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The canary and the crucible: Fiji's climate stewardship and a blueprint for planetary resilience

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At the razor's edge of the Anthropocene, Fiji offers the world not a plea for help, but a masterclass in survival: turning existential threat into a radical blueprint for planetary endurance. This review interrogates Fiji's holistic climate resilience framework as a frontline small island developing state. The central research question asks: How has Fiji integrated national legislation, catalytic climate finance, rights-based mobility, and strategic diplomacy to construct a comprehensive governance model, and to what extent can this emergent architecture serve as a transferable blueprint for anticipatory adaptation in the Anthropocene? A systematic synthesis of scientific literature, policy texts, and institutional reports deconstructs Fiji's multi-scalar response into a coherent conceptual model. The analysis advances the "Archipelagic Resilience Model," structured around four interdependent pillars. Geopolitical Acupuncture leverages Fiji's moral authority to exert influence in global climate governance. Braided Resilience entwines indigenous ecological knowledge, particularly the Vanua worldview, with contemporary climate science. Catalytic Finance mobilizes resources through innovative mechanisms such as sovereign blue and green bonds. Socially-Just Climate Mobility pioneers a rights-based relocation framework that safeguards dignity and cultural continuity. While innovative, this model exposes tensions, including the development–adaptation paradox and risks of maladaptation. By articulating both synergies and contradictions, the study reframes Fiji as a norm entrepreneur and blueprint for planetary resilience. It establishes a forward-looking research agenda to quantify braided systems and scale equitable adaptation pathways in vulnerable contexts.

KEYWORDS

climate resilience, small island developing states (SIDS), archipelagic resilience model, indigenous ecological knowledge (Vanua), climate governance

1 Introduction: the chorus from the canary—a tipping point of agency

The global climate system is destabilizing at a pace that outstrips both ecological adaptation and political response, with the IPCC's Sixth Assessment Report (AR6) presenting an undeniable code red for humanity (IPCC, 2021, 2023b). The existence of small islands in developing nations is at risk because of overlapping geographic, economic, and meteorological vulnerabilities. These nations' low altitudes, reliance on fragile economic sectors such as tourism and fishing, and high susceptibility to volatile weather patterns make them the most

directly and severely impacted by the climate crisis (Mycoo et al., 2022). Their present reality manifesting as saltwater intrusion into crucial freshwater lenses, catastrophic storm surges, and the inexorable loss of habitable land which serves as a stark, predictive tableau for the world's collective near future (Campbell and Barnett, 2010).

However, a prevailing narrative that unilaterally casts SIDS solely as passive victims is not merely incomplete; it is fundamentally disempowering. This framing elides the profound agency, moral clarity, and innovative pragmatism with which these nations are confronting the escalating crisis. Far from quiescent recipients of climactic fate, SIDS are increasingly performing as a global chorus of canaries, their songs of prescient warning resonating with pioneering actions forged in the crucible of necessity (Thomas et al., 2020).

This review pivots to the Republic of Fiji as a paradigmatic exemplar of this profound ontological shift from victimhood to proactive global leadership. As an archipelago of over 330 islands situated at the very heart of the "Blue Continent" of the Pacific, Fiji embodies the core paradox of the Anthropocene (Baugh, 2023). Its geographical position is both symbolically resonant and materially critical. As the first major nation to witness the sunrise each day, it is metaphorically the first to confront the dawn of new climate realities. Its Exclusive Economic Zone (EEZ) dwarfs its land mass by a factor of over 70, rendering its identity, economic vitality, and prospective future inextricably interwoven with the health of the circumambient ocean (ESCAP, 2022). This profound geographic reality has cultivated an intrinsic sense of environmental stewardship that dynamically extends beyond its sovereign borders.

Fiji's intrinsic vulnerability is acutely manifest. A substantial majority of its nearly 1 million citizens reside in coastal areas, directly epitomized by the devastating Category 5 TC Winston in 2016, which unilaterally expunged one-third of the nation's GDP overnight (Esler, 2016; McInnes et al., 2014; Walsh et al., 2012). However, despite these severe challenges, Small Island Developing States have emerged as powerful advocates for global climate action. Fiji has engineered a globally significant and multifaceted response. The country cemented its role as a global climate leader through several key achievements. It presided over COP23, pioneered new financial tools to fund climate initiatives, and enacted one of the world's most robust climate laws (Kairala, 2023; Künzel et al., 2017; Republic of Fiji, 2021a).

This review transcends the conventional case study to execute a critical, systematic synthesis. Our central research question is thus: How has Fiji orchestrated a multi-scalar integration of national legislation, innovative climate finance, human rights-based climate mobility, and strategic international diplomacy to construct a holistic framework, and to what extent can this emergent architecture serve as a transferable blueprint for anticipatory governance in the Anthropocene. We posit that Fiji's seemingly disparate actions are not a piecemeal reaction but constitute a coherent, synergistic, and intentionally constructed model of climate governance, the Archipelagic Resilience Model that offers a powerful, context-informed blueprint for planetary resilience.

As depicted in Figure 1, Fiji's historical and policy milestones situate the country's progression from vulnerability to leadership in climate governance, providing the temporal scaffolding for the analysis that follows. This timeline elucidates both the nation's profound historical experience with climate-induced mobility (epitomized by the Banaban Resettlement) and its strategic, escalating response to accelerating climatic impacts (such as Tropical Cyclone Winston).

Crucially, the timeline highlights a trajectory of deliberate and escalating policy innovations and global diplomatic achievements, including its impactful COP23 Presidency, the government established a robust Climate Change Act, the pioneering issuance of Sovereign Green and Blue Bonds, and the development of Human Rights-based Planned Relocation Guidelines. These diverse initiatives collectively embody Fiji's emergent Archipelagic Resilience Model and its comprehensive anticipatory governance approach. Each milestone depicted represents a critical step in Fiji's multi-scalar strategy to forge resilience, demand accountability, and advocate for transformative global climate action.

2 Methodology: navigating the epistemic seas—a systematic synthesis approach

This review implements a systematic literature review and thematic synthesis methodology, in accordance with the PRISMA 2020 framework for systematic review reporting (Page et al., 2021), to critically analyze Fiji's climate governance architecture.

To enhance clarity and define the boundaries of the evidence base, our central research question is defined using the PICOS framework:

Population (P): The nation of Fiji, its governance structures, ecosystems, and communities, situated within the broader context of Small Island Developing States (SIDS).

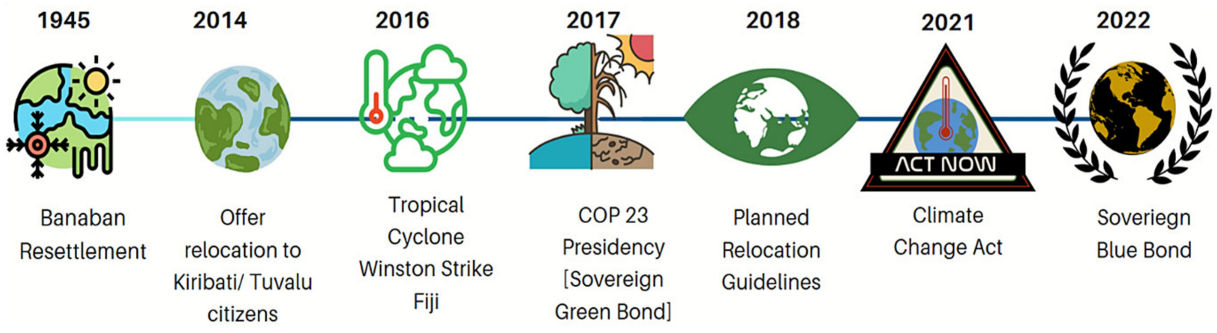

FIGURE 1
From vulnerability to vanguard: Fiji's decisive milestones in climate governance and resilience (1945–2022). Source: Blue (2020), Edwards (2013), Ratuva et al. (2024), Republic of Fiji (2021a), and World Bank Group (2017).

Intervention (I): Fiji's integrated, multi-pillar climate governance model, which includes strategic diplomacy, braided knowledge systems, catalytic finance, and rights-based mobility.

Comparison (C): While not a direct comparative review, the implicit comparison is with piecemeal, reactive, or non-integrated climate adaptation approaches.

Outcome (O): The construction of a coherent conceptual framework (the "Archipelagic Resilience Model") and a critical analysis of its synergies, tensions, and potential transferability.

Study Design (S): A systematic literature review and thematic synthesis.

The search strategy was implemented from February to May 2025. It applied a comprehensive and systematic search of academic databases including Scopus, Web of Science, and Google Scholar, together with grey literature from institutional sources such as the UNFCCC, World Bank, Government of Fiji portals, and the Ministry of iTaukei Affairs digital repository. The search protocol employed a structured Boolean query in which the following groups of terms were combined:

- "Fiji," "Fijian."
- "climate change," "climate adaptation," "climate resilience."
- "governance," "policy," "indigenous knowledge," "planned relocation," "climate finance."

Records were systematically filtered based on pre-defined inclusion criteria (peer-reviewed articles, official reports; published in English between 2015 and 2025; direct relevance to Fiji's climate governance) and exclusion criteria (news media, opinion-based content; pre-2015 publication date). The resulting corpus ($n > 200$) was subjected to thematic synthesis, involving iterative open coding to identify emergent themes. These themes were structured within an adapted Socio-Ecological-Technological Systems (SETS) framework to analyze the interplay between governance, ecological strategies, and financial innovations. The complete workflow, from initial identification to final synthesis, is summarized in the PRISMA diagram (Figure 2). To explicitly establish how the methodological approach informed the construction of the Archipelagic Resilience Model, the thematic synthesis was expanded to include co-occurrence and cross-theme mapping to identify areas of repeated conceptual convergence. Four dominant clusters consistently emerged across the coded review corpus: (i) diplomatic and geopolitical positioning, (ii) indigenous and community-embedded adaptation practices, (iii) climate-finance architecture and institutional mechanisms, and (iv) mobility, relocation, and rights-based protection. These clusters were validated through their parallel visibility in bibliometric keyword networks from Scopus and Web of Science, demonstrating strong empirical coherence. The convergence of these evidence domains formed the analytical foundation from which the four pillars of the model were synthesized, ensuring that the framework is directly grounded in the reviewed literature rather than conceptually detached from the methodological process.

2.1 Bibliometric analysis

To complement the systematic review process, a bibliometric analysis was conducted to visualize the intellectual structure of Fiji's climate governance literature. Records were retrieved from Scopus ($n = 71$) and Web of Science ($n = 73$) using identical Boolean queries [*Fiji* AND *"climate change"* AND (*resilience* OR *adaptation* OR *governance* OR *"indigenous knowledge"* OR *"planned relocation"*)]. Records were exported (Scopus as CSV; Web of Science as Excel converted to CSV), harmonized, and deduplicated using DOI identifiers. The datasets were analyzed in VOS viewer v.1.6.20 to generate keyword co-occurrence maps, applying full counting with a minimum threshold of five keyword occurrences.

Parameters were set to:

- Unit of analysis: Author keywords
- Counting method: Full counting
- Threshold: Minimum of five occurrences per keyword.

This process yielded 28 recurring keywords (Scopus) and 31 recurring keywords (Web of Science) above threshold. The resulting visualizations, presented in Figures 3A,B illustrate clustered themes, where node size reflects keyword frequency, link thickness represents co-occurrence strength, and colors denote thematic clusters. An overlay visualization further captures the temporal evolution of themes, showing how recent research emphasizes planned relocation, food security, and indigenous knowledge, while earlier studies were more focused on vulnerability and governance. As mapped in Figures 3A,B, keyword co-occurrence networks from Scopus and Web of Science reveal clustered themes, co-occurrence strengths, and dominant nodes that characterize Fiji-focused climate scholarship. Both networks reveal "climate change," "adaptation," "resilience," and "Fiji" as central nodes, underscoring their pivotal role in scholarship. The Web of Science map emphasizes governance, sustainable development, and vulnerability, while Scopus clusters around impacts, management, and community-level adaptation. Together, the maps show a converging focus on adaptation and resilience, but with complementary emphases that illustrate the multidimensional character of climate research in Fiji.

2.2 Methodological limitations and epistemic positionality

The authors acknowledge a significant limitation and epistemic bias in this review's primary reliance on English-language sources. This choice was necessitated by the linguistic constraints of the research team. This inevitably privileges internationally indexed academic and policy narratives and may underrepresent or misinterpret nuanced perspectives that exist solely in the iTaukei language, oral archives, or in community-generated reports (village relocation consultation summaries). Consequently, our interpretation of "braided resilience" is filtered through an Anglophone lens, and we caution that it is not a complete representation of all knowledge systems operating in Fiji. In a modest attempt to begin addressing this, we conducted targeted searches for vernacular reports from the Ministry of iTaukei Affairs and Parliament of Fiji, which have informed our revised analysis. However, we strongly recommend that future research must prioritize collaborative partnerships and translation resources to correct for this imbalance and truly align with the principles of decolonized research practice.

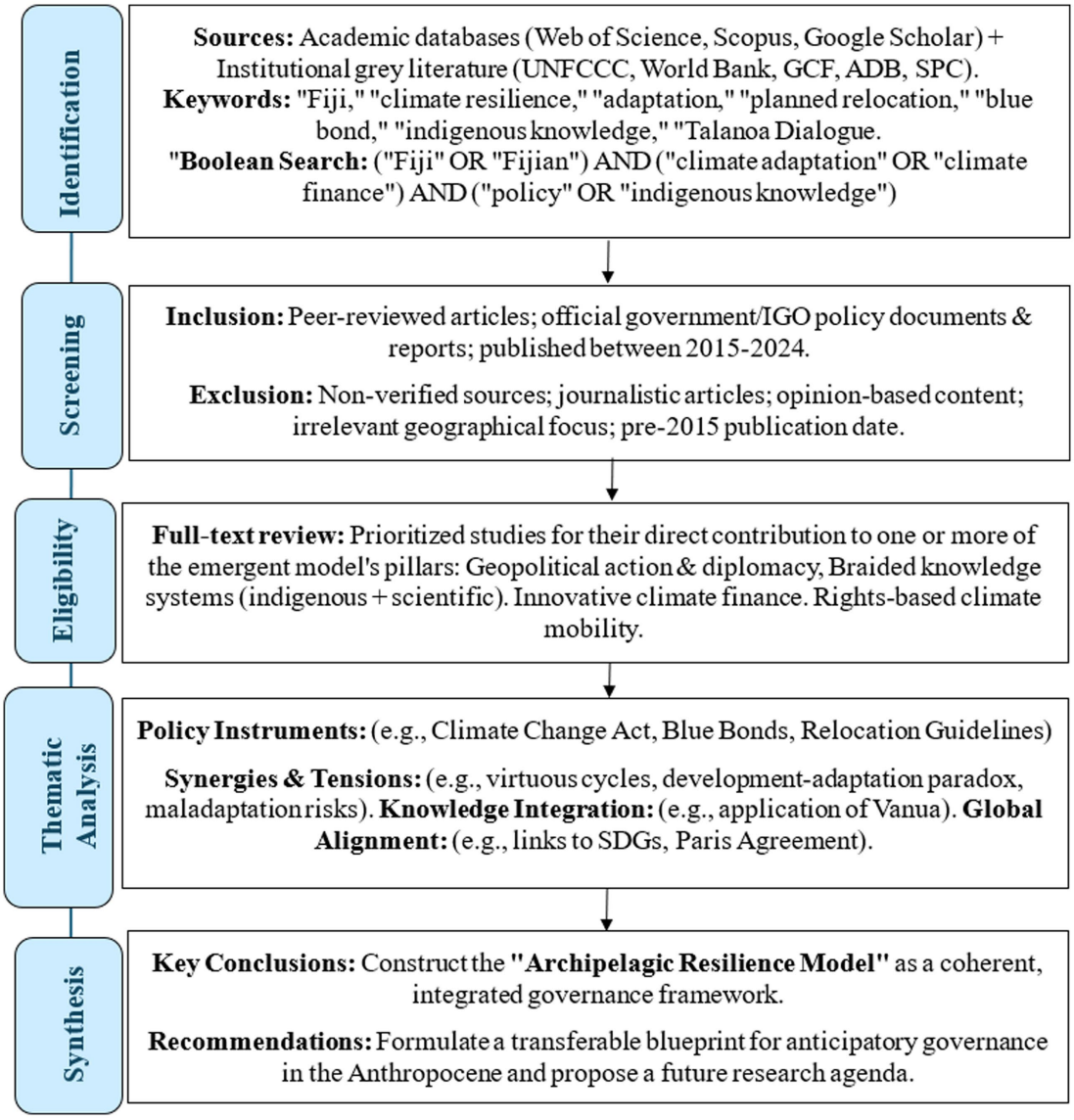

FIGURE 2
Systematic review and synthesis framework.

3 Context: the global and regional imperative

3.1 Anthropogenic forcing and asymmetric vulnerability

In the Anthropocene, the present geological epoch, human influence has fundamentally transformed Earth's core environmental processes, leaving an irreversible legacy on the planetary system (Crutzen and Stoermer, 2000). At the nexus of this epochal transformation is the unequivocal trajectory of anthropogenic climate change, underpinned by a robust and convergent body of empirical evidence derived from palaeoclimatological reconstructions, sophisticated Earth System Models, and high-resolution observational datasets (IPCC, 2023a; NOAA, 2023).

A robust body of evidence demonstrates an elevation of Surface temperatures worldwide are elevated by around 1.1 °C compared to pre-industrial revolution due to an increase in persistent greenhouse gases (GHGs) (IPCC, 2021). This radiative forcing is driving a cascade of systemic geophysical alterations: accelerating global mean sea-level rise (approaching 4.5 mm/year in recent decades, driven by thermal expansion and cryosphere mass loss (WMO, 2023). Additionally, there is documented evidence that the planet is now experiencing severe weather events which occur more often and with greater severity, and their timing remains unpredictable (IPCC, 2021).

While the forcing mechanisms are global in their atmospheric distribution, the manifestation of their impacts is profoundly heterogenous, leading to a landscape of asymmetric vulnerability. Small Island Developing States (SIDS), with Fiji serving as a quintessential exemplar, epitomize this disproportionality. These nations, despite their minimal historical and contemporary contributions to global GHG emissions, are inexorably positioned as

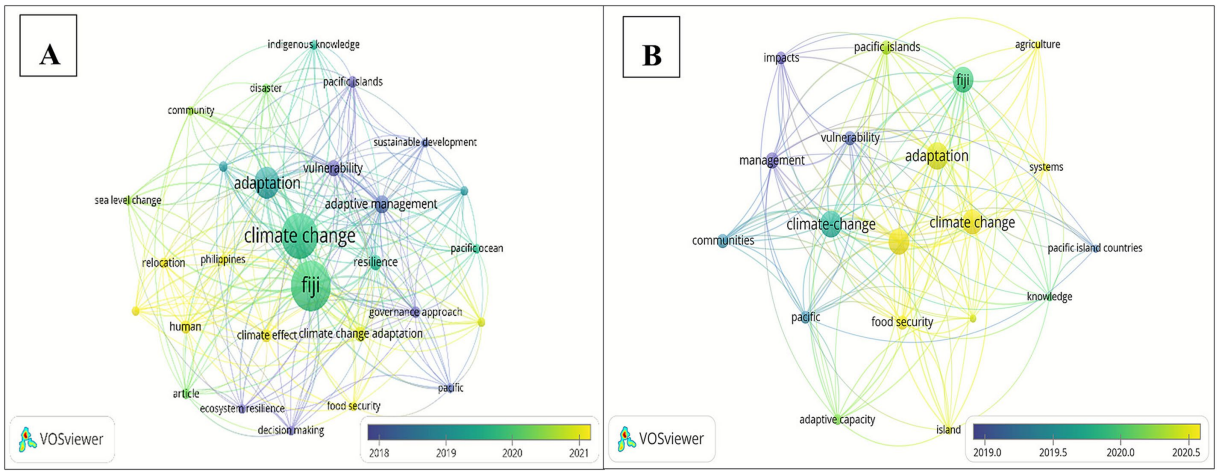

FIGURE 3
Keyword co-occurrence networks of Fiji and climate change research derived from scopus **(A)** and web of science **(B)**.

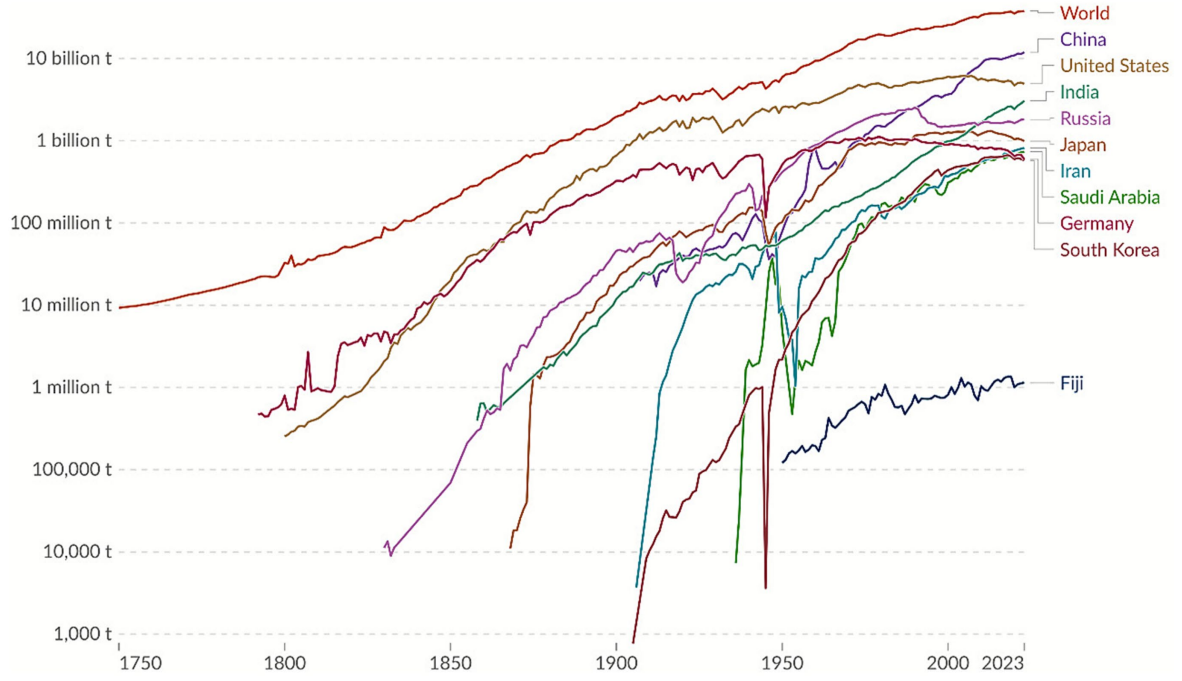

FIGURE 4
Carbon dioxide (CO_2) emissions from the 10 largest contributing nations and world total, 1750–2023. Source: Ritchie et al. (2023).

the primary receptors of climate system destabilization (Mani, 2020; Presti, 2022; Singh and Gosai, 2015). This stark carbon paradox – wherein the least culpable face the gravest existential threats fundamentally underpin the moral authority and urgency of SIDS's global advocacy.

This profound disparity is quantitatively elucidated across two complementary graphical representations from Our World in Data, presented below. As charted in Figure 4, annual CO_2 emissions differ by orders of magnitude across major emitters, the world total, and Fiji, clarifying Fiji's negligible contribution relative to global totals. The logarithmic scale of the y-axis is paramount for interpreting this figure, effectively compressing vast orders of magnitude into a discernible visual. It starkly reveals that while the global total now exceeds 35 billion tons annually, and major industrialized powers (including the top 10 historical emitters like China, the United States, India, Russia, and Germany) operate in the hundreds of millions to billions of tons, Fiji's emissions barely register above the 1-million-ton mark. Its emission profile consistently occupies the lowest stratum of the graph, visually asserting its virtually negligible contribution to current global emissions – orders of magnitude smaller than even the lowest-ranking top 10 emitter.

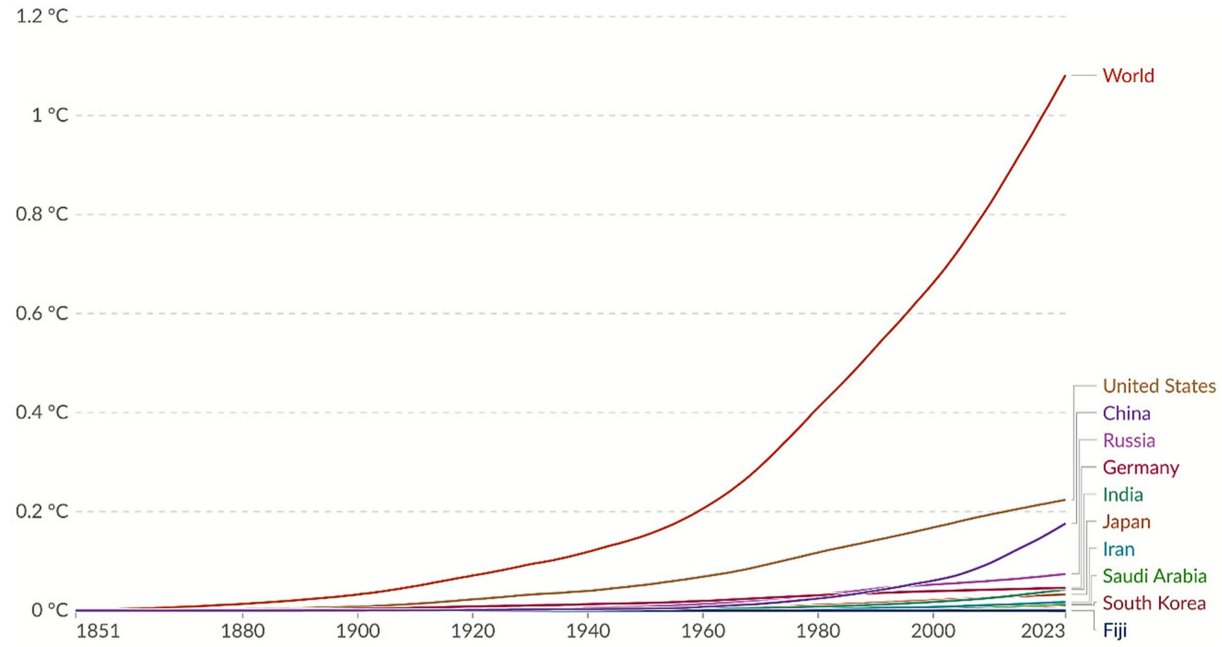

FIGURE 5
Comparative analysis of warming contributions from fossil fuels: top 10 emitters and Fiji, 1851–2023. Source: Ritchie et al. (2023).

Further reinforcing this asymmetric responsibility, the relative contribution of different nations to the aggregate global temperature increases from fossil sources (1851–2023) is depicted in Figure 5. As evidenced by Figure 5, cumulative national contributions to observed warming since 1851 remain minimal for Fiji, in stark contrast to the trajectories of major emitters. This graphically confirms Fiji's virtually non-existent impact on the historical warming trajectory, contrasting sharply with the substantial, escalating curves representing the major industrial powers whose cumulative emissions account for most of the observed global temperature increase.

These empirical data underscore a profound ethical imperative. Despite its infinitesimal carbon footprint, Fiji confronts an immediate and existential precarity, characterized by intensified sea-level rise (exceeding global averages in parts of the Pacific), salinization of freshwater lenses, and the increasing ferocity of tropical cyclones. This unique confluence of disproportionate vulnerability and negligible culpability grants Fiji an unparalleled epistemic authority on the global stage. It positions this tiny nation not as a passive recipient of climactic fate, but as a potent norm entrepreneur and a proactive global leader, strategically leveraging its moral clarity to compel greater accountability and accelerated decarbonization from high-emitting states. Its pioneering approach to climate action, detailed in the subsequent sections, emerges as a pragmatic blueprint for planetary stewardship born from the crucible of necessity, profoundly challenging conventional geopolitical power dynamics in the battle against climate change.

A direct and cumulative measure of national responsibility for the observed mean global surface temperature increase, explicitly linking historical emissions to committed warming is illustrated in (Figure 5). The global temperature line indicates an approximate increase of 1.1 °C in comparison with the pre-industrial period, clearly reflecting the cumulative impact of human-induced activities. Crucially, the trajectories of major industrialized nations clearly delineate their significant, escalating cumulative contributions, collectively accounting for much of this temperature anomaly. In profound contrast, Fiji's line remains unequivocally flat and indistinguishable from the zero-degree baseline throughout the entire period from 1851 to 2023. This is definitive empirical evidence of Fiji's almost non-existent historical impact on global warming. The scenario articulated by this figure is one of profound climate injustice: a small, low-emitting nation faces existential threats from a global problem primarily generated by a few, historically large emitters. For Fiji, the future holds accelerated impacts from this committed warming, necessitating robust adaptation strategies and substantial international climate finance, particularly for non-economic loss and damage, to address the profound ethical imbalance illuminated by these data. This underscores Fiji's unique position as a moral compass in global climate negotiations, advocating for equitable and ambitious climate action from those most responsible.

4 Regional context: the deep currents of Pacific solidarity and Mana

Fiji's nuanced approach to climate change cannot be genuinely apprehended without a profound appreciation of its deep-rooted role as a regional nexus and its corresponding ethos of pan-Pacific responsibility. This extends far beyond mere geographical centrality, manifesting as a demonstrated and unwavering commitment to its Pacific neighbors, a commitment that fundamentally informs its

humanitarian and diplomatic posture on climate change. A poignant historical precedent that illuminates this ethos is the compelling case of the Banaban people. After their ancestral home island (Banaba, or Ocean Island) was rendered almost entirely uninhabitable by rapacious phosphate mining, the British Phosphate Commissioners orchestrated the resettlement of the community on Rabi Island in Fiji in 1945 (Edwards, 2013; John and Lee, 2017). While the historical complexities are undeniable, the subsequent integration of the Banaban community into the Fijian state provides a long-standing, tangible example of a Pacific nation proactively providing sanctuary for a climate-displaced population, long before the term "climate refugee" entered common parlance (McAdam, 2014).

This historical role has found new, critical expression in the accelerating era of climate change. As leaders of lower-lying atoll nations like Kiribati and Tuvalu have soberly declared that their peoples may become de facto climate refugees (Yarina, 2017), Fiji has repeatedly and magnanimously extended an offer of refuge. In 2014, Fiji's then-President announced that the nation would unequivocally welcome citizens of Kiribati and Tuvalu should their islands become uninhabitable (Liljas, 2014; McAdam, 2014). This offer, while undeniably fraught with logistical and legal complexities, represents a profound and audacious statement of regional solidarity. It preemptively frames climate mobility not as an unmanaged immigration crisis, but rather as an inherent humanitarian responsibility deeply rooted in a shared Pacific identity, or mana. As described in the works of scholars like (Gelves-Gómez and Brincat, 2021; Raisele et al., 2025; Sutton, 2013; Yee et al., 2022) *mana* is not a static quality but a dynamic, sacred, and spiritual efficacy that is inherent to the land and its people, endowing them with the authority and effectiveness to act and influence. This pervasive ethos of regional leadership provides the moral foundational gravitas for the Geopolitical Acupuncture strategy (Farbotko, 2010), we will meticulously explore in a subsequent section.

4.1 The carbon paradox: Fiji's moral authority and norm entrepreneurship

Fiji's proactive and pioneering stance on climate resilience gains profound ethical and strategic significance when viewed through the lens of its little proportion in total world emissions of greenhouse gases (GHGs). Despite being an insignificant emitter, its voice reverberates with an amplified moral clarity, contrasting sharply with the often-tepid responses of high-emitting industrialized nations. This section explores how this inherent carbon paradox imbues Fiji with epistemic authority and positions it as a critical norm entrepreneur in the global climate arena, actively shaping the discourse on the decarbonization imperative and advancing the Sustainable Development Goals (SDGs).

While precise figures fluctuate, Fiji's annual carbon dioxide equivalent (CO_2) emissions are orders of magnitude smaller than those of major industrial powers, contributing less than 0.01% to global emissions (EDGAR, JRC, and IEA, 2024; López et al., 2023). Nevertheless, it disproportionately suffers most drastically from global warming impacts, emphasizing the essential inequity at the heart of the climate crisis. The stark disparity grants Fiji and indeed many SIDS, an unparalleled moral standing on the global stage, enabling its diplomats to advocate not from a position of economic might, but from existential necessity and ethical conviction. This moral authority becomes a powerful diplomatic instrument, leveraging a sense of shared human vulnerability to catalyze collective action (Casimira, 2021; Joffytė, 2018).

The stark asymmetry between climate responsibility and climate vulnerability is further illuminated when examining the primary factors underlying climate risk dynamic. The ND-GAIN Index, a comprehensive assessment tool developed by the University of Notre Dame, evaluates climate risk by disaggregating it into two key metrics: Vulnerability (Climate hazard exposure and adaptive capacity deficit) and Readiness (its capacity to leverage investments for adaptation).

TABLE 1 The carbon paradox: emissions responsibility vs. climate vulnerability.

Country	Total GHG emissions ($MtCO_2e$/year)	*Per Capita* Emissions (tCO_2e)	ND-GAIN vulnerability score*	ND-GAIN readiness score**	ND-GAIN quadrant and description
Fiji	~2.2	~2.4	0.457	0.475	Upper-Right (High Vulnerability, High Readiness)
Tuvalu	<0.01	<0.1	0.580	0.623	Upper-Right (Extreme Vulnerability, Very High Readiness)
China	~13,260	~9.4	0.353	0.557	Lower-Right (Low Vulnerability, High Readiness)
USA	~4,682	~14.0	0.298	0.651	Lower-Right (Low Vulnerability, High Readiness)
Germany	~583	~7.0	0.299	0.689	Lower-Right (Very Low Vulnerability, Very High Readiness)

*Vulnerability reflects exposure, sensitivity, country's resilience to climate-related impacts; Higher susceptibility is indicated by higher scores. **Readiness indicates the capacity of a nation to transform investments into adaptive measures across key sectors; higher scores mean greater readiness. Source: Emissions Data (World Bank Group, 2023), Vulnerability Fata (Notre Dame Global Adaptation Initiative, 2024).

This profound disparity is starkly illustrated when national emissions data is cross-referenced with these core metrics, as detailed in Table 1.

Table 1 demonstrates a stark, inverse relationship between a nation's responsibility for causing global warming and its exposure to the associated risks. Nations like Fiji and Tuvalu, with virtually nonexistent emissions profiles, face disproportionately high vulnerability scores (0.457 and 0.580, respectively). Crucially, however, the data also reveals their remarkable readiness to act (0.475 and 0.623), a quantitative testament to their proactive governance and institutional capacity. Conversely, high-emitting nations like the USA and Germany, despite contributing orders of magnitude more to historical and current emissions, are shielded by exceptionally low vulnerability scores (both below 0.300), while possessing the highest readiness. This quantifiable climate injustice, the chasm between culpability and precarity is the very foundation from which Fiji's moral authority and pioneering resilience strategies emerge.

Unlike many larger nations whose climate actions are frequently perceived as reactive or constrained by entrenched economic interests, Fiji consistently demonstrates an antecedent commitment to climate action that transcends mere compliance. Its swift ratification of the Paris Agreement (Ourbak and Magnan, 2018), its ambitious Nationally Determined Contributions (NDCs) (Fiji Ministry of Economy, 2021) and its proactive domestic legislation for instance the enacted 2021 Act on Climate Change, provide a legal basis for climate action (Republic of Fiji, 2021a) signal a seriousness of intent and a depth of societal integration rarely observed in countries with vastly greater resources. This commitment is not merely rhetorical; it is embodied in tangible frameworks and policies that systematically correspond with and actively advance the international framework for objectives on the SDG goals of United Nations. For instance, while its direct climate actions advance SDG 13 (Climate Action), its strategic emphasis on the Ocean-Climate Nexus simultaneously promotes SDG 14 (Life Below Water) (Foerster et al., 2024; Stow, 2017). Furthermore, its pioneering human rights-based relocation framework (Fiji Ministry of Economy, 2018) embodies the principles of justice inherent on Goal 16 of the Sustainable Development Goals, centered on peace, justice, and institutional strength, and its broader diplomatic leadership exemplifies the spirit of the seventeenth Sustainable Development Goal (SDG 17), focusing on global partnerships (Künzel et al., 2017; Oxford Analytica, 2017). By demonstrating that proactive, integrated climate action is feasible and imperative even for the most vulnerable, Fiji sets a crucial precedent, challenging the conventional wisdom that climate leadership is solely the prerogative of economic powerhouses and acting as a potent change agent that raises the standard for international responsibility and aspiration. The global pressures outlined in Section 3 and the regional sociocultural dynamics discussed in Section 4 represent two of the major thematic clusters identified in the review. These contextual layers form the interpretive foundation for the model, since the literature consistently situates Fiji's governance innovations within the intersection of global asymmetries, Pacific regional solidarity, and indigenous worldviews. These contextual patterns directly informed the organization of the four pillars, which collectively synthesize the nature of Fiji's response across diplomatic, ecological, financial, and social domains (Table 2).

5 Deconstructing the archipelagic resilience model: pillars of proactive adaptation

The systematic analysis produced a coherent set of thematic clusters that align with four consistently recurring domains in the evidence base. These domains were identified through the iterative coding of the review corpus and validated through bibliometric keyword networks from Scopus and Web of Science. The analytical convergence across diplomacy, indigenous and scientific knowledge integration, climate finance architecture, and human rights-based mobility provided the foundation for synthesizing the Archipelagic Resilience Model. This model is not an official government designation. It is an inductive analytical construct developed to organize and interpret the integrated and multi-scalar nature of Fiji's climate governance.

As illustrated in Figure 6, the Archipelagic Resilience Model arranges Fiji's response across four interlinked pillars that reflect the dominant clusters observed in the evidence. Pillar I, Geopolitical Acupuncture, represents Fiji's strategic engagement within global and regional climate diplomacy. Pillar II, Braided Resilience, captures the synthesis of indigenous knowledge

TABLE 2 Illustrative examples of braided resilience projects in Fiji.

Project type	Indigenous knowledge component	Scientific/modern component	Key benefits	Examples of adaptation sites
1. Mangrove Restoration	Traditional planting techniques, *Vanua* land stewardship	Species selection (salinity tolerance), hydrological modeling	Coastal defense, fish nursery habitats, carbon sequestration	Vunisinu, Rewa; Navakavu, Viti Levu
2. *Qoliqoli* Management	Customary marine tenure, traditional fishing methods, taboo systems	Marine biology surveys, fish stock assessments, conservation zones	Enhanced food security, biodiversity, sustainable fisheries	Naiqoro Passage, Kadavu; LMMA Network across Fiji
3. Community Water Security	Traditional water harvesting, spring protection rituals	Rainwater harvesting tech, filtration systems, GIS mapping	Freshwater access, drought resilience, public health	Rural communities in Ra and Ba Provinces
4. Relocation Site Planning	*Bula vakavanua* (holistic well-being), community consensus	Geohazard mapping, structural engineering, infrastructure design	Physical safety, cultural continuity, improved amenities	Vunidogoloa, Vanua Levu; Narikoso, Ono Island

Source: Fiji Ministry of Economy (2018), Govan et al. (2008), and Nunn et al. (2021).

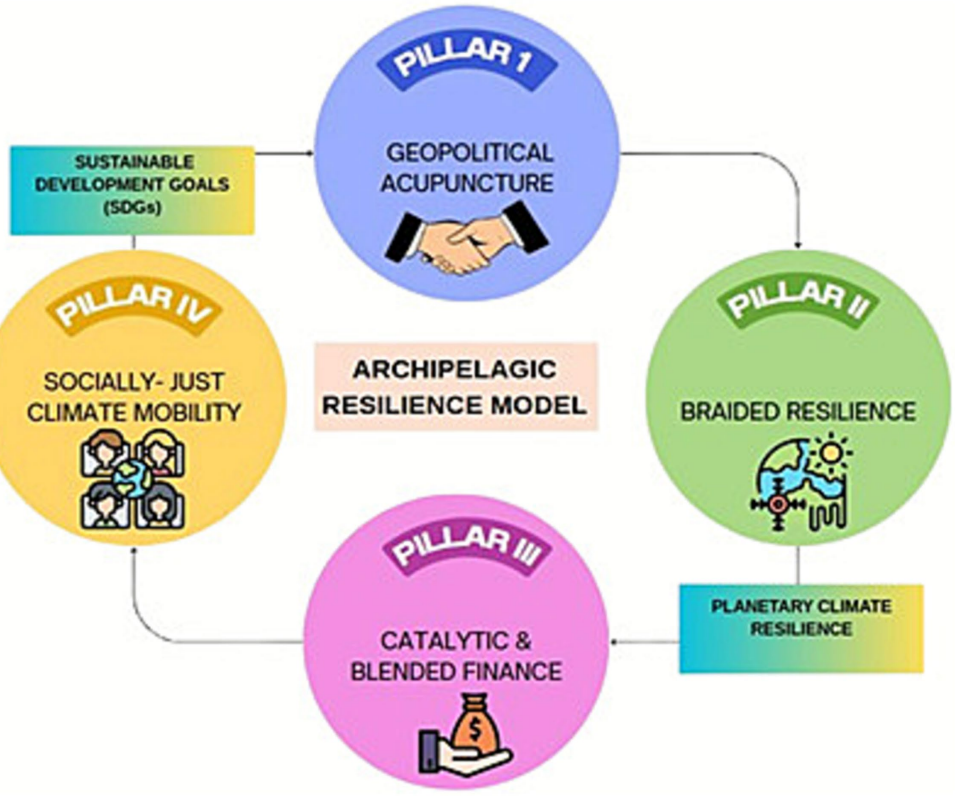

FIGURE 6
The archipelagic resilience model—a framework for integrated climate governance.

systems with contemporary scientific methodologies. Pillar III, Catalytic and Blended Finance, reflects the financial instruments and institutional arrangements that enable multi-level implementation. Pillar IV, Socially Just Climate Mobility, describes the rights-based framework guiding relocation and human mobility policies.

The diagram shows the interdependencies among these pillars, including the way diplomatic influence enhances financial inflows, how financing supports community-based and knowledge-braided adaptation, and how successful implementation feeds back into global advocacy and legitimacy. These interactions are derived from patterns documented in literature rather than from speculative assumptions. Taken together, the four pillars represent an empirically grounded synthesis of Fiji's climate governance architecture and its contribution to broader planetary climate resilience and the advancement of the Sustainable Development Goals.

5.1 Pillar I: geopolitical acupuncture – precision diplomacy on the global stage

Fiji has masterfully executed geopolitical acupuncture: the precise and strategic application of its comparatively limited, yet highly concentrated, diplomatic and moral leverage to exert disproportionate influence within the complex architecture of global climate governance. This strategy leverages the ethical imperative of climate vulnerability to amplify its voice.

5.1.1 The transformative COP23 presidency and the Talanoa dialogue

Fiji's presidency of COP23 in Bonn, Germany, represented an unequivocal watershed moment. Rather than attempting to mimic the sheer logistical scale and conventional diplomatic modalities of a larger nation-state, Fiji strategically imported its most invaluable indigenous asset: its profound cultural tradition of inclusive dialogue. The Talanoa Dialogue was formally integrated into the UNFCCC process, fundamentally reorienting confrontational negotiation towards a collaborative space for shared storytelling, empathetic listening, and solution-oriented exchange (UNFCCC, 2018; Winkler and Depledge, 2018). Rooted in Pacific traditions of fostering consensus without attribution of blame, Talanoa proved instrumental in sustaining critical momentum for the Paris Agreement Rulebook and cultivating a much-needed spirit of cooperative ambition (Bolanavanua, 2017; Ruggieri, 2025). This stands as a compelling demonstration of how the software of cultural diplomacy can exert a more potent influence than the conventional hardware of geopolitical might.

5.1.2 Championing the ocean-climate Nexus: a Blue climate paradigm

Fiji has positioned itself as a relentless and vociferous advocate for the inextricable integration of ocean health into the very core of global climate negotiations. By strategically co-hosting the UN Oceans Conference and championing the pivotal "*Because the Ocean*" declaration, Fiji has successfully compelled the global community to

recognize that a stable climate equilibrium is fundamentally unattainable without a healthy and resilient ocean (ESCAP, 2022; Gattuso et al., 2018). This profound strategic linkage ensures that issues intrinsically critical to SIDS such as marine biodiversity conservation, sustainable fisheries management, and the alarming realities of ocean acidification are no longer marginalized as peripheral environmental concerns but are elevated to central climate imperatives (Stow, 2017).

5.1.3 Leading the "high ambition coalition

Moral Authority for Planetary Limits: Fiji has consistently and unequivocally utilized its influential platform within the High Ambition Coalition in conjunction with Alliance of Small Island States in promoting most stringent global mitigation targets, particularly the indispensable 1.5 °C warming limit (Carter, 2020; Vaha et al., 2024). This advocacy is framed not as a mere preferential policy stance, but as a non-negotiable existential survival threshold, thereby imbuing its diplomatic efforts with unparalleled moral urgency and ethical gravitas (Ourbak and Magnan, 2018).

5.2 Pillar II: braided resilience – synergizing iTaukei epistemologies with climate science

Fiji's domestic adaptation strategy is uniquely distinguished by its formal, legally enshrined integration of indigenous knowledge systems with cutting-edge modern science, a sophisticated process we characterize as braiding two profoundly powerful and complementary epistemologies (Nursey-Bray et al., 2022). This braiding goes beyond superficial consultation to a deep co-production of actionable knowledge.

5.2.1 The legal mandate for epistemological integration

The profound foundational 2021 Climate Change Act serves as the legislative cornerstone for this pillar. Section 13 explicitly mandates the use and protection of traditional and indigenous knowledge" and its systematic integration into all strategic adaptive pathways to minimize the risk of climate impact (Republic of Fiji, 2021a). This represents a progressive legislative leap, transcending tokenistic engagement to legally empower indigenous knowledge systems as a core, indispensable component of national policy and practice.

This legal framework is operationalized through key policy instruments that actively promote climate justice. Fiji's National Climate Change Policy (Ministry of Economy, 2018) provides the overarching strategic direction, explicitly recognizing the critical role of traditional knowledge in building a climate-resilient nation. Furthermore, the collaborative development of the iTaukei Glossary of Climate Change Terms, or *Vosaqali ni Draki Veisau* (Ministry of iTaukei Affairs, 2020), represents a practical tool for climate justice. By providing culturally relevant translations for complex scientific terminology, the glossary enhances the accessibility and agency of iTaukei communities, empowering local understanding and meaningful participation in adaptation planning (see Appendix).

5.2.2 The Vanua worldview in praxis

This progressive legal mandate is intrinsically animated by the iTaukei (indigenous Fijian) concept of Vanua, a profound and holistic worldview that posits an indivisible continuum between the land, the sea, the human community, and spiritual identity (Nunn et al., 2024; Nunn et al., 2021; Ravuvu, 1983).

Building on the foundational work of scholars like (Nabobo-Baba, 2006), the *vanua* is understood not simply as land, but as a holistic, living entity encompassing the land, sea, sky, ancestral spirits, and all living things, including the community. It is the ultimate source of identity, belonging, and wellbeing, where the health of the people is inextricably linked to the health of the ecosystem (Raisele et al., 2025).

In tangible, practical terms, this worldview directly translates into adaptation projects that are inherently ecosystem-based and culturally congruent. For instance, the revitalization and restoration of traditional community fishing grounds (Qoliqoli) (Rabukawaqa, 2018), typically involve multifarious interventions: the strategic replanting of resilient mangrove forests (serving as natural bio shields) (Devi and Holland, 2024), the proactive restoration of degraded coral reefs (thereby enhancing both food security and natural wave attenuation)(Singh et al., 2021), and the holistic management of interconnected coastal watersheds, all rigorously guided by extant traditional governance structures and customary laws (Govan et al., 2008).

5.2.3 Co-production of knowledge: bridging disciplinary divides

This braided approach actively fosters a genuine co-production of knowledge, where revered community elders, possessing deep, place-based ecological knowledge accumulated over generations, work in synergistic collaboration with climate scientists, engineers, and policy experts. This ensures that implemented adaptation measures are not merely technically sound but are also profoundly culturally resonant, inherently socially accepted, and significantly more likely to be sustained and maintained by the community over the protracted long term (Orr et al., 2021).

5.3 Pillar III: catalytic and blended finance—mobilizing capital for the climate frontline

Cognizant that ambitious climate action necessitates commensurate financial capitalization, Fiji has proactively transformed itself into a dynamic laboratory for innovative financial mechanisms. It seeks to transcend the traditional paradigm of being a mere recipient of international aid to becoming a self-determined agent of its own financial destiny in the climate arena. Pioneering Sovereign Climate Bonds: Market-Based Resilience: In 2017, Fiji achieved a significant global first by becoming the inaugural developing economy to initiate the sovereign green bond, followed by the truly groundbreaking issuance of a sovereign blue bond (ADB, 2022; World Bank Group, 2017). These innovative financial instruments strategically leverage nascent private capital markets to directly fund projects aligned with Fiji's national climate and environmental objectives. This encompasses a broad spectrum of initiatives, ranging from the strategic deployment of cutting-edge renewable energy infrastructure coupled with adaptive, climate-resilient water management system to the establishment and sustainable management of vital marine protected areas. This represents a crucial strategic diversification of financial sources, moving beyond the often slow, prescriptive, and bureaucratic channels of traditional multilateral climate funds.

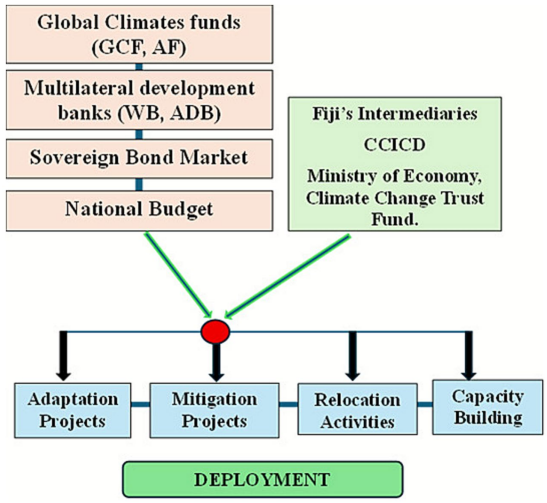

FIGURE 7
Conceptual flow of climate finance within Fiji's archipelagic resilience model. Source: Republic of Fiji (2021a), Robinson and Dornan (2017), and World Bank Group (2023).

As visualized in Figure 7, climate finance is mobilized from international and domestic sources and routed through national institutions to mitigation, adaptation, planned relocation, and capacity-building activities. Capital is sourced from a diverse array of origins including established Green Climate Fund (GCF) and Adaptation Fund (AF), major Multilateral Development Banks such as the World Bank (WB) and Asian Development Bank (ADB), innovative market-based mechanisms like the Sovereign Bond Market (via green and blue bonds), and vital domestic contributions from the National Budget. These funds are then channeled and managed through Fiji's robust institutional architecture by the collaborative framework linking the Ministry of Economy, its International Cooperation Division, and the Climate Change Trust Fund. From this consolidated point, capital is strategically allocated to critical areas of climate action, encompassing direct investments in Adaptation Projects, Mitigation Projects, crucial Relocation Activities for communities facing unavoidable displacement, and broader Capacity Building efforts essential for sustained climate governance, thereby embodying the Catalytic and Blended Finance pillar of its Archipelagic Resilience Model.

5.3.1 Navigating the convoluted global climate finance architecture

Analogous to many other SIDS, Fiji confronts formidable systemic challenges in efficiently accessing and deploying funds from prominent climate funding bodies like the Green Climate and the Adaptation funds. There is ongoing critical scrutiny of the funds for their excessively burdensome application processes, rigid conditionalities, and an implicit bias towards large-scale, often conventional, infrastructure projects (Klöck et al., 2018; Robinson and Dornan, 2017). Fiji has proactively responded to these systemic impediments by robustly building and strengthening its domestic institutional capacity, exemplified by its dedicated Climate Change and International Cooperation Division (CCICD). This strategic capacity building enhances its ability to effectively attract, meticulously manage, and transparently report on these crucial international financial flows.

5.3.2 Domestic financial architecture: anchoring self-reliance

The seminal Climate Change Act (2021) goes further by establishing a dedicated national Climate Change and Relocation of Communities Trust Fund. This critical domestic mechanism is ingeniously designed to serve as a durable and predictable repository for a blended tapestry of funds sourced from international grants, judicious national budget allocations, and potentially future domestic levies. This creates a more predictable, transparent, and crucially, nationally controlled pool of capital specifically earmarked for critical adaptation interventions and planned relocation activities.

5.4 Pillar IV: socially-just climate mobility—a framework for dignified retreat

Confronted by the immediate and escalating reality of land loss in the light of global warming, Fiji is leading the way in a methodical, rights-based, and highly moral approach to the most sensitive and existentially challenging of all adaptations: planned relocation. This represents a departure from ad-hoc responses towards systematic anticipatory governance of displacement.

5.4.1 The world's first national planned relocation guidelines

A Human Rights Imperative: Transcending reactive, ad-hoc responses, Fiji meticulously developed and formally adopted comprehensive National Planned Relocation Guidelines. Uniquely, this pioneering framework is intrinsically anchored in foundational human rights principles, explicitly defining relocation not as a failure, but as a last-resort adaptation measure that must be undertaken in strict adherence to the principles of informed and prior consent of the affected community (Fiji Ministry of Economy, 2018). These guidelines provide an exhaustive and iterative process covering every critical aspect, from initial vulnerability assessment and judicious site selection to comprehensive livelihood restoration strategies and the paramount protection of profound cultural and spiritual heritage Bula vakavanua (holistic community wellbeing) (McMichael et al., 2025).

5.4.2 Navigating the uncharted: Vunidogoloa and the lived experience of climate relocation

The 2014 relocation of Vunidogoloa village constitutes a foundational and globally significant case study that underpins this framework. A critical synthesis of academic literature on this and subsequent relocations unveils invaluable lessons and persistent challenges.

Critically, this relocation occurred prior to the formalization of the National Planned Relocation Guidelines (2018) and the passage of the 2021 Climate Change Act. As such, Vunidogoloa served as a pioneering, real-world laboratory whose invaluable lessons both successes and challenges in navigating psycho-social impacts, livelihood transition, and social cohesion were instrumental in shaping the human rights-based policy framework that followed.

FIGURE 8
Simplified flowchart of Fiji's national planned relocation process. Source: Crutzen and Stoermer (2000), Fiji Ministry of Economy (2018), IPCC (2021), and NOAA (2023).

While relocations have demonstrably enhanced immediate physical safety, they frequently engender profound psycho-social impacts, notably solastalgia (the deep psycho-social distress and existential grief experienced from the loss of a cherished home environment and sense of place), significant difficulties in establishing viable new agricultural livelihoods, and potential strains on pre-existing social cohesion and community bonds (Baleinakorodawa and Boege, 2024; Farbotko, 2010; McNamara and Des Combes, 2015).

As summarized in Figure 8, Fiji's planned relocation process proceeds from vulnerability assessment and community consultation to site selection, infrastructure development, physical relocation, and post-relocation support. The process begins with a comprehensive Vulnerability Assessment to identify at-risk communities. This is followed by crucial Community Consultation, adhering to protocols that ensure the affected communities' prior and informed consent, a cornerstone of Fiji's human rights-based approach. Subsequently, Livelihood Restoration Planning is undertaken to safeguard economic wellbeing, running in parallel with rigorous Site Identification & Assessment to determine suitable new locations that consider both safety and cultural factors. Once a site is confirmed, Infrastructure Development for new housing and services commences. This leads to the Physical Relocation of the community, followed by sustained Post-Relocation Support & Monitoring to ensure long-term adaptation and wellbeing. This structured, iterative framework underscores Fiji's commitment to managing climate mobility proactively and with a profound respect for human dignity and cultural heritage.

5.4.3 A model for anticipatory climate-induced displacement management

By assiduously creating a formal, transparent, and iterative policy framework for planned relocation, Fiji is furnishing the global community with a pragmatic, working model for how to manage climate-induced displacement with inherent dignity and foresight. It critically shifts the prevailing paradigm from an unmanaged humanitarian crisis often characterized by forced migration—to a planned, albeit inherently difficult, adaptation strategy guided by human rights and community agencies.

6 Synthesis and discussion: the interplay of pillars and the Anthropocene's paradoxes

The interactions among the four pillars of the Archipelagic Resilience Model reflect a combination of reinforcing dynamics and structural tensions that are documented across the reviewed literature. The strength of the model arises not from the independent function of each pillar but from the way diplomacy, knowledge systems, finance, and mobility policies intersect within Fiji's climate governance architecture. Strategic diplomacy in Pillar I enhances Fiji's visibility within global climate arenas, which several studies identify as a contributing factor to improved access to climate finance and partnership opportunities in Pillar III. These financial resources support adaptation and resilience initiatives at national and community levels, including ecosystem restoration and relocation planning, which correspond to Pillars II and IV. Evidence also indicates that outcomes from community-based adaptation and mobility initiatives can inform future diplomatic narratives by demonstrating policy credibility and lived experience, although this influence is uneven and context dependent. The interactions therefore form a set of feedback pathways that are sometimes mutually reinforced and sometimes constrained by institutional, financial, or socio-cultural limitations.

6.1 Inherent tensions and policy paradoxes: navigating the trade-offs of adaptation

Despite its internal coherence and proactive design, the Archipelagic Resilience Model, and indeed the broader climate adaptation landscape, remains fraught with inherent tensions and profound policy paradoxes that are critical to acknowledge and rigorously interrogate:

6.1.1 The development-adaptation paradox

Economic Growth vs. Climate Imperatives: Fiji's macro-economy remains deeply reliant on international tourism, an inherently carbon-intensive industry, and it simultaneously continues to pursue traditional infrastructure development that can frequently be at cross-purposes with its stated long-term climate goals (Pratt, 2015; Scott et al., 2012). This creates a fundamental policy paradox where the very engine of economic development and prosperity can inadvertently undermine the nation's profound climate leadership and long-term resilience objectives. This tension necessitates a more rigorous analysis of decoupling growth from carbon intensity and exploring regenerative economic models.

6.1.2 The peril of maladaptation

The Unintended Consequences of Intervention: Not all adaptation interventions yield net positive outcomes. Poorly designed or inappropriately sited hard infrastructure, such as monolithic seawalls, can often exacerbate coastal erosion, disrupt natural hydrological processes, and inadvertently create a false sense of security, thereby leading to perverse maladaptive outcomes (Magnan et al., 2016; Moncada and Bambrick, 2019; Schipper, 2020). There exists a persistent and critical tension between the perceived urgency for

rapid, visible (but potentially harmful) grey engineering solutions and the slower, more integrated, and ecologically sensitive nature-based solutions. Quantifying this trade-off is paramount.

6.1.3 Equity and implementation gaps

Bridging Policy Ambition and Lived Reality: A significant and persistent gap frequently exists between the aspirational ambition of national policies and the practical capacity for their equitable and just implementation at the local community level (Betzold and Weiler, 2018; Klöck and Nunn, 2019). Pertinent questions of who disproportionately benefits from major adaptation projects, which communities are strategically prioritized for relocation, and how traditional ecological knowledge holders are appropriately compensated for their invaluable contributions are persistent and ethically charged challenges. This necessitates robust governance mechanisms and participatory frameworks to ensure distributive justice.

6.2 Transferability and scalability: the i-Sevu framework as a global offering

The i-Sevu Framework, Fiji's profound gift of accumulated knowledge and experience is emphatically not presented as a rigid, universally prescriptive template. Its underlying principles of integrated governance, however, are demonstrably and profoundly transferable across diverse geopolitical and socio-ecological contexts, a concept central to the study of policy mobility and institutional learning in climate adaptation (Lesnikowski et al., 2017). Indeed, the broader trend of Small Island Developing States moving beyond victimhood narratives to demonstrate remarkable agency and pioneering innovation is now well-documented (Thomas et al., 2020). SIDS have consistently acted as influential norm entrepreneurs in global climate negotiations, shaping outcomes that far exceed their geopolitical weight (Ourbak and Magnan, 2018). To underscore the shared context of their negligible contribution to global forcing alongside their collective commitment to decarbonization, Table 3 presents the most recent available annual CO2 emissions and key mitigation targets (from their Nationally Determined Contributions - NDCs) for Fiji and a selection of other highly vulnerable SIDS.

Mitigation targets sourced from (Government of Barbados, 2021; Government of Tuvalu, 2022; Republic of Fiji, 2021b; Republic Of Kiribati, 2022; Republic of Palau, 2015; Republic of Vanuatu, 2021).

Table 3 quantitatively demonstrates that, akin to Fiji, the vast majority of SIDS contribute imperceptibly to global anthropogenic greenhouse gas emissions, with all listed nations consistently recording annual CO2 emissions significantly below 2 million tons. This miniscule collective emission profile starkly contrasts with the multi-billion-ton emissions of major industrialized economies (as shown in Figure 2), underscoring a profound ethical asymmetry. Moreover, the table concurrently reveals that despite their negligible historical and current carbon footprint, these SIDS have committed to highly ambitious Nationally Determined Contributions (NDCs) for mitigation. Their targets, ranging from 100% renewable energy transitions to substantial economy-wide greenhouse gas reductions by 2030, collectively position SIDS as proactive leaders in global decarbonization efforts, often setting more ambitious goals relative to their economic capacity than many high-emitting nations. This dual commitment – low emissions combined with ambitious targets – further amplifies their moral authority in demanding greater accountability and accelerated climate action from those most responsible for the climate crisis.

TABLE 3 Annual CO_2 emissions and key mitigation targets for select small island developing states.

Country	Annual CO_2 emissions including land use change (million tons)	Key mitigation target (NDC 2030 Goal/long-term ambition)
Fiji	1.40	30% unconditional/50% conditional reduction by 2030 (vs. 2013); by 2050, achieve net-zero.
Tuvalu	0.01	100% renewable energy for electricity by 2025; Reduce 60% GHG reduction by 2030.
Kiribati	0.07	100% renewable electricity by 2025 (conditional); various sector-specific targets.
Vanuatu	−0.09	100% renewable electricity by 2030; 30% GHG reduction below BAU by 2030.
Palau	0.22	By 2025, lower emission levels of greenhouse gases by 20, 45% conditional 2030 goals with net-zero by 2050.
Barbados	1.16	70% economic GHG reduction by 2030 (conditional); Carbon neutral by 2050.

Source: Emissions statistics sourced from Our World in Data (Ritchie et al., 2023).

For instance, while Palau has distinguished itself through unparalleled ocean conservation initiatives and advanced blue economy frameworks, foregrounding the intrinsic link between marine ecosystems and national resilience (Government of Palau, 2015), Vanuatu has emerged as a formidable advocate for global climate justice, spearheading critical discussions on the operationalization of a Loss and Damage Finance Facility while simultaneously implementing robust community-based adaptation projects (Republic of Vanuatu, 2021) and Barbados has championed systemic reforms in international climate finance, notably through its influential Bridgetown Initiative, advocating for a more equitable and accessible global financial architecture for climate action (Persaud, 2022). These diverse and impactful efforts collectively underscore a pervasive SIDS commitment to proactive and innovative climate governance.

However, Fiji's singular distinction lies in its uniquely comprehensive and legislatively integrated Archipelagic Resilience Model. Unlike many commendable efforts that, by necessity, often focus on specific facets of climate action (e.g., a particular financial instrument, a singular adaptation project type, or a focused diplomatic push), Fiji has meticulously engineered a coherent, mutually reinforcing architecture encompassing all four pillars: principled diplomacy (Hasenkamp and Worliczek, 2018; Klöck and Nunn, 2019), braided knowledge systems, catalytic finance, and human rights-based mobility. The unparalleled institutionalization of this synergy, formally mandated through groundbreaking national legislation of 2021 Act on Climate Change (Republic of Fiji, 2021a), sets Fiji apart. This

holistic and deeply embedded approach provides granular insights for other vulnerable nations seeking to transcend fragmented interventions, offering a pragmatic blueprint for integrated climate governance where each component amplifies the efficacy of the others. The strength of this comprehensive model enhances not only Fiji's intrinsic resilience but also its amplified capacity for global advocacy, demonstrating that true planetary resilience necessitates such multi-scalar, synergistic frameworks (Thomas et al., 2020).

7 Future trajectories: an epistemic horizon for planetary resilience science

Fiji's pioneering experience, analyzed through the Archipelagic Resilience Model, illuminates a clear and urgent agenda for the next generation of climate adaptation research and interdisciplinary inquiry. This agenda is critical for translating observed successes into scalable and verifiable global solutions.

7.1 Quantifying the efficacy of braided systems

Beyond Anecdote to Empirical Validation: There is an exigent need for rigorous, interdisciplinary research to empirically quantify the long-term return on investment (social, ecological, and economic) of braided, nature-based adaptation solutions when rigorously compared to conventional, hard infrastructure-centric interventions, particularly within the unique and vulnerable socio-ecological contexts of SIDS. This requires sophisticated multi-criteria assessment frameworks.

7.2 Valuing the intangible: developing robust metrics for non-financial climate damage and loss

The growing crises of global warming, most poignantly manifested in relocation-induced solastalgia and the erosion of cultural heritage, urgently demand the development of novel metrics, innovative methodologies, and robust qualitative and quantitative frameworks. These are essential to properly understand, measure, and critically, to effectively integrate these non-economic losses and damage into both national climate policy formulations and emergent international climate finance frameworks, exemplified by the Loss and Damage Fund.

7.3 Analyzing the political economy of scalability

Pathways to Replicate Success: Future research must meticulously interrogate the complex political, institutional, and economic conditions that either enable or constrain the successful scaling and replication of innovations like sovereign blue bonds and comprehensive national relocation frameworks across a broader spectrum of developing country contexts. This requires a granular understanding of power dynamics, governance structures, and financial ecosystems.

8 Conclusion: the resonant Echo from the Anthropocene's frontline

Fiji's multifaceted journey in the unfolding climate crisis constitutes a powerful and compelling refutation of deterministic narratives of victimhood. It unequivocally demonstrates that the nation's most critically susceptible to the destabilizing forces of anthropogenic climate risks can simultaneously emerge as the most innovative, pragmatic, and courageously proactive in confronting this existential threat. The Archipelagic Resilience Model, forged in the crucible of profound precarity and existential necessity, represents a coherent, integrated, and anticipatory system of multi-scalar governance for the complex epoch of the Anthropocene. While Fiji undeniably grapples with its own inherent contradictions and the overwhelming, systemic scale of the global climate problem, its pioneering experience provides an indispensable blueprint for proactive adaptation. It is a resonant echo from the frontline of climate change, a persistent chorus from the global canary, offering not merely a dire warning of the catastrophic future we must assiduously avoid, but, more profoundly, presenting a viable and empirically informed working model of the resilient, just, and collectively determined future we must collaboratively build.

Data availability statement

The original contributions presented in the study are included in the article/Supplementary material, further inquiries can be directed to the corresponding authors.

Author contributions

SK: Conceptualization, Investigation, Methodology, Writing – original draft, Writing – review & editing, Formal analysis. B-WY: Conceptualization, Resources, Supervision, Validation, Writing – original draft, Writing – review & editing. HS: Investigation, Validation, Visualization, Writing – original draft, Writing – review & editing. DK: Conceptualization, Investigation, Visualization, Writing – original draft, Writing – review & editing.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Generative AI statement

The author(s) declare that Generative AI was used in the creation of this manuscript. During the preparation of this work, the author(s) used Quilbot for language proofing and enhancement. The purpose of these tools was to improve readability, coherence, and language quality. Importantly, no new content was generated using these artificial intelligence tools. Following their use, the author(s) diligently reviewed and edited the content as necessary, thereby assuming full responsibility for the content of this publication.

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Supplementary material

The Supplementary material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fclim.2025.1707039/full#supplementary-material

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Appendix

Glossary of iTaukei (Fijian) terms

This glossary provides definitions for key Vosa Vakaviti (indigenous langauge) terms used throughout this manuscript. The concepts are foundational to understanding Fiji's unique approach to climate governance and resilience, and the definitions are provided within that context.

Term (Fijian)	Simple Pronunciation	Definition and Context in this Manuscript
Bula vakavanua	(Boo-lah vah-kah-vah-noo-ah)	A profound concept meaning **holistic, communal wellbeing rooted in the vanua**. It translates literally to "life in the way of the land." In the context of the National Planned Relocation Guidelines, it is the overarching goal: ensuring that relocated communities not only survive but thrive physically, culturally, and spiritually.
iSevu	(ee-Seh-voo)	The **offering of the first fruits** of a harvest, catch, or endeavor to a chief or elder. As a verb, it is the act of gifting this offering. It symbolizes respect, reciprocity, and a request for blessings. It has been chosen as the title for this paper's proposed framework to represent Fiji's experience as a foundational "offering" to global climate governance.
iTaukei	(ee-Tao-kay)	The **indigenous people of Fiji** and their associated language, culture, and social systems.
Mana	(Mah-nah)	A foundational concept in Pacific cultures denoting **inherent spiritual power, authority, and efficacy**. It is not simply power to command, but a sacred effectiveness that resides within the *vanua* and its leaders, enabling them to produce results and maintain balance. It provides the moral and spiritual authority for Fiji's regional leadership on climate action.
Qoliqoli	(Nggoh-lee-nggoh-lee)	The **traditional, customary fishing grounds of a community (vanua)**. This term encompasses not just the physical area but also the community's inherent rights and responsibilities to manage its marine resources, as has been practiced for generations through systems like temporary *tabu*.
Tabu	(Tam-boo)	The Fijian origin of the English word "taboo." It means **"sacred," "holy," or "forbidden."** In the context of resource management, a chief can place a temporary *tabu* on a *qoliqoli* area, prohibiting fishing to allow stocks to recover. This is a key example of traditional ecological knowledge being used for conservation.
Talanoa	(Tah-lah-noah)	A traditional Pacific style of dialogue based on **inclusive, participatory, and non-confrontational storytelling**. Its purpose is to build empathy and consensus. Fiji successfully integrated the "Talanoa Dialogue" into the UNFCCC process during its COP23 Presidency to foster a more collaborative spirit in global climate negotiations.
Vanua	(Vah-noo-ah)	A cornerstone of the iTaukei worldview, the *vanua* is far more than just "land." It is a **holistic, living entity that encompasses the land, the sea, the sky, ancestral spirits, and the people, all bound in a relationship of mutual belonging and dependence**. The health of the *vanua* is inseparable from the health of its people, making it the epistemic foundation for Fiji's ecosystem-based adaptation strategies.
Vinaka vakalevu	(Vee-nah-kah vah-kah-leh-voo)	The formal Fijian phrase for **"Thank you very much."** It is typically used as a response upon receiving something, which is why the more proactive term *iSevu* (an offering) was deemed a more appropriate title for the framework.
Vosaqali ni Draki Veisau	(Voh-sah-ngah-lee nee Drah-kee Vay-sow)	The official iTaukei name for the **"Glossary of Climate Change Terms."** This document is a critical tool for climate justice, as it empowers iTaukei communities to understand and participate in climate action discourse using their own language and cultural concepts.