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Introduction

Colin Filer

A Personal Policy Odyssey

I first became interested in the problems of small islands under pressure when I was involved in the process of assessing the future impact of the Lihir gold mine in the 1980s. The Lihir group of islands in New Ireland Province consists of one medium-sized island, sometimes called Lihir but known locally as Niolam or Aniolam, and four very small islands, three of which are permanently inhabited. In 1980, two of these very small islands (Malie and Masahet) were already under pressure, while the third (Mahur) had not yet reached the critical level of population density. In order to refine the concept of 'pressure', my colleague, Richard Jackson, and I worked out how much land was required to maintain the existing system of food production on these islands, and how much would be required in future if the population were to grow at the rate of 2 per cent a year. With some other assumptions added to the mix, we figured that the people of Malie and Masahet:

> should already be suffering from a noticeable shortage of land, and … these problems will become acute within the next two or three decades unless there is a radical transformation of the agricultural system, a substantial reduction in the birth rate, or an equally substantial increase in the rate of outmigration.
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> (Filer and Jackson 1989: 38)

This was one part of a baseline scenario in which we tried to predict what would happen in the absence of the gold mine whose impact was being assessed. Since then, the gold mine has actually been developed, and all sorts of social, economic and environmental changes have taken place as a result (Macintyre and Foale 2004). So these three small islands have experienced new forms of pressure that set them apart from all the other very small island communities of Papua New Guinea (PNG), where there is no huge gold mine in the immediate vicinity.

In the second half of the 1990s, when I was working at the National Research Institute in Port Moresby, the problems being encountered on some of PNG's other small islands were drawn to my attention by a number of visiting anthropologists. Boang Island in New Ireland Province, M'buke Island in Manus Province and Brooker Island in Milne Bay Province are three examples that come to mind. These were essentially stories about population pressure on terrestrial and marine resources. At the same time, the national newspapers were already beginning to publish stories about the fears being expressed in PNG's coral atoll communities about the prospect of sea level rise as a result of global warming (Field 2000). Although the people of the Carteret (or Tulun) Islands have since captured a bigger share of international attention on this score, those of the Mortlock (or Takuu) Islands and the Tasman (or Nukumanu) Islands are in much the same predicament, and in one sense are worse off because their atolls are even more remote from terra firma. While the Carteret Islands are 'only' 100 km from Buka and Bougainville, the distance to the Mortlock Islands is 270 km, and the distance to the Tasman Islands is 550 km. However, if these two 'Polynesian' communities are the most remote of PNG's very small island communities, the Carteret Islands are under greater pressure or in greater peril because they hold the national record for small island population density—more than 1,224/km^2 in 2000 (Bourke and Betitis 2003: 14).

Despite the publicity attached to the plight of these three island groups, it is important to remember that most of the very small islands under pressure in PNG are not coral atolls, and sea level rise is not the biggest problem that they face—at least not yet. In the case of the Carteret Islands, it is also worth recalling that the rate of population growth was already thought to be unsustainable in the colonial period, long before anyone heard of global warming, and the colonial administration already had plans to solve this problem by resettling part of the population on Buka or Bougainville. Narratives of climate change should therefore not distract us from asking

what it is that turns a certain rate of population growth or level of population density into a perilous situation, how people have adapted to such situations in the past, and how their options have been changing through the colonial and post-colonial period.

In September 2000, an economist with whom I had previously collaborated in the implementation and evaluation of PNG's Biodiversity Conservation and Resource Management Program (BCRMP) drew my attention to a call for proposals to conduct 'sub-global assessments' as part of the Millennium Ecosystem Assessment (MA). A fellow anthropologist who had also been involved in the evaluation of the BCRMP warned me that the MA was likely to be a purely technocratic exercise that would not be amenable to our way of thinking. Foolishly perhaps, I ignored his advice and took this as an opportunity to think more deeply about the problems of small islands under pressure in PNG. In my initial expression of interest, I narrowed the definition of 'small islands' to those with a surface area of less than 10 km^2, but also suggested that these were representative of a much larger group of such entities spread across the Indo-Pacific region. This does not seem to have impressed the selection committee that was responsible for deciding which parts of the globe were most deserving of a sub-global ecosystem assessment (Filer 2009: 89). And matters might have rested if the economist had not found a way to incorporate my proposal into the design of the Milne Bay Community-Based Coastal and Marine Conservation Project (MBCP). It was his idea to change 'small islands under pressure' into 'small islands in peril' (SMIP). The second phrase was not only a better fit for the acronym but also resonated with the title of a report about the threat that climate change posed to the biodiversity of coral reef ecosystems across the whole of the Pacific Island region (Hoegh-Guldberg et al. 2000).

The MBCP was in effect the successor to the BCRMP, in the sense that it represented a second attempt by the Global Environment Facility to inject a large amount of money into PNG's biodiversity conservation business. The first attempt had come to a rather sticky end in 1998 when it was found that PNG's 'rainforest people' would only exhibit a preference for biodiversity conservation over resource development if the second option was not available (van Helden 2001, 2009; Filer 2004). The response to this discovery was to leave the rainforest people to their own devices, and instead fund the design of a marine conservation project in a coastal province that had relatively high levels of formal education and labour mobility, but where local communities were exerting unsustainable fishing pressure on coral reef ecosystems (Kinch 2001; van Helden 2004). Like the BCRMP before it,

the MBCP would be 'implemented' by the United Nations Development Programme (UNDP), but instead of being 'executed' by the PNG Government (through the Department of Environment and Conservation), it would instead be executed by a big international non-governmental organisation (NGO)—Conservation International—notionally working in partnership with the Milne Bay Provincial Government. As matters turned out, the MBCP was a more spectacular failure than the BCRMP. Five years of expensive design were followed by three years of expensive implementation and execution, and then the project was executed in another sense before it could proceed to its second phase (Baines et al. 2006; Balboa 2009, 2013).

From the point of view of the UNDP, the inclusion of our 'ecosystem assessment' as a separate component of the MBCP made sense for three reasons. The first was that the MA was itself a UN initiative, personally endorsed by Kofi Annan. The second was that it offered a way of investigating society–environment relationships in the target area that would go beyond the narrow focus of the executing agency on the establishment of a network of marine protected areas. The third was that it would be undertaken by social and natural scientists who were not themselves employed by the executing agency, and might therefore be able to make an independent contribution to understanding the social and environmental context and impact of the project.

From my point of view, simultaneous engagement with the MA and the MBCP proved to be a mixed blessing. The promise of funding from the UNDP made it possible to leverage approval (and some additional resources) from the MA to assemble a group of experts to start work on a sub-global assessment exercise while we waited for the promise to be kept. This was fortunate because the promise was not kept until the second half of 2004, but it was also problematic because all 'approved' sub-global assessments were required to report their findings before the end of that year. As it became apparent that our team would not be able to report the findings of new research in Milne Bay within the prescribed time frame, we were authorised to undertake a preliminary assessment of 'coastal, small island and coral reef ecosystems' across the whole of PNG, with a specific focus on a number of local areas (including parts of Milne Bay) where a substantial amount of relevant information was already available.

There is little doubt that we bit off more than we could chew by including all 'coastal' ecosystems within the scope of this assessment. The total length of the PNG coastline is in excess of 17,000 km. Even if the 'coastal

zone' is defined quite narrowly, as the space that extends 10 km inland or offshore, it encompasses 10 per cent of the country's landmass, and more importantly is home to roughly one-third of the country's total population. As a result, we had now got into the business of assessing the consumption of ecosystem services by coastal communities containing about 2 million people instead of the 100,000 or 200,000 who might be living on SMIPs. This enlargement of scope might have been justified by a desire to make the results of the assessment seem more important to national policy makers, or to see whether 'small island ecosystems' were actually under any greater pressure than other 'coastal ecosystems'—such as those located in proximity to large coastal towns. But in practice, it was grounded in a lack of certainty about what constitutes an 'ecosystem' in the first place.

The MA conceptual framework treated 'coastal' and 'island' ecosystems as two out of ten broad categories of ecosystem, but allowed that any particular 'place on Earth' might belong to more than one of these ten classes (MA 2003: 54). Small island ecosystems could thus be thought of as a subset of coastal ecosystems. However, while a small island and the waters surrounding it may count as a single 'place on Earth', it is also a bundle of different ecosystems if ecosystems are defined as the biological communities that are associated with a certain type of physical environment. So one island ecosystem might include an area containing coconut orchards, another area containing mangrove swamps, a third area containing coral reefs, and so on. Each of these small areas would then count as part of a much larger area containing biological communities of the same type, and these would not necessarily be associated with small islands. If we then set out to assess the condition of one type of biological community within the boundaries of a single nation state on the basis of available scientific data, it might simply prove impossible to distinguish between those that are associated with small islands and those that are not. So it turned out that the conduct of an ecosystem assessment at a national, as well as a local, scale actually required us to enlarge the scope of the assessment, either to embrace all of PNG's inshore marine ecosystems, or else to embrace all of PNG's coastal ecosystems (Filer et al. 2004). It might have suited the needs of the MBCP if we had in fact concentrated on the first of these categories, and we added 'coral reefs' to the title of our sub-global assessment as a gesture in this direction, because this type of marine ecosystem was of central concern to the project. However, small island communities are not exclusively dependent on the services supplied by marine ecosystems; they also make fairly exhaustive and sometimes unsustainable use of terrestrial resources.

Most anthropologists are not used to bothering too much about the definition and classification of ecosystems, but they have some reason to be bothered by a vision of the world in which human agency finds its primary expression in the consumption of ecosystem services, scientific or economic reflection on such acts of consumption, and the production of decisions about how they should be managed. Yet that is precisely the sort of world that was envisaged in the MA conceptual framework. This is an elaborated form of the pressure–state–response model familiar to biologists and ecologists, and was meant to facilitate a productive dialogue between such people and environmental or ecological economists. It was not meant to appeal to anthropologists, let alone to represent the local knowledge of Melanesian villagers (Filer 2009). Nevertheless, the members of all four MA Working Groups, including the Sub-Global Working Group, had to be initiated into this way of thinking as the price of their membership. So these were the terms in which we had to think about the meaning of 'pressure' and 'peril' as qualities of small island ecosystems and communities, if indeed we could distinguish them from other coastal ecosystems and communities.

Climate Change Discourse

In retrospect, the MA might be regarded as a momentary diversion from the ongoing labours of the Intergovernmental Panel on Climate Change (IPCC), which is organised in much the same way and subscribes to a similar version of the pressure–state–response model of relationships between human beings and their natural environment. The key difference is that the MA had a particular focus on the relationship between ecosystem services and human well-being, and made greater allowance for the possibility that this relationship could be affected by all sorts of pressures or 'drivers', aside from those directly related to climate change. The IPCC has not been ignoring these other pressures, but is very much concerned to measure the extent to which they add to the measurable impact of climate change on different types of ecosystems or social–ecological systems.

Discussion of this question has been the province of 'Working Group II' since the first assessment was undertaken in 1990. The current mandate of this group is not only to assess the impacts of climate change on different types of natural and human systems, but also to assess their relative vulnerability and their capacity to adapt to these impacts. The first report of Working Group II included a brief discussion of the vulnerability of

'small island countries', especially 'coral atoll nations', to rising sea levels, in a chapter that dealt with 'world oceans and coastal zones' (Tegart et al. 1990: 6-2). The second report of Working Group II had a chapter that dealt with 'coastal zones and small islands' as a hybrid category, noting that small islands could, by some definitions, be regarded as a subset of coastal ecosystems (Bijslma et al. 1996: 293). This chapter also observed that there had been an increasing focus on the vulnerability of small islands because rising sea levels might make them uninhabitable and result in the displacement of people from 'several small island nations' (ibid.: 299). The existential threat to small islands was said to be compounded by 'their distinct ways of life and possibly even their distinct cultures' (ibid.: 306), but this observation was mainly intended to cast doubt on some of the metrics then being used to assess their vulnerability.

In the third assessment, small islands were no longer treated as a distinctive type of ecosystem, but occupied an intermediate or marginal space between 'coastal zones' and 'marine ecosystems' (McLean et al. 2001). On the other hand, they were treated as a distinctive type of *political* system, because a separate chapter was reserved for 'small island states'. This was a reflection of the role being played by the Alliance of Small Island States in global climate change negotiations, although this body had already been in existence since the first assessment was undertaken. Within these states were small island 'communities' whose members had 'legitimate concerns about their future, based on observational records, experience with current patterns and consequences of climate variability, and climate model projections' (Nurse et al. 2001: 855). Those concerns were said to be grounded in their 'high vulnerability and low adaptive capacity', but it was not entirely clear whether these were qualities that were thought to set them apart from other coastal ecosystems or communities. Part of the problem here was the absence of any clear definition of what constituted a small island state or a small island community. A list of small island states in that chapter was a list of the states that were members of the Alliance. It therefore included Papua New Guinea (PNG), even though PNG contains half of the world's second biggest island, while Indonesia, which contains the other half, is not on the list, despite the probability that it contains more small island *communities* than any other nation state.

The subsequent reports of Working Group II have not had a separate chapter on 'small island states', but have instead contained a chapter on 'small islands' that seems to elide the distinction between states, communities and ecosystems (Mimura et al. 2007; Nurse et al. 2014; Mycoo, Wairiu

et al. 2022). The fifth assessment report noted that small islands are 'heterogeneous in geomorphology, culture, ecosystems, populations, and hence also in their vulnerability to climate change' (Nurse et al. 2014: 1635), but no attempt has been made to classify small islands according to their relative size. Instead, islands or island states that are obviously very small are cited as extreme examples of the vulnerability that is characteristic of the larger category to which they belong. And that larger category is sometimes represented as one that contains all the *coastal* communities within a set of small island states, as when the latest assessment report observes that 90 per cent of the inhabitants of Pacific Island states—aside from PNG—live within 5 kilometres of a coastline. Rather than seeking to be more specific about the relationship between island size and island vulnerability to the various manifestations of climate change, successive assessment reports have placed a growing emphasis on the significance of local or indigenous 'culture', rather than the actions of small island governments, in framing the adaptive capacities or responses of small island or coastal communities.

The discovery of 'culture' as a variable fact of life on small islands does not constitute a radical departure from the fundamental concern of all IPCC assessment reports with the measurement of things that can be measured. Otherwise, the science of climate change would not be credible as science. Culture is invoked as one of a range of institutional factors that might help to explain why metrics of vulnerability, as applied to small island ecosystems or communities, are unable to predict the way that islanders (or their governments) respond to the measurable impacts of climate change (Adger et al. 2009; O'Brien 2009; Barnett and Campbell 2010; Nunn et al. 2017; Neef et al. 2018).

The absence of any attempt to measure the relative size of different islands, or the extent of their physical isolation from other islands, or the extent of the relationship between these measures and other measures, is best understood as an absence dictated by political considerations. An assessment of the relative size or relative isolation of small islands within each small island state would simply detract from the assumption that these states share a common set of environmental problems and might therefore discover a common approach to their resolution.

The Cultural Critique of Insularity

The appearance of indigenous culture or knowledge as a distinctive but elusive variable in the scientific assessment of climate change on small islands, whatever their actual size, reflects another kind of political consideration that initially had less to do with climate change than with the very concept of insularity. In the Pacific regional context, the critique of this concept was inspired by Epeli Hau'ofa's essay on 'Our Sea of Islands', first published in 1993. Hau'ofa argued that the 'smallness' attributed to Pacific Island states or communities was simply an act of 'belittlement' that denied their capacity to do anything about the problems with which they were confronted. They were seen to be 'much too small, too poorly endowed with resources, and too isolated from the centres of economic growth for their inhabitants ever to be able to rise above their present condition of dependence on the largesse of wealthy nations' (Hau'ofa 1994: 150). But this perception of insularity was simply the effect of a colonial and post-colonial assumption that the ocean itself was not an integral part of the lives and livelihoods of the islanders who lived in its midst, and that assumption had been false since the islands were first occupied because 'much of the welfare of ordinary people of Oceania depends on an informal movement along ancient routes drawn in bloodlines invisible to the enforcers of the laws of confinement and regulated mobility' (ibid.: 156). Regardless of their size, Pacific Islands were really just nodal points in an ancient Oceanic network of social relations that ought to be rediscovered and celebrated in contemporary terms. Smallness and remoteness are not physical attributes worthy of measurement; they are simply 'states of mind' (ibid.: 152).

Hau'ofa's alternative vision of Oceania as a world of mobility, rather than insularity, has since been elaborated by a range of other scholars, mostly anthropologists or historians (Nunn 2004; D'Arcy 2006; Hviding and Rio 2011; Thomas 2011). Hau'ofa was not the first scholar to investigate the relationship between (island) 'roots' and (inter-island) 'routes' in the Pacific (Dening 1980; Bonnemaison 1985; Bayliss-Smith et al. 1988; Thomas 1991). Indeed, this has been a recurrent theme in accounts of the original Austronesian colonisation of the Pacific Island region over the last few thousand years (Bellwood 1978; Gosden 1993; Allen and Gosden 1996; Kirch 1997; Spriggs 1997; Allen 2000; Green 2000; Nunn 2003; Torrence and Swadling 2008). But this relationship has since acquired the shape of a contradiction that is characteristic of all islands everywhere, rather like an 'islandic' version of the contradiction between localisation and

globalisation, and contradictions like this are not easily resolved by academic arguments that celebrate or lament the triumph of one force over the other (Clifford 1997; Jolly 2001; Hviding 2003; Hay 2006; DeLoughrey 2007; Baldacchino 2008).

Hau'ofa's essay is widely credited as one of the foundation stones in the creation of a distinctive field of 'island studies', perhaps best conceived as a branch of cultural geography whose contemporary focus can be read from the pages of the *Island Studies Journal* and *Shima* ('The International Journal of Research into Island Cultures'), whose first volumes were published in 2006 and 2007 respectively. The field undoubtedly has older roots, as represented by the establishment of the International Scientific Council for Island Development in 1989 and the International Small Islands Studies Association in 1992. But a reading of the papers published in these two journals over the past 15 years does reveal the extent to which island studies have come to be more concerned with questions of definition than questions of measurement, and with the problematic nature of island identities rather than island livelihoods. Indeed, the hallmark of this new field of study, to paraphrase John Donne, is that no island is an island unto itself. The so-called 'relational turn' that puts the routes before the roots, continually deconstructing the concepts of island isolation or insularity, therefore threatens to dissolve the entity by which the field of island studies is defined (Stratford et al. 2011; Hayward 2012; Hay 2013; Pugh 2013, 2018).

In some respects, the relational turn in island studies is a turn away from the cultural turn in assessments made by the IPCC. One advocate of the relational turn has lamented the tendency of 'resilience ethics', as espoused by Working Group II, to 'throw the violence of the Anthropocene back onto the island community, telling islanders that they need to draw upon their rich community resources in order to survive' (Pugh 2018: 104). Yet the question of who has the capacity or the power to sustain or transform island livelihoods is not a question that has a simple and general answer. This sort of question needs to confront the diversity of island communities instead of being swept under a post-colonial theoretical carpet that turns 'real lives and real islands into the bland non-being of abstraction' (Hay 2013: 212).

Hau'ofa's essay can all too easily be read as a seminal contribution to the weaving of this carpet of abstraction. But Hau'ofa was an anthropologist, and his essay can also be read as an attempt to pose a new set of empirical questions about 'real lives and real islands' in a post-colonial world. So what

can anthropologists contribute to an understanding of vulnerability or resilience as variable characteristics of islands and island communities that do vary in many other ways, including their size, even if their size turns out to be immaterial?

From my own experience with the MA and the MBCP, I think the first answer lies in our capacity to go beyond (if not to undermine) a specific form of environmental determinism that accompanies the construction of small islands as terrestrial ecosystems that 'pop up' like unwelcome dinner guests in the midst of coral reef ecosystems whose services to the 'global community' supposedly exceed their services to any local community. This is not the type of environmental determinism familiar to anthropologists, in which societies or cultures somehow 'reflect' their natural environments, but a form of technocratic rationality in which 'environmental management', as a type of human activity, is placed beyond the reach of culture, history and politics (Filer 2009). In this form of technocratic rationality, human agency or power is essentially a function of scale. Global actors make big decisions while local actors make small ones. More importantly, perhaps, the small 'community-based' decisions made by local actors can only be decisions about the services provided by the local ecosystems which constitute their own subsistence livelihoods. The 'resilience' of a small island community is then measured by its capacity to formulate and implement an environmental management plan that constitutes the lowest level in a legal and bureaucratic hierarchy in which each ascending layer manifests a closer relationship between sound science and good policy. On this score, it is possible to endorse the arguments made by Hau'ofa and by subsequent advocates of the 'relational turn' in island studies. However, this does not mean that all islands are in the same metaphorical boat.

The form of technocratic rationality that treats all islands, or all small islands, or all small island states as members of a single class of objects or subjects is perfectly understandable, and probably unavoidable, in the world of ecosystem assessment, biodiversity conservation, disaster risk reduction and climate change adaptation. But the 'cultural turn' now evident in the assessments made by the IPCC constitutes a recognition that members of this class do not share a single set of social relationships. The empirical question is how the physical, economic and cultural qualities of islands might be related to each other in ways that cannot be predicted by a form of cultural geography that simply denies or dissolves the differences between these qualities or between the islands that possess them.

So does size matter? Hau'ofa's essay has given rise to an argument that 'smallness' is an attribute that should be banished from island studies because it connotes a state of disconnection, isolation and dependency (Nunn 2004). But his essay has equally given rise to a recognition that these qualities are not necessarily correlated with each other. Once it is recognised that islands and islanders should be understood 'on their own terms', there is no reason why these terms should not include a consideration of the variable relationship between the physical attributes, like relative size and relative isolation, that are not only visible through a cartographic lens but also a matter of everyday experience (Baldacchino 2020). And when it comes to attributes like dependency, vulnerability or resilience, which are not visible through a cartographic lens, anthropologists should be asking how these can be understood as attributes of the social relationships that connect specific islands or islanders to the rest of the world (Christensen and Mertz 2010; Connell 2015).

From a broad reading of the island studies literature, it is possible to discern three main forms of asymmetrical reciprocity that characterise these social relationships, and to subtract each form of asymmetry from the assertion of a single opposition or contradiction between the connectedness of 'routes' and the disconnectedness of 'roots'.

First, there are 'traditional' relationships in which the asymmetry derives from the natural and cultural endowments of different communities in which one or more of the communities in each relationship is a small island community. Oceania is replete with traditional trading networks involving a social division of labour between small islands, however these might be defined, and bigger islands or other coastal communities. The key question is the extent to which these features of their cultural heritage continue to function as part of their 'real lives' after all the material transformations wrought by the colonial encounter.

Second, there are 'modern' relationships between islanders who stay 'at home' on their island and those members of the same island community who have taken up residence elsewhere. This type of relationship has also been subject to a good deal of ethnographic investigation, but rarely with an eye to testing the hypothetical difference between small islands, or smaller islands, and other sorts of places from which the migrants originate. The so-called 'migration, remittance and bureaucracy' model (Bertram and Watters 1985), which was one of Hau'ofa's main targets of criticism,

is simply one variant of this particular form of asymmetry, but one that has mainly been articulated as a feature of small island states rather than small island communities.

Finally, there are 'political' relationships between small island communities and a range of alien intruders who seek to transform their islands in one way or another. If anthropologists have some claim to expert knowledge of this form of asymmetry, I would not argue that this displaces or detracts from the expertise of ecologists, economists or geographers, let alone from the 'indigenous knowledge' ascribed to local communities or the terms on which islanders interpret their own conditions of existence. Hau'ofa was inclined to regard all these alien intruders as people of European descent, or as agents of Western imperialism, but this form of colonial or neo-colonial encroachment does not exhaust the whole variety of ways in which small island communities can be subject to interference by outsiders, including the agents of the small island states to which many of them now belong.

The remaining chapters in this volume explore the interaction between different forms of asymmetry in the social relationships that encompass small island communities in Melanesia.

The Contents of this Book

Most of the chapters in this book derive from papers that were first presented in a panel on 'Small Islands in Peril', jointly organised by Simon Foale and myself, at the conference of the Association for Social Anthropology in Oceania in 2014. Our primary aim in hosting this discussion was to investigate the idea that small island communities could be regarded as canaries in the coal mine of sustainable development because of scientific and anecdotal evidence of a common link between rapid population growth, degradation of the local resource base and intensification of disputes over the ownership and use of terrestrial and marine resources. Our broad hypothesis was that the economic and social 'safety valves' that had previously served to break some of the feedback loops between these trends appeared to be losing their efficacy. We were also concerned that debate about economy–society–environment relationships on small islands had already been overtaken by a narrow focus on the problem of climate change, even in the absence of evidence that sea level rise had become the main driver, or even a measurable driver, of the changes taking place in island lives and livelihoods.

Some of the papers presented in that conference panel have since been revised and published elsewhere (e.g. Connell 2016; Mondragón 2018). Those that became the foundations of chapters in this book have been revised and updated to take account of subsequent events or more recent publications relating to the island or the topic under discussion.

The original version of Chapter 2 had a title in which I asked whether all the small island communities are 'in the same boat'. Whatever metaphor might be chosen, the answer is obviously negative. The real question is how they should be classified. In the first part of the chapter, I deal with this question from the point of view of an imaginary government official in a national planning agency who is looking at a map of PNG and assigning measurable variables to the islands that are visible on the map. I apologise in advance for the rather tedious nature of this exposition, but my aim here is to explore the outer limits of this geographical and statistical form of knowledge, even in the knowledge that PNG no longer has a state that sees things in this way. In the second part of the chapter, I adopt a narrative lens that would be more familiar to anthropologists, by investigating the way that stories about the lives and livelihoods of the small island communities figured in two national newspapers over a ten-year period. This kind of content analysis also has its limitations, since it can only support a classification of the things that make small islands newsworthy. In order to overcome this second set of limitations, I delve into a range of additional documentary evidence to flesh out the most peculiar story, and the longer history, of one small island community that featured in this sample of newspaper articles. The chapter concludes with a discussion of the way that these different perspectives might inform the more detailed ethnographic and historical accounts of the challenges faced by particular communities, as exemplified in the remaining chapters of this book.

The original version of Chapter 3 had a particular focus on the way that members of a group of small island communities in PNG's Milne Bay Province dealt with the challenge posed by the national government's decision to impose a nationwide moratorium on the bêche-de-mer fishery in 2009. This chapter has been revised and expanded to place that particular response in the wider context of efforts to persuade islanders to engage in a more sustainable management of this particular fishery and to appreciate the long-term benefits of conserving marine biodiversity values in the territories under their control. Simon Foale and colleagues recount the way that this particular group of small islands became a focus of attention for the Milne Bay Community-Based Coastal and Marine Conservation Project

during the brief period in which that project was being implemented, and place this brief moment of attention in the longer trajectory of change in the lives and livelihoods of the islanders. The authors consider a number of ways in which the science of sustainability, or the scientific assessment of 'ecosystem services', can fail to either influence or comprehend the social and economic choices that islanders make in the construction of their livelihoods.

In Chapter 4, Edvard Hviding recounts the history of the small island in Marovo Lagoon in Solomon Islands, where he has conducted fieldwork for many years. This island is only small in what he calls a 'topographical' sense, for in many other ways it has played a large or dominant role in a regional network of social relations for more than 200 years, from the pre-colonial era in the early nineteenth century to the post-colonial present day. Indeed, so far from being an island 'in peril' or 'under pressure', the inhabitants of this island have produced a variety of perils or pressures for members of neighbouring communities. As Hviding puts it in his conclusion,

> [p]ost-colonial Tusu Marovo is at least as large as its pre-colonial version, and the vulnerability or resilience of its village life and diverse economies are, as in the old days, predicated on and generated from circumstances and relationships far beyond the island itself.

I doubt there is any other small island community in either Solomon Islands or PNG that has managed to sustain this kind of hegemonic position over the same period of time.

In Chapter 5, Nancy Lutkehaus portrays a rather different form of resilience. Manam Island, off the north coast of the PNG mainland, has a history and prehistory that has been disrupted, from time to time, by eruptions of the volcano that constitutes the bulk of the island itself. The islanders had a network of social relations, on and off the island, that enabled them to live with this natural hazard for many centuries, but a major eruption that began in 2004 forced their evacuation to 'care centres' on the mainland. Since then, they have been living in a kind of 'limbo', attempting to reassemble their social networks in a new location while wondering if, how and when they might be able to put them back on the island where they originated. At the same time, the government has been making plans to resettle the whole island community on another part of the mainland, but has proven incapable of implementing such a plan, even while it tries to dissuade the islanders from returning to their island. In January 2023, 18 years after the island was evacuated, the governor of Madang Province announced that

the resettlement plan was still in the process of being implemented, but the process has been complicated by the fact that some of the islanders want to go back to the island, some want to stay in the coastal care centres and some want to be relocated further inland (Anon 2023). A kind of moral or political hazard has therefore replaced the original natural hazard as a threat to the survival of this island community, and that is what its leaders now have to contend with.

Chapter 6 returns to the place where I first began to think about the questions to which this volume is addressed. This is the Lihir group of islands in New Ireland Province, where the development of a large-scale gold mine on the biggest of the islands has created a peculiar set of pressures and perils for the inhabitants of three very small islands in the same group. While Richard Jackson and I made some attempt to assess these hazards before the mine was developed, Nicholas Bainton has been investigating the actual process of change for the past two decades, so we have combined the knowledge gained from almost 40 years of research, both by ourselves and by other social scientists, to assemble a detailed portrait of the history of the three very small islands that are known collectively in the local language as rocky or stony places. While this can be read as a story about the negative impact of large-scale industrial development on small island communities, it is also a story about the choices that members of these communities make when faced with such pressures.

A brief concluding chapter provides a summary of the significance of the case study material presented in the main body of the volume.

References

Adger, W.N., S. Dessai, M. Goulden and others, 2009. 'Are There Social Limits to Adaptation to Climate Change?' *Climate Change* 93: 335–354. doi.org/10.1007/s10584-008-9520-z

Allen, J., 2000. 'From Beach to Beach: The Development of Maritime Economies in Prehistoric Melanesia.' In S. O'Connor and P. Veth (eds), *East of Wallace's Line: Studies of Past and Present Maritime Cultures of the Indo-Pacific Region*. Rotterdam: A.A. Balkema (Modern Quaternary Research in Southeast Asia 16).

Allen, J. and C. Gosden, 1996. 'Spheres of Interaction and Integration: Modelling the Culture History of the Bismarck Archipelago.' In J. Davidson, G. Irwin, F. Leach and others (eds), *Oceanic Culture History: Essays in Honour of Roger Green*: Special issue of *New Zealand Journal of Archaeology*.

Anon, 2023. 'Pariwa Hopes to Resettle Islanders Soon.' *The National*, 11 January 2023.

Baines, G., J. Duguman and P. Johnston, 2006. 'Milne Bay Community-Based Coastal and Marine Conservation Project: Terminal Evaluation of Phase 1.' Port Moresby: United Nations Development Programme.

Balboa, C.M., 2009. 'When Non-Governmental Organizations Govern: Accountability in Private Conservation Networks'. New Haven: Yale University (PhD thesis).

——, 2013. 'How Successful Transnational Non-Governmental Organizations Set Themselves up for Failure on the Ground.' *World Development* 54: 273–287. doi.org/10.1016/j.worlddev.2013.09.001

Baldacchino, G., 2008. 'Studying Islands: On Whose Terms? Some Epistemological and Methodological Challenges to the Pursuit of Island Studies.' *Island Studies Journal* 3: 37–56.

——, 2020. 'How Far Can One Go? How Distance Matters in Island Development.' *Island Studies Journal* 15: 25–42. doi.org/10.24043/isj.70

Barnett, J. and J. Campbell, 2010. *Climate Change and Small Island States: Power, Knowledge and the South Pacific*. London: Earthscan. doi.org/10.4324/9781849774895

Bayliss-Smith, T., R. Bedford, H. Brookfield and M. Latham (eds), 1988. *Islands, Islanders and the World: The Colonial and Post-Colonial Experience of Eastern Fiji*. Cambridge: Cambridge University Press.

Bellwood, P., 1978. *Man's Conquest of the Pacific*. London: Collins.

Bertram, I.G. and R.F. Watters, 1985. 'The MIRAB Economy in South Pacific Microstates.' *Pacific Viewpoint* 26: 489–519. doi.org/10.1111/apv.263002

Bijlsma, L. and others, 1996. 'Coastal Zones and Small Islands.' In R.T. Watson, M.C. Zinyowera and R.H. Moss (eds), *Impacts, Adaptations and Mitigation of Climate Change: Scientific-Technical Analysis*. Cambridge: Cambridge University Press.

Bonnemaison, J., 1985. 'The Tree and the Canoe: Roots and Mobility in Vanuatu Societies.' *Pacific Viewpoint* 26: 39–62. doi.org/10.1111/apv.261003

Bourke, R.M. and T. Betitis, 2003. 'Sustainability of Agriculture in Bougainville Province, Papua New Guinea.' Canberra: The Australian National University, Research School of Pacific and Asian Studies, Department of Human Geography.

Christensen, A. and O. Mertz, 2010. 'Researching Pacific Island Livelihoods: Mobility, Natural Resource Management and Nissology.' *Asia Pacific Viewpoint* 51: 278–287. doi.org/10.1111/j.1467-8373.2010.01431.x

Clifford, J., 1997. *Routes: Travel and Translation in the Late Twentieth Century*. Cambridge: Harvard University Press.

Connell, J., 2015. 'Vulnerable Islands: Climate Change, Tectonic Change, and Changing Livelihoods in the Western Pacific.' *The Contemporary Pacific* 27: 1–36. doi.org/10.1353/cp.2015.0014

——, 2016. 'Last Days in the Carteret Islands? Climate Change, Livelihoods and Migration on Coral Atolls.' *Asia Pacific Viewpoint* 57: 3–15. doi.org/10.1111/apv.12118

D'Arcy, P., 2006. *The People of the Sea: Environment, Identity and History in Oceania*. Honolulu: University of Hawai'i Press.

DeLoughrey, E.M., 2007. *Routes and Routes: Navigating Caribbean and Pacific Island Literatures*. Honolulu: University of Hawai'i Press.

Dening, G., 1980. *Islands and Beaches: Discourse on a Silent Land, Marquesas 1774–1880*. Melbourne: Melbourne University Press.

Field, M., 2000. 'PNG's "Singing Islanders" Unite to Save Their Home.' *The National*, 20 November 2000.

Filer, C., 2004. 'The Knowledge of Indigenous Desire: Disintegrating Conservation and Development in Papua New Guinea.' In A. Bicker, P. Sillitoe and J. Pottier (eds), *Development and Local Knowledge: New Approaches to Issues in Natural Resources Management, Conservation and Agriculture*. London: Routledge.

——, 2009. 'The Knowledge Problem in the Millennium Assessment.' In J.G. Carrier and P. West (eds), *Virtualism, Governance and Practice: Vision and Execution in Environmental Conservation*. New York: Berghahn Books.

Filer, C., S. Foale, J. Kennedy and others, 2004. 'Sub-Global Assessment of Coastal, Small Island and Coral Reef Ecosystems in Papua New Guinea: Summary National Report.' Unpublished report to the Millennium Ecosystem Assessment.

Filer, C.S. and R.T. Jackson, 1989. *The Social and Economic Impact of a Gold Mine on Lihir: Revised and Expanded*. Port Moresby: Department of Minerals and Energy, Lihir Liaison Committee (2 volumes).

Gosden, C., 1993. 'Understanding the Settlement of the Pacific Islands in the Pleistocene.' In M.A. Smith, M. Spriggs and B. Fankhauser (eds), *Sahul in Review: Pleistocene Archaeology in Australia and Island Melanesia*. Canberra: The Australian National University, Research School of Pacific and Asian Studies, Department of Prehistory (Occasional Paper 24).

Green, R.C., 2000. 'Lapita and the Cultural Model for Intrusion, Integration and Innovation.' In A. Anderson and T. Murray (eds), *Australian Archaeologist: Collected Papers in Honour of Jim Allen*. Canberra: Coombs Academic Publishing.

Hau'ofa, E., 1994. 'Our Sea of Islands.' *The Contemporary Pacific* 6: 148–161.

Hay, P., 2006. 'A Phenomenology of Islands.' *Island Studies Journal* 1: 19–42. doi.org/10.24043/isj.186

——, 2013. 'What the Sea Portends: A Reconsideration of Contested Island Tropes.' *Island Studies Journal* 8: 209–232. doi.org/10.24043/isj.283

Hayward, P., 2012. 'Aquapelagos and Aquapelagic Assemblages: Towards an Integrated Study of Island Societies and Marine Environments.' *Shima* 6: 1–11.

Hoegh-Guldberg, O., H. Hoegh-Guldberg, D.K. Stout and others, 2000. 'Pacific in Peril: Biological, Economic and Social Impacts of Climate Change on Pacific Coral Reefs.' Suva: Greenpeace.

Hviding, E., 2003. 'Contested Rainforests, NGOs, and Projects of Desire in Solomon Islands.' *International Social Science Journal* 55: 539–554. doi.org/10.1111/j.0020-8701.2003.05504003.x

Hviding, E. and K. Rio (eds), 2011. *Made in Oceania: Social Movements, Cultural Heritage and the State in the Pacific*. Wantage: Sean Kingston Publishing.

Jolly, M., 2001. 'On the Edge? Deserts, Oceans, Islands.' *The Contemporary Pacific* 13: 417–466. doi.org/10.1353/cp.2001.0055

Kinch, J., 2001. 'Social Evaluation Study for the Milne Bay Community-Based Coastal and Marine Conservation Program.' Port Moresby: Conservation International (unpublished report to the United Nations Development Programme).

Kirch, P.V., 1997. 'Microcosmic Histories: Island Perspectives on "Global" Change.' *American Anthropologist* 99: 30–42. doi.org/10.1525/aa.1997.99.1.30

MA (Millennium Ecosystem Assessment), 2003. *Ecosystems and Human Well-Being: A Framework for Assessment*. Washington DC: Island Press.

Macintyre, M. and S. Foale, 2004. 'Global Imperatives and Local Desires: Competing Economic and Environmental Interests in Melanesian Communities.' In V.S. Lockwood (ed.), *Globalization and Culture Change in the Pacific Islands*. Upper Saddle River: Pearson Prentice Hall.

McLean, R.F., A. Tsyban and others, 2001. 'Coastal Zones and Marine Ecosystems.' In J.J. McCarthy, O.F. Canziani and others (eds), *Climate Change 2001: Impacts, Adaptation and Vulnerability*. Cambridge: Cambridge University Press.

Mimura, N., L. Nurse and others, 2007. 'Small Islands.' In M. Parry, O. Canziani, J.P. Palutikof and others (eds), *Climate Change 2007: Impacts, Adaptation and Vulnerability*. Cambridge: Cambridge University Press.

Mondragón, C., 2018. 'Forest, Reef and Sea-Level Rise in North Vanuatu: Seasonal Environmental Practices and Climate Fluctuations in Island Melanesia.' In D. Nakashima, I. Krupnik and J.T. Rubis (eds), *Indigenous Knowledge for Climate Change Assessment and Adaptation*. Cambridge: Cambridge University Press.

Mycoo, M., M. Wairiu and others, 2022. 'Small Islands.' In H.-O. Portner, D.C. Roberts, M. Tignor and others (eds), *Climate Change 2022: Impacts, Adaptation and Vulnerability*. Cambridge: Cambridge University Press.

Neef, A., L. Benge, B. Boruff and others, 2018. 'Climate Adaptation Strategies in Fiji: The Role of Social Norms and Cultural Values.' *World Development* 107: 125–137. doi.org/10.1016/j.worlddev.2018.02.029

Nunn, P.D., 2003. 'Nature–Society Interactions in the Pacific Islands.' *Geografiska Annaler—Series B, Human Geography* 85: 219–229. doi.org/10.1111/j.0435-3684.2003.00144.x

——, 2004. 'Through a Mist on the Ocean: Human Understanding of Island Environments.' *Tijdschrift voor Economische en Sociale Geografie* 95: 311–325. doi.org/10.1111/j.1467-9663.2004.00310.x

Nunn, P.D., J. Runman, M. Falanruw and R. Kumar, 2017. 'Culturally Grounded Responses to Coastal Change on Islands in the Federated States of Micronesia, Northwest Pacific Ocean.' *Regional Environmental Change* 17: 959–971. doi.org/10.1007/s10113-016-0950-2

Nurse, L.A., R.F. McLean and others, 2014. 'Small Islands.' In V.R. Barros, C.B. Field, D.J. Dokken and others (eds), *Climate Change 2014: Impacts, Adaptation, and Vulnerability*. Cambridge: Cambridge University Press.

Nurse, L.A., G. Sem and others, 2001. 'Small Island States.' In J.J. McCarthy, O.F. Canziani and others (eds), *Climate Change 2001: Impacts, Adaptation and Vulnerability*. Cambridge: Cambridge University Press.

O'Brien, K.L., 2009. 'Do Values Subjectively Define the Limits to Climate Change Adaptation?' In W.N. Adger, I. Lorenzoni and K. O'Brien (eds), *Adapting to Climate Change: Thresholds, Values, Governance*. Cambridge: Cambridge University Press.

Pugh, J., 2013. 'Island Movements: Thinking with the Archipelago.' *Island Studies Journal* 8: 9–24. doi.org/10.24043/isj.273

——, 2018. 'Relationality and Island Studies in the Anthropocene.' *Island Studies Journal* 13: 93–110. doi.org/10.24043/isj.48

Spriggs, M., 1997. *The Island Melanesians*. Oxford: Blackwell Publishers.

Stratford, E., G. Baldacchino, E. McMahon and others, 2011. 'Envisioning the Archipelago.' *Island Studies Journal* 6: 113–130. doi.org/10.24043/isj.253

Tegart, W.J.M., G.W. Sheldon and D.C. Griffiths (eds), 1990. *Climate Change: The IPCC Impacts Assessment*. Canberra: Australian Government Publishing Service.

Thomas, N., 1991. *Entangled Objects: Exchange, Material Culture, and Colonialism in the Pacific*. Cambridge: Harvard University Press.

——, 2011. *Islanders: The Pacific in the Age of Empire*. New Haven: Yale University Press.

Torrence, R. and P. Swadling, 2008. 'Social Networks and the Spread of Lapita.' *Antiquity* 82: 600–616. doi.org/10.1017/S0003598X00097258

Van Helden, F., 2001. '"Good Business" and the Collection of "Wild Lives": Community, Conservation and Conflict in the Highlands of Papua New Guinea.' *Asia-Pacific Journal of Anthropology* 2(2): 21–44. doi.org/10.1080/1444221011 0001706095

——, 2004. '"Making Do": Integrating Ecological and Societal Considerations for Marine Conservation in a Situation of Indigenous Resource Tenure.' In L.E. Visser (ed.), *Challenging Coasts: Transdisciplinary Excursions into Integrated Coastal Zone Development*. Amsterdam: Amsterdam University Press. doi.org/10.1017/ 9789048505319.006

——, 2009. '"The Report was Written for Money to Come": Constructing and Reconstructing the Case for Conservation in Papua New Guinea.' In J.G. Carrier and P. West (eds), *Virtualism, Governance and Practice: Vision and Execution in Environmental Conservation*. New York: Berghahn Books.

This text is taken from *Small Islands in Peril?: Island Size and Island Lives in Melanesia*, edited by Colin Filer, published 2024 by ANU Press, The Australian National University, Canberra, Australia.

doi.org/10.22459/SIP.2024.01