resource efficiency, sustainable development, and climate resilience, consistent with its status as a highly urbanized city-state with limited natural resources and land (Su et al., 2022). In other countries, Indonesia has 7 out of 17 CSOs (41.2%), and Malaysia has 6 out of 22 CSOs (27.3%) dedicated to mitigation (see Figure 2). These CSOs primarily focus on recycling and pollution control, as well as clean energy, responsible consumption, forestry carbon sinks, and policy advocacy. In Thailand, the two CSOs focused on mitigation work on energy conservation and clean energy transitions. Similarly, in Myanmar, two CSOs contribute to climate change mitigation through recycling and clean energy transitions, respectively. No civil society climate change mitigation projects were found in the Philippines, Laos, or Cambodia. While this may partly result from limitations in our data collection or the possibility that such initiatives are primarily led by international and community groups, it also aligns with national climate policies that prioritize adaptation over mitigation. This prioritization stems from these countries' relatively low greenhouse gas emissions and heightened vulnerability to climate risks such as sea-level rise and extreme weather events (see the Decree on Climate Change in Lao, 2021; the Philippine's Climate Change Commission, 2011; and Cambodia's Updated Nationally Determined Contribution, 2020).

As noted previously, SEA's exceptionally vulnerability to climate change makes adaptation strategies such as capacity building and resilience enhancement crucial. Our study identifies a variety of climate change adaptation programmes across the ten countries in the region. Specifically, except for Brunei, where only two organizations were identified, all countries have organizations working on climate change adaptation (Figure 2). Notably, Cambodia has the highest proportion of CSOs focusing on adaptation (5 out of 8, 62.5%, Figure 2), a finding that aligns with the country's climate policy priorities. Additionally, when designing adaptation programmes, CSOs in SEA demonstrate an innovative and contextually appropriate range of approaches. For instance, in Singapore, where digital literacy and infrastructure are well-developed (Ba et al., 2024), two CSOs in our study utilize advanced technology to enhance community sustainability and resilience. In Malaysia and Indonesia, where social fabrics are diverse, CSOs emphasize inclusivity to strengthen connections across varied community groups. In Cambodia and Vietnam, efforts are directed toward increasing disaster resilience, while in Laos, Myanmar, the Philippines, and Thailand, adaptation initiatives primarily focus on capacity building, particularly for farmers and socioeconomically marginalized communities. These strategies reflect and respond to the distinct economic and sociopolitical conditions of each country (see e.g. Simpson & Smits, 2018).

In addition to direct climate actions such as mitigation and adaptation, CSOs in Southeast Asia also contribute meaningfully to environmental protection efforts that indirectly support climate goals. Biodiversity conservation, for example, is practiced by CSOs in all ten countries surveyed. The Philippines (6 out of 16, 37.5%) and Singapore (10 out of 42, 23.8%) have the highest proportions of CSOs engaged in this area (Figure 2). Nature-based solutions – initiatives that harness natural ecosystems to address challenges like climate change, biodiversity loss, and water scarcity – are also widely adopted, except in Cambodia and Brunei. The Philippines (5 out of 16, 31.25%) and Indonesia (5 out of 17, 29.4%) lead in this area, consistent with their rich ecological diversity. Environmental education is another key area of CSO activity, with Singapore having the highest proportion of organizations involved (12 out of 42, 28.6%). In contrast, Cambodia, Myanmar, and Thailand lack CSOs dedicated to this work, a disparity that may reflect limited funding, lower state capacity, political instability, or gaps in our data coverage. Pollution abatement, while present, represents a relatively small share of CSO activities across the region. Additionally, ESG (Environmental, Social, and Governance) and CSR (Corporate Social Responsibility) initiatives remain emergent, with only one CSO in Singapore and one in the Philippines identifying these as a primary focus.

### ***Prevalence of advocacy-focused CSOs***

Advocacy, defined here as efforts aimed at shaping government actions through activities such as stakeholder engagement, policy dialogues, and public campaigns on key societal issues (Böhler et al., 2022), is pivotal in the ecosystem of CSO climate actions across SEA. In countries such as Singapore, Vietnam, and Brunei, advocacy-focused initiatives represent the largest share of CSO activities. In contrast, a hybrid approach that combines advocacy with substantive programmes like mitigation and adaptation is more common in other countries (Figure 3). Notably, all CSOs in Singapore in our sample engage, to varying extents, in advocacy initiatives.

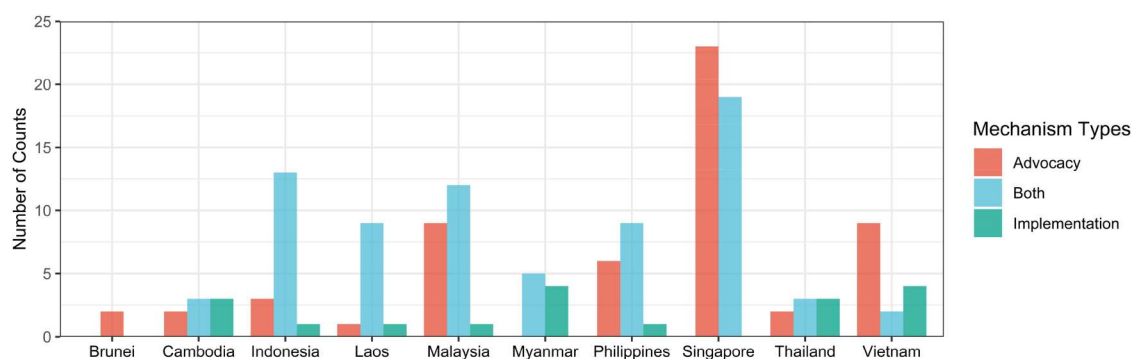
This suggests the significant involvement of CSOs in Singapore's national climate agendas and policy processes. It also underscores the necessity of leveraging the state's strong presence to achieve climate action goals in Singapore (Ba et al., 2024). In contrast, CSOs in Myanmar are more inclined towards direct implementation of substantive programmes or adopting a hybrid approach that combines advocacy and direct implementation. This trend points to limited state capacity to support or coordinate CSO climate action efforts in that context (Figure 3).

### *Small to medium organizational sizes*

CSOs in Southeast Asia are predominantly small to medium-sized, with memberships typically ranging from fewer than ten to fifty members. Large organizations with memberships exceeding 100 members are less common and found only in Vietnam and Malaysia (Figure 4). Examples include the Vietnam Association for Conservation of Nature and Environment and the Malaysian Plant Protection Society. These larger membership bases, if well managed, can enable a broader reach and potentially yield a more significant impact on climate action and environmental protection efforts in these countries. Additionally, our data reveals a lack of large CSOs with more than 50 members in countries such as Singapore, Laos, Indonesia, and Brunei (Figure 4). This could indicate the different operational challenges and strategic choices faced by CSOs in these nations, as well as the need for capacity building and mechanisms to facilitate broader civic engagement on climate actions in these societies. Along this line, the presence of numerous 'NA' (not available) entries in our data points to a lack of information disclosure, highlighting the need for improved data management and continued attention to civil society climate action in Southeast Asia. More broadly, the difference in membership sizes between Southeast Asian CSOs and those in more developed civil society sectors is apparent. For instance, 103 American environmental conservation and preservation organizations have a combined membership size of 3,200,636 (Taylor, 2014). This disparity highlights the varying scales of operation. The smaller membership sizes in Southeast Asia might indicate a more intimate and localized approach to addressing issues compared to the larger memberships in the U.S. Nonetheless, capacity building is still suggested, given the potential for broader civic engagement in Southeast Asian countries due to their growing economies and large populations.

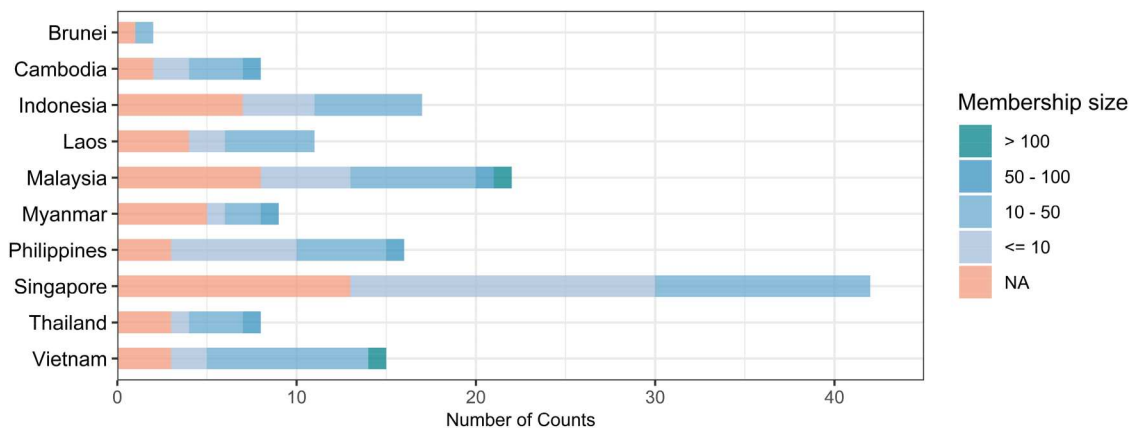
### *The need to develop external collaborations*

Collaborations, whether across sectors with businesses and/or government agencies or among CSOs, are considered crucial for successful CSO climate actions (Hsu et al., 2017; Widerberg et al., 2023). In our study, we observe a positive correlation between business involvement and CSO initiatives in climate change mitigation (0.234) and adaptation (0.211), respectively (Table 1). This suggests that businesses play an active role in supporting direct CSO climate initiatives in SEA. No similar correlations were found for other sectors, highlighting the need to strengthen collaborations with government, academia, and other civil society actors to foster more holistic and coordinated climate responses. Additionally, for other service areas that contribute relatively



**Figure 3.** Number of CSOs adopting advocacy, implementation, or both as the mechanism of their programme delivery in Southeast Asia.





**Figure 4.** The membership sizes of CSOs by country in Southeast Asia.

indirectly to climate change, a significant correlation exists between pollution abatement and partnerships with academic institutions (0.401; Table 1). This correlation might be attributed to the scholarly attention to pollution abatement research and the development of citizen science initiatives in environmental clean-up efforts (Nelms et al., 2022). Importantly, it should also be noted that the robustness of these correlations may be limited by the sample size in our dataset.

Given the importance of government contracts and grants in supporting CSOs (Thomson, 2011), we likewise explored the relationship between government funding and CSO climate efforts alongside collaborations. Our study identifies a statistically significant positive correlation between climate change mitigation and the receipt of government funding (0.414; Table 1) in Singapore. This suggests that the Singaporean government actively allocates financial resources to CSOs engaged in mitigation, reflecting a policy commitment to addressing climate issues through targeted support for these organizations. In contrast, no statistically significant correlations were found between government funding and specific CSO service areas in the other Southeast Asian countries in our sample (Table 1). This lack of significance implies an absence of clear patterns or preferences in government funding for specific climate-related CSO initiatives in these nations. Several factors might have contributed to this, including the varying governmental priorities, the distribution of available funds across a wide range of issues, and the presence of alternative funding mechanisms not captured in this study. In this case, the significant correlation observed in Singapore highlights the potential impact of targeted government support in enhancing CSO efforts in climate change mitigation. Meanwhile, the absence of similar patterns in other countries underscores the

**Table 1.** Correlation results of Cramer's V regression between each CSO service area and external partnerships, and between CSO service areas and government funding.

Areas of service <sup>a</sup>	Business	Government	CSO	Academic	Government Funding: Singapore <sup>b</sup>	Government Funding: Others <sup>b</sup>
BC	0.0323	0.0618	0.0201	0.0469	0.155	0.0816
CCM	0.234*	0.00262	0.0769	0.0444	0.414*	0.0397
CCA	0.211*	0.0184	0.0830	0.0366	0.0620	0.0256
GEE	0.0301	0.0553	0.0830	0.0366	0.175	0.00402
NBS	0.00388	0.0388	0.139	0.0331	0.0433	0.0438
PA	0.0275	0.0505	0.0379	0.401*	0.0769	0.167
ESG	0.0156	0.0287	0.0216	0.00952	0.0433	0.0273

\*Statistical significance at the 5% level. The correlation results are rounded to 3 significant figures.

<sup>a</sup>The abbreviation of areas of service refers to Biodiversity Conservation (BC), Climate Change Mitigation (CCM), Climate Change Adaptation (CCA), General Environmental Education (GEE), Nature-based Solutions (NBS), Pollution Abatement (PA).

<sup>b</sup>Out of 150 CSOs, 45 are coded as NA for receipt of government funding. We recoded these NAs as 'No' to provide a conservative estimate of the impact of government funding.

need for a more strategic and/or targeted approach to funding allocation, ensuring that critical climate initiatives receive adequate support.

## Discussions

### *Alignment with national strategies but lacking regional coordination*

The service areas of CSOs in our study reflect a notable divergence in climate strategies across SEA. As previously mentioned, countries such as Singapore, Malaysia, and Indonesia emphasize mitigation efforts, resulting in a higher concentration of CSOs active in this area. For example, Singapore's recent national climate strategy prioritizes carbon neutrality through sector-wide mitigation (e.g. power generation, waste management, and the built environment; Hamilton-Hart, 2021), influencing local CSOs to predominantly pursue advocacy initiatives aligned with these goals. Conversely, CSOs in Cambodia, Laos, and the Philippines prioritize adaptation strategies, aligning with their respective national climate plans, which emphasize their low greenhouse gas emissions but high vulnerability to climate impacts.

Given the diverse political, cultural, and economic contexts in SEA, our findings offer nuanced implications/reflections on CSOs' alignment with national climate strategies in the region. First, CSOs may selectively support certain policy elements, such as renewable energy, while opposing large-scale infrastructure projects that negatively impact local communities (Walker et al., 2010). Additionally, many Southeast Asian cultures emphasize community and collective well-being, which might influence CSOs to strategically align with policies that reflect these values and focus on projects that benefit local communities. Second, CSOs might strategically align with national policies to gain influence or access resources, even if their broader goals diverge from government agendas (Van Wessel et al., 2020). This is particularly the case in SEA where the countries have diverse political systems ranging from authoritarian to semi-authoritarian. In such contexts, CSOs may strategically align with government policies to mitigate the risk of repression or restrictions (Hansson & Weiss, 2023; Rodan, 2022). For example, in countries like Vietnam and Laos, where the government exerts significant control over civil society, CSOs often align with national policies to sustain their operations and maintain their influence (Fowler, 2000). In this case, the alignment between CSO efforts and national climate policies observed in our study reflects both the intentional strategies of CSOs and the influence of the region's socioeconomic and political contexts.

Given the varied national circumstances across SEA, our study highlights the necessity of regional coordination for effectively addressing transboundary climate challenges and enhancing resilience (Birkmann et al., 2021; Galik et al., 2023; Hsu et al., 2015; Petzold et al., 2023). This is particularly the case in SEA, where extensive regional trade and significant socioeconomic disparities exist (Le et al., 2023; Narine, 2002). The establishment of ASEAN underscores the importance of regional integration (Gerard, 2013). By strengthening regional coordination and collaboration, CSOs can share resources and best practices, which is conducive to enhancing the collective impact and synergistic value of their climate initiatives (van Wessel et al., 2021).

### *The predominance of advocacy and resource constraints*

Our analysis categorizes the operational mechanisms of the sampled CSOs into three types: advocacy, direct programme delivery, and a mix of both. In our study, advocacy is the predominant form of engagement, with the majority of projects focusing on raising awareness through outreach initiatives and public campaigns. Direct programme delivery is less common, and when it happens, adaptation projects tend to take precedence over mitigation. This pattern aligns with broader trends observed in the Global South, where CSOs prioritize adaptation over mitigation in their direct programme delivery (Kagan & Dodge, 2023). The prevalence of advocacy in Southeast Asian CSOs' climate actions can be further understood as a strategic choice shaped by the political context (Hansson & Weiss, 2023). Governmental controls over civil society, through stringent regulations and surveillance, may restrict CSOs' capacity for direct programme delivery (Rodan, 2022), thus steering them towards advocacy as a more viable alternative (Mudhoffer, 2023). Notably, the existing literature on CSO climate action lacks comprehensive evaluations of the relative effectiveness of various operational mechanisms

used by CSOs, which highlights a critical gap that warrants further research (Büchs, 2014; Kagan & Dodge, 2023). This gap is especially relevant for CSOs that pursue both advocacy and direct programme delivery, as they may encounter significant challenges in effectively managing and allocating limited resources.

Moreover, our analysis reveals that CSOs in SEA typically have relatively small membership sizes, with many operating with fewer than fifty members. Existing literature highlights the unique operational challenges faced by small to medium-sized CSOs, including substantial difficulties in staff retention due to limited support for professional development (Cooper et al., 2020; Slatten et al., 2021). Additionally, smaller organizations often bear higher overhead costs. On average, small and medium-sized CSOs allocate approximately 20–25% of their budgets to overhead expenses, compared to the 10% typical for larger organizations (Pope et al., 2015). These findings underscore the necessity for CSOs to adopt efficient, size-appropriate management practices, enabling sustainable growth and effective project implementation in the long run (AbouAssi et al., 2016; Slatten et al., 2021). Along this line, policy support should aim to facilitate broader civic engagement in CSO climate initiatives across Southeast Asian societies, thus expanding the supply of members and/or volunteers (Hsu et al., 2015; Oliver et al., 2023). Importantly, the limited growth of CSOs in SEA may be attributed to political power struggles, restricted advocacy space, and bureaucratic hurdles in certain societies that hinder the formation and operation of these organizations (McDonnell, 2020; Weiss, 2023). The, 2021 military coup in Myanmar helps illustrate this, where severe political unrest led to the suspension or dissolution of numerous CSOs (Maaik Matelski, 2023). These dynamics highlight the importance of considering political contexts when developing strategies to support civil society-led climate actions.

### ***The need for more diverse external collaborations and effective government support***

Our analysis highlights the significant role of business involvement in CSO climate actions, suggesting a clear preference for collaborations on mitigation and adaptation projects. This engagement offers an optimistic outlook for addressing the complex issue of climate change in SEA. Successful collaborations between civil society and businesses can enhance climate action through shared expertise, resources, and combined policy influence (Ba, 2022; Goldstein et al., 2019). Similarly, government-civil society partnerships are also beneficial: governments can leverage CSOs' frontline knowledge, innovation, and flexibility, while CSOs can gain access to governmental resources and networks, enhancing their operational capacity and impact (Koontz et al., 2005; Nikolic & Koontz, 2008). However, our study shows limited government funding support for CSOs across the region, except for Singapore, underscoring the need for greater governmental support through grants, resource sharing, and/or technical assistance.

That said, it is important to recognize that civil society generally encompasses a broad spectrum of ideological perspectives, ranging from progressive to conservative groups (Edwards, 2019). This diversity implies that not all civil society actions directly align with government agendas or are universally constructive. Additionally, interactions among governments, businesses, and CSOs can be intricate and occasionally problematic. Government collaboration may sometimes lead to increased political oversight, potentially compromising CSO autonomy (Ba et al., 2024). Likewise, CSOs risk co-optation by business interests, which can undermine their advocacy goals (Carroll et al., 2018). Given these complexities, CSOs must balance external collaboration with maintaining their independence. Broadening partnerships to include other CSOs, local communities, and international organizations could promote more inclusive, resilient, and effective climate strategies.

### ***Limitations***

While our study represents a crucial first effort to systematically document and examine the implementation of civil society climate action in SEA, several limitations must be acknowledged. First, despite efforts to ensure comprehensive data, including the use of both human and computer-assisted approaches to identify climate-related CSOs in the region, some organizations, particularly grassroots and informal community-based initiatives without an online presence, are likely underrepresented. Future studies are thus suggested to employ more innovative data collection methods to develop more comprehensive datasets. For instance, targeted outreach and collaboration with local networks and community leaders can help identify more

organizations on the ground. To this end, if resources permit, field visits or participatory mapping exercises with community members could also reveal informal networks and organizations that are otherwise underrepresented in official records (see Breen et al., 2015). Additionally, leveraging geospatial data and mainstream social media platforms to crowdsource information from CSO project posts can further enhance the snowball sampling process.

Second, our classification method for coding service areas and implementation mechanisms, while guided by the literature, may not capture the complexities of CSO climate actions on the ground. Attributes such as network connectivity and organizational establishment, which are crucial for understanding CSO effectiveness, were not fully captured. Future studies are encouraged to refine and expand our data collection and coding strategies, particularly as more granular information becomes available. Additionally, to enhance the robustness of non-state and subnational climate action research, building on our methodology, future work should aim to develop transferable and robust definitions to document CSO climate actions. This standardization would enable improved comparability and a deeper understanding of civil society's roles in climate action across diverse contexts. While our focus on SEA addresses a significant gap in the literature, we recommend that scholars also examine larger scales and comparative settings to gain a more holistic understanding of civil society climate action. Such efforts will also help identify synergistic pathways for cross-regional collaboration and coordination, which are essential for effective global climate action.

Lastly, our exploratory study is limited to examining CSO climate action implementation at the national level. While this focus represents a meaningful first step, we acknowledge that within-country variations and subnational dynamics are likewise critical for complementing national strategies and achieving effective climate actions (see e.g. Hsu et al., 2020). Moreover, our analysis did not incorporate the roles of international funders, multilateral agencies, and transnational NGOs, nor did it examine other broader sociopolitical contexts such as competition among different sectors, including those entrenched interests and/or incumbent regime coalitions (see Hess, 2014), for authority on climate action both within and across national borders. Given their critical importance, we encourage future studies to explore these issues in depth using qualitative or mixed-methods approaches. Furthermore, due to data limitations, including the absence of longitudinal data, our study could not assess the effectiveness of CSO climate actions. As impact assessment is essential for evaluating non-state climate actions, we encourage future studies to build upon established frameworks (e.g. Chan et al., 2018 and Hale et al., 2021) to more thoroughly evaluate the outputs and outcomes of these actions.

## Conclusion

CSOs play a crucial role in climate action by leveraging their local knowledge, networks, and resources, and by serving as intermediaries to facilitate cross-sectoral coordination (Ba et al., 2024). Recognizing the existing gaps in evaluating CSO climate actions, our study systematically examines the activities of 150 CSOs in SEA, a region that is highly vulnerable to climate change yet remains understudied. Specifically, we analyze their service areas, implementation methods, operational scales, partnerships, and levels of government support, aiming to provide a comprehensive assessment of CSO efforts in the region.

This paper has three main findings. First, CSO climate actions in SEA generally align with the climate strategies and NDCs of the countries in which they operate. Both mitigation and adaptation initiatives are pursued by CSOs, with service areas tailored to fit their national climate agendas. For instance, CSOs in the Philippines, Laos, and Cambodia predominantly focus on adaptation, reflecting these countries' climate plans that prioritize adaptation over mitigation due to low emissions and high vulnerability to sea-level rise and extreme weather events. Second, the implementation mechanisms of CSO climate actions reflect their national contexts. In countries with limited state capacity, such as Myanmar, CSOs tend to prioritize direct programme delivery and community engagement. Conversely, in countries with stronger state capacity, such as Singapore, CSOs focus more on advocacy to leverage government resources for broader impact. Despite these contextual differences, there is a widespread deficiency in direct programme delivery across the region, likely due to many CSOs' limited capacity in terms of manpower, fundraising, and financial management. Third, our findings show that CSOs in Southeast Asia are more likely to collaborate with businesses than with government entities on climate initiatives. This tendency may reflect the limited institutional capacity of government actors across much of the

region. Together, these observations highlight the need for capacity building to support CSOs, strengthen cross-sector collaboration, and enhance government engagement.

Along this line, our study contributes to the literature on non-state and subnational climate actions in several ways. First, our work directly responds to calls for comprehensive assessments of the progress, implementation, and impact of climate action by non-state and subnational actors (see e.g. Chan et al., 2018; Hale et al., 2021; Hsu et al., 2019; Marquardt et al., 2022). Such assessments are crucial for establishing the credibility of these initiatives and for informing more effective policymaking by identifying the scale, scope, and gaps in ground-level non-state and subnational climate action. To this end, our development of the open-source SEACNR dataset, comprising 150 CSOs from ten Southeast Asian countries, provides an essential foundation for addressing existing data gaps (see Chan et al., 2019). Second, by focusing on SEA, our study complements the existing literature that has predominantly examined Western developed economies (see e.g. Hsu et al., 2020; Song et al., 2024). Third, our assessment of CSOs' service areas, operational strategies, and collaborative patterns provides a valuable framework for future research to explore non-state and subnational climate action in other contexts.

Finally, our study provides actionable policy implications to enhance CSO climate actions in. For policy-makers, first, it is critical to prioritize capacity building for grassroots and community-driven CSOs. This can be achieved by developing targeted and sustainable funding schemes, enacting policy reforms that alleviate administrative burdens related to registration and fundraising, and facilitating dialogues with partners from other sectors (e.g. private businesses) to secure additional support and to promote cross-sector collaborations. These measures would empower local CSOs to implement and scale up their climate efforts more effectively. Second, systematic documentation of non-state climate initiatives via governmental registration systems and advanced data analytics will support targeted, evidence-based policymaking. In parallel, we recommend that CSOs diversify their fundraising strategies and service delivery by engaging not only with government agencies but also with businesses and local communities, thus enhancing their financial sustainability and long-term impact. Moreover, CSOs should prioritize establishing collaborative networks with more established organizations and international partners. Such collaboration would add to the exchange of best practices, improve resource mobilization, and increase the overall impact of their climate actions.

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