
DEVELOPMENT
YOUTH
CORALS
WATER
FAMILY
CHANGE
RESOURCES
GIVE
FEEL
LIFE
TREES
KNOWLEDGE
LEARN
CULTURE
DIFFERENT
LIVE
OCEAN
TIME
FISHING
LOVE
NATURAL
DIVING
LAGOON
TRADITION
TECHNOLOGY
Eʻa Aʻo Tiaki Ipukarea
VAKA
CONSERVATION
PRACTICE
SCHOOL
WORLD
POSITIVE IMPACT
MONEY
FISH
MPA
FUTURE
PLANET
PROTECT
EXPERIENCE
UNDERSTAND
GENERATIONS
REEF
CONNECTED
TARO
LANGUAGE
FOOD

Kia mātūtū te tūranga o te `iti tangata Kūki `Airani e to tātou ao nātura

To improve the well-being of the indigenous people of the Cook Islands and our natural environment

Kōrero o te `Ōrau is an environmental non-governmental organization incorporated in 2017, consisting of Cook Islanders who are passionate about protecting the culture, environment, and natural resources of our nation. Kōrero o te `Ōrau in Cook Islands Māori translates to "knowledge of the sky, land, and sea". Since 2018, Kōrero o te `Ōrau has been running a programme for youth on Rarotonga called 'Ātui'anga ki te Tango, with the objectives of connecting Cook Islands youth to their 'foundation' or natural environment through scientific and culture-based learning. The junior programme runs over the school holidays with students ages 5 and up, and the senior programme during the holidays and throughout the year with students ages 13 and up – teaching life skills to our children with a special focus on traditional practices. The 'Ātui'anga ki te Tango programme complements the learning students receive in school, covering activities and subjects ranging from Agriculture, Botany, Climate Change, Marine Science & water safety, Taxonomy, Cook Islands traditional knowledge and practices (i.e., agriculture and fishing methods, performing arts), traditional medicine, and traditional voyaging. The students who contributed to this book are members of the 'Ātui'anga ki te Tango programme. We are grateful to our generous community and international partners that make our programmes and activities as well as education of our future generations of our natural environment from Ridge to Reef possible. Our partners include the CI Ministry of Agriculture, GEF Small Grants Programme, Nia Tero, UNESCO & the CI Ministry of Education, and Synchronicity Earth. Other local partners including Cook Islands Voyaging Society, Bank of the Cook Islands, Vodafone, Bank of the South Pacific, and CITC have also been instrumental by supporting Kōrero o te `Ōrau activities that build the capacity and confidence of our youth. Meitaki Ma'ata to parents and guardians also for their ongoing support!

KŌRERO O TE 'ŌRAU

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Kia Orana, tōku ingoa ko **Charlene Akaruru.** I am 17 years of age and just finished high-school at Tereora College achieving NCEA Level 3. My nationality is Cook Islands Māori under New Zealand's citizenship. The Cook Islands are made up of 15 tropical islands and my family roots are from the island of Mauke, and as the phrase goes, "100% Wale" from the island of Pukapuka! I am very passionate about keeping our peoples' identity as Cook Islanders, and keeping the knowledge of our traditions active within our youth as environments are changing, we are moving into an era of technology, the COVID -19 pandemic affected the world, and we continue to face climate change impacts that are challenges to implement change. I am very fortunate to work closely with a non-governmental organization, Kōrero o te ʻŌrau founded by Dr Teina Rongo and team. This has inspired me to have a relationship with our environment – the land and the ocean – giving it value to care for it. Having this experience would support me in my aspiration of becoming a decision maker in my country. Some skills that I possess are SCUBA certifications for Open Water (18 meters), Advanced SCUBA diver (30 meters) and Rescue Diver. I was in ʻĀnau Te Manga in Tereora College (the house colour blue), and a student leader for the only international high school here. I placed first with Excellence in the subject Education for Sustainability. Aside from the formalities, I love playing sports. My preferred sport is volleyball and netball, and I play lawn bowls which has been a custom in my family since my great grandfather and grandmother (I am blessed she is still alive today) who won many titles in bowling. My go-to now is kickboxing and voyaging with the traditional sailing vaka Marumaru Atua. I am also 6.2 ft tall and looking forward to building useful skills and experiences towards a sustainable lifestyle for my future and our people's future aspirations. Kia Orana e Kia Manuia!



Kia Orana! My name is **Esther Short** and I come from a beautiful South Pacific Island called Rarotonga, one of fifteen islands located in the Cook Islands in the middle of the Pacific ocean. I have a mixture of Rarotongan, Tahitian and New Zealand blood to name a few. I am 15 years old. I was born in New Zealand, but have lived on Rarotonga pretty much most of my life. I have grown with a passion to love and care for our ocean and marine life, and by joining Kōrero o te ʻŌrau, I have been able to gain more knowledge and awareness of our marine life and ways of conserving our waters and keeping our cultural ways alive. When I was given the chance to join Roxane's research, I was so excited to be able to share my passion about my island, community and marine life, and raise awareness to keep our environment healthy and culture alive for many generations to come. It has been such a great privilege to be part of this research and share some of my perspectives of our environment and community in the Cook Islands. Kia Orana e Kia Manuia!



Kia Orana! Ko **Te-Mata-o-te-ʻAkarua Patai** tōku ingoa, e taʾi ngāʾuru ma ono ōku mataiti, e noʻo ana au ki te ʻoire Ruatonga/Avatiu i Rarotonga, i te pae o te Kūki ʻAirani. Greetings all, my name is Te-Mata-o-te-ʻAkarua Patai and I am 16 years old. I come from the Cook Islands residing on the island of Rarotonga in the villages Ruatonga/Avatiu. Until the beginning of last year (2020), I hadn't felt much of a connection to the lagoons and ocean that surround our tiny islands, or the sea life living in it. Kōrero o te `Ōrau's ʻĀtuiʻanga ki te Tango senior student programme, led by Dr. Teina Rongo and Jackie Rongo, taught myself and many of my peers how valuable the ocean is to our people and how it not only connects us back to our roots and our ancestors, but also binds us to our pito ʻenua (homeland). During these programmes, we were taught how to sustainably fish without overfishing, what dying, eroded, and bleached corals and reefs look like, how to extract taramea (Crown-Of-Thorns Starfish) safely during an outbreak, and learning both common and scientific names of the different species of fish, algae, and corals on our reef. Becoming a certified SCUBA diver introduced me to a whole other world full of vibrant colours and life. It was then when I truly understood how important the sea is to my people and me. We as a community had relied on the ocean for many generations, and not only does it provide us with a source of food but a way of travelling from one island or country to another because we are voyagers. My experience voyaging on the Cook Islands' vaka Marumaru Atua helped strengthen my relationship with the ocean and created a passion for sailing overall. We used the ocean currents, stars, clouds, and the rising and setting of the sun to navigate. My journey of learning and adapting to a more sustainable way of life has been exciting and very worthwhile. Kia Orana e Kia Manuia!



Kia Orana, my name is **Athina Karika** and I am 15 years old. I was raised and am still living on Rarotonga, Cook Islands. I am attending the secondary school Tereora College, achieving NCEA Level 1. I have also been one of the many students fortunate enough to learn under local marine biologist, Dr. Teina Rongo, through a programme called ʻĀtuiʻanga ki te Tango run by local NGO Kōrero o te `Ōrau, which focuses on environmental and cultural revival. This programme has opened up many opportunities for me as I have been able to gain my SCUBA certifications, participate in a number of interviews, and ultimately expand my knowledge of the environment I live in. I have my qualifications in SCUBA diving up to Rescue Diver, including Emergency Oxygen Provider, Open Water diver and Advanced Open Water diver. I have always been interested in and have respected the ocean along with the environment from a very young age, which has allowed me to understand the relationship between humanity and the environment. I aim to make a difference with the issues we, as a society, are currently facing despite my young age. I really want to connect to the ocean more, which I hope I can do through voyaging on the vaka Marumaru Atua. Through all of this, I aim to hopefully develop a better relationship with my culture as well as to protect my environment and revive my culture. On a side note, I am proud to say that I am a part of an organisation known as Adorable Representative MC for Youth, which supports the group Bangtan Sonyeondan. I am so grateful to have had the pleasure of participating in this research with a few of my peers and hope to share my knowledge and experience. Kia Orana e Kia Manuia!

"When I am older, if I am able, I would love to come back to the Cook Islands and do what Dr. Teina Rongo is doing. He is giving light to the lives of people that are drop-outs and were going nowhere in life. He brought them under his wings and was able to do their Boatmaster course, go on voyages – things that they probably would never have been able to do. And by doing that, they have been able to carry the culture and the traditional things that our people used to do and pass it down through them and through us. I would like to do something like that, and keep learning about the knowledge and how we can keep our ecosystem healthy so that it will be healthy for us and the generations after us so we too can pass it on – and pass on the responsibility for future generations to keep the marine life alive."

Esther Short







"Before we started learning about the vaka, I didn't really feel a connection towards it. It was kind of just there on the harbour. But now that we did the overnight sailing trip, I feel really connected to the ocean and to my ancestors and I now realise that this is how they travelled, and why this is really important for us. We are voyagers, this is our history, it's our culture. So now when I see the vaka, I see my heritage right there! And it's still going on, after centuries! We are still carrying it on!"

Te Marta Patai

“I do see a positive change from COVID-19. It allowed our people to realise that we need to avoid becoming a mono-economy and relying only on tourism. With COVID-19, I realised that we are slowly shifting back into agricultural production and planting – I really do see a lot of families going back into planting taro as their food security. They realised that with COVID and everything going on around it, we might not get the chance to have a lot of food supply, and so we need to shift back into our agricultural practices. Back in the days, we used to rely a lot on agricultural exports of goods such as oranges, and so that’s how our economy was run back then – on agricultural produce that we would export. I think getting back into agricultural practices can also be a way that we can give back to the environment – and it would have health benefits as well.”

Charlene Akaruru



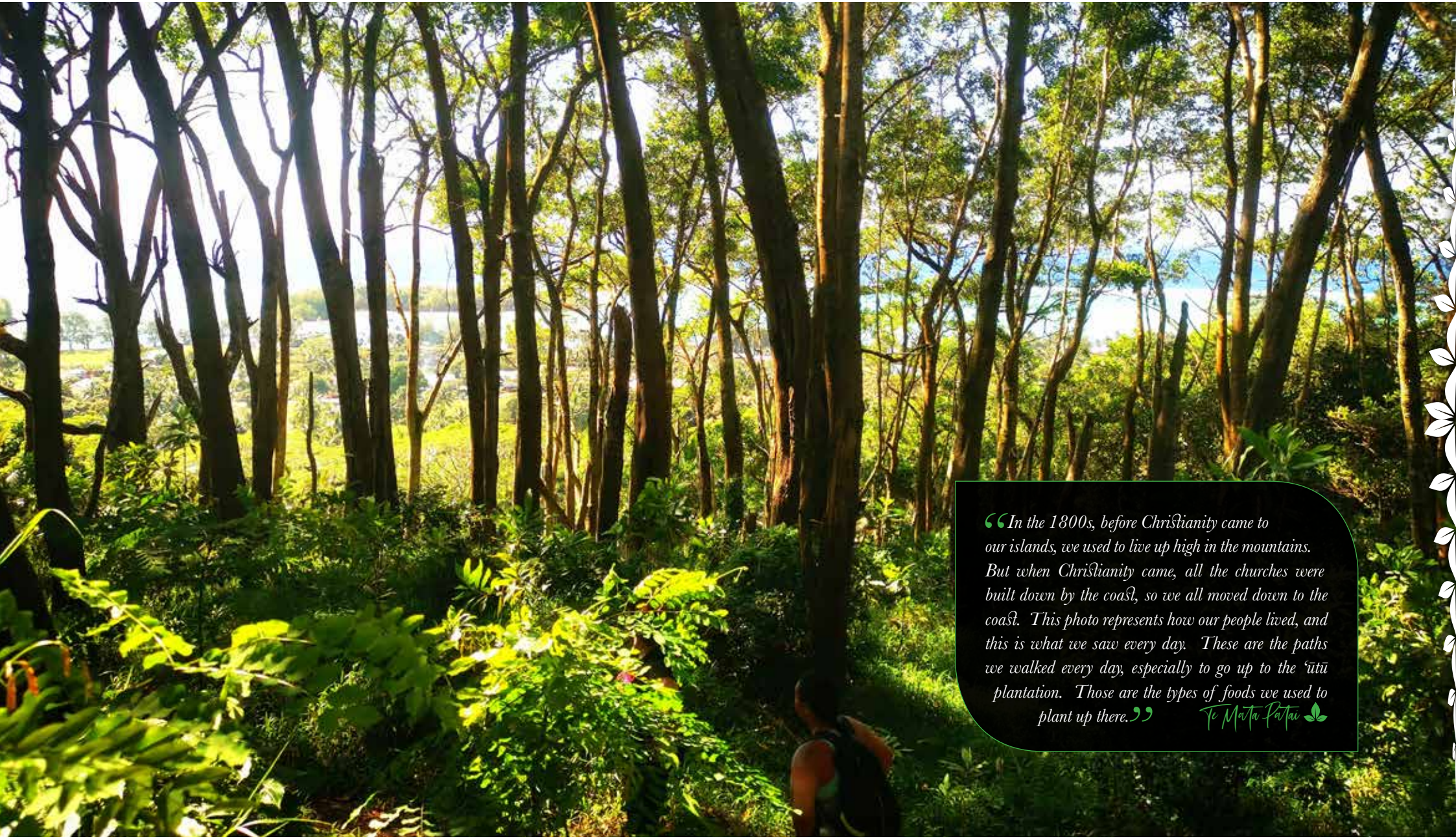







"The Para O Tāne Palace is a historic building in Avarua, Rarotonga, in the Cook Islands. It was built in the 1830s by Makea Pori Ariki, and it was later the residence of Makea Takau Ariki. This is the historical site and place where she signed a treaty making the Cook Islands a British protectorate in 1888. The palace holds a lot of history for the people of the Cook Islands and to myself as well. This Palace of the Makea Nui ariki (district of Avarua), is found on the inland side of the main road surrounded by the Taputapuātea marae."

Athina Karika



"In the 1800s, before Christianity came to our islands, we used to live up high in the mountains. But when Christianity came, all the churches were built down by the coast, so we all moved down to the coast. This photo represents how our people lived, and this is what we saw every day. These are the paths we walked every day, especially to go up to the ʻūtū plantation. Those are the types of foods we used to plant up there."

Te Mata Patai



"Taro is very important to our culture because we survived on it for years – for generations. Taro plantations are a large part of our culture and agriculture and it's passed down from generation to generation – so you 'force' the next generation to do it and they 'force' the next so that everyone knows how to plant taro. This is really important for us to know, so when COVID-19 happens, or when similar issues like that happen, we have something we can come back to – a source of food that we can come back to. If we take care of the land, it will take care of us." Athina Karika

"These are king bananas called ʻūtū, and that links into how the environment supports our culture and traditions. These ʻūtū are part of our traditions and our culture because it goes way back to our ancestors who grew these types of crops. ʻŪtū serves as a source of food security for large communities because of the way they grow. They only take 5 years to be ready and they grow in large quantities, so it's a perfect type of crop for large communities and their food security. ʻŪtū is also grown using traditional methods and are supported by natural water flow from the stream, so that's knowledge that we are still finding useful today so we don't have to introduce things like artificial irrigation."

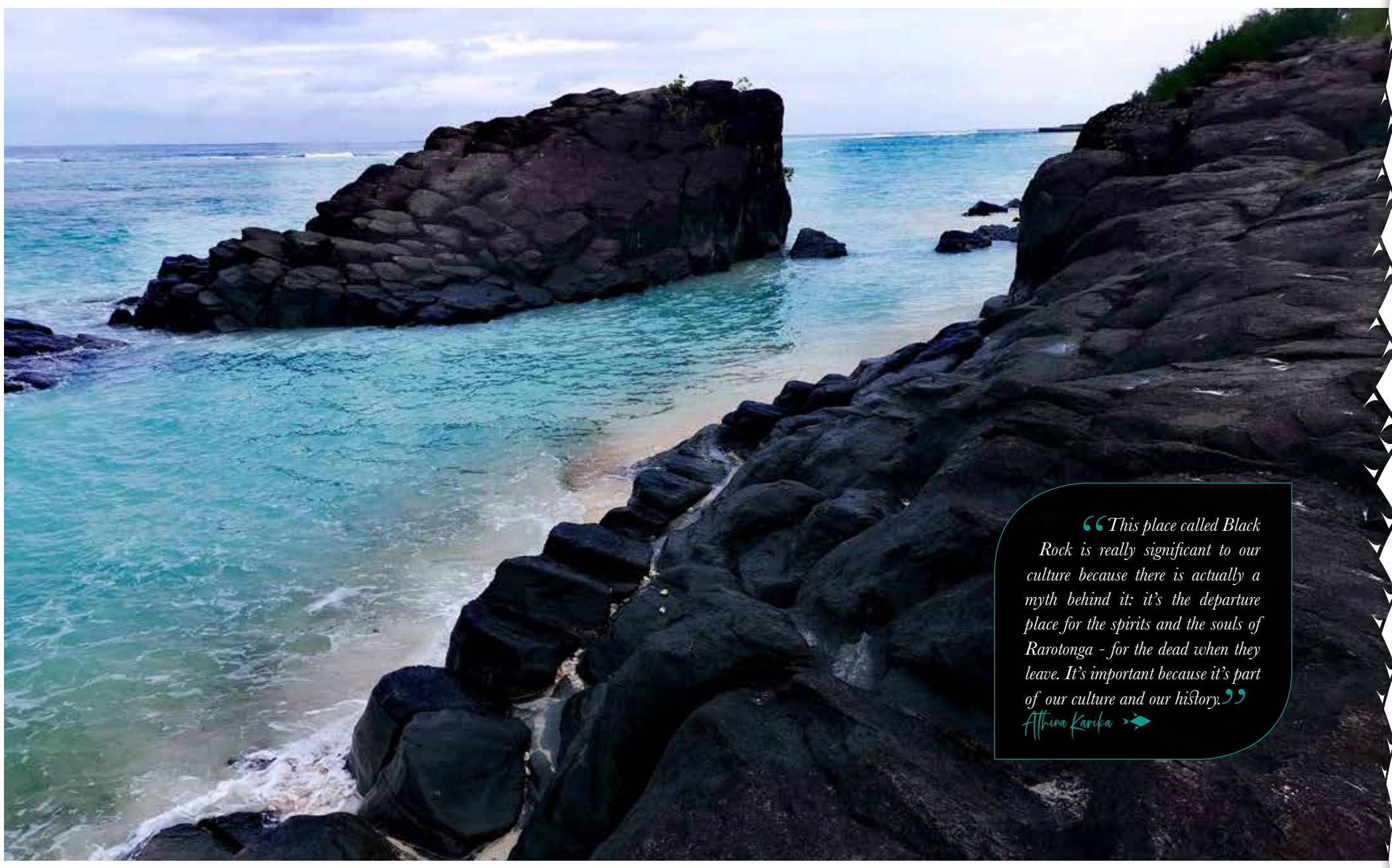
Charlene Akaruru





"Even though planting and agriculture is hard work, and you have to manage elements like the rain and physical work, it will last longer and it can be passed down from generation to generation so ya – it's better than quick cash from tourism. And if COVID-19 happens again, we will go through the same thing if our economy is always focused on the tourism sector. But if we're able to spread it with maybe agriculture, and maybe some other sources or industries to focus on, it will help our community because we wouldn't be in so much stress as we were during these COVID-19 times."

Esther Short



"This place called Black Rock is really significant to our culture because there is actually a myth behind it: it's the departure place for the spirits and the souls of Rarotonga - for the dead when they leave. It's important because it's part of our culture and our history."

Athina Karika

"Free diving played a big part in our survival because a lot of people free dive down to get crayfish, clams, pā'ua, and even pearls. The eagle rays, when I saw them, they looked like a family… maybe they are a family! And that's how I feel about the 'Ātui'anga ki te Tango programme and everyone around me – at first we didn't really know each other, but then we learned together and did everything together and we became closer – we grew closer." Te Manta Patai





"I wanted to photograph the taramea, that's what we call Crown-Of-Thorns Starfish, because they are dangerous to our marine system when they outbreak. Taramea are especially dangerous to the hard corals, which are the corals that protect our reefs from the impacts of waves and larger swells that could possibly erode most of our beaches. So these hard corals help us and they are barriers for our islands that help break the waves. But the Crown-Of-Thorns love to eat these hard corals, and so they were killing off most of our corals. We had to quickly try and find as many taramea as we could to get them out and kill them because they have a large impact on our marine system. In 2021, we have collected almost 3,000 – there are so many that were collected!"

Esther Short





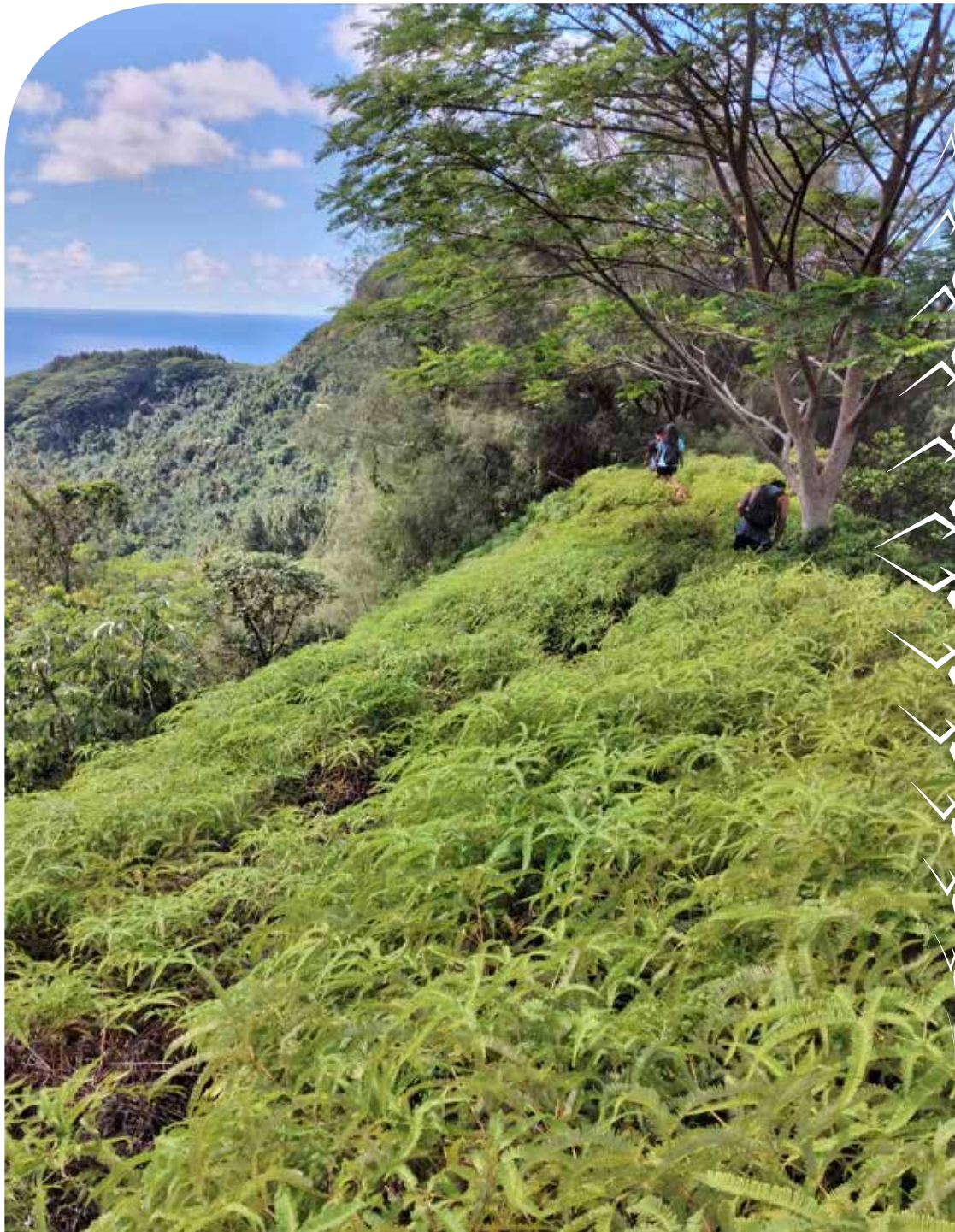


"Everything we do on land has an impact on the ocean; everything we do on land is going to the ocean as well. So understanding both environments – the ocean environment and the land environment – is very important because they serve a fundamental purpose to other aspects of our lives, such as the economic, social and cultural aspects. For example, during construction there will be pollutants, and those pollutants will get washed into the ocean. Those toxins become harmful to our reefs, which is one way that they are connected and how they influence each other – this connection between ocean and land is fundamental to our lives."

Charlene Akaruru

"Climate change would definitely be the biggest threat because our food security is reliant on the environment to provide the perfect conditions for our food resources to grow – so climate change would have a major effect, especially on the ocean environment because it affects all the fish in there, and we use that as well for our food security. Tourism has also influenced the environment, and we can see that in the Muri district that had the advantage of having the lagoon as a natural attraction for tourism. But what happened? What we are seeing is that there has been issues with waste management and algae blooms that has created issues for the Muri environment - so we are facing the effects of climate change and tourism development. But with this COVID experience, it adds more control on the tourism influence and the impacts that tourism had on the environment. Over time, opening the borders and closing them for some time showed us we were doing less damage – pollution from tourism was not as heavy, and that gives time for the environment to recover and be able to sustain us more in the future. It's a good controlling practice - COVID has been this controlling practice for tourism."

Charlene Lastrame

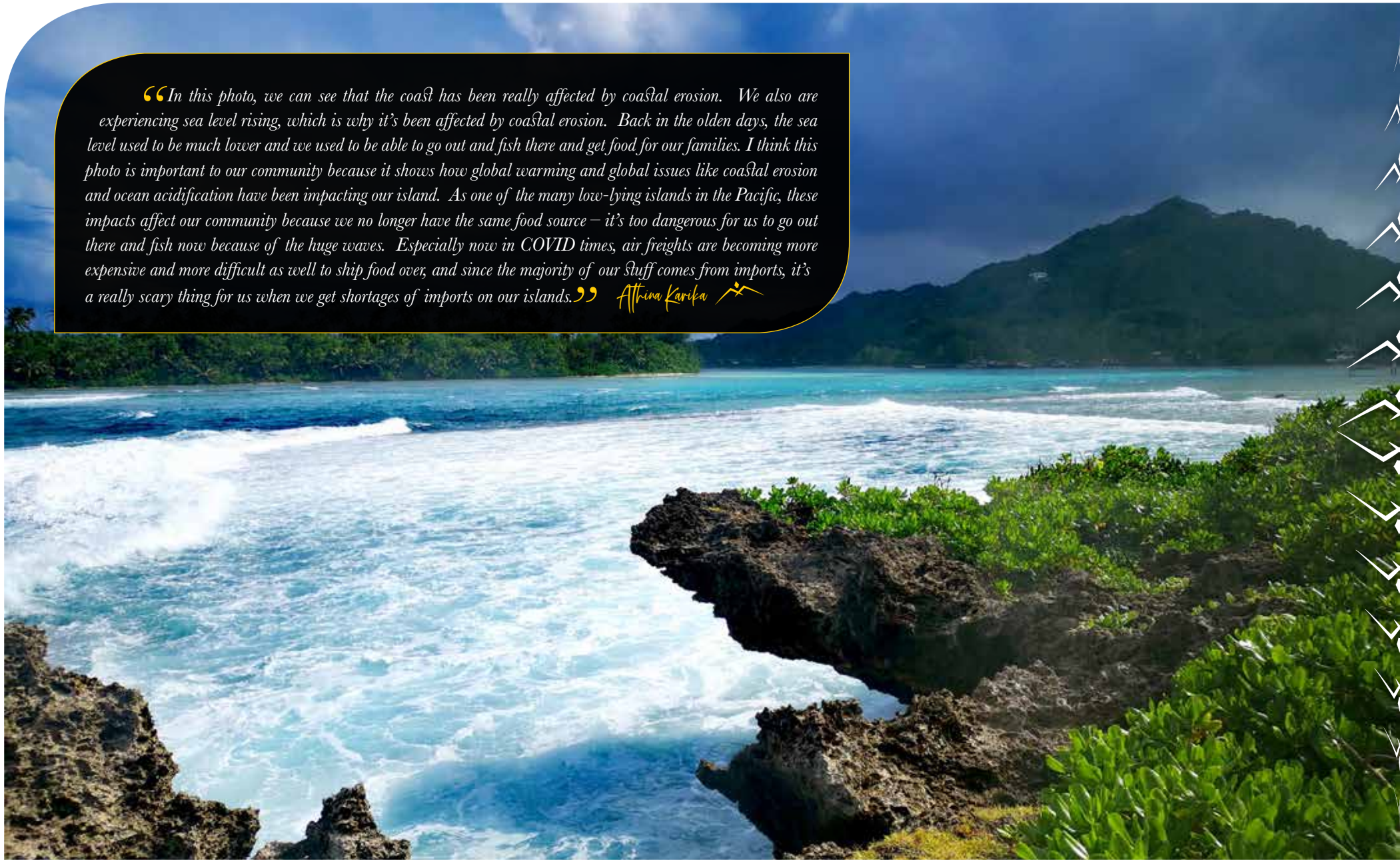






"This is around where I live in Titikaveka where our shores are pretty close to the reef. When the large storms and large waves come in with king tides and swells, the waves erode our sand and all these roots showing is due to erosion. The trees are holding in the sand, otherwise it will just be swept out to sea. All those roots are due to the effects of large waves coming and eroding our beaches, so we need to plant more trees."

Esther Short



"In this photo, we can see that the coast has been really affected by coastal erosion. We also are experiencing sea level rising, which is why it's been affected by coastal erosion. Back in the olden days, the sea level used to be much lower and we used to be able to go out and fish there and get food for our families. I think this photo is important to our community because it shows how global warming and global issues like coastal erosion and ocean acidification have been impacting our island. As one of the many low-lying islands in the Pacific, these impacts affect our community because we no longer have the same food source – it's too dangerous for us to go out there and fish now because of the huge waves. Especially now in COVID times, air freights are becoming more expensive and more difficult as well to ship food over, and since the majority of our stuff comes from imports, it's a really scary thing for us when we get shortages of imports on our islands." Athina Karika



"The Muri lagoon has a lot of algae growth there now because all the sewage goes into it now, which has to do with the increase in tourism and the buildings around because they are covering up the taro patches that are supposed to filter all the wastewater before it reaches the lagoon. Because we are building so much, the water isn't being filtered so all those nutrients are going into the lagoon and now there are algal blooms. I think that because of COVID and the lack of tourism, we are doing a lot of things with the land. And we are noticing that because there are no tourists here, the environment and the lagoon looks better and healthier. Now that we have seen that, I think that we can learn and take from that experience and try and keep our environment that way. Yes, we will have tourism, but we can also do our part as a community and as an island to try and save our environment."

Te Matta Patai



This "Thank You" message is a mere attempt to express the immense gratitude and appreciation I have for the founders of the groundbreaking organisation, Kōrero o te ʻŌrau, and the inspiring young ladies that participated in this study.

To Jackie and Teina Rongo, thank you so much for the opportunity to learn from you and your outstanding environmental education programmes! Your genuine passion and limitless work ethic to mentor young Cook Islanders in the field of science and traditional knowledge is admirable and contagious. I feel privileged to have been able to collaborate with you and to share such a memorable experience.

To Athina Karika, Te Mata Patai, Esther Short-Miller and Charlene Akaruru, thank you so much for teaching me how you perceive and value your surrounding environment and community! The stunning photographs and insightful stories that you have shared with me have opened my eyes to a whole new dimension of socio-ecological wellbeing – the most valuable dimension of wellbeing, which belongs to the youth. Please extend my gratitude to your devoted parents and guardians for allowing and encouraging you to participate in this study.

I would also like to thank Sam Ataera for his creative and innovative artwork, and his persistent dedication to putting this beautiful book together! You have been able to encapsulate complex socio-ecological themes in the most eloquent and artistic manner that reflect the essence of Cook Islands culture.

Last but certainly not least, I would like to sincerely thank Rerekura Teaurere, my supervisor, research partner, and cultural consultant, for trusting me enough to connect me to your people and for patiently guiding me through your vastly rich culture! You have supported me for nearly two years now, and I simply cannot imagine this Ph.D. journey without you.

This book could not have been accomplished without the collective collaboration, time, and effort of everyone mentioned above. Thank you all so much, from the bottom of my heart!

Meitaki Ma'ata!

Roxane de Waegh


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