

## Article

# Climate-Induced Non-Economic Loss and Damage: Understanding Policy Responses, Challenges, and Future Directions in Pacific Small Island Developing States

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**Abstract:** Despite mitigation and adaptation efforts, the residual risks of climate change will continue to impact the most vulnerable communities globally. Highly exposed regions, such as the Pacific Islands, will continue to experience profound negative loss and damage as a result of climate change, which will challenge current ways of life. Knowledge on the extent to which regional and national climate change policies can identify and respond to non-economic loss and damage (NELD) is limited. From the perspectives of stakeholders in the Pacific Islands region, this research aims to gain insights into how regional and national policies are responding to NELD, as well as the barriers, shortcomings, and requirements for future responses. Utilising a mixed qualitative–quantitative approach, this research explores the perspectives of expert informants, including those from the government, donors and development partners, civil society, intergovernmental organisations, and other relevant bodies, such as universities. The key findings of this study indicate that current policy responses include a regional policy that integrates disaster and climate change losses, national efforts to preserve traditional and local knowledge, national adaptation and resilience planning, community-based projects, and relocation and resettlement. Additionally, NELD is a relatively new concept for policymakers, practitioners, and researchers, and it is difficult to conceptualise the diversity of issues related to NELD in the region. Owing to this poor understanding, a key gap relates to the dominance of the economic lens when characterising climate-induced impacts in the region. As such, there is a limited holistic consideration of climate change impacts, and thus a limited appreciation of the interrelated factors of NELD within policy responses that then cascade towards communities. Finally, the paper outlines key policy insights as follows: policies on integration, adaptation, resilience planning, relocation and resettlement have advanced; the economic lens dominates when characterising climate-induced impacts on the region; there is a limited appreciation of the interrelated factors of NELD; and there exists a need to account for residual and intangible losses to land, culture, traditional knowledge, biodiversity, ecosystem services, and human agency. The insights gained from this research can provide a practical basis for guiding local to regional action and help support and design comprehensive risk management solutions in order to address NELD associated with climate change.



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## 1. Introduction

Loss and damage caused by climate change is already occurring and expected to accelerate as climate change worsens and tipping points in socio-economic and ecological systems are reached [1–5]. On top of the COVID-19 pandemic’s devastating socioeconomic

consequences, the negative impacts of climate change exacerbate the existing vulnerabilities of small island communities, resulting in irreversible loss and damage. Failure to address climate-driven loss can “trap populations in a state of vulnerability”, occasioning a downward, cascading spiral of impacts and losses [6]. Tackling soft limits and climate-driven loss is, therefore, a critical prerequisite for achieving successful adaptation [1,7].

Research on loss and damage has had a long genealogy, while empirical studies related to climate change specifically have only proliferated in the last decade see review by [8]. In terms of governance efforts to respond to loss and damage in practice, there has been a tendency to focus on loss and damage that is easily quantified and monetised [9]. A more recent concept is that of non-economic loss and damage (NELD)—that is, those losses faced by individuals, society, or the environment in the face of climate change, which are irreducible to economic terms [10]. Although research on NELD has focused on health, climate-induced mobility, the loss of cultural heritage and biodiversity, there is limited in-depth understanding of the policy responses developed in order to address NELD [11–13]. Due to being a relatively novel concept with complexities in terms of valuation and quantification [6], it is only recently that there has been growing understanding of NELD and how it can be prevented, minimised, and addressed [14]. Tschakert and others (2019), for example, conducted a global systematic analysis of climate-related intangible harm and found that losses ranged from culture and traditions, physical and mental health, a sense of place and social fabric, as well as identity and dignity, among others [15]. In order to better plan for loss and damage holistically and ensure that future planning and decision-making is not skewed towards quantifiable losses and damages, this body of knowledge on NELD must continue to grow [16–18].

Alongside the growing scholarship, the global policy landscape has been responding to NELD. The Paris Agreement lays out a dedicated provision that aims to help parties avert, minimise, and address the loss and damage associated with the adverse effects of climate change. It formalises the Warsaw International Mechanism (WIM) for loss and damage as the mandated institutional mechanism and platform under the United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement, to address loss and damage [19]. Of particular importance to vulnerable countries is Article 8(4) of the Paris Agreement, which provides a non-exhaustive list of eight areas of cooperation and facilitation to enhance understanding, action, and support; through this, the parties involved in the Paris Agreement can aim to avert, minimise, and address loss and damage [20]. The focus on NELD, as a key area of the global response to climate change, is of particular importance to Small Island Developing States (SIDS). The WIM has tasked an expert group with identifying ways to characterise and address NELD, with a key emphasis being on understanding regional dimensions and policy responses. The UNFCCC’s 27th Conference of the Parties in Egypt in 2022 (COP27) concluded with establishing the operationalisation and structure of the Santiago Network, which aims to provide technical assistance to vulnerable countries [21]. COP27 acknowledged existing funding gaps given the scale of current and future climate change impacts and indicated that new funding arrangements are required to provide action and support in response to loss and damage [21]. As such, COP27 agreed to establish new funding arrangements, and a fund for responding to the scale of socio-economic loss and damage in developing countries, which are particularly vulnerable to the adverse effects of climate change [22].

This paper examines policy responses, policy gaps and barriers, and provides some policy directions for overcoming these gaps and barriers to avert, minimise, and address the adverse impacts of NELD in the context of Pacific SIDS. The Pacific Islands are a critical region of focus as they are at the frontlines of climate change impacts and responses [23]. A series of economic losses and damages, and to a lesser extent, NELD, have already been documented across a range of domains in this region [5,24]. McNamara and others (2021), for example, conducted a systematic literature review to summarise NELD in five key interdependent domains: human mobility and territory, cultural heritage and Indigenous knowledge, life and health, biodiversity and ecosystem services, and a sense of place and social cohesion [25]. We build on this research by exploring how planning

and organisational responses to NELD are approached from the perspectives of expert stakeholders in the Pacific Islands region.

## 2. Policy Context: Pacific Regional Governance Framework and Policies

The Pacific Islands' leaders in 2016 endorsed the region's first integrated framework, the Framework for Resilient Development in the Pacific (FRDP), as an overarching policy for managing and governing climate change and disaster-related risk in the context of economic development and the achievement of the Sustainable Development Goals (SDGs). Unlike the 2015 Paris Agreement, the FRDP has a broader coverage of climate and disaster-induced loss and damage, such as displacement, declines in food security, progressive long-term degradation of social and economic systems, land degradation, the loss of the natural environment and critical ecosystems (e.g., coral reefs), and loss and damage to subsistence and livelihoods. Two of the three key goals of the FRDP aim to "prevent the creation of new risks or loss and damage" and "reduce undue human losses and suffering" [26]. The FRDP prioritises 11 key voluntary actions for national and sub-national governments, civil society, the private sector, regional organisations, and other development partners to address the loss and damage caused by climate change and disasters, forced displacement, relocation, and migration [26]. There are specific actions that target addressing human losses, inclusive of economic and non-economic losses, displacement and migration, water and food insecurity, and the loss of health and educational opportunities resulting from both rapid- and slow-onset events.

Essential to the governance and implementation of FRDP is the Pacific Resilience Partnership (PRP), a taskforce established to provide strategic advice and implementation oversight of the FRDP, and which provides an annual update to the Forum Island Leaders on its implementation [27]. The establishment of the PRP brings together climate and disaster risk reduction (DRR) practitioners, government agencies, development partners and beneficiaries in the region. Under the auspices of the PRP, several technical working groups have been established that serve as a platform for information exchange, communications, risk financing and insurance. Through the Pacific Meteorological Council (affiliated with PRP and FRDP), several panels have been set up, including hydrology, climate information, DRR and early warning and preparedness. Given the significance of human mobility concerns in the FRDP, a Technical Working Group (TWG) on Human Mobility was formed to enhance the coordination of related initiatives and voluntary actions. The TWG is a key regional expert platform established to support governments and partners in order to address loss and damage issues in relation to migration, displacement, and planned relocation [28].

There are growing efforts by Pacific Island Leaders to reduce the negative impacts of climate change and seize opportunities by integrating climate change into regional policies, plans and programmes. Region-wide co-ordination and integrated approaches are imperative to deal with the scale and urgency of the existential risk of climate change impact in the Pacific Islands. Complementary to the FRDP, other key regional policies, such as the 2050 Strategy for the Blue Pacific Continent (under development), 2014 Framework for Pacific Regionalism (replacing the Pacific Plan), and the 2018 Boe Declaration on Regional Security and its associated Action Plan, have advanced Pacific self-determination and climate change responses to the forefront of the regional security paradigm [29]. These policies have helped address vulnerabilities to climate change, disaster risk and economic shocks. The Boe Declaration elevates climate security as a strategic regional risk in light of observations made in the Pacific Islands that there is a limit to adaptation, and that losses are already happening in the Pacific region and climate change poses an "existential national security risk and threat to the livelihoods, security and well-being" of Pacific Islanders [27]. Within its strategic focal areas, the Boe Declaration prioritises actions to address non-economic losses, such as sovereignty and territorial integrity, the dignity and wellbeing of communities, biodiversity loss, environmental degradation, and resource scarcity.

### 3. Methods

Stakeholder perceptions play a key role in determining the different typologies that exist in the responses to climate change, including addressing loss and damage [30,31]. This study draws on a typology of loss and damage perspectives to analyse policy responses to NELD [32]. The framework [32] is a relevant framework for analysing qualitative and quantitative data on policy- and knowledge-related practices and interventions (e.g., finance, types of programmes and policy instruments) around the interconnected dimensions of NELD. This process involved coding and a content analysis of data related to the knowledge, experiences, and transdisciplinary practices of local stakeholders with regards to the non-economic dimensions of loss and damage in the Pacific Islands to assess the policy-relevant challenges, gaps, and barriers.

This study employed a survey that was carried out between 18 September and 30 October 2020 (see Supplementary Information Table S1 for template of the survey questionnaire). Mindful of the limitations to physical field work and interviews imposed by the COVID-19 pandemic, the survey was carried out online using the Checkbox survey software and followed ethical guidelines and approval from The University of Queensland (approval number 2020000640). The analysis was based on the responses of 42 stakeholders who had either experienced or worked directly with those impacted by climate-induced loss and damage in the Pacific Islands. The survey included a mix of 27 open-ended and closed-answer questions that aimed to understand experiences of NELD, policy responses, gaps and challenges at the national level and future policy directions to address NELD in the region.

Research participants were identified through online searches, referrals from professional networks in the region and snowballing. The sample size of the survey respondents included 17 women (40.5%), 23 men (54.8%), and 2 undisclosed (4.7%). Based on the country of origin, research respondents were from 12 countries in the Pacific region, with many stakeholders working in multiple locations in the region. Research participants (as country of origin) were drawn from Fiji ( $n = 13$ ), Cook Islands ( $n = 4$ ), Australia ( $n = 3$ ), Papua New Guinea ( $n = 3$ ), Samoa ( $n = 3$ ), Vanuatu ( $n = 3$ ), Federated States of Micronesia ( $n = 2$ ), Solomon Islands ( $n = 2$ ), American Samoa ( $n = 1$ ), New Caledonia ( $n = 1$ ) and others ( $n = 3$ ). However, several other Pacific Island countries were not represented by participants in this study, which remains a limitation. In total, 5 different stakeholder groups participated in the research: (1) local, national and regional government ( $n = 15$ ); (2) donors and development partners ( $n = 4$ ); (3) civil society (i.e., non-governmental organisations, faith-based organisations, community-based organisations, youth groups;  $n = 14$ ); (4) intergovernmental organisations, including regional agencies ( $n = 7$ ); and (5) relevant others (i.e., universities, student associations, research-based organisations;  $n = 2$ ).

Survey respondents were asked about three broad areas that related to NELD from the perspective of climate change in the Pacific Islands region: stakeholder roles and organisational responses; planning and policies for NELD in the region; and challenges and gaps in addressing NELD. Data gathered from the survey were complemented with participant observations that were gathered by the lead author during 5 virtual regional consultations and conferences held between September 2020 and June 2022, which were focused on Pacific resilience, displacement, adaptation, climate finance and COP26.

The data were anonymised and analysed to identify policy responses to address NELD, the current roles of stakeholders, and the challenges, gaps, and barriers to policy responses. Quantitative data were analysed using the Statistical Package for the Social Sciences (SPSS) (v27) and qualitative data were, using the NVivo software program and manual coding, analysed through content analysis to capture the key policy themes and narratives. The themes and narratives were then reviewed based on an analysis of the published and grey literature, as well as on reflections and observations collected from the virtual conferences and consultations.

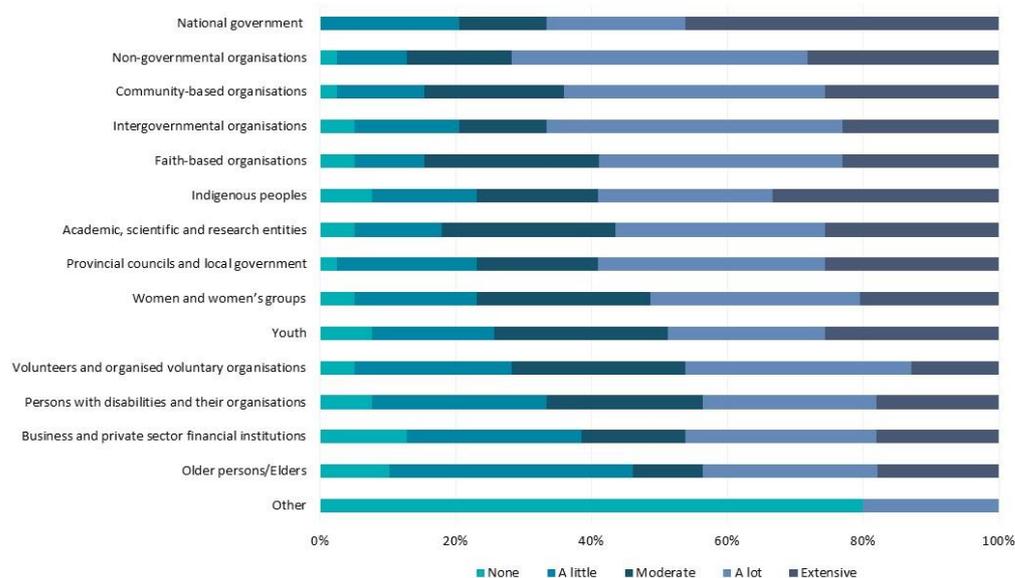
The sample included engagements with NGOs, government and regional organisations and development agency professionals. This enabled the research to draw on the

views of policymakers and practitioners engaged in climate change and DRR communities of practice to co-produce new knowledge and insights on NELD. It is important to highlight that this kind of ‘expert’ analysis cannot be completely objective given the diversity of ‘community’ experiences of NELD. Further investigation of NELD from the perspective of vulnerable communities would be a good basis for future research, requiring different methods and research questions.

## 4. Results

### 4.1. Stakeholder and Policy Responses

Respondents were asked to rate 15 groups of stakeholders and other bodies (on a scale of 1 = none, to 5 = extensive) that currently have a role in responding to, or helping people work through, NELD caused by climate change in the Pacific region (see Figure 1). The three most favourable groups of stakeholders involved in addressing NELD were as follows: the national government (mean = 3.92), non-governmental organisations (mean = 3.85) and community-based organisations (mean = 3.72). The three least favoured stakeholder groups were as follows: older persons (mean = 3.05), businesses and the private sector (mean = 3.13) and people with disabilities (mean = 3.21).

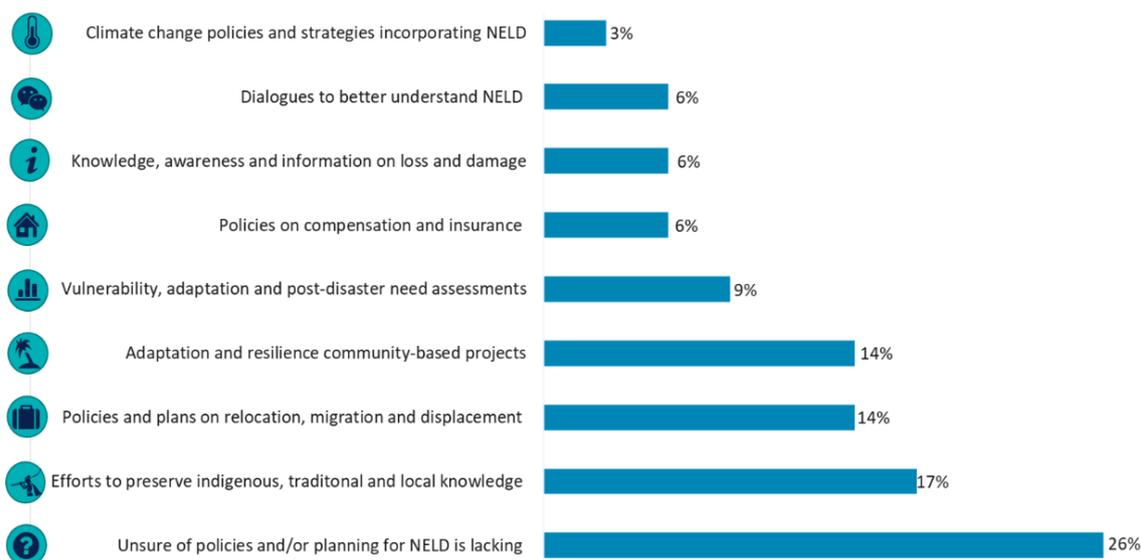


**Figure 1.** Importance of various stakeholders in currently responding to NELD in the Pacific region.

When probed further on which stakeholders should become more engaged in helping to work through NELD in the future, the national government again featured strongly; however, there was also a varied array of agencies and groups mentioned, including intergovernmental organisations, non-governmental organisations, businesses, local communities, and faith-based organisations. The respondents stressed that national governments need to lead in terms of planning responses to NELD, with support for human and financial resources being a priority. This view was different to what respondents felt needed to be achieved now and, in the future, with an emphasis on ‘village’ and community groups taking charge to improve how the Pacific region identifies, plans for, and addresses NELD. Of note was the emphasis that respondents placed on the need to include vulnerable groups (communities, youth, women, elders, people with disabilities) in planning to ensure that information and practical actions related to NELD are framed from their perspective:

*It is incredibly important that stakeholders who will be impacted are part of any processes to address these impacts from the planning to implementing. Nothing about us without us, you need to include young people, women, people with disabilities, all vulnerable groups who are disproportionately impacted from the climate crisis should be at all decision-making spaces. (participant #14, 2020)*

Beyond identifying important stakeholder groups, respondents also highlighted the importance of multi-sectorial collaboration, particularly in relation to broadening our understanding of NELD. Respondents were further asked to identify local, national, or regional policy responses that identify, assess and address NELD caused by climate change. Figure 2 shows nine types of responses ( $n = 35$ ) that are relevant to policy making in the Pacific region, to address NELD caused by climate change.



**Figure 2.** Current policy responses to plan for and address NELD in the Pacific Islands with the percentage of participants who highlighted each response.

While the responses showed how some respondents were unsure of policies related to NELD and/or believed that plans were lacking (26%), others described several national and regional policy responses to address NELD (74%). Legislative efforts to preserve customary land, indigenous, traditional, and local knowledge were the most common policy responses identified by respondents (17%). One respondent, for example, identified that a legislation for the protection of traditional knowledge in Vanuatu allowed traditional owners to work through the cultural council, its stakeholders, and NGOs, who all have a strong cultural focus on protecting intangible and tangible traditional knowledge and expressions of culture. Other policy responses included policies and plans for relocation (14%), and adaptation and resilience-based policy planning and implementation through community-based projects (14%). Respondents identified that adaptation policies and plans focusing on mangrove replantation, coastal protection, water harvesting and security, food security, ecosystem services and protection of the coastline had the greatest potential to lessen the adverse impacts of NELD on people, property, customary land, livelihoods, and resources. Similarly, resources and budgets with a focus on risk financing were said to have ‘provided self-supporting economic development opportunities for communities where there is less reliance on social safety nets and/or render tradition’ (participant #34, 2020). One participant also indicated that national development strategies and investments in adaptation and risk reduction were useful in addressing a range of NELD:

*The investments in adaptation and risk reduction, including national development strategies, are the foundational responses of countries to address NELD. This may not be articulated, or a correlation made in documents, however, social, and environmental impacts are considered. (participant #40, 2020)*

Regarding policies for frontline communities, participants cited that national mandates, guidelines and programmes have been developed for relocation, migration, and displacement from disasters and climate change in countries such as Fiji, Kiribati, and Van-

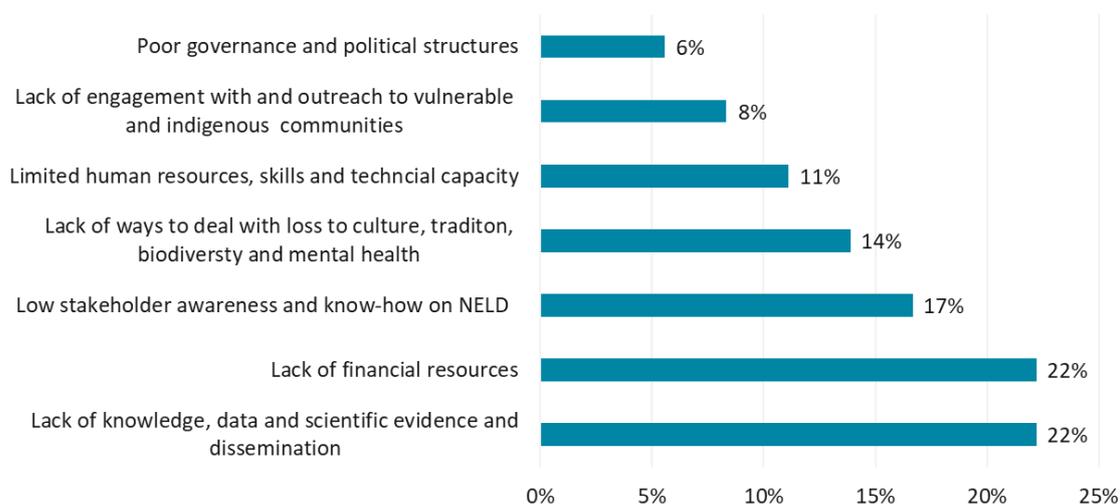
uatu (14%). In this context, it was suggested that NELD associated with mobility was being addressed through complementary compensation and insurance policies and programmes (6%), and knowledge and awareness (6%), as well as dialogues (6%). The least common policy option identified by respondents was the incorporation of NELD issues, such as health, transition, and gender, into existing climate change and disaster relief assistance policies and strategies (3%), as many discussions in the region were focused on ways of avoiding NELD at all costs.

Respondents expressed the importance of the FRDP and PRP in catalysing integrated approaches to address climate change and disaster risk at the regional level. At the national level, respondents identified the importance of the pre-emptive and soft policy responses that are articulated in the FRDP and implemented by countries when legislating and mainstreaming climate change and DRR (e.g., Integrated DRR and climate change policies, Climate Change Acts, Medium Term Development Plans and National Development Strategies). Respondents also expressed the importance of the FRDP in guiding the continued engagement of Pacific Island governments in the WIM and UNFCCC policy processes for loss and damage. Respondents indicated that the FRDP action areas that need to be advanced under the WIM include clarity on finance and the liability for loss and damage and providing guidance to the WIM through a survey of people living in vulnerable regions experiencing NELD.

#### 4.2. Policy Challenges

We asked respondents about whether NELD is adequately identified and responded to in the policies, programmes, and related initiatives. Overall, respondents consider the existing policy responses (Figure 2) for addressing NELD to be largely inadequate. On a scale of 1 (not at all) to 5 (extremely), the overall mean in terms of how well NELD is being addressed was 2.41. Close to half of respondents (46.2%;  $n = 18$ ) considered NELD to only be addressed 'a little', 2.5% ( $n = 1$ ) considered it to be addressed 'extremely' well, 7.7% ( $n = 3$ ) considered it 'very' well addressed, 30.8% ( $n = 12$ ) considered NELD to be addressed 'moderately', and 12.8% ( $n = 15$ ) of respondents indicated that it was addressed 'not at all'.

Prior work has shown that loss and damage is a contested policy space in which there are different perceived risks and experiences in terms of intangible harm, which means that it is a challenge to implement concerted solutions [15,31]. In order to understand the major shortcomings of policy responses at the regional level, we therefore asked survey respondents to expand on the challenges involved in implementing policies related to addressing NELD. Based on the 36 responses, we grouped the implementation challenges into 7 thematic areas, as illustrated in Figure 3.



**Figure 3.** Policy challenges encountered by organisations in addressing NELD related to climate change impacts.

Respondents identified that, while climate change and DRR policies are in place, policies fall short in terms of anticipating, planning for and responding to NELD due to deficiencies in the following areas: knowledge, data and science (22%), financial resources (22%), low stakeholder awareness of NELD (17%), and a lack of ways to deal with the loss of culture, tradition, biodiversity and mental and emotional wellbeing (14%). Many respondents added that, without any standardised methodologies and monitoring frameworks to measure non-economic losses, including indicators, the assessment of NELD and its ability to inform climate and disaster policies remains a challenge.

For each of these challenges identified above, Table 1 outlines the specific needs, gaps and barriers related to overcoming these challenges and ensuring robust policy responses to NELD. Representative quotes are provided in Table 1 to illustrate the prevalence and context of policy barriers. The policy gaps and barriers most commonly identified by respondents include a lack of external finance and the prioritisation of short-term projects at the expense of long-term strategies, which results in the temporal, geographical and spatial issues of NELD being left out. One respondent pointed out the current imbalances in donor financing for NELD, with a majority of this directed at “low-visibility issues” and the “financing of infrastructure projects” (participant #36, 2020).

**Table 1.** Exploring policy needs, gaps and barriers related to Pacific SIDs region's ability to address NELD.

Policy Challenge	Needs	Gaps	Barriers to Addressing NELD	Relevant Quotes
Lack of knowledge, data and scientific evidence and dissemination	<ul style="list-style-type: none"> <li>Quantifying NELD in monetary terms, and understanding causes of and solutions to NELD</li> <li>'Pacific research by Pacific islanders' on the community-level impacts -social, emotional, and psychological</li> <li>Data and down scaled models at community level</li> <li>Methodology to ensure NELD data is standardised</li> </ul>	<ul style="list-style-type: none"> <li>Lack of knowledge on the depth meaning of climate change impacts to local communities</li> <li>Differentiating NELD from climate and human- induced causes</li> <li>Attribution of climate stressors to the NELD components</li> <li>Capturing and recording traditional knowledge</li> <li>Uncertainty of science</li> <li>Information on comparisons between different parts of the region</li> </ul>	<ul style="list-style-type: none"> <li>Paucity of scientific proof, capacities in technologies and skills related to quantifying NELD</li> <li>Shortage of Pacific generated research and concerted efforts to establish an evidence base to inform strategies, investments, and solutions being considered to minimise risk</li> <li>Loss and damage yet to be translated to a narrative that can be understood, contextualised, and further disseminated across the region</li> </ul>	<p><i>It is a new concept for the region and there is very little knowledge on NELD in the region (participant #2, 2020)</i></p> <p><i>Need to collect data on climate change impacts in the region. We talk about the impacts but don't document what [NELD] that means (participant #40, 2020)</i></p>
Lack of financial resources	<ul style="list-style-type: none"> <li>Need for longer-term planning of projects to incorporate NELD issues</li> <li>Predictability of finance at the national level</li> </ul>	<ul style="list-style-type: none"> <li>Limited capacity and resources at the National Government Level</li> <li>How to address NELD</li> <li>Lack of finance for NELD</li> </ul>	<ul style="list-style-type: none"> <li>Sustainability of funds-when the funds dry up so does the initiative, meanwhile the people diligently pick up where they can and continue often with no profile</li> <li>Key regional donors have actively fought against any liability for loss and damage in the UNFCCC process</li> <li>Holistic approaches to adaptation</li> <li>Prioritisation of high visibility and infrastructure projects</li> </ul>	<p><i>Not an urgency, no finance available for this kind of survey and damages (participant #4, 2020)</i></p>

Table 1. Cont.

Policy Challenge	Needs	Gaps	Barriers to Addressing NELD	Relevant Quotes
Low stakeholder awareness on NELD in the region, resulting in poor know-how and implementation	<ul style="list-style-type: none"> <li>• Solution oriented strategies to reduce losses and damages</li> <li>• Clear understanding of difference between adaptation and loss and damage</li> </ul>	<ul style="list-style-type: none"> <li>• NELD is only understood clearly by experts, individuals, and organizations that work on it</li> <li>• Concept is not well understood at the regional, national, and community level</li> <li>• Lack of ways to integrate and promote NELD into climate change programmes and support</li> </ul>	<ul style="list-style-type: none"> <li>• The perceived and dominant economic perspective to loss and damage</li> <li>• NELD is a relatively new concept, and it is difficult to conceptualise diversity of NELD issues</li> <li>• No framework for action on NELD</li> </ul>	<i>We are not at this stage yet in terms of carefully considering NELD (participant #35, 2020)</i>
Lack of ways to deal with loss of culture, tradition, biodiversity and mental health	<ul style="list-style-type: none"> <li>• Culturally and linguistically appropriate climate services</li> <li>• Raise the importance of cultural preservation with local indigenous communities</li> <li>• Need to know more about how loss of language erodes our cultural system</li> </ul>	<ul style="list-style-type: none"> <li>• Limited cultural lens to plans, activities and responses</li> <li>• Lack of ways to quantify losses relating to cultural heritage, traditional living and biodiversity</li> </ul>	<ul style="list-style-type: none"> <li>• Loss and damage in COPs are more focused on finance and economic losses rather than culture</li> <li>• NELD draws on intangible values, emotional wellbeing that are difficult to think through</li> </ul>	<i>Need to know more about how loss of language erodes our cultural system (participant #30, 2020) ... the value of our traditional living and what we believe on is quite hard to quantify ... (participant #17, 2020) Traditional knowledge is not well captured as some of these can only be conveyed to limited personnel due to the culture - not shared as this is only passed by word of mouth with no written historical record (participant #13, 2020)</i>

Table 1. Cont.

Policy Challenge	Needs	Gaps	Barriers to Addressing NELD	Relevant Quotes
Limited human resources, skills and technical capacity	<ul style="list-style-type: none"> <li>Mainstream NELD/loss and damage into relevant sectors</li> </ul>	<ul style="list-style-type: none"> <li>Deepen the understanding of the term loss and damage</li> </ul>	<ul style="list-style-type: none"> <li>Poor understanding of what NELD is among government agencies with mandates to address sectors of society who will be impacted highly. This leads to low importance of NELD and lack of resources for stakeholders to address the issue</li> </ul>	<p><i>Pacific stakeholders are trying to address NELD but there is a lack of capacity and funding to do this adequately (participant #14, 2020)</i></p>
Lack of engagement with and outreach to vulnerable and indigenous communities	<ul style="list-style-type: none"> <li>Education, awareness of and outreach to the rural population</li> <li>NELD translated into actions and implementation at the community level</li> <li>Gendered studies on psycho-social changes within families</li> <li>Community outreach activities</li> </ul>	<ul style="list-style-type: none"> <li>Lack of understanding of at-risk areas in the context of NELD</li> <li>Lack of funding for on-the-grounded interventions</li> <li>Poor understanding of the mannerisms and cultural traits of each island</li> </ul>	<ul style="list-style-type: none"> <li>Convincing the elderly that NELD is real</li> <li>Genuine commitment to assure indigenous peoples that their unique experiences on climate change are acknowledged and warrant action</li> </ul>	<p><i>Yes, there are gaps but from whose perspective and from whose lens is this question being asked? From the lens of the community on the ground - the average family who are experiencing this in a village island somewhere? Or from the perspective of someone who lives and works in the urban area all their life? Or from the perspective of a development partner? Or from the perspective of a decision maker in government? or the private sector? etc. The extent of the gap depends on who is asking and from what lens (participant #15, 2020)</i></p> <p><i>While NELD has been an objective of discussion at the national level, it is not part of conversation at the community level - especially the understanding of it and what it means for the Pacific people (participant #42, 2020)</i></p>

Table 1. Cont.

Policy Challenge	Needs	Gaps	Barriers to Addressing NELD	Relevant Quotes
Poor governance and political structures	<ul style="list-style-type: none"> <li>• Meaningful policy response to NELD in the region</li> <li>• Concrete plans to address loss and damage</li> </ul>	<ul style="list-style-type: none"> <li>• Policy response to loss and damage is new to the Pacific and just recently addressed by UNFCCC</li> <li>• Poor implementation of policies</li> </ul>	<ul style="list-style-type: none"> <li>• Western forms of governance structures which leave local people, and their language and culture out of discussions and planning</li> </ul>	<p><i>Policies are in place but lack the implementation due to vast area we have to cover the territories (participant #3, 2020)</i></p> <p><i>There is no concrete plan at the moment regionally on how the PICs can address L&amp;D. Focus is still on resilient building and mitigation. If you look nationally, L&amp;D policies are not holistic in the sense it does not cover all affected sectors (participant #41, 2020)</i></p>

While the lack of external finance is a barrier to implementing long-term solutions to NELD, it is closely intertwined with other barriers, such as limited capacity and low levels of knowledge and information, which suggests some degree of inter-dependency; this means that there exists an inability to contextualise NELD in existing policy responses. While the region is implementing adaptation and resilience policies (see Figure 2), respondents explained that some adaptation strategies are limited given the scale of the intolerable risks of NELD associated with the adverse impacts of climate change. Respondents highlighted that while the region was advocating to demarcate finance for both adaptation and loss and damage, few in the region understood how to differentiate between the two concepts:

*Differentiating between what is adaptation and loss and damage is yet to be clear for all stakeholders, no one in this region has sought to clarify the way we all consider loss and damage. (participant #27, 2020)*

*The Pacific region is still creating a space for knowledge and information on Loss and Damage Country level-A need to clarify the limitations between Climate Change Adaptation and Loss and Damage and then specifics of NELD (participant #34, 2020)*

While the region has robust climate change and disaster risk policies in place, the above statements show barriers to how policy responses, finance and programmes would inadvertently integrate, support, and promote NELD.

Furthermore, while some NELD data have been systematically collected in the disaster management and humanitarian sectors, the main problem that occurs relates to how losses related to cultural heritage, health, traditional knowledge and biodiversity and ecosystem services that lack a tangible economic value are characterised:

*Traditional knowledge is not well captured as some of these can only be conveyed to limited personnel due to the culture. These are not shared, as this is only passed by word of mouth with no written historical record. Normally only one person in the family. (participant #3, 2020)*

*From the community level, the NELD is an issue that always happens when a natural disaster happens and the value of our traditional living and what we believe in is quite hard to quantify. Though they are valuable, there was no information on how it was measured; there is no cultural lens in most of our plan, activities, and way we do things. (participant #17, 2020)*

It was put forward that national governments should coordinate with academic, scientific and research entities to collect and track NELD data. One participant highlighted that establishing and agreeing on a methodology was an important step in the collection of NELD data:

*First of all, a methodology needs to be agreed to ensure that the data is standardised. Academia working with sector experts, government statisticians and a cross section of the stakeholders could come to a minimum criterion to be collected. The collection itself could be done by various stakeholders, however, the responsibility of collation needs to rest with a government agency supported by an intergovernmental organisation. (participant #40, 2020)*

The lack of data and the inadequate implementation of existing policies are closely intertwined with the dominance of the economic lens when characterising climate-related impacts in the region. Respondents reported the overall lack of appreciation of non-economic impacts resulting from climate change within national and regional policy responses. The loss of culture, local knowledge, ways of being, one's sense of place, biodiversity and mental and emotional wellbeing are hard to value, which makes these damages less visible to policy makers and responses. The participants pointed out the following:

*There is still a lack of appreciation or concern largely because national processes are largely economically driven and putting a tangible value on the loss of these assets is not easy. NELDs is still not visible enough in terms of its economic implications, i.e., how will*

*loss of health, human resources, culture, economically impact the country/community. (participant #29, 2020)*

*Non-economic loss and damage is only understood clearly by experts, people, and organizations that work on it and is often perceived from the economic perspective. The concept is not well understood at the regional, national, and community level. Its applicability is also different when looking at different cultural groups and countries and their priorities and what makes them who they are. The question of how non-economic loss and damage may be quantified or described at various level is also very different in the context of the Pacific. (participant #42, 2020)*

The overall economic narrative of loss caused by the climate reinforces the limited holistic consideration of climate change and, therefore, the poor appreciation of interrelated NELD and its cascading impact upon policy responses.

#### *4.3. Future Policy Directions: “More Needs to Be Done”*

The key opportunities for stakeholders in the Pacific region to identify, plan for and address NELD in response to challenges at local, national, regional, and global scales are summarised in Table 2. When considering what needs to be achieved to scale up responses to NELD, stakeholder responses point to four dominant policy directions at the local, national, regional, and global levels. First, at the local level, stakeholders identified the clear need to shift beyond focusing on issues that have monetary implications; this would be achieved by supporting more endogenous institutions that can function as enablers of implementation in vulnerable villages and communities. Actions identified in this area include the following: focusing on “community empowerment and capacity building”, “meet[ing] the basic needs of man [sic] to survive”, strengthening “engagement with local community faith-based groups”, supporting “community-level activism and outreach”, and “aligning work with on-the-ground movers and shakers” (participants #37, #3, #30, #36 and #8, 2020).

**Table 2.** Ways the Pacific region can identify and adequately respond to NELD at different levels.

Policy Responses	Local	National	Regional	Global
Community-led initiatives to governance of NELD	<ul style="list-style-type: none"> <li>• Implement projects that are village and community focused and offer cultural value</li> <li>• Align work with on-the-ground movers and shakers (not the obvious ones, but the ones who have for a long time been living and helping their communities)</li> <li>• Those who are impacted should be part of the decision-making process at every stage</li> </ul>	<ul style="list-style-type: none"> <li>• Mainstream NELD into local plans</li> <li>• National government needs to plan and work with the village at the centre of policy response</li> <li>• Acknowledge the power of stakeholder groups to share and improve on ideas related to addressing NELD</li> <li>• Seek out proactive NGOs and align them with government interventions, supported by overseas funds. Ensure the MOUs recognise their equal partnership and inherent expertise to the work</li> <li>• Work with disaster management agencies</li> <li>• Enforce laws</li> </ul>	<ul style="list-style-type: none"> <li>• The Pacific models the way for the world to understand how village-based planning can be inclusive and conducive to sustainable development</li> <li>• Don't use all the development funds to build positions to implement; contract movers and shakers in-country</li> </ul>	<ul style="list-style-type: none"> <li>• Rethink Western institutions and zero-sum approaches to economic and political structures</li> <li>• Good decision-making on how we manage our natural environment</li> <li>• Develop work programmes and targets for local level actions</li> <li>• Focus on reducing emissions</li> <li>• UNFCCC to separate the policies and measures between annex I and II and create clear policies that focus on NELD in PICs that can be easily adopted</li> <li>• Coherence between UNFCCC, Sendai, and SDGs</li> </ul>
Capacity to articulate and respond to NELD	<ul style="list-style-type: none"> <li>• Strengthen and develop capacity of vulnerable communities and individuals</li> <li>• Focus on community empowerment</li> </ul>	<ul style="list-style-type: none"> <li>• Prioritise human and financial resources in planning</li> <li>• Support for capacity building and financial resources (of national governments)</li> <li>• Strengthening national policies</li> <li>• Strengthen policy and legislative frameworks</li> </ul>	<ul style="list-style-type: none"> <li>• Capacity building for adaption and mitigation to climate change</li> <li>• Strengthening regional policies on NELD issues</li> <li>• Create an enabling space for the regional technical support for the development of NELD</li> <li>• Link with overarching Pacific Islands policies and strategies</li> </ul>	<ul style="list-style-type: none"> <li>• Provide the necessary resources to tackle the issue</li> </ul>

Table 2. Cont.

Policy Responses	Local	National	Regional	Global
Identifying entry points for ways to deal with loss of culture, tradition, biodiversity and mental health	<ul style="list-style-type: none"> <li>Identify vulnerable community needs and meet the basic needs of people to survive</li> <li>Support projects from the community</li> <li>Create self-awareness on self-preservation and social cohesion in the face of NELD from climate change</li> </ul>	<ul style="list-style-type: none"> <li>Account for vulnerable community needs</li> <li>Identify and acknowledge the changes that are creeping into the system and engage with stakeholders on how to address it</li> <li>Strength and resource local community faith-based groups to address NELD</li> </ul>	<ul style="list-style-type: none"> <li>Identify common concerns and address them</li> <li>Regional organisations should prioritise NELD needs in their planning and strategies</li> <li>Regional conversation on NELD and information sharing including at the highest political level</li> </ul>	<ul style="list-style-type: none"> <li>Develop framework that consolidates solutions for key NELD concerns</li> <li>Make funds available for NELD</li> <li>Acknowledge the issues that are occurring now, provide a platform for those affected to share their stories</li> <li>Activism that builds on custom, traditional knowledge and local agencies</li> </ul>
Availability and accessibility of appropriate knowledge, data, and scientific evidence on non-economic losses, impacts, risks, and vulnerabilities	<ul style="list-style-type: none"> <li>Develop knowledge and communications</li> <li>Identify NELD and monitor them</li> <li>Support local communities to provide accurate data for Initial Damage Assessments</li> <li>Translate NELD to the specific contexts discussed, understood, and fostered through awareness and adaptation practices and activities</li> <li>Engagement with the national process</li> </ul>	<ul style="list-style-type: none"> <li>Gather data and information related to NELD</li> <li>Develop policies to monitor and address NELD</li> <li>Map existing actions related to NELD and understand where we currently stand, what can be improved and what needs to change</li> <li>Develop guidance on what needs to be captured and communicate to local consultations. Accept that this doesn't compromise negotiations</li> <li>Integrate efforts across sectors and with entities and partners outside of government</li> </ul>	<ul style="list-style-type: none"> <li>Collate and analyse NELD data</li> <li>Work closely with national counterparts in ensuring understanding NELD and knowledge gaps in place. Complement knowledge gaps through capacity development and support</li> <li>Emulate best practices from the region</li> <li>Consensus on loss and damage documentation and process - need to be clear that this does not undermine negotiations</li> </ul>	<ul style="list-style-type: none"> <li>NELD needs to be discussed more in relation to climate change and slow onset events, especially for SIDS</li> </ul>

Table 2. Cont.

Policy Responses	Local	National	Regional	Global
Engagement with and outreach to vulnerable and indigenous communities	<ul style="list-style-type: none"> <li>• Focus on community-level activism and engagement, community outreach, awareness, and surveys</li> <li>• Provide protective measure to implement initiatives in vulnerable communities e.g., planting more mangroves on shoreline</li> <li>• Focus on issues that have no monetary implications</li> <li>• Advocacy and capacity building for persons with disabilities.</li> </ul>	<ul style="list-style-type: none"> <li>• Focus on policy, planning, advocacy</li> <li>• Advance clean technology and infrastructure</li> <li>• Awareness with policy makers</li> </ul>	<ul style="list-style-type: none"> <li>• Advocate for the recognition of and plan for NELD</li> <li>• Work together and discuss loss from different points of view to encourage sharing of ideas and identification of ways to promote environmental sustainability</li> </ul>	<ul style="list-style-type: none"> <li>• Careful consideration of vulnerable groups and their contributions to addressing of NELD and Loss and Damage</li> </ul>
Procedures for effective and meaningful stakeholder awareness, know-how and implementation	<ul style="list-style-type: none"> <li>• More community and NGO awareness</li> <li>• Raise awareness and have people's input on policies</li> <li>• Improve measures dealing with behavioural change for positive change</li> </ul>	<ul style="list-style-type: none"> <li>• Focus on more practical awareness</li> </ul>	<ul style="list-style-type: none"> <li>• NGOs need to drive NELD work in the region</li> </ul>	<ul style="list-style-type: none"> <li>• Advocate for the recognition of NELD and greenhouse gas (GHG) emission mitigation</li> </ul>

Table 2. Cont.

Policy Responses	Local	National	Regional	Global
Availability of, and accessibility to, long-term climate finance and resources	<ul style="list-style-type: none"> <li>• Increase access to funding for local communities to address NELD</li> <li>• Increase financial support via scaled up approaches to community-based adaptation</li> </ul>	<ul style="list-style-type: none"> <li>• Clarify how to incorporate NELD concepts in national climate and sectoral policies</li> <li>• Establish resourcing envelopes that get to the people/groups that need it</li> <li>• Allocate funds to address NELD</li> <li>• Develop policies to mobilise resource</li> </ul>	<ul style="list-style-type: none"> <li>• Clarify the incorporation of NELD into regional policies (like FRDP)</li> <li>• Cooperate with countries and unite voices on NELD</li> <li>• To direct all supports and assistance to the FSM National and FSM will coordinate it with the affected communities</li> </ul>	<ul style="list-style-type: none"> <li>• Broaden the definitions of adaptation (particularly related to community-based or locally led adaptation) within climate finance mechanisms to help funds flow to areas of greatest need</li> <li>• Allocate more aid resources for NELD</li> <li>• Assist countries in need</li> <li>• Advocate on and pitch for resources, funding support and technology exchange on NELD</li> <li>• Modify or eliminate paragraph 51 of the Paris Agreement to allow liability and compensation for countries that produce more GHG</li> </ul>

Based on Table 2, stakeholders working with community-based institutions at the local level, when compared to their government counterparts, identify the need for increased efforts to address the loss of culture, tradition, biodiversity, and mental health. Respondents highlighted how finance for such projects can be utilised to address the irreversible damages associated with climate change, including through “mapping existing actions to NELD”, “longer-term planning of short projects to incorporate NELD issues”, implementing “projects that are village- and community-focused and offer cultural value”, improving “self-awareness and issues on self-preservation and social cohesion in the face of non-economic losses from climate change”, “scaled up approaches to CBA” and “improving measures dealing with behavioural change for positive change, more practical awareness and teaching” (participants #35, #33, #1, #29, #28 and #35, 2020).

Second, at the national level, respondents noted the importance of strengthening national and sectoral climate policies, legislation, planning, capacity, and risk governance, by integrating NELD dimensions. Government counterparts acknowledged the necessity to better incorporate the needs of vulnerable communities into responses by “planning and working directly with the villages at the centre” and “seeking proactive NGOs and aligning them with government interventions” (participants #1 and #8, 2020). Almost all the regional and international respondents noted the importance of renewed risk governance, which is dependent on the “capacity development of the national governments”, “the power of groups to share and improve on individual ideas”, “strengthening national policies and legislative frameworks”, and “identifying and acknowledging the changes that are creeping into the system” (participants #22, #4, #41 and #29, 2020). Fostering synergies across sectors and with partners outside of the government was another area identified in the survey. One respondent pointed out that such multistakeholder collaboration could be brought about by “those who are impacted should be part of the decision-making process at every stage” (participant #14, 2020).

Third, respondents noted that the Pacific as a region could scale-up existing responses to NELD by emulating models and best practices, addressing knowledge gaps, and integrating NELD into regional policies. Respondents identified several ways in which to bolster technical support to countries at the regional level:

1. Create a space for regional technical support for the development of NELD,
2. Regional organisations prioritise NELD needs in their planning and strategies,
3. Regional conversation on NELD and information sharing,
4. Advocate for the recognition of and plan for NELD, and
5. Discuss and share data/ideas on loss from different perspectives.

Finally, respondents identified the need for renewed focus on action, support, and financing for NELD at the global level. Respondents acknowledged that dedicating finance to loss and damage was key to enabling the creation of effective policy responses in SIDS, which ought to be resolved in the UNFCCC and Paris Agreement. Loss and damage negotiations have been contentious, with one participant from the government noting that “only AOSIS countries are strong in supporting NELD” and that “it is time for nations to recognise the plea of SIDS countries as the most highly impacted in the world by NELD” (participant #2, 2020). Respondents repeatedly emphasised that dedicated finance for NELD would be possible if the following were achieved: (1) NELD, in relation to climate change and slow events, was discussed from a SIDS perspective; (2) there was policy coherence between UNFCCC, Sendai and the SDGs; (3) there was an acknowledgement that NELD-related issues are occurring now; (4) there was consideration for vulnerable groups and their contributions to loss and damage and to NELD; and (5) dedicated work programmes were developed to target local-level actions. Other policy actions at the global level that were mentioned included the “need to allocate more aid money to NELD”, the need to create a “... platform for those affected to share their stories”, the need to enable “technology exchange with regard to NELD”, and the need to “broaden the definitions of adaptation within climate finance mechanisms to help funds flow to areas of greatest need” (participants #32, #30, #21 and #28, 2020).

## 5. Discussion

Reflecting on the results of the study, we find that Pacific SIDS have made progress on protecting local, indigenous, and traditional knowledge, have worked on adaptation and resilience, and have conducted climate risk and post-disaster need assessments. Key findings from the Pacific Islands region, through this study and previous research [32,33], are particularly relevant in terms of the need to advance the discourse on the barriers to, and the responses required when addressing, NELD. First, in the absence of dedicated national policies on loss and damage, responses to address NELD have been anchored in adaptation, mitigation, DRR and humanitarian responses. With soft and hard limitations to such responses [34], here, we clearly see that policy gaps and barriers impact on the region's ability to address residual intolerable risks, giving rise to non-material losses of land and territory, biodiversity, ecosystem services, language, health, identity, and livelihoods in the Pacific SIDS see [32]. We find that, because of escalating non-material losses, national policies have opted to advance mobility programmes in some countries, with options for planned relocation, resettlement, and labour migration. These policies have largely been aided by the high-level political acceptance of the increasingly unavoidable, permanent, and irreversible loss of land and ecosystem services, which eventually becomes an existential risk to Pacific communities. NELD issues are unique to the region with regards to human security and the right to self-determination. A Pacific Regional Framework on Climate Mobility is under development, which would help guide governments when addressing policy and practical measures on displacement, migration, evacuations, and planned relocation [35]. Similarly, at the national level, the 2016–2030 Vanuatu Climate Change and Disaster Risk Reduction Policy and the 2018 National Policy on Climate Change and Disaster-Induced Displacement address issues of displacement; meanwhile, Fiji has developed the Climate Relocation Fund and Planned Relocation Guidelines, with more than 30 at-risk communities earmarked for relocation in the future [36–38]. In this vein, it would be vital for relocation policies to articulate NELD as it is related to mobility options, especially for those who are relocated and subject to displacement. To humanize policies on mobility, subsequent evaluations of communities' lived experiences of cultural, ecological, and socio-economic impacts would be relevant, including integrating gender, health, and psychological dimensions.

Second, and closely related to the first point, is how policy responses to address NELD (and loss and damage more broadly) should be differentiated from adaptation, mitigation and DRR discourses. This differentiation, according to stakeholders, is a useful determinant of how financial sources and risk finance mechanisms are accessed and used in the region. We argue that many aspects of community-based or locally led responses to NELD are common to the adaptation and DRR discourses, and that the broadening of the climate resilience and risk continuum discourses will likely open opportunities to comprehensively incorporate NELD. Similarly, there are key points of departure in terms of policy responses to adaptation and DRR, largely attributed to the intolerable risks involved in NELD, such as displacement, and the harm posed to psychological and mental health, identity, ontological connections to land, culture, tradition, and local knowledge.

This overlap of policy responses to NELD with other discourses is not exclusive to the Pacific region. Research indicates that different perspective typologies influence how stakeholders approach policy responses when addressing loss and damage and whether they should be distinct from, or go beyond, existing adaptation policies and programmes [31]. Our survey found that these typologies are inherent amongst Pacific stakeholders [32], influenced closely by the highly politicised global discussions on the financing of loss and damage, and the contending regional narratives on climate security and existential threats. We also find evidence of little operational clarity on what NELD means to the region, and from a practical viewpoint, its relationship to climate change adaptation, DRR, and humanitarian and sustainable development policies. In short, the inter-dependencies of barriers, in terms of stakeholder understanding, know-how, data and science, and a

lack of finance for NELD, give rise to further policy shortcomings and a lack of ways to holistically scale-up implementation when addressing climate-induced loss and damage.

Third, one common shortcoming of existing climate policy responses is their overwhelming focus on the economic aspects of climate impact. Less attention has been paid to the nontangible aspects of NELD, such as the loss of culture, traditional knowledge, biodiversity, and mental and emotional wellbeing. The existence of this gap is particularly concerning in the Pacific, given that its rich cultural and natural heritage defines its identity and ways of life. Furthermore, while some non-economic information on loss and damage are generated by regional DRM platforms (examples include the Pacific Disaster Net, Pacific Damage and Loss database, Pacific Catastrophe Risk Assessment and Financing Initiative Pacific Risk Information System, and Post Disaster Needs Assessment), a coherent approach to the monitoring of, and reporting on, NELD remains a gap in the design of pre-emptive solutions [27]. We find that the non-economic dimensions of loss, such as the loss of health, cultural heritage, traditional living, and biodiversity, are difficult to express in policies that bias tangible, economic indicators of loss and damage [see also 32]. As such, there is limited holistic consideration of climate change and, therefore, a poor appreciation of the interrelatedness of NELD and its cascading effects [33]. An alternative approach to designing policy responses would be integrating the social, emotional, and psychological impacts on indigenous peoples, and their unique and varied experiences. This could be complemented with standards, methods, and principles on ways to collect and analyse comprehensive NELD data from different island geographies and cultural settings, and tools to apply them to different policy interventions (adaptation, DRR and humanitarian).

Fourth, the most frequently reported interdependent barriers to averting, minimising, and addressing NELD relate to a lack of finance, knowledge, stakeholder awareness and ways to deal with intangible loss. While the 2022 UNFCCC COP27 advanced policy discussions related to creating a dedicated funding structure and fund for loss and damage [22], regional and national policy responses to NELD in the Pacific have largely relied on finance through adaptation, DRR and humanitarian funds. We find it noteworthy that although the quantity of finance dedicated to the climate, in the form of adaptation and mitigation, has increased in the region since 2010 [39–41], implementation barriers remain a prevalent issue for addressing NELD when it is related to ecosystems, traditional knowledge and cultural systems.

Many of the implementation-related challenges that were identified by Pacific-based respondents are not unique to NELD and are similar to and prevalent in the barriers and challenges involved in successful adaptation [42] and the comprehension of climate information and knowledge [43]. A notable exception includes the lack of ways to deal with the loss of culture, tradition, biodiversity, and mental health, as discussed above. Overcoming these barriers involves an appreciation of the standards set about the collection of NELD information, as well as the dedicated finance and political change needed to address such losses. Beyond finance, support for NELD should aim to mobilise the tools, methods, approaches, and research that are essential to addressing NELD in at-risk communities. Working at the community level necessitates a holistic approach to addressing NELD and the barriers that are generally more associated with funding parameters than with community or government resistance to NELD-type approaches.

Fifth, mindful of existing capacity needs and gaps in SIDS, regional frameworks and policies serve as a blueprint for guiding policy responses to NELD where national directives are lacking or absent. We find that policy responses in the Pacific Islands benefit from a strong regional framework for cooperation on climate change and have paved a pathway to coordinate stakeholder and policy responses for addressing NELD. For example, the FRDP outlines multi-tiered actions for specific stakeholder groups and has helped coordinate actions to address NELD when it is related to livelihoods, food, land, ecosystems, human lives, culture, local knowledge, and heritage through adaptation, mitigation, DRR and humanitarian actions. Complementary policies and regional declarations made by the Pacific Forum leaders, such as the Boe Declaration and Blue Pacific narrative, serve as

advocacy platforms for NELD when it is related to Pacific culture and identity, human security, migration, and climate finance. These regional policies would similarly need to be reorganised to provide a long-term vision for elevating non-tangible aspects of loss and damage that constitute a key aspect of climate security in the region. By integrating NELD within regional policies, there is an advantage in elevating regional governance on NELD when it is related to climate, sovereignty, and territorial security.

Finally, in terms of future policy directions, responses to address NELD at the local level are influenced by national, regional, and global processes. For stakeholders, existing platforms and programmes represent an opportunity to engage with vulnerable groups, faith-based organisations, indigenous groups, women, and children. For many others, the sense of urgency and existential risks would require dedicated new resources and international political interventions to institutionalise NELD, especially with regards to mobility options. While respondents in the research did not discuss risk transfer options, adaptation in the Pacific Island countries have made some progress in terms of risk transfer and contingency measures, such as forecast-based financing, insurance, social protection, and relocation, which provide some cushion to deal with the non-economic impacts of climate change [40,44,45]. These, however, have limited access for people and are yet to mature at a scale needed to eliminate intolerable risks or avert, minimise, and address the range of socio-economic impacts that loss and damage have in the Pacific Islands. Dedicated initiatives that target vulnerable communities, finance, tools, and awareness would be required to scale-up comprehensive risk management approaches to address NELD.

## 6. Conclusions

This paper has synthesised the existing policy responses, shortcomings, barriers, and challenges when addressing NELD in the Pacific Islands. Our findings indicate that the most common policy responses in the region that aim to address NELD due to adverse climate change impacts include a mix of preserving indigenous, traditional, and local knowledge, planned adaptation and resilience, implementation of community-based projects, and relocation and mobility measures. The research furthermore sheds light on the multiple related policy challenges and barriers that provide some insight into the critical areas of action and support to scale-up efforts to address NELD.

The key conclusion is that, despite best efforts to progress pre-emptive adaptation and risk reduction responses to address climate risks, policy responses to NELD remain largely unaddressed and poorly understood in Pacific Island countries. While NELD is currently experienced by at-risk and vulnerable communities, there remains a limited understanding, accounting for, and integration of, NELD into local, national, and regional policies. As the research finds, policy responses and assessments are usually considered through an economic lens; therefore, the interrelated and cascading problems posed by the loss of culture, identity, biodiversity, heritage, and other intangible elements are poorly appreciated. This is made worse by the limited availability of finance, capacity, and visibility of non-economic issues in climate policy discussions. Where possible, funding arrangements and technical assistance from the Santiago Network recognises the policy gaps and potential responses required to avert, minimise, and address NELD in vulnerable countries, some of which have been highlighted in this research.

This study specifically highlights the considerable need to strengthen understanding of the non-economic dimensions of loss and damage. This would entail underpinning policy responses with assessments that consider residual, intangible losses to land, culture, traditional knowledge, biodiversity, ecosystem services, and human agency. Loss of culture and tradition erodes the adaptive capacity of Pacific communities to deal with intolerable risks and losses. This can be facilitated by practitioners engaging with traditional knowledge holders, and indigenous and vulnerable groups in promoting the sharing of scientific climate studies. Accordingly, this will also improve knowledge of how culture, tradition and biodiversity can aid pre-emptive actions, contingent measures, and humanitarian or similar responses to climate-induced loss and damage.

**Supplementary Materials:** The following supporting information can be downloaded at: <https://www.mdpi.com/article/10.3390/cli11030074/s1>, Table S1 provides a template of the survey questionnaire.

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