



Lau Seascape Strategy

2018–2030



Copyright: © 2018 Conservation International

Reproduction of this publication for educational or other non-commercial purposes is authorized without prior written permission from the copyright holder provided that the source is fully acknowledged. Reproduction of this publication for resale or other commercial purposes is prohibited without prior written consent of the copyright owners.

Citation: Conservation International (2018) Lau Seascape Strategy: 2018–2030. Conservation International, Suva, Fiji. 58 pp.

ISBN 978-982-98166-3-4

Photo credits: Mark Erdmann, Semisi Meo, Etika Rupeni Qica, Nick Macrae.

To obtain a copy of this plan, please contact:

Semisi Meo, Marine Manager, Conservation International, 3 Ma'afu Street, Suva.

Telephone: +679 3314593

Email: smeo@conservation.org

Conservation International

Fiji Country Program

Lau Seascape Strategy

2018–2030

ACKNOWLEDGEMENT



Vuata Vatoa

We recognize the vision of the *Masi ni Vanua* o Lau – the forum of traditional chiefs – who have supported the work of the representatives of the Yaubula Management Support Team from every island across the Province of Lau. The Provincial Office, Roko Tui Lau and his able staff have also facilitated the process of developing this strategy, with firm support of the *Masi in Vanua* aspirations.

We are also indebted to our partners who have contributed enormously to the development of the situation analysis that informs the conceptual models on which the strategy is built, checked and rationalised through the results chain assessments. This work would not have been possible without the contributions of many stakeholders from government agencies, civil society organisations, academic institutions, the private sector, and interested individuals including:

- Ministry of Fisheries,
- Ministry of iTaukei Affairs,
- Ministry of Forests,
- Department of Environment,
- Pacific Blue Foundation,
- Fiji Locally Managed Marine Area Network,
- Marine Studies Programme of The University of the South Pacific,
- Vatuvara Foundation,
- Coral Reef Alliance,
- Loving Islands,
- Pacific Islands Development Forum,
- Conservation International Birds Head Seascape members, Indonesia, and the support and contributions from the Oceans Center in Arlington and the Asia Pacific Field Division.
- The island communities and *Masi ni Vanua* of the Lau Seascape region.

We appreciate your input and invaluable contributions to the development of the strategy and in defining the pathway to fulfil the vision and activities into the next decade of the Lau Seascape Initiative.

Lau Seascape Initiative Partnership

CONTENTS



Ketei Village (left) and Tovu Village (right), with Totoya jetty in the middle.

ACKNOWLEDGEMENT.....	3
EXECUTIVE SUMMARY.....	7
THE STORY OF THE LAU SEASCAPE.....	8
LAU PROVINCE.....	10
GOVERNANCE OF RESOURCE MANAGEMENT IN LAU.....	12
LAU SEASCAPE STRATEGY.....	15
Our Vision.....	15
Our Targets.....	16
Targets Health.....	18
Critical Threats to Targets.....	21
Threat Reduction.....	23
SITUATION ANALYSIS.....	25
SELECTION OF STRATEGIES.....	28
Results Chain.....	30
GOALS AND OBJECTIVES.....	31
OUR ACTIONS AND WORKPLAN.....	27
OUR MONITORING PROGRAMME.....	30
ADOPTING THE PLAN.....	36
REFERENCES.....	37
GLOSSARY.....	38
Appendix 1 – Overall Conceptual Model for the Lau Seascape.....	39
Appendix 2 – Overall Results Chain Assessment for the Lau Seascape.....	40
Appendix 3 – All Strategies with Associated Process Objectives and Indicators.....	41
Appendix 4 – Complete Monitoring Plan.....	45



North side of Totoya Island

Table 1: Targets.....	16
Table 2: Status of our Targets.....	19
Table 3: Current Status of Direct Threats.....	22
Table 4: Objectives of Threat Reductions.....	23
Table 5: Strategic Activities and Time Frame.....	33
Table 6: Process Indicators Associated with Strategy on “Good Governance and Natural Resource Management”.....	35
Figure 1: Lau Seascape in the Pacific Ocean.....	9
Figure 2: Governance Structure Proposed by the Masi ni Vanua o Lau and YMST Representatives.....	13
Figure 3: Fiji’s Seascapes.....	14
Figure 4: Conceptual Model for Good Governance and Natural Resource Management.....	26
Figure 5: Result Chain Assessment for Good Governance and Natural Resource Management.....	30
Box 1: Lau Seascape at a Glance.....	10
Box 2: Lau Seascape Strategies.....	28
Box 3: Goals, Objectives of the Processes Associated with Good Governance and Natural Resource Management.....	32

ABBREVIATIONS

EEZ	–	Exclusive Economic Zone
YMST	–	Yaubula Management Support Team
CI	–	Conservation International
LMMA	–	Locally Managed Marine Area
MPA	–	Marine protected area
PA	–	Protected area
SUMA	–	Special Unique Marine Areas
RAP	–	Rapid assessment survey
PIROP	–	Pacific Islands Regional Ocean Policy
IUU	–	Illegal unreported unregulated fishing
WCS	–	Wildlife Conservation Society



A Coral Trout, Variola albigmarginata, in Lau waters

EXECUTIVE SUMMARY

The Lau Seascape initiative aims to build a coalition among government, the private sector, civil societies and local communities to improve natural resource governance in the Province of Lau and its surrounding waters. It focuses on both terrestrial and marine resource management and highlights the importance of achieving effective governance across all sectors and at all levels: local, national and regional. It also provides a platform to apply integrated natural resource management across 335,895 square kilometres, or 26% of Fiji's exclusive economic zone, from ridge to reef to ocean on small island systems with high climate vulnerability.

Sustainable seascapes have three defining characteristics.

1. **Scope:** There is a grounded understanding of the goals and needs of all relevant stakeholders and associated threats, and a strategy that builds consensus around a set of balanced solutions and partnerships.
2. **Scale:** The geographic scale is relevant to the identified goals and encompasses multiple levels of governance, multiple uses and essential connectivity.
3. **Commitment:** The lead agency and partners are committed to engaging in the Lau Seascape for a significant period and have a long-term strategy and shared vision.

This strategy outlines the Lau Seascape profile and articulates the vision, targets, threat reductions, objectives, activities and indicators for monitoring purposes. The vision is articulated by the *Masi in Vanua* of Lau, (the forum of traditional chiefs), discussed with representatives of the Lau Yaubula Management Support Team (YMST) and endorsed collectively. Conservation targets include reducing threats, improving the status of natural resources, advancing the socio-economic status of communities, building resilience to (climate) change, and strengthening the enabling environment. There are ten targets that support the overall vision – three targets relate to the advancement of social wellbeing and livelihood, while seven are directly related to the improvement of natural ecosystems and habitats from ridge to reef to ocean on small island systems.

The Lau Seascape strategy can be referred to as an action plan or a strategic workplan that clearly identifies a set of objectives or results that stakeholders have agreed to achieve over time to improve management of the Lau Seascape. The strategy also identifies a detailed set of activities necessary to fulfill the objectives, targets and vision. While the essential elements of the seascape/landscape are used to shape critical issues discussed, the strategy identifies the status and key conservation targets that the *Masi in Vanua* o Lau and representatives of the Lau YMST feel are the most important conservation targets. The strategy is a guide for the coalition of partners that are committed to support the development of the Lau Seascape.

The Story of the Lau Seascapes



Qilaqila Bay in northern Vanua Balavu Island

Since 2013, Conservation International (CI) has been working with the *Masi ni Vanua o Lau* to lay the foundations for successful interventions across the province. Grounded in a joint memorandum of understanding, the Lau Seascapes is now a multi-partner initiative comprised of community and indigenous representatives, the Government of Fiji, private sector and non-governmental organisation stakeholders.

FIGURE 1: LAU SEASCAPE IN THE PACIFIC OCEAN



The Lau Seascapes initiative supports several instruments endorsed at local, regional and global levels. At the local level, the Lau Seascapes builds on the Lau 2020 Blue Green Concept, which focuses on sustainable development based on a blue-green economy. At the national level, the Green Growth Framework for Fiji (GOF 2014) focuses on restoring balance in development for a sustainable future. At the regional level, the Lau Seascapes aims to support Fiji's commitment to the Pacific Oceanscape using the 'seascapes management' framework, which implements principles of ecosystem-based management in large-scale marine systems, building partnerships to conserve marine and terrestrial ecosystems and strengthening human

wellbeing. This includes the foundational principles of sustainable land-use management, coastal fisheries management, and social and economic development aimed at improving climate resilience among local communities. The Lau Seascape also aligns with the Framework for Resilient Development in the Pacific.

At the global level, the Lau Seascape is listed as one of Fiji's voluntary commitments to the inter-agency mechanism UN-Oceans, under Sustainable Development Goal (SDG) 14: *Conserve and sustainably use the oceans, seas and marine resources*.

The Lau Seascape is also aligned to other SDGs, including SDG 13: Climate action; SDG 15: Life on land; SDG 1: Poverty reduction; SDG 3: Good health and wellbeing; SDG 5: Gender equity; SDG 6: Clean water; SDG 7: Affordable clean energy; SDG 11: Sustainable communities and SDG 12 Responsible consumption and production.

The Lau Seascape is further aligned to the Oceans Pathway, launched by the Government of Fiji at COP23, as well as fulfillment of Fiji's Aichi Targets under the Convention on Biological Diversity (CBD).

To this end, the *Masi ni Vanua* and communities of Lau have requested CI and partners to support sustainable and organic agricultural development on the islands; improve the sustainability of community fishing practices and management, including increasing access to and consumption of pelagic fish (rather than coastal reef fish); and strengthen economic development opportunities by improving market access for local commodities.

Over 20 Pacific Island countries and territories have created and agreed with the Pacific Oceanscape as a policy document addressing climate and ocean management. The Pacific Oceanscape aims to protect, manage and sustain the vast array of culture, tradition and natural integrity of one-third of the world's surface, hosting the largest marine biodiversity around the globe.

The Pacific Oceanscape is a framework that was first proposed by the Government of Kiribati and later endorsed by regional leaders as a catalyst for action for the Pacific Islands Regional Ocean Policy (PIROP). With a broad array of stakeholders, the Pacific Oceanscape Framework aims to foster stewardship at scale that ensures the health and wellbeing of our oceans and ourselves into perpetuity.

The Lau Seascape joins a global portfolio of four Seascapes that Conservation International has helped to create around the globe. Each seascape is focused on building local capacity and collaborating with government, private sector as well as other stakeholders to establish networks of effectively managed terrestrial and marine areas that support protection of key biodiversity while supporting sustainable development of local economies. The Lau Seascape aspires to address four key priorities including (i) ocean conservation at scale; (ii) management and restoration of tropical forests for climate; (iii) sustainable seascapes; as well as (iv) innovation in science and finance. Working in close collaboration with partners to coordinate efforts and interventions we hope to fulfill regional and national policy objectives that will benefit the people of Lau.

Lau Province



Nuku Village in Moala Island with surrounding mangrove patches

Across the Lau Seascape, the prioritisation of protected area sites within the network will be data driven and include key habitats that not only conserve unique species and biodiversity but support human wellbeing and climate change resilience.

The Lau Seascape encompasses the whole of Lau Province, one of fourteen provinces in the Eastern Division of Fiji. The area of the Lau Seascape includes terrestrial, inshore and offshore extending to the Economic Exclusive Zone (EEZ) estimated at 335, 895 km² (Figure 3).

The Lau Province is part of the Tovata Confederacy, consisting of traditional alliances in eastern and northern Fiji. Located south of the Koro Sea in the Pacific Ocean, the islands and their surrounding waters are a mecca of biodiversity, supporting habitats that depend on healthy island ecosystems which are a cornerstone to climate resilience.

BOX 1: THE LAU SEASCAPE AT A GLANCE

Total area: 335,895 km²
iQoliqoli area: 2,700 km²
Inhabited islands: 13
No. direct beneficiaries: 9,602
Locally managed marine areas: 52
Reef fish biomass: 2,180kg/ha
Live coral cover: 80%
Recorded fish species: 788
Recorded hard coral species: 200
Recorded mammals: 12
Recorded birds: 47
Recorded plant species: 339
Recorded amphibians: 16
Cassava/taro production: 101mt/yr
Coastal commercial fisheries (national):
 11,000 mt/yr

Coastal subsistence fisheries (national):
 16,000 mt/yr

Threats:

- Unsustainable land-use methods (excessive use of chemicals)
- Unsustainable fishing methods
- Pollution
- Illegal fishing by locals
- Illegal fishing by commercial vessels
- Crown-of-thorns
- Unsustainable tourism development
- Physical damage to reef from anchoring
- Unfenced livestock
- Invasive species
- Unsustainable coastal development

Collectively, the islands cover a land area of 487 square kilometres (188 square miles). There are some sixty islands and islets, of which 13 are inhabited by 9,602 people in 73 villages. The population of the Lau Province has declined by 10% in the past decade (2007–2017).

Lau Province is an area of exceptional biological diversity and abundant fisheries, defined as one of Fiji's priority marine ecoregions (WWF, 2003) with multiple sites identified in the Biophysically Special, Unique Marine Areas of Fiji report. All islands and lagoons in the Lau Group support diverse native flora and fauna of notable and vulnerable conservation significance, with several globally endangered and endemic species (Meo et al. 2018, Miller et al. 2018, Tuiwawa et al. 2013).

Global analyses of marine biodiversity consistently place the Lau archipelago among the highest priorities for conservation, as a hotspot for species richness (Selig et al. 2014; Trebilco et al. 2011; Tittensor et al. 2010) and species endemism (Selig et al. 2014). Each island in the Lau Group is recorded to have a suite of special habitats that host endemic species. The island of Totoya has cauliflower corals; Moala Island has a unique stick insect (*Nisyru spinulosus*) found on mountain tops of larger islands in Fiji, and bees (*Lasioglossum sp.*, *Homalictus fijiensis*) that may have speciated; Matuku Island is known to host giant clam (*Tridacna mbalavuana*); Ono-i-Lau and some uninhabited islands such as Vatuvara have the Pacific boa snake (*Candoia bibroni*), which is currently threatened with extinction; Ono-i-Lau hosts the red skink (*Emoia sp.*); Fulaga has unique and endemic butterflies (*Oriens augustula*, *Jamides bochus*, *Doleschallia bisaltide*, *Hypolimnas bolina*, *Junonia villida*, *Belanois java*, *Appias albina*, *Eurema hecabe*); Yagasa has beautiful coral reefs, marine vertebrates, humpback whales and seabirds; Vatoa hosts the endemic Devil clam, *Tridacna mbalavuana*, and is a humpback whale migratory route; Vanuavatu has bats (*Pteropus tonganus*, *Pteropus samoensis*) and naturally occurring phosphate; Namuka has krast vegetation; Tuvana has giant clams and edible sea grapes; Kabara has natural stands of majestic forests hosting vesi (*Intsia bijuga*) trees among rocky outcrops; and Vuaqava has long horn beetles (*Xixuthrus heros*).

Vatuvara is an uninhabited privately-owned island under the care of Vatuvara Private Islands. It hosts the endemic Fiji banded iguana (*Brachylophus fasciatus*), currently threatened with extinction, and the Pacific boa *Candoia bibroni*. The shy ground dove (*Alopecoenas stairi*), threatened with extinction elsewhere due to introduced predators, is also found there. Vatuvara Island is surrounded by healthy and diverse coral communities. Healthy populations of coconut crabs (*Birgus latro*) have been identified in the islands of Vatuvara, Yacata and Kaibu in Northern Lau.

The chiefs and people of Lau are conscious of their fragile ecosystems and have collectively decided to adopt the Lau Seascape as a sustainable development framework that will maintain ecosystem services while supporting economic development.

Governance of Resource Management in Lau



Blenniella sp. in Lau waters

The chiefs and the people of Lau are represented by the Lau Yaubula Management Support Team, which has been mandated by the Lau Provincial Council to champion and recommend environmentally sustainable practices that will benefit current and future generations. The Lau Provincial Council endorsed the adoption of the YMST concept in 2016 and decided that all the islands should establish a YMST body in order to link resource management work in villages and districts with the work at provincial level.

In alignment with government policy and under the leadership of the Ministry of iTaukei Affairs, the Lau Provincial Council has endorsed the roles and responsibilities of the Lau Yaubula Management Support Team (YMST), which consists of a network of local leadership in each village, island and district of the province. One of the critical strategies identifies a governance structure that strengthens traditional leadership to improve natural resource management while aligned to existing policy frameworks.

The *Masi in Vanua* o Lau are proud of their heritage and are committed to supporting a strong partnership and alliance between the formal and traditional governance structures as outlined in the proposed Vanua o Lau Council (Figure 2). There is strong confidence among the *Masi in Vanua* o Lau that clear governance – determined by strong leadership roles and responsibilities at all levels (extended families, clans, villages, districts and the province) – is important to ensure sustainable resource use and the wellbeing of the people of Lau.

The fundamental basis of the YMST is to establish local networks among resource owners to coordinate and communicate with relevant individuals and stakeholders in government, NGOs, academia and the private sector in order to ensure well-informed decision-making in the management of their resources. The YMST assumes specific roles to coordinate strategies and conduct activities with all community governance levels in order to achieve sustainable resource management, including the management of

protected areas (terrestrial and marine). It also coordinates all training at the community level relating to conservation and management of natural resources, and supports the implementation of the Integrated Coastal Management Plan and Yaubula Management Plan at all levels of governance.

To effectively coordinate the functions of YMST bodies across all the islands, the chiefs decided to group the district YMSTs into five clusters – Northern, Central, Yasayasa, South and Far South (Figure 2). The clusters are expected to improve cultural and traditional connectivity and bring positive rippling effects emanating from natural resource management. The five clusters make up the core of the provincial YMST body. All the islands have established YMSTs at the district and village levels, which are represented by the Yaubula Committee. The YMSTs urgently require assistance in empowerment and capacity building to improve their operation and reporting. Despite these limitations and realizing the urgency to address natural resource threats, the YMST have proceeded to deliver some local policies.

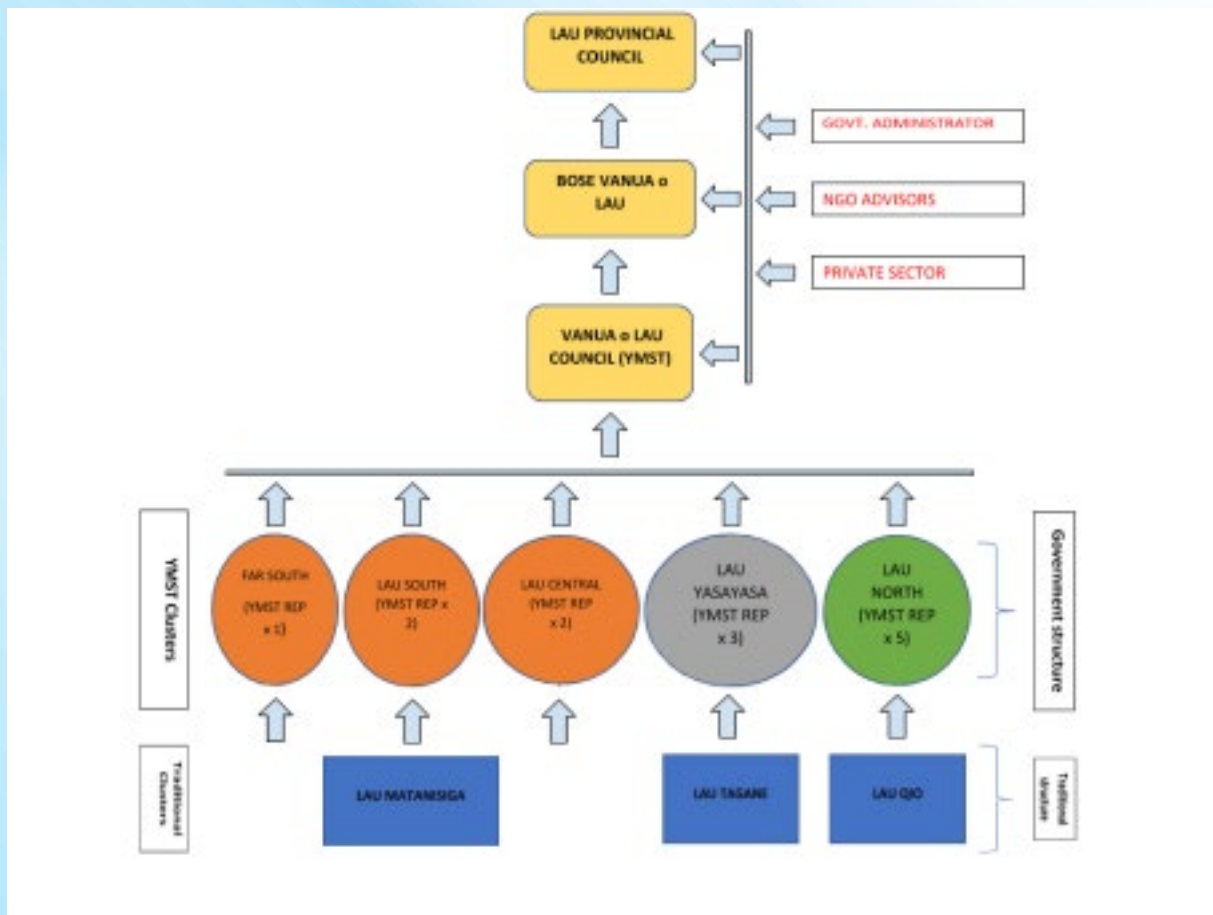


FIGURE 2: GOVERNANCE STRUCTURE PROPOSED BY THE *MASI NI VANUA O LAU* AND YMST REPRESENTATIVES

One such policy is a ban on the use of chemicals for three years from 2016. Many islands have adopted this, including Fulaga, Ogea, Namuka, Vatoa, Lakeba, Ono-i-Lau, Totoya, Matuku, Moce, and Nayau. Cicia Island in Northern Lau is the first fully organic island in the Pacific under the Pacific Organic and Ethical Trade Community (POETCom), while Vatuvara and Kanacea Islands are certified organic to USDA (United States Department of Agriculture) and Australian standards. Several larger mountainous islands with intense agricultural activities are at risk from continued chemical pollution. These islands include Moala, Matuku and Vanuabalavu.

FIGURE 3: PROPOSED LAU SEASCAPE BOUNDARY



There is a steady increase in the designation of community-based locally managed marine areas (LMMAs) in coastal fishing areas. The YMSTs are the influential bodies, recommending MPA creation to the village chief and elders to safeguard their resources for future generations. Moala, Matuku and Totoya YMSTs have designated more than ten MPAs in one year and this is expected to increase within ongoing community consultations and YMST empowerment. According to the list of LMMAs in Fiji there are an estimated 52 in the Lau Province, spread across 2,700 km² of traditional iQoliqoli areas. The number of LMMAs is anticipated to increase over the next ten years.

*An eagle ray, *Aetomylaeus* sp., in Vatoa Island marine tabu area*

Lau Seascape Strategy



Nasaqalau Village in Lakeba Island

Since 2014, the *Masi in Vanua* o Lau and Yaubula Management Support representatives from Lau have gathered after the Annual Provincial Council meeting to discuss environmental challenges and potential interventions. This culminated in an unanimous agreement in 2016 to support the Lau Seascape initiative. In July 2017, a talanoa forum was held on Kaibu Island in Northern Lau that provided an opportunity for owners of privately-owned islands and key representatives of conservation and development programmes across Lau to discuss the potential for partnerships, long-term collaboration and financing for the Lau Seascape initiative.

In the interest of full participation of existing partnerships under the Lau Seascape initiative, a series of strategy planning workshops were conducted with representative partners, the chief of each island and their respective Yaubula managers. They considered targets, threats, threat reduction options and possible resources available to stimulate ownership of the plan.

The first meeting was for partners from government agencies, civil society organisations and the provincial office, as well as private partners. They reviewed progress, identified challenges and suggested strategies to address the challenges in the next 10 years. Their workshop was carried out over two days in March 2018 and was followed by a series of three meetings to refine the strategy plan output.

A community workshop for the traditional chiefs and their respective Yaubula managers was held over a week in May 2018, during which they further refined the strategy developed by the partners. This workshop was attended by representatives of the Conservation International sister-seascape from Birds Head Seascape. They contributed immensely to the vision, strategic directions, the challenges and opportunities and the understanding of a seascape administrative affairs.

The outcomes of these participatory workshops and meetings by the partners and the communities were collated to identify the project scope, vision, conservation targets and goals, as well as critical threats to the targets. Factors that contribute directly or indirectly to the threats were itemised to understand the current situation (also known as situation analysis) and identify the best strategy to mitigate and reduce direct and indirect threats to achieve the targets and goals of the seascape. More than 100 people participated in the development of this strategic plan over a three- month period.

Our Vision

The Vanua of Lau to be prosperous and grounded in values of respect and collaborative participation to achieve sustainable regenerative resources by 2030 for current and future generations and to overcome challenges with the guidance of the Almighty God.

This vision was created by the *Masi in Vanua* of Lau and YMST representatives at the Tanoa Plaza Hotel in 2017. The chiefs were asked to brainstorm the vision for the future of Lau. They considered how they perceived the natural resource status, their culture and traditions, the status of their wealth and livelihoods, the health of future generations, and what they considered most important to support their lives. The output of the brainstorm exercise was then refined by three selected members of the chiefly group and the output was later agreed on by all as presented here. Once approved by the chiefs' forum, the vision was presented in plenary and endorsed by the whole community and partners.

Our Targets

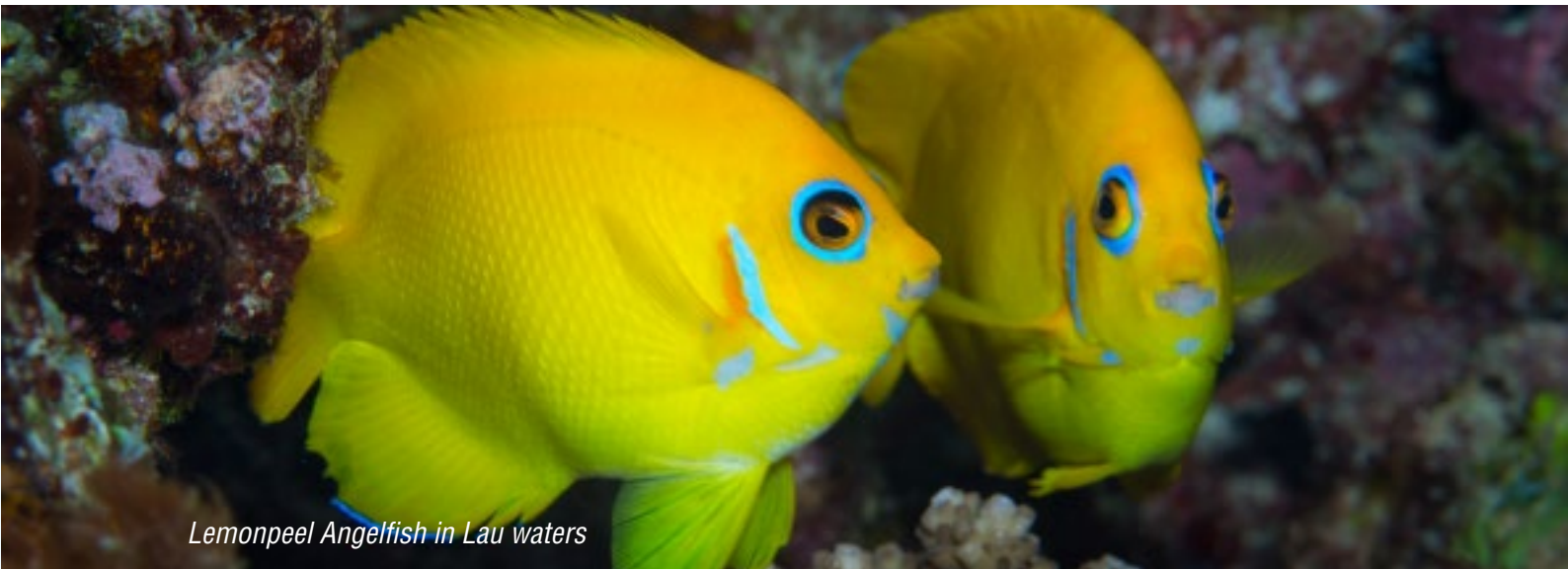
Targets reflect issues that we care about and are ready to make commitments to. We identified ten targets that represent the components of the vision – three targets relate to the advancement of social wellbeing and livelihoods, while seven are directly related to the improvement of natural ecosystems and habitats from the ridge to reef to ocean. Targets and goals are outlined in Table 1.

Table 1: Targets and Goals

Target	Goal
<p>● Cultural integrity <i>Maroroi nai Tovo kei Na Vakarau Vakavanua</i></p>	By 2030, each village and its next generation ensures and strengthens traditional and cultural heritage stewardship and spiritual guidance.
<p>● Food security <i>Taucoko na ivurevure ni Kakana</i></p>	By 2030, all communities have sustainable, locally-grown food supplies for the current and next generations.
<p>● Sustainable livelihoods <i>Taucoko na bula ni rawaka kei na tiko sautu</i></p>	By 2030, all villages in Lau are characterised by resilient individuals and communities that have successful access to education, markets and transportation.

Target	Goal
<p>● Mangroves <i>Veidogo</i></p>	<p>By 2030, all islands maintain the current cover (2018 status) of mangroves to support functional diversity.</p> <p>By 2030, all of the degraded mangrove areas in each island are restored.</p>
<p>● Migratory species <i>Yaubula ka veitosoyaki ena veiwasa</i></p>	<p>By 2030, all migratory species (turtles, whales, sharks, mantas) are protected and monitored within the Lau waters.</p> <p>By 2030, the number of sightings (nestings and pods) of migratory species is increased by 20% from 2018 levels (September 2018: whales and dolphins).</p>
<p>● Pelagic sea <i>Waitui Loa</i></p>	<p>By 2030, all archipelagic waters (inter-island waters) of Lau are under protection/effective management to sustain offshore ecological function.</p>
<p>● Reef <i>Veicakau</i></p>	<p>By 2030, reef fish biomass is increased by 20% from the existing level (2013 living ocean foundation surveys, Vatuvara Foundation/Wildlife Conservation Society, Northern Lau marine biological surveys).</p> <p>By 2030, fish diversity is maintained to support functional biodiversity.</p> <p>By 2030, the live coral cover is increased by 30-40% from the existing level (2018) to enable functional biodiversity and support resilient coral reef systems.</p>
<p>● Seamounts <i>Cakau Dromu</i></p>	<p>By 2030, 50% of the mapped seamounts are protected under the zonation plan against commercial industrial fishing.</p>
<p>● Seagrass <i>Veivutia</i></p>	<p>By 2030, all seagrass key areas are included in the zonation plan for protection to support ecosystem functions.</p>
<p>● Terrestrial environment <i>Vakasoniwai / Ulunivanua / Veikau</i></p>	<p>By 2030, all the degraded/logged forest areas are restored on each island.</p> <p>By 2030, all agricultural land management is compliant and verified in accordance with the Pacific Organic and Ethical Trade Community (POETCom), with increased soil fertility from the 2018 status to support biodiversity and livelihoods.</p> <p>By 2030, 80% of 2018 area of virgin forests are protected to support the functional biodiversity and water cycle.</p> <p>By 2030, quality and availability of water in terrestrial ecosystems and areas to support terrestrial functional biodiversity and livelihoods are maintained.</p>

Target health



Lemonpeel Angelfish in Lau waters

Isolation of the islands within the Lau Seascape is both a challenge and a blessing: a challenge to accessibility and a blessing due to the minimal anthropogenic pressures affecting the pristine environment and natural ecosystem services enjoyed by the islanders.

In May 2017, CI conducted a marine rapid biodiversity assessment in the Southern Lau Group of Islands to fill data gaps and identify important areas for conservation. With a team of global and local experts, CI navigated eight islands to gather baseline information on biodiversity, ecosystem health and functions, benthic ecosystems, corals, fish biodiversity, biomass and invertebrates. A second expedition in August 2017 led by the Auckland Museum, covered a few more islands in the southern-most part of Lau. The expeditions successfully unwrapped biodiversity of the Lau Seascape, recording 788 reef fish species, including 68 new records for Fiji, 350 new records for Lau, and at least seven new fish species. Numerous reefs were found to boast more than 200 species of hard coral (about 50 of which were unidentified) indicating a level of diversity previously only recorded in the Coral Triangle. These expeditions uncovered evidence of endangered humpback whale nursery grounds and highlighted areas of significant biodiversity that require protection, as well as areas that have been overexploited and require supportive management to restore ecosystem health.

At the same time, in northern Lau, a biological baseline survey was conducted by the Vatuvara Foundation and the Wildlife Conservation Society (WCS) around five islands: Kaibu, Yacata, Vatuvara, Kanacea and Adavaci. The objectives of the survey were to collect data on the health, abundance and diversity of corals, reef fish and invertebrate species, establish a baseline for long-term monitoring, document the damage to community fishing grounds caused by Cyclone Winston, and provide recommendations to communities on the management of their traditional fishing grounds to support food security and sustainable livelihoods (Miller et al. 2018).

The islands and lagoons surveyed were healthy and represented a diverse assemblage of hard corals, typical of remote habitats that have not been exposed to intense human pressure. The benthic habitats featured steep outer walls of spectacular reef and azure shallow inner lagoons containing sand and seagrass flats, interspersed with patch reefs. The coasts of the islands were lined with dense seagrass beds, which are critical habitats for fish and invertebrate species, and are feeding grounds for the green and hawksbill turtles. Despite the damage caused by Cyclone Winston, the team identified the presence of juvenile coral recruits, which indicated early signs of recovery. The high percentage of hard coral cover, when combined with careful management, suggested that the reefs were resilient and that the affected areas could potentially regenerate by 2021, if well looked after. The islands supported a number of globally threatened species, including the globally endangered hump head wrasse (*Cheilinus undulatus*), four shark species and the endangered green turtle (*Chelonia mydas*) and hawksbill turtle (*Eretmochelys imbricata*) (Miller et al. 2018).

We used the results of these surveys and the expert opinion of partners and community representatives to assess the current status of each of our human wellbeing and ecological targets, and what a ‘healthy state’ might look like. This provided a baseline against which we can measure changes over time and helped us decide which targets are most in need of immediate attention. In addition, we developed specific indicators for each target while considering the acceptable range of variation for each indicator, and defined ‘poor’, ‘fair’ and ‘good’ health rankings. We then ranked each target based on its status (Table 2).

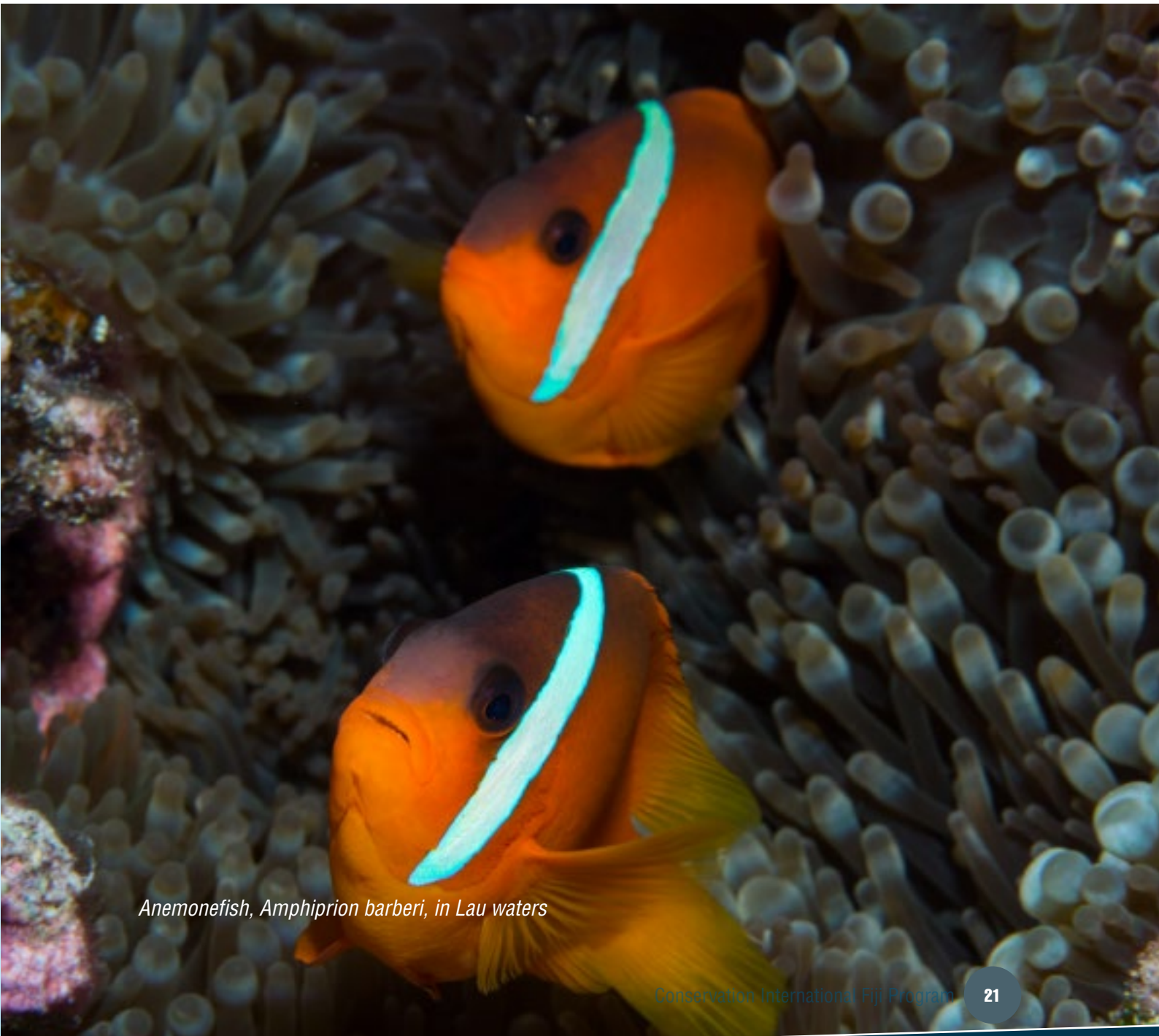
TABLE 2: STATUS OF OUR TARGETS

Target	Current Health Status
● Cultural integrity <i>Maroroi nai Tovo kei Na Vakarau Vakavanua</i>	Poor
● Food security <i>Taucoko na ivurevure ni Kakana</i>	Good
● Sustainable livelihoods <i>Taucoko na bula ni rawaka kei na tiko sautu</i>	Fair
● Mangroves <i>Veidogo</i>	Good
● Migratory species <i>Yaubula ka veitosoyaki ena veiwasawasa</i>	Good
● Pelagic sea <i>Waitui Loa</i>	Good
● Reef <i>Veicakau</i>	Fair
● Seamounts <i>Cakau Dromu</i>	Very good
● Seagrass <i>Veivutia</i>	Good
● Terrestrial environment <i>Vakasoniwai / Ulunivanua / Veikau</i>	Fair

Cultural integrity is ranked in ‘poor’ health due to the disintegration of the social fibre of community living caused by the increasing Western influence in remote communities. Sustainable livelihoods associated with extensive use of chemical fertilizers, steep land cultivation, and overharvesting of terrestrial and marine resources are some factors that deem the health of sustainable livelihoods ‘fair’.

A ‘poor’ rating means imminent loss of targeted ecosystem services or habitats or key cultural values, and allowing prevailing factors to remain in this condition for extended periods will make restoration nearly impossible.

A ‘good’ rating refers to factors functioning within a range of acceptable variation and may require some human intervention for improvement. A ‘very good’ rating is assigned in situations of optimal integrity and require very little human intervention. Overall, the health status indicates priority issues that need attention.



Anemonefish, Amphiprion barberi, in Lau waters

Critical threats to targets



Conservation International Marine RAP survey team in action in 2017

Factors that directly or indirectly affect the targets are considered critical threats to conservation targets and goals. Direct threats are the proximate human activities or processes that have caused, are causing, or may cause the destruction, degradation, and/or impairment of targets (e.g. unsustainable fishing or logging). Factors that contribute to direct threats may be either indirect causes or opportunities that drive proximate pressures. Threats can be past (historical), ongoing, and/or likely to occur in the future. Based on the expert opinion of the *Masi in Vanua*, community representatives and partners, we identified and ranked each threat as very high, high, medium and low to help us understand threats most affecting the Lau Seascape, and to prioritise our limited resources to achieve the greatest impact.



Aerial photo of Ogea Driki and Ogea Levu, Lau

A summary of the direct threats to the targets for Lau Seascape is given in Table 3.

TABLE 3: CURRENT STATUS OF DIRECT THREATS

Threat	Description	Current Threat Status
<p>■ Unsustainable land-use methods <i>iWalewale ni Vakayagataki qele veivakarusai na delanivanua</i></p>	Chemical pollution from agriculture fertilisers, intensive agriculture, fallow system	Very high
<p>■ Unsustainable fishing methods <i>iWalewale ni Vakayagataki qoliqoli veivakarusai</i></p>	Poisoning, night fishing and set-size regulations	High
<p>■ Pollution <i>Benu Ca</i></p>	Plastic and solid waste	High
<p>■ Illegal fishing by locals <i>Qoli Butako e loma ni vanua</i></p>	Amount of fish and protected species	High
<p>■ Illegal fishing by commercial vessels <i>Qoli vakailoa ni waqa ni qoli lelevu</i></p>	Foreign vessels fishing in Lau waters and within traditional fishing grounds (iQoliqloi)	High
<p>■ Crown-of-thorns <i>iWiliwili ni Bula</i></p>	Marine invasive species	High
<p>■ Unsustainable tourism <i>Sega ni tuvani vakamatau nai tuvatuva ni saravanua</i></p>	Unregulated tourism – lack of coordination and safeguards from social impact or rapid economic development	High
<p>■ Physical damage to reefs from anchoring <i>Vakacacani ni Veicakau mai na kelekele ni waqa</i></p>	Yachts and fishing vessels – anchor damage, climate change, acidification	Medium
<p>■ Unfenced livestock <i>Kena sega ni maroroi se vakabaitaki na manumanu</i></p>	Free roaming of livestock, pollution of local waterways	Medium
<p>■ Invasive species <i>Manumanu ika kei na kau vulagi veivakarusai</i></p>	Acacia species (terrestrial) and Cyanobacteria (marine)	Low
<p>■ Unsustainable coastal development <i>Veivakatorocaketaki ni baravi ka sega ni tuvani vakamatau</i></p>	Unregulated development along the coasts	Low

Threat reduction



Navakamatuku Reef in Totoya Island Bay

To minimise the impact of threats to our targets, it is important to identify specific objectives at site level. Specific objectives indicate key areas that mitigate the threats to our targets. Table 4 details clear objectives designed to strategically eliminate the most critical direct and indirect pressures on our targets.

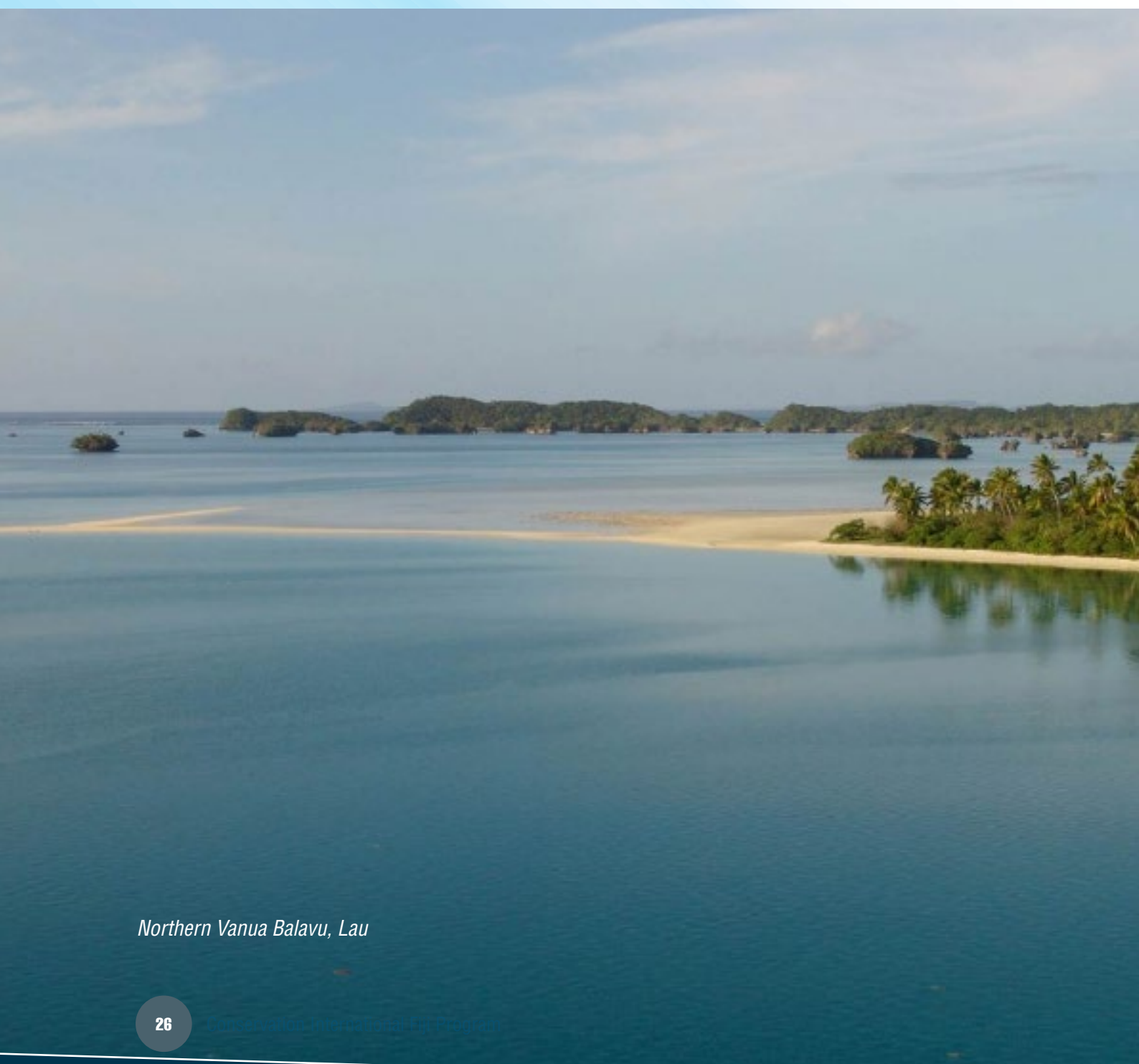
TABLE 4: OBJECTIVES OF THREAT REDUCTIONS

Threat Reductions	Objectives
<p>■ Reduced unsustainable land-use <i>Vakalailaitaki na vakayagataki vakaveitalia ni dela ni Vanua</i></p>	By 2030, all land use (forest fire, use of chemicals, use of inorganic manure, mono-cropping and logging) aligns to the land use (zonation) plan.
<p>■ Reduced unsustainable fishing methods <i>Vakalailaitaki na Qoli Vakailowa</i></p>	By 2025, unsustainable fishing practices (poisoning, night fishing and set-size regulations) is reduced by 60% in each village.
<p>■ Reduced pollution <i>Vakalailaitaki na Benu ca kei na Benu vakaveitalia</i></p>	By 2023, each Lau village implements a waste management plan.
<p>■ Reduced illegal fishing by locals <i>Vakalailaitaki na Qoli Butako vei ira na lewenivanua</i></p>	By 2025, there is a decline of at least 50% in illegal fishing by locals.

Threat Reductions	Objectives
<p>■ Reduced illegal fishing by commercial vessels <i>Vakalailaitaki na Qoli Butako mai Tautuba</i></p>	<p>By 2030, all commercial fishing vessels comply with the regulations of the zonation plan.</p> <p>By 2030, each Lau cluster has community surveillance structures in place to support enforcement within inshore areas.</p> <p>By 2030, effective national control surveillance systems are in place in each Lau cluster to support enforcement of offshore fishery areas from the regulated buffer zones.</p>
<p>■ Reduced free roaming livestock <i>Vakabaitaki na manumanu</i></p>	<p>By 2025, all livestock are fenced and managed in each village.</p>
<p>■ Reduced number of crown-of-thorns <i>Qarauni na wiliwili ni Bula</i></p>	<p>By 2025, abundance of crown-of-thorns on reefs is reduced to a normal/natural level (2–5 per hectare).</p>
<p>■ Reduced physical damage from anchoring <i>Vakalailaitaki na vakacacani ni veicakau mai na kelekele ni waqa</i></p>	<p>By 2030, all islands will have a yacht anchorage zone, in accordance with the zonation plan, to avoid physical damage to reefs.</p>
<p>■ Reduced overexploitation of targeted species <i>Vakalailaitaki na qolivi sivia ni ika kei na sasalu</i></p>	<p>By 2025, 70% of LMMAs registered in Lau regulate night spearfishing.</p> <p>By 2025, at least half of all islands adopt seasonal protection during spawning and other marine life cycle stages.</p> <p>By 2025, size limitations for targeted species are respected.</p>
<p>■ Reduced terrestrial and marine invasive species <i>Vakarusai na manumanu, ika kei na kau vulagi</i></p>	<p>By 2025, the Acacia species are reduced to a normal number (to be defined later).</p> <p>By 2025, the reef areas affected by cyanobacteria is reduced to 0.</p>
<p>■ Reduced unsustainable coastal development <i>Wali na veivakatorocaketaki ena noda veibaravi ka sega ni tuvani vakamatau</i></p>	<p>By 2030, all coastal developments comply with the regulations set by the zonation plan.</p>
<p>■ Reduced unsustainable tourism <i>Wali na veivakatorocaketaki ni saravanua ka sega ni tuvani vakamatau</i></p>	<p>By 2025, all tourism activities are sustainably coordinated and managed according to the master plan in each island.</p>

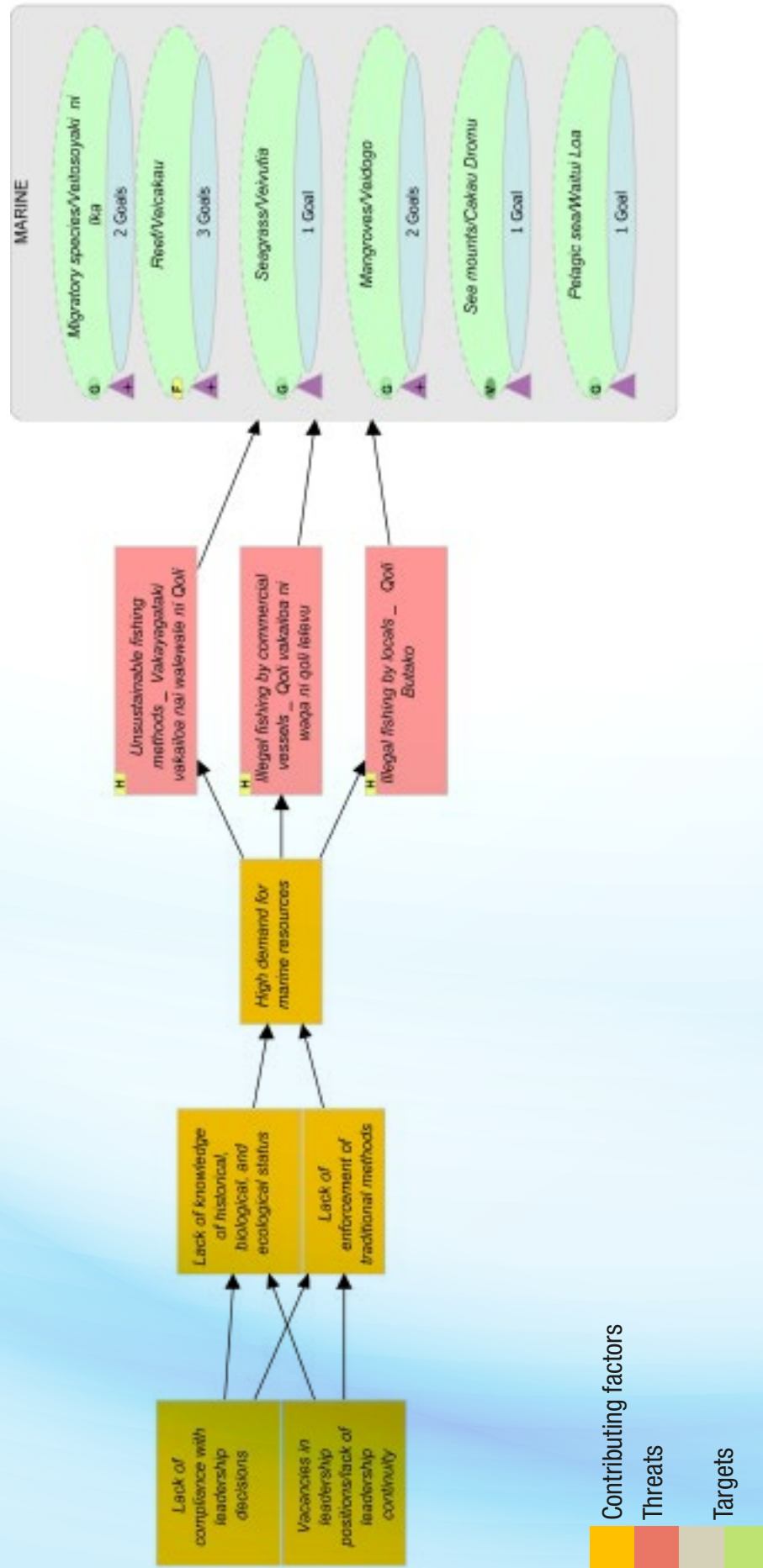
Situation analysis

In order to identify the most effective strategies for reducing threats to our targets, we developed a conceptual model to illustrate the situation analysis and root causes of the threats faced by socio-economic and environmental targets. The overall conceptual model for Lau Seascape is outlined in Appendix 1. The conceptual model attempts to depict business as usual while highlighting the root causes or factors that contribute to direct threats to our targets.

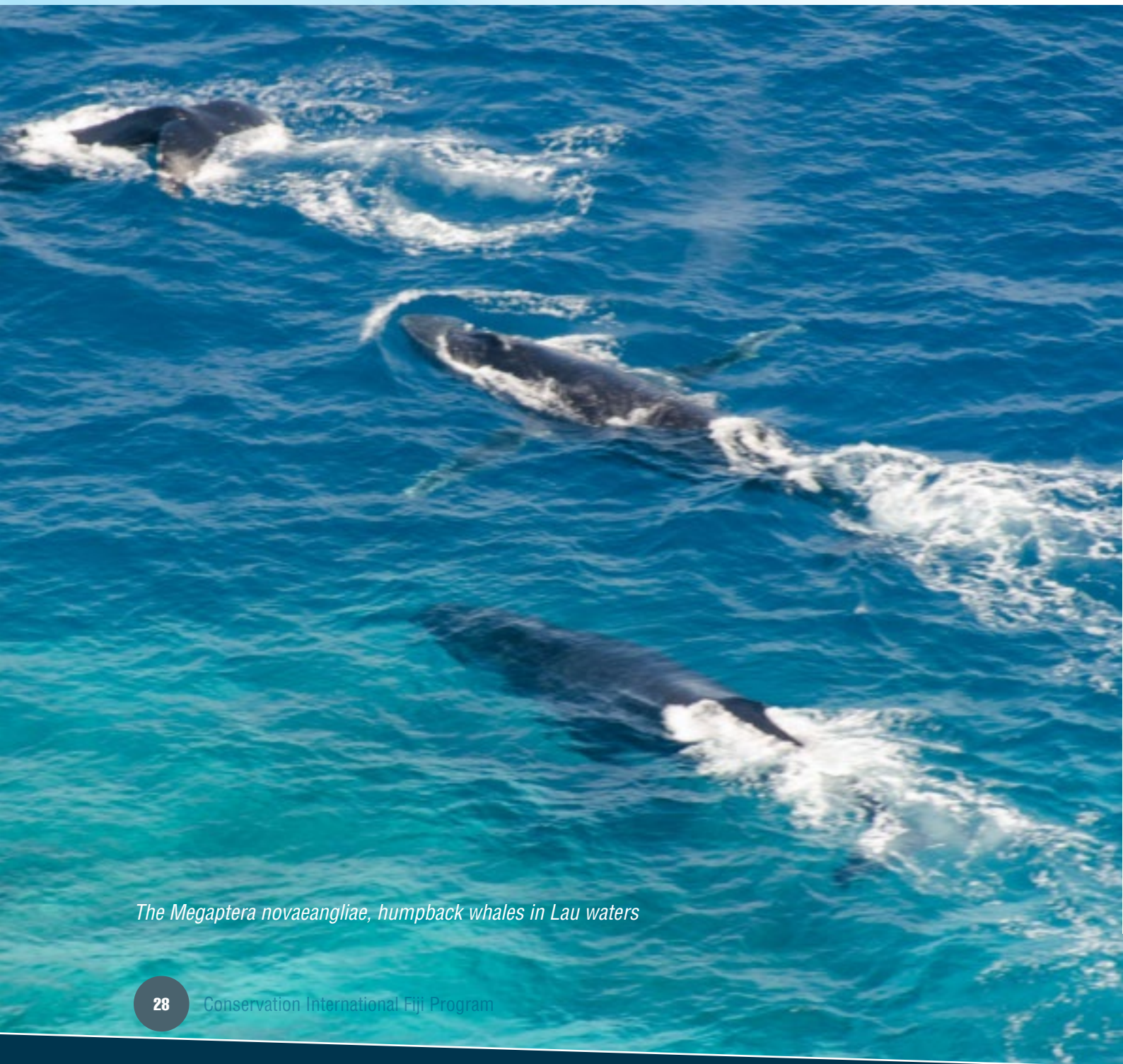


Northern Vanua Balavu, Lau

FIGURE 4: CONCEPTUAL MODEL FOR GOOD GOVERNANCE AND NATURAL RESOURCE MANAGEMENT



The assessment is based on the question of ‘why/because’ model to prompt discussion on the drivers and underlying causes of the threats to our targets. For example, three main threats are the use of unsustainable fishing methods, illegal fishing by commercial vessels at the fringes of reef systems and illegal fishing by local communities in inshore areas. The key attribute or direct cause of these threats is associated with high demand for marine resources for economic returns. Other contributing factors include lack of knowledge of historical, biological and ecological status, compounded by lack of compliance with traditional leadership decisions. In the same vein, lack of or weak enforcement of laws and regulations is a consequence of vacant traditional leadership positions. The conceptual model or situation analysis discussed above is outlined in Figure 4.



The Megaptera novaeangliae, humpback whales in Lau waters

Selection of strategies



Anemonefish, Amphiprion chrysopterus, in Lau waters

The issues highlighted in the conceptual model are clustered and aligned to prevailing thematic areas of key interventions needed to reduce the threats to our targets. Each thematic area becomes the strategy or plan of action designed to achieve long term or overall aim.

The issues discussed above and depicted in Figure 4 correspond to the strategy Good governance and natural resource management. We identified seven strategies to support the development of the Lau Seascape as outlined in Box 2.

BOX 2: LAU SEASCAPE STRATEGIES

1. Develop good governance and natural resource management

Vakatorocaketaki ka vakaqacotaki ne kena vakayagataki vakamatau na noda Yaubula me vueta na rawaka vakailavo kei na tiko sautu

Support the Yaubula Management Support Teams and empower local leaders in order to establish community-based, integrated natural resource management systems that will promote the sustainable use of terrestrial, coastal and marine resources in compliance with natural resources bylaws.

2. Improve integration/coordination among governance levels

Vaqaqacotaki na veisemati ni tuvatuva ni veiqaravi mai na veitabana ni Matanitu, Vanua, Lotu

Improve integration and communication among all the governance levels (government, Lau clusters, villages, civil societies and the private sector) in order to facilitate relevant support from the government for the sustainable development of Lau through green infrastructure, improved transportation, and access to good education and markets for the people of Lau.

3. Develop zonation and protected area network

Wasewase ni vanua me maroroi mai nai vakaso ni wai, veidogo, baravi, veivutia, veicakau, wasawasa levu ka tokona na veisemati ni Yaubula

Create a zonation plan for the marine and terrestrial environment of Lau that will include land-use management, effectively managed marine areas, and identification of key terrestrial and marine ecological areas in order to support a protected area network of connected systems across the Lau Group.

4. Restore ecosystems and manage invasive species

Vakasulumi vakamatau na nodai Yaubula mai na dela ni vanua kina veicakau kei na waitui loa ka valuti na kau/ika/manumanu vuka vulagi ka vakavu leqa kina iyaubula

Create an invasive species management plan and a restoration plan. The management plan will include marine species (crown-of-thorns and Cyanobacteria) and terrestrial species (Acacia species). The restoration plan will include marine (coral reefs) and terrestrial (degraded lands) ecosystems.

5. Increase local capacity in Lau to safeguard Yaubula

Vakalevutaki na kila ni mamaroroi kei na iwiliwili ni tabagone kei na uabula era tiko e Vanua me qaravi ka maroroi/taqomaki nai Yaubula

Improve ecological principles, traditional knowledge, trade and market skills and shift towards sustainable production of goods and resources. This will include creating an eco-certification programme aligned to existing systems, a diversification of small-scale businesses, and the introduction of new commodity and market opportunities for the people of Lau. The final outcome is targeted to create more opportunities for the future leaders of Lau, and ensure the continuity of the vanua and traditional/cultural leadership to safeguard our living wealth – Yaubula.

6. Develop community patrols

Vakaqacotaki na kena yadravi na I Qoliqoli mai vei ira na I Taukei ni Qoliqoli

Create of a community-led enforcement programme. The plan will monitor and safeguard the waters of Lau against illegal fishing and unsustainable practices that harm the productivity and functionality of the Lau marine ecosystems and pose an enormous threat to the livelihoods and food security of the people of Lau.

7. Develop eco-tourism

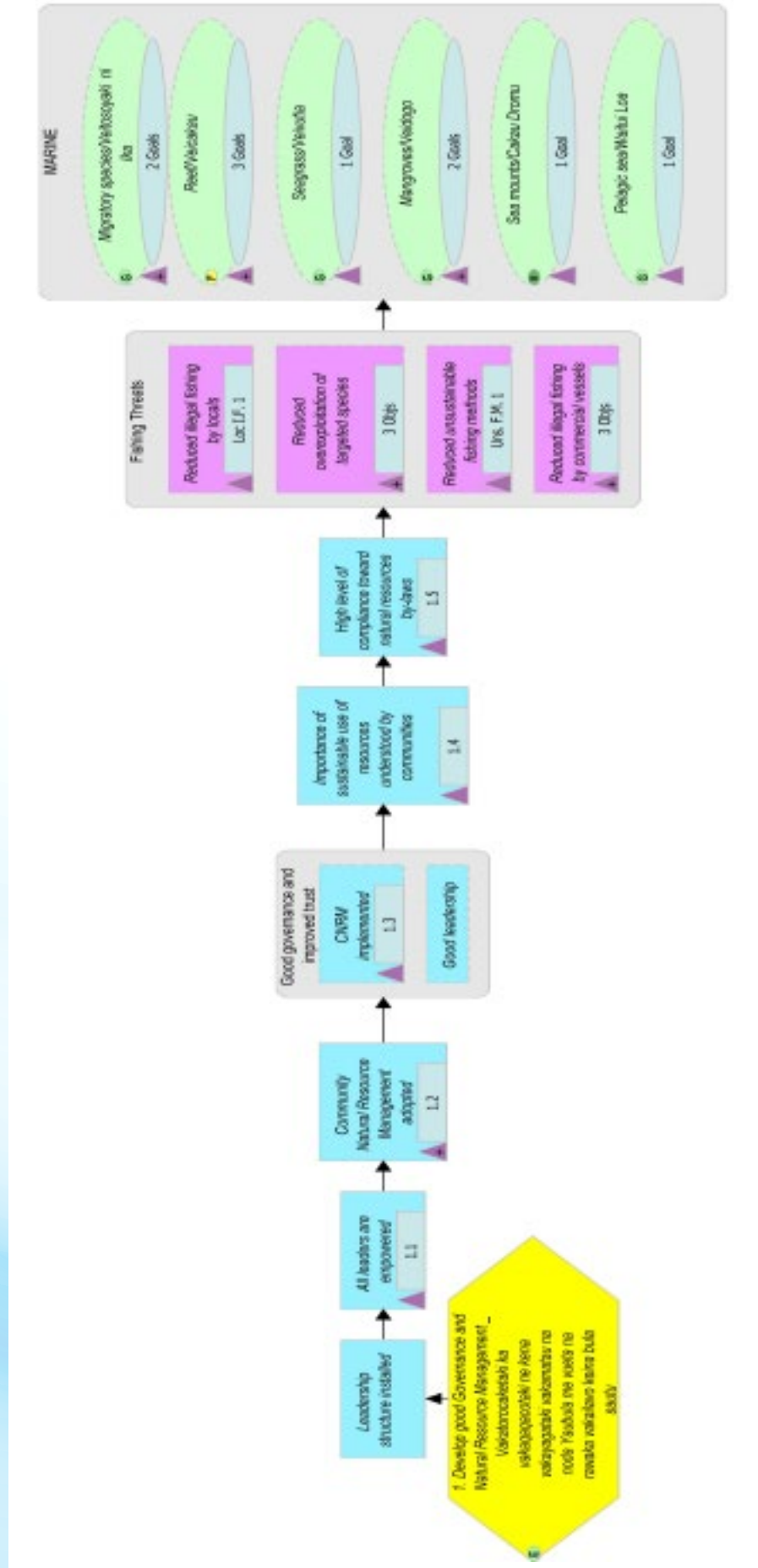
Veivakatoroicaketaki ni Saravanua ka Maroroi kina nai Yaubula

Develop a sustainable tourism master plan to improve coordination and sustainably manage tourism activities in Lau, recognising the carrying capacity of each island and ecological threats associated with mass tourism.

Results chain

Under Strategy 1 – Develop good governance and natural resource management, the installation of traditional leaders will enable community cohesion and unity. This will support collective decision making, good governance, trust and coordination while supporting a high level of compliance with natural resource by-laws. A result chain is outlined in Figure 5.

FIGURE 5: RESULT CHAIN ASSESSMENT FOR GOOD GOVERNANCE & NATURAL RESOURCE MANAGEMENT



The results chain assessment follows an ‘if/then’ pattern. As an illustration, under Strategy 1: *Develop good governance and natural resource management*, **if** leadership positions and structures are installed, **then** the chiefs will feel empowered, **then** community-based natural resource management plans will be adopted, **then** threats associated with overexploitation, unsustainable fishing methods and illegal fishing by commercial vessels will be reduced and the threats to our targets reduced. The thought processes are colour-coded where yellow indicates strategy; blue the results of interventions, and purple the effect of threat reduction on the target. Targets are colour coded with green. The overall results chain is outlined in Appendix 2.

Goals and Objectives



Conservation International Marine Rapid Biodiversity Assessment 2017

Each strategy links to specific objectives. The specific objective defines the necessary process or enabling environment to support threat reductions. Threat reductions mitigate the impact of all critical factors contributing to the exacerbation of negative conditions on our targets.

In the case of Strategy 1: Good governance and natural resource management, threat reduction results would thus include a reduction in illegal fishing by locals and commercial vessels, a reduction in over-exploitation of targeted species and a reduction in the use of unsustainable fishing methods.

Each strategy has an associated process or a series of actions or steps that are necessary to achieve a particular end. The process may be a simple one-step action or many associated interventions. The process determines the goals and objectives of the intervention. For instance, in the case of Strategy 1: Good governance and natural resource management, several processes are necessary. These include: leadership empowerment; adopting, implementing and understanding natural resources management; and prosecution of offenders to resource regulations and by-laws. Details are outlined in Table 6. The goals and objectives of all the seven strategies are listed in Appendix 3.

BOX 3: OBJECTIVES OF THE PROCESSES ASSOCIATED WITH GOOD GOVERNANCE AND NATURAL RESOURCE MANAGEMENT

1. Develop good governance and natural resource management – Vakatorocaketaki ka vakaqacotaki ne kena vakayagataki vakamatau na noda Yaubula me vueta na rawaka vakailavo keina bula sautu

1.1. Leaders empowered

By 2020, all leaders of Lau are empowered (skills, knowledge and planning/management of natural resources) and chiefs traditionally installed.

1.2. Resource management adopted

By 2021, all leaders from all 72 villages adopt the natural resource management approach.

1.3. Resource management implemented

By 2022, community natural resource management is implemented on the ground.

1.4. Understanding on natural resource management strengthened

By 2024, all of the communities understand the importance of the sustainable use of resources.

1.5. Prosecution enforced

By 2025, all violations of marine resource regulations are successfully prosecuted.

Our actions and workplan

The actions and workplan are built around the objectives associated with the processes necessary to implement the seven strategies.

For instance, in the case of Strategy 1: Develop good governance and natural resource management, empowering leadership is associated with the annual provincial learning and exchange forum on integrated natural resource management planning through empowerment of the Lau YMST. The time frame for this is immediate and ongoing to 2030.

Activities are therefore linked to the goals and objectives of each strategy. The activities associated with all the seven strategies are listed in Table 5. The activities are colour coded to indicate the level of urgency and timeframe for completion within the ten-year workplan: “green” are urgent and immediate needs (2018-2021); “amber” medium term (2022-2025) and “red” depend on the successful implementation of immediate and medium-term tasks (2026-2030).

TABLE 5: STRATEGIC ACTIVITIES AND TIME FRAME

Strategies	Activities	Time frame
1. Develop good governance and natural resource management	Conduct an annual provincial learning and exchange forum on integrated natural resource management planning (Lau YMST).	2018–2030
	Conduct village-based awareness and education in natural resource management.	2019–2030
	Facilitate the installation of chiefs/ leaders on each island.	2019–2020
	Conduct capacity building training for leaders and community (women and youth) about implementing natural resource management plans (including leadership and management, traditional knowledge, commodity development and financial literacy period)	2020
	Support the Bose Vanua to advocate the importance of natural resource management as communicated by the leaders to the community.	2020–2022
	Develop a community action plan and regulations (that need to be enforced).	2022–2024
2. Improve integration/coordination among governance levels	Develop and finalise a memorandum of understanding (MOU) between Lau partners and government.	2019
	Develop an MoU between CI and all the local NGOs and communities in Lau.	2019
	Facilitate the adoption of Lau Seascape priorities by the communities.	2019
	Align the Lau Seascape Strategy to the National Development Plan (NDP).	2019
	Undertake a cost-benefit analysis for each community project funded by the government.	2020
	Facilitate the allocation of funds from government.	2020
3. Develop zonation and protected area network	Conduct marine biological/ecological surveys to identify the health and socio-economic values of marine ecosystems.	2019–2022
	Assess agricultural and farming practices and rainforest.	2019–2022
	Conduct community workshops to identify and verify the mapping and management of each zone.	2023
	Draft is reviewed by the communities.	2024
	Implement zonation plan on the ground.	2030
	Review zonation plan every five years.	2030

● 4. Restore ecosystems and manage invasive species	● Develop collaboration between scientific team and communities on the identification of invasive species and ecosystems for restoration.	2020
	● Complete a prioritised list of invasive species and ecosystems for restoration.	2020–2022
	● Conduct cost-benefit analysis of marine and terrestrial species of interest carried out.	2022
	● Complete a restoration plan for key terrestrial and marine species.	2018–2025
	● Train communities in identification of invasive species.	2022–2025
	● Develop an eradication plan and enabling financial support to execute it.	2022–2025
	● Implement respective restoration and eradication plans on the ground.	2025–2030
	● Develop Monitoring plan relevant to the respective restoration and eradication plan.	2025–2030
● 5. Increase local capacity in Lau to safeguard Yaubula	● Conduct awareness and education workshops on ecological principles, traditional knowledge and sustainable production (ridge to reef to ocean).	2020–2021
	● Conduct market and trade training for communities.	2020–2021
	● Develop a communication strategy about the benefits of eco-certification, sustainable production and human health/wealth related to resources.	2022–2025
	● Provide technical support for sustainable production and viable solutions.	2022–2025
	● Facilitate the eco-certification process and shift to sustainable production.	2022–2025
● 6. Develop community patrols	● Facilitate enforcement training on each island.	2020–2023
	● Develop a surveillance plan for community patrols.	2023–2025
● 7. Develop eco-tourism	● Survey the feasibility of sustainable tourism activities on each island and carry out carrying capacity assessment, as well as sustainable activities to inform the sustainable tourism master plan period.	2018–2021
	● Consult with communities to connect development of sustainable tourism activities with government policies, the private sector and statutory organisations such as the Fiji Museum.	2021–2022
	● Facilitate the process of development of the sustainable tourism master plan period	2018–2023

Our Monitoring Programme

We will monitor the status of the indicators associated with each process and activity under each of the seven strategies to measure management effectiveness of our Lau Seascape interventions. Indicators will be used as a yard stick to measure management effectiveness of each intervention. As an illustration, indicators associated with Strategy 1: Develop Good governance and natural resource management are aligned to the goals, objectives and activities outlined in Table 6. Detailed objectives and goals for each of the seven strategies, together with their indicators are outlined in Appendix 4.

TABLE 6: PROCESS INDICATORS ASSOCIATED WITH STRATEGY 1: GOOD GOVERNANCE AND NATURAL RESOURCE MANAGEMENT

<p>◆ 1. Develop good governance and natural resource management – Vakatorocaketaki ka vakaqacotaki ne kena vakayagataki vakamatau na noda Yaubula me vueta na rawaka vakailavo keina bula sautu</p>	
Objectives	Indicators
<p>■ 1.1. Leaders empowered By 2030, all leaders of Lau are empowered (skills, knowledge and planning/management of natural resources).</p>	<p>▲ Number of leaders empowered</p> <p>▲ Number of leaders/chiefs installed on each island</p>
<p>■ 1.2. Resource management adopted By 2030, leaders from all 72 villages adopt the natural resource management approach.</p>	<p>▲ Number of villages adopting the integrated management plan</p> <p>▲ Number of Vanua meetings held</p>
<p>■ 1.3. Resource management implemented By 2020, community natural resource management is implemented on the ground.</p>	<p>▲ Number of leaders implementing the natural resource management approach in their villages</p>
<p>■ 1.4. Understanding on natural resource management strengthened By 2022, all the communities understand the importance of the sustainable use of resources.</p>	<p>▲ Number of people who understand the importance of sustainable use of natural resources</p>
<p>■ 1.5. Prosecution enforced By 2024, all violations against marine resources are successfully prosecuted.</p>	<p>▲ Percentage of violations successfully prosecuted</p>

Adopting the Plan



Conceptual Mapping to identify Situation Analysis in Lau at Partners Open Standard Workshop

The Masi ni *Vanua* o Lau and representatives of the Lau YMST have been mandated by the Lau Provincial Council to champion and recommend environmental and sustainable practices that will benefit current and future generations. The Lau Provincial Council endorsed the adoption of the YMST concept in 2016 and endorsed all the island YMSTs, linking resource management from village to district to provincial levels.

Accordingly, the *Masi in Vanua* o Lau and YMST representatives have developed the Lau Seascape Strategy as a guideline for ecosystem-based management of the large number of islands to the east of Fiji. The strategy will be presented to the Lau Provincial Council for endorsement.

The shared vision for sustainable development, based on principles of dependence on an Almighty God, respect for traditional values, and collaborative participation will ensure the sustainable wellbeing of current and future generations in the Lau group of islands.

The ten targets that support the vision of the *Masi ni Vanua* o Lau and YMST representatives focus on advancement of social wellbeing and livelihood, and improvement of natural ecosystems and habitats from ridge to reef to ocean. Targets that focus on the protection and restoration of natural ecosystems are focussed on specific habitats, such as pelagic seas, reefs, seamounts, salt marshes, mangrove seagrass migratory species (marine and fauna) seagrasses, and all types of terrestrial habitats.

With the vision to support prosperous and healthy ecosystems and local habitats through values of respect and collaborative participation, the seven strategies agreed on by the *Masi in Vanua* o Lau aim to provide guidance for development partners. The partners will identify themselves and see how all stakeholders can best collaborate and work towards ensuring the maintenance and development of sustainable socio-economic development, and protecting and conserving the natural resources in the Lau Seascape.

References

Dunstan, PK, Evans K, Caruthers T and Anderson P. 2013. Updated analysis of existing marine assessments in the South West Pacific. CSIRO Wealth from Oceans and the Secretariat of the Pacific Regional Environment Programme.

https://www.sprep.org/att/publication/000937_684a.pdf

Fiji Fisheries Department, 2008. Fisheries Resource Inventory Survey: Komo, Nayau and Moce marine biodiversity assessment draft report, Central Lau. Research Division, Fisheries Department, Ministry of Fisheries and Forests.

Fiji Fisheries Department, 2007. Fisheries Resource Inventory Survey Report: *Vanua Balavu* (No. Fisheries Research Technical Report). Research Division, Fisheries Department, Ministry of Fisheries and Forests.

Fiji Fisheries Department, 2007. Fisheries Resource Inventory Survey Report: Tikina Mualevu iQoliqoli, Vanua Balavu. Research Division, Fisheries Department, Ministry of Fisheries and Forests.

GOF. 2018. FBoS Release No 1. 2017 Population and Housing Census

Meo, S., Erdmann, M.V. and Tuisese, S.W. (eds). In Press. A Rapid Marine Assessment of the Southern Lau Islands, Fiji. Conservation International, Arlington.

Miller K, Nand Y, Mangubhai S, Lee S, Naisilisili W, Sykes H (2018). Marine Biological Surveys of the Northern Lau Group. Report No. 01/18. Vatuvara. Foundation and the Wildlife Conservation Society, Suva, Fiji. 46 pp.

Nair V, Rupeni E, Wilson L, O’Gorman D, Holloway C, Sriskanthan G, Tabunakawai K, Afzal D, Areki F, Fiu M. 2004. Setting Priorities for Marine Conservation in the Fiji Islands Marine Ecoregion. WWF South Pacific Programme. 79 pp

Our Sea of Islands, Our Livelihoods, Our Oceans. 2018. Office of the Pacific Ocean Commissioner. Pacific Island Forum Secretariat.

Pratt C, Govan H. 2010. Our Sea of Islands, Our Livelihoods, Our Oceania. Framework for a Pacific Oceanscape: a catalyst for implementation of ocean policy. Pacific Island Forum Secretariat.

Tittensor D, Mora C, Jetz W, Lotze H, Ricard D, Vanden Berghe E, Worm B. 2010. Global Patterns and predictors of marine biodiversity across taxa. *Nature* 466. 1098-1103.

Trebilco R, Halpern B, Mills Flemming J, Field C, Blanchard W, Worm B. 2011. Mapping species richness and human impact drivers to inform global pelagic prioritization. *Biological Conservation* 144. 1758-1766

Tuiwawa M, Aalbersberg W. 2013. Biodiversity Conservation Lessons Learned. Technical Series 22: Rapid Biological Assessment Survey of Southern Lau, Fiji. Conservation International Pacific Islands Program.

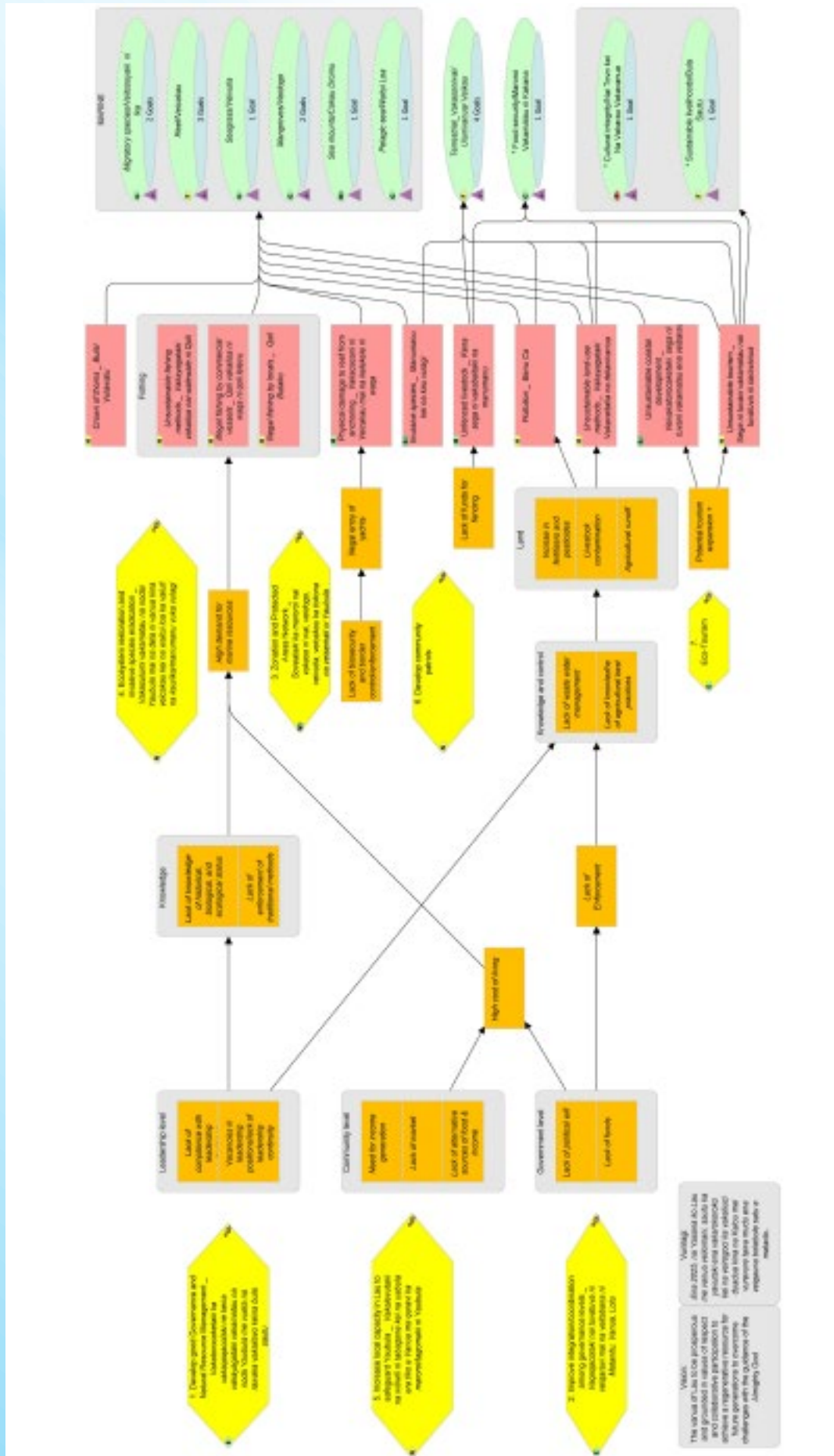
Selig ER, Turner WR, Troeng S, Wallace BP, Halpern BS, et al. 2014. Global Priorities for Marine Biodiversity Conservation. *PLoS ONE* 9(1): e82898.

Sykes H, Le Grand J, Davey K, Kirmani SN, Mangubhai S, Yakub N, Wendt H, Gauna M, Fernandes L. 2018. Biophysically special, unique marine areas of Fiji. MACBIO (GIZ, IUCN, SPREP), Wildlife Conservation Society and Fiji’s Protected Area Committee (PAC); Suva.

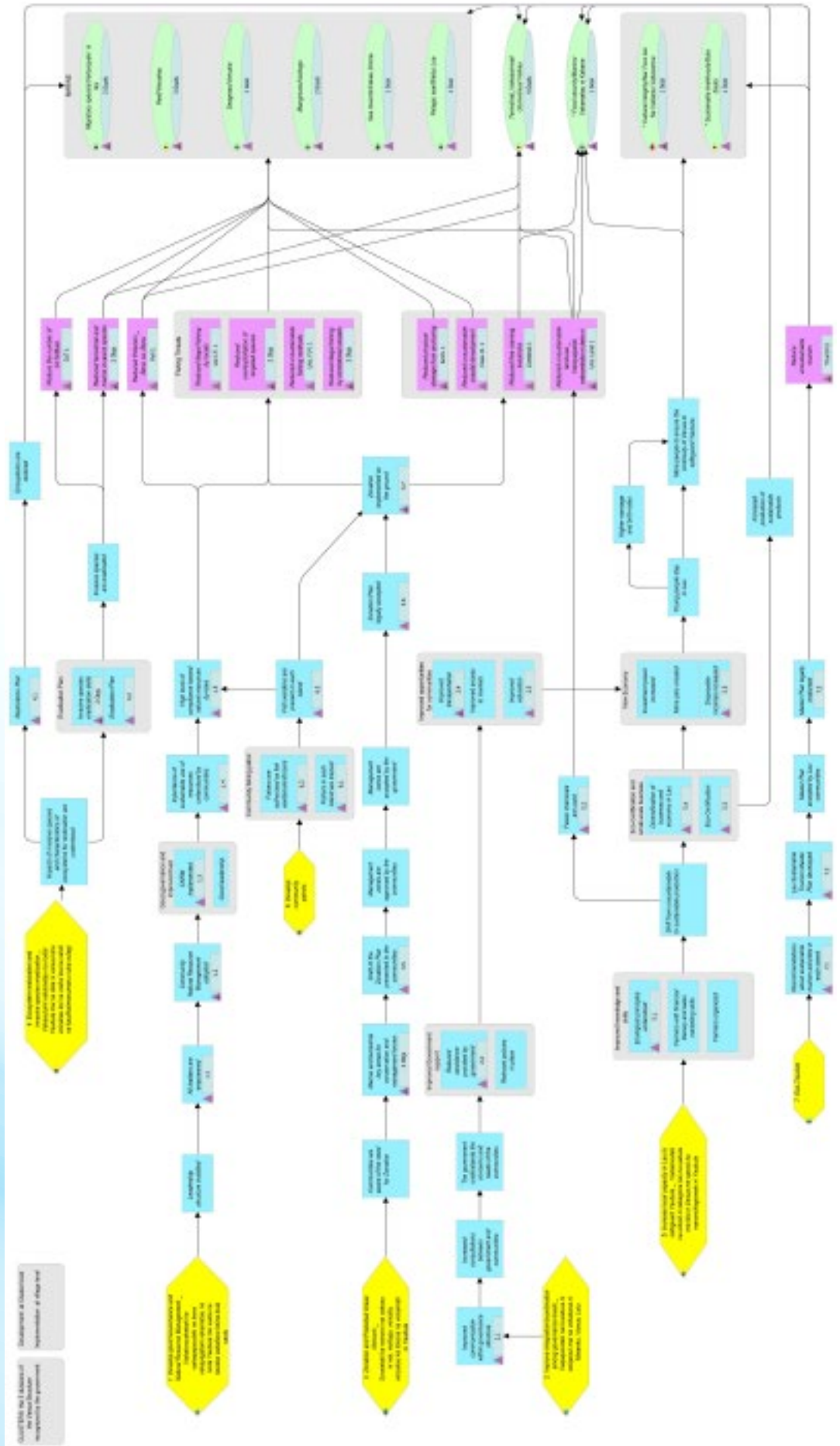
Glossary

iTaukei Phrase	Translation
Benu Ca	Pollution
Bula Sautu	Sustainable livelihoods
Bula	Crown-of-thorns
Cakau Dromu	Seamounts
Yaubula ka veitosoyaki ena veivasawasa	Migratory species
iQoliqoli	Inshore fishing ground unit
iWalewale ni Qoli veivakarusa	Unsustainable fishing methods
iWalewale ni Vakayagatataki qele veivakarusa	Unsustainable land-use method
Kena sega ni vakabaitaki na manumanu	Unfenced livestock
Manumanu kei na kau vulagi veivakarusa	Invasive species
Masi ni Vanua o Lau	Forum of traditional chiefs of Lau
Nai Tovo kei Na Vakarau Vakavanua	Cultural integrity
Qoli Butako	Illegal fishing by locals
Qoli vakailoa ni waqa ni qoli lelevu	Illegal fishing by commercial vessels
Regenerative resources	Livelihoods, sustainability, healthy environment
Sega ni tuvani vakamatau nai tuvatuva ni saravanua	Unsustainable tourism
Ulunivanua	Mountain
Vakacacani ni Veicakau mai na kekekele ni waqa	Physical damage to reef from anchoring
Vakasoniwai	Watershed
Vakasoniwai/ Ulunivanua/ Veikau	Terrestrial environment
Vanua	includes culture, people, land and ocean
Veicakau	reef system
Veidogo	Mangroves
Veikau	Forest area
Veiqaravi ni Saravanua ka maroroi kina nai Yaubula	Eco-tourism
Veivakatorocaketaki sega ni tuvani vakamatau ena veibaravi	Unsustainable coastal development
Veivutia	Seagrass
Vurevure ni Kakana	Food security
Waitui Loa	Pelagic sea
Yaubula	living capital resources

Appendix 1 – Overall conceptual model for the Lau Seascap



Appendix 2 – Overall Results Chain Assessment for the Lau Seascap



Appendix 3 – All strategies with associated process objectives and indicators

<p>● 1. Develop good governance and natural resource management – Vakatorocaketaki ka vakaqacotaki ne kena vakayagataki vakamatau na noda Yaubula me vueta na rawaka vakailavo keina bula sautu</p>	
Objectives	Indicators
<p>■ 1.1. Leaders empowered By 2020, all leaders of Lau are empowered (skills, knowledge and planning/management of natural resources).</p>	<p>▲ Number of leaders/chiefs installed in each island</p> <p>▲ Number of leaders empowered</p>
<p>■ 1.2. Resource management adopted By 2021, leaders from all 72 villages adopt the natural resource management approach.</p>	<p>▲ Number of islands adopting the integrated management plan</p> <p>▲ Number of vanua meetings held</p>
<p>■ 1.3. Resource management implemented By 2022, community natural resource management is implemented on the ground.</p>	<p>▲ Number of leaders implementing the natural resource management approach in their villages</p>
<p>■ 1.4. Understanding on natural resource management strengthened By 2024, all the communities understand the importance of the sustainable use of resources.</p>	<p>▲ Number of people understanding the importance of sustainable use of natural resources</p>
<p>■ 1.5. Prosecution enforced By 2025, all violations against marine resource regulations are successfully prosecuted.</p>	<p>▲ Percentage of violations successfully prosecuted.</p>
<p>● 2. Improve integration/coordination among governance levels – Vaqacotaki nai tuvatuva ni veiqaravi mai na veitabana ni Matanitu, Vanua, Lotu</p>	




























CI Staff assisting establishment of tree nursery in Moala for restoration of degraded terrestrial areas

<p>2.1. Improved communication By 2019, communication is improved among the various governance levels (community, clusters and government).</p>	<p>▲ Number of communication events between communities, clusters and government</p>
<p>2.2. Green infrastructure developed By 2020, the government supports the development of green and sustainable infrastructures in Lau.</p>	<p>▲ Number of green infrastructures supported by the government on each island.</p>
<p>2.3. Education strengthened By 2025, a minimum of 65% of students complete secondary school in Lau.</p>	<p>▲ Number of students completing secondary school</p>
<p>2.4. Transportation improved By 2025, a reliable schedule of commercial boats is established between Lau Islands and Suva to support transportation and merchandising of products.</p>	<p>▲ Number of Islands connected through regular transportation per month</p> <p>▲ Number of trips from Lau to Suva per month</p>



CI staff demonstration of sandalwood planting to students of Yasayasa Moala College

<p>3. Zonation and protected area network – Soveataki ka maroroi nai vakaso ni wai, veidogo, veivutia, veicakau ka tokona na veisemati ni Yaubula</p>	
<p>3.1. Land-use surveys conducted By 2020, all inhabited islands have updated land-use surveys.</p>	<p>▲ Number of inhabited islands with completed land-use surveys</p>
<p>3.2. Marine use practices assessed By 2020, marine use practices in each Lau island are assessed.</p>	<p>▲ Number of islands with marine practices documented</p>
<p>3.3. Terrestrial surveys conducted By 2022, key terrestrial ecological areas in each Lau island are mapped.</p>	<p>▲ Number of islands with key terrestrial areas mapped</p>
<p>3.4. Marine surveys conducted By 2022, key ecological marine important areas in each Lau island are mapped.</p>	<p>▲ Number of islands with mapped marine areas</p>
<p>3.5. Consultations conducted By 2023, the first draft is available to all 72 Lau villages.</p>	<p>▲ Number of villages that have access to the zonation plan consultation</p>
<p>3.6. Zonation Plan Bill legalised By 2030, the Government of Fiji legally accepts the Lau Seascape Zonation Plan Bill</p>	<p>▲ Zonation bill endorsed and gazetted</p>
<p>3.7. Terrestrial and marine zonation implemented By 2030, each village has implemented natural resource management of terrestrial and marine areas as per zonation plan.</p>	<p>▲ Number of incidents of non-compliance with zonation plan</p>
	<p>▲ Number of islands implementing natural resource management as per zonation plan.</p>
<p>4. Ecosystem restoration and invasive species eradication – Vakasulumi vakamatau na nodai Yaubula mai na dela ni vanua kina veicakau kei na waitui loa ka valuti na kau/ika/manumanu vuka vulagi</p>	
<p>4.1. Restoration plans designed By 2025, the restoration plan is in place in each designated island for ecosystem restoration.</p>	<p>▲ Number of designated islands with a Restoration Plan in place</p>
<p>4.2. Invasive species managed By 2025, an invasive species eradication plan is formulated and implemented in infested islands in Lau.</p>	<p>▲ Number of infested islands with an Eradication Plan</p>
<p>4.3. Skills developed By 2025, local communities are trained on removal techniques, documentation and maintenance of all invasive species.</p>	<p>▲ Number of communities trained in the removal of other terrestrial and marine invasive species</p>
<p>4.4. CoTs managed By 2025, local communities are trained on the removal techniques, documentation and maintenance of number of crown-of-thorns (Bula) at an appropriate level.</p>	<p>▲ Number of communities trained in CoTs removal</p>

<p> 5. Increase local capacity in Lau to safeguard Yaubula – Vakalevutaki na wiliwili ni tabagone kei na uabula era tiko e Vanua me qaravi ka maroroi/tagomaki ni Yaubula</p>	
<p> 5.1. Sustainable production adopted By 2021, communities adopt an ecological integrated approach to sustainable production (skills and knowledge).</p>	<p> Number of communities adopting a sustainable production approach</p>
<p> 5.2. Chemical distribution reduced By 2025, distribution of chemicals to Lau by Ministry of Agriculture reduced by 80%.</p>	<p> Percentage of chemicals distributed to Lau by the Ministry of Agriculture</p>
<p> 5.3. Eco-certification designed By 2025, 30% of the area under cultivation on each inhabited island is eco-certified.</p>	<p> Percentage of cultivated areas on each inhabited island eco-certified</p>
<p> 5.4. Number of small-scale businesses increased By 2025, there is an increase in the number of small-scale businesses on each island by 30% from the actual status.</p>	<p> Percentage increase in the number of small-scale businesses</p>
<p> 5.5. Average income increased By 2025, the average incomes in Lau islands is increased by 30% from existing statistics period.</p>	<p> Percentage increase in the average Income</p>
<p> 6. Develop community patrols</p>	
<p> 6.1. Fish wardens trained By 2023, all the identified fishers in each island are trained as fish wardens.</p>	<p> Number of fishers trained on each island</p>
<p> 6.2. Legal patrol authorized By 2023, all the trained fishers receive a legal patrol authorisation.</p>	<p> Percentage of trained fishers receiving a legal patrol authorisation</p>
<p> 6.3. Fish wardens adopted By 2025, each island has a regular community fishing patrol.</p>	<p> Number of islands with a community fishing patrol</p>
<p> 7. Develop eco-tourism</p>	
<p> 7.1 Tourism potential and capacity assessed By 2021, each island has been surveyed for tourism activity potential and capacity.</p>	<p> Number of islands surveyed</p>
<p> 7.2 Master plan developed By 2022, a sustainable tourism master plan is developed by communities.</p>	<p> Number of communities consulted</p>
<p> 7.3 Master plan legally endorsed By 2025, the sustainable tourism master plan is legally endorsed and implemented.</p>	<p> Master Plan legally endorsed and gazetted</p>

Appendix 4 – Complete monitoring plan



Flagtail shrimpgoby, *Amblyeleotris yanoi*, in Lau waters

● Target ● Goal ● Threat Reduction Result ● Strategy ■ Objective

Goal/ Threat Reduction Objective/ Process Objective	▲ Indicator
---	-------------

● Cultural integrity – Nai Tovo kei Na Vakarau Vakavanua

● Cultural stewardship

By 2030, each village and its next generation has improved traditional and cultural heritage stewardship and spiritual guidance.

▲ Percentage of young people joining ceremonial gatherings in each village/Vuli vakavanua

▲ Number of art and craft workshops/Vuli cakacaka ni liga

▲ Number of leaders reporting spiritual upbringing in daylife /Vuli vakalotu

▲ Number of youths, women and elders participating in transfer of traditional knowledge

▲ Number of youth trained in leadership

● Food security/Maroroi Vakamatau ni Kakana

● Food availability

By 2030, all communities have sustainable locally grown food supplies for the current and next generations.

▲ Percentage of food locally produced in Lau

▲ Number of sustainable food sources in marine and terrestrial environments

● Sustainable livelihoods/Bula Sautu

By 2030, all villages in Lau are characterised by resilient individuals and communities that have access to education, markets, transportation and food.

▲ Number of surveyed people satisfied with their capacity and capability to access education, markets, transportation and food.

● **Mangroves/Veidogo**

<p>● Maintain mangrove forest cover By 2030, all islands maintain the current cover (2018 status) of mangrove to support functional diversity.</p>	<p>▲ Mangrove cover in each island maintained</p>
<p>● Restoration By 2030, all the degraded mangrove areas on each island are restored.</p>	<p>▲ Percentage of degraded mangrove areas restored on each island</p>

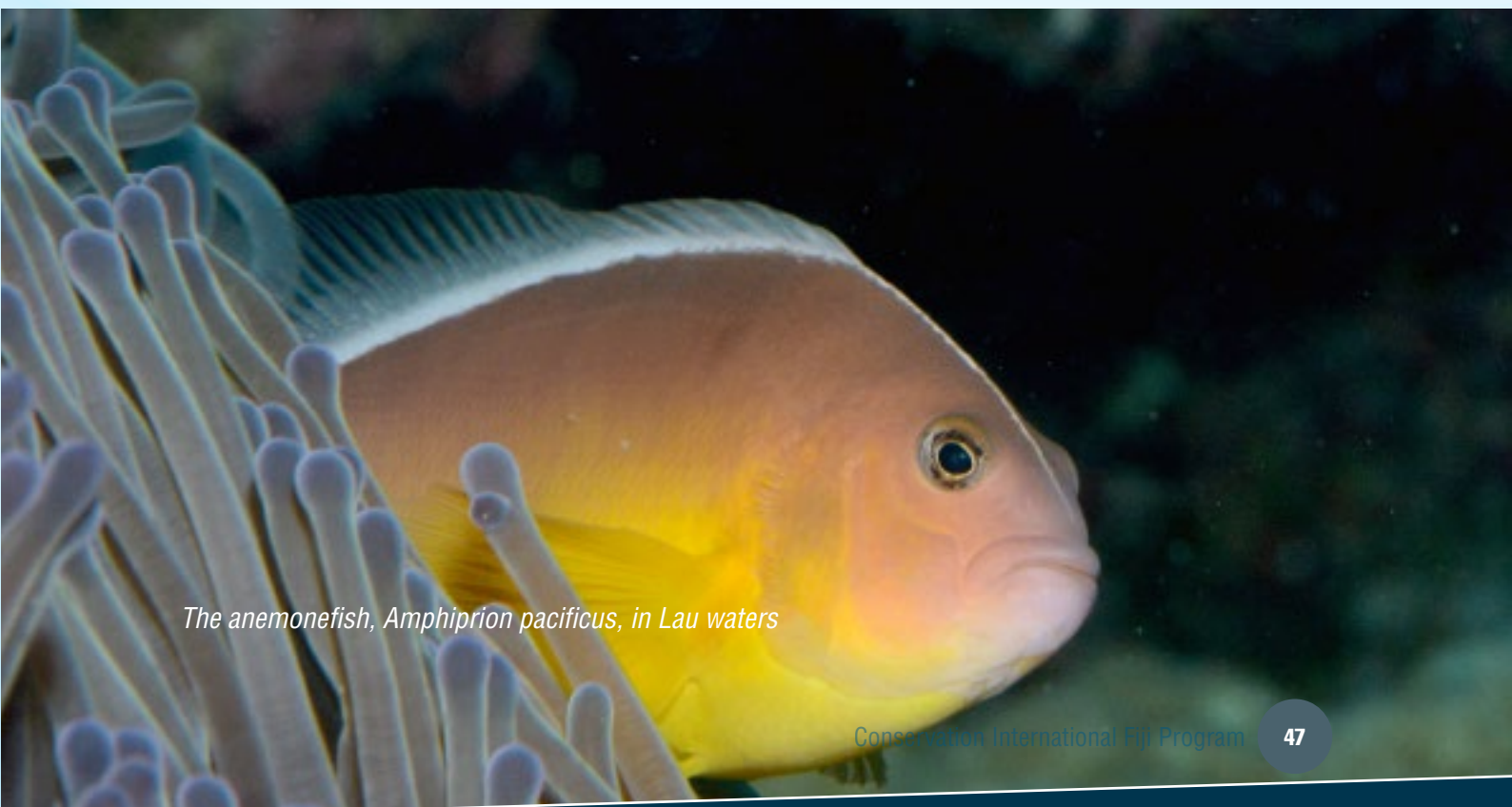
Goal/ Threat Reduction Objective/ Process

● **Migratory species/Veitosoyaki ni Ika**

<p>● Increase population By 2030, the number of sightings (nestings and pods) of migratory species is increased by 20% from 2018 levels (September 2018: whales and dolphins)</p>	<p>▲ Number of sightings of nestings (for turtles) during breeding season</p> <p>▲ Number of sightings of pods and individuals (for whales, sharks and mantas)</p>
<p>● Migratory species protection and monitoring By 2030, all migratory species (turtles, whales, sharks, mantas) are protected and monitored within Lau waters</p>	<p>▲ Regulation for each migratory species</p>

● **Pelagic sea/Waitui Loa**

<p>● Pelagic sea management By 2030, all archipelagic waters (inter-island waters) are under protection/effective management to sustain offshore ecological function.</p>	<p>▲ Percentage of archipelagic waters protected/effectively managed</p>
--	--



The anemonefish, Amphiprion pacificus, in Lau waters

● Reef/Veicakau

<p>● Fish biomass By 2030, the reef fish biomass is increased by 20% from the existing level (2013 living ocean foundation surveys)</p>	<p>▲ Percentage of increase in fish biomass</p>
<p>● Fish diversity By 2030, fish diversity is maintained (2017 CI Lau RAP survey) to support functional biodiversity.</p>	<p>▲ Fish species (diversity) maintained</p>
<p>● Resilient coral reef systems By 2030, a 30–40% increase in the live coral cover from the existing level (CI Lau RAP 2017) is achieved to enable functional biodiversity and support resilient coral reef systems</p>	<p>▲ Coral species (diversity)</p>
	<p>▲ Giant clams abundance</p>
	<p>▲ Percentage of live coral cover</p>
	<p>▲ Recruitment location/species on each island</p>
	<p>▲ Sea cucumber presence</p>

● Seamounts/Cakau Dromu

<p>● Seamounts protection By 2028, 50% of the mapped seamounts are protected under the Zonation Plan against commercial industrial fishing.</p>	<p>▲ Percentage of seamounts protected in Lau</p>
--	---

● Terrestrial/Vakasoniwai/ Ulunivanua/ Veikau

<p>● Forest restoration By 2030, all the degraded/logged forest areas are restored in each island.</p>	<p>▲ Percentage of degraded forest areas restored</p>
<p>● Soil quality By 2030, all agricultural land management is compliant and verified in accordance with the Pacific Organic Standards with increased soil fertility from the 2018 status to support biodiversity and livelihood.</p>	<p>▲ Number of agricultural lands showing absence of heavy metals and high levels of organic carbon</p>
<p>● Virgin forest maintenance By 2030, 80% of 2018 area of virgin forest is protected to support the functional biodiversity and water cycle.</p>	<p>▲ Percentage of virgin forest area protected</p>
<p>● Water quality and availability By 2030, the quality and availability of water is maintained in terrestrial ecosystems and areas to support terrestrial functional biodiversity and livelihoods.</p>	<p>▲ Quantify amount of water needed per person a day</p>
	<p>▲ Presence or absence of bacteria in water</p>

Goal/ Threat Reduction Objective/ Process	Indicator
● Reduce the number of crown-of-thorns/Bula	
■ Crown-of-thorns abundance By 2025, abundance of crown-of-thorns on reefs is reduced to a normal/natural level (2–5 per hectare)	▲ Number of crown-of-thorns per hectare
● Reduced free roaming livestock	
■ Fences By 2025, all livestock are fenced and managed in each village	▲ Free roaming livestock
● Reduced illegal fishing by commercial vessels	
■ Illegal fishing by commercial vessels By 2030, all commercial fishing vessels comply with the regulations of the zonation plan.	▲ Percentage of commercial vessels complying with the zonation plan
■ Community surveillance By 2030, each Lau cluster has community surveillance structures in place to support enforcement within inshore areas.	▲ Number of clusters with surveillance system in place
■ National surveillance By 2030, an effective national control surveillance system will be in place in each Lau cluster to support enforcement of offshore fishery areas from the regulated buffer zones.	▲ Number of illegal commercial vessels prosecuted
	▲ Number of illegal commercial vessels reported to the enforcers (national surveillance)
	▲ Number of Lau clusters with a national surveillance system in place
● Reduced illegal fishing by locals	
■ Decrease illegal fishing By 2025, there is a decrease of at least 50% in illegal fishing by locals.	▲ Number of reported illegal fishing activities
● Reduced over-exploitation of targeted species	
■ Gear restriction By 2025, 70% of locally managed marine areas (LMMAs) registered in order to regulate night spearfishing.	▲ Percentage of LMMAs regulating night spearfishing
■ Seasonal protection By 2025, ten of the 30 islands adopt seasonal protection during spawning durations and life cycle considerations.	▲ Number of the islands implementing seasonal protection
■ Size limitations By 2025, size limitations for targeted species are respected.	▲ Number of villages respecting size limitations for targeted species

● **Reduced physical damage from anchoring**

<p>■ Yacht anchorage By 2030, all islands will have yacht anchorage zones, in accordance with the zonation plan, to avoid physical damage to reefs.</p>	<p>▲ Number of islands with a yacht anchorage zone</p> <p>▲ Number of moorings installed on each island</p> <p>▲ Number of reported incidents derived from yacht anchoring outside the anchorage zones</p>
--	--

● **Reduced pollution – Benu ca, Benu vakaveitalia**

<p>■ Implementation of waste management plan By 2023, each Lau village has implemented a waste management plan.</p>	<p>▲ Number of Lau villages implementing the waste management plan</p>
--	--

● **Reduced terrestrial and marine invasive species**

<p>■ Acacia species By 2025, the Acacia species are reduced to a normal number (to be defined later).</p>	<p>▲ Area covered by Acacia species</p>
<p>■ Cyanobacteria By 2025, the reef areas affected by cyanobacteria are reduced to zero.</p>	<p>▲ Reef areas affected by cyanobacteria</p>

● **Reduced unsustainable coastal development**

<p>■ Sustainable coastal development By 2030, all coastal developments are in compliance with the regulations set by the zonation plan.</p>	<p>▲ Percentage of coastal developments complying with Zonation Plan</p>
--	--

● **Reduced unsustainable fishing methods**

<p>■ Fishing practices By 2025, 60% of unsustainable fishing practices (poisoning, night fishing and set-size regulations) is reduced in each village</p>	<p>▲ Number of incidences of unsustainable fishing methods</p>
--	--



Helfrich's Dartfish, Nemateleotris helfrichi, in Lau waters

● **Reduced unsustainable land-use – Vakayagataki vakaveitalia ni dela ni Vanua**

■ **Unsustainable land-use**

By 2030, there is no unsustainable land-use (forest fire, use of chemicals, use of inorganic manure, mono-cropping and logging) in accordance with the zonation plan.

- ▲ Number of farmers using inorganic manure
- ▲ Number of farmers using mono-cropping farming practices
- ▲ Number of fire cases reported to Yaubula Committee
- ▲ Number of incidents of encroachment or size of areas encroached on terrestrial managed/protected areas
- ▲ Terrestrial tabu areas effectively protected
- ▲ Virgin rainforest areas effectively protected
- ▲ Acreage registered as organic in accordance with the Pacific Organic Standards

● **Reduced unsustainable tourism**

■ **Sustainable tourism activities**

By 2025, all tourism activities are sustainably coordinated and managed according to the master plan in each island.

- ▲ Number of tourists complying with master plan directives and regulations
- ▲ Number of tourists/visitors records



