MAY 2023

DIGITISING AND ANALYSING INDIGENOUS NARRATIVES OF DISASTER RESILIENCE IN URBAN TIMOR-LESTE

A COLLABORATIVE RESEARCH PROJECT CONDUCTED BY THE UNIVERSITY OF MELBOURNE AND FUNDASAUN ALOLA (ALOLA FOUNDATION)

Research team

University of Melbourne:
Professor Lisa Palmer
Dr Kirsty Sword Gusmão
Associate Professor Mark Quigley

Fundasaun Alola:
Ms Maria Imaculada Guterres
Ms Beatriz Sequeira
Ms Pascoela Barreto

02

INTRODUCTION

This collaborative project was undertaken to better understand the experiences of urban communities in and around Dili, Timor-Leste and, in particular, the individual experiences of some of the most socio-economically vulnerable women, in the face of the coinciding calamities of the COVID-19 pandemic and the catastrophic flashfloods of April 2021.[1] The project is a collaboration between researchers from Fundasaun Alola's maternal and child health program, principally Ms Pascoela Barreto and Ms Beatriz Sequeira, and a team from the University of Melbourne consisting of Professor Lisa Palmer, Dr Kirsty Sword Gusmão and Associate Professor Mark Quigley.

1 See Dziedzic, S., Araujo,M. 2021 and Quigley et al. 2021.

03

In this report, we present a number of stories from interviewees and encounters in 2022 across three principal research locations: Masilidun, Manleuana and Hera (see map).

Interspersed with these first-hand accounts are the researchers' key observations and analyses, recommendations put forward by interviewees and some explanatory background information. Five key themes emerged from the interview and observational data: land and environment, livelihoods, disasters, custom and futures. In the final section, we take a glimpse at the experience of disaster through the perspective of Timorese custom as expressed by a custodian of the words (*lia na'in*) living in the Masilidun area. The report is accompanied by additional audio-visual resources including a short video [see QR code at left] and a series of digital entries on the Cultural Ecology of Timor-Leste Digital Archive website (Arkivu Dijitál Kultura no Ekolojia Timor-Leste).

Source: http://www.geographicguide.net/asia/timor.htm. Place locations added by the authors.

04

STORIES FROM MASILIDUN

Fundasaun Alola maternal and child-health research team members Pascoela Barreto, Beatriz Sequeira and driver João took me (Lisa) with them as they carried out post-disaster interviews in the flood-affected community in the 12 Outubru sub-village in Masilidun in the low-lying coastal area of Tasi Tolu (literally 'three sea waters'). Ten or so years ago this particular corner of Masilidun was largely unpopulated. Now it is full of houses. In April 2021, it was full of water. People woke with water already lapping at their beds. They escaped with their children to higher ground through neck-deep water. Just over a year later, we sensed the trauma in their eyes and hearts.

We made a left turn inland at the Tasi Tolu bus terminal to approach Masilidun. The road circles a lake with many new houses and shacks built along the water's edge. In the foothills surrounding the southern edge of the lake are palms and white gums and, as we learned later, *marungi* (moringa oleifera) and other edible plants that people rely on in lean times to feed their families. The white gums give sustenance, too, with bundles of branches collected by residents in the hills sold by the doors of their makeshift shacks.

People use the money earned from sale of the wood to buy fresh water. They buy the water from trucks for five cents per five litres, collecting it in five-litre jerry cans. If they can afford it, a family of six might buy ten jerry cans of water per day. If their money is not enough, they will need to settle for six.

For those with a bit more money, an informal gathering in someone's home for a game of bingo seems to be the social activity of choice. When we arrived, the Alola team scolded one young mother whose four-month-old baby was already being fed formula. '*God gave you breast milk to feed your children until at least six months of age. Why not keep it going? Why are you putting your bingo before your baby?*'.

This woman is from Passabe village which is in the mountains of the Oecusse enclave, one of Timor-Leste's 13 municipalities and a place where, since 2015, the Timorese government has been implementing plans for the creation of a special economic zone known as ZEESM. Her husband, who was out driving trucks, is also from Passabe. They had come to Masilidun in 2017, seeking a better life. Our conversation indicated that this better life remains out of reach. They live in a one-room shack on the lake's edge with a tiny tin structure nearby for the kitchen. There is no bathroom, no running water. '*It is better that we go back to Passabe,*' she answered when Beatriz asked about her plans for the future. Their house is built on land owned by the state, and they have been told by the state that they must leave.

They have been given an ultimatum: choose to move to somewhere as yet unspecified in Dili or return to their village in Oecussi. To return would be her choice. When we asked what she would do there, she said unenthusiastically '*Halo to'os*' (make swidden gardens).

Another woman Beatriz interviewed is from Bobonaro in the country's west. She too said she would choose to return to her district to begin a new life for herself and her six children, one of whom has a significant disability. She told us her husband had run off long ago. Although born in Bobonaro, she had come to live in Kampung Baru in the village of Comoro, Dili, when she was still young. She has lived in Masilidun since 2019. She explained that life there is very tough with few supports. She was close to tears as she recounted the arrival of floodwaters on the morning of 4 April 2021. When she was struggling to get her two youngest children out of the flood zone, a neighbour had helped carry one of them on their shoulders. The woman and her children stayed with extended family members on higher ground for a few days, but the sheer numbers of displaced people at the house meant this living arrangement was unsustainable. They made their way up to the emergency shelters set up by Alola and others along the edge of the hills.

When the area around the lake started to dry out, they made their way back to their tin shack to begin the clean-up. She and her children now live there again in their one-room shack, but struggle with the crumbling tin roof that lets in rain and dust. In the wet season they are surrounded by mud and in the dry season the area is engulfed in dust.

Each morning, she makes her way across town from Masilidun to the market in Taibessi where she buys green mangoes brought in from the rural areas. She treks back home to cut them up and place them in small plastic packets which two of her older children carry to the bus terminal to hawk to departing passengers. These two children, a girl and a boy, left school in grades four and six respectively. Buying the mangoes for $3, the family can make $6 from the on-sale if they are lucky. Collecting and selling wood from the white gums supplements their income so that they have just enough to eat most days. The woman explained that this way of life provides no surplus and with no outside support she has no hope. In lean times she heads to the hills to find forest food like *marungi* for the family. She is waiting for the government to make a decision about their relocation and to provide the means of support for her family's future.

Next, Beatriz interviewed a man who is also from Passabe in Oecusse. His wife squatted in the door of a tin shack near where we carried out the interviews. We sat on chairs placed by our hosts some distance away, out on the floodplain, where we could avail ourselves of the scanty shade of a single palm tree. The man explained that he came to Dili in 2005 in search of a construction job and lived in single-men's worker accommodation for many years. He made his way to Masilidun in 2017 after visiting friends from Passabe who had recently made their houses there. They invited him to join them and build a house by the lake's edge. His wife, who no longer wanted to stay in Passabe on her own, joined him there, too.

They have six children, one of whom has passed away. He now travels around the country working as a driver for a road construction company.

There was a number tacked up on his house. Placed there by the government, the number indicates that he is living on state land which has been identified for imminent relocation. He said that maybe he would choose to go back to Passabe and drive local transport vehicles there. He had come to Dili to get an education for his kids. Three of his five children were already in primary school. He wanted his children to have lives different and better than his. In answer to our questions about what he believed he could do to better to prepare for future disaster events, he mostly talked about the opportunity for his children to receive a better education so as to improve their own and their family's livelihood prospects. '*Ami hanoin de'it oan sira, fó han ba sira to'o boot. Ajuda sira eskola*.' (We just think about our children. Looking after them until they grow up. Helping them with their schooling). Nonetheless, with the 2021 flood disaster, his hope for a better life seemed to be fading.

When questioned about what they are doing to prepare for the next flood event, the interviewees replied that they were waiting for the government to decide on their future. '*Where do you get your information about the weather*?', Beatriz asked. Not from social media, according to these interviewees. '*Television*', said one. The woman with six children has no TV. The man said he might be lucky to take in some news on a neighbour's television. '*We look at the sky*', they agreed, when prompted.

The lake is lulik *(sacred, taboo, forbidden), they say. People fear it. You must cross it with a clean heart.*

All interviewees in Masilidun talked about the well-publicised help they received after the 2021 floods from national political figure Xanana Gusmão (known colloquially as *Avó Nana*, or Grandfather Xanana). '*He came across the water like Jesus on a small fishing outrigger canoe*,' recounted Pascoela. '*He then organised for the road we drove in on to be rebuilt. He is a hero to these people*.' The woman with six children said she was eventually taken on a boat to higher ground. This was the first time in her life she had been on a boat on the lake and she was petrified. The Alola team told stories of how, following the 1991 Santa Cruz massacre, the bodies of many students were thrown into the lake at Tasi Tolu by the Indonesian military. '*These young people in the prime of their lives had rocks tied around their necks. The lake is* 'lulik'*, they said (meaning, 'sacred, taboo, forbidden'). 'People fear it. You must cross it with a clean heart*.'

As we departed Masilidun, I asked the man from Passabe about the white egrets wading in the lake. '*They are* lulik', he said. '*La bele han arbiru*' (They are sacred. We can't eat them indiscriminately). If the birds are killed, the floods will come, he explained. We also learnt from him that fishing in the lake is proscribed under customary law. I asked if people make offerings to the spirits of the lake. He replied that some do, referring to the *rai na'in* (custodians of the land) who live higher in the foothills surrounding the lake area. Pascoela suggested we come later back to interview a *lia na'in* (custodian of the words) from this community.

Alola provided our three interviewees with gifts of several kilos of rice and other essential household goods (oil, soap, washing powder) and we took our leave. On the drive back to the centre of Dili, we talked about the terrible bind that these people seemed to find themselves in. Facing forcible eviction by the government, they must choose a relocation site and some were choosing to return to the districts. Yet for the Alola team this choice was more of an interim response to an ultimatum than an active choice to return and rebuild their lives in the rural areas. In the team's experience working with these urban communities, despite the difficulties of their lives on the margins of Dili, people prefer it over a return to agricultural labour in the districts. This is because in Dili they have access to the promise of a better life through education and increased income. Even if in reality this means only one or two plates of food per day and that they must continue to live in places inadequately serviced and prone to disaster, this is often the choice they will ultimately make.

BACKGROUND TO THE RESEARCH

Timor-Leste and its people are all too familiar with extreme weather events causing great damage to lives and livelihoods as well as public and private infrastructure (Soares and Sloggett 2023). Heavy rains and high winds resulting in flash flooding and landslides are commonplace, particularly during the monsoon season. Steep slope gradients, narrow seasonal river catchments, upland agriculture techniques, road building, lowland sand and rock extraction and unplanned peri-urban development all contribute to soil erosion and hence often dramatic landslides which pose a risk to human life and to infrastructure. In its 2021 Climate Risk Profile, the World Bank noted that climate change poses a significant risk to Timor-Leste's recent hard-won development gains and threatens to exacerbate inequality and drive significant damage and loss of essential infrastructure, livelihoods and human life.[2]

2 The World Bank Group and the Asian Development Bank, 2021.

On 4 April 2021, against the backdrop of rising numbers of COVID-19 cases and resulting government-imposed restrictions on movement, persistent heavy rains associated with a Category 1 cyclone known as Cyclone Seroja resulted in a massive flooding event in Dili and surrounding low-lying areas. According to the Secretariat of State for Civil Protection, the flash floods claimed at least 46 lives and displaced more than 13,000 people in the Dili municipality. While other municipalities were also affected, 82% of the 31,000 households across the country impacted were in Dili. It was reported that government authorities did not issue warnings regarding the potential for further heavy rains and flooding until 5 April.[3]

Fundasaun Alola was one of numerous non-government, government and international organisations providing relief services to the worst affected communities. The focus of Alola's relief efforts was upon women and children housed in a handful of the 43 evacuation facilities set up across the municipality of Dili. To design and carry out this collaborative project with University of Melbourne researchers, the Alola team were able to draw on their pre-existing working relationships with a number of urban women's groups and their families in three of the Dili communities most severely affected by the April 2021 floods.

3 United Nations Office for Disaster Risk Reduction, 29 January, 2022 - Timor-Leste Floods Teach Costly Lessons

The Alola research team first discussed their project plans with the village heads in Manleuana, Comoro, Masilidun, Hera and Tasi Tolu. Twenty participant interviews were conducted and video/voice-recorded between May and July 2022. In the 12 Outubru sub-village of **Masilidun** on the western outskirts of Dili, close to the shoreline of the three lakes of Tasi Tolu, the team interviewed nine individuals, comprising seven women, and two men (including one a *lia-na'in* or 'custodian of the words'). In **Manleuana**, a village located on the west side of the Comoro River, which runs down steep mountain terrain and then through Dili, the team interviewed four women who had lost their homes, their personal possessions and their livelihoods. Three of these four women derived their family income from collecting sand and rocks from the riverbed to sell for road and building construction purposes. In the community of **Hera** to the east of Dili, the Alola research team recorded the experiences of three women who were amongst hundreds of families forced to seek refuge for up to a month at a local church. These families were later rehoused at the local Acanuno school which was set up as one of four evacuation centres in the area. These people's homes, which were located in a low-lying marshy area close to the river and to the coast, were either washed away in the floods or destroyed by mud.

Flooding at Becusi River Bridge, Becora bus terminal
Source: Duffy et al., 2021.

In 2021, University of Melbourne researchers Mark Quigley and Lisa Palmer were among those who reported on the cascading disasters of the cyclone, flooding, landslides and human health hazards including COVID-19 and engaged with the work of Timorese scientists based at the *Instituto do Petróleo e Geologia* (IPG) and their recommendations, based on their local experiences and observations, for 'the following measures to reduce the incidence of flood-related hardship in Dili:

1. Improved engineering and maintenance of existing drainage infrastructure.

2. Measures to reduce sedimentation in the river channels. This would need to be based on careful analysis of sedimentation trends, which IPG has already begun to do using Lidar and repeat drone studies.

3. Control of solid waste entering the drainage systems. This would require regulatory and practical measures to be implemented.

4. Consideration should be given to storage of rainwater for domestic use. This would both reduce runoff and alleviate the groundwater situation.

5. Regulatory and practical measures to limit hard landscaping and improved infiltration, possibly coupled with managed aquifer recharge.

6. Improvement of building codes to encourage flood-hardy homes.

7. Placing of flood early warning systems' [4]

Other Timor-Leste based individuals and organisations commented on the catastrophic nature of environmental, economic and health calamities impacting affected populations. Li-Li Chen from the Universidade Nasionál Timór Lorosa'e (UNTL) urged her readers to think beyond merely technical solutions and to consider, as well, issues of power and dependency.[5] She argued that these coinciding crises were 'dividing Timor-Leste along the line of power inequality: disempowering the poor and the vulnerable, as well as empowering some foreign and national elites through political manipulation and increasing dependency.' [6]

4 Duffy et al., 2021.
5 Chen, 2021.
6 Fundasaun Mahein, 2021.

All of these concerns were evident in our encounters in Masilidun. The number of houses and population has grown exponentially in the Tasi Tolu area since the 2006 national political crisis during which internally displaced peoples began settling in previously unoccupied areas. Later other members of their communities and wider kin networks would move alongside to join them. The lakeside houses in the sub-village of 12 Outubru are considered illegal settlements on state land. Given their vulnerability to flooding events and government aspirations for alternative land-use developments in the area, there is increased urgency in government decisions to relocate these households. As this report highlights, while customary custodians of the area and members of the recently migrated population recognise the unsustainable nature of current land use, there is uncertainty about what should and can be done to improve these problems, including unanswered questions about where forcibly removed households would be relocated (Almeida 2022; Cryan 2016; Rede Ba Rai 2013).

As Chen asserts and is echoed in the commentary on the Masilidun narratives, some national political leaders have been able to leverage their disaster-response to political advantage.

7 For background on state land laws and conflicts see Rede ba Rai 2019 *Land registration in Timor-Leste: Impact Analysis of the National Cadastral System (SNC)*, Dili.

The legacy of this response, and the positive associations it has for the local population demonstrates the political power in 'turning up' and being present in the immediate aftermath of a disaster, and the political power inherent in 'rebuilding', even when this is not informed by the evidence-based disaster resilience response (DRR) outlined by the IPG above and does not ensure better long-term outcomes. The challenges in rebuilding for long-term disaster risk resilience outcomes are amply demonstrated in the Masilidun case.

STORIES FROM MANLEUANA

As with Masilidun, thousands of displaced people have moved into the Manleuana area on the west side of Dili's Comoro River since the 2006 political crisis. Many of these people are originally from Aileu and Ermera and most retain strong ties to these regions, returning on frequent short-term visits for significant life-cycle events and other family reasons. Other people have lived in the area since the Indonesia invasion in 1975, and prior to 2006 they made a living growing rice along the river's edge. The riverbed and surrounds are now a major source of construction materials for Dili's burgeoning road-building projects.

One of these construction projects was a major road leading straight up the river valley and steep mountains from Dili to Aileu. Attaching themselves to the fringes of these large-scale extraction activities, many poorer people living in this area make a living by collecting rocks or sand from the riverbed.

Many of the river edge households in the community of Manleuana are also considered to be illegally settled. According to the Alola team, in this post-disaster period, some of these people had already received government assistance to facilitate their return to their villages of origin. For some families, this has entailed two moves, first taking the materials (tin sheeting and cement) back to their villages to temporarily store with their extended families before moving back to the same area in Dili to rebuild a house or to live in one of their children's houses in a similarly precarious area. Proximity to the river enables them to continue with their daily livelihood activities collecting rocks and sand from the dry riverbeds. After establishing themselves in a new location near the river, they continue to work, many keeping a vigilant eye out for the next offer of government assistance.

The Alola team say they despair at the lack of co-ordination between national government ministries and local government authorities that allow these perverse outcomes to occur. They also identify the ways in which this lack of coordination, and the long wait times for government assistance and programs, create a culture where households effectively shop for assistance and programs to best suit their needs, even when these actions appear to be at cross-purposes. In this context, people are just trying to get on with their daily lives in any way they can. The balance between authorities enabling people's autonomy (or choice) and the need to regulate assistance programs and land-use laws is challenged by an apparent lack of ability or political will to adequately resource and enforce the choices which people are required to make.

Maria was pregnant with her seventh child when the floods swept through her hamlet of Lisibutak. She and her husband, who make a meagre living collecting and selling sand and rocks from the banks of the Comoro River, managed to carry their children and some of their more important possessions to the safety of the village hall (*sede suku*). Yet during times of flood and heavy rain, trucks are unable to access the riverbed, which makes selling sand and rocks impossible, and the river often washes their small piles of rock and sand away before it can be collected.

Prior to the floods, during the early stages of the COVID-19 pandemic, the family had also struggled to make ends meet because the trucks that would collect the sand and rocks were restricted in their movement by the government-enforced *serka sanitária* (literally, 'sanitary fence') in place between administrative areas. Maria and her family were also curtailed in their movements, as much to avoid being placed in mandatory isolation by authorities as to prevent COVID-19 infection. '*Who would look after the kids if they put us in quarantine*?' she lamented. As a result, a number of Maria's children received their routine childhood vaccinations later than is recommended.

In spite of the disaster risks, Maria explained her preference was to remain in Dili if the government could help her family relocate to a safer site. She said it is easier to make a living in Dili than in the *foho* (rural areas). But at the time of the interview, her husband had already received some government assistance in the form of building materials to construct a new home in their village of origin. Other women reported that family tensions over lack of resources, losses of livelihood and the threat of relocation have led to incidences of domestic violence.

MORE STORIES FROM MASILIDUN

Agostinha is originally from Aileu and she is the mother of four children. She runs a small kiosk in the sub-village of 12 Outubru. She prides herself on the role she played to coordinate rescue and relief efforts for local families in the wake of the floods. Agostinha helped local families relocate their belongings to the local chapel and, in the days following the flooding, she assisted pregnant women to deliver their babies in hospital. She compiled lists of names of affected residents for the Civil Protection authorities to enable the delivery of material aid in the form of rice and other essentials. During the emergency, Agostinha coordinated with teams from the Alola Foundation's Maternal and Child Health program to run training on breastfeeding and cooking demonstrations highlighting the importance of nutritious, locally available foods.

Agostinha's story clearly demonstrates the way in which women living in these marginal peri-urban communities continuously and skilfully juggle their household and childcare responsibilities and their often precarious livelihoods as well as actively engaging with community assistance programs such as those provided by Alola. Despite their insecure lives and the hardships they face, these women are able and willing to take on significant additional responsibilities to assist their own families and the neighbourhood.

Agostinha's narrative provides tangible evidence of the effectiveness of community-led or co-produced disaster responses to increase capacity in risk, resilience and recovery.[8]

A handful of Agostinha's neighbours derive their income from gathering and selling scrap metal. These women originate from Ainaro, Viqueque and Bobonaro. Some have married men from Ermera. Scrap metal collection is hard physical labour requiring them to push a heavy cart from their homes to the local tip in Tibar where they hunt for old corrugated iron and other items of value. They take these scraps for weighing at near the central Dili port area. One of these women, Domingas, is a widow with five children, one still of school age. Before her husband died three years ago, he had purchased a cart to help him and his wife to ply their wares. Domingas recounted how, the morning after the flood which destroyed her home, she helped Agostinha rip up cardboard boxes to make beds for the local community at the chapel. She is still waiting for the government to provide the assistance needed for her to relocate. Her priority is to continue to work and earn money to contribute to her grandchildren's education. '*Sometimes when I don't manage to find any scrap metal, I just sit under a tree and feel stressed*', she sighed.

8. United Nations Office for Disaster Risk Reduction, 2022; Cretney, 2018; McLennan, 2020.

STORIES FROM HERA

In the past, Hera to the east of Dili, was a fishers' village with access to vegetable gardening on its fertile floodplain and a highly mobile population that moved between the coastal sites, including certain suburbs in Dili, and the nearby hills. It is now a burgeoning peri-urban community, and in some cases customary landowners have sold their land cheaply to newcomers. During the national crisis in 1999 and again at the height of the 2006 political crisis, long-time Hera resident Elsa felt forced to send her children on a bus far from Dili to Baucau for their protection. She was born in Baucau in the east of Timor-Leste but has lived in Hera since 1982.

She explained how in 2006, '*our house was burnt down and our belongings were ransacked*.' Eventually she followed her children to the Baucau area where they lived for a long period with her extended family. As Elsa reflected on the tragic floods of April 2021, a similar experience of loss and being forced to make heart-rending decisions returned to her. Like the hundreds of other families forced to relocate to the local Acanuno high school, Elsa had her family's home and all their personal possessions wash away in a torrent of mud and raging flood waters. She managed to flee her home with her eight children. Her husband had remained behind in a vain attempt to defend their home and salvage their belongings. He was lucky to survive. Through tears, Elsa spoke of the cruel irony that, having been saved from the floods, a year later, while housed in the school converted to evacuation centre where she still lives with her children her husband had suddenly passed away. She told of how, at the time of his death, her husband had been wracked with anxiety and concerns for the future (*hanoin barak*.) Today Elsa is forced to eke out a living by collecting firewood in the hills around Hera, selling small bundles of branches for ten cents each. The money she earns is barely enough to feed her family and any surplus goes towards the costs of schooling her children.

In the early days of the COVID-19 pandemic, prior to the floods, Elsa recalls that families like hers were lucky to still have access to the small plots of land that they had bought, along with their house land, to grow vegetables. At the time, they were no longer able to sell their produce in the markets due to government-mandated restrictions on movement, but they were able to sustain themselves with their garden produce. During the same period, she recounted, people were reluctant to physically interact with their neighbours because everyone was suspicious of whether others around them were infected with COVID-19. This suddenly changed after the floods forced people into the stress of close proximity in evacuation centres and they lost access to their now destroyed gardens.

Another evacuee, Teresa, related how she had managed to collect, wash and sell bunches of *kangkong* (water spinach) during the COVID-19 lockdowns. It was a very tough time (*arraska*) and she recalled that what she earned was barely enough for her family to survive on. At the time of the interview, she expressed her gratitude for the accommodation provided at the Acanuno school, but worried for her children and mother's health in the crowded and unhygienic conditions. She explained how stressful it was as a mother to see her kids bored and vandalising the surrounding buildings just for something to do.

Teresa, along with some other families at the evacuation centre, had received some information on disaster risk mitigation from UNICEF, the Ministry of Health and the International Organization for Migration (IOM). However, when asked what she would do to prepare for the next possible disaster, Teresa responded that she mainly keeps an eye on weather patterns to alert her to possible storm and disaster risks. Another woman responded that she had plans to rebuild her home higher off the ground.

SUMMARY OF RESEARCH FINDINGS

The research interviews highlight how hazards such as extreme flooding can adversely impact vulnerable communities, exacerbating already dire poverty and precarious living conditions. In all twenty interviews, women and men described their daily struggle for economic survival and the devastating impacts of losing their houses, personal possessions and, in some cases, family members in the floods. In all cases they referred to April 2021 as the worst flooding event they have lived through.

As most of the interviewees had previously engaged with Alola to receive post-disaster recovery services, these open-ended interviews tended to focus on the experience of the April 2021 flooding event and the individual family's immediate rather than long-term needs. This short-term focus is also a product of the constant pressure to meet their basic daily requirements.

There was broad acknowledgement among the interviewees that preventative action is needed to avoid the worst excesses of future disasters. However, it was unclear what means most of these people had to be proactive in mitigating future risks. All twenty interviewees were awaiting promised government assistance.

As Marta in Manleuana said, '*We are unable to prepare ourselves any better for future natural disasters without some support to relocate – we need wood, corrugated iron and cement but to date we and ten other families are yet to receive anything*.' None of the interviewees knew where they might be relocated to in the Dili area. Many spoke about the ongoing trauma of being unable to sleep when it rains.

While some people in the affected areas had received materials to enable their choice of relocating to their villages of origin, both the interviewees and the Alola researchers suggested that the weak and neglected formal economy in the country's rural areas meant this was not yet a viable option. Instead, people were storing materials in their villages and returning to live in disaster-prone areas to continue their livelihood activities and maintain proximity to the promise of better education. The lack of co-ordination among authorities to implement program assistance and to enable and enforce disaster-resilient land-use planning was identified as a major contributing factor to these perverse outcomes.

For those interviewees who wish to remain in Dili and surrounds, relocation to relatively safer areas (i.e. places distant enough from the river, the river course or water flow) was commonly expressed as the desired disaster risk mitigation factor. However, none of those interviewed had access to alternative land or the means to relocate. None of them had prior or informed knowledge of the sites the authorities were seeking to move them to.

The risk of encountering other hazards and challenges as a result of relocation was understated in the interviews. For the most part, people simply asked that authorities enable them to move to safer areas. One interviewee did reflect on the environmental change she had experienced during her time in Masilidun: '*We need to try to distance ourselves* (hadook an) *from high-risk places like this. Places like this get seriously flooded and it's difficult to get out because the road is under water too. In the past the course of the river flow would mean that we weren't directly impacted but now we are right in its path*.'

Despite the ongoing risks to their lives and livelihoods, most of the twenty interviewees expressed a preference to remain in Dili. The most common reason for this choice is that the urban environment is perceived as being an easier place to make enough money to eat and to support their children's education. '*In the* foho *(mountains/rural areas) we can live off the land and avoid starvation, but we can't make anything surplus to our daily needs*.'

Interviewees spoke about the frequent movement of their households back and forth between urban and rural areas. Mostly, this household mobility is to enable participation in customary life cycle and agricultural rituals (*lia*). While the monetary contributions associated with these rituals are a burden on people's scarce resources, the Alola team affirmed that the concurrent social, cultural and wellbeing benefits of participating in these extended family rituals were highly valued and are, for most people, non-negotiable aspects of their lives.

A consistent recommendation from the research participants was that the government treat the survivors of the flood disaster with dignity, both in the provision of safe, hygienic and appropriately sized emergency accommodation and in the design and timely implementation of longer-term solutions such as household relocations.

All interviewees spoke about the ways in which the April 2021 flooding and COVID-19 outbreaks in Dili adversely impacted them and other vulnerable sections of their society. It further limited their already insecure access to health, social services and job opportunities. Some mothers reported delaying their children's vaccinations due to the double calamity of the floods and the COVID-19 restrictions on movement.

A VIEW FROM THE CUSTOMARY DOMAIN

A few weeks after our first visit to Masilidun, Pascoela returned to interview the local *lia-na'in* or 'custodian of the words'. Domingos was born in 1957 in Dare, in the hills above Dili. He moved down to Dili in 1980 and then to Masilidun in 1995. Back then he was a fisherman and occasional manual labourer. Today, he makes a living from selling firewood. Seated at the front of his simple half cement-block, half palm-thatched house, he proudly pointed to the site where Kofi Annan and Xanana Gusmão presided over the celebration of Timor-Leste's independence from Indonesian rule in May 2002. '*Tasi Tolu is an important place. Lots of important people, including the Pope himself, have visited here. And people here are doing it hard. They lost everything but they are doing their best to get back on their feet.*'

He told Pascoela how the Tasi Tolu area on the outskirts of Dili had become densely populated during the political crisis of 2006 when many families living in established parts of Dili fled their homes. '*Before that*,' he said '*there had only been a few houses in the area. The whole area right down to the sea was settled after 2006.*' '*At that time*,' Domingos added, '*it was very difficult to imagine, how could we go about expelling people? They also had rights to a place to live, they are also Timorese. As a* lia na'in *I had no say in what to do with these people. It was all up to the government.*'

Domingos went on to talk about how distressing it was to see members of the local community, particularly those living closer to the sea, lose everything they owned during the 2021 April flood events: '*The deluge came from the mountains via the river and some families living at higher elevations were also impacted*.' Domingos also sang the praises of Xanana Gusmão who he said had immediately organised a machine to suck up the water that had caused the Tasi Tolu lakes to swell and overflow. Now that the land had dried out, he said people have returned to their original house sites. This community of people was awaiting the government's decision on its future, including if and where they would be moved to and whether or not a planned tourist resort on the coast nearby could proceed.

The privately owned 'Pelican Paradise' resort referred to by Domingos is a much-touted US$969 million venture which will occupy 550 hectares of coastal and. It has been planned and discussed by the proponents and the national government since 2008.

-

An update on the project's Facebook page posted eleven months after the April flash floods stated that the new development had '… began groundwork on increasing ground-level height to mitigate against the potential of flooding in the future.'

Unfortunately, it seemed the same capacity for forward planning was not available for *lia-na'in* Domingos and the Masilidun community. They do, however, have alternative mechanisms for disaster risk mitigation. When Pascoela asked whether customary governance practices such as tara bandu and traditional prayers (*hamulak*) are customarily practised in the area to avert disaster and protect human life, Domingos responded immediately:

'*Always. In general, across the country, there are three realms we need to remember always. God,* foho no rai *(the natural world and nature spirits) and the spirits of our ancestors. So in everything we do we practise our culture and do not just pay lip service to it. We sacrifice animals, use* bua malus *(betel nut). It's really integral to our way of life. Everything is done according to the way of the ancestors.*'

He added further evidence of the power of these ritual prayers in the form of stories from his time fighting as part of the resistance army during the Indonesian occupation. Likewise in 2021, after the disaster of 4 April, Xanana and the government cooperated with Domingos and other *lia na'in* from Tasi Tolu to carry out a traditional invocation or *hamulak* to the ancestors. According to Domingos, '*Things normalised from there*.'

Pascoela also asked the *lia-na'in* about the dramatic reduction in the population of egrets in the Tasi Tolu area. He replied:

'In the past this egret population was significant. Once in 1999 an Indonesian soldier shot one of these birds and it sent him mad there and then. That was back when they were still abundant in the lakes. Now the bird population has reduced as the human population has increased in the area and a lot of trees have been felled to make houses. A certain number of birds return each year during the rainy season. Most people are afraid to do harm to these birds because they understand they are sacred. I make it clear to people that these birds are sacred and need that they to be protected. As a result, people do understand and are afraid of the consequences of killing or harming them. They are also said to have the power to change into other animals like buffalo or dogs in the middle of the night. I saw one of these dogs myself. They are very sacred indeed.'

The conversation ended in a discussion of the planned Pelican Paradise resort development. Domingos was keen to stress that he and the community are willing to cooperate and even consider relocation if this is deemed necessary by the government. '*But they must treat us with dignity*,' he added. This also means the need to properly help people to relocate to their villages of origin, if that is what people choose to do. He also stated that people are very interested in the possibility of jobs being available for the local community from this planned project. This, he said, may be influencing some to continue to stay on living on the floodplains around the lake.

Domingos added that the traditional practice of *tara bandu* had been tried as a deterrent to lakeside living in the past. He said that five or so years earlier, the nation's political leaders, including Mari Alkatiri and Xanana Gusmão, were invited to Tasi Tolu to attend and witness the ritual ceremonies associated with the *tara bandu*. Yet the ceremony ultimately failed to dissuade families from residing in the areas around the lakes. Domingos attributed this failure to the fact that no formal policing was deployed by the state to assist in enforcing the *tara bandu* prohibitions against lakeside living. '*I was there*,' he said, '*and I told them at the time,* tara bandu *without security personnel in place* [in peri-urban Dili] *to enforce the rules is pointless*.'

CONCLUDING COMMENTS

The complex intersections between the five key themes that permeate this report — land and environment, livelihoods, disasters, custom and futures — make clear the need for a highly coordinated, long-term, contextually nuanced and well-resourced disaster risk and resilience response from government authorities and international aid agencies.

As *lia na'in* Domingos's commentary highlights, there is also a critical need for disaster risk and resilience planning to be grounded in long-term appropriate land use planning, regulation and enforcement. This is the case whether the land-use governance mechanism is customary, state-based or some combination of both. While authorities need to carry out community consultation and co-production in the creation of disaster-resilient communities, the design and implementation of techno-scientifically informed, evidence-based, long-term disaster risk resilience land-use practice and planning is also important. At the same time, technically and scientifically informed practice and planning must be combined with a thorough social, cultural and political assessment and understandings of the affected population's life circumstances, including their capacity for and tolerance of risk.

The people who have shared their stories in this report exhibit a high-risk tolerance. In most cases, this is because they have no choice through their exposure to long-term hardship and struggle.

Other more immediate priorities and challenges comprise and fill their daily lives and there is little to no additional capacity for disaster planning or hazard risk mitigation. For example, the harvesting of firewood for sale is a widespread practice in these parts of peri-urban Dili and contributes to the deforesting of landscapes, the stunting of tree growth, and to the increase of runoff and flood hazard. Yet the people harvesting this firewood need to find a cash income to feed their families. As a result, flood hazard becomes a secondary concern until the next flood event occurs.

Since 2006, the once tiny coastal city of Dili, an administrative centre first built by the Portuguese in 1769 on a floodplain sandwiched between the mountains and the sea, has morphed into a bustling hub of government authorities, international agencies, small-scale businesses and cascading suburbs of formal and informal settlements. With a population now exceeding 220,000 people, Dili is bursting at its seams. Long past the heady years of achieving formal independence, people's search for cash income and educational opportunities for their children continues to encourage them to move to Dili away from a life in their origin villages and continuously refracts against any permanent return to living in these places or other locations in rural Timor-Leste. It is clearly essential that the government's long-promised rural development plans for economic diversification and political de-centralisation are implemented. These strategies will form a critical part of the necessary long-term response to disaster risk and climate-change mitigation in Timor-Leste, particularly in its capital Dili.

SOURCES

Almeida, Bernardo. 2022. *A Sociolegal Analysis of Formal Land Tenure Systems: Learning from the political, legal and institutional struggles of Timor-Leste*. Routledge.

Chen, Li-Li. 2021. Timor-Leste's twin crises and what we must learn from them. *New Mandala*, 28 April, 2021. https://www.newmandala.org/timor-lestes-twin-crises-and-what-we-must-learn-from-them/

Cretney, R. M. 2018. Beyond public meetings: Diverse forms of community led recovery following disaster. *International Journal of Disaster Risk Reduction*, 28, 122-130.

Cryan, Meabh. 2016. *Quick Guide to the Changes in Timor-Leste's Expropriation Law*: Tahan Briefing Note 1/2016.

Dziedzic, S., Araujo, A. M. 2021. Timor-Leste is reeling from record floods and the full impact of the suffering is only now becoming apparent. *ABC News* 9 April 2021. https://www.abc.net.au/news/2021-04-09/timor-leste-east-timor-dili-floods-recovery/100055858

Duffy, B., De Jesus, O. V. T, Quigley, M., Palmer, L., Carvalho, D. A., Trindade, J., Rutherfurd, I. 2021 Flooding and Landsliding in Timor-Leste: Linked hazards in a young mountain belt. https://www.geo-down-under.org.au/timor-leste-flood-disaster/

SOURCES

Fundasaun Mahein. 2021. Timor-Leste's Leaders Must Use Floods As Opportunity To Work Together.*Fundasaun Mahein*. http://www.fundasaunmahein.org/2021/04/09/timor-lestes-leaders-must-use-floods-as-opportunity-to-work-together/

McLennan, B. J. 2020. Conditions for effective coproduction in community-led disaster risk management. VOLUNTAS: *International Journal of Voluntary and Nonprofit Organizations*, 31(2), 316-332.

Quigley, M., King, A., Duffy, B., Vincent, C., Rutherfurd, I., Attanayake, J., Palmer, L. 2021. Double trouble: floods and COVID-19 have merged to pose great danger for Timor-Leste. *The Conversation*, 13 April 2021. https://theconversation.com/double-trouble-floods-and-covid-19-have-merged-to-pose-great-danger-for-timor-leste-158625

Rede ba Rai. 2013. *Land Registration and Land Justice in Timor-Leste: Culture, power and justice*. Dili: Haburas Foundation.

Rede ba Rai. 2019 *Land Registration in Timor-Leste: Impact Analysis of the National Cadastral System (SNC)*, Dili: Rede ba Rai.

Soares, S. and Sloggett, R. 2023 'Oral Histories of Natural Disasters in Timor-Leste', in R. Sloggett and M. Scott (eds) *Environmental Threats to Cultural Heritage*, Routledge, pp 79-98.

SOURCES

United Nations Office for Disaster Risk Reduction. 2022. Global Assessment Report on Disaster Risk Reduction 2022: *Our World at Risk: Transforming governance for a resilient future*. Geneva. https://www.undrr.org/media/79595/download

United Nations Office for Disaster Risk Reduction. 2022 - Timor-Leste Floods Teach Costly Lessons. https://www.undrr.org/news/timor-leste-floods-teach-costly-lessons

The World Bank Group and the Asian Development Bank. 2021. *Climate Risk Profile: Timor-Leste*. https://climateknowledgeportal.worldbank.org/sites/default/files/country-profiles/15971-WB_Timor-Leste%20Country%20Profile-WEB.pdf

Photo credits

All photos supplied by research team unless otherwise noted below.

(Page 14)

Duffy, B., De Jesus, O. V. T, Quigley, M., Palmer, L., Carvalho, D. A., Trindade, J., Rutherfurd, I. 2021 Flooding and Landsliding in Timor-Leste: Linked hazards in a young mountain belt. https://www.geo-down-under.org.au/timor-leste-flood-disaster/

(Page 18)

Tatoli News: https://en.tatoli.tl/2020/01/07/fears-for-200-families-along-comoro-river-as-rains-arrive/07/

ACKNOWLEDGEMENTS

The authors wish to thank the Indigenous Knowledge Institute at the University of Melbourne and Professor Mike Sandiford for their generous funding support, and the research team from Fundasaun Alola for their dedication to this project. We are inspired by Alola's commitment to improving the lives of the women with whom they work. Special gratitude goes to all the individuals who generously and bravely shared their experiences of recent disasters. We also thank Dr Susanna Barnes for her helpful comments on earlier drafts and Tamsin Wagner for her editing. Any errors or omissions are our own.

This report may be cited as:

Palmer, L., Sword Gusmão, K., Quigley, M., Guterres, M.I., Sequeira, B. & Barreto, P. 2023. Digitising and analysing Indigenous narratives of disaster resilience in urban Timor-Leste, *The Cultural Ecology of Timor-Leste*. Available online at:

https://arkivukulturaekolojia.com/publications

For further information and archival materials see the Cultural Ecology of Timor-Leste site.

Enquiries can be made to Lisa Palmer at lrpalmer@unimelb.edu.au

Fundasaun Alola
Avenida Bispo de Medeiros
Mascarenhas, Mercado Lama, Dili
Timor-Leste
Tel: (670) 3323855 | Email :
info@alolafoundation.org
Website: http://www.alolafoundation.org