



Landscape as middle ground: a resilience approach to conservation and promotion of UNESCO World Heritage Site, Levuka, Fiji

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Abstract

Conservation and resilience are inextricably connected. Both are concerned with the identification and protection of core values in the face of disturbance; both recognise the importance of adaptation. Yet sometimes they produce contradictory rather than complementary outcomes. The contested landscape of Levuka on the island of Ovalau in Fiji is a good example. In this recently listed UNESCO World Heritage Site, the conservation of buildings in a colonial port sits at odds with an indigenous culture struggling to thrive in a place beset by economic and environmental disturbance. Cyclone Winston brought these contradictions to a head, prompting the question: how might the tensions between conservation and resilience be reconciled?

If a culture is to thrive, it must adapt to an ever-growing array of economic, political and environmental disturbances. Using a design research methodology, a research team analysed the reciprocity between culture and landscape in Levuka and discovered that where built fabric needs to be conserved, landscape can act as useful alternative site for adaptation. This approach protects built fabric while encouraging culture and landscape to co-evolve. It also allows for a quicker response to fast shocks like hurricanes, earthquakes and floods while buying time for the slower adaptive cycles of protected built fabric. In this way, landscape emerges as a potential middle ground between the tensions of conservation and resilience.

Introduction

When Levuka was listed as Fiji's first UNESCO World Heritage Site in 2013, an opportunity arose to think critically about the cultural values this place represents: recent studies had focused on the significance of the colonial town (Smith 2006) which at the time of listing was in disrepair. Then in 2016, Cyclone Winston ravaged the island of Ovalau, damaging not only Levuka's heritage fabric, but also much of its port and harbour. Cyclones, along with the threat of rising seas, pose questions about the sometimes-challenging and contradictory priorities of conservation and resilience (Hall et al. 2015). These contradictions were clearly in evidence when, in January 2017, the authors of this paper arrived in Levuka.

We were there with a team of ten Masters of Landscape Architecture students from Victoria University in Wellington (VUW), New Zealand, to investigate the cultural landscape of Levuka in light of its heritage status. Our fieldwork emphasised observing, drawing, and talking to people to see how the landscape and built environment provided work, access, enjoyment, safety and dignity to the local community. We began in the town, but our interest quickly shifted to accommodate the town's edges, peripheries and in-between spaces, because this seemed to be where important interactions were taking place.

Ovalau: History and Geography

Levuka is on the eastern coast of Ovalau, a 106-square kilometre volcanic island sited 20km off the coast of Viti Levu. All around the island, the coast rises steeply to a mountainous rim which encloses an extensive and more moderately inclined caldera at the centre of the ovoid shaped island. Most of the coastal fringes are too steep for settlement, though the hundreds of streams that radiate from the peaks create alluvial flatland, and sandy beaches where they meet the sea. These sites provide access to the sea for many of the village settlements. Like all volcanic islands in the tropics Ovalau is surrounded by a coral reef, in this case a barrier reef that provides protected deep navigable water along the eastern side of the island. The island's geomorphology has shaped the culture of its inhabitants, from early days as a remote village, to its colonial era and through to the present.

Foundation stories relate how the original inhabitants settled in the centre of the caldera, which was sheltered and fortified by the geography of the mountainous rim. The first village, named Lovoni, which still exists today, was organised around 16 clans and each played a particular role within the community, from the Turaga (chiefs) to the Bati (warriors) to the Gonedau (fisher people) (Lagi 2015). In the 19th century, Lovoni was one of the last holdouts against the warlord Cakobau, who conquered the village and banished the inhabitants. Cakobau eventually conquered all the Fijian islands, declared himself king, but ceded the islands to the Britain in 1874 when he ran out of financial resources.

Land-based heritage, called 'vanua' in Fiji, plays a strong role in identity in indigenous Fijian knowledge and cultural systems (Lagi 2015) and explains why eventually, the displaced Lovonians and their progeny filtered back to Ovalau, to lay claim to the land which was rightfully theirs. However, on returning, they found that a number of acres of land in the crater had been sold to a bank, and misunderstanding the actual area this covered, inferred that they could not return to Lovoni village. Instead, in acknowledgement of Fijian custom that clan membership confers collective ownership over land, they divided the ovoid island into 16 wedges, one for each of the 16 original extended families. By then, Fijian society had transformed from a collection of warring tribal villages to a trade-oriented colonial economy, and many families abandoned the highlands to form new villages at the coastal edges where occupants could fish and prosper through trade¹.

During Cyclone Winston in 2015, many of these coastal villages were flooded or severely damaged. Ovalauans are fortunate in that each village holds high-ground territory, due to the wedge-shaped ownership structure, and so managed retreat from the coast could occur without encroaching on the traditional lands of another village. On the other hand, managed retreat presents problems with access, especially because most of the infrastructure is located by the coast.

Levuka and World Heritage Status

Levuka emerged when Totongo village, in the centre of the present town, and Levuka village, to the north, were settled in the 1830s by 'beachcombers', former sailors who acted as trade mediators between indigenous Fijians and Europeans. The deep-water lagoon and barrier reef adjacent to the town facilitated anchorage for boats and the flat alluvial land at the mouth of the Totongo and Levuka Creeks provided the largest opportunity for flat land settlement beside this eastern coastline of Ovalau. By the 1850s, missionaries had introduced models of private property and Western architecture, along with Christianity. The churches came to own large tracts of land and remain the town's major landowners today. Superimposed on the indigenous layout, the structure of the township took on an irregular patchwork pattern. By the time of Cakobau's declared kingship and the establishment of Levuka as capital of Fiji, the Euro-Fijian town was an established trade port (Harrison 2004, Fisher 2000). The following colonial era saw the introduction of wharfs and Beach Street shops, as they are known today (Figure 1). Although the capital was moved to Suva in 1882 as a result of the spatial constraints of Levuka's mountainous geography, the town thrived as a copra hub until the 1950s. When the Europeans left Levuka in the post-colonial era, their structures and spaces were largely reclaimed by mixed-heritage descendants and native Fijians.

Currently the town, with a population of about 1000, has only one significant employer, the Pacific Fishing Company (PAFCO). The schools in Ovalau and Levuka attract students from across the Fiji Islands, as they have done for over 100 years, and some small enterprises persist on Beach Street. Access from Viti Levu, the main island, is regular but infrequent; and travel from Nadi, the nation's only international airport is complicated. Even the lure of a UNESCO Cultural World Heritage listed town has not yet improved the tourist industry on the island.

The colonial town layout is still intact, and most of the heritage buildings located on the flat lowlands are extant, though in need of repair. The harbour's facilities are less intact: most of the jetties have been washed away. The port area is consolidated on the southern headland, where the PAFCO factory is located. The island's main road, which is still the high street in Levuka, hugs the coastline where it is often inundated when the sea wall is breached by king tides and storms, flooding from upstream, or disrupted by repairs to bridges which cross the numerous creeks. The landscape of the flat lowlands is mostly cleared of vegetation and scored with open channels that don't always deal adequately with extreme rain conditions and often overflow. Housing extends up the valley of the Totongo Creek. All of it is surrounded by luxuriant vegetation and produce gardens. The main access roads also run up the valleys, though most of the housing is accessible only on foot.

Levuka's 'reflection of late 19th century stages of maritime colonisation', and its 'interchange of human values in terms of European-Indigenous relations over the period of its settlement' are the basis behind UNESCO's World Heritage Listing (ICOMOS 2013). Leaving aside this uneasy pairing of 'colonisation' and 'exchange', the act of heritage designation freezes Levuka and its fabric in time with meticulous detail, even prescribing the imported European paint that must be used on any buildings with heritage status. David Harrison (2004) documents that much of the impetus for heritage designation came from outside the town, or from European expatriate residents. He also suggests that the supporting documentation was largely a product of Japanese research, sponsored by the Japanese International Cooperation Agency (JICA), and that most locals have been unsupportive or at best indifferent to the proposal.

Following Cyclone Winston, many home and business owners in Levuka delayed rebuilding, hoping for UN-designated funds to cover the restoration of heritage buildings as they struggled to meet the demands of reconstruction guidelines. During our visit, a full year later, many of these rebuilding projects continued to languish. Conservation does not happen in a vacuum, and Cyclone Winston is likely to be an early harbinger of increasing climate risk to which Levuka and Ovalau must adapt, as Levuka's historic Beach Street is only a few metres above sea level and floods easily. Whilst the UNESCO evaluation document acknowledges that vulnerability is likely to increase with climate change, what this changing context means for Levuka as a heritage site has not been evaluated. The UNESCO application file lists 'coastal protection and sea buffer boosted' (UNESCO 2012, p. 22) as the long-term strategy to cope with climate



Figure 4. Beach Street shops, Levuka. Source: Lizzie Yarina

change and sea level rise. This response is underdeveloped and fails to address the confluence of runoff with rising seas or increasing cyclone risk.

These tensions—between ‘traditional’ conservation practices and the urgency for cultures and places to adapt—are partly the product of different approaches of managing change (Fischer et al. 2009). Conservation focuses in a relatively narrow way on the protection of what is deemed significant (ICOMOS Australia 2013). For example, in Levuka when storm surge and sea level rise threaten the integrity of the town’s built fabric, the conservation response is to provide immediate protection by raising the level of the sea wall. Ironically this simply increases vulnerability. The wall makes the immediate threat disappear, life goes on as before, people become complacent and have no reason to develop the adaptive strategies that might protect them in the future should the wall fail, or a combination of flooding and storm surge inundate the town.

Resilience is the product of a different paradigm: less about preventing change, more about absorbing it (Walker et al. 2004). Resilience strategies identify what is core to a system’s identity and what can change without affecting its characteristic structure, function and feedback loops (Walker et al. 2004). Scale is critically important to this process: a system that is not resilient at one scale may be a component of system resilience at a larger scale, so for example a household may not be resilient at the scale of the house but as part of a network of houses which form a resilient village. The network of resilience in the village of Levuka might include building fabric, landscape and community with a focus on the interplay between them. This expanded field of relationships give the village ‘room to move’ in the face of disturbance and communities adapt by using the network to absorb the disturbance rather than trying to make it disappear.

The contradictions between the conservation of Levuka’s built fabric and the resilience of its community are evident in the town. Whilst the built fabric is obviously significant, what is equally compelling is the relationship played out between people and place in the town’s landscapes and urban spaces: its rugby fields, the market, the river, and the paths connecting them. Our research questions, given what we observed, were: ‘what is significant?’ and ‘how can the competing interests of conservation and resilience be resolved so that the built fabric of the town persists while allowing the local community to adapt and thrive?’

Design as a Methodology

Design is a useful methodology when issues are complex and there are competing interests at stake (Balducci & Mäntyselä 2013). The design studio process, where designers work collectively to raise questions or solve problems, allows designers to visualise the implications of multiple scenarios, assess impacts on local communities, spatialise and accommodate a broad range of complex impacts and competing interests, and communicate possible futures to communities and stakeholders. It can also act as a ‘scoping’ exercise: the wide range of design solutions that emerge from a design studio can be sifted to quickly determine the most salient problems and thus direct the research questions in a targeted way.

Our design investigations began with field work in Levuka. We observed daily life, the interactions between people and place, the landscape and the village, and colonial and post-colonial overlays. We were looking for evidence that contemporary life was thriving and adapting in that environment. We spoke with the chief town planner and a representative of the heritage office in Levuka, and to locals about how spaces were used and what the town and the island meant to them. We travelled to several villages and listened to local stories about the cultural foundations of Ovalau.

Many of these interactions had a spatial dimension which were further examined through a process of multiscale mapping to explore what might be affecting resilience and vulnerability on the ground. For example, studies incorporated global and regional cyclone tracks and geotectonic plates and their impacts on Ovalau and coastal vulnerability, or transportation and trade routes across the Asia-Pacific region, and issues of food imports and transportation

infrastructure in Ovalau (Figure 2). In light of these multiscalar mappings, each member of the design team began to consider a local site and propose an idea that addressed cultural significance, while enhancing resilience to a range of fast and slow shocks. We reflected on the resulting work and arrived at a series of themes that not only guided this work but also served as a starting point for considering the larger questions around the integration of conservation and resilience perspectives.

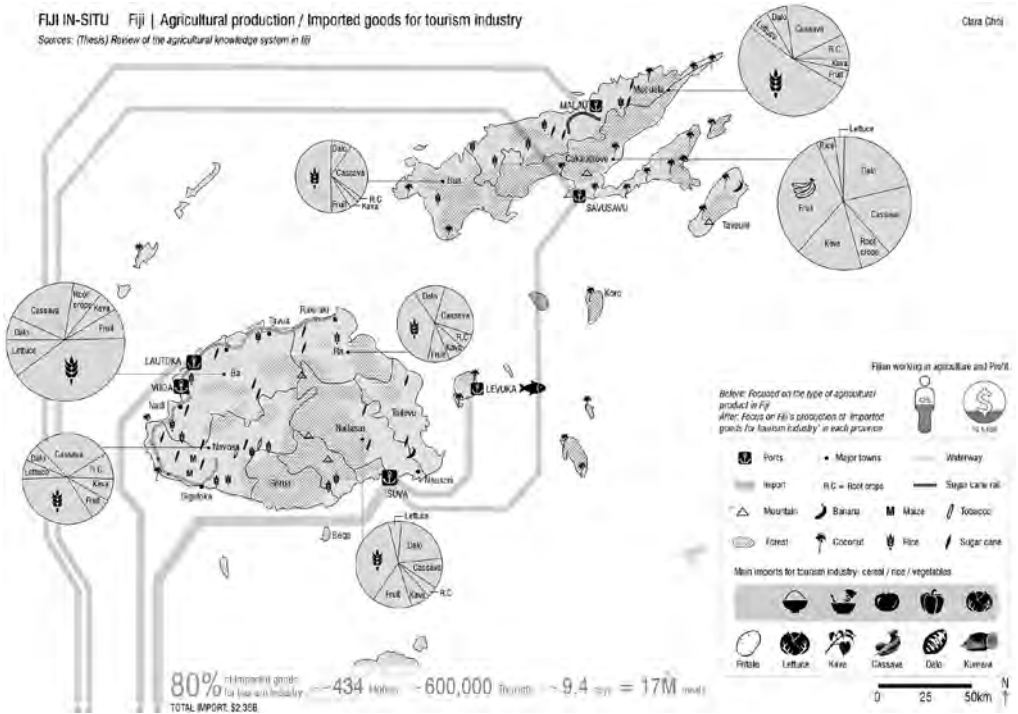


Figure 2: Mid-scale Mapping: Fiji as importer of foods for a Western tourist market (photo by Clara Choi, VUW)

THEMES

The first theme considers expanding the definition of significance to include relationships fundamental to cultural life—between the local community, the river, the markets, the schools and the sports fields. The second concerns diversification of the island’s economy, reframing tourism to capture the growing global interest in local environments and local culture. The third theme focuses on the potential of infrastructure to act as a catalyst for the regeneration of ecosystems and the emergence of new adaptive forms of cultural practice. Whilst these themes overlap in the work, we have used them here as an organising device to describe a selection of projects.

Cultural life

ICOMOS’ World Heritage Management Document (2013) suggests that significance and the management of significance should include intangible as well as tangible heritage. It stresses the importance of broadening the assessment of significance to include values over and above the physical fabric of a site while recognising the need to identify and carefully manage the complexity of competing interests and potential threats. Despite this, there is no mention of intangible heritage in ICOMOS’ listing for Levuka and the local environment surrounding the town is not mentioned.

However, the work in this category is based on our observations that much of Levuka’s cultural life is played out in its landscapes, where local values are supported, and intangible heritage and cultural life is acknowledged and celebrated. It addresses the benefits and potential threats

of an expansion of tourism in the town and suggests how its landscapes' delicate ecologies might be protected in the face of a projected expansion of the tourism industry. Rather than suggest that either built environment or the local environment takes precedence in terms of significance, they offer the perspective that built fabric and the local environment might productively be considered interdependent parts of greater whole.

For example, one of the designs maps the significance of Levuka, expanding it to include intangible heritage: the town's complex foundational narratives and the importance of the river to both sacred and everyday cultural practice. It proposes an online tourist brochure which describes the special river places in Levuka, (Figure 3) without identifying them on a map. To get there, rather than visiting on one's own, a tourist needs to be invited. This cultural ritual uses technology as an adaptation that continues the culture of non-text-based narratives. It gives the locals a measure of control over how their heritage is expressed, encourages visitors to tread lightly and respectfully, and protects environmental and cultural values, while encouraging engagement with significant cultural practices.



Figure 3: Collage of the 'significance' and Tourism brochure (photo by Rebecca Freeman, VUW)

Economic Diversity

UNESCO recognises the reciprocal relationship between conservation and a healthy economy and because it boosts tourism, world heritage status is often seen as a way of supporting economic growth (UNESCO 2018). But relying on tourism to boost the economy in Levuka is risky: financial resources to improve infrastructure are scarce; the island is periodically exposed to cyclones and tourists are warned away from visiting during these times; there is often political

instability which affects visitation; periodic downturns in the global economy can negatively influence visitation; and uncontrolled tourism in Levuka could negatively impact the resilience of indigenous cultural values.

Spreading economic risk can help deal with those vulnerabilities so the second group of projects targets the theme of economic diversification. The multiscalar mapping projects revealed that Ovalau is poorly served by trade in the region. Fiji imports more than 80% of its food products to support the tourism industry and Ovalau has many abandoned farms. If more food were produced locally this would spread the risk inherent in relying on global food markets, help to support the development of local agriculture, diversify the economy by satisfying a growing demand to experience local expressions of culture and sample local produce, and provide more jobs on the island. Expanding the island's economic base in this way could support the livelihood of the local community, while at the same time responsibly expanding the tourist market.

There is already a nascent industry in Levuka in the production of artisan kava and beer. One project in this category explored the potential for this industry to expand to include a cooperative market garden which could accommodate day-to-day communal activity and seasonal festivals (Figure 4). Markets could be established on a vacant site next to the heavily used sports field as part of a strategy to increase the amount of food grown in and around Levuka for locals and visitors. The cooperative could supply the town and its restaurants with more locally grown produce, in this way encouraging tourists to engage more fully with the local expression of culture. The project draws on the permaculture cultivation that already proliferates on the hillsides around the town, encourages a shift away from foreign owned to locally owned businesses, and makes agriculture a visible component of Levuka's centre. It invites locals and visitors to explore this new community activity in what is arguably the cultural heart of the town.

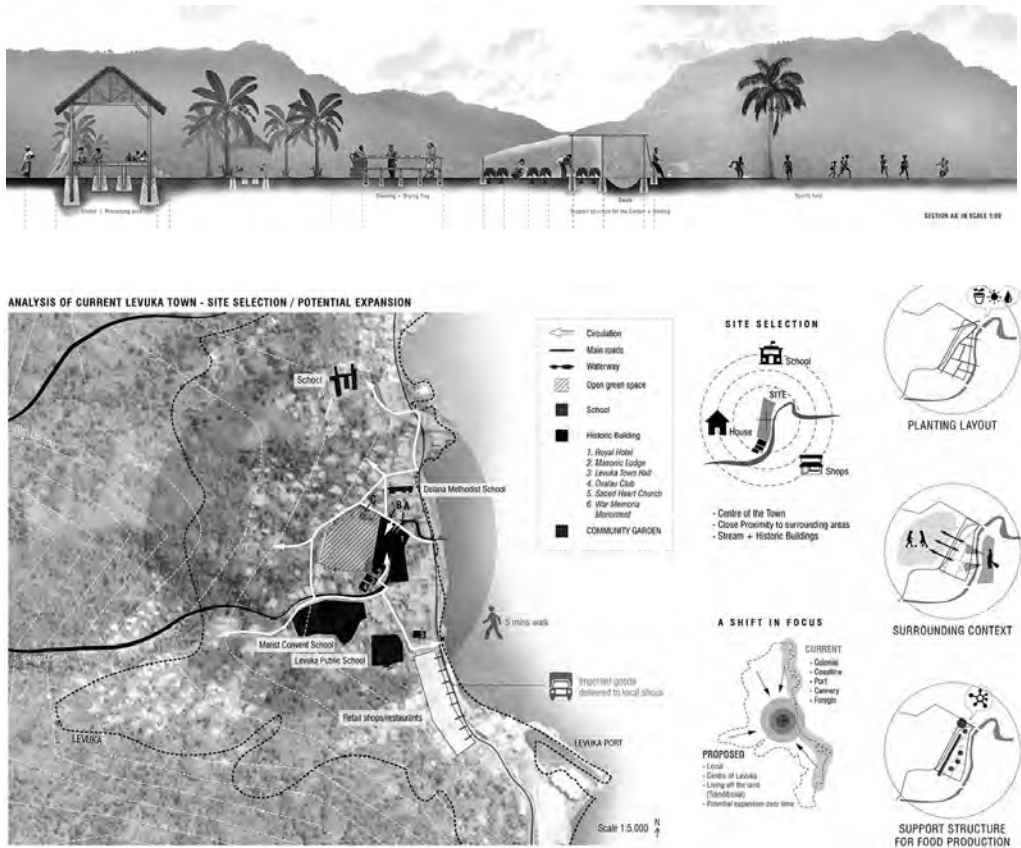


Figure 4: Market garden for Levuka (photo by Clara Choi, VUW)

Infrastructure

Whilst tourism could be an important contributor to the economy, visits have diminished in recent decades. The main road around the island, which also connects the western port with Levuka, hugs a narrow strip of land between mountains and sea, and vulnerable points are often washed out by storm surge and high tides. This presents a problem not just for tourists, as it also has the potential to impact important connections between villages. The final category of design proposal sees this kind of ‘problem’ as an opportunity to couple infrastructure with cultural practice in ways that make the island more environmentally and economically resilient.

The project featured here proposes a shift of life away from the waterfront, encouraging a slow but steady movement of coastal villages inland (Figures 5 & 6). It proposes a walking/cycle track that runs parallel to the coastal edge, elevated above the existing coastal road. Over time and with use, the track would become more dominant, and when sea levels rise substantially there will already be a network in place to deal with any loss of connection between the villages.

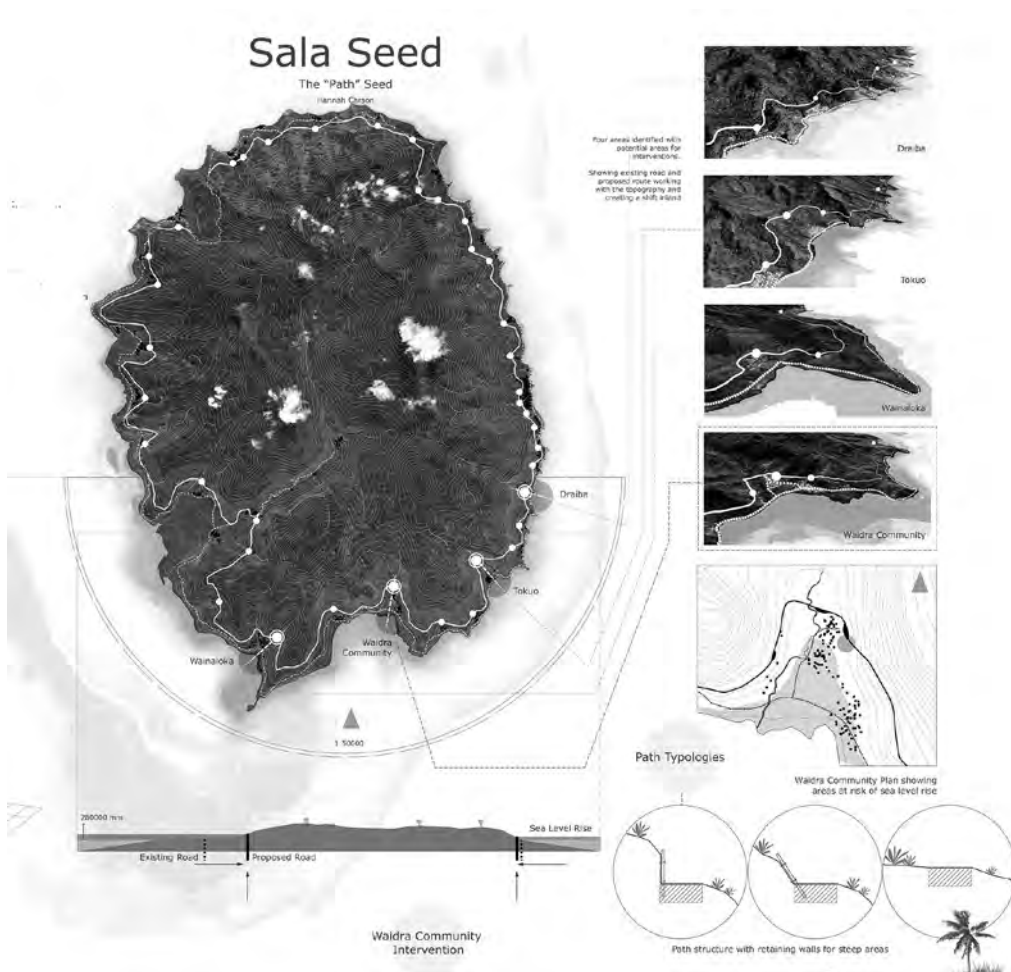


Figure 5: Cycle path as instigator for a new, high ground road around Ovalau (photo by Hannah Carson, VUW)

The route also provides new social spaces for communal and recreational use including structures for seating, shelters, recreational activities and domestic use. There are also opportunities for tourists to engage with local culture. The route includes stops that integrate small jetties for fishing, spots to clean and scale fish, and market stalls. The structures and the track, both simply constructed using local materials, would act as seeds or catalysts: access

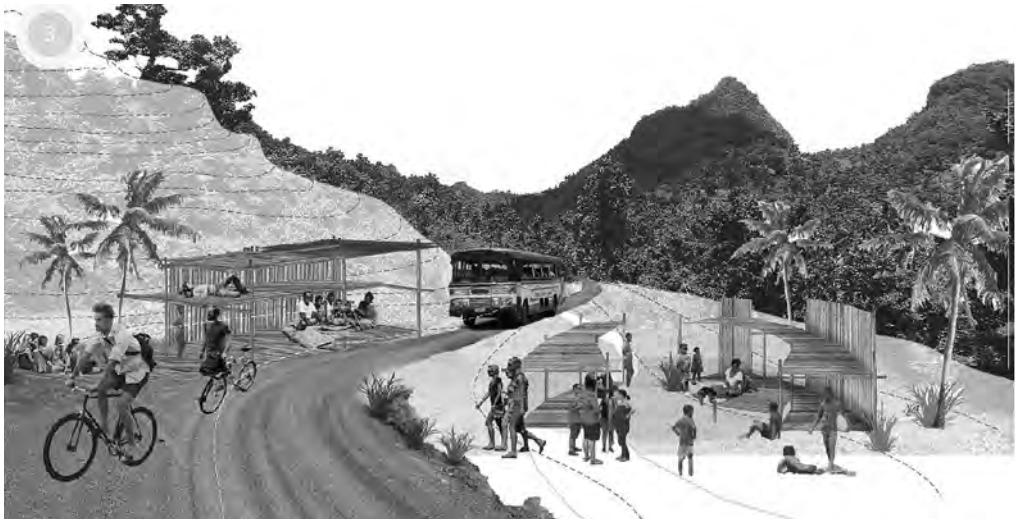


Figure 6: Proposed community structures associated with new cycle path (photo by Hannah Carson, VUW)

would gradually improve as tourist visits increased, and local communities could share their culture with tourists, and create opportunities for both local and tourist trade.

Whilst the track is a modest intervention, designed to tackle the most difficult stretches of road at first to test its feasibility, it would ultimately signal the development of an all-weather road on safer, high ground (Figure 6). This type of adaptation shows the potential of working out solutions over long time spans, as funds become available. It provides an example of how emergency preparedness might also add value to the everyday lives of the local community.

Discussion

Levuka’s World Heritage Listing coupled with the recent impacts of Cyclone Winston presented us with a conundrum: restricting heritage status to the built environment clearly prioritised the town’s European history while neglecting the local indigenous community. And the policies associated with protecting that built fabric were clearly inadequate to deal with the range of anticipated but unpredictable threats that beset the town.

We exist in a complex interplay with the world around us. Singling out and focusing on one aspect of significance to the detriment of others can be problematic. There is no point in a protected town with no culture to breathe life into it. Indigenous culture and its reciprocal relationship to land—responsive, nuanced, grounded in place, and expressed through cultural practice—is fundamental to any notion of significance and must be accounted for if one is to operate in the midst of that complexity.

When not just heritage but the lives and well-being of the local community are at stake, an alternative approach to conservation might be to increase the scope of concern so that competing interests can exist together on the same ground. When the scope is enlarged to accommodate global *and* local impacts, tangible *and* intangible heritage, built fabric *and* the spaces in between, it can encourage a view of multiple perspectives and varying time frames. It also provides an opportunity for mediation between what seem to be the competing interests of ‘traditional’ conservation practices and adaptation.

Threats such as sea level rise, storm surge, cyclones, a failing economy, or a sudden surge in tourist numbers need careful analysis but can all be anticipated and accommodated. The built fabric in Levuka has little capacity to absorb impacts. But it is entirely possible with a little foresight and planning for the spaces in between, the towns landscapes and interstitial spaces, to accommodate impacts while enriching culture and supporting a healthy tourist economy. The small-scale local design proposals of paths, pavilions, markets and gardens described here

not only support intangible culture and environment, they also potentially contain the seeds or frameworks for future community-led adaptations. They can perform as places for everyday life as well as sites for response to long-term, unpredictable risk.

Instead of reinforcing tensions between overlapping or competing interests, design can enlarge the field of enquiry to accommodate them all. The shift in focus protects built fabric while encouraging culture and landscape to co-evolve. It allows for a quicker response to fast shocks like hurricanes, earthquakes and floods while buying time for the slower adaptive cycles of protected built fabric. In this way, landscape emerges as a potential middle ground between the tensions of conservation and resilience.

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Endnote

- 1 This foundation story was gathered from a number of sources including stories told to us by Epineri Bole, and written accounts (Rogoyawa 2001, Fisher 2000, Harrison 2004).