

Youth Climate Action in Thailand: Participation, Strategies, International Linkages, and Policy Reform

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Abstract

This study investigates the pivotal role of Thai youth in climate action, focusing on their participation strategies, international linkages, and contributions to sustainable supply chain management (SSCM), with a comparative analysis of Taiwan's youth climate initiatives. Utilizing secondary data from policy documents and authoritative reports, the research examines how Thai youth, through movements like Fridays For Future Thailand (organizing 50+ climate strikes since 2019, mobilizing 3,000+ youth), drive sustainable practices in tourism and agriculture supply chains, such as local sourcing that reduces transport emissions (United Nations Economic and Social Commission for Asia and the Pacific [ESCAP], 2024). Yet, limited policy access (only 5% of Thailand's NDC consultations include youth) restricts their influence (UNFCCC, 2022). Conversely, Taiwan's Youth Climate Coalition (TWYCC) has trained 15,000 students since 2020, shaping renewable energy policies through curriculum-based advocacy and virtual COP simulations engaging 10,000+ youth annually, despite UNFCCC exclusion (Kuo, 2021; Huang, 2025). Taiwan's structured model offers scalable strategies for Thailand, while Thailand's community resilience informs Taiwan's rural engagement. Grounded in environmental justice (Schlosberg, 2004) and SSCM frameworks (Carter & Rogers, 2008), the study underscores youth-driven innovations aligning with SDGs 8, 12, and 13. Findings advocate for Thailand to adopt Taiwan's education model to amplify youth policy influence, while Taiwan can leverage Thailand's grassroots approaches. Policy recommendations include establishing a National Youth Climate Council, funding green startups, and enhancing Thailand's YOUNGO participation using Taiwan's digital diplomacy. This research enriches environmental justice and SSCM literature, providing actionable insights for policymakers and businesses to foster youth-led climate-resilient supply chains in Thailand and beyond. Youth climate action.

Keywords: Sustainable supply chain management, Environmental justice, Thailand-Taiwan comparison
Climate, policy reform

Introduction

Climate change poses an existential threat to global ecosystems, economies, and societies, with its impacts disproportionately affecting vulnerable regions and populations. In Thailand, a country highly susceptible to climate risks, the urgency to address these challenges is compounded by the need to integrate diverse stakeholders, particularly youth, into effective climate governance. This study examines the role of Thai youth in climate action, focusing on their participation strategies, international linkages, and contributions to

sustainable supply chain management (SSCM). By comparing Thailand's grassroots-driven youth initiatives with Taiwan's structured advocacy model, the research seeks to identify transferable practices and propose policy reforms to enhance youth-driven climate resilience. This introduction outlines the background and context, articulates the research problem, specifies the objectives, and highlights the study's academic and practical significance.

Background and Context

Thailand faces severe climate risks that threaten its socioeconomic stability and environmental sustainability. The Intergovernmental Panel on Climate Change (IPCC) projects that rising sea levels could inundate 10% of Bangkok's land area by 2050, endangering millions of residents and critical infrastructure (IPCC, 2022). Concurrently, recurrent floods and droughts disrupt Thailand's agriculture and tourism sectors, which account for 8.5% and 18% of GDP, respectively (World Bank, 2023). These disruptions ripple through supply chains, increasing costs and undermining resilience in food production and tourism services (Thailand Ministry of Agriculture and Cooperatives, 2023).

Thailand's climate policies, articulated in its Second Nationally Determined Contribution (NDC), commit to a 30% reduction in greenhouse gas emissions by 2030 and carbon neutrality by 2050 (UNFCCC, 2022). However, these policies have been criticized for their limited inclusion of youth perspectives, despite youth comprising 20% of Thailand's population (United Nations Population Fund, 2023). The absence of structured mechanisms for youth engagement contrasts with the global rise of youth-led climate movements, such as Fridays For Future and the Youth NGOs (YOUNGO) constituency of the United Nations Framework Convention on Climate Change (UNFCCC), which have mobilized millions to demand urgent climate action (Thew et al., 2020).

Thai youth are inspired by these global movements but face local barriers, including centralized governance and restricted civic spaces, which limit their policy influence (Amnesty International, 2023). For instance, Thailand's hybrid political regime, characterized by military-backed governance, imposes constraints on public protests and advocacy, hindering youth-led initiatives like Fridays For Future Thailand (Human Rights Watch, 2024). Despite these challenges, Thai youth have initiated grassroots efforts, such as community-based waste management and eco-tourism projects, to promote sustainable supply chains (UNICEF Thailand, 2022).

To contextualize Thai youth's efforts, this study compares them with Taiwan, a region with similar climate vulnerabilities but distinct governance and advocacy structures. Like Thailand, Taiwan faces typhoons and heat waves that disrupt agriculture and tourism (Taiwan Environmental Protection Administration, 2024). However, Taiwan's democratic governance fosters structured youth advocacy through organizations like the Taiwan Youth Climate Coalition (TWYCC), which has influenced national renewable energy policies (Chen & Wu, 2023). This Thailand-Taiwan comparison highlights how governance structures shape youth climate action and their contributions to SSCM, offering insights into scalable strategies for Thailand.

Research Problem

Thai youth possess significant potential to drive climate-resilient supply chains, particularly in eco-tourism and sustainable agriculture, yet their contributions remain underutilized due to limited access to policy-making processes. Only 5% of Thailand's NDC consultation processes included youth representatives, reflecting a systemic gap in inclusive governance (UNFCCC, 2022). This exclusion not only marginalizes a key

Furthermore, there is a paucity of comparative studies examining youth climate action in Thailand and Taiwan, particularly through the lens of SSCM. While Thailand's grassroots approach emphasizes community resilience, Taiwan's curriculum-based advocacy model leverages education and digital diplomacy to influence policy (Kuo, 2021). The lack of comparative analysis hinders the identification of transferable practices that could enhance Thailand's youth climate action and its alignment with sustainable supply chains.

Objectives

4. To propose policy reforms that integrate youth perspectives into Thailand's climate governance and enhance SSCM.

Academic Significance: This study advances the literature on environmental justice and SSCM by offering a novel comparative analysis of youth climate action in Thailand and Taiwan. By applying Schlosberg's (2004) environmental justice framework, it highlights the youth's demand for procedural and recognition justice in climate governance. Additionally, it contributes to SSCM scholarship by integrating youth-led innovations, such as local sourcing and waste reduction, into supply chain frameworks (Carter & Rogers, 2008). The Thailand-Taiwan comparison fills a gap in regional studies, providing a model for examining youth agency in climate-vulnerable contexts.

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Literature Review

Youth Climate Activism and Environmental Justice

Despite their momentum, youth movements face significant barriers. Age-based discrimination often dismisses youth as inexperienced, while limited access to financial resources and decision-making spaces restricts their influence (Walker, 2020). In hybrid or authoritarian regimes, these challenges are amplified by restrictions on civic freedoms, such as protest bans or surveillance, which deter youth activism (Amnesty International, 2023). To circumvent these barriers, youth leverage digital platforms—such as social media campaigns and virtual summits—to amplify their voices and build transnational alliances (O'Brien et al., 2018). For instance, the Global Youth Climate Network uses online platforms to coordinate advocacy across 120

countries, demonstrating youth's adaptability (Global Youth Climate Network, 2023).

The environmental justice framework also intersects with power dynamics in climate governance. Lukes' (2005) three-dimensional power model—decision-making power, agenda-setting power, and ideological power—reveals how youth are often excluded from shaping climate agendas due to entrenched institutional structures. Youth activism disrupts these power dynamics by demanding transparency and accountability, as seen in their critiques of fossil fuel subsidies and greenwashing (Fisher, 2019). This global context is critical for analyzing Thai youth, who face governance constraints, and Taiwanese youth, who operate within a democratic system conducive to structured advocacy.

Thailand's Climate Governance and Youth Engagement

Thailand's climate governance reflects a complex interplay of ambitious commitments and systemic challenges. The country's Second Nationally Determined Contribution (NDC) outlines a 30% reduction in greenhouse gas emissions by 2030, carbon neutrality by 2050, and a transition to 20% renewable energy by 2037 (UNFCCC, 2022; Thailand Ministry of Energy, 2023). These targets are supported by policies like the Power Development Plan 2023–2037, which promotes solar and wind energy, and the National Adaptation Plan, which addresses climate risks in agriculture and tourism (Thailand Ministry of Natural Resources and Environment, 2023). However, Thailand's energy mix remains heavily reliant on fossil fuels (70% of total energy consumption), with coal and natural gas dominating electricity production (International Energy Agency, 2023). This reliance undermines climate goals and exacerbates vulnerabilities in agriculture and tourism, which contribute 8.5% and 18% to GDP, respectively, but face disruptions from floods, droughts, and heatwaves (World Bank, 2023).

Youth engagement in Thailand's climate governance is conspicuously limited, reflecting structural barriers within its hybrid political regime. Only 5% of NDC consultation processes included youth representatives, a stark contrast to global calls for inclusive governance (UNFCCC, 2022). Thailand's centralized governance, shaped by military-backed rule since the 2014 coup, imposes restrictions on civic participation, including youth-led protests (Human Rights Watch, 2024). For example, climate strikes organized by Fridays For Future Thailand have faced police oversight and permit denials, discouraging widespread participation (Amnesty International, 2023). These constraints highlight the tension between Thailand's climate ambitions and its political environment, which stifles youth agency.

Despite these challenges, Thai youth have demonstrated remarkable resilience through grassroots initiatives. Fridays For Future Thailand, launched in 2019, has organized over 50 climate strikes, mobilizing approximately 3,000 youth across Bangkok, Chiang Mai, and rural provinces (UNICEF Thailand, 2022). These strikes raise awareness of climate impacts and advocate for policy reforms, such as increased renewable energy investments. Similarly, UNICEF's #CountMeIn campaign, active since 2020, has engaged over 5,000 youth in climate education workshops and community projects, including waste recycling and eco-tourism initiatives in northern Thailand (UNICEF Thailand, 2024). For instance, youth-led projects in Chiang Mai promote local sourcing for tourism markets, reducing transport-related emissions and supporting smallholder farmers (United Nations Economic and Social Commission for Asia and the Pacific [ESCAP], 2024).

These initiatives align with SSCM principles, particularly circular economy practices that minimize waste and enhance supply chain resilience (Seuring & Müller, 2008). However, the lack of formal policy

channels limits their scalability. Youth proposals for integrating climate education into national curricula or establishing youth advisory councils have been largely ignored, reflecting a gap in procedural justice (Sarkki et al., 2019). This exclusion underscores the need for governance reforms to harness Thai youth's potential in climate-resilient supply chains, a focus of this study's comparative analysis with Taiwan.

Taiwan's Youth Climate Action

Taiwan provides a contrasting model of youth climate action, shaped by its democratic governance, robust civil society, and innovative advocacy strategies. The Taiwan Youth Climate Coalition (TWYCC), established in 2018, has emerged as a leading force, training over 15,000 students through its "Climate Leader for Future" program since 2020 (Kuo, 2021). This curriculum-based initiative integrates climate education into high schools and universities, equipping youth with policy literacy, scientific knowledge, and advocacy skills. TWYCC's efforts have directly influenced Taiwan's 2022 Renewable Energy Development Act, which increased renewable energy targets to 27% by 2030, reflecting the youth's ability to shape national policy (Taiwan Environmental Protection Administration, 2024). The coalition's success stems from its structured approach, which combines educational outreach with targeted lobbying, engaging policymakers through petitions, public forums, and policy briefs (Chen & Wu, 2023).

A defining feature of Taiwanese youth activism is digital diplomacy, necessitated by Taiwan's exclusion from UNFCCC processes due to geopolitical constraints. TWYCC's virtual Conference of the Parties (COP) simulations, launched in 2020, engage over 10,000 youth annually, enabling them to participate in mock global climate negotiations and advocate for Taiwan's climate commitments (Huang, 2025). These simulations foster critical skills, such as drafting policy proposals and building coalitions, and have facilitated regional alliances, such as the Asia-Pacific Youth Climate Summit, which connects Taiwanese youth with counterparts in Japan, South Korea, and Southeast Asia (Chen & Wu, 2023). By leveraging digital platforms, TWYCC bypasses traditional barriers, amplifying Taiwan's voice in global climate dialogues despite its non-member status in the UNFCCC.

Taiwanese youth also make significant contributions to SSCM, particularly in agriculture and logistics. TWYCC's advocacy for green logistics has led to pilot projects reducing packaging waste by 20% in agricultural supply chains, aligning with Taiwan's circular economy goals (Taiwan Environmental Protection Administration, 2024). For example, youth-led campaigns have promoted biodegradable packaging and local sourcing in Taiwan's fruit export industry, enhancing supply chain sustainability (Lin, 2022). These initiatives demonstrate how youth can bridge grassroots innovation and policy advocacy, a model with potential applicability to Thailand.

However, Taiwanese youth face challenges, including limited funding and urban-rural disparities. Most TWYCC activities are concentrated in Taipei and Kaohsiung, leaving rural youth underrepresented (Lin, 2022). Additionally, the high cost of digital infrastructure for virtual COP simulations poses scalability issues, requiring external support from NGOs and government agencies (Chen & Wu, 2023). Despite these constraints, Taiwan's structured advocacy model offers valuable lessons for Thailand, where youth lack similar educational platforms and policy access. The comparison highlights how governance structures—democratic in Taiwan versus hybrid in Thailand—shape youth climate action and SSCM contributions, a central focus of this study.

Sustainable Supply Chains and Youth

Sustainable supply chain management (SSCM) integrates environmental, social, and economic considerations to enhance supply chain resilience and sustainability (Carter & Rogers, 2008). SSCM emphasizes practices such as local sourcing, waste reduction, and green logistics, which align with global sustainability goals (Seuring & Müller, 2008). Youth play an increasingly critical role in SSCM by advocating for and implementing innovative solutions in sectors like agriculture and tourism, which are vital to both Thailand and Taiwan's economies (Pagell & Wu, 2009). Globally, youth-led initiatives have driven circular economy practices, such as zero-waste supply chains and renewable energy adoption, reducing environmental impacts and fostering economic resilience (Ellen MacArthur Foundation, 2023).

In Thailand, youth contribute to SSCM through community-based projects that address local supply chain challenges. For example, eco-tourism initiatives in northern Thailand, supported by youth groups like Climate Watch Thailand, promote local sourcing of food and materials, reducing transport-related emissions and supporting smallholder farmers (ESCAP, 2024). Similarly, youth-led waste recycling programs in Phuket's tourism sector have diverted 15% of plastic waste from landfills, aligning with circular economy principles (UNICEF Thailand, 2024). These efforts demonstrate Thai youth's ability to innovate within constrained governance contexts, though their impact remains localized due to limited policy support (Sarkki et al., 2019).

In Taiwan, TWYCC's advocacy has driven SSCM innovations, particularly in agricultural supply chains. Youth-led campaigns for green logistics have reduced packaging waste by 20% in pilot projects, promoting biodegradable materials and local sourcing (Taiwan Environmental Protection Administration, 2024). Additionally, TWYCC's partnerships with SMEs have introduced green certification programs, enhancing supply chain transparency and sustainability (Lin, 2022). These initiatives align with Taiwan's National Climate Change Action Plan, which prioritizes circular economy practices and SDG 12 (Responsible Consumption and Production) (Taiwan Environmental Protection Administration, 2024).

Despite these contributions, the literature reveals significant gaps. Few studies examine youth-driven SSCM innovations in Thailand and Taiwan, particularly in comparative contexts (Pagell & Wu, 2009). Existing research focuses primarily on corporate or governmental SSCM practices, overlooking the role of youth as grassroots innovators (Seuring & Müller, 2008). Moreover, there is limited exploration of how youth can leverage international frameworks like YOUNGO to advance supply chain sustainability, a critical gap given the global nature of climate challenges (Bulkeley et al., 2013). This study addresses these gaps by integrating environmental justice and SSCM frameworks to analyze youth climate action in Thailand and Taiwan, offering a novel comparative perspective and actionable policy recommendations.

Research Methodology

Conceptual Framework and Methodology

To analyse the role of Thai youth in climate action and compare it with Taiwan's structured advocacy model, this study requires a robust theoretical and methodological approach. This chapter outlines the conceptual framework and methodology, integrating environmental justice and sustainable supply chain management (SSCM) to examine youth participation, strategies, international linkages, and policy reforms. By employing a qualitative, comparative case study approach based on secondary data, the study ensures

Conceptual Framework

Environmental Justice

Sustainable Supply Chain Management

SDG Alignment

Research Approach

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mechanisms, strategies, international linkages, and policy barriers without requiring primary data collection. A comparative case study design is adopted, focusing on Thailand's grassroots model and Taiwan's structured advocacy, with an emphasis on their contributions to SSCM. This design allows for in-depth exploration of contextual differences—Thailand's hybrid governance versus Taiwan's democratic system—and facilitates the identification of transferable practices (Yin, 2018).

The qualitative approach leverages existing literature, policy documents, and reports, ensuring analytical rigor while accommodating the study's resource constraints. By focusing on secondary data, the study maintains feasibility while addressing the literature review's identified gaps, particularly the lack of comparative SSCM studies in Thailand and Taiwan. The comparative case study method is well-suited to SCSR's interdisciplinary scope, enabling the integration of environmental justice and SSCM perspectives.

Data Sources

The study draws on a diverse range of secondary data sources to ensure comprehensive coverage of youth climate action and supply chain impacts in Thailand and Taiwan. These include policy documents, organizational reports, and media coverage, selected for their relevance and authority.

Thailand

For Thailand, the analysis includes:

- Thailand's Second NDC (UNFCCC, 2022): Provides insights into national climate commitments and youth inclusion levels.
- National Adaptation Plan (Thailand Ministry of Natural Resources and Environment, 2023): Details adaptation strategies in agriculture and tourism, highlighting areas for youth contributions.
- UNICEF Thailand Reports (2022, 2024): Document youth initiatives like Fridays For Future Thailand and the #CountMeIn campaign, detailing participation and supply chain innovations.
- ESCAP Technical Cooperation Highlights (2024): Summarizes youth engagement in climate action, including eco-tourism projects in Chiang Mai.

Taiwan

For Taiwan, the analysis includes:

- TWYCC Reports (Kuo, 2021): Detail the "Climate Leader for Future" program and its policy impacts.
- Taiwan's Renewable Energy Development Act (2022): Reflects youth influence on renewable energy policy (Taiwan Environmental Protection Administration, 2024).
- Taiwan EPA Green Logistics Reports (2024): Document youth-led waste reduction initiatives in agricultural supply chains.
- Media Coverage (Huang, 2025): Provides qualitative insights into TWYCC's digital diplomacy and virtual COP simulations.

Comparative Data

Comparative insights are drawn from

- UNDP Asia-Pacific Youth Reports (2023): Highlight regional youth climate action trends.
- ESCAP Regional Reports (2024): Provide context on Asia-Pacific youth engagement, facilitating Thailand-Taiwan comparisons.
- These sources ensure a robust evidence base, addressing the study's objectives and aligning with

SCSR's emphasis on credible data.

Analysis Method

The study employs thematic analysis to identify key themes: participation mechanisms, supply chain innovations, international linkages, and policy barriers. Thematic analysis, as outlined by Braun and Clarke (2006), involves coding secondary data to uncover patterns and insights. Data from policy documents, reports, and media are systematically reviewed to extract themes relevant to youth climate action and SSCM. For example, participation mechanisms include grassroots campaigns (Thailand) and curriculum-based advocacy (Taiwan), while supply chain innovations encompass local sourcing and green logistics.

A comparative framework contrasts Thailand's grassroots model with Taiwan's structured advocacy, focusing on governance contexts, youth agency, and SSCM outcomes. This framework draws on George and Bennett's (2005) case study methodology, which emphasizes structured comparisons to identify causal mechanisms and transferable practices. By analysing differences (e.g., Thailand's centralized governance vs. Taiwan's democracy) and similarities (e.g., shared climate vulnerabilities), the study elucidates how youth contribute to climate-resilient supply chains.

Thematic and comparative analyses are conducted iteratively, ensuring themes are grounded in data and aligned with the conceptual framework. This approach facilitates a nuanced understanding of youth climate action, addressing the literature review's gaps and informing policy recommendations.

Analysis

The escalating climate crisis demands innovative governance models that harness the agency of youth, who are pivotal in driving climate resilience and sustainable supply chain management (SSCM). This chapter provides an in-depth analysis of youth climate action in Thailand and Taiwan, employing a comparative case study approach grounded in the hybrid framework of environmental justice (Schlosberg, 2004) and SSCM (Carter & Rogers, 2008). Building on the Introduction's problem statement, the Literature Review's theoretical synthesis, and the Conceptual Framework's methodological approach, this analysis examines strategies, participation mechanisms, international linkages, and supply chain impacts. By addressing the study's objectives—analysing Thai youth's climate action, comparing it with Taiwan's model (~40% focus on Taiwan), and identifying transferable practices—this chapter elucidates how youth contribute to climate-resilient supply chains, aligning with Sustainable Development Goals (SDGs) 8, 12, and 13. The findings inform policy recommendations to enhance youth inclusion in Thailand's climate governance and SSCM.

Thai Youth Climate Action: Strategies and Participation

Thai youth have emerged as resilient and innovative actors in climate action, navigating a challenging governance landscape to implement grassroots strategies that address local environmental and supply chain challenges. Since 2019, Fridays For Future Thailand has organized over 50 climate strikes across urban centers like Bangkok and Chiang Mai, as well as rural provinces such as Khon Kaen and Surat Thani, mobilizing approximately 3,000 youth (UNICEF Thailand, 2022). These strikes, often synchronized with global Fridays For Future campaigns, raise public awareness of Thailand's acute climate vulnerabilities, including rising sea levels projected to inundate 10% of Bangkok's land area by 2050 and recurrent floods disrupting agriculture and tourism supply chains (IPCC, 2022). The strikes employ creative tactics, such as art installations and public rallies, to engage diverse audiences and demand policy reforms, including increased renewable energy

investments and stricter emissions regulations.

Complementing these high-visibility campaigns, Climate Watch Thailand, a youth-led non-governmental organization, focuses on practical interventions in tourism supply chains. Operating in high-tourism areas like Phuket and Krabi, Climate Watch promotes waste recycling programs that divert plastic waste from landfills and beaches, integrating circular economy principles into local supply chains (UNICEF Thailand, 2024). For instance, their “Recycle for Resilience” initiative collaborates with hotels and restaurants to implement waste segregation, engaging local youth in environmental education and community clean-up drives. Additionally, youth groups in northern Thailand, such as the Chiang Mai Youth Climate Network, organize workshops to train rural youth in sustainable farming practices, reducing reliance on chemical inputs and enhancing agricultural resilience (ESCAP, 2024). These strategies reflect a bottom-up approach, prioritizing local knowledge and community engagement to address climate impacts.

Participation in Thai youth climate action is notably inclusive, spanning urban and rural contexts and fostering procedural justice by creating spaces for diverse voices (Schlosberg, 2004). UNICEF’s #CountMeIn campaign, launched in 2020, has engaged over 5,000 youth through climate education workshops, hackathons, and community projects, reaching students in Bangkok universities and farmers’ children in rural Isaan (UNICEF Thailand, 2024). The campaign’s participatory model empowers youth to co-design projects, such as community gardens in flood-prone areas, which enhance food security and local supply chains. Rural youth, often marginalized in policy discourses, play a critical role in these initiatives, leveraging traditional knowledge to adapt agricultural practices to climate variability (Thailand Ministry of Agriculture and Cooperatives, 2023).

However, systemic barriers significantly constrain youth participation. Only 5% of Thailand’s Nationally Determined Contribution (NDC) consultation processes included youth representatives, reflecting a profound gap in policy access (UNFCCC, 2022). Thailand’s centralized, military-backed governance, in place since the 2014 coup, imposes strict regulations on public protests, with climate strikes frequently facing police oversight, permit denials, or arrests of organizers (Amnesty International, 2023). These restrictions limit youth’s ability to influence national climate policies, such as the 30% emissions reduction target by 2030 or the National Adaptation Plan’s focus on agriculture and tourism (Thailand Ministry of Natural Resources and Environment, 2023). The lack of formal platforms, such as youth advisory councils, further marginalizes young voices, undermining recognition justice and hindering the integration of their innovative solutions into governance frameworks.

The supply chain impact of Thai youth initiatives is substantial, particularly in eco-tourism and agriculture, aligning with SSCM principles (Carter & Rogers, 2008). In Chiang Mai, youth-led eco-tourism initiatives, such as the Green Market, promote local sourcing of organic produce and handmade crafts, reducing transport-related emissions and supporting smallholder farmers (ESCAP, 2024). These markets collaborate with over 200 local vendors, prioritizing sustainable practices like zero-waste packaging and farm-to-table supply chains, which enhance economic resilience and align with SDG 12 (Responsible Consumption and Production) (UNICEF Thailand, 2024). Similarly, in Phuket, youth-driven recycling programs have diverted significant waste from tourism supply chains, fostering partnerships with local businesses to implement sustainable waste management systems (UNICEF Thailand, 2024). While precise emissions reduction data is scarce, ESCAP (2024) highlights that these initiatives contribute to sustainability by minimizing environmental

impacts and strengthening community-based supply chains. However, the absence of national policy support and funding limits their scalability, as youth groups rely on small grants and volunteer efforts. This underscores the need for governance reforms to amplify youth contributions to SSCM, a theme explored further in the comparative analysis.

Taiwanese Youth Climate Action: Strategies and Participation

Taiwanese youth climate action exemplifies a structured, policy-oriented model, leveraging education and digital innovation to achieve significant impact. The Taiwan Youth Climate Coalition (TWYCC), founded in 2018, has trained over 15,000 students through its “Climate Leader for Future” program since 2020, integrating climate education into high school and university curricula across Taipei, Kaohsiung, and Tainan (Kuo, 2021). The program combines scientific training, policy literacy, and advocacy skills, enabling youth to engage policymakers through targeted campaigns, including petitions, public forums, and policy briefs submitted to the Legislative Election and Governance Committee. TWYCC’s advocacy was instrumental in shaping Taiwan’s 2022 Renewable Energy Development Act, which raised renewable energy targets to 27% by 2030, a 7% increase from previous commitments (Taiwan Environmental Protection Administration, 2024). This success highlights how youth can drive systemic change within a democratic governance structure, embodying procedural justice by ensuring access to decision-making processes (Schlosberg, 2004).

Digital diplomacy is a cornerstone of Taiwanese youth action, addressing Taiwan’s exclusion from UNFCCC processes due to geopolitical constraints. Since 2020, TWYCC’s virtual Conference of the Parties (COP) simulations have engaged over 10,000 youth annually in mock global climate negotiations, allowing participants to draft policy proposals, negotiate emissions targets, and build coalitions with regional peers (Huang, 2025). Hosted on platforms like Zoom and supported by interactive tools, these simulations replicate UNFCCC processes, training youth in diplomacy and policy advocacy. The Asia-Pacific Youth Climate Summit, an offshoot of these simulations, connects Taiwanese youth with counterparts in Japan, South Korea, and Southeast Asia, fostering regional alliances that amplify Taiwan’s climate commitments (Chen & Wu, 2023). This digital approach enhances recognition justice by providing a global platform for youth to assert their agency, bypassing traditional barriers and positioning Taiwan as a leader in youth-led climate diplomacy.

Beyond education and diplomacy, TWYCC employs strategic partnerships to advance climate action. Collaborations with environmental NGOs, such as Greenpeace East Asia, and government agencies, like the Taiwan Environmental Protection Administration (EPA), have secured funding for youth-led projects, including renewable energy workshops and urban greening initiatives (Taiwan Environmental Protection Administration, 2024). TWYCC’s “Youth Climate Ambassadors” program trains youth to represent Taiwan at international forums, such as the UN Youth Climate Summit, further extending their global influence (Kuo, 2021). These strategies, rooted in institutional support and educational infrastructure, ensure sustained engagement and policy impact, contrasting sharply with Thailand’s resource-constrained grassroots model.

Participation in Taiwanese youth climate action is structured and widespread, facilitated by Taiwan’s democratic governance and robust civil society. TWYCC’s programs reach urban and suburban youth through school partnerships, with over 500 schools participating in the “Climate Leader for Future” curriculum (Chen & Wu, 2023). Youth are empowered to organize climate marches, engage in policy dialogues, and collaborate with SMEs on sustainability projects, fostering a sense of ownership and agency. However, participation is less

The supply chain impact of Taiwanese youth initiatives is profound, particularly in agricultural and logistics sectors, aligning with SSCM frameworks (Carter & Rogers, 2008). TWYCC's advocacy for green logistics has driven pilot projects reducing packaging waste by 20% in Taiwan's fruit export industry, promoting biodegradable materials and local sourcing in markets like Taichung and Pingtung (Taiwan Environmental Protection Administration, 2024). These projects, supported by partnerships with over 100 SMEs, have introduced green certification programs that enhance supply chain transparency and align with SDG 12 (Lin, 2022). Additionally, TWYCC's campaigns for renewable energy adoption in logistics have reduced carbon footprints in transport networks, contributing to SDG 13 (Climate Action) (Chen & Wu, 2023). The policy-driven nature of these initiatives, backed by legislative reforms and institutional funding, ensures scalability, offering a model for Thailand to emulate.

Comparative Analysis

Participation

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Strategies

Thailand's strategies prioritize local resilience, focusing on community-based waste management and eco-tourism initiatives that address immediate environmental challenges (ESCAP, 2024). Fridays For Future's climate strikes raise public awareness, often using cultural elements like Thai dance to engage communities, while Climate Watch Thailand's recycling programs in Phuket promote sustainable tourism supply chains (UNICEF Thailand, 2024). These efforts are effective locally but lack national coordination due to governance constraints and limited funding. Taiwan, conversely, emphasizes education and policy influence, with TWYCC's curriculum training youth to advocate for systemic change through policy briefs and legislative lobbying (Kuo, 2021). Taiwan's digital diplomacy, exemplified by virtual COP simulations, extends its reach globally, engaging 10,000 youth annually in international climate dialogues (Huang, 2025). Taiwan's strategies are more scalable, benefiting from institutional support and democratic governance, while Thailand's are constrained by resource and political barriers.

International Linkages

Thai youth face significant barriers in international climate frameworks, with only 10 representatives attending COP29 through YOUNGO, reflecting limited resources and government support (ESCAP, 2024). Initiatives like Fridays For Future Thailand participate in global campaigns, but their international presence is minimal due to funding constraints and visa restrictions for youth delegates (UNICEF Thailand, 2024). In contrast, Taiwan's digital diplomacy engages over 10,000 youth annually in virtual COP simulations, bypassing UNFCCC exclusion and fostering regional alliances through the Asia-Pacific Youth Climate Summit (Huang, 2025). Taiwan's digital platforms, supported by NGOs and government grants, enable youth to influence global climate discourses, offering a scalable model for Thailand to enhance its YOUNGO participation.

Supply Chain Impact

Both regions promote local sourcing, but their approaches and scalability differ. Thai youth's eco-tourism initiatives, such as Chiang Mai's Green Market, reduce transport emissions and support local economies, engaging over 200 vendors in sustainable practices (ESCAP, 2024). These efforts align with SDG 12 but remain localized due to limited policy integration. Taiwan's policy-driven reforms, such as TWYCC's green logistics projects, achieve a broader impact, reducing packaging waste by 20% in agricultural supply chains and introducing green certification programs (Taiwan Environmental Protection Administration, 2024). Taiwan's initiatives, backed by legislative reforms and SME partnerships, are more scalable, aligning with SDGs 12 and 13. Thailand's community-based approach offers resilience, while Taiwan's policy-driven model ensures systemic change.

Synthesis

The comparative analysis reveals significant opportunities for cross-learning between Thailand and Taiwan. Thailand can adopt Taiwan's education model to enhance policy influence, integrating climate education into national curricula to build advocacy skills, as TWYCC has done with its "Climate Leader for Future" program (Kuo, 2021). Establishing a National Youth Climate Council, as proposed by Thai youth at ESCAP workshops, could address the policy access gap, ensuring youth voices are integrated into NDC processes and national climate strategies (ESCAP, 2024). This council could model Taiwan's structured engagement, facilitating youth-policy dialogues and securing funding for youth-led projects. Additionally,

Thailand could leverage digital platforms, inspired by Taiwan's virtual COP simulations, to strengthen YOUNGO participation and amplify its global presence, overcoming resource constraints (Huang, 2025).

Conversely, Taiwan can learn from Thailand's community-based resilience, particularly for engaging rural youth in supply chain initiatives. Thailand's eco-tourism projects, such as Chiang Mai's Green Market, demonstrate how youth can integrate traditional knowledge into sustainable supply chains, offering models for Taiwan to enhance rural SSCM (UNICEF Thailand, 2024). TWYCC's urban-centric programs could expand to rural areas by adopting Thailand's participatory workshops, addressing urban-rural disparities, and aligning with SDG 8 (Decent Work and Economic Growth) (Lin, 2022).

Youth-driven SSCM in both regions significantly advances SDGs 12 and 13. Thailand's local sourcing and waste recycling initiatives reduce environmental impacts in tourism supply chains, while Taiwan's green logistics and certification programs enhance agricultural sustainability (ESCAP, 2024; Taiwan Environmental Protection Administration, 2024). These efforts demonstrate youth's potential to bridge grassroots innovation and policy advocacy, aligning with Carter and Rogers' (2008) SSCM framework. However, Thailand's initiatives require policy support to scale, while Taiwan's benefit from institutional backing. By fostering public-private partnerships and inclusive governance, both regions can amplify youth contributions to climate-resilient supply chains. These findings inform the study's policy recommendations, advocating for structural reforms to harness youth agency in Thailand and beyond.

Results and Discussion

The findings provide the following information and recommendations To analyze Thai youth's climate action strategies and participation mechanisms, focusing on their contributions to sustainable supply chains in tourism and agriculture The research found that Thai youth's grassroots advocacy redefines procedural justice as a contested process of claiming participatory legitimacy within restrictive policy arenas, highlighting the interplay of agency and structural constraints. It is recommended to establish youth-led sustainability incubators within regional universities to empower young entrepreneurs in transforming tourism and agriculture supply chains, including developing digital marketplaces for eco-tourism operators connected with sustainable suppliers, and establishing community-based seed banks to preserve climate-resilient crop varieties. To examine Thai youth's engagement with international climate frameworks, such as YOUNGO and UNFCCC processes: The study suggests that Thailand could establish a Regional Youth Climate Alliance, a virtual platform inspired by Taiwan's digital models, to prepare youth for UNFCCC engagement, supported by ESCAP and UNDP. This alliance would enhance Thai youth's participation in YOUNGO and overcome resource barriers. To compare Thai and Taiwanese youth climate action models, with a 40% focus on Taiwan's structured advocacy, to identify transferable practices. The Thailand-Taiwan comparison reveals how governance contexts mediate the scalability of these initiatives. Thailand could adopt Taiwan's educational model by integrating climate resilience modules into vocational training programs.

Conversely, Taiwan could implement Thailand's participatory community models to engage rural and indigenous youth, addressing urban-centric biases. Taiwan's structured advocacy is evident

in the proposal for a Taiwan-hosted Global Youth Climate Innovation Platform and the pioneering of youth-led bioeconomy cooperatives, which would set a regional benchmark for youth-driven sustainability. To propose policy reforms that integrate youth perspectives into Thailand's climate governance and enhance SSCM. The research suggests that governments must embed youth agency within climate policy frameworks to maximize their sustainability impact. In Thailand, a Youth Climate Policy Commission, an autonomous entity with legislative authority, should be established to ensure youth representation in NDC revisions and adaptation planning. Furthermore, both regions should establish Green Youth Innovation Funds, offering grants for youth-led SSCM projects, such as eco-tourism platforms or sustainable agriculture cooperatives, aligning with SDG 13 by fostering climate-resilient supply chains.

Conclusion and Recommendations

This research study concludes that Thai youth's grassroots advocacy significantly redefines procedural justice within climate action, demonstrating their pivotal role in challenging restrictive policy environments and contributing to sustainable supply chains in tourism and agriculture through initiatives like digital marketplaces and community-based seed banks. The study also identifies the potential for enhanced Thai youth engagement in international climate frameworks, such as UNFCCC processes and YOUNGO, by leveraging collaborative platforms inspired by Taiwanese models. The comparative analysis with Taiwan highlights that while governance contexts mediate the scalability of youth initiatives, valuable transferable practices exist. Taiwan's structured advocacy, including its Global Youth Climate Innovation Platform and youth-led bioeconomy cooperatives, offers a robust benchmark for youth-driven sustainability.

Recommendations

Based on these findings, the study proposes the following recommendations

Policy Reforms for Integrated Youth Perspectives: Governments must actively embed youth agency within climate policy frameworks to maximize their sustainability impact. Specifically, in Thailand, it is recommended to establish a Youth Climate Policy Commission, an autonomous entity with legislative authority, to ensure meaningful youth representation in NDC revisions and adaptation planning, thereby addressing procedural justice deficits. Both Thailand and Taiwan should establish Green Youth Innovation Funds to provide grants for youth-led Sustainable Supply Chain Management (SSCM) projects, such as eco-tourism platforms and sustainable agriculture cooperatives, aligning with SDG 13 by fostering climate-resilient supply chains.

Enhancing International Engagement: To bolster Thai youth's participation in international climate frameworks, the study suggests establishing a Regional Youth Climate Alliance. This virtual platform, drawing inspiration from Taiwan's digital engagement models, would prepare youth for UNFCCC participation and help overcome resource barriers to YOUNGO involvement.

Transferable Practices from Comparative Analysis:

For Thailand: Adopt Taiwan's educational model by integrating climate resilience modules into vocational training programs, thereby channeling grassroots energy into more structured engagement for sustainable supply chain policies.

For Taiwan: Implement Thailand's participatory community models to engage rural and indigenous youth, addressing urban-centric biases, possibly through pilot youth-led agroforestry projects inspired by Thai community initiatives to restore degraded lands and enhance rural supply chains.

Strategic Partnerships for SSCM Enhancement: The research underscores the necessity for businesses to scale youth-led SSCM innovations through strategic alliances. This includes collaborations between Thai hospitality chains and youth for sustainability certification in eco-tourism, and partnerships between agricultural conglomerates and youth for deploying IoT-based irrigation systems. In Taiwan, logistics firms could work with youth cooperatives to mainstream bioplastic packaging. These partnerships, supported by CSR initiatives, will foster economic opportunities for young innovators and promote sustainable consumption (SDGs 8 and 12).

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