Tourism DevelopmentArea 4
Eastern Savaii
Management Plan

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The Treasured Islands of the South Pacific

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EXECUTIVE SUMMARY

This Management Plan identifies and prioritises adaptive measures for tourism management planning for Eastern Savaii, building on the community's vision and integrating climate change adaptation and disaster risk management measures.

Community Vision for Lano

A sustainable and practical tourism development area which recognises, protects and promotes the environmental assets of the area for the benefit of tourists, based on a partnership approach between the community; the tourism operators and the government and accordingly enhances the quality of life for the community of Lano.

We can achieve this through:

1. *working together in partnership to strengthen and preserve current resources;*
2. *improving protection to the coastline and rivers to safeguard the coastal environment and people; and*
3. *building improved tourism attractions based on current natural and cultural resources.*

Community Vision for Manase

A sustainable and practical tourism development area which recognises, protects and promotes the environmental and cultural assets of the area for the benefit of tourists, based on a partnership approach between the community; the tourism operators; and the government and accordingly enhances the quality of life of the Manase community.

We can achieve this through:

1. *improving protection to the coastline to safeguard the coastal environment and people;*
2. *improving promotion of the assets and strengths of Manase to travellers, including non-beach assets such as plantation tours, the view from the hilltop, cultural attractions;*
3. *working together as a community and tourism destination area; and*
4. *Improving access to practical solutions that are enhanced through local knowledge.*

Based on the previous investigations, the community visioning process, further investigations undertaken as part of this project and the timeframes and budget associated with this project a prioritised series of projects has been developed for TDA 4. The recommended adaptation measures have been presented according to the following intervention categories:

- shoreline protection (including enhanced design and siting of tourism facilities and surrounding landscape);
- water resources management;

- Ecosystem responses (including development of climate conscious tourism products, alternative tourism sites and recreational activities); and
- disaster preparedness and emergency facilities in case of disaster events.

Figure 1 below present an overview of the recommended structural options forManase

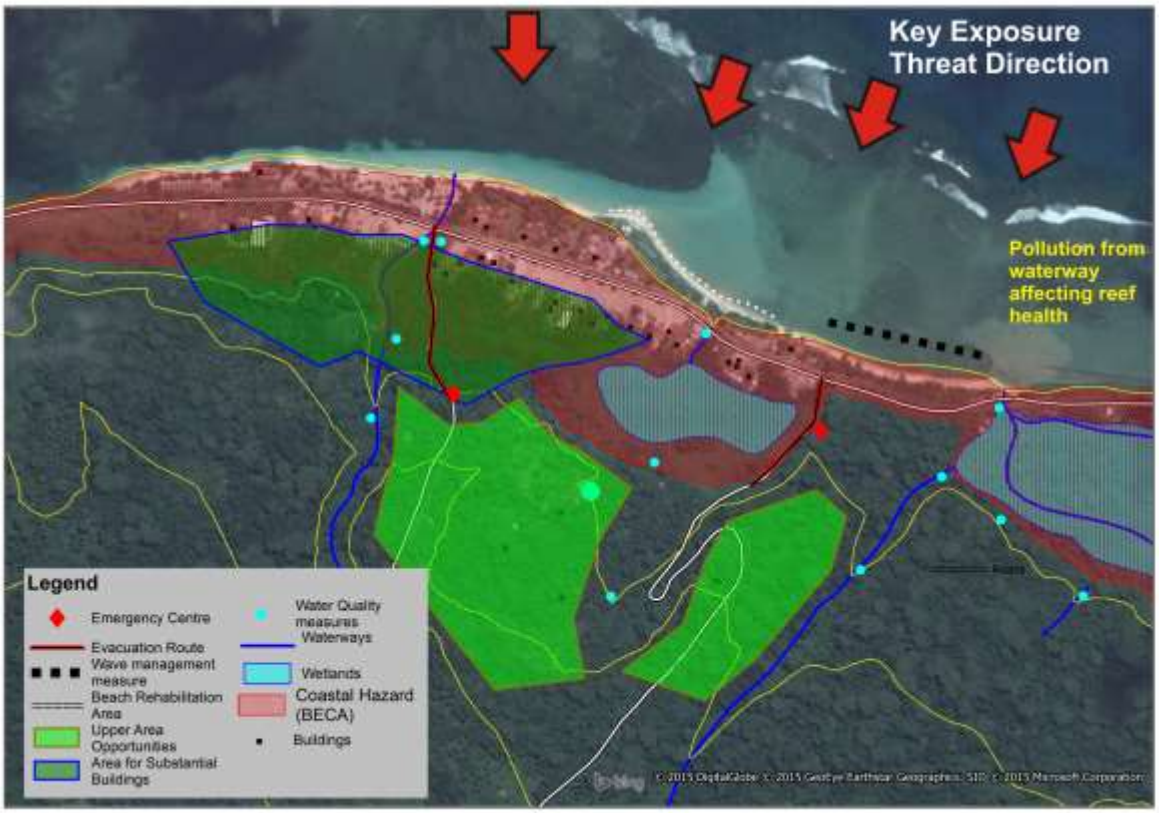

Figure 1 Overview of Structural Management Plan Options for Manase

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ACRONYMS

CEHZ	Coastal Erosion Hazard Zone
CFHZ	Coastal Flooding Hazard Zone
CIM	Coastal Infrastructure Management
DMO	Disaster Management Office
GDP	Gross Domestic Product
GEF	Global Environment Facility
LDCF	Least Developing Countries Fund
MNRE	Ministry of Natural Resources and Environment
M&E	Monitoring and Evaluation
P3D	Participatory 3 Dimensional
STA	Samoa Tourism Authority
TDA4	Tourism Development Area 4 Eastern Savaii
TDA	Tourism Development Area
UNDP	United Nations Development Program

1. INTRODUCTION

This document is a Management Plan prepared for Tourism Development Area 4 Eastern Savaii (TDA 4).This Management Plan should be read in conjunction with the Enhancing the Resilience of Tourism Reliant Communities to Climate Change Risks TDA Management Plan Report ("the Report"), which describes the overall background and methodology for the preparation of Management Plans for six nominated Tourism Development Areas in Samoa. The Management Plan is also supported by the Samoa Tourism Authority's Technical Guidelines for Tourism Operators.

The preparation of this Management Plan is one aspect of the *Enhancing the Resilience of Tourism-Reliant Communities to Climate Change Risks Project ("the Project").* The objective of the overall Project is to enhance the resilience of tourism-reliant communities to climate change risks by integrating climate change into development policy and instruments and investing in adaptation actions supporting tourism reliant communities. The Project recognises that Samoa's tourism sector, which is a mainstay of Samoa's economy and a core contributor to Gross Domestic Product (GDP), is highly vulnerable to the slow onset impacts of climate change.

The Project is being implemented by the Government of Samoa with financial assistance from the Global Environment Facility ("GEF")/Least Developing Countries Fund ("LDCF") through United Nations Development Program (UNDP). The national executing partners are the Samoa Tourism Authority ("the Authority") and the Ministry of Natural Resources and Environment ("MNRE").

This Management Plan identifies and prioritises adaptive measures for tourism management planning for Eastern Savaii, building on the community's vision and integrating climate change adaptation and disaster risk management measures. The Plan focuses on small to medium tourism operators and the communities in which they operate. Some of these measures can be implemented with funding connected to this component of the Project. Other strategies fall outside the scope of this funding. However information and Technical Guidelines have been developed and made available to tourism operators, prospective operators and communities so that they can plan for the implementation of adaptive measures. In some cases tourism operators or groups of tourism operators may use this information to seek funding through other mechanisms including the Tourism Climate Change Small Grants Program.

2. DESCRIPTION OF TDA 4:EASTERN SAVAII

2.1 Community Vision

Tourism Development Area 4 includes the villages of Lano and Manase on north eastern Savaii (see Figure 2.1).

Figure 2.1TDA 4 overview in the context of Savaii

2.2 Community Vision

A community visioning exercise for TDA 4 was undertaken with active participation by tourism operators and community representatives during a four day workshop in March 2015. The workshop utilised a combined approach in which community visioning was conducted by the Samoa Tourism Authority team and Participatory 3 Dimensional (P3D) modelling was facilitated by the P3D team from Ministry of Natural Resources and Environment – Forestry Division. Participants were asked to consider the 'past, present and future' of their Tourism Development Area (TDA) in order to identify common goals and a realistic practical path forward within the constraints of changing climatic conditions. The P3D process enabled participants to contextualise adaptation options according to geographic and physical variables. Figure 2.3 shows the workshop attendees with the model they developed during the workshop.

The community and tourism operators from Manase and Lano came together with consensual 'Vision's for the management of climate change variables in TDA 3: Eastern Savaii. The communities' visions are set out in Figure 2.2.

Community Vision for Lano

A sustainable and practical tourism development area which recognises, protects and promotes the environmental assets of the area for the benefit of tourists, based on a partnership approach between the community; the tourism operators and the government and accordingly enhances the quality of life for the community of Lano.

We can achieve this through:

4. *working together in partnership to strengthen and preserve current resources;*
5. *improving protection to the coastline and rivers to safeguard the coastal environment and people; and*
6. *building improved tourism attractions based on current natural and cultural resources.*

Community Vision for Manase

A sustainable and practical tourism development area which recognises, protects and promotes the environmental and cultural assets of the area for the benefit of tourists, based on a partnership approach between the community; the tourism operators; and the government and accordingly enhances the quality of life of the Manase community.

We can achieve this through:

5. *improving protection to the coastline to safeguard the coastal environment and people;*
6. *improving promotion of the assets and strengths of Manase to travellers, including non-beach assets such as plantation tours, the view from the hilltop, cultural attractions;*
7. *working together as a community and tourism destination area; and*
8. *Improving access to practical solutions that are enhanced through local knowledge.*

Figure 2.2 Community Vision

Figure 2.3 Workshop attendees with P3D model

2.3 Geographic location & characteristics

Manaseis located on the northern most point of the island of Savaii. The area is characterised by a low-lying coral sand beach, inland ridges and coastal plains with extensive wetland and estuary areas and coastal village settlements. Most, but not all, of the district is protected by seawalls. ManaseBeach has been severely eroded by climatic effects. A dam is the main source of water supply for the district. However most inland families rely on water tanks. The reticulated system has decaying and exposed pipes, resulting in a contaminated and irregular water supply.

Saleaula, on the north eastern side of Savaii, sits on a plain that slopes down to the coast from volcanic mountains. Much of the area sits on impermeable lava flows resulting in flooding problems and poor drainage. Opposite the Saleaula village is a sandspit that has developed from the end of the lava flow which is vegetated with coconut palms and scrub. At the end of sandspit is a major entry to a 500m wide lagoon which varies in depth and exposes the village to the north. The Main Road has been built up along the shore and acts as a barrier to direct drainage to the lagoon. Houses on either side of the road are at a lower level and water ponds around houses on the inland side.

Lano is in a low lying coastal district on the eastern side of Savaii. The coastline is characterised by fine sandy beaches and rocky outcrops with scattered wetland and mangrove areas immediately inland. The land to the west, containing a number of small volcanic domes, slowly rises to over 500 metres. The district is unusual in that in some areas there are two reefs, an inner reef within 50 metres of shore and an outer reef up to one kilometre away. These reefs influence tidal flows and sediment transport along the coast. There are no major rivers in the area, although flooding from rainfall is a common problem for the district. As a result of poor drainage swamps or ponds often form behind the main road.

In most of the TDA the main road closely follows the coastline and provides access to services such as local schools, shops and tourist accommodation, as well as to facilities in adjacent districts, such as Tuasivi hospital. The road is located almost entirely within the Coastal Erosion Hazard and Flood zones. It is in good condition and it is a critical part of the island lifeline. However, at the western end of Saleaula the road crosses a stream at a ford which consists of a concrete slab laid at or just above Mean High Tide mark and which floods regularly.

The cash economy within the TDA is dominated by traditional work including subsistence fishing and farming with some cattle farming and plantations inland. Non-traditional work is associated with tourism including the operation of tourist fales.

Figure 2.4 and Figure 2.5 illustrate the CEHZ and CFHZ and the positions of the Main Road in relation to the Manase and Lano communities.

Figure 2.4 Geographic features of Manase

Figure 2.5 Geographic features of Lano

2.4 Visitor trends

The study team has been unable to access records of visitor numbers for Manase, Fagamalo, Saleaula and Lano. At the time of this study there were a few tourists visiting the area.

Online review sites such as Trip Advisor (2015) indicate that the main selling point of the area does not appear to be based on whether the resort offered basic fales or more expensive bungalows. Many travellers expected and welcomed basic 'back to nature' conditions suggesting they were seeking the 'experience' offered.

2.5 Operators' profiles

Within the Eastern Savaii TDA, small to medium tourism operators within the scope of this Management Plan include 9Beach Fale accommodation operators and 2 attraction operators. Table 2.1 lists Tourism Operators targeted in this project based on information provided by STA.

Accommodation Providers	
Joelan Beach Fales  Source: www.tripadvisor.com	***Location:*** Lano ***Number and Type of Fales:*** 18 beach front traditional fales providing 40 beds ***Facilities and Services:*** shared facilities dining fale ***Tourist Experience Offered*** beach snorkelling
Lauiula Beach Fales  Source: www.samoa.travel	***Location:*** Lano ***Number and Type of Fales:*** 14 open beach fales with traditional blinds providing 64 beds ***Facilities and Services:*** on-site restaurant shared facilities canoeing Fiafia night ***Tourist Experience Offered*** beach snorkelling
Regina Beach Fales  Source: www.tripadvisor.co.uk	***Location:*** Manase ***Number and Type of Fales:*** 12 open beach fales providing 26 beds ***Facilities and Services:*** shared facilities dining fale ***Tourist Experience Offered*** beach snorkelling

Accommodation Providers	
Vacations Beach Fales  Source: www.tripadvisor.com	***Location:*** Manase ***Number and Type of Fales:*** 14 fales (beachfront and garden) providing 34 beds ***Facilities and Services:*** shared facilities, dining fale, water tanks ***Tourist Experience Offered*** beach, snorkelling, sea turtles visit at high tide
Tailua Beach Fales  Source: www.samoa.travel	***Location:*** Manase ***Number and Type of Fales:*** 10 traditional fales providing 30 beds ***Facilities and Services:*** shared facilities ***Tourist Experience Offered*** beach, snorkelling
Jane's Beach Fales  Source: www.tripadvisor.com  Source: www.tripadvisor.com	***Location:*** Manase ***Number and Type of Fales:*** 27 bungalows and fales providing 54 beds ***Facilities and Services:*** shared facilities, dining fale, water tanks ***Tourist Experience Offered*** beach, snorkelling

Accommodation Providers	
Tanu Beach Fales  Source: www.needtoescape.com	***Location:*** Manase ***Number and Type of Fales:*** 49 fales providing 98 beds ***Facilities and Services:*** shared facilities dining fale ***Tourist Experience Offered*** beach snorkelling
Stevenson's at Manase  Source: www.tripadvisor.com	***Location:*** Manase ***Number and Type of Fales:*** 26 bungalows and villas with ensuites and beach fales providing 52 beds. ***Facilities and Services:*** dining fale and bar activity fale shared facilities ***Tourist Experience Offered*** Beach Snorkelling Sea wall to limit sand erosion Restaurant and Bar on the inland side of the road
Attractions	
Salealula Lave Ruins  Source: www.instawebgram.com	***Location:*** Saleaula ***Description:*** Lava fields, church ruins and grave site. ***Facilities and Services:*** Open to the public for a small fee Toilets Parking area

Attractions		
Mataolealelo Pool  Source: www.samoa.travel	***Location:*** ***Description:*** ***Facilities and Services:***	MatavaiSafune Two freshwater spring pools on the edge of a lagoon Open to the public for a fee per vehicle Change rooms and toilets
Swimming with Turtles  Source: www.tripadvisor.co.nz	***Location:*** ***Description:*** ***Facilities and Services:***	MatavaiSafune Enclosed rock wall pool located in a coastal estuary and wetland ecosystem. Turtles and tilapia can be seen from a viewing fale and visitors can swim in the pool with the turtles. Open to the public for a small fee Change rooms and toilets

Table 2.1 TDA 1 Tourism Operators targeted in this Management Plan

2.6 Potential for Diversification of Tourism Offerings

Tourism within TDA 4generally focuses on providing beach experiences and access to the reef lagoon for tourists. However there is potential for diversification of the tourist products on offer within TDA 4 to include Salealula Lava Fields,Mauga Crater, climbing Mount Matavanu,cultural attractions, provision of food (both raw and cooked) and traditional activities such as explaining and or demonstrating traditional massage, handicrafts and tattoo.

3. CLIMATE CHANGE VULNERABILITY AND ADAPTATION MEASURES

3.1 Overview

This Management Plan builds on work previously undertaken as part of the *Enhancing the Resilience of Tourism-Reliance Communities to Climate Change Risks Project* (the Project) which described hazards, risks and vulnerabilities for existing tourism assets within TDA 4 and identified existing climate adaptation mechanisms as well as further adaptation options IPA 2015a and IPA 2015b). The Project's Implementation Plan (IPA 2015b) describes the key focus for Eastern Savaii as **beach erosion and need for various protection measures**.

Key climate change related concerns in this TDA include:

- storm wave surge leading to coastal erosion and flooding;
- flooding from the extensive wetland areas behind the villages;
- surface run-off during periods of heavy rain and cyclones leading to coastal erosion and flooding and siltation of the inshore reef;
- sand accretion in particular the Saleaulasandspit is extending towards the western coastline creating an enclosed lagoon, affecting the ability of the seawater to be flushed from the lagoon and resulting in increased growth of sea grass in the lagoon and the beach area;
- buildings and structures are vulnerable to complete destruction during cyclones and storm surge;
- polluted flood waters and run-off impacting on the reef affecting the first line of defence against extreme events;
- households frequently rely on rainwater capture because the reticulated water supply is unreliable thus water security is a significant issue during periods of low rainfall;
- households discharging wastewater and effluent and disposing of rubbish into the wetland areas.

The recommended adaptive measures in this Management Plan take into account initiatives which impact on climate change resilience in Eastern Savaiiidentified through a range of international, national and local projects. Information provided during the recent community visioning exercise has been reviewed in conjunction with previous initiativesand analysis of this information is grouped into categories in line with the following intervention areas:

- shoreline protection (including enhanced design and siting of tourism facilities and surrounding landscape);
- water resources management;
- Ecosystem responses (including development of climate conscious tourism products, alternative tourism sites and recreational activities); and
- disaster preparedness and emergency facilities in case of disaster events.

3.2 Shoreline protection

3.2.1 Shoreline protection

During the visioning process the communities of both Lano and Manase identified improved protection to the coastline to safeguard the coastal environment and people as a strategy to achieve the community's vision of sustainable tourism. The Lano community also included

protection of the river as a strategy to achieve this vision. During community consultations participants identified sand erosion, particularly at Manase, as a threat to the tourism industry. Some participants thought additional retention walls would reduce sand erosion.

The Menu of Adaptation Options (IPA 2015b) previously developed for The Project assesses and prioritises the following adaptation options out of a possible score of 25:

- Government and village to ban/control sand mining operations affecting coastal areas 22/25;
- upgrade existing culverts to help reduce impact on the coastline from inland flooding – 21/25;
- improve coral reef system protection by educating villages; coral gardening and coordination between Fisheries and the village community - 20/25;
- initiate appropriate village replanting programmes for coastal areas to form bio-shields and improve stability – 18/25;
- Sandwatch programme training for tourism operators and communities - 18/25;
- Appropriate coastal protection system tied in with a buffer green belt designed for possible construction – 17/25;
- Rock revetment – 17/25;
- Elcorock revetment – 17/25;
- Beach replenishment or beach replenishment with control structures – 17/25.

The CIM Implementation Guidelines (MNRE IAMP-1 & MNRE SIAM-2) recommended extending the engineered seawall on the western end of Manase by 50 metres to increase the buffer for the road. The Guidelines also recommended villages and families identify and plant areas where revegetation will help trap sand and that sand mining is managed. The Guidelines suggested changes to the village beautification competition to reduce the removal of sand from the beach for beautification purposes.

Adaptive measures that have been implemented include:

- Some operators have placed retention walls between the fales and the beach to protect the sand from erosion
- In an attempt to reduce sand erosion, sea walls have been constructed in many areas, including at some of the resorts
- The CIM Status Review Report (Williams &Faasau 2014) notes that there has been replanting of mangroves in some coastal areas within the TDA
- The CIM Status Review Report (Williams &Faasau 2014) reports construction of some seawalls in the TDA. Extension of the seawall at Manase was under construction in April 2015.
- Given the significant impacts on the coastline and the risk to tourism operators, Manase has been given priority to implement an appropriate coastal protection system and significant engineered structural options have been recommended (Tonkin & Taylor 2014).

3.2.2 Enhanced design and siting of tourism facilities and surrounding landscape

One of the strategies identified by the Lano community to achieve sustainable tourism is to work together to strengthen and preserve current resources. Participants in the community visioning process noted that much of the TDA is subject to coastal flooding and flooding from the wetland behind the villages.

CIM Implementation Guidelines (MNRE IAMP-1 & MNRE SIAM-2)recommended that when buildings require replacement they are located outside the CEHZ and the CFHZ and that the design of

buildings that require replacement but which are not going to be relocated or set back from the CEHZ and the CFHZ take into account the potential for damage from coastal erosion and flooding. They also recommend steps are taken to prevent structures being built in overland flow paths.

Adaptive measures that have been implemented include:

- The *Minimum Accommodation Standards for Beach Fales*were strengthened as part of the *Tourism Tsunami Rebuilding Program* which adopted a build back better approach. The revised Standards also specify the minimum distance from the high water mark for septic tanks.

3.3 Water resource management

Participants in the community consultation explained that the piped water supply is at risk of damage during cyclones and storm surges. They suggested that more water tanks would address this issue.

The Menu of Adaptation Options (IPA 2015b) previously developed for The Project assessed the priority of a range of adaptation options and assigned a possible score out of 25 to each option (ie the higher the score the greater the priority). The Menu identifies the following options in TDA 4:

- encourage riparian planting along rivers and streams – 22/25.

CIM Implementation Guidelines (MNRE IAMP-1 & MNRE SIAM-2)recommended the upgrade of the water pipe at Muliolo River crossing.

Adaptive measures that have been implemented include:

- The CIM Status ReviewReport(Williams &Faasau 2014)notes that some villages within the TDA have improved water supply as a result of the provision of water tanks.

3.4 EcoSystem Based Responses including Development of climate conscious tourism products, alternative tourism sites and recreational activities

During the visioning process the Lano community identified building improved tourism attractions based on natural and cultural resources as a strategy to achieve the community's vision of sustainable and practical tourism. Similarly the Manse community identified improved promotion of the assets and strengths of Manase to travellers including non-beach assets such as plantation tours, the view from the hilltop and cultural attractions. During the consultation process operators noted that tourist number were down compared to the past. It was suggested that tourism operators needed to work better together. Participants also noted that the tidal flows to the turtle pools, one of the key non-beach attractions in the area, is blocked possibly threatening the health of the turtles which causes concern for tourists.

The Menu of Adaptation Options (IPA 2015b) previously developed for The Project assesses and prioritises the following adaptation options out of a possible score of 25:

- maintain turtle conservation area to provide optimum safe conditions for turtle breeding and implement an appropriate breeding programme – 17/25.

Relevant to issues of access for tourists, the CIM Implementation Guidelines (MNRE IAMP-1 & MNRE SIAM-2)make a range of recommendations related to moving the road, replacing the bridge and managing drainage culverts to address issues related to flooding.

Adaptive measures that have been implemented include:

- The CIM Status ReviewReport (Williams &Faasau 2014)reportsthat there has been improvement in drainage and safety on some sections of the road within the TDA.

3.5 Disaster preparedness and emergency facilities in case of disaster events

During community consultations participants noted that the 'escape' road behind Manase is overgrown and can only be accessed by four wheel drive.

CIM Implementation Guidelines (MNRE IAMP-1 & MNRE SIAM-2)recommended that new schools and churches be upgraded to avoid flooding to and allow permanent access and use as safe houses during cyclones.

Adaptive measures that have been implemented include:

- Some resorts have constructed a 'safe' house on the hill behind the beach.

4. RECOMMENDED ADAPTATION MEASURES FOR IMPLEMENTATION

4.1 General

Based on the previous investigations, the community visioning process, further investigations undertaken as part of this project and the timeframes and budget associated with this project a prioritised series of projects has been developed for TDA 4. The recommended adaptation measures have been presented according to the following intervention categories:

- shoreline protection (including enhanced design and siting of tourism facilities and surrounding landscape);
- water resources management;
- Ecosystem responses (including development of climate conscious tourism products, alternative tourism sites and recreational activities); and
- disaster preparedness and emergency facilities in case of disaster events.

4.2 Discussion

The recommendations in this section take into account the current focus of tourism products in TDA 4. Beach and offering beachfront accommodation and shelter have underpinned the development of tourism in this TDA. However, the TDA's resilience to climate change could be enhanced through diversification of tourism products. As such this Management Plan contains recommendations relevant to diversifying tourism products and supporting business development for tourism operators, potential operators and those who carry out business within the supply and value chain.

Previous work identified the focus for this TDA as beach erosion and need for various protection measures. While hard engineering solutions have been developed, there continues to be scope for landscaping initiatives to not only improve resilience of the foreshore, but to improve the aesthetics and privacy of tourism facilities. Given the significant impacts on the coastline in this area measures relating to building design and siting could be implemented.

4.3 Recommendations

Figure 4.1 present an overview of structural options recommended for Manase inclusion in the Management Plan for TDA 4.

Table 4.1provides a summary list of the actions that have been prioritised for implementation as part of this project and also those that may be suitable for the Tourism Climate Change Small Grants Program.

Table 4.2 presents a proposed timeline for implementation of the prioritised actions.

Table 4.3 provides a summary list of adaptive actions that emerged from the preparation of the Management Plans. It is recommended that where possible, STA support tourism operators to make approaches to the relevant project or government organisation to facilitate inclusion of those actions in other projects or programs.

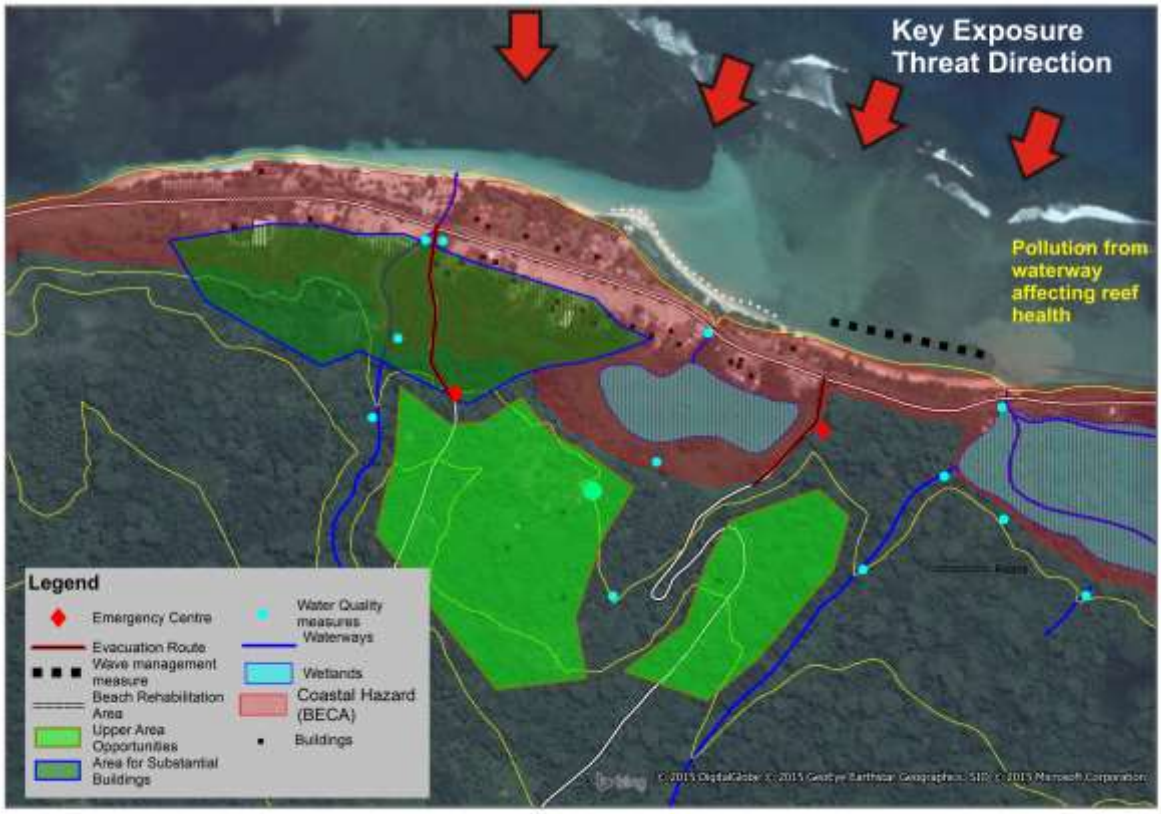

Figure 4.1 Overview of Structural Management Plan Options for Manase

Table 4.1 Priority Activities to take place under the Enhancing the Resilience of Tourism Reliant Communities to Climate Change Risk Project

Activity	Outputs	Targeted (Operator/Prospective Operator/Community)	Priority	Commence	Duration	Budget Allocation (USD)	Relevant Technical Guideline
Shoreline Protection							
Knowledge sharing and transfer for tourism operators and community members in strategies and techniques to **protect the shoreline** and improve coastal defences including sea-wall construction and wave protection measures to reduce vulnerability.	Workshops developed and delivered to tourism operators and tourism reliant communities to share knowledge about shoreline protection.	Tourism operators and communities	Medium	January 2016	12 months	$10,000	5
Utilising *Revegetation and Landscaping Technical Guidelines for Tourism Operators*, establish demonstration sites for **landscaping initiatives along the shoreline**including planting of vegetation and bio-shields to assist with **increasing the resilience of the foreshore:**	Revegetated foreshore demonstration site established in conjunction with each tourism operator	Tourist operators	Medium	January 2016	18 months	$46,830	5
Utilising *Monitoring the Beach Technical Guidelines for Tourism Operators,* implementation of a Sandwatch (or equivalent) program for ongoing **beach monitoring** and knowledge transfer about beach	Ongoing monitoring program, including use of education tools, established in each village	Community	High	September 2015	18 months	$10,000	5

Activity	Outputs	Targeted (Operator/Prospective Operator/Community)	Priority	Commence	Duration	Budget Allocation (USD)	Relevant Technical Guideline
conditions							
Enhanced Design and Siting of Tourism Facilities and Surrounding Landscape							
Improved climate resilience of tourism related buildings, such as beach fales, sanitation facilities and associated structures by implementation of prioritised elements of **Climate Conscious Sustainability Plans** by individual tourism operators or groups of tourism operators.	1. Training developed and deliveredfor tourism operators about climate smart design, siting and standards and the application of the *Climate Smart Design and Siting Technical Guidelines for Tourism Operators*. 2. Tourism operators assisted to develop long term **Climate Conscious Sustainability Plans** utilising *Planned Retreat Technical Guidelines for Tourism Operators*. 3. Prioritised elements of Climate Conscious Sustainability Plans implemented.	Tourist operators	High	September 2015	2-3 years	$20,000	3
Water Resources Management							
Improved Water Security development of an **Integrated Rainwater Use and Capture Plan** for each tourism facility.	1. Training developed and deliveredfor tourism operators in integrated water resource management techniques including the application of the *Water Resources Security Technical Guidelinesfor Tourism Operators*.	Tourist operators	High	September 2015	6 months		4

Activity	Outputs	Targeted (Operator/Prospective Operator/Community)	Priority	Commence	Duration	Budget Allocation (USD)	Relevant Technical Guideline
	2. Tourism operators assisted to develop **Integrated Rainwater Use and Capture Plan**utilising *Water Resources Security Technical Guidelinesfor Tourism Operators*.						
Implementation of **Integrated Rainwater Use and Capture Plans** through installation of water tanks, guttering, pumps, filters etc by individual accommodation providers or groups of accommodation providers.	Individual tourism operators or groups of tourism operators make application through the Tourism Climate Change Small Grants Scheme.	Tourist operators	High	September 2015	12 months	Tourism Climate Change Small Grants Scheme	4
Utilising *Revegetation and Landscaping Technical Guidelines for Tourism Operators,* establish demonstration sites for **landscaping initiatives around waterways and estuaries** including planting of vegetation and bio-shields to assist with increasing the resilience of waterways and improved water quality.	Revegetated foreshore demonstration sites established in conjunction with each village	Community	Medium	January 2015	18 months		4
Utilising *Revegetation and Landscaping Technical Guidelines for Tourism Operators,* establish demonstration sites for **landscaping initiatives to enhance forest assets**	Revegetated foreshore demonstration sites established in conjunction with each village	Community	Medium	January 2015	18 months		4

Activity	Outputs	Targeted (Operator/Prospective Operator/Community)	Priority	Commence	Duration	Budget Allocation (USD)	Relevant Technical Guideline
through including planting of vegetation and bio-shields to assist with decreased soil erosion and improved water quality.							
Eco System Based Responses including Development of Climate Conscious Tourism Products, alternative Tourism Sites and Recreational Activities							
Develop and deliver **climate change resilience training** for tourism operators and prospective tourism operators	Training in climate change resilience developed and delivered to tourism operators and prospective tourism operators.	Tourism operators and prospective tourism operators	High	September 2015	12 months		6
Building on the outcomes of the Participatory 3D Mapping and previous work by STA and with ongoing consultation with the community, develop implementation plan for tourism opportunities based on **cultural, archaeological and natural attraction identification development study**	1. Cultural, archaeological and natural attraction development study undertaken in consultation with the community 2. Implementation plan developed	Community	Medium	January 2016	18 months		6
Assist tourism operators, prospective tourism operators and villages to increase climate change resilience of local tourism by diversifying tourism offerings through: • **development of climate**	Useful resources and support available to tourism operators and prospective tourism operators who are considering diversifying tourism offerings or developing services within the tourism supply and value chain	Tourism operators, prospective tourism operators and community	Medium	January 2016	2 -3 years		6

Activity	Outputs	Targeted (Operator/Prospective Operator/Community)	Priority	Commence	Duration	Budget Allocation (USD)	Relevant Technical Guideline
conscious tourism products based on cultural, archaeological and natural resources identification. • identifying and planning for **infrastructure requirements to support diversified tourism activities** • identifying pathways for funding the design and construction of those requirements. • building sustainability of diversified tourism offerings through facilitating access to "**Business Incubator**" support for businesses or prospective businesses within the tourism supply and value chain, addressing o Business management and marketing o Mentoring/support • Regulatory framework							
Disaster Preparedness and Emergency Facilities in Case of Disaster Events							

Activity	Outputs	Targeted (Operator/Prospective Operator/Community)	Priority	Commence	Duration	Budget Allocation (USD)	Relevant Technical Guideline
Improve **warning/escape route signage** in tourist accommodation.	Adequate written information about escape routes and procedures displayed for guests in tourist accommodation	Tourist operators	High	September 2015	6 months		-

Table 4.2 Timeline for implementation of prioritised activities

Item	Description	2015						2016												2017											
		7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
3	Training Program - Climate Resilience																														
4	Training Program - Climate Smart Design																														
5	Ongoing Monitoring (Sandwatch) Program																														
7	Foreshore Revegetation Site																														
9	Climate Conscious Sustainability Plans																														
10	Cultural and Natural Asset Identification																														
11	Climate Conscious Tourism Products																														

Table 4.3 Activities identified during the Enhancing the Resilience of Tourism Reliant Communities to Climate Change Risk Project to be referred to other Projects or Organisation

Activity	Action Targeted (Operator/Prospective Operator/Community)	Priority	Commence
Shoreline Protection			
Review existing coastal defences and access structures and plan for development and implementation of appropriate new access structures and coastal defences	continued implementation of recommendations in Shoreline Protection and Implementation Plan for Manase	Medium	2-5 years
Coral seeding and crown of thorn removal to improve the resilience and barrier role of reefs	support an approach to MNRE Forestry Division	Low	1-3 years
Improved enforcement of environmental protection legislation and agreements eg sand mining, land clearing, wetland management and protection, marine conservation areas	recommend consideration as part of the Village Sustainability Plans	High	1-3 years
Re-establish Marine Protection Areas	support an approach to MNRE	Low	1-3 years
Water Resources Management			
Establish **emergency water supplies** within villages through development of agreed processes and installation of the necessary infrastructure (tanks, guttering) to capture run off from identified large roof area (eg school, church)	Recommend consideration as part of Village Sustainability Plan and support approaches to: • Red Cross • Civil Society Support Program	High	18 months
Development of Climate Conscious Tourism Products, alternative Tourism Sites and Recreational Activities			
Identify and develop **market niche** for the TDA reflecting diversified tourism offerings and developing **marketing plan for TDA** within broader Samoan tourism brand.	recommend consideration by STA	Medium	1-3 years

Disaster Preparedness and Emergency Facilities in Case of Disaster Events			
Build/complete/maintain **escape routes**	Recommend consideration as part of the Village Sustainability Plans and support an approach to DMO	High	6 months
Improve **warning/escape route signage** within villages and along access and escape routes.	Recommend consideration as part of the Village Sustainability Plans and support an approach to DMO	High	6 months
Appropriate **siren** and location of siren in each village	Support an approach to DMO	High	6 months
Appoint and train 1 to 2 community **disaster wardens** per village	Recommend consideration as part of the Village Sustainability Plans and support an approach to DMO	Medium	12 months
Construct **disaster/safe houses** for each village including first aid centre.	Recommend consideration as part of the Village Sustainability Plans and support an approach to DMO	Low	1-3 years

5. MONITORING AND EVALUATION

Specific Monitoring and Evaluation (M&E) recommendations do not form part of this current project. However, it is understood that M&E will be undertaken consistent with the overall M&E measures as detailed withinTable 4 of IPA 2015b.

6. REFERENCES

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