1 **Conceptualizing Vulnerability and Adaptive Capacity of Tourism from an** 2 **Indigenous Pacific Islands Perspective**

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15 16 17 18 **Abstract**

19
20 Many tourism businesses are highly dependent on weather and climate. This makes
21 dependence on tourism both an asset and a risk especially in regions, such as tropical
22 Pacific Islands, which have been classified as climate change hotspots. This chapter
23 looks at some of the emerging alternative approaches in knowledge management,
24 tourism governance and policy that are based on indigenous systems, as an attempt to
25 increase the resilience of the tourism sector and the socio-ecological environment it
26 depends on. We do this by investigating two central concepts of resilience theory -
27 vulnerability and adaptive capacity, from an indigenous Pacific islands perspective.

Introduction

Climate is one of the most decisive attraction and risk factors for the tourism industry as a whole (Scott & Lemieux, 2010) and weather is often the driving factor in tourism decision-making. Climate change will have significant impacts on destination choice as parameters change, for example, with respect to visitor comfort in terms of increased heat stress due to increased temperatures (Matzarakis, 2006), and changing seasonality with impacts on the potential range of available leisure activities (Yu, G., Schwartz, Z., & Walsh, 2009). Further, increases in the number of extreme weather events have the potential to alter tourists' perceptions of 'safe' destinations, leading to a decrease in tourism arrivals for some areas (Jeuring & Becken, 2013), while extreme events can damage ecosystems that tourism depends on such as coral reefs (Nalau, Becken and Schliephack, 2017a; WMO, UNEP & UNWTO, 2008). Changes in weather and climatic conditions such as longer warm seasons can however also open up new areas and opportunities for tourism (Johnston, Stewart, Dawson, & Lemelin, 2012; Uyarra, Cote, Gill, Tinch, Viner & Watkinson, 2005). With such changes, the tourism industry at large is facing a somewhat uncertain operational environment within which they have to operate now and in the future. This means that the sector overall needs to plan and take into account changing environmental conditions and increase its resilience by investing in strategies, which enable it to continue to flourish including actions around climate change adaptation.

Tourism businesses especially in tropical island destinations are highly dependent on weather and climate. In the Pacific Small Island Developing States (PSIDS), tourism is the only economic sector to grow relatively consistently over recent years. In 2012 the sector peaked at 1.77 million international arrivals and, after a set back in 2013 due to severe tropical cyclones, rebounded in 2014 to 1.69 million arrivals (South Pacific Tourism Organisation n.d.). Sustainable tourism can be defined as 'achieving quality growth in a manner that does not deplete the natural and built environments and preserves the culture, history and heritage of the local community' (Edgell, Allen, Smith, & Swanson, 2008, p. 183).

Yet, SIDS are simultaneously highly vulnerable to climate change impacts including increases in extreme events, sea level rise, salt water intrusion, increases in

temperature, and subsequent land loss and inhabitability of islands (Nurse et al., 2014). The unique characteristics of SIDS further increase their vulnerability as they often include a large number of remote low-lying islands, rural-urban migration, high population growth rates, and high dependency on external economic inputs including remittances, international trade, and development aid (Hay, Forbes, & Mimura, 2013; Kuruppu & Willie, 2015). Yet, tourism in the context of PSIDS occurs as part of other social, political, economic, cultural and historical processes. Hence, to understand the vulnerability of tourism in an indigenous Pacific Island context, governance bodies need to pay attention to these contextual processes while simultaneously considering the nature of place-based attractions in a broader sustainability setting.

Although much has been written about potential impacts of weather and climate change (Aylen, Albertson, & Cavan, 2014; Dubois, Ceron, Gössling, & Hall, 2016; Gössling, Scott, Hall, Ceron & Dubois, 2012; Lise & Tol, 2002; Rauken, Kelman, Steen Jacobsen & Hovelsrud, 2010; Rosselló & Santana-Gallego, 2014), a gap persists in assessing and examining tourism sector vulnerability and governance within an indigenous context. This chapter examines some of the emerging alternative approaches in tourism governance and policy that are based on indigenous governance as an attempt to increase the resilience of the tourism sector and the socio-ecological system it depends on. It aims to characterize vulnerability and adaptive capacity to climate change - two central concepts of resilience theory - from an indigenous perspective rather than from a purely economic sector-specific perspective. Further, we provide a conceptual model that integrates indigenous governance and knowledge structures and values for a more resilient and inclusive tourism governance while using a Fijian context as a case study to demonstrate the potential use of the framework.

Following this introduction, the next section summarises some of the main debates regarding concepts such as climate adaptation, vulnerability, adaptive capacity, and resilience. The third section introduces conceptual frameworks for knowledge and governance integration for increased tourism resilience and adaptive capacity from the Pacific Islands perspective, including a Fijian case study. To conclude the chapter, the fourth section discusses some of the implications of the framework and draws some recommendations for further research and policy considerations.

Defining concepts in the context of tourism resilience

The main concepts used to assess, describe and examine the ways particular sectors are impacted by and can respond to climate change and sustainability issues are those of vulnerability, resilience, adaptation, and adaptive capacity. Vulnerability, resilience and adaptation in particular each have their own scientific communities and at times pursue research in isolation from each other (Schipper & Burton, 2009). While, for example, the Intergovernmental Panel on Climate Change (IPCC)'s Assessment reports have aimed to provide more defined understandings of these key terms, variety still exists in how they are approached and used in practice (Levina & Tirpak, 2006). In this section, we demonstrate some of this variety and pinpoint the need to be clear what terms are used and how.

Vulnerability can be generally understood as the sum of interacting factors and processes, which either strengthen or decrease a community's, individual's or institution's capacity to respond to climate change. Yet, Ensor and Berger (2009) note that vulnerability is often researched from different angles, which stem from a focus on vulnerability reduction, resilience strengthening or ways to build adaptive capacity. Authors also make a difference between start point versus end point vulnerability. Those focused on end point vulnerability try to measure how effective a particular adaptation option is in reducing negative impacts arising from a particular hazard event (Ensor & Berger, 2009). Those focusing on start point vulnerability begin by trying to understand which factors are currently responsible for increasing vulnerability of communities. The start point vulnerability view underlines the perception that we cannot understand adaptation processes without first understanding the current context (Burton, 2009). Others, such as Warrick, Aalbersberg, Dumar, McNaught & Teperman (2011), define end-point vulnerability as biophysical and start-point as social vulnerability, whereas Preston and Stafford-Smith (2009) in turn make a distinction between whether vulnerability is the sum of climate-society interaction or whether vulnerability emerges in the end due to current system structure.

Resilience, just like vulnerability, is another concept, which is often understood and used differently across disciplines, including in tourism (e.g. Becken, 2013; Espiner & Becken, 2014). In a seminal paper on vulnerability, Nelson, Adger and Brown, (2007, p. 396) define resilience as, ‘the amount of change a system can undergo and still retain the same function and structure while maintaining options to develop’. A richer understanding of adaptation, Nelson et al. (2007) argue, is to approach it through a resilience framework. This is because socio-ecological system perspectives have the ability to increase our understanding and conceptualisation of change. Moench (2009, p. 257) in turn defines systems resilience as “the ability to adjust to shocks and variability without fundamental changes in overall system structure”. In this view, resilience is used to maintain current structures rather than transforming them.

Handmer and Dovers (2009) take a different approach and use a resilience typology to examine three different dimensions of resilience, which drive the way institutions respond to risks. The typology, further refined for climate change by Nalau and Handmer (2015), shows clearly the boundaries of action, which each type of management approach to resilience brings forth. Type I typifies a change resisting approach that denies the existence of risk, and is focused on enabling the business-as-usual management type to flourish. Type II is more accommodating of change, but only in the margins: risks are acknowledged but there is no perceived need for large-scale changes in management approaches. Type III in turn acknowledges risks, and is focused on making changes in the structures of the system in order to fare better through increased flexibility. In the climate change and sustainability context, the three types of resilience differ in whether they deny climate change (Type I), accept it and make some changes (Type II), or accept climate change as a significant driver and adjust operations accordingly (Type III) (Nalau and Handmer, 2015).

The typology is tied to the notion of adaptive capacity, which is another core concept in the adaptation literature. Adaptive capacity can be described as “the property of a system to adjust its characteristics or behaviour, in order to expand its coping range under existing climate variability, or future climate conditions” (Lim et al., 2005, p. 36). Here again several authors provide different approaches that one might take to research adaptive capacity: one could focus on specific adaptive activity (sector-

specific adaptation approaches e.g. sea level rise planning) or generic adaptive capacity (macro-scale improvements in education, health) (Handmer, 2009, p. 214).

Grasso (2010) in turn makes a distinction between end-point and starting-point adaptive capacity: starting-point adaptive capacity describes the current factors, which explain system's ability to adapt, whereas end-point adaptive capacity is seen as the sum of technological adaptations to future climate impacts. Adaptive capacity centred on present-day vulnerability is "the set of resources available for adaptation, as well as the capacity to use these resources for effective adaptations" (Grasso, 2010, p. 23). Fresque-Baxter and Armitage (2012) also differentiate between subjective adaptive capacity (people's risk perceptions, perceived capacity to adapt) and objective adaptive capacity (assets, political support, human resources). The psychological dimensions relating to perceived adaptive capacity have also been recognised in tourism related research (Becken et al., 2013; Shakeela & Becken, 2015).

This short introduction to some of the key concepts has hopefully shown that the way adaptation or vulnerability or resilience are framed has a direct impact on the way research and policy processes get done and what are identified as priority outcomes (Levina & Tirpak, 2006; Nalau & Handmer, 2015). Yet, many of these concepts have been criticised as being Western-oriented and based upon predominantly Western knowledge and historical conceptual constructions. This also relates to knowledge construction processes where indigenous knowledge and experiences are bypassed and not accounted for (Ford, Cameron, Rubis, Maillet, Nakashima, Willox & Pearce, 2016; Parsons & Nalau, 2016; Parsons, Nalau & Fisher, 2017). Next, we focus on examining several conceptual frameworks, which aim to situate these concepts more closely in the Pacific Island tourism context.

Conceptual Frameworks

In this section, we explore what a indigenous governance approach in a PSIDS context could mean for a resilient tourism sector and its ability to adapt to change. Many tourism destinations in SIDS are heavily reliant on particular landscapes and ecosystems, such as beaches and coral reefs, which are often under customary

governance systems to begin with. This means that, in actual fact, the destination features might not be governed by the private sector but through a broad array of actors who need to cooperate in order to maintain the viability of the sector and its activities (Nalau et al., 2017a).

In the Pacific, traditional calendars and the way people understand and conceptualise time are based on values, which renders landscapes and the environment into something more than mere biophysical contexts (Mondragon, 2014). In essence, local knowledge is not just about the environment but it also relates to knowledge about the social and political contexts within which people live (Lebel, 2013). The time frames among indigenous communities can be quite different compared with those used by Western scientists and evident in prevailing worldviews (Climate Traditional Knowledge Working Group, 2014). These differences need to be considered in adaptation and resilience planning from the outset.

Indeed, Kuruppu and Willie (2015) note that one of the main cultural barriers in climate adaptation is the lack of attention paid to traditional knowledge (TK) and the role that different ceremonies and cultural ‘ways of being’ contribute to how communities respond to environmental change. Hence, it is conceivable that “the trend in declining traditional knowledge is a barrier to adaptive capacity of communities” (Kuruppu & Willie, 2015, p. 78). Next, we examine two frameworks, which have been suggested to tie the concepts of vulnerability, resilience and adaptive capacity closer to the Pacific context.

The Pacific Adaptive Capacity Assessment Framework

The roles of traditional knowledge and governance systems play a part in a recent initiative to contextualise adaptive capacity in the Pacific context, the Pacific Adaptive Capacity Assessment Framework (Warrick et al., 2017). The Framework builds upon seven main principles (Figure 1). It seeks to establish some form of guideline to delineate what adaptive capacity consists of in the Pacific context, with the aim that eventually the framework could be used to assess and measure such capacity in any given community. From a tourism governance perspective, Social Capital (2), Belief systems, Worldviews and Values (3) and Resources and

Distribution (4) are important aspects of analysing the decision-making processes and the extent that a community is able to utilise the available resources. In this section, we analyse the framework based on our experience working in the Pacific and relevant literature.

Figure 1. Warrick et al.'s Pacific Adaptive Capacity Assessment Framework (Adapted from Warrick et al., 2017).

Social Capital (Capacity 2) is an important part of adaptive capacity as the social networks and relationships partly determine what is possible in a particular context. This relates also to governance and decision-making processes within a community, who has a say in how particular decisions are made, and how the community as a whole then functions based on these relationships and governance arrangements. However, here it should be added that, in cases where family members have migrated overseas like New Zealand or Australia, many Pacific communities of place including

indigenous tourism operators have also social networks in other countries (Brown, 2015). What this means in terms of adaptive capacity and social capital, and relatedly to Resources and distribution (Capacity 4), is that solely measuring a community's capacity on the basis of geographical place (e.g. particular village on a particular island in Fiji or Samoa) will not tell us the complete story. For example, in Samoa, a major difference in how communities and indigenous tourism operators can cope with extreme events lies in the extent of remittances coming from overseas (Brown, 2015; Brown, Parsons, Nalau and Fisher, in press). The extended family, even if overseas, also has a say in decision-making back in the villages and communities, and on decisions on tourism operations and investments (Brown, 2015).

The framework does recognize the role of traditional knowledge and skills as part of adaptive capacity (Capacity 3). Yet, the Pacific region itself is a dynamic and historically adaptable context where missionaries, merchants, and Pacific peoples themselves have continuously reinvented and reshaped what we see as 'the Pacific'. Hence, the context in which climate change adaptation proceeds in the region is not static, but builds on rich historical, political, and cultural roots that continue to evolve over time. This means that approaches to manage change, including climate change adaptation, need to understand specific types of Traditional Knowledge (TK) in the contexts where adaptation options are being discussed and developed (CTKW, 2014). TK is not however static and the changing environmental contexts also impact its accuracy, for example, changing climate can impact weather indicator species (e.g. movement of particular birds before extreme events, or flowering of plants) (Chand et al., 2014).

Many Pacific communities have also increasingly developed a wider variety of social networks beyond their place of living, and hence it can be rare to find communities nowadays where TK is the only source of information. An important aspect therefore is to understand the kind of information people use to make decisions and where the information is sourced from (Nalau, Becken, Mackey & Noakes, 2017b; Nalau, Handmer & Dalesa, 2017c). Understanding the variety of knowledge sources in use becomes highly relevant for the tourism sector, in particular when there is a change towards more extreme weather events that have the potential to seriously undermine sustainable development. Understanding and further developing information sources

is also important, as these determine whether and how people are being able to prepare for extreme event and recover from their impacts (Nalau et al., 2017b).

Traditional Indigenous knowledge is much more than just ecological knowledge about the weather and natural resource management as it also speaks to a holistic way of living, which connects the community to its environment in a profound spiritual manner (Parsons et al., 2016, 2017). Indigenous social systems are highly embedded and comprised of complex, interconnected relationships to which indigenous knowledge plays a key role in maintaining the functions and longevity of indigenous systems. Indigenous knowledge, particularly in the Fijian context, is an integral part of everyday life and is not confined to specific rituals and traditions. Instead, it informs and facilitates all aspects of survival, which is often attached to sustaining life in a given geographical setting. As such, indigenous knowledge pertaining to social relations, environmental custodianship, governance and political systems are all part of a larger social and ecological order of a particular community. Those working with indigenous contexts therefore need to consider this broader cultural context and the range of beliefs and values held by communities, and the historical trajectories of power relationships (Parsons et al., 2017; Parsons & Nalau, 2016). All of these aspects have ramifications on how tourism operations can be governed and the perceptions around concepts such as a ‘resilient tourism sector’.

While the framework is very useful in providing specific examples of the kinds of capacities that could be measured in the Pacific Islands context, it is largely silent on issues such as gender. This is somewhat surprising given that women still largely carry most of the workload and they often have highly differential access to, for example, information and decision-making processes, and also the social ability to participate in tourism. Men usually control these positions and hence this is increasingly an important issue to consider in the region. However, this is slowly changing. Particularly in tourism related communities in Fiji where women are becoming more prominent in their communities because of their entrepreneurial success and economic independence gained through tourism (Movono & Dahles, 2017).

The focus of the Pacific Adaptive Capacity Framework is at the communal level but we suggest that it would also benefit from an indicator for environmental quality of the resources that the community relies on. Given that the quality of the environment in a destination is often the main basis for developing and marketing an attraction (Edgell et al., 2008), this should be included in any assessment of adaptive capacity and resilience. In coastal areas, such an indicator could for example rank destination quality in terms of health of coral reefs, area of undisturbed environment (e.g. intact forest areas), fresh fish abundance/availability and similar environmental qualities. In this way, assessing adaptive capacity of the community and destination would include both the social and ecological systems in the assessment. Next, we explore in more detail a Fijian model, which seeks to combine all of these factors.

Vanua Social and Ecological Systems and Resilience Model

The term vanua refers to a sacred overarching structure which unifies multiple and interdependent components under a single, internally and externally acknowledged communal unit (Ravuvu, 1983). Seminal Fijian scholars have described the Vanua as having physical (land, sea, air), social (customs, people, religion), economic (employment, politics, wealth), and ecological (animals, birds, marine life) components which are interrelated (Ravuvu, 1983; Nayacakalou, 1975). It is therefore essential that from the outset, studies that examine resilience and adaptivity within a community setting must employ research methodologies and approaches that are suited to the complex nature of indigenous society (Movono & Dahles, 2017). The apparent restricted use of post-modernist techniques in Pacific community research has resulted in a body of knowledge that has fallen short of adequately delayering communities and understanding the complex embedded social and ecological constructs that influence vulnerabilities and adaptive capacities.

Research practice must also consider localized research paradigms and lean on the knowledge and experience of indigenous researchers to complement the largely western body of literature (Nabobo-Baba, 2008). In this inclusive way, indigenous people are better placed at the center of research ensuring that empirical pursuits are tailored specifically to match the context of a particular community. This then allows for concepts such as adaptive capacity and vulnerabilities to be researched in terms of

indigenous ideologies, traditions, and social processes (Gallopín, 2006). Having an indigenous approach to research methodology further paves the way for understanding how traditional knowledge is linked to custodianship roles and daily practices, thus providing attention to how people live. Employing a comprehensive, bottom-up research approach has significant implications for understanding localized manifestations of the various processes, relationships and governance structures within indigenous communities. Immersion, the inclusion of indigenous methodology and local expertise opens doors for the adequate delayering of community constructs, focussing on the intricate issues relating to gender, minority groups and communal dynamics that would otherwise be overlooked (Movono, Dahles & Becken, 2017).

Recent studies conducted in a tourism-related community in Fiji (Movono, 2017), have shown that communities are complex, social and ecological systems (SES) that have multiple elements embedded within what would normally be considered as a homogeneous village. Employing Holling's (2001) SES constructs, Movono (2017) using indigenous methodology, draws attention to the links between culture, livelihoods activities and their influence on the overall resilience of Fijian communities involved in tourism. Movono's findings show that the introduction of the tourism system at the livelihood level has created socio-cultural and economic shifts within other system elements affecting levels of community resilience.

In his study of tourism in the Coral Coast of Fiji, Movono (2017) links the construction of the Naviti Resort to the replacement of pre-existing ecological resources and specific livelihoods practices attached to those resources. He argues that the construction of resorts on communally owned land replaces specific trees, nesting grounds and ecosystems, which have certain cultural and spiritual significance to locals. The replacement of natural resources with the physical resort structure replaces specific totems and the customs, traditions and livelihoods activities and traditional knowledge attached to those resources (Movono, 2017). With these change processes, resilience is affected due to reduced diversity of knowledge and livelihoods activities, which may now be centrally focussed on the new tourism system. His findings have provided an empirical basis for the use of the Vanua Social-Ecological Systems and Resilience model (Figure 2) as a means to conceptualize a tourism destination community as a system.

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387 Figure 2. Vanua Social and Ecological Systems and Resilience Model

388 (Movono, 2017, p.293).

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390 The Vanua Social and Ecological Systems and Resilience Model shows that a
391 community consists of multiple systems or elements that influence how people in a
392 Fijian community typically live. Within one community, there are many elements and
393 institutions ranging from the church to communal land, each element simultaneously
394 interacting (and being manipulated/managed) at multiple levels in order to meet an
395 objective of villagers. Whether it be an economic push to raise funds for a church
396 event, or a presentation of food, mats, and money as contributions for a village
397 members funeral, the elements within the Vanua are ‘mobilized’ to meet their short-
398 term and long-term needs. These embedded elements of a Vanua are often out of view
399 from outsiders and their importance as building blocks to successful resilient
400 communal development in the Pacific is often misunderstood.

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402 Like other indigenous communities in the Pacific, Fijians have legally and
403 customarily recognized social processes and political structures that not only reflect
404 traditional patterns of social organization but also indicate the interdependence
405 between humans and the biosphere (Movono, 2017). The Vanua SES and Resilience
406 Model provides a pathway for communities to be examined holistically and various

levels of investigation can also be conducted in terms of both starting point adaptive capacity and end point adaptive capacity. This is possible because the ecological and social aspects of adaptive capacity are considered within an appropriately defined complex adaptive system, having locally acknowledged social, ecological and economic components (Holland, 2006). In this case, the Vanua Social and Ecological Systems and Resilience Model shows the multiple layers within the community and provides pathways where a community can be examined in terms of women's empowerment, social capital, social and ecological change, vulnerabilities and resilience.

Using ethnographic techniques based on immersion and in-depth engagement with the cohort, Movono (2017) was able to weave himself into the community and uncover the various components within the community. These components and their interconnectivity were identified and meticulously examined through genuine engagement with the cohort, deep immersion, participation in daily life, relationship building and gaining the trust and confidence of community members. Trust and the respect of participants was critical in yielding rich information from conversational interviews. The level of immersion facilitated understanding about how certain socio-cultural and ecological elements are dependent on one another and are linked through the wide combinations of livelihood activities employed by community members to sustain life. The various resource utilization combinations and options selected by community members, in turn, affects levels of vulnerability and resilience and its examination is therefore essential if adaptive capacity is to be determined.

The Vanua SES and Resilience Model also capture the transitional and complex nature of indigenous communities. It holistically pays attention to the different elements (social, economic, ecological) and actors in the community, from the influential leaders to the most marginalized in the community as part of an interconnected system. This holistic approach provides a clearer picture of resource implications, political structures and the strengths and weaknesses of the system in terms of resilience (Gallopín, 2006; Holland, 2006). In essence, managing resilience is facilitated by assessing human interaction with each other and the biosphere and provides a focus on the elements of a system that need to be strengthened in order to increase adaptive capacity (Holling, 2001). For instance, after experiencing 40 years

of tourism, people in the Coral Coast of Fiji are now turning back to their traditional skills, reverting to fishing and farming in order to lessen their reliance on tourism income. This turn of livelihood approaches demonstrates reflexivity and growing local awareness of changes in and around the community. Researching these processes in indigenous communities highlights the adaptive nature of their systems, and ultimately a sense of managing resilience.

Indigenous society is highly reflexive, and its non-homogenous components have the potential to self-organize as it adjusts to the initial disturbances brought about by tourism. As such, a holistic approach to research is imperative to understanding the dynamic and fluid nature of indigenous people as they respond to tourism-related change. More importantly, Movono (2017) acknowledges that tourism itself may not lead to a loss of resilience. The indigenous community's resilience can be reduced by the diminishing attention to traditional values and indigenous knowledge over the long term, but this situation could be mitigated through cultural preservation, increased awareness and retention of traditional livelihoods activities, and might be recoverable with proper restoration and reinvigoration of traditions and customs (Movono, 2017). Micro-level influences such as tourism employment can stimulate profound changes and adjustments in the overall system, leading to both increasing wealth and affluence but also leading to a decline in traditional activities which can be detrimental to food security and traditional indigenous knowledge. Therefore, with a tailored approach to research, indigenous communities must be examined as complex adaptive systems as opposed to being regarded as homogeneous and mere spectators in the tourism development process.

Discussion and Conclusion

In this chapter we have examined different concepts related to social and environmental changes such as adaptive capacity (Ensor & Berger, 2009; Warrick, 2011), resilience (Handmer and Dovers, 2009; Nalau & Handmer, 2015) and vulnerability (Nelson et al., 2007) and how they could be situated better in a regional context such as the Pacific. We have also presented examples from the Pacific region

where several recent frameworks (Movono, 2017; Warrick et al., 2017) were used to situate such concepts into a more culturally differentiated context that makes these more relevant within the region. Such frameworks are well placed to provide alternative approaches to understand how tourism is governed, the extent of adaptive capacity in tourism systems, and the way associated policies are developed in indigenous contexts.

These frameworks may also help to move from a perspective that indigenous communities are ‘impacted’ upon by tourism, to one where locals are seen as active agents who are an essential part of forming their own future (Movono et al., 2017). For example, the Vanua Social Ecological Systems and Resilience model starts with a focus on culture and its links to livelihoods and examines how these interact with tourism activities and the tourism sector overall (Movono, 2017). Using the framework to understand historic development and the status quo then helps towards transitioning from a less-than-perfect system to one that integrates tourism as one of several sustainable livelihoods that are embedded within the socio-cultural context of local communities. Particular attention needs to be paid to how natural resources are governed, how (and by whom) decisions are made, where investment flows are coming from, and who the beneficiaries are. These types of analyses then help determine the extent that international tourism is boosting or decreasing communities’ adaptive capacities in a particular locale (Movono and Dahles, 2017).

In the Pacific Islands context, governance is a very diverse concept given that there are several stakeholder groups who can claim ownership of particular assets and landscapes (Brown et al., in press). For tourism resilience and governance this means that while a resort might physically reside in a particular location and own activities within the resort area, the perceived ownership of the land still often remains with indigenous communities regardless of signing of land sale documentation with the resort owner (Brown, 2015). Hence, when considering what makes a Pacific Island destination resilient, one cannot consider such concepts as ‘adaptive capacity’ or ‘vulnerability’ without truly understanding the myriad social networks and groups, which all inhabit the same physical space (Brown et al., in press; Movono, 2017). As such, a consideration of indigenous communities as complex adaptive systems and their appropriate examination becomes relevant. Ultimately, it also raises the question

of what exactly is encapsulated in the notion of ‘resilient tourism’ – the tourism assets and key stakeholders (e.g. hotels) or the wider communities and environments in which they operate in and depend on.

International tourism is now, even more than before, a complex phenomenon given that it relies on international aviation and other forms of resource consumption to bring the consumers to the attractions. This is in particular problematic in Pacific Island Nations, such as Fiji, Vanuatu, and Samoa, where a growing informal sector is relying on international tourism arrivals. Yet, as has been seen with Cyclone Pam in Vanuatu in 2015, extreme events can bring the whole industry to a shutdown due to one single event, with long-term consequences to destination image and recovery of the sector (Nalau et al., 2017c). In a climate change context, this means that destination resilience is a combination of the efforts in the formal and informal sectors to understand the risks that are impacting tourism (Becken, 2013). Product diversification can increase the resilience of the sector in particular in places where other impacts, such as coral bleaching, can eventually make some sites unviable for particular types of tourism.

Vulnerability of tourism infrastructure also needs to be considered given the projected impacts of climate change (Nalau et al., 2017a; Shakeela and Becken, 2013). In the Pacific, as in many island destinations, much of this infrastructure has been built directly on the beach or adjacent to beaches. Although hard infrastructure solutions, such as seawalls, remain popular quick solutions to such issues as coastal erosion, storm surge and flooding in the tourism sector, there are emerging alternative options, such as ecosystem-based adaptation (EbA) strategies. EbA focuses on using ecosystems in helping communities to adapt to climate change (Munang et al., 2013), such as using coastal forest buffer zones and re-vegetation to protect hotel infrastructure and coastal villages (Mustelin et al., 2010). Such approaches are seen as increasing the resilience and adaptive capacity of both ecosystems and humans, and they can also increase the aesthetics while providing storm protection and increase sand retention on the beach. A resilient tourism governance is likely to combine a diversity of options and stakeholders in the management of adverse impacts in a manner, which secures business continuity and distribution of benefits (Movono, 2017; Movono and Dahles, 2017).

There are also global frameworks, such as the Global Sustainable Tourism Dashboard (<http://tourismdashboard.org>), which could be scaled to a regional, country and community levels and enable a better understanding and tracking of the sustainability of the tourism sector on the ground. This could be helpful for decision-makers and policymakers to start building a better understanding of the sustainability and resilience of a tourism destination and the destination community. Granted, in the Pacific context some of these indicators might have to be tailored to local indigenous contexts, but with the existing work and refinement of frameworks, this will be an excellent area of future research and policy work.

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