

Progressing the integration of climate change adaptation and disaster risk management in Vanuatu and beyond

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ABSTRACT

The first framework to specifically integrate climate change adaption and disaster risk management was the Framework for Resilient Development in the Pacific. Despite the intense interest in integration and a very large literature on the topic, this Framework and its implementation has largely escaped the attention of commentators. This paper focuses on the experience of Vanuatu as a start in addressing this gap in the literature. Vanuatu is one of the countries most at risk from natural hazards. We show how Vanuatu is progressing the ideals of integration in practice, in its policy and legislation, its institutional arrangements, and the resourcing it is allocating to integrating disaster risk management and climate change adaptation. We conclude that, at the national and formal level, Vanuatu is progressing well in pragmatically implementing the ideals of integration and the Framework for Resilient Development in the Pacific. It stands as a practical example for others.

1. Introduction

The pioneering efforts of the Pacific Islands Countries and Territories in integrating responses to the climate emergency and to natural hazards was recognised by the UN Secretary General (UNSG) during his recent historical visit to the region. The UNSG acknowledged that “[t]he Pacific has a unique moral authority to speak out” (Guterres, 2019) about the impacts the changing climate has, in part due to the existential threat rising sea levels has for some Pacific Island Countries and Territories (PICTs). He acknowledged that “[t]he damage caused recently by Tropical Cyclones Gita, Josie and Keni, and by volcanic eruptions and earthquakes in the region, along with other extreme weather events, give us ample evidence of the region’s vulnerability. Climate change will further worsen the risks” (Guterres, 2019). However, he missed the opportunity to highlight the extensive policy work the region is putting in place to address these challenges, most notably the adoption and increasing implementation of the Framework for Resilient Development in the Pacific.

Despite the vast general literature (discussed further below) on the importance of integrating climate change adaption and disaster risk management, the academic canon fails to discuss the impact of the Framework for Resilient Development in the Pacific (FRDP), a major regional initiative for integration. The FRDP comprises voluntary guidelines for Pacific Island Countries and Territories to address climate and disaster risks, providing the world’s first policy integration of the Sendai Framework for Disaster Risk Reduction 2015–2030, the UNFCCC Paris Agreement, and the UN Sustainable Development Goals 2030 (Pacific Community, 2016). The FRDP is

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aimed at both the regional level and the national level, as it clearly articulates: “Some actions may be better implemented at the regional level and some would need to be further articulated at the national level to suit the specific context, priorities and needs of each individual PICT” (Pacific Community, 2016, p 2).

This paper will address the gap in the literature concerning the FRDP, focusing on how one country in particular – Vanuatu – is putting the voluntary guidelines into practice. It documents for the first time how the country is resourcing the FRDP and discuss the impact this is having on the governance and integration of climate and disaster risks in the country. It is important to note that the actions Vanuatu is taking may signal a broader trend in the Pacific region, and even globally, to be putting into practice the ideals of integration.

2. Methods

The data informing the findings of this research paper are drawn from two methods: document analysis and semi-structured interviews. The use of these two methods enabled data triangulation (Patton, 2015). Documents were used to provide context to the case under study (Vanuatu), enabled changes in the policy, legislative, and institutional environments to be seen, and provided information that suggested specific lines of questioning in the semi-structure interviews as well as information to supplement data from the interviews (Bowen, 2009). Legislative documents were sourced from the Pacific Islands Legal Information Institute (<http://www.pacii.org/index.shtml>) and the online database of the Parliament of Vanuatu (<https://parliament.gov.vu/>). Search terms included: ‘disaster’, ‘climate’, and ‘resilient development’. Policy documents were sourced from the websites of the National Disaster Management Office (NDMO) (<https://ndmo.gov.vu/>) and the National Advisory Board on Climate Change and Disaster Risk Reduction (NAB) (<https://www.nab.vu/>).

Key stakeholders were interviewed as part of the primary author’s doctoral research (RMIT University Human Research Ethics Committee¹ project number 21441), drawn from informants with deep knowledge of Vanuatu. In total, this paper draws on nine interviews conducted in Vanuatu and four interviews conducted outside of the country. All interviews in Vanuatu were conducted in person in October 2019. The four interviews conducted outside of Vanuatu were conducted in March (2), August (1), and September (1) 2019. Two of these four interviews were in person and two over the telephone. The interview participants were selected using the snowballing technique, starting with interview participants known to the primary author due to his professional work in supporting disaster management in Vanuatu (Fujii, 2017). The authors recognise that the snow-balling method may result in some bias in responses however the authors consider this to be minimal due to the diversity of interviewees (Patton, 2015; Fujii, 2017). Four interviewees worked in international non-government organisations (INGOs), six worked in foreign government or inter-government institutions, and three worked in Vanuatu government institutions. All interviews were conducted in English, one of the three official languages of Vanuatu (CIA, n.d.). All interview participants provided their written consent to be voice recorded and all wished to remain anonymous; to not be identified in any research products drawing on the interviews they participated in.

Interviewees were asked open-ended questions which focused on:

- The hazard profile of Vanuatu and how it had changed due to climate change;
- The climate and disaster risk management context in Vanuatu and in the Pacific;
- The evolution of disaster risk management in Vanuatu; and,
- The disaster and climate adaptation financing arrangements in Vanuatu.

Data from both the document analysis and semi-structured interviews was categorized to explore specific themes that emerged (Bowen, 2009). The data was categorized by type of integration – ‘policy’, ‘legislative’, ‘institutional’, ‘formal’ – and by implementation enablers and barriers – ‘resourcing’, ‘informal arrangements’. These categories are explored in the Vanuatu Case and Discussion sections, below.

Resource limitations for this research project restricted the ability to speak directly with communities or sub-national government representatives in the provinces about their experience of integration, thus this paper focuses on the national policy, legislative, and institutional aspects to integration in Vanuatu. This paper is limited to the formal, externally acknowledged system of government, that based on the Westminster system.

These constraints also excluded opportunities to discuss indigenous and traditional knowledge systems and their impact on climate change and disaster risk management integration. Nalau et al. (2018) and Nalau et al. (2019) have noted the influence that traditional governance systems, such as the Malvatumauri (Council of Chiefs) in Vanuatu, have on sub-national efforts to managing climate and seasonal weather risks. Unfortunately, this paper was not able to further explore the importance of indigenous and traditional knowledge for integration, its possible limitations, or how this works in practice in governance, resourcing, or institutional arrangements (IPCC, 2018). There is the opportunity for further research to examine the confluence of traditional and Westminster systems of governance on climate change adaptation and disaster risk management integration in the Pacific.

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2.1. Integrating disaster risk management and climate change adaptation

There has long been pressure to mainstream the integration of disaster risk management (DRM) and climate change adaptation (CCA) in government. Nalau et al. (2016) suggest the significant drivers of integration include how similar the agendas of DRM and CCA are, especially for climate-related hazards, the opportunities to gain efficiencies and thus reduce the funding sought from donors, and use of existing capacities in both areas to gain synergies and to complement each other.

Post 2015, when a number of major global agreements were signed, the integration agenda has expanded well beyond the traditional hazards of DRM and CCA to include all hazards as set out in the Sendai Agreement, and the ambitious Sustainable Development Goals (from the 2030 Agenda for Sustainable Development) (Natoli, 2019; Pacific Community, 2016). To move towards achievement of the 17 Sustainable Development Goals which aim, by 2030, to have a “world free of poverty, hunger, disease and want, where all life can thrive” demands action on disasters and on climate change. Integration across UN agreements is an important part of building capacity for disaster risk reduction and adaptation, through for example by strengthening livelihoods, water and food security and resilience. To some extent the substance of some of the goals has been incorporated into adaptation and disaster risk reduction (DRR) through building resilience, ensuring justice and equity, and with the imperative to ensure links with development. Examples of early formal agreements for the integration of DRR and CCA are: Global United Framework Convention on Climate Change: Bali Action Plan (2007), Cancun Adaptation Framework (2010), the various Joint National Action Plans and National Adaptation Plans of Action of the Hyogo Framework for Action 2006–2015, Regional Pacific DRR and Disaster Management Framework for Action 2005–2015, and the Pacific Islands Framework for Action on Climate Change 2006–2015 (Nalau et al., 2016; Schipper, 2009).

Although some writers continue to assert that there is little study of the integration of DRR and CCA (Islam et al., 2020), there are major research programs, for example the EU PLACARD program (Leitner et al., 2018), and recent reviews (e.g. Islam et al., 2020) point to the dynamic nature of the field. These build on a solid literature on the idea and theory of integration (for example: Birkmann and von Teichman, 2010; Gero et al., 2011; Intergovernmental Panel on Climate Change, 2012; Ireland, 2010; Mercer, 2010; Nalau et al., 2016). However, the literature does not provide a detailed analysis of specific normative models and standards, and empirical findings on their impact (Natoli, 2019).

A range of publications have long highlighted the generic factors that are most commonly found in integration contexts (Gero et al., 2011; Natoli, 2019; Thomalla et al., 2006; UNISDR, 2012). It is common to assume that an integrative approach will minimize overlap and duplication of projects and programmes, result in more efficient approaches, reduce administrative burdens and increase the potential to consider multiple goals simultaneously. Integration is presumed to require less resourcing for greater impact and this is especially relevant to smaller countries with limited resources available. Respect for local conditions and the support of local development, are fundamental (Natoli, 2019).

Similarly, a range of barriers and enablers for integration have been identified, which are used to explain why the integration agenda is not necessarily progressing and what could be done to ease the process. Common barriers identified include the different and overlapping frameworks, funding channels and activities, which have for instance led to the development of separate work streams with limited collaboration between agencies and departments working in the two areas, lack of capacity and expertise to implement the work streams effectively, and lack of robust monitoring and evaluation tools to document the benefits arising from both CCA and DRM activities (Intergovernmental Panel on Climate Change, 2012; Dias et al., 2018; Islam et al., 2020).

Some authors have however questioned whether the lines dividing the CCA and DRM communities are more theoretical than of practical value: for example, Mercer (2010) reports that at the community level in Papua New Guinea (PNG), there is little difference from the community's perspective whether activities are classified as DRM or CCA. Others (Nalau et al., 2018; Nalau et al., 2019) have noted the influence of indigenous and traditional knowledge at the community level on integration, especially for hydrometeorological hazards, and the importance of going beyond acknowledging biological indicators to co-designing approaches to integration at all levels (Chand et al., 2014).

2.2. Framework for Resilient development in the Pacific

The Framework for Resilient Development in the Pacific is the first, and currently the only, inter-governmental agreement that brings together the Sendai Framework, Paris Declaration and the UN SDGs. In doing so, it became the first regional agreement between states and territories to integrate climate change considerations with disaster risk reduction approaches all within the frame of sustainable development.

There is a surprising lack of discussion of the Framework in the academic canon. The existing literature on integration in the Pacific was largely written before it came into effect in 2017 (Gero et al., 2011; Nalau et al., 2016) however there are some notable exceptions (e.g. Natoli, 2019).

This paper addresses this gap in the literature by not only discussing the Framework but also how this voluntary policy guidance is being put in to practice by one PICT: Vanuatu.

The FRDP was developed through a process of reviews, workshops, and stakeholder engagement. The FRDP was preceded by two separate regional frameworks: the Pacific Disaster Risk Reduction and Disaster Management Framework for Action 2006–2016 (RFA), and the Pacific Islands Framework for Action on Climate Change 2006–2016 (PIFACC) (Pacific Community, 2016). In 2010, both frameworks had mid-term reviews and the major recommendation from both reviews was for greater policy coherence. A Roadmap Technical Working Group was formed to progress this recommendation of regional policy coherence across disaster and climate risks. One of the major contributing reports was a Background report that recommended that policy coherence take the form of a strategy, providing high-level strategic guidance at the regional, national, and sub-national levels – it was to be called the Strategy for Disaster

and Climate Resilient Development in the Pacific (SRDP) (Hay and Pratt, 2013).

The various reviews and reflections were supplemented with an extensive and inclusive online engagement process with stakeholders from across the Pacific region – 1,539 individual comments were received alongside 56 formal submissions into the development of the SRDP (Online Consultation: Strategy for Disaster and Climate Resilient Development in the Pacific SRDP; Tavanabola, 2014). The myriad reflections related to the implementation of the RFA and PIFACC, and subsequent recommendations that shaped the FRDP, were published the year after the FRDP was launched (Pacific Community, 2017). This Regional Synthesis Report consolidates the themes that had emerged from the review process in to eight themes, which are reflected in the goals, strategic objectives, and outcomes of the FRDP.

The FRDP approaches the integration of climate change adaptation and disaster risk management through the lens of resilient development. Resilient development is an established approach and despite academic and policy debates about the definition of ‘resilience’, it is widely considered a strong conceptual approach to integrating climate change and disaster management and mainstreaming this across the whole gamut of development policies and practices (World Bank, 2013; Keating et al., 2017). The FRDP identifies three inter-related goals that need to be actively pursued by all stakeholders, working in partnership, in order to enhance resilience to disasters and climate change in the context of sustainable development and efforts to eradicate poverty (Pacific Community, 2016).

1. *“Strengthened integrated adaptation and risk reduction to enhance resilience to climate change and disasters* Pursuing this goal entails successfully managing risks caused by climate change and disasters in an integrated manner where possible, within social and economic development planning processes and practices, in order to reduce the accumulation of such risks, and prevent the creation of new risks or loss and damage. This goal will contribute to strengthening resilient development and achieving efficiencies in resource management.
2. *Low-carbon development* Pursuing this goal revolves mainly around reducing the carbon intensity of development processes, increasing the efficiency of end-use energy consumption, increasing the conservation of terrestrial and marine ecosystems, and enhancing the resilience of energy infrastructure. This goal will contribute to having more resilient energy infrastructure in place, and to increase energy security, while decreasing net emissions of greenhouse gases.
3. *Strengthened disaster preparedness, response and recovery* Pursuing this goal includes improving the capacity of PICTs (Pacific Island Countries and Territories) to prepare for emergencies and disasters, thereby ensuring timely and effective response and recovery in relation to both rapid and slow onset disasters, which may be exacerbated or caused by climate change. Disaster preparedness, response and recovery initiatives will reduce undue human losses and suffering, and minimise adverse consequences for national, provincial, local and community economic, social and environmental systems.” (Pacific Community, 2016, p. 3)

The inter-related goals are supported by strategic objectives, outcomes, and priority actions outlined in the Framework to facilitate the pragmatic intent of the voluntary guidelines, see Table 1 (Pacific Community, 2016). Each goal has an accompanying strategic objective and outcome, listed below. Each goal also has a long, non-exhaustive list of priority actions that stakeholders are suggested to undertake, some at the regional level. Vanuatu is one of the countries enthusiastically adopting these guidelines and has advanced their implementation further than most.

2.3. The Vanuatu case

Vanuatu is widely cited as one of the countries most at risk of disasters (Garschagen, 2016). It is exposed to many different natural hazards, including earthquakes, tsunamis, volcanoes, tropical cyclones, storm surges (Government of Vanuatu, 2015). The climate crisis is adding to this exposure, if not always in frequency of hazards but definitely in intensity of hydro-meteorological hazards (Government of Vanuatu, 2015). The close link between the changing climate and Vanuatu’s experience of natural hazards means that ni-Vanuatu communities, similarly to many others around the world, do not conceptually separate the risks of each (Mochizuki et al., 2018; Nalau et al., 2016). Due to the high exposure to natural hazards and vulnerability to climate risks, Vanuatu provides a useful case

Table 1
Goals, strategic objectives, outcomes of FRDP. Source: Pacific Community, 2016.

Goal	Strategic objective	Outcome
Strengthened integrated adaptation and risk reduction to enhance resilience to climate change and disasters	Present and future disaster risk and climate change are successfully managed, in an integrated manner where possible, within social and economic development planning processes and practices, to build resilience.	Stronger and more resilient communities where efficiencies are achieved by pursuing a more integrated approach to climate change adaptation and disaster risk reduction.
Low-carbon development	More efficient end-use energy consumption, reduced carbon intensity of development processes, increased conservation of terrestrial and marine ecosystems and increased resilience of energy infrastructure in PICTs.	Improved energy security, decreased net emissions of greenhouse gases, and enhanced resilience of energy infrastructure.
Strengthened disaster preparedness, response and recovery	Improved capacity of PICTs to prepare for emergencies and disasters, thereby ensuring timely and effective response and recovery, and to ensure future risk is reduced, in relation to both rapid and slow onset disasters.	Disaster preparedness, response and recovery initiatives prevent undue human losses and suffering, and minimize adverse consequences for national, provincial, local and community economic, social and environmental systems.

study to examine the integration of managing risks emerging from both natural hazards and climate change.

Vanuatu is also a relatively new sovereign state, gaining independence from the United Kingdom and France in 1980. After a period of political turmoil post-independence the country has been politically stable for the last decade, excepting the political corruption scandal of 2015 (Morgan, 2004; Forsyth and Batley, 2016). This stability has allowed the country's leaders to strengthen legislation, policies and institutions, as well as attracting increasing amounts of foreign assistance (IMF, 2015). This paper will focus on how Vanuatu has, and is, integrating climate change and disaster risk management through stronger legislation and policy, improving institutions and their collaboration, and allocating the resources required to enable the integration at these various levels.

2.4. Policy and legislation

Due to Vanuatu's high exposure and long experience with natural hazards, disaster management has long been a feature of the country's legislative and policy environment, pre-dating independence. The Search and Rescue Act of 1975 was established "[t]o provide for the organisation of search and rescue operations in Vanuatu and surrounding waters" (Search and Rescue Act, 1976). This Act was only repealed in 2000 by the National Disaster Act. The newer Act provided much more detail about how disasters are to be managed, the institutional set-up put in place to do so, and the details of declaring a state of emergency. There is currently a Bill before the ni-Vanuatu Parliament to update this Act with a new Disaster Risk Management Act (Parliament of Vanuatu, 2020). Interestingly, as one interviewee noted, the Bill before Parliament aims to integrate CCA with disaster risk management more closely and was suggested to the Council of Ministers by the National Disaster Committee (the function of which is detailed below).

Vanuatu has published a range of disaster risk reduction and management policies and plans since the Act of 2000 – see Fig. 1. The Disaster Risk Reduction and Management National Action Plan 2006–16 was the first policy in Vanuatu to emphasise disaster risk reduction, mitigation and preparedness and laid the foundations of disaster risk reduction being mainstreamed across the country (Government of Vanuatu, 2015). It was one of the first to operationalise the Hyogo Framework and broadened the scope of disaster management in Vanuatu beyond immediate relief and response activities. There are also annual National Cyclone Support Plans, updated every October, that aim "to detail the preparedness, response and early recovery processes in the event of a cyclone impacting the Republic of Vanuatu, in line with the requirements of the National Disaster Act 2000" (Government of Vanuatu, 2019b).

Vanuatu has more recently focused on legislative and policy responses to the emerging climate crisis (see Fig. 2). Policy responses began with the National Adaptation Programme for Action in 2006 which focused on immediate actions to be delivered on a project basis. This was followed up by the more comprehensive Climate Change Strategy of 2007 and the Climate Change Adaptation Strategy in 2011. However, both these documents remain in draft, never having been formally endorsed. Interestingly, before the government created any specific legislation on climate change it moved to integrate it with disaster risk reduction.

According to two interviewees working for the national government, Vanuatu was deeply engaged in the development of the FRDP from 2013 to 2015, integrating the two previous regional frameworks into one coherent policy document providing guidance on reducing climate and disaster risk in the context of sustainable development. This was also a critical period for Vanuatu's national policy and legislative responses to integration and built on Vanuatu's strong enabling environment, commitment and advocacy for integration (Jha and Stanton-Geddes, 2013). The impetus for change was made even more pressing by the devastating impact of

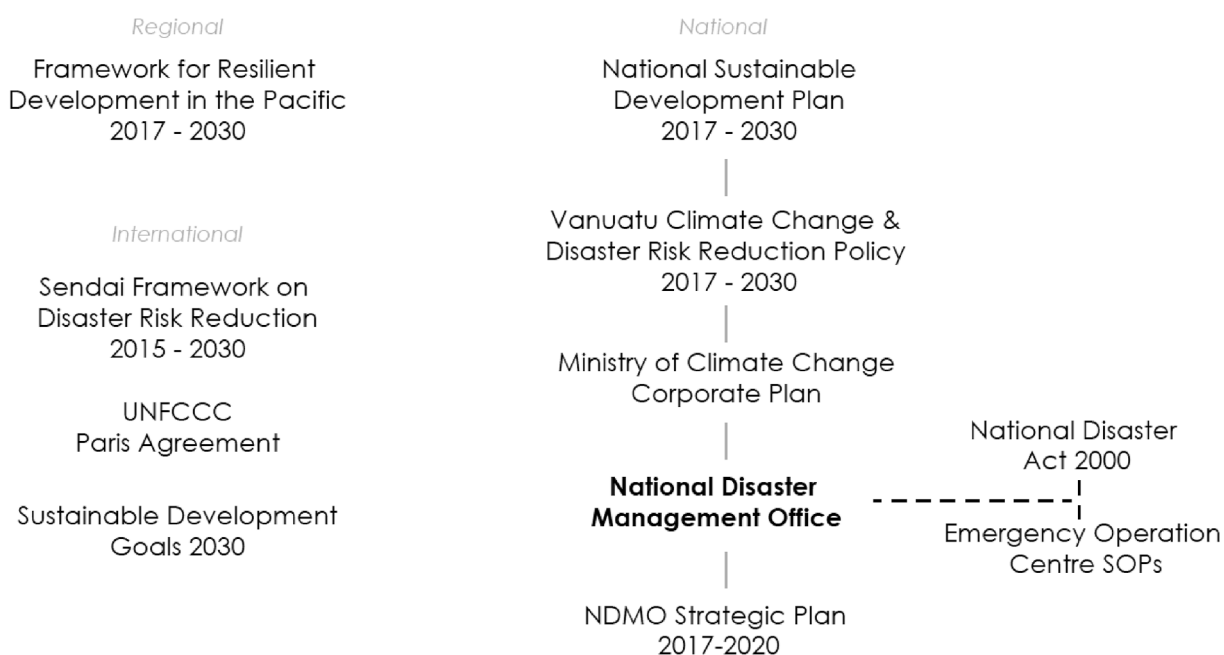


Fig. 1. Map of relevant disaster management and climate change agreements, policies, and plans (Government of Vanuatu, 2015).

Plan Long Act Short 2013*-2016

Priorities and Action Agenda 2006*-2015

National Sustainable Development Plan 2016*-2030

National Disaster Act of 2000*

Bill for National Disaster Risk Management Act

Search and Rescue Act of 1975*

Meteorology, Geological Hazards and Climate Change Act of 2016*

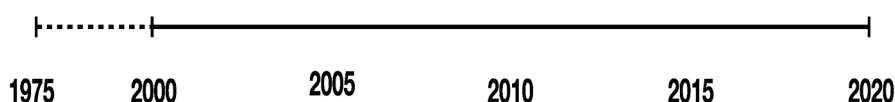
Disaster Risk Reduction and Management National Action Plan 2006*-16

National Adaptation Programme for Action 2006*

Vanuatu Climate Change and Disaster Risk Reduction Policy 2016*-2030

Climate Change Strategy 2007

Climate Change Strategy 2011



Key
 Current plans, policies, or Acts
 National development plans
Legislation
 Policies and plans
 * denotes year of implementation

Fig. 2. Timeline of legislation in Vanuatu, authors own.

Tropical Cyclone Pam. TC Pam made landfall in March 2015 and wrought major destruction across the country, leading to loss and damages to the economy of more than 60% of the country's Gross Domestic Product (International Monetary Fund Asia and Pacific Dept, 2015). Some government interviewees noted that TC Pam provided additional impetus to legislative integration, in part because the regulatory and policy environment was reviewed to increase coherence in disaster management. This ended up including climate change adaption in the preparedness phase of disaster management and thus provided another practical reason for greater DRM and CCA legislative integration.

The Meteorology, Geological Hazards and Climate Change Act of 2016 was the first act of parliament that brought together disaster risk reduction and climate change considerations. Other than the important innovation of bringing together the management of information from the various climate and non-climate hazards, the Act formally created the National Advisory Board on Climate Change and Disaster Risk Reduction (NAB) - although the NAB existed previously (formed in 2012 but in a reduced capacity) this was an importance legislative development to give greater prominence to and to embed the NAB in national law (discussed further below).

The aforementioned Bill for Disaster Risk Management Act before Parliament as of 2020 goes further, clearly stating as one of its objectives:

“to support a whole-of-government approach to disaster risk management, especially the integration of disaster risk reduction and climate change across the different sectors and through all levels of Government, through information-sharing, cooperation and joint planning, as appropriate”. (Parliament of Vanuatu, 2020)

Understandably, the policy environment in Vanuatu has progressed integration further and did so earlier than any other jurisdiction. Despite the government's national-level Priorities and Action Agenda 2006–2015 (PPA) and its successor, the Plan Long Act Short 2013–2016 document (PLAS), both including disaster risk reduction and climate change responses as priorities, it was the National Sustainable Development Plan 2016–2030 (known as The People's Plan) that first articulated a clear strategic vision for integrating the two (Government of Vanuatu, 2015, 2016). The Plan explicitly states that part of the vision for Vanuatu is “enhanced resilience and adaptive capacity to climate change and natural disasters” (Government of Vanuatu, 2016, p. 3), mirroring language in the FRDP “which provides guidance and support for building resilience to climate change and disasters in the Pacific Island region” (Pacific Community, 2016, p. vii).

Subsequent to The People's Plan, the government published the Vanuatu Climate Change and Disaster Risk Reduction Policy 2016–2030 (Government of Vanuatu, 2015). The purpose of the policy is to

“articulate Vanuatu's vision, principles, strategic goals, priorities and strategies for climate change and disaster risk reduction; provide the framework for mainstreaming climate change and disaster risk reduction into sustainable development processes” (Government of Vanuatu, 2015, p. 2)

and ensure greater coordination and collaboration across relevant stakeholders and projects. This is a clear adoption of the FRDP which embeds the integration of disaster risk reduction and climate change adaption in the national strategy towards sustainable development.

2.5. Institutional arrangements

The institutional landscape focused on disaster management and climate change has, appropriately, largely followed the relevant policies and legislation. The major exception is that of the Community Disaster and Climate Change Committees (CDCCCs), the first of which were set up through a joint effort of international NGOs, the Vanuatu Red Cross Society and the National Disaster Management Office (NDMO) in 2008 (Lamberti, 2016). It is interesting to note that the institutional structures closest to community, the CDCCCs, were the first to integrate. This may be because of the lack of conceptual separation by community members noted above. The further one gets from communities, the poorer the integration is - see discussion below about institutional integration at the international level.

The NDMO and the governance mechanism for responses, the National Disaster Committee, were formed by the National Disaster Act in 2000. The NDMO was originally mainly staffed by police, the first Director being seconded by the Police Services Commission for the first two years of operations. The NDMO sat under the Ministry of Internal Affairs, alongside the police. As one interviewee noted, "...disaster management, previously, was more regarded as, through, a national security perspective". The influence of the police and their responsibilities to respond to disasters as outlined in the Act meant a focus on disaster response. The same interviewee noted "it was only around 2011 that the NDMO moved out of police jurisdiction to a more civil arrangement...under the Department of Local Authorities". The implementing of the Hyogo Framework through the Disaster Risk Reduction and Management National Action Plan 2006–16 also facilitated a move away from militaristic response to emphasising both preparedness and response. This process to develop the Action Plan saw the establishment of a National Task Force on Disaster Risk Reduction, the first institutional embodiment in Vanuatu of the shift away from exclusively disaster response to broader disaster management, encompassing risk reduction and anticipatory action.

Institutional arrangements reflecting the integration of disaster risk management and climate change began before policy and legislative integration with the creation of the National Advisory Board on Climate Change and Disaster Risk Reduction (NAB) in 2012. In the words of one interviewee, "from 2012 onwards, you had this whole paradigm shift in terms of integrating adaptation and disaster risk reduction in to one coherent entity". The NAB was the amalgamation of the National Task Force on Disaster Risk Reduction and the National Advisory Committee on Climate Change (Meteorology, Geological Hazards and Climate Change Act, 2017). At this time, the NAB was a unit within the Vanuatu Meteorology and Geo-Hazards Department, and was beginning to emerge as an influential policy setting body.

It was only in 2013 with the creation of the Ministry of Climate Change Adaptation, Meteorology, Geo-hazards, Environment, Energy and Disaster Management (in 2014, renamed the Ministry of Climate Change) that the NDMO moved outside the Ministry of Internal Affairs. The creation of this ministry was another institutional arrangement reflecting the emerging emphasis on integration - it housed the NDMO, Meteorology and Geo-Hazards Department, as well as the secretariat of the NAB.

As of 2020, both the management and governance of disaster risk management and climate change reflect an even closer integration of the two. The Ministry of Climate Change now comprises of the VMGD, NDMO and a newly created Department of Climate Change (in 2016). The governance mechanisms remain both the NAB and the National Disaster Commission (NDC), the former for anticipatory action (disaster risk reduction, climate mitigation, climate adaptation) and the latter for responsive action (only being activated to respond to specific disaster events). Importantly, the composition of the governance mechanisms have changed since they were established to create much greater synergies between them (formally reflected in the Bill before Parliament, see table below) (Table 2).

If the proposed Bill passes Parliament, the NDC and the NAB will have many more members that sit on both, as can be seen in Table 1. Specifically, the Ministries of Finance and Treasury, Foreign Affairs, Infrastructure and Public Works, Internal Affairs, and Climate Change will all have senior representations on both the NDC and the NAB. The Prime Minister's Office is formally part of the NDC and regularly participates in the NAB even though their membership in the NAB is not explicitly stated in the legislation. The last eight rows of Table 1 show the departments and organisations that are only involved in the NAB and not in the NDC: Women's Affairs, VANGO (Vanuatu Association of NGOs), Environment, Forestry, Vanuatu Cultural Centre, Chamber of Commerce, and representatives of the youth and academic sectors. As one interviewee suggested, due to this greater coordination the NAB functions as 'a nation-wide resilience coordination body'.

The NAB is now a high-profile, powerful and well-resourced organisation that meets monthly and discusses the details of policy and planning through at least six different task forces. The NAB is responsible for helping finance resilience initiatives and one of the six task forces - the Climate Finance Task Force (which the NDMO is involved in, according to an interviewee) - even has a financing roadmap for the country. This reflects a much greater integration of institutional arrangements that support the integration of national policies.

The remaining gap in institutional arrangements to support the national integration policies and (forthcoming) legislation is the formal relationship between the NAB and the Ministerial Budget Committee. As highlighted by one interviewee, greater mainstreaming across government ministries of the integration of disaster risk management with climate change could be strengthened by the NAB signing off on budget proposals put to the Ministerial Budget Committee. This institutional arrangement would further support Vanuatu's implementation of the FRDP and add another practical layer to its strong commitment to sustainable development.

2.6. Resourcing

Vanuatu is increasingly allocating the requisite resources to the institutions and initiatives that are delivering an integrated approach to disaster risk management and climate change. The FY18 budget allocates 10% of the national budget to improving

Table 2

Changes in members of National Disaster Commission (NDC) and the National Advisory Board on Climate Change and Disaster Risk Reduction (NAB), authors own.^a

NDC in National Disaster Act 2000	NDC in current Bill before Parliament	NAB in Climate Change Act 2016	Ministries and Offices with common membership if Bill passes
Director-General of Ministry of Internal Affairs (chair)	Director-General of Ministry of Climate Change	Director-General of Ministry of Climate Change (chair) Director of Dept of Climate Change Director of Dept of Energy Director of Dept of Geological Hazards Director of Dept of Meteorology	Ministry of Climate Change
Commissioner of Police Director of NDMO	Director of NDMO Director-General of the Prime Minister's Office	Director of NDMO Director of Dept of Strategic Management	NDMO Prime Minister's Office ^b
3 × NGO representatives	Director-General of Ministry of Internal Affairs Director-General of Ministry of Public Works Director-General of Ministry of Foreign Affairs Director-General of Ministry for Finance Commissioner of Police CEO of Vanuatu Red Cross Society	Director of Dept of Local Authority Director of Dept of Public Works Director of Dept Foreign Affairs Director of Dept of Finance Director of Dept of Woman's Affairs CEO of VANGO Director of Dept of Environment Director of Dept of Forestry Director of Vanuatu Cultural Centre (observer) Rep of Chamber of Commerce (observer) Youth representative (observer) Academic representative (observer)	Internal Affairs Infrastructure and Public Works Foreign Affairs Finance and Treasury

^a The names of the various offices, departments, and ministries are altered often, making it difficult to perfectly align the aforementioned in previous legislation to the Bill before Parliament.

^b The DG of the Prime Minister's Office is the co-chair of the NAB according to the NAB's own website however does not occur in the climate change legislation of 2016. In practice, the DG of the Prime Minister's Office does indeed co-chair the NAB.

resilience and natural resource management. This increased to 15% in FY19 and remains at that level for FY20. This level of funding for climate change and disaster risk management may be among the highest in the world – the [UNDRR 2019 Global Assessment Report](#) references the Philippines allocating 5% of sub-national governments' budgets to DRR as exemplary practice ([UNDRR, 2019](#)). The allocation to this budget priority clearly demonstrates Vanuatu's commitment to resilient development by

“continu[ing] to ensure the protection of the natural environment on land and at sea, upon which much of our social and economic wellbeing depends, as well as continuing to build our resilience to climate change and natural hazards” ([Government of Vanuatu, 2016](#)).

The FY20 budget demonstrates some of the success of the ongoing efforts to integrate and mainstream disaster risk management and climate change throughout the government. For the first time in Vanuatu's budget papers, the infrastructure priority outcome includes resilience - “Priority Outcome 2: Improved Resilient Infrastructure” ([Government of Vanuatu, 2019a](#)). This is significant not only because of the explicit reference to resilient development but also as this priority outcome is allocated 20% of the national budget. This increases the explicit resourcing of resilient development in Vanuatu's national budget to 35% ([Government of Vanuatu, 2019a](#)).

Two possible improvements are worth highlighting here, both suggested by interviewees: the aforementioned institutional strengthening of NAB should extend to approving budget submissions with the Ministerial Budget Committee, and significantly improving access to these national financial resources at the community level. Whilst this paper has been focused at the national level, resourcing could be used better to support the existing integration at the community level, through the Community Disaster and Climate Change Committees.

3. Discussion and concluding remarks

The international development and humanitarian community could learn much from the integration of disaster risk management and addressing the climate crisis shown in Vanuatu, especially in terms of resourcing.

The international resources available to support Vanuatu are fragmented and far from integrated. Disaster risk finance is still largely administered according to the phases of the disaster management cycle, i.e. response, recovery, preparedness, resilience funding are provided separately, often by different institutions and mechanisms. Climate finance is available through different institutions and mechanisms again ([UNDRR, 2019](#)). This has been reflected in the Vanuatu context to the detriment of the country's

emphasis on providing a coherent and coordinated response to the climate crisis and increasing risk of disasters. According to some interviewees, this is starting to change as international donors shift from project and programmatic funding to more sector-wide approaches and, ideally, direct budget support. Interestingly, this perspective was not shared by interviewees from the INGO sector who feel that their integration funding remains at the project and programmatic levels. This may reflect the donor funding mechanisms used with INGOs in contrast to direct budget support for national governments.

Vanuatu is leading the way in implementing the much-discussed conceptual integration of disaster risk management and climate change adaptation. As noted above, Vanuatu has not only integrated policies and institutional arrangements but is actively resourcing both, with perhaps the highest national budget allocation to resilience² in the world at 15% (Government of Vanuatu, 2015; UNDRR, 2019; Parliament of Vanuatu, 2020). Although these are relatively recent initiatives the impacts are already starting to be felt in Vanuatu and beyond, as can be seen in further document analysis of the myriad resilience-related projects listed on the NAB website (<https://www.nab.vu/projects>).

To a large extent, outside the region and its progressive Framework for Resilient Development in the Pacific, the international community still separates climate change adaptation and disaster risk management (UNDRR, 2019). This is evident at the policy level, in the arrangements of relevant institutions, and most notably in the resourcing of the two separate systems. The increasing shift to anticipatory financing of disaster risk management and its concomitant lack of coordination across the international humanitarian system provides a clear opportunity to start integrating international efforts of disaster risk management and climate change adaptation.

Thus the Vanuatu experience provides an informative example of how the international community could put into practice the ideals of climate change adaptation and disaster risk management integration. This paper addresses the gap in the literature identified earlier as it has demonstrated how a sovereign state is actively pursuing the ideals of integration, documenting for this first time the range of implementation initiatives in practice in Vanuatu, and discussing how this has emerged to be one of the leading countries in the world.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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² 'National budget allocation to resilience' is defined here as explicit allocations in budget lines labelled 'resilience' in the national budget.

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