Living with Change (LivC):

An Integrated National Strategy for Enhancing the Resilience of Tokelau to Climate Change and Related Hazards, 2017-2030

Our Vision:

A vibrant, innovative, climate-resilient, and ready Tokelau, with healthy communities, ecosystems, and an economy, that are all resilient in the face of change.

April 2017



Government of Tokelau



Office of the Council for the Ongoing Government

Photo Courtesy: Cover - Nukunonu Sea Wall, C.L. Anderson, 2016.

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FOREWORD

Climate change and related hazards pose an existential threat to our nation. This reality makes it critical for us to have a national climate change strategy.

The Living with Change: An Integrated National Strategy for Enhancing the Resilience of Tokelau to Climate Change and Related Hazards, 2017-2030 (LivC) is our response to the climate change and related hazards' challenge. It conveys our vision of the future, the issues we must address, the specific outcomes we aim to achieve, and the actions that we must take if climate change and related hazards and their impacts are to be managed. A companion document, *The LivC Implementation Plan, 2017-2022* provides details on how LivC aligns with the development plans of the three villages (Fakaofo, Nukunonu, Atafu) 2016-2020, our National Development Framework, 2016-2020, and relevant international frameworks.

LivC is well-timed, coming in the aftermath of the historic agreements achieved at COP21 in Paris on 12 of December 2015, COP22 in Marrakesh, Morocco, from 7 to 18 November 2016, and in preparation for the UN Conference on Oceans, from 5 to 9 June 2017. The ocean is an integral component of the global climate system. As such, it is particularly relevant to the vitality of our atolls' climate and weather, ecosystems, and our livelihoods.

To successfully implement LivC, the General Fono and the Taupulega, working together with our communities and development partners, need to commit to the strategic Climate Resilient Investment Pathways (CRIPs) plan. As a result, a number of actions will be required, along with the necessary attitudinal and behavioural changes required for success.

An important component of LivC is to track progress and evaluate success. Progress towards achieving the goals of LivC will be evaluated against specific outcomes every six months. This accountability will ensure that our nation's investment in LivC will not only result in enhancing our resilience and readiness to climate change, but will also serve as a blue print to ensure our atmosphere, land, water, ocean, and marine ecosystems are protected and managed sustainably for present and future generations.

I want to extend my sincere appreciation and *fakafetai* (thank you) to all those individuals and organisations who have worked tirelessly to complete our Strategy. Specifically, I would like to thank the General Fono, Taupulega, Fatupaepae, Aumaga, Youth and Public servants from the three villages; Aliki Faipule Afega Gaualofa, who was instrumental in getting the project off the ground; Jovilisi Suveinakama, General Manager; National Public Service; Senior Managers of the National Public Service; Penehuro Lefale and Dr Cheryl Lea Anderson of LeA International; Fatu Tauafiafi of the Pacific Guardians; Tokelau Administrator David Nicholson, and Marie Reynen Clayton, Office of the Tokelau Administrator, New Zealand (NZ) Ministry of Foreign Affairs and Trade (MFAT); Dr Howard Diamond, Victoria University of Wellington, NZ; Andrew Hickey, NZ Ministry of Civil Defence & Emergency Management (MCDEM); and, United Nations and Pacific Regional Organisations who assisted Tokelau.

Tokelau ke ola!

Aliki Faipule Siopili Perez Ulu o Tokelau April 2017

1 This document reflects the views of the Government of Tokelau. Its views may differ from the views of those who are acknowledged for their contributions.

ACRONYMS

Agenda 2030	Transforming Our World: the 2030 Agenda for Sustainable Development, 2015-2030		
CRIPs	Climate Resilient Investment Pathways		
LivC	Living with Change: An Integrated National Strategy for enhancing the resilience of Tokelau to Climate Change and related Hazards, 2017-2030.		
MCDEM	Ministry of Civil Defence, Disaster and Emergency Management, New Zealand		
MFAT	Ministry of Foreign Affairs and Trade, New Zealand		
SDGs	Sustainable Development Goals		
SIDS	Small Island Developing States		
SRDP	Strategy for Resilience Development in the Pacific: An Integrated Approach to Climate Change and Disaster Risk Management (SRDP), 2017-2030		
OCOG	Office of the Council of the Ongoing Government of Tokelau		
TCR2O	Tokelau Climate Change, Resilient, Readiness & Emergency Services' Office.		
TNDF	Tokelau National Development Framework, 2016-2020		
UNFCCC	United Nations Framework Convention on Climate Change		

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EXECUTIVE SUMMARY

As an atoll nation, Tokelau is highly susceptible to climate change and related hazards. This reality led the Tokelau General Fono, in July 2016, to include climate change as part of its national development priorities under the Tokelau National Development Framework, 2016-2020.

The Living with Change: An Integrated National Strategy for Enhancing the Resilience of Tokelau to Climate Change and Related Hazards, 2017-2030 (LivC) plan is Tokelau's response to the General Fono's resolution. Its vision is for Tokelau to be a vibrant, innovative, climate-resilient, and climate-ready nation, with healthy communities, ecosystems, and an economy, that are all resilient in the face of change.

LivC identifies three inter-related strategic *Climate Resilient Investment Pathways (CRIPs)* that need to be pursued by Tokelau, and her development partners to enhance her resilience, and readiness to climate change and related hazards, in the context of national sustainable development.

1. Mitigation: Decarbonisation Development

This pathway revolves around clean energy, low carbon, "no regrets" development policies, focusing on (i) reducing the carbon intensity of development processes, (ii) increasing the efficiency of end-use energy consumption, (iii) enhancing the resilience of energy and related infrastructure, and, (iv) increasing the protection and conservation of terrestrial and ocean ecosystems that are both vital to the Tokelauan people and could help capture carbon dioxide.

This pathway will contribute to emphasising clean energy, low carbon economic development policies, more resilient and a more climate-proof infrastructure. Putting these actions in place will not only increase energy security but will work to decrease the net emission of greenhouse gases (GHGs).

2. Adaptation: Strengthened integrated risk reduction and adaptation to enhance resilience in the face of climate change and disasters.

This pathway entails successfully managing risks caused by climate change and related disasters in an integrated manner where possible, within social and economic development planning processes and practices to reduce the accumulation of such risks, and prevent the creation of new risks or loss and damage.

This pathway will contribute to strengthening the development of sustainable and resilient practices while also achieving the added benefit of implementing efficiencies in the management of natural and human resources.

3. Human Development: Capacity Building, Education, Training, Public Awareness & Outreach

This pathway involves (i) Improving the capacity of the three villages to prepare for emergencies and disasters. This will ensure the timely and effective response and recovery in relation to both rapid and slow onset disasters, which may be exacerbated or caused by climate change; (ii) Enhancing disaster preparedness, response, and recovery initiatives, will reduce undue human losses and suffering, and; (iii) Minimising adverse consequences for national, village, and local communities' livelihoods, and environmental ecosystems will have beneficial effects across society.

The LivC and its companion LivC Implementation Plan, 2017-2022, set out priority areas that shall be undertaken at both the village and national level. The priority areas are supported by a set of institutional partnerships that bring together villages, national, and international agencies to implement the LivC.

WHY A CLIMATE CHANGE STRATEGY IS NECESSARY

It is widely accepted that climate change and related hazards pose an existential threat to Tokelau. This reality makes it critical for Tokelau to have a national climate change strategy in place.

The most significant climate change related hazards affecting Tokelau are tropical cyclones, severe weather systems (non-tropical cyclone storms resulting in heavy rains and flooding), drought, flooding associated with storm surges and king tides, sea level rise, water spouts, disease epidemics, bush fires, landslides and tsunamis, as summarised in <u>Annex 1.</u> While earthquakes are not related to climate change, they do cause tsunamis and can impact critical infrastructure. As such, the threat of tsunami run-up onto low-lying atolls can be exacerbated by climate-change induced sea-level rise.

Although Tokelau is in an area of relatively low tropical cyclone activity due primarily to its position far north in the southwest Pacific basin, the risk is elevated during El Niño seasons (Diamond, 2016). Diamond (2016) found five tropical cyclones possibly impacting Tokelau by coming within 278km from 1970-2015.

LivC was prepared using a simple model, based on answers to the following questions;

- **1. Aims** What is Tokelau's vision of the future? What goals and objectives should drive her climate change and related hazards' strategy?
- 2. Activities What is Tokelau's mission? What types of services will allow Tokelau to achieve her aims?
- **3. Partnerships** Who does what? Who are Tokelau's partners and what do they bring to the table?
- 4. Approaches How do they do it? In what ways does Tokelau conduct activities with other agents of both government and non-governmental organisations?
- 5. Evaluations How is success judged? What evidence informs pragmatic decisions?

LivC is a product of years of planning and discussions, desktop reviews of government reports and documents, and extensive consultations using a whole-of-community approach. LivC has two parts:

- The LivC Strategy, 2017-2030 (this document)
- The LivC Implementation Plan, 2017-2022 (companion document).

THE FUTURE WE WANT

Our Vision

Tokelau is a vibrant, innovative, climateresilient, and ready nation, with healthy communities, ecosystems, and an economy that are all resilient in the face of change.

Our Mission

To provide Tokelauans with climate change and related hazards' intelligence services (CCS) to enhance their safety, resilience, freedom, sustainability, healthy ecosystems and well-being, and economic prosperity in the face of change.

FUTURE PATHWAYS

LivC identifies three inter-related strategic *Climate-Resilient Investment Pathways (CRIP)* that need to be pursued by Tokelau and her development partners to ensure that Tokelau is a vibrant, innovative, climate-resilient, and ready nation with healthy ecosystems, communities, and an economy that are all resilient in the face of change.



Solar Photovoltaic (PV) Array. Fakaofo, August 2016. *Photo courtesv*: C. L. Anderson

Mitigation: Decarbonisation development

Pursuing this pathway revolves around low carbon, no regrets development policies, focusing on reducing the carbon intensity of development processes, increasing the efficiency of end-use energy consumption, enhancing the resilience of energy and related infrastructure, and increasing the protection and conservation of terrestrial and marine ecosystems. This pathway will contribute to developing low carbon economic development policies, more resilient and climate proofing energy and related infrastructure in place, increased energy security, and decreased net emissions of greenhouse gases (GHGs).

Objective: Reduce carbon intensity of development processes, increase efficiency of end-use energy consumption, increase resilience of energy and related infrastructure on all three villages, and enhance policies and measures to protect and conserve Tokelau's terrestrial and marine ecosystems.

Adaptation: Strengthened integrated risk reduction and adaptation to enhance climate change and disaster resilience.

Pursuing this pathway entails successfully managing risks caused by climate change and disasters in an integrated manner, within social and economic development planning processes and practices to reduce the accumulation of such risks, and prevent the creation of new risks and loss and damage. This pathway will contribute to strengthening resilient developments and achieving efficiencies in natural and human resource management.

Objective: Successfully manage climate change and disaster risks in an integrated manner, reduce existing risks, and prevent the creation of new and additional risks.

Human Development: Capacity Building, Education, Training, Public Awareness, and Outreach

Pursuing this pathway includes improving the capacity of the three villages to prepare for emergencies and disasters, thereby ensuring timely and effective response and recovery in relation to both rapid and slow onset disasters, which may be exacerbated or caused by climate change. Disaster preparedness, response and recovery initiatives will reduce undue human losses and suffering, and minimise adverse consequences for national, village, and local communities, for economic, social, environmental, infrastructure, and ecological systems.

Objective: Enhance institutional, governance and public awareness of climate change and related hazards, disaster preparedness, response, and recovery.

The LivC Implementation Plan, 2017-2022, describes the key outcomes and development priority focused areas for each CRIP.

TURNING STRATEGY INTO ACTION

Institutional Arrangements

The successful implementation of LivC will depend on suitable governance structures and adequate institutional and human capacity, (i.e. wellresourced and fully functioning institutional arrangements). The fundamental principle for the implementation of the LivC is that the ownership, planning, and its implementation lies with the respective Taupulega of each village.

Under this arrangement, it is envisioned the implementation of LivC will be based on a combination of scientific, evidence-based information, complemented by indigenous knowledge, and Tokelau-specific experience under the guidance of the Taupulega of each village, as well as best practices and lessons learned from other low lying atolls in the Pacific. In identifying priorities and implementation strategies, the Taupulega will be supported by the principal administration institutions of governance in Tokelau (the General Fono and the Council of the On-Going Government of Tokelau). This support would include:

- Seeking new partnerships and further engaging traditional development partners;
- Providing a central point, through a Tokelau Climate Change, Resilient, Readiness & Emergency Services' Office (TCR2O) to ensure enhanced coordination, information management and dissemination, and integration of government's climate change, disaster risks, response and recovery frameworks and development plans;
- (iii) Organising and coordinating support from Pacific regional CROP agencies, UN agencies, development partners and key

technical agencies to provide financial, policy relevant advice, and technical support, and

(iv) Promoting human development (capacity building, education, training and public awareness and outreach of climate change a n d related hazards' programmes).

Partnerships, Approaches, and Resourcing

The most critical success factor for the achievement of the LivC goals is to foster partnerships between the TCR2O and other departments of the Government of Tokelau, village councils, civil society, the private sector, regional and international organisations, and developmental partners.

LivC is designed with the understanding that the Government of Tokelau and developmental partners will help support the financing and implementation as outlined in the LivC Implementation Plan, 2017-2022. The present Tokelau climate change programme unit, managed by only one full-time staff member and supported by one external advisor on a fixed term contract, is currently under the Office of the Council of the Ongoing Government of Tokelau (OCOG). The resolution by the General Fono to place climate change as a national development priority under the Tokelau National Development Framework, 2016-2020, provides an opportunity for an immediate independent review of the functions and roles of the present Tokelau climate change programme unit, and how the unit shall be strengthened now and into the future.

MEASURING PROGRESS

The progress of LivC will be coordinated, monitored, reviewed, and evaluated through the Taupulega, the General Fono, and the OCOG.

As described in the Companion LivC Implementation Plan, 2017-2022, progress towards achieving the goals and objectives of LivC will be evaluated against strategic outcomes and development priority areas, every six months.

The TCR2O shall conduct a mid-tern review of the LivC every four years commencing on 30 June 2021.

REFERENCES

Diamond, H. (2016): Tokelau Tropical Cyclone Climatology, A Report, September 2016.

Government of Tokelau, (2016): *Draft* Tokelau National Development Framework, 2016-2020.

Government of Tokelau, (2016): *Draft* Nukunonu Development Plan, 2016-2020.

Government of Tokelau, (2012): *Draft* Tokelau Climate Change Strategy, 2012 to 2017.

Government of Tokelau, (2013): Tokelau Renewable Energy Project Review 2013.

Government of Tokelau, (2016): The Changing Climate in Tokelau, Issue 1, Monday, June 20, 2016.

Government of Tokelau, (2015): Tokelau Interim Strategic Plan, 2015-2016.

IPCC., (2013): Summary for Policymakers. In: Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA

Lafley, A.G., & Martin, R.L. (2013) Playing to win: How strategy really works. Boston, Mass: Harvard Business Review MCDEM (2016): Disaster & Climate Risk Management Plan, Atafu, 2016.

Lefale, F., (2016): AOSIS: Where to from Paris? Climate Clubs and the Alliance of Small Island States (AOSIS), In: *Climate Appliances apres Paris – The Potential of Pioneers Climate Alliances to contribute to Stronger Mitigation and* *Transformation*, Wuppertal Institute, the German Development Institute (Deutsches Institut für Entwicklungspolitik, (DIE)), German Watch, Germany (in press).

Nurse, L.A., R.F. McLean, J. Agard, L.P. Briguglio, V. Duvat-Magnan, N. Pelesikoti, E. Tompkins, and A.Webb, 2014: Small islands. In: Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part B: Regional Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Barros, V.R., C.B. Field, D.J. Dokken, M.D. Mastrandrea, K.J. Mach, T.E. Bilir, M. Chatterjee, K.L. Ebi, Y.O. Estrada, R.C. Genova, B. Girma, E.S. Kissel, A.N. Levy, S. MacCracken, P.R. Mastrandrea, and L.L.White (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, pp. 1613-1654.

MCDEM (2016): Disaster & Climate Risk Management Plan, Nukunonu, 2016.

MCDEM (2016): Disaster & Climate Risk Management Plan, Atafu, 2016.

MCDEM, (2016): Pacific Disaster Risk Management and Resilience (Pac DRMR) Programme, Implementation

NIWA (2013): Tsunami hazard potential for the atolls of Tokelau, Prepared for the Villages Emergency Committee of Tokelau, June 2013.

NOAA (2012): NOAA Great Lakes Environmental Research Laboratory, Innovative Research for the Freshwater Seas, Strategic Plan, 2012. US Department of Commerce, United States Government.

Ott, H., S. Bauer, C. Brandi, F. Mersmann and L. Weischer (2016): Climate Alliances après Paris, The Potential of Pioneer Climate Alliances to

Stronger Mitigation and Contribute to Transformation, Paper for the Pioneers Alliance Actions Project, the German Development Institute (Deutsches Institut für Entwicklungspolitik, DIE), Bonn, Germany.

Ramsay, D. (2006): Reducing the risks of cyclone storm surge inundation on the atolls of Tokelau 2006 – An overview of cyclone related Client coastal hazards. NIWA Report: HAM2005-119, July 2005. NIWA Project: UNS05201.

SPC and SPREP (2016): Strategy for Resilience Development in the Pacific: An Integrated Approach to Climate Change and Disaster Risk Management (SRDP), 2017-2030.

SPREP (2012): Pacific Islands Meteorological Strategy, 2012-2021, Apia, Samoa.

UNEP (2001), A simplified guide to the IPCC's "Climate Change 2001: Mitigation", GE. 0201807/E - September 2002 - 2000.

UNFCCC Secretariat (1992): The United Nations Framework Convention on Climate Change (UNFCCC)

UNFCCC Secretariat (2015): The Paris Agreement to the UNFCCC.

United Nations (2015): The Sendai Framework for Disaster Risk Reduction, 2015-2030.

United Nations (2014): The Small Island Developing States Accelerated Modalities of Action (SAMOA) SAMOA Pathway.

United Nations (2015): Transforming Our World: the 2030 Agenda for Sustainable Development, 2015-2030.

ANNEX 1. Tokelau Climate Change Profile.

Societal Impact by Atoll					
HAZARD	Atafu	Nukunonu	Fakaofo		
Tropical Cyclone	Extreme	Extreme	Extreme		
Severe weather non-tropical cyclone systems	Extreme	Extreme	Extreme		
Drought	Extreme	Extreme	Extreme		
Flood - Storm Surges and King Tides	Extreme	High	High		
Flood Runoff - Heavy Rain	High	Extreme	Extreme		
Water Spout	High	High	High		
Disease Epidemics	Medium	High	High		
Bush Fire	Low	Medium	Low		
Landslide	Low	Medium	Low		
Tsunami and Coastal Inundation from Run-Up	Low	Low	Low		

Sources: LivC Situational Analysis Mission (2016); NZ MCDEM (2016), DCRMP, Atafu, Nukunonu; Samoa Red Cross Society (2005); Fakaofo by extrapolation.

ANNEX 2: GLOSSARY

Aumaga The able bodied (men). The aumaga are responsible for looking after the village and do most of the required labour- intensive work in Tokelau society.

Climate Adaptation In human systems, the process of adjustment to actual or expected climate and its effects to moderate harm or exploit beneficial opportunities. In natural systems, the process of adjustment to actual climate and its effects, human intervention may facilitate adjustment to expected climate.

Climate change in Intergovernmental Panel on Climate Change (IPCC) usage refers to a change in the state of the climate that can be identified (e.g. using statistical tests) by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer. It refers to any change over time, whether due to natural variability or as a result of human activity. This usage differs from that in the United Nations Framework Convention on Climate Change (UNFCCC), where climate change refers to a change of climate that is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and that is addition to natural climate variability observed over comparable time periods.

Climate-Resilient Investment Pathways

Climate-resilient investment pathways include strategies, choices and actions that reduce climate change and its impacts. Climate-resilient investment pathways include two main categories of responses: (1) Actions to reduce both human induced climate change as well as affects from natural climate variability, and its impacts, including both mitigation and adaptation



Telecommunications Infrastructure are critical lifelines for Tokelau Nukunonu, August 2016. *Photo courtesy: C.L. Anderson.*

towards achieving sustainable development; (2) Actions to assure that effective institutions, strategies, and choices for risk management will be identified, implemented, and sustained as an integrated part of achieving sustainable development.

Climate Resilience The capacity for a socialecological system to (1) absorb stresses and maintain function in the face of external stresses imposed upon it by climate change, and (2) adapt, reorganise, and evolve into more desirable configurations that improve the sustainability of the system, leaving it better prepared for future climate change impacts.



Solar Photovoltaic energy on each atoll contributes to Tokelau's decarbonisation scheme, Fakaofo, August 2016. *Photo courtesy*: C.L. Anderson.

Decarbonisation The reduction or removal or carbon dioxide from fossil fuel energy sources. A decarbonised (low-carbon) economy is an economy that has a minimal output of greenhouse gas emissions in general into the environment biosphere, but specifically refers to the greenhouse gas, carbon dioxide.

Disaster The severe alterations in the normal functioning of a community or a society due to hazardous physical events interacting with vulnerable social conditions, leading to widespread adverse human, material, economic, or environmental effects that require immediate emergency response to satisfy critical human needs and that may require external support for recovery.

Faipule A Government of Tokelau representative on each of the three atolls. The faipule are elected every 3 years during general elections. They are members of the Office of the Government of Tokelau with portfolios (Ministers); the Ulu of Tokelau is a Faipule and is also the Head of Government.

Fatupaepae Women's committees which are comprised of those women who are finished with school. The wife of the faipule is the President assisted by the Pulenuku's wife. However, the elders of the Fatupaepae are accorded the highest respect.



Fatupaepae engage in LivC strategic planning. Fakaofo, August 2016. *Photo courtesy: Fatu Tauafiafi.*

General Fono The General Assembly, the legislative body that makes national decisions for Tokelau after consultation with the village Taupulega (Village Councils). It is also the Legislative National Committee and the National Budget Committee. The numbers of delegates on the General Fono are representative of the population from each of the three villages.

Hazard The potential occurrence of a natural or human-induced physical event that may cause loss of life, injury, or other health impacts, as well as damage and loss to property, infrastructure, livelihoods, service provision, and environmental resources.

Impacts The effects on natural and human systems. In this document, the term 'impacts' is used to refer to the effects on natural and human systems of physical events, of disasters, and of climate change.

Mitigation (of climate change) A human intervention to reduce the sources or enhance the sinks of greenhouse gases. Note "mitigation" (in the context of disaster risk reduction) is defined as the "lessening of the potential adverse impacts of physical hazards (including those that are human-induced) through actions that reduce hazard, exposure, and vulnerability." In LivC, we restrict the use of "mitigation" to the climate change definition. **No regrets policies** Options or actions to reduce greenhouse gas emissions that have negative net costs. Net costs are negative because these options generate direct or indirect benefits, such as those resulting from reductions in market failures, double dividends through revenue recycling and ancillary benefits that are large enough to offset the costs of implementing the options.

Pulenuku The village mayor, who is also a matai in the village, and is elected every 3-years during the General elections. The Pulenuku traditional role is to take the lead in managing the village affairs from the decisions and policies made by the Taupulega (the Village Council).

Resilience The ability of people, households, communities, countries and systems to mitigate, adapt to and recover from shocks and stresses in a manner that reduces chronic vulnerability and facilitates inclusive growth. As this definition suggests, the concept (and measurement) of resilience is complex and multidimensional.

Strategy A guide for achieving the sort of future that people want. It can help people, organisations, or a whole system work together more effectively on the most important and prioritised items. Without a strategy, small problems today can become big problems over time.

Taupulega The Village Council. Each atoll has its own council. Fakaofo village comprises of council of elders. Atafu and Nukunonu on the other hand comprise the village council of Matais.



Youth participate in Keyhole Garden Project for adaptation. Atafu, August 2016. *Photo courtesy: P.F. Lefale.*

Tupulaga Youth, including sports teams.

Vulnerability The propensity or predisposition to be adversely affected by climate-related risks.





Above: The MV Mataliki ship brings passengers and supplies from Apia, Samoa to Tokelau. Nukunonu, August 2016. *Photo courtesy:* C.L. Anderson. Left: Sunset in Atafu. August 2016. *Photo courtesy:* P. F. Lefale.

