National Tourism Climate Change Adaptation Strategy for Samoa 2012 – 2017

Australian AID

SAMOA
The Treasured Islands of the South Pacific

National Tourism Climate Change Adaptation Strategy for Samoa 2012-2017

Prepared by: Samoa Tourism Authority

Technical Assistance: Pacific Environment Consultants Ltd (PECL) and KVAConsult Ltd (KVAConsult) Association

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Foreword

Samoa, like several other Pacific Island countries, has in recent times been severely affected by extreme weather events and natural disasters. The tsunami of 29 September 2009, although not directly related to climate change, caused significant loss of life and property in Samoa, American Samoa and Tonga. However, the Government of Samoa, with the generous support of our traditional partners (such as the Governments of Australia and New Zealand), donor agencies and organisations as well as friends here and abroad, are leading the rebuilding process, including the tourism sector.

The Government of Samoa continues to consider Tourism a key priority area for its economic development. It is the leading sector in foreign exchange earnings, employment and revenue generation and it generates opportunities for the conservation and preservation of Samoa's natural resources, landscapes and culture. But Samoa's natural and built environments that are critical to tourism development are under serious threat from the impacts of climate change.

The Tourism sector has been severely affected by climatic events such as cyclones, flooding and beach erosion in 1990, 1991 and in 2004. The damage and disruption to public infrastructure such as roads, communication facilities, power and water supplies- that are so vital to the tourism sector cost millions of dollars to repair. These impacts will continue and even intensify as climatic events increase as a result of global warming.

The high vulnerability of the tourism sector to the impacts of climate change underscores the need to effectively build the sector's capacity to be more adaptive and resilient to these kinds of impacts. This Strategy will help build and increase the resilience and capacity of the tourism sector to adapt, respond, prepare and recover more quickly from the impacts of climate change and natural disasters.

The Strategy has taken the lessons learned from past climatic events and the 2009 tsunami to formulate a strategic approach to addressing the impacts of climate change. Central to this approach is the message for closer cooperation and collaboration between all the stakeholders as their ownership and support will make the Strategy more relevant and stronger - if it is owned and endorsed by all the stakeholders. To this end, the Strategy has tried to capture the goals and expectations of the key stakeholders including Government, the private sector, NGOs and local communities who will individually and collectively contribute to its implementation.

The climate change challenge is enormous, but I am confident that together, we can progressively build a tourism sector that is able to confront this challenge head on.

Tuilaepa Fatialofa Lupesoliai Sailele Malielegaoi
Prime Minister and Minister of Tourism

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List of Acronyms

ADB	Asian Development Bank
AF	Adaptation Fund
AG	Office of the Attorney General
APTC	Australia Pacific Technical College
AUD$	Australian Dollar
AusAID	Australian Agency for International Development
CC	Climate Change
CCAWP	Climate Change Adaptation Work Plan
CCSDP	Community-Centred Sustainable Development Programme
CEHZ	Coastal Erosion Hazard Zone
CFHZ	Coastal Flooding Hazard Zone
CI	Conservation International
CIM	Coastal Infrastructure Management
CIMPS	Coastal Infrastructure Management Plan
CRIP	Climate Resilience Investment Programme
CSIRO	Commonwealth Science and Industrial Research Organisation
DMO	Disaster Management Office
DP	Development Partners
DTIS	Diagnostic Trade Integrated Study
EACC	Economics of Adaptation to Climate Change
EIA	Environmental Impact Assessment
EIF	Enhanced Integrated Framework for Trade
EPC	Electric Power Corporation
ERP	Tsunami Early Recovery Project
EWS	Early Warning System
FESA	Fire and Emergency Services Authority
GDP	Gross Domestic Product
GEF	Global Environment Facility
GHG	Greenhouse Gas
GoS	Government of Samoa
ICCRIFS	Integration of Climate Change Risk and Resilience into Forestry Management
ICT	Information and Communications Technology
IFC	International Finance Corporation
IPCC	Inter-Governmental Panel on Climate Change
JICA	Japan International Cooperation Agency
KBA	Key Biodiversity Areas
LDCF	Least Developed Countries Fund
LDCF/GEF	Least Developed Countries Fund/ Global Environment Facility
LTA	Land Transport Authority
M&E	Monitoring and Evaluation
MAF	Ministry of Agriculture and Fisheries
MCIL	Ministry of Commerce Industry and Labour
MCIT	Ministry of Communications and Information Technology
MCO	Multi Country Office
MDG	Millennium Development Goals
MESC	Ministry of Education, Sports and Culture
MET	Meteorology Office
METI	Matuaileoo Environment Trust Incorporated
MFAT	Ministry of Foreign Affairs and Trade

MNRE	Ministry of Natural Resources and Environment
MoF	Ministry of Finance
MOU	Memorandum of Understanding
MPA	Marine Protected Areas
MWCSD	Ministry of Women, Community and Social Development
MWTI	Ministry of Works, Transport and Infrastructure
NAPA	National Adaptation Plan of Action
NBC	National Beautification Committee
NCCCT	National Climate Change Country Team
NDMP	National Disaster Management Plan
NGO	Non-Government Organisation
NOAA	National Oceanic and Atmospheric Administration
NTCCASS	National Tourism Climate Change Adaptation Strategy for Samoa
NUSIoT	National University of Samoa Institute of Technology
NZAP	New Zealand Aid Programme
NZD$	New Zealand Dollar
OLSSI	O Le Siosiomaga Society Incorporated
PACC	Pacific Adaptation to Climate Change Project
PCCP	ADB Pacific Climate Change Programme
PCCSP	Pacific Climate Change Science Programme
PIF	Project Identification Form
PPCR	World Bank Pilot Program for Climate Resilience
PSSF	Private Sector Support Facility
PUMA	Planning and Urban Management Agency
SAME	Samoa Association of Manufacturers and Exporters
SAS	Samoa Accommodation Standards
SBEC	Small Business Enterprise Centre
SCCF	Special Climate Change Fund
SDS	Strategy for the Development of Samoa
SGP-CBA	Small Grants Programme – Community Based Adaptation
SHA	Samoa Hotel Association
SLM	Sustainable Land Management
SOE	State Owned Enterprises
SOPAC	Applied Geoscience and Technology Division of the SPC
SPC CepaCT	Secretariat of the Pacific Community Centre for Pacific Crops and Trees
SPC/GTZ	Secretariat of the Pacific Community/ Deutsche Gesellschaft für Technische Zusammenarbeit
SPREP	South Pacific Regional Environment Programme
SPTO	South Pacific Tourism Organisation
SSTA	Savaii Samoa Tourism Association
ST$	Samoan Tala
STA	Samoa Tourism Authority
STSP	Samoa Tourism Support Programme by NZAP
SUNGO	Samoa Umbrella for Non-Governmental Organisations
SWA	Samoa Water Authority
TCCT	Tourism Climate Change Taskforce
TCCPU	Tourism Climate Change Project Unit within STA
TDA	Tourism Development Area
TDP	Tourism Development Plan
TMT	Tourism Marketing Taskforce
ToR	Terms of Reference

TSC	Tourism Sector Steering Committee
TSP	Trade Sector Plan
TTRP	Tourism Tsunami Re-Building Programme
TTT	Tourism Training Taskforce
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
USD$	United States Dollar
USP	University of the South Pacific
WB	World Bank
WIBDI	Women in Business Development Incorporated

Executive Summary

Purpose of the Strategy

1. The purpose of the National Tourism Climate Change Adaptation Strategy for Samoa (NTCCASS) 2012 - 2017 (the Strategy) is to provide clear and practical solutions on how the Tourism Sector in Samoa can best adapt to and prepare for the impacts of climate change. It draws on the information gathered from the review of technical reports, studies and impact assessments as well as from extensive consultations with tourism operators, Government Ministries and Corporations, Non Government Organisations (NGOs), the private sector and local communities, to determine the current situation and learn from past experiences so that an effective and positive way forward can be delivered.

2. The underlying theme of the Strategy – ***'Building resilience against climate change'*** – runs extensively throughout the document. It builds upon the National Adaptation Plan of Action (NAPA) document which aims to provide strategic direction for the tourism sector in terms of increasing its resilience and capacity to adapt to the adverse impacts of climate change and will provide the basis for the Samoa Tourism Authority (STA) to make informed decisions and policies through clearly identified short and long term priorities in the area of climate change. It includes some specific recommendations on how the sector can best prepare itself to adapt to the impacts of climate change and calls on all parties involved in the sector to use the Strategy to guide their current, planned and future work. In this regard, the Strategy is considered a "Living Document" that could be added to and built upon as new challenges and solutions are unveiled. The Principles of collaboration and partnership embodied in the Strategy should apply to investment in and implementation of all tourism development operations at local and national levels. It is through collaboration and partnership that we will be able to meet the challenge imposed on us by climate change and climatic events.

3. The Strategy is the tourism sector's contribution towards the implementation of Priority 9 (Tourism) of Samoa's (NAPA) Under the NAPA 4 implementation which aims to safeguard human development in Samoa from risks associated with climate change on planning, water resources, fire prevention and tourism sectors whilst simultaneously reducing Greenhouse Gas (GHG) emissions across these sectors. While the Strategy development and some implementation is financed from the Samoa – Australia Partnership for Development Programme (NAPA 4), a total funding of USD$2.5million through the NAPA 5 Global Environment Facility (GEF) Least Developed Country Fund (LDCF) has been secured to support some of its activities. The Strategy will also serve to mobilize further resources for implementation.

4. Considering the importance of the tourism sector for the development of Samoa's economy as outlined in the Strategy for the Development of Samoa (SDS) 2008 - 2012 , this Strategy is a planning tool which supports the initiatives identified in the Samoa Tourism Development Plan (STDP) 2009 – 2013 which identifies climate change as one of the key risks to the development of the sector. As part of the formulation of the Strategy, analysis of key tourism policies such as the TDP, Tourism Development Bill and others were carried out and recommendations for mainstreaming climate change adaptation are documented in the Mainstreaming Report.

5. The development of the NTCCASS involved:
   - Tourism site inspections and rapid assessments of 74 selected tourism properties (44 on Upolu, 2 on Manono and 28 on Savaii) carried out in July-August 2011 to determine the

climate change related impacts on land and properties visited and where possible identify practical solutions that are likely to help address some of the impacts already affecting the sites. The detailed outcomes of these visits are detailed in the Site Inspection and Assessment Report dated August 2011.

- The tourism site inspections and rapid assessments also involved consultations with property owners and/or senior staff.
- The situational analysis was undertaken and benefited immensely from the review of past climate change impact assessments including Vulnerability and Adaptation studies undertaken for the Agriculture, Fisheries, Health, and Infrastructure sectors as well as the Coastal Infrastructure Management Plans (CIMPs) and others.
- Consultations with the Tourism Climate Change Taskforce (TCCT), relevant government agencies, NGOs, donor governments and international organisations were also carried out to ensure synergies between the NTCCASS and other on-going or proposed climate change related initiatives in Samoa.

Tourism's Contribution to Samoa's Economy

6. With the recent downturns in agriculture and fisheries industries, tourism has become an exceptionally important sector for the future economic development of Samoa particularly in generating employment and foreign exchange earnings. Gross tourism earnings in 2010 increased to ST$308.1 million compared to ST$288.4 million in 2008[1].

7. Tourism represents around 30% of Samoa's Gross Domestic Product providing livelihood to many local businesses in the accommodation, catering and transportation sub-sectors, providing opportunities through its knock-off effects in the tourism value chain, such as handicrafts, agricultural production, communication services, and etcetera. The benefits from tourism nationally and for local communities go well beyond direct economic impacts. The injection of new money into the local economy creates opportunities to re-spend and as such, larger benefits are retained within the communities. Tourism being a labour intensive industry providing 5,400 direct employments (10% of national employment) creates many job opportunities especially for young people who are then encouraged to stay in local communities. Tourism therefore is a major force too for retaining population in rural areas.[2]

Overview of Climate Change Trends in Samoa and Impacts on the Tourism Sector

8. Climate change is one of the greatest challenges facing humanity in the 21st century. Failure to meet this challenge raises the spectre of unprecedented reversals in human development.

9. Samoa is highly vulnerable to the impacts of climate change, in particular sea level rise and extreme events. Samoa has and continues to experience the impacts of climatic events such as cyclones, storm surges, windstorms, high rainfall, droughts and El-Nino-like conditions. The majority of human settlements and development are located along the coast line, often in low lying areas. These coastal features and characteristics are particularly vulnerable to the projected increase in occurrence and intensity of climate change related events. In addition to significant coastal impacts, climate change is affecting our island biodiversity, soils and water supplies. These impacts are exacerbated due to factors such as low adaptive capacity, high sensitivity to external shocks and high vulnerability to natural disasters. Coupled with over-exploitation of resources, increasing urbanisation and poorly planned development projects,

[1] *Samoa Tourism Authority, Research and Statistics Division 2010*
[2] *Samoa-UNDP /GEF-LDCF Project Identification Form (PIF) 2011*

the compounding effects of climate change on the tourism sector could be devastating and widespread.

10. Samoa's iconic natural attractions, ranging from pristine beaches to cascading waterfalls and crystal clear blue seas are threatened by the increased likelihood of sea level rise, droughts, flooding, increasing average temperatures and more intense cyclone activity. Also threatened by these climate change impacts are several socio-economic factors important to the tourism sector such as access to reliable food and water supply, transport and infrastructure services and health and hygiene. Local cultural factors, that are part of what makes Samoa a unique and attractive place for tourists, such as community pride in the living environment demonstrated through the beautiful gardens and well kept villages, the distinctive architecture of the Samoan Fales, as well as the easy going relaxed way of life, are also at risk of being threatened by the impacts of climate change.

Current Risks and Vulnerabilities of the Tourism Sector

11. Consultations and site inspections of tourism operations on Upolu, Manono and Savaii confirmed that a large number of tourism operations are already at risk from the impacts of climate change. Beach erosion, flooding, and sea level rise are causing problems for beach fale operations and some budget accommodations while the current long dry spell is causing water shortage in many parts of the islands. Further investigation highlighted the fact that the majority of tourism operations are currently situated within the Coastal Flooding and Coastal Erosion Hazard Zones(CFHZ and CEHZ)[3] leaving them highly vulnerable to the impacts of climate change. The LDCF Project Identification Form (PIF) for the formulation of NAPA 5 states that the combined effects of climate variability (such as changing seasonal weather patterns) and climate change (including gradual sea level and temperature rise, increasing frequency and intensity of storm surges and cyclones, changing precipitation patterns, including high intensity rainfall events and droughts), are posing threats to community-based tourism operators and their vital assets located in highly vulnerable coastal areas. Beach tourism is a highly climate-dependent activity, relying heavily on vulnerable natural coastal resources[4].

12. For many tourism operators relocating away from the beach is not an option and in most cases beach fales are not insurable. To protect themselves from the risks many operators have constructed self-made sea walls that appear to be causing more problems and doing little to protect the coastline. These impacts will be felt for a long time as adaptation options are comparatively limited for an industry that is highly dependent on the health of key natural resources such as fresh water, sandy beaches and the marine environment.

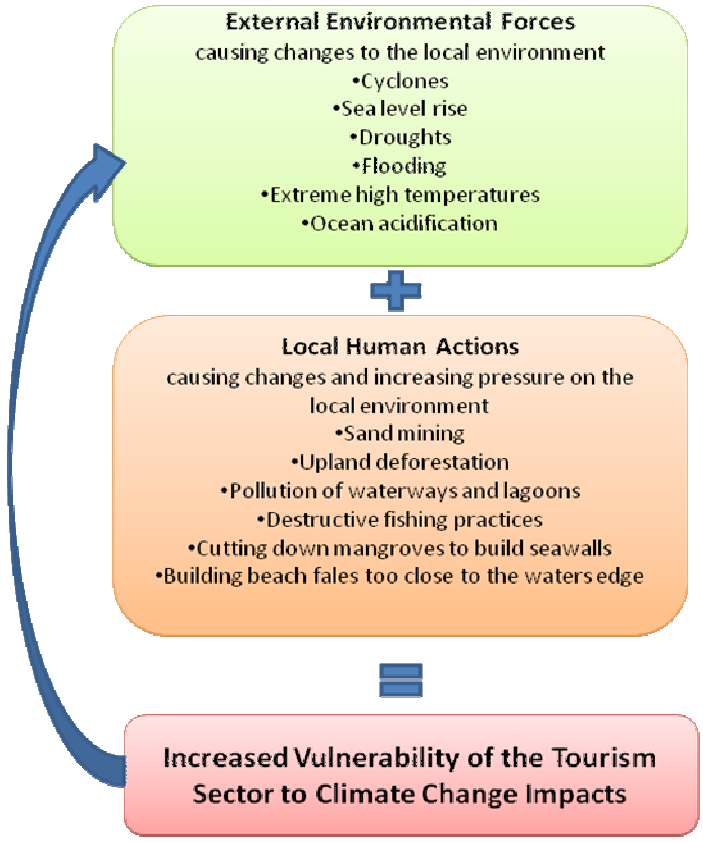
13. Many tourist operations that suffered from the 2009 tsunami are making significant progress in rebuilding their properties and a considerable number of them have taken climatic conditions into consideration in the design and reconstruction of their facilities. While these efforts are commendable, the lack of scientific information and technical expertise to guide them bring into question their effectiveness and sustainability in the long term.

[3] *As defined in Coastal Infrastructure Management (CIM) Plans 2007*
[4] *Ibid 2*

Figure 1. Lack of understanding of coastal processes can lead to more stress on coastal environments

14. Not all threats to the tourism sector can be blamed on climate change. Whilst some of the environmental changes can be attributed to natural coastal dynamics there are several human activities that contribute to increasing the vulnerability of tourism operations to natural and climate change related events. Consultations and site inspections identified that sand mining, upland deforestation, and destructive fishing are adding pressure to our already fragile environment thereby placing tourism development at risk. Poorly planned development within coastal areas are causing stress to these once highly productive areas and land reclamation projects are interfering with ocean currents and beach processes. Figure 1 depicts how human actions add pressure on coastal and beach areas important to tourism. Figure 2 demonstrates how unsustainable human actions can increase the vulnerability of the tourism sector to climate change impacts.

Figure 2. Factors Affecting Vulnerability to Climate Change Impacts



Future Challenges

15. For the tourism sector to continue to prosper, climate change challenges will need to be effectively addressed and resolved. Consultations with Government Ministries, NGO's, donor agencies, the private sector and community members illustrated that there is a need for closer and better communication and coordination between groups and organisations dealing with climate change issues to effectively address the challenges discussed above. Climate change is everyone's concern and therefore requires a nation-wide response. The cross-sectoral nature of climate change and recognising the constraints on technical, institutional and community capacity to deal with the issue make collaboration and partnership between all stakeholders absolutely critical to the success of this Strategy.

16. The Strategy aims to support on-going climate change adaptation actions and to provide strategic direction for the tourism sector as it strives to increase its resilience to the adverse impacts of climate change. It calls on all stakeholders to work together to achieve this important goal.

17. Failure to adapt to climate change now could lead to high social and economic costs for Samoa in the future. For coastal-based industries such as tourism, the economic disruption from climatic events could be catastrophic, even to the extent of relocating businesses away from the centre and focus of their tourist activities – the sandy beaches.

18. The key message for this Strategy is "**together, we can find solutions for dealing with the impacts of climate change"**. The very survival of the tourism industry depends on our learning to adapt to the effects of climate change. If we begin to think innovatively and strategically,

learning from each other and working together to plan and implement long term adaptation plans based on scientific information and community knowledge, we can build our resilience and reduce the risks to our lives and livelihoods. The full and active participation of all the key stakeholders is critical in this regard.

Vision, Overall Goal and Key Objectives

19. The Vision and Overall Goal describe aspirations for the tourism sector to effectively adapt to and better prepare for the impacts of climate change. The Key Objectives provide the framework for specific actions that will drive the implementation of the Strategy to effectively achieve the vision and overall goal. These were developed following intensive consultations with tourism operators, relevant Government agencies, NGOs and communities. Figure 3 below presents a summary of the Strategy's Vision, Overall Goal and Key Objectives.

20. It is intended that the Key Objectives of the Strategy and the progress in achieving them will be reviewed every five years.

Core Policy Principles

21. The Core Policy Principles have been identified as essential for the successful implementation of the Strategy. Figure 4 below provides a summary of the Core Policy Principles for implementing the strategy.

Figure 3. NTCCASS Vision, Overall Goal and Key Objectives

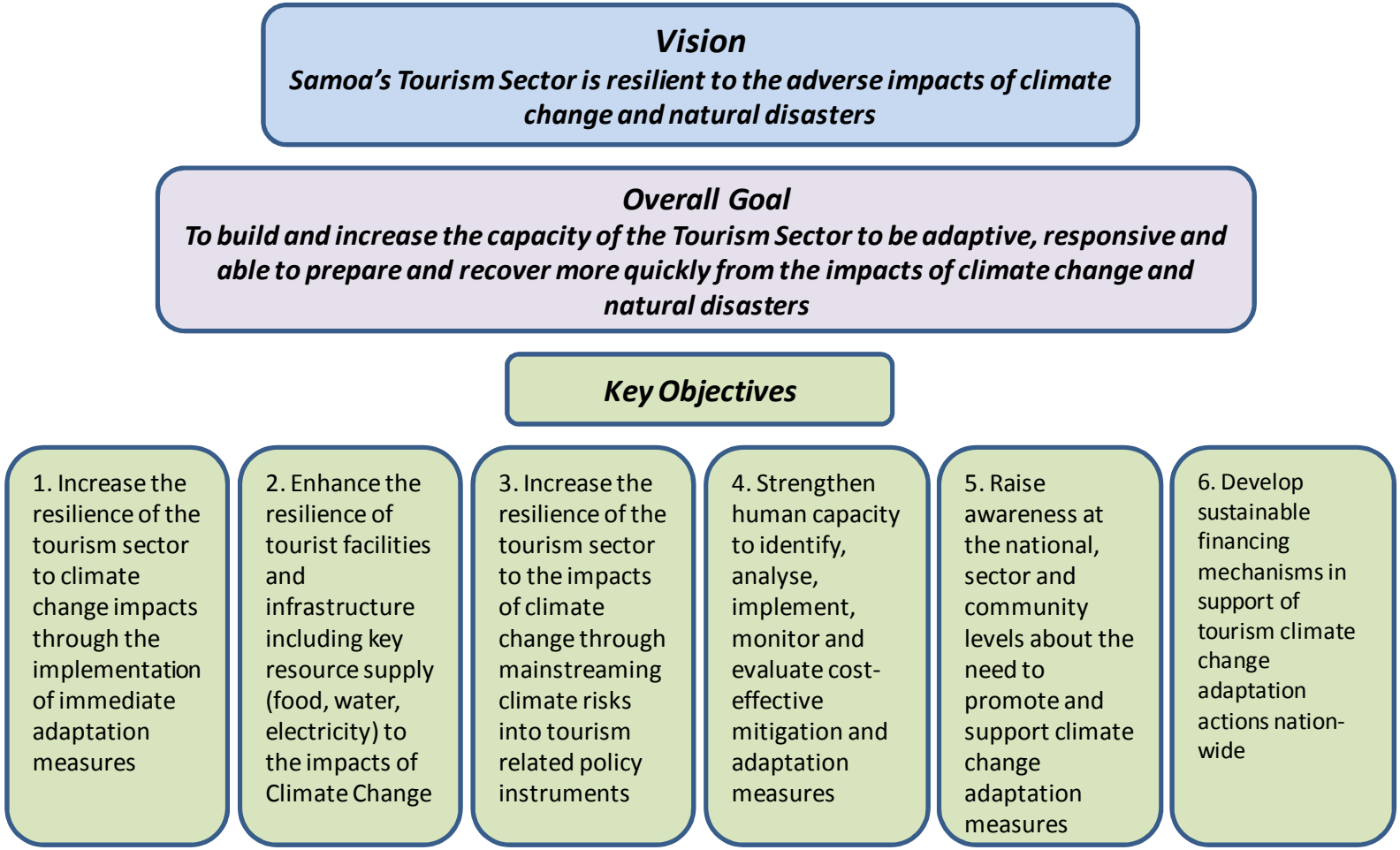


Figure 4. Core Policy Principles

CHAPTER 1: Introduction

1.1 Climate Change Impacts on Samoa's Tourism Sector

1. Climate change is one of the most serious threats facing world tourism today and small island states like Samoa are among the most vulnerable. Our lives, livelihood and homes are at risk as a result. Samoa has already experienced significant changes in weather patterns, the intensity and frequency of storms, flooding, coastal erosion and higher king tides. Climate changes are likely to heavily impact on coral reefs, sandy beaches, fisheries and other coastal ecosystems that are important natural resources the tourism industry depends on. Changes in temperature and rainfall patterns will affect planting seasons and sustainability of some food crops as well as availability of water for drinking and power generation. These are key services for the tourism sector.

2. Climate change is a change in the "average weather" that a region experiences. By increasing the amount of heat-trapping gases released into the atmosphere, humankind has enhanced the warming capability of the natural greenhouse effect thereby causing environmental concern. Changes in Samoa's climate in past years is evident[5]:

    - Since 1993, sea levels near Samoa has risen by approximately 4mm per year (higher than global averages of 2.8-3.6mm per year);
    - Annual maximum and minimum temperatures have increased since 1950, with maximum temperatures increasing at a rate of 0.22°C per decade in Apia;
    - Substantial variation in rainfall from year to year;
    - Slowly increasing level of ocean acidification in Samoa;
    - Between 1969 and 2010, 52 tropical cyclones passed within 400km of Apia (average of one cyclone per season); and
    - Flooding and drought has resulted in damage to infrastructure and higher frequency of forest fires and rationing of public water supply.

3. These climatic changes will have a number of adverse impacts on Samoa including:

    - Water security (including impacts of flooding, drought and saline intrusion of fresh water lenses);
    - Biological diversity (impacts of changing rainfall patterns and increasing extreme weather events);
    - Health (changes in patterns of water and vector borne diseases); and
    - Infrastructure (including tourism infrastructure) due to coastal erosion and impacts from cyclones).

4. **Sea level rise** for Samoa is expected to reach increased levels of between 5-15cm by 2030, 10-29cm by 2055 and 21-59cm by 2090 (under a high emissions scenario) [6]. This is expected to exacerbate inundation of low lying areas, storm surges, beach erosion and other coastal hazards, thus threatening vital infrastructure, settlements and facilities that support the livelihoods of many of our people[7] and that are critical to the tourism industry. Deterioration

[5] *PCCSP Current and future climate of Samoa, Brochure, 2011*
[6] *ibid*
[7] *Mimura, N., L. Nurse, R.F. McLean, J. Agard, L. Briguglio, P. Lefale, R. Payet and G. Sem, 2007: Small islands. Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth*

in coastal conditions through the erosion of beaches is a serious threat to local tourism operators, especially family run beach fale operations, as the sandy beaches are their main tourist draw card.

5. **Temperatures will continue to increase.** More recently, the Economics of Adaptation to Climate Change (EACC) Samoa Country Study[8] used projections of climate variables downscaled from the results of the global climate models to suggest that it is reasonable to assume a uniform increase of about 1°C for the Global Wet scenario and about 0.8° C for the Global Dry scenario. Changes in average daily maximum and daily minimum temperatures are almost identical to the changes in average daily mean temperatures.

6. For Samoa, temperatures will continue to rise, with the latest projections estimating temperature rises in the range of 0.4-1.0°C by 2030, 1.0-1.8°C by 2055 and 1.9-3.3°C by 2090 (under a high emissions scenario). The increase in average temperatures will also lead to a rise in the number of hot days and warm nights, and a decline in cooler weather[8]. A maximum air temperature of 34° C is currently well in excess of a 100-year event, but by 2050 it will likely have a return period of 40 years[9]. Sea surface temperatures are also expected to increase in the future in Samoa[8] which will likely lead to coral bleaching.

7. As temperatures increase, tourists will increasingly expect holiday accommodation to be air conditioned. Such accommodation will attract premium prices and increase electricity consumption thereby making these accommodations less attractive for budget travellers and beach holiday lovers. With more very hot days the risk of forest fires will be higher posing threats to local communities and tourism properties. Increased temperatures are also implicated in the development and proliferation of the algal blooms which can lead to the closure of beaches, disfiguration of the coastal environment and fish kills. Increasing sea temperatures will affect natural coastal defences and vital ecological communities such as mangroves and coral reefs, both of which are key tourism attractions.

8. **Changing rainfall patterns** for Samoa are uncertain; however projections generally suggest a decrease in dry season rainfall and an increase in wet season rainfall for the future[8]. Despite inconsistent projections for future drought trends, Samoa is already experiencing prolonged dry periods causing significant strain on water supplies that are insufficient to meet the demand of the growing tourism industry.

9. Extreme rainfall days are predicted to occur more often[8]. Where an extreme daily rainfall of 400mm is currently a 41-year event, it will likely be a 38-year event by 2050. An extreme six-hourly rainfall of 200mm is currently a 30-year event and will likely become a 20-year event by around 2050[10].

10. The predicted increase in extreme rainfall days will have implications for flooding, especially in and around the Apia area. Poor drainage systems and the fact that Apia is built on low lying land compounds the impacts of high intensity rainfalls that are predicted to increase with climate change. Many hotel owners have expressed concerns about flooding events especially in the Apia area. Additionally wet and humid conditions will have an indirect impact on

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Assessment Report of the Intergovernmental Panel on Climate Change, M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson, Eds., Cambridge University Press, Cambridge, UK, 687-716.

[8] *World Bank 2010: Economics of Adaptation to Climate Change in Samoa. The World Bank Group. Washington.*

[9] *Ibid 2*

[10] *Wairarapa J. Young. Climate Risk Profile for Samoa. Samoa Meteorology Division, March 2007*

tourism as they increase the risk from epidemics of cholera and typhoid as well as infectious diseases such as malaria and dengue fever. Adverse publicity of such public health scares is likely to have a negative impact on the tourism industry. Conversely, increased temperatures and extended drought periods can affect water and food supply for both tourists and host communities.

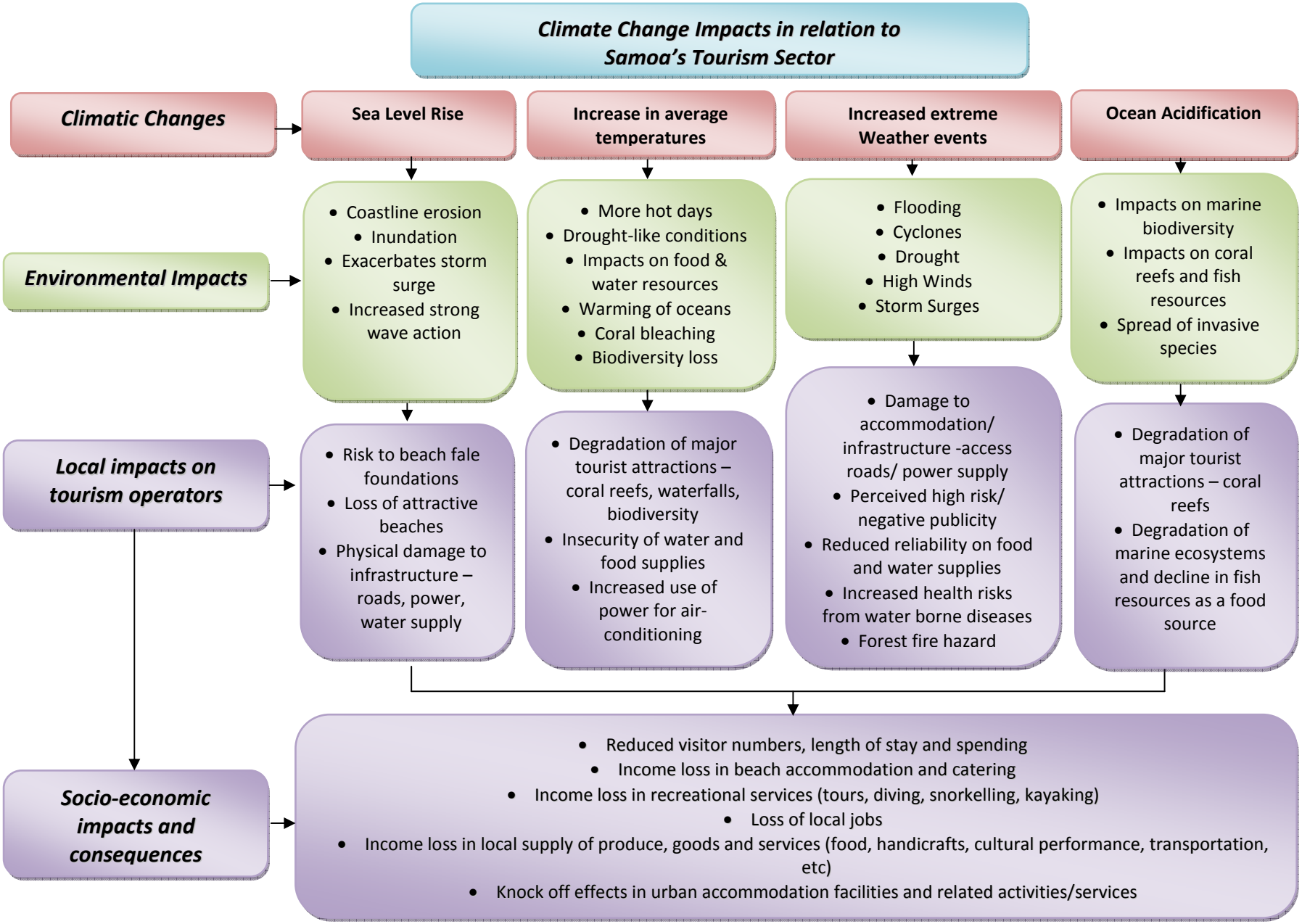
11. **Ocean acidification** in the Samoa region is expected to continue as the levels of carbon dioxide continue to rise in the atmosphere[12]. The ocean acts as a major sink absorbing about a quarter of earth's carbon dioxide. Increased levels of carbon dioxide in the ocean creates an acidic environment which inhibits the growth of skeletons and shells critical to the formation and existence of marine organisms. If ocean acidification continues to rise, the health of reef ecosystems and marine life will be adversely impacted. So too will the seafood resources and recreational activities such as snorkelling and diving that the tourism industry relies on.

12. **Increased cyclone intensity and storm activities** have been projected for the Samoa region over the remainder of this century. Global trends show a decrease in the frequency of tropical cyclones but an increase in the average maximum wind speed of cyclones by between 2% and 11% and an increase in rainfall intensity of about 20% within 100km of the cyclone centre[11]. According to the 2007 Climate Risk Profile for Samoa, climate change will influence the return periods of extreme wind gusts for Samoa. At present an extreme wind gust of 70 knots has a return period of 75 years and by 2050 is projected to reduce to 40 years. Based on 2004 Cyclone Heta experience, it is reasonable to expect that cyclones and storm activities will pose one of the greatest risks to tourism facilities in Samoa especially beach fales.

13. The threats to the tourism sector from climate change are real! It is therefore important that there is wider understanding and greater awareness within the sector and at all levels of society and communities about the impacts of climate change. More importantly, there is a need to engage people in dialogue and discussion to elicit innovative thinking in planning and policy-making to adapt to climate change. Implementation of such plans will require an informed sector and leadership that is adequately prepared and motivated for action. This Strategy hopes to encourage positive thinking about the need to prepare for the ever increasing threats posed by extreme climatic events.

14. The flow-chart below provides an indication of the types of impacts the tourism sector in Samoa is facing from climate change.

[11] *ibid. 5*


Climate Change Impacts in relation to Samoa's Tourism Sector
Climatic Changes
Sea Level Rise
Increase in average temperatures
Increased extreme Weather events
Ocean Acidification
Environmental Impacts
• Coastline erosion
• Inundation
• Exacerbates storm surge
• Increased strong wave action
• More hot days
• Drought-like conditions
• Impacts on food & water resources
• Warming of oceans
• Coral bleaching
• Biodiversity loss
• Flooding
• Cyclones
• Drought
• High Winds
• Storm Surges
• Impacts on marine biodiversity
• Impacts on coral reefs and fish resources
• Spread of invasive species
Local impacts on tourism operators
• Risk to beach fale foundations
• Loss of attractive beaches
• Physical damage to infrastructure – roads, power, water supply
• Degradation of major tourist attractions – coral reefs, waterfalls, biodiversity
• Insecurity of water and food supplies
• Increased use of power for air-conditioning
• Damage to accommodation/ infrastructure -access roads/ power supply
• Perceived high risk/ negative publicity
• Reduced reliability on food and water supplies
• Increased health risks from water borne diseases
• Forest fire hazard
• Degradation of major tourist attractions – coral reefs
• Degradation of marine ecosystems and decline in fish resources as a food source
Socio-economic impacts and consequences
• Reduced visitor numbers, length of stay and spending
• Income loss in beach accommodation and catering
• Income loss in recreational services (tours, diving, snorkelling, kayaking)
• Loss of local jobs
• Income loss in local supply of produce, goods and services (food, handicrafts, cultural performance, transportation, etc)
• Knock off effects in urban accommodation facilities and related activities/services

CHAPTER 2: Situational Assessment of Climate Change Impacts

2.1 Methodology

1. Tourism site inspections and rapid assessments were carried out in July-August 2011 leading to the preparation of the NTCCASS. The inspections followed intensive review of a large number of technical reports, studies and planning documents prepared over the years. Meetings with stakeholders both in Upolu and Savaii were organised to review earlier drafts of the NTCCASS and to receive comments for improvement. The site inspections and assessments focused primarily on:

    - What climate change related impacts are affecting the tourism industry at present?
    - How is the tourism industry being affected by these impacts?
    - What adaptation actions may be needed to make the tourism industry more resilient to similar climatic events in future?
    - What priority actions are needed to enable the tourist businesses to recover more quickly from climate change related impacts?

2. A total of 74 sites (44 on Upolu, 2 on Manono and 28 on Savaii) were inspected. More than 80% of these properties were beach fale operations, the majority of which were considered of high risk. Please refer to the Site Inspection and Assessment Report completed in August 2011.

3. Apart from face to face interviews with property owners and/or senior staff of selected beach fale operations, resorts and hotels, rapid assessments of the sites were also carried out to enable the determination of climate change related impacts on land and properties visited and where possible identify practical solutions that are likely to help address some of the impacts already affecting the sites.

4. The situational analysis benefited immensely from the review of past climate change impact assessments including Vulnerability and Adaptation studies undertaken for the Agriculture, Fisheries, Health, and Infrastructure sectors as well as the CIMPs and others (see list of references for reports reviewed and analysed).

5. In addition to the site inspections and assessments, consultation with the TCCT, relevant government agencies, NGOs, donor governments and international organisations was also carried out to ensure synergies between the NTCCASS and other on-going or proposed climate change related initiatives in Samoa. The summary of the key findings from the NTCCASS assessment and consultations are presented below.

2.2 Key Findings from Site Inspections and Consultations with Tourism Operators

6. The key findings of the site inspections and consultations are grouped into the following themes with identified key issues and challenges for ease of reference and clarity.
    - Observed physical impacts of climate change;
    - Economic, social and environmental impacts of climate change for Tourist operators, association and partners;

2.2.1 Observed Physical Impacts of Climate Change – Key Issues and Challenges

7. More than 90% of tourist operations are located within the CFHZ and CEHZ making them highly vulnerable to strong winds, storm surges, sea level rise, flooding and beach erosion.

8. Despite their vulnerability and imminent risk from climate change, most beach fale operators are reluctant to relocate from beach areas arguing that this is where tourists prefer to stay. Relocating away from the beach is not an option for some of them.

9. Samoan beach fales have low resilience to climate change impacts. However, their open design and use of local materials can enhance their resilience; they are easy to dismantle and rebuild elsewhere if necessary. It was clear from the stakeholder consultations that there was not much support for modern enclosed designs mainly because building costs are often beyond the ability of beach fale operators to afford.

10. Several operators have constructed self-made "sea-walls" to protect their properties often in frustration at the lack of response from government agencies. Only a handful of these "sea walls" appear to be holding while the rest are either collapsing or creating more problems than there were before as depicted below:

Figure 5. Sea wall at Manono

11. Cyclones, wave action, sea level rise and flooding are of the greatest concern to many tourist business operators especially beach fale operations. Many have tried to cope with these events by either building their own sea walls or planting trees along the coastline. While these initiatives are commendable, a number of barriers are frustrating these initiatives. They include:
    - the lack of technical know-how and/or advice to guide adaptation measures
    - poor coastal management, encroachment of tourism facilities into sensitive coastal ecosystems and highly vulnerable areas, exacerbating coastal erosion and degradation of coastal zones;
    - over-exploitation of land and forest resources;
    - inadequate waste management and pollution control on tourist sites affecting both terrestrial and marine ecosystems;
    - unsustainable fishing practices causing degradation of reefs and lagoons; and

- Tourism growth posing increasing water and food supply demand.

12. The LDCF PIF document for Tourism GEF funded project titled "Enhancing the resilience of tourism-reliant communities to climate change risks" has suggested some long term solutions at the national level to address these barriers which will be developed during implementation. They include:
    - integration of climate change and climate –induced disaster risks in the TDP and related policy instruments (for example: Environmental Impact Assessments (EIAs), Samoa Accommodation Standards, Tourism Fale Operational Guidelines);
    - Integration of climate change risks into local destination-level planning and management processes at the designated Tourism Development Areas;
    - Disaster preparedness and response plans covering both tourists and local populations in an integrated way
    - Climate early warning and information services tailored to tourism sector needs
    - Financial and investment support schemes integrating climate and disaster risk criteria
    - Insurance scheme such as climate risk transfer mechanism

13. At the local level, the solution is to develop the capacity of communities in tourism areas and beach fale operators in the following areas:
    - Preparedness and response measures to climate–induced extreme events and disasters, including climate proofing of both public infrastructure and tourism establishment;
    - Integrated coastal management and shoreline protection that is adapted to climate-induced effects;
    - Management of water resources that is adapted to climate-induced disturbances in water supply:
    - Ensuring adequate food supply satisfying combined need of tourists and hosts under climate-induced stresses:
    - Adjustment of seasonal tourism operational planning and recreational activities management under changing seasonal weather patterns;
    - Use of climate early warning and information services to inform decisions on measures mentioned in the previous paragraph.

2.2.2 Economic, Social and Environmental Impacts of Climate Change for Tourist Operators/Associations/Partners – Key Issues and Challenges.

14. Climate has a direct impact on tourism as it determines the suitability of locations for a wide range of tourism related activities. It is one of the key drivers of the seasonality in tourism demand and has a significant influence on operating costs such as electricity, food and water supply and insurance costs.

15. The competitiveness and profitability of key operators have been affected by the extreme climate events (e.g. longer dry spells and acute shortage of water) over the last few years. Recent climate change findings for Samoa indicate that a number of weather extremes are probable as a result of projected climate change including high maximum temperature and more hot days over nearly all land areas, greater tropical storm frequency and intensity and peak winds as well as intense precipitation events.

16. At present, beach fale operations are facing difficulties in accessing and obtaining insurance cover despite the fact that some do have sophisticated bungalows,

restaurants, and service facilities that can be suitable for insurance. Part of the problem is the high risk associated with poorly constructed fales on highly vulnerable sites. The development of a sustainable financial mechanism or other means of support (similar to the Tourism Tsunami Re-Building Programme) to assist beach fale operators recover more quickly from the impacts of climate change should therefore be a priority concern for the Government and the tourism sector to consider.

17. Other direct and indirect environmental changes such as changes in water availability, biodiversity loss, altered agricultural production, increased natural hazards, coastal erosion and inundation, flooding (mainly in the town area) and increasing incidence of vector-borne diseases have all impacted on tourism in varying degrees.

18. The impact of international mitigation policies which seek to reduce GHG emissions may also impact on tourism flows. Such policies (e.g. carbon footprint) may lead to increased transport/travel costs especially for long haul flights and may contribute to environmental attitudes that have led tourists to change their travel patterns[12].

19. The impacts of climatic effects are different at business, destination and national levels and some are more vulnerable than others. The biodiversity "hotspots" (priority terrestrial and marine sites of high conservation value) identified by Conservation International (CI) and the Ministry of Natural Resources and Environment (MNRE) need to be formally established and closely monitored. Related tourist operations along these priority sites may be targeted within the Strategy.

20. The level of adaptation of various stakeholders to climate change related impacts is also noted with the tourist having the greatest adaptive capacity (depending on three key resources: money, knowledge and time). Suppliers of tourist services and tourism operators have the least adaptive capacity. Large tour operators who do not own the infrastructure are in a better position to adapt to changes at destinations whereas communities and operators with investment in immobile capital assets (hotel complex, marina, beach fales and etcetera) have the least adaptive capacity.

2.3 Key Findings from Consultations with Key Stakeholders, Government Ministries, NGOs and the Private Sector

21. The key findings from the consultations with key stakeholders, government ministries, NGOs and the private sector are grouped into the following themes with identified key issues and challenges for ease of reference and clarity.

- Policy Framework for climate change;
- Coordination of climate change related initiatives;
- Funding sources;
- Funding mechanisms; and
- Institutional capacity and structures;

[12] *Sabine L. Perch Nielsen: Climate Change and Tourism Intertwined 2008. DISS ETH No. 17758*

2.3.1 Policy Framework for Climate Change – Key Issues and Challenges

22. Various policies and plans/strategies have been developed in relation to climate change issues. However, integration of these policies and strategies into tourism related strategies is minimal at best. The NTCCASS will endeavour to address this issue and is looking at mainstreaming climate change into existing strategies and plans (including the SAS, TDP, Step by step Guidelines, Tourism Development Bill recommendations, etcetera)

23. The existing TDP 2009-2013 is due for review under the New Zealand Aid Programme (NZAP) sector wide programme Samoa Tourism Support Programme (STSP) currently being developed for the sector. This review presents a key opportunity for mainstreaming climate change into the TDP. The NTCCASS will provide a good basis for doing this.

24. The TDP defines designated Tourism Development Areas (TDAs) but currently there are no comprehensive management plans supporting them. The LDCF project to be developed through funding from LDCF GEF through the United Nations Development Programme (UNDP) has as a key component the development of TDA management plans with climate risks and resilience fully integrated as a key climate change mainstreaming process at the local destination level.

2.3.2 Coordination of Climate Change Related Initiatives – Key Issues and Challenges

25. The STA in close collaboration with MNRE enabled the formulation of this first sector strategy for climate change adaptation. Other key sectors under the NAPA such as agriculture, forestry, health, and water are in the process of developing similar strategies and will be looking to build synergies with the NTCCASS to see how it could be adapted for their respective sectors.

26. Given the cross-sectoral nature of tourism, a more streamlined and integrated approach is needed in terms of implementing the existing and proposed climate change projects within the key sectors such as tourism, water, agriculture and health. The National Climate Change Country Team (NCCCT) will need to be strengthened and resourced to enable it to meet more often to consider progress of various ongoing adaptation projects and to provide technical guidance and coordination in the development of new initiatives. For the tourism sector per se, the functions of the TCCT need to be clearly identified with Memorandums of Understanding (MOUs) agreed with participating agencies and organisations thereby committing them to play their parts.

2.3.3 Funding Sources

27. NZAP has been identified as the lead donor within the tourism sector and have indicated it will commit NZD$16-20 million to the sector over the next five years through the STSP which is focused on providing direct support via four key components:
    - Tourism Sector Governance;
    - Marketing and Research;
    - Workforce Development; and

- Product Service and Infrastructure Development

28. UNDP and MNRE is also assisting STA in the development of a five year, USD$2.0 million climate change project and this is due to be finalised in 2012 and submitted to the LDCF.GEF The revised version of the project concept was submitted in November 2011. Synergies between the project and the final NTCCASS will be established.

29. The above proposal includes an output on developing recommendations to internalise climate change considerations into existing micro-finance, grant, loan schemes to the tourism sector and feasibility of a climate risk transfer (insurance) mechanism. These recommendations will be closely followed so as to ensure that NTCCASS activities are strategically aligned to and benefit from them.

30. Synergies will also be encouraged with existing and proposed projects including the World Bank Project Preparation for Climate Change Resilience (PPCR), Pacific Adaptation to Climate Change (PACC), UNDP's pro-poor tourism activities and the proposed NAPA 5 LDCF GEF project specifically targeting tourism for implementation of the NTCCASS. A number of NAPA projects are currently being implemented to address other related sectors such as agriculture and health under NAPA 1; coastal adaptation under NAPA 2 and the forestry sector under NAPA 3. Linkages will be established with these initiatives through MNRE's coordination function, the NCCCT, TCCT and the STA through the TCCPU knowledge management and information exchange activities.

31. The table below (adapted from the LDCF PIF) provides some indication of ongoing projects that have direct links to the NTCCASS. While donor and aid funding will play an important role in the implementation of the NTCCASS, private sector and government support will also be sourced through private sponsorship or budgetary support to STA and for the NCCCT.

Table 1. Linkages: NTCCASS and Other Climate Change related projects.

Ongoing Initiatives	***Links to the NTCCASS***
NAPA implementation projects 1-4	Ongoing NAPA implementation projects include NAPA 1 (UNDP-GEF, LDCF) on agriculture and health sectors; NAPA 2 (UNDP-GEF, SCCF) component of the PACC project on coastal adaptation, NAPA 3 (UNDP-GEF, LDCF) of forestry sector. NAPA 4 is a multi-sectoral project including climate information, water resources, forest fire and tourism (this project) for the period 2010-2015. All components are financed by AusAID through the Samoa-Australia Partnership for Development initiative with a total budget of AUD$ 775,000. The Tourism Component is managed by STA on behalf of the tourism sector. Project implementation commenced in 2010 when UNDP provided assistance in the development of ToR and recruitment process for staff. NAPA 4 tourism component is focusing on policy issues; aims at supporting the integration of climate risks into Tourism policies and strengthen the application of a number of related policy processes and instruments in tourism such as Environmental Impact Assessments, standards for tourism infrastructures, transport and for nature tourism services. The LDCF and the NTCCASS will both complement the policy mainstreaming measures through integrating climate change in further related instruments and processes (e.g. Climate Early

	Warning Systems, planning for Tourism Development Areas, financial support and risk transfer mechanisms).
World Bank Pilot Programme on Climate Resilience (PPCR)	Samoa is one of the three pilot countries involved in this regional project implemented through the World Bank. PPCR Samoa has recently completed its phase 1 Design and defined a Strategic Programme for Climate Resilience which focuses on coastal adaptation and related infrastructure measures with the following investment projects and components: • Investment Project 1: Enhancing the Climate Resilience of West Coast Road, • Investment project 2: Enhancing the Climate Resilience of Coastal Resources and Communities, - Component 1: Implement CIM Plans to Manage Climate and Disaster Related Threats - Component 2: Knowledge Management. - Component 3: Support to Civil Society Organisations There is an opportunity for coastal adaptation activities under the NTCCASS to be linked with the implementation of the CIM Plans under component 1.
Enhancing resilience of coastal communities of Samoa to climate change and disaster risks	The Government of Samoa has developed a proposal for the Kyoto Adaptation Fund (AF), led by MNRE and supported by UNDP in its capacity as the Multi-lateral Implementing Entity to the AF. The project will focus on implementing the CIM Plans in a complementary and synergetic fashion with the WB-PPCR in order to cover broadly Samoa's districts and communities. Since the AF proposal is a nation-wide programme that covers more than half the country's territory, linkages to NTCCASS sites and activities will be inevitable although all efforts will be made to avoid overlaps[13]
UNDP Community Centred Sustainable Development Programme (CCSDP) the Tsunami Early Recovery Project (ERP) and Tourism Tsunami Rebuilding Programme (TTRP)	The CCSDP is UNDP's sub-regional programme to foster the development and implementation of sustainable village development plans through the facilitation of participatory planning processes. CCSDP is being implemented in partnership between UNDP and MWCSD, MNRE and National NGOs such as South Pacific Business Development and Samoa Business Enterprise Centre. CCSDP started in 2008 and has been aligned with ERP following the tsunami in 2009. Opportunities exist for the CCSDP and the NTCCASS to be better aligned and coordinated especially given their interest and focus on low lying areas that have suffered from the 2009 tsunami (such as Lalomanu and Saleapaga).
Tourism Tsunami Rebuilding Programme (TTRP)	The TTRP is channelled through the Private Sector Support Facility (PSSF) and is funded by NZAP and through the UNDP Tsunami Early Recovery Project (ERP). NZAP funds support infrastructure rebuilding while UNDP resources are used for Information and Communications Technology (ICT) support to tourism businesses (i.e. computers, photocopiers, phones for office restoration).
Private Sector Support Facility (PSSF)	The PSSF is managed by the Ministry of Commerce, Industry and Labour (MCIL), Ministry of Finance (MoF), and private sector organisations (Chamber of Commerce, SAME, SHA, WIBDI and Farmers Association), funded by NZAP (USD$ 1.95m) and UNDP

[13] *For more detailed information on the AF proposal, see LDCF PIF pages 23-27.*

	(USD$ 1.36m) for the period 2008-2012.
MDG Acceleration Project	The MDG Acceleration Project aims at strengthening trade for Samoa as it graduates from LDC to Middle-Income Country status by January 2014. A Trade Sector Plan (TSP) and Pro-Poor Policy will be developed as part of the MDG project by the end of this year and tourism will be included in the TSP while the Pro-Poor Policy has a tourism component. The TSP is being implemented by MoF with responsible parties including Ministry of Foreign Affairs and Trade (MFAT) and the private sector (WIBDI, SHA, SAME and Chamber of Commerce). The Pro-Poor Policy will include a framework to implement an action matrix defined through the Diagnostic Trade Integrated Study (DTIS) in 2010. The DTIS conducted an in-depth global analysis of the trade sector in Samoa and made recommendations for actions to improve pro-poor trading for Samoa. Tourism is included in the DTIS Plan of Action for implementation under other funding from the Trust Fund, now called Enhanced Integrated Framework for Trade (EIF) to the tune of USD$6.0 million. The UNDP Samoa MCO is working with the Government of Samoa to mobilise these resources. Linkages will be established through the LDCF to ensure synergies with policy-oriented and private sector support activities in the NTCCASS.

32. In-depth consultations will be undertaken during the early implementation phase of the NTCCASS to establish a plan for partnerships and practical modalities for linking and collaborating with the above ongoing initiatives and any new ones. These consultations will also help to avoid duplication of activities ensuring that NTCCASS resources build on the progress and achievements made to date through other initiatives. The stakeholder involvement plan to be developed during the early stage of implementation of the NTCCASS will also serve to further specify links and collaboration mechanisms with relevant ongoing planned initiatives.

2.3.4 Funding Mechanisms

33. Identification of sustainable funding mechanisms in support of tourism operations recovery efforts was identified through the stakeholder consultations as a key concern for tourist operators. Consequently, NTCCASS resources will be used to analyse current financial and investment support processes available to tourism operators. This work will be carried out in close coordination with the LDCF project which plans to carry out similar analyses involving the Small Business Enterprise Centre – linked with loan procedures by the Development Bank of Samoa, South Pacific Development Foundation or the Private Sector Support Facility and make recommendations on how to align them with climate and disaster risk considerations and criteria, making the application of related standards and procedures more effective.

34. The utilisation of the Private Sector Support Facility mechanism was also highlighted as a concern. There are currently ongoing discussions within the PSSF Committee for the need to include the financing of capital items for the tourism sector (and all other sectors involved) to try and improve the utilisation of pooled funds.

35. The Ministry of Finance has indicated that a feasibility study is being proposed at the national level to assess appropriate funding modalities such as Trust Funds and budget support, targeting climate change resources. This will have an impact on future resourcing of climate change related priority projects and activities across all sectors.

2.3.5 Institutional Capacity and Structures

36. Existing capacity within the sector is limited and will need to be improved in order to effectively implement climate change related activities. Provision of climate change related information and training for staff and communities was considered a high priority.

37. The NCCCT which is the overarching body for providing guidance on climate change policy and resource allocation issues has been relatively inactive the last few years. Although there are Task Forces set up at the sector levels for climate change related activities, they only provide guidance at the operational level.

38. Within the tourism sector there is also a host of different taskforces and committees which have been set up over the past few years with the aim of implementing the TDP and associated projects. The Tourism Sector Steering Committee chaired by the Honourable Prime Minister has been recently established in order to drive and guide the development of the sector over the next five years. The Steering Committee is expected to implement the tourism sector wide programme as well as associated priorities identified following the review of the TDP. The NTCCASS needs to be closely aligned to this process.

39. To effectively coordinate the implementation of the Strategy, a TCCPU within STA is crucial, as the current Project Coordinator is based in the Planning & Development Division and additional resources and staffing are required.

CHAPTER 3: Vision, Goal, Objectives and Actions

3.1 Vision and Overall Goal

1. The Vision and Overall Goal describe aspirations for the tourism sector to effectively adapt to the impacts of climate change. These were developed following intensive consultations with tourism operators, relevant government agencies, NGOs and communities.

2. The Vision and Overall Goal form the basis for defining the Principles, Objectives, and Guidelines for implementing the Strategy.

Vision

"Samoa's tourism sector is resilient to the adverse impacts of climate change and natural disasters"

3. The above Vision for the Strategy complements and supports the overall vision of the Tourism Development Plan for *'a sector that is strategically focused on promoting and delivering a truly unique and distinctive Samoan experience'*. It will be able to achieve this if it is able to adapt to the challenges posed by climate change impacts.

Overall Goal

"To build and increase the capacity of the Tourism Sector to be adaptive, responsive and able to prepare and recover more quickly from the impacts of climate change and natural disasters"

4. The Overall Goal will contribute significantly to the long term economic, environmental, cultural and social development of Samoa by building the capacity of the tourism sector to respond to the impacts of climate change. The aim is to improve the resilience of tourism infrastructure and facilities thereby enhancing the sector's important contribution to the development of the country.

3.2 Core Policy Principles

5. The application of the following Core Policy Principles is essential to the successful implementation and achievement of the objectives of the National Tourism Climate Change Adaptation Strategy for Samoa.

Climate Change from the Tourism Sector's Perspective

Our natural environment (landscape and sea) and culture are the most important sources of wealth and development opportunities for our tourism sector. Protecting these resources from the impacts of climate change is an investment in the future prosperity of the tourism sector.

Government agencies, tourism operators, communities and international partners will all actively recognise, respect and support the specific adaptation approach of this Strategy based on the sustainable use of Samoa's natural resources and environment.

Ownership of Climate Change Adaptation Action

Lasting tourism climate change adaptation actions can only be achieved if national partners (government, NGOs, communities, private sector) take responsibility for the leadership and design, implementation, monitoring and evaluation of all adaptation programmes and actions in their respective areas.

Tourism operators and community partnerships will commit to exercising and building their capacity for leadership of tourism climate change adaptation initiatives. International partners will commit to respecting, encouraging and supporting national, tourism sector and community leadership of all tourism climate change adaptation programmes and helping strengthen partner capacity to exercise their leadership and aligning all their tourism climate change adaptation programmes with those of this strategy.

Financial Sustainability

Tourism climate change adaptation initiatives must be adequately resourced over time.

National and international partners will commit to long term strategic planning and resource mobilisation to support implementation of this strategy and ensuring their tourism climate change adaptation programmes are of a scale and budget appropriate to the local context.

Coordination

Implementing this strategy will be more effective when STA and all stakeholders coordinate and work within the framework of the strategy.

National partners will commit to ensuring all locally devised tourism climate change adaptation programmes are strategic, focused, set and follow clear priorities for action; taking a leadership role in coordinating all partners; STA providing national and local focal points for coordinating tourism climate change adaptation programme implementation. International partners will commit to work within the legislation, policies, strategies, programmes and priorities established by national partners; work with each other to ensure collaborative analysis, strategies, agreed priorities and coordination of political engagement to avoid duplication;

Capacity Development

National capacity to design, prioritize, direct, manage, implement, monitor and evaluate tourism climate change adaptation programmes and actions must be put in place so that lasting climate change adaptation actions can be achieved.

Government, tourism sector and communities will commit to building effective climate change adaptation capability through on-going capacity development; ensuring that tourism climate change adaptation initiatives are continuously improved by recording, disseminating and incorporating lessons learned and best practices. International partners will commit to supporting national partners in their efforts to build effective and sustainable national capacity; supporting national partners and communities in their efforts to develop leadership, direction and management skills; contribute to national partners' best practices by recording, disseminating and implementing lessons learned.

Accountability

National partners are accountable to their international partners for their investment in supporting tourism climate change adaptation initiatives through this strategy.

Government, tourism sector and communities will commit to reinforcing participatory approaches when designing, implementing and assessing tourism climate change adaptation actions; setting clear and standard processes for accountability to international partners through formal agreements; establishing systems for monitoring and evaluation of all tourism climate change adaptation actions with each partner held accountable for its commitments and progress. International partners will commit to adopting systems that ensure transparency and accountability of their tourism climate change adaptation programmes at the national level; providing adequate and timely financial support to national climate change adaptation initiatives including implementing this strategy.

3.3 Key Objectives

6. Although the NAPA focuses on urgent and immediate needs, the Strategy incorporates both immediate and long term objectives. Each objective will be achieved through the implementation of a number of specific actions to meet the expected outputs as shown in the Implementation Plan. Each Key Objective will only be fully achieved if all the Core Principles embodied in the Strategy are applied. It is intended that these Key Objectives and the progress in achieving them will be reviewed on an annual basis and when necessary.

7. The expected outputs and specific actions/activities necessary to achieve the objectives as summarised below. Please refer Annex 3 for detail implementation Work Plan.

Objective 1: Increase the resilience of the tourism sector to climate change impacts through the implementation of immediate adaptation measures

Expected Outputs and Specific Actions/Activities:

1.1. Vulnerability and Risk Assessment including Climate Change Impacts of all tourism sites implemented and Priority Sites identified for immediate consideration.
   1.1.1. Building on the Site Assessment Report from the NTCCASS, carry out detail Vulnerability and Risk Assessment including Climate Change Impacts of priority and recommended tourism sites and operations to clearly identify and document impacts on the sector
   1.1.2. Based on Assessment in 1.1.1, determine Priority Sites for immediate consideration.
   1.1.3. Document local experience relating to climate change and disaster risks.
   1.1.4. Publicise and share reports of risk assessments with tourism operators.

1.2. Concrete adaptation actions for priority sites implemented.
   1.2.1. Implement immediate actions on the priority sites.
   1.2.2. Review and revise adaptation plan and Climate Change Adaptation Work Plan on an annual basis or when required.

Objective 2: Enhance the resilience of tourist facilities and infrastructure including key resource supply (food, water, electricity) to the impacts of Climate Change.

Expected Outputs and Specific Actions/Activities:

2.1 Increased adaptive capacity of the tourism sector to climate change and disaster risks
   2.1.1 Concrete adaptation actions in the management of coastal infrastructure, food supply, water resources, shoreline and tourism recreational activities are implemented in 5 Tourism Development Areas involving 9 villages and at least 15 community-owned beach tourism operations, ensuring that both women and men participate in and benefit from these. Initiatives are replicated in remaining TDAs.
   2.1.2 Building on the Vulnerability and Risk Assessment in 1.1, carry out EIA of priority sites to determine best protection options with the help of Coastal Engineers and other relevant expertise.
   2.1.3 Carry out regular inspections and maintenance of coastal protection measures.

2.2 Design and Construction of public and tourism related infrastructure improved and well planned.

2.2.1 Samoan Government through the Land Transport Authority (LTA) and MNRE to review relocation of main roads at prime tourism centres inland to allow for better planning of climate resilient measures on tourism sites.

2.2.2 Design appropriate seawall options through the engagement of relevant technical experts including marine engineers and others for the different tourism sites.

2.2.3 Improve drainage design and maintenance to protect tourist properties from flooding and sometimes beach erosion.

2.2.4 Ensure that beach replenishment particularly through establishment of man-made beaches meet environmental requirements and are resilient to the impacts of climate change.

2.3 All tourism operators are trained and connected to the Climate Early Warning and Information System.

2.3.1 Work with the Disaster Management Office (DMO) and the Meteorology (MET) division to identify how the Early Warning System and Climate Information Services could better address tourism sector needs.

2.3.2 Expand Early Warning System to include as many tourism businesses as possible.

2.3.3 Provide support for further development of Early Warning System.

2.4 Tourism facilities are resilient to the impacts of climate change and natural disasters.

2.4.1 Review the Samoa Accommodation Standards and Develop Standards for other tourism facilities and activities including Environmental Standards integrating climate change and natural disaster risk resilience measures.

2.4.2 Promote through the review of the Standards the possibility of establishing a minimum distance requirement from the water's edge where beach fales or other type of accommodation properties can be built as a climate resilient measure. If approved, include in legislation and monitor compliance.

2.4.3 For tourism properties with larger beach areas, encourage coastal protection by using bio-shields and other appropriate methods. Encourage re-vegetation of tourism sites with littoral and hardened indigenous species where appropriate to help stabilise the beach/soil.

2.4.4 Establish and support use of Marine Protected Areas to help restore degraded reefs and lagoons and promote to neighbouring tourist sites.

2.4.5 Promote and Encourage renewable energy options for the various sectors of the industry. Investigate incentives for easy access by the sector.

2.4.6 Raise awareness of tourism operators about the Standards and carry out regular inspections to ensure compliance.

2.4.7 Develop internationally recognised Accreditation/Rating Classification System for all tourism facilities and activities including an Award Scheme to encourage wide stakeholder participation.

Objective 3: Increase the resilience of the tourism sector to the impacts of climate change through mainstreaming climate risks into tourism related policy instruments.

Expected Outputs and Specific Actions/Activities:

3.1 Climate change adaptation mainstreamed into tourism related policies and public private partnerships.

3.1.1 Integrate recommendations from the Mainstreaming Component of the NTCCASS into the TDP (during the Mid-Term Review) and other tourism related policies.
3.1.2 Management Plans integrating climate risks are developed in the 4 identified Tourism Development Areas involving 9 villages and replicated in other TDAs.
3.1.3 Develop Technical Guide on climate resilient Beach Tourism Management Practices
3.1.4 Use Best Practices and NTCCASS guidelines to guide legislative and relevant policy review to help address human activities affecting climate change adaptation.
3.1.5 Raise public awareness about guidelines to ensure compliance.
3.1.6 Carry out regular inspections to ensure compliance with guidelines.

3.2 Mechanisms to improve compliance with climate change legislation and policies developed and enforced.
3.2.1 Empower communities to enforce customary laws in support of climate change adaptation.
3.2.2 Conduct community workshops to promote compliance and involve local communities in monitoring public compliance of legislation and policies.

3.3 Mechanism to factor climate change management into national decision-making processes on trade and transport, economic development and land use planning developed and enforced.
3.3.1 Review trade, transport, economic development and land use planning policies to allow integration of climate change issues.

Objective 4: Strengthen human capacity to identify, analyse, implement, monitor and evaluate cost-effective mitigation and adaptation measures.

Expected Outputs and Specific Actions/Activities:

4.1 Local community capacity enhanced to deal with decision making process and coordination amongst key stakeholders improved.
4.1.1 Strengthen local community decision-making process with respect to climate change adaptation needs.
4.1.2 Conduct workshop to familiarise TCCT and NCCCT with NTCCASS, the guidelines and work plan.

4.2 Well resourced TCCPU established and fully trained.
4.2.1 Establish TCCPU and appoint supporting staff with clear Terms of Reference.
4.2.2 Provide adequate funding and relevant support for the Unit.
4.2.3 Provide adequate training for staff especially in climate change impact assessment and monitoring.

4.3 Capacity of STA staff and key supporting Government agency staff strengthened through training and education.
4.3.1 Assess staff training needs in relation to climate mitigation and adaptation.
4.3.2 Prepare climate change mitigation and adaptation training programme for relevant staff in STA and selected agencies and integrate in to Tourism Workforce Development Plan and Training Calendar.
4.3.3 Implement training programme based on revised calendar.

4.4 Capacity of tourism operators and communities strengthened through training and education.

4.4.1 Building on from the NTCCASS assessment and Vulnerability and Risk Assessment in 1.1, implement a South-South transfer of tourism adaptation case studies between operators in Samoa as well as counterparts in the Pacific Region and other Small Island Developing States.

4.4.2 Based on the findings during the NTCCASS consultations and other studies prepare climate change mitigation and adaptation training programme for tourism operators and communities and integrate in to Tourism Workforce Development Plan and Training Calendar.

4.4.3 In consideration of climate variability, implement training and education programmes targeting accommodation and tourism site owners on product diversification techniques to enhance visitors' Samoan Experience.

4.4.4 Implement training programme based on revised calendar.

4.5 Human activities contributing significantly to the risks of climate change effectively controlled and monitored.

4.5.1 Enhance the monitoring capacity of MNRE to effectively control both legal and illegal sand mining around the country.

4.5.2 Build the capacity of tourism operators and communities in understanding the implications of sand mining, land clearing and constructing roads on steep lands on the environment and contribution to climate change risks.

4.5.3 Enhance the planning capacity of Utilities Providers in effectively planning climate resilient public and tourism infrastructure

4.5.4 Promote and enforce village/community watch for forest fires especially during the dry season.

4.6 Training Programmes reviewed on an annual basis and gaps indentified for future trainings.

4.6.1 Review focus, target groups and outcomes of previous climate change trainings and identify gaps and necessary actions to address gaps.

4.6.2 Based on annual reviews, revise training programme and implement accordingly.

4.7 Guidelines for a range of training methods and content for different target groups, including formal courses, participation in adaptation demonstration projects, etc produced.

4.7.1 Identify groups with training needs in specific skill areas.

4.7.2 Design special courses (formal and informal) for provision of such training.

4.7.3 Carry out training and evaluate outcomes

4.7.4 Carry out refresher courses as necessary.

Objective 5: Raise awareness at the national, sector and community levels about the need to promote and support climate change adaptation measures.

<u>Expected Outputs and Specific Actions/Activities:</u>

5.1 Audiences for tourism climate change awareness programmes identified.

5.1.1 Identify priority audiences including tourist operators, communities, etcetera for climate change awareness training.

5.1.2 Keep register / database of stakeholder participation in training and awareness programmes.

5.2 Priority messages and appropriate approaches for raising awareness of different stakeholders and stakeholder groups identified.
- 5.2.1 Identify key messages for awareness-raising based on stakeholder needs.
- 5.2.2 Conduct awareness-raising for different audiences based on their specific needs.
- 5.2.3 Monitor and evaluate outcomes of awareness-raising including effectiveness of approaches used.

5.3 Climate change issues integrated into existing tourism public awareness programmes.
- 5.3.1 Develop and incorporate climate change issues such as sea level rise, erosion, flooding, droughts, strong winds and others in public awareness programmes.
- 5.3.2 Incorporate climate change issues in tourism promotion programs
- 5.3.3 Support media participation in climate change awareness raising programmes

5.4 Climate change issues incorporated into primary, secondary, tertiary and adult education.
- 5.4.1 Forge partnership with MESC for incorporation of climate change issues into school curricula at all levels.
- 5.4.2 Provide financial and human resources in support for implementation of climate change school curricula.

5.5 Long term commitment by promoting full participation of all stakeholders in all aspects of climate change adaptation including collection of information, awareness raising, identifying priorities, preventing destructive activities, project development etc ensured.
- 5.5.1 Keep a register of all key climate change and tourism stakeholders.
- 5.5.2 Develop simplified processes for information sharing.
- 5.5.3 Develop and distribute calendar of climate change related events for information of stakeholders.
- 5.5.4 Monitor effectiveness of stakeholder participation in climate change related events and identify ways of improving through the provision of surveys and questionnaires.

5.6 Database of key skill areas, roles and resources that should be represented in or available to the main tourism and climate change management agencies including tourist business operators developed and made climate change accessible to all.
- 5.6.1 Develop database of key skills, responsibilities and resources.

5.7 Links to regional and international institutions providing services and facilities not available locally such as rapid response facilities, universities, regional and international institutions developed and promoted.
- 5.7.1 Keep a register of regional and international institutions with rapid response services and facilities of interest during emergency situations.

5.8 A national database of tourism climate change projects including technical information, objectives, results, outcomes and lessons learned established and maintained.
- 5.8.1 Take stock of all climate change projects noting their objectives, outcomes and lessons learned.

5.9 Success in tourism climate change adaptation management and actions including cost-benefit analysis publicised.

5.9.1 Identify successful climate change adaptation projects, document and publicise lessons learnt.

5.9.2 Raise awareness of decision-makers to benefits of climate change adaptation projects.

Objective 6: Develop sustainable financing mechanisms in support of tourism climate change adaptation actions nation-wide

Expected Outputs and Specific Actions/Activities:

6.1 National support ensured by mainstreaming climate change adaptation issues with national decision makers.

6.1.1 Secure local support for climate change adaptation from national budgets.

6.1.2 Raise awareness of decision makers to benefits of climate change adaptation projects.

6.2 Economic principles explored for addressing climate change related impacts including appropriate taxes, user-pay principle, and insurance cover and incorporated into national tourism legislation.

6.2.1 Explore appropriate economic principles to be applied in support of climate change adaptation initiatives.

6.2.2 Develop appropriate legislation and policies for application of economic principles.

6.2.3 Raise public awareness through media about enforcement of economic principles.

6.3 The potential economic costs of specific tourism climate change adaptation action and the necessity of adequately financing effective climate change response plans clearly demonstrated.

6.3.1 Carry out cost-benefit analysis of various existing climate change adaptation measures (sea walls, groynes, off-shore breakwaters, re-vegetation, setbacks, beach nourishment, relocation, etcetera)

6.3.2 Promote and support implementation of effective climate change response plans.

6.3.3 Investigate possibility of establishment of a climate change adaptation trust fund for Samoa.

6.4 Promote priority projects for donor support.

6.4.1 Negotiate with donor partners for support of urgent priority climate change adaptation projects.

6.5 Use NTCCASS Guidelines and Implementation work plan to seek and coordinate external support.

6.5.1 Promote NTCCASS guidelines with donor partners.

6.5.2 Use Guidelines and work plan to guide fund raising for tourism climate change adaptation work.

CHAPTER 4: Implementation Framework

4.1 Institutional Setup

1. More sectors and components of the Samoan economy and society are recognising the need to enhance resilience to climate change. There has been some discussion about climate change being given a higher institutional profile in government. An institutional assessment is being undertaken as part of Phase 1 of the Climate Resilience Investment Programme (CRIP). It will help ensure that institutional arrangements are optimised in terms of both addressing needs and reflecting capacities. Work related to this output will complement the MNRE evaluation of meteorological services, climate change and the Disaster Management Office, leading to their strengthening and the possibility of climate change being upgraded to a Division within the Ministry. The activity is also assessing the implications related to a greater integration of disaster risk reduction and climate change adaptation.

2. **The National Climate Change Country Team (NCCCT)**, which was established in 1995, provides more direct coordination of climate-related activities. This covers initiatives funded by donors as well as through the national budget. Key members of the NCCCT are the Chief Executive Officers of relevant government ministries and representatives of civil society and the private sector. The NCCCT is an important coordinating body as well as a policy-relevant technical mechanism for a whole-of-country response to climate change. It has a critical role to ensure that the implementation of the NTCCASS is well coordinated with climate change related activities of other agencies.

3. **The Tourism Climate Change Project Unit (TCCPU)** within the STA will have primary responsibility for coordinating the implementation of the NTCCASS. The TCCPU will work closely and form effective partnerships with partner agencies such as the MNRE, LTA, EPC, SWA, key private sector associations (SHA, SSTA, Car Rentals Association) and others. It will receive technical advice from the NCCCT to which it will report on a regular basis.

4. Given the lack of local capacity to undertake technically complex climate change adaptation studies and activities, the TCCPU may recruit a firm or firms through competitive bidding to undertake fieldwork and data collection, research and analysis, preliminary engineering design and cost estimates of prioritised adaptation investments options. Expertise available within MNRE, LTA and other government agencies are crucial to ensuring that adaptation measures implemented benefit from the scientific information and expertise available. The roles of EPC, SWA and other service providers are also critical in ensuring that tourism operations are able to recover from natural disasters in the shortest time possible.

4.2 Key Stakeholders and Roles

5. Climate change is a complex and multi-faceted issue requiring understanding and input at diverse levels. The principal stakeholders will be largely responsible for the implementation of this Strategy. Secondary stakeholders could provide support for the implementation of the Strategy either through financial assistance, provision of expertise and other resources or through awareness raising and education. It is recognised that there are other potential stakeholders who will be identified and engaged as part of the ongoing implementation of the Strategy.

Table 2. NTCCASS Stakeholders and Their Roles

Stakeholders and their roles	
Samoa Tourism Authority(STA)	Government agency in-charge of tourism policies, product development, marketing and promotions and providing research and statistical information for the sector. STA will also be the executing agency for the NTCCASS.
Ministry of Natural Resources and Environment (MNRE)	Is the lead technical agency for climate-related policies, MNRE's prime function is to ensure overall coordination of the NTCCASS with other NAPA implementation processes and projects through the NCCCT (chaired by MNRE) supporting the tourism sector tailored climate change early warning system through its MET Office.
Ministry of Women, Community and Social Development (MWCSD)	MWCSD is the agency mandated to coordinate local development processes involvement of communities and women. It will be involved in community liaison for the planning and implementation of adaptation measures at the local level in their respective areas including the TDAs.
Ministry of Finance (MoF)	MoF is responsible for overall coordination of donor and aid funding, supporting co-financing arrangements and programmatic linkages with other initiatives, making ongoing linkages and updating the national policies outlined in the SDS, financial management of project funds and the monitoring of expenditures.
Key Industry Associations (SHA, SSTA, SBEC, WIBDI, SAME, etc)	Coordinating with tourism operators and advocating for the adoption of climate sensitive planning and policy frameworks, instruments and adaptation techniques.
Government Line Ministries (EPC, SWA, MCIT)	Provide technical and other support for the implementation of the NTCCASS and to ensure their own climate related activities are well coordinated with NTCCASS.
NGOs (SUNGO, METI)	Promote and raise NTCCASS awareness and capacity building activities supporting communities in rural areas.
Educational institutions(NUSIoT, APTC, USP)	Support the knowledge management activities of the NTCCASS, integrate climate change experience and issues in their tourism-related curricula and training programmes
CROP agencies (SPTO, SPREP, SOPAC, SPC, USP)	Support adaptation implementation and policy processes through their technical and sectoral mandates, expertise and country support programmes. Support exchange and dissemination of lessons learnt and good practices generated by the NTCCASS.

4.3 Links to Other Ongoing Policies, Programmes and Planning Frameworks

6. Samoa has been proactive in its assessment of climate change impacts, vulnerabilities, and in the identification of current and possible future adaptation measures. There are a number of policies and directives which are seeking to understand the implications of climate change upon the country, and the integration and co-ordination of efforts to mitigate and respond to it. The TCCPU will ensure that activities of the NTCCASS are well linked to these policies and directives. Legislation and policies that are relevant in this regard are:

National Adaptation Programme of Action (2005) (NAPA)

The NAPA provides an overview of climate change impacts and vulnerabilities which identify adaptation strategies and outlines the process used to select and prioritise specific adaptation projects for priority sectors. The NTCCASS is indeed an outcome of the NAPA.

Planning and Urban Management Act (2004)

The PUMA Act is administered by the MNRE. The Act broadly defines development and considers its impacts on the 'total' environment (social, economic and bio-physical). The objectives are to provide for the fair, orderly, economic and sustainable use, development and management of land including the protection of natural and manmade resources and the maintenance of ecological processes and genetic diversity. The Act also enables land use and development planning and policy to be integrated with environmental, social, economic, conservation and resource management policies at national, regional, district, village and site specific levels. Furthermore, the Act provides for the protection of public utilities and other assets and enable their orderly provision and co-ordination for the benefit of the community and to balance the present and future interests of all Samoans.

To meet these objectives, the Act provides, amongst other mechanisms, a process for the development of sustainable management plans and various coordination, education and promotional roles. Although the Act does not make any specific references to the effects of climate change or climate change adaptation, its wording is, in the main, broad enough as to encompass those matters in its enactment.

Planning and Urban Management (Environmental Impact Assessment) Regulations (2007)

Samoa has recently passed into law an Environment Impact Assessment regulation requiring environmental impact assessments to be carried out as prerequisite for developmental proposals. However, despite the existence of the regulation, quite often developments continue to proceed without EIAs being done or done after implementation. The EIA regulation obviously needs to be reviewed to facilitate a more effective process for the approval and endorsement of development projects.

National Policy to Combat Climate Change (2007)

The National Policy Statement on Climate Change is administered by MNRE. The policy outlines Samoa's response to climate change. It provides a national framework to help reduce the rate of global climate change as well as the adverse effects of climate change on Samoa by adapting to its impacts.

Disaster and Emergency Management Act (2007) and Samoa National Disaster Management Plan (2007)

The Act is administered by MNRE. It requires the development of a National Disaster Management Plan (NDMP) which must include a comprehensive risk profile for all parts of Samoa and the arrangements to be implemented to reduce risk as well as preparedness, response and recovery arrangements. The definition of Disaster includes "(i) any naturally occurring event affecting the whole or any part of Samoa". The NDMP recognises climate change, sea-level rise, environmental degradation, pollution, coastal erosion, water quality and resource management as important environmental issues being managed by Samoa.

The emphasis of the NDMP is on hazards that have the potential to create a significant disaster in Samoa, and would most likely require some degree of Government coordination to manage. The framework of the NDMP includes identification and ranking of risks, risk reduction and contingency planning and recovery. Whilst 'climate change' per se is not

identified as a discrete risk, key components of climate change are identified: cyclone, environmental crisis (invasive species), flood, landslide (e.g. as might be caused through extreme rainfall events), single asset failure – dam (e.g. as might be caused by exceeding the design capacity of a spillway) and drought. A schedule of disaster risk reduction activities is maintained, and the agency responsibilities and relevant tools (e.g. legislation) identified. The NDMP has been prepared with a maximum review timeframe of three years, and for identification and management of foreseeable threats and events of significant magnitude.

While the NDMP considers risks around climatic events (e.g. cyclones, heavy rain, storm surges), it appears that consideration of long term incremental risks falls outside the plan's coverage – intentionally or otherwise. National contingency plans to address risks of more immediate concern (e.g. tsunami, flooding and fires) are noted as "not yet drafted".

Coastal Infrastructure Management Strategy (2007) and Plans

The first Coastal Infrastructure Management Strategy (2001) provided a series of national and local principles for coastal management. The strategy developed objectives, policies and implementation methods for hazard and environmental information gathering and monitoring, education and awareness raising, use and management of resources and for undertaking intervention actions. The CIM Strategy also set out the need for Coastal Infrastructure Management Plans (CIM Plans), and defined goals, objectives, policies and implementation methods across a broad range of coastal considerations. CIM Plans have been prepared for every district in Samoa.

Samoa National Infrastructure Strategic Plan

The Samoa National Infrastructure Strategic Plan was finalised in May, 2011. The Plan outlines the Government's priorities and strategic directions for major initiatives in the economic infrastructure sector over the coming five to ten years. It is the Government's intention that it will be updated regularly as part of the national planning and budget process. This Plan covers infrastructure initiatives with national significance. It looks at the next five years (to 2015) in detail and the five years from 2015 to 2020 in terms of broad directions for infrastructure development. The Plan is the result of extensive consultation with infrastructure managers, users and development partners.

Trade Sector Plan and Pro-Poor Policy

UNDP is advocating with the GoS and other donor funding commitments for a program of pro-poor tourism activities, such as those put forward in UNDP's MDG Acceleration Policy Analysis Report[14]. The report suggests that UNDP could usefully advocate that the GoS should increase its investment in basic numeracy and literacy in schools and tourism workforce development through increased skills training. Both factors underpin the economic performance of the sector. Picking up on discussion further in this report, UNDP could also usefully assist with funding a research project to quantify the impact of the tourism sector on those communities living below the Basic Needs Poverty Line. The NTCCASS should be able to complement such pro-poor activities of UNDP through its own specific community-based activities at community level.

[14] *Ross Corbett; TRC Tourism Limited, Wellington, New Zealand, August 2011.*

4.4 Links to Key Tourism Policies, Programmes& Recommendations

7. The NTCCASS will serve as the implementing framework for the following policies and programmes. Recommendations for mainstreaming climate change adaptation are also provided:

Tourism Development Bill (2008)

The Tourism Development Bill was developed as part of the STA Governance and Planning project in 2008-2009 to replace the outdated STA Act of 1984.

Recommendations:

A. *Insertion and Amendment of Part II Section 3 Sub-Section 2*
   - ❖ *Adverse impacts from the change in climate are to be minimised, and due regulatory processes are to be applied to ensure the protection of tourism facilities and infrastructure;*
   - ❖ *Adverse and undesirable impacts from the change in climate are to be addressed by effective controls over criminal activity, the generation of wastes, regular inspection and assessment and implementation of adaptation interventions and measures;*

B. *Insertion and Amendment of Part III Section 4 Sub-Section 1*
   - ❖ *(f) environment impact assessment, and the avoidance or minimisation of adverse effects on and from the environment and climatic events;*

C. *Review of Part XI section 46*
   - ❖ *Relating to Forms and Fees, whether the section will cover the imposition of a tax or user pays fee by the STA following the exploration of appropriate economic principles to be applied in support of climate change adaptation initiatives mentioned in Specific Action Item 3.3.*

Samoa Tourism Development Plan (2009-2013)

The TDP is a strategic document with the aim of providing the blueprint for the sustainable development of the sector. The existing TDP is due for review under the NZAP sector wide programme currently being developed, with the proposed review expected to occur following the completion of the NTCCASS. The NTCCASS will need to be incorporated into the TDP as part of the review process with the implementation and work-plan aligned as part of the overall tourism sector five year plan.

Recommendations:

The inclusion and mention of climate change as an issue (albeit briefly) and also an extreme risk in the current TDP, is a good basis for mainstreaming the NTCCASS and climate adaptation measures identified, particularly given the recognition and need for sustainable tourism growth, the need to protect Samoa's natural environment and biodiversity and also the need to address some of the man-made actions that are contributing further to the impacts of climate change. The TDP also recognises the importance of institutional frameworks, building of capacity (not only for STA and Government, but also the industry stakeholders), awareness

of all stakeholders as well as the need for all persons (public, private and community levels) to collectively work together – as highlighted and central to the success of the NTCCASS.

The following recommendations are made with respect to mainstreaming the NTCCASS and climate change adaptation measures into the current Tourism Development Plan.

Recommendation 2:
The existing TDP is due for review under the NZAP STSP currently being developed, with the proposed review expected to occur following the completion of the NTCCASS. The following recommendation is linked to Key Objectives 3 and 6:

A. *The NTCCASS, particularly the climate change adaptation measures will need to be incorporated and mainstreamed into the TDP as part of the review process with the implementation and work-plan aligned as part of the overall tourism sector five year plan.*

Recommendation 3:
The incorporation and mainstreaming of the NTCCASS climate change adaption measures linked to Key Objectives 1 to 6 be considered in a separate new chapter or thematic area of the TDP entitled "Climate Change Adaptation and Mitigation" OR to be mainstreamed into the following TDP sections:

A. *Chapter 9: Our Guiding Principles: Commit to protecting our resources (natural environment, culture and infrastructure) from the adverse impacts of climate change is an investment in the future prosperity of the sector.*

B. *Chapter 12: Goals for Tourism: 12.4 Environmental Goals: Adoption of environmentally sustainable and sensitive tourism infrastructure, tourism design and operating standards that are also resilient to the impacts of climate change.*

C. *Chapter 14: Significant Relevant Industry Trends: The section on climate change to be further elaborated and discussed to reflect the growing number of issues relevant to the tourism industry such as – rise in sea level, beach/sand and coastal erosion, flooding and drought, rising temperatures, etcetera that need to be addressed for the industry to combat its adverse impacts.*

D. *Chapter 18: Key Themes of Strategy Development and Action Plan: the operating and enabling strategies be reviewed to include relevant climate change aspects as discussed in the NTCCASS document.*

E. *Chapter 19: Implementation: brief mention of the Tourism Climate Change Taskforce under the section relating to "Occasional Special Tourism Taskforces" as an example.*

F. *Chapter 20: Managing Risk: the Risk Management Matrix identifying risks from the physical environment (natural, climatic, epidemic) be expanded to incorporate the Risk Management Component and Framework developed under the NTCCASS.*

G. *Appendix I: Key Actions and Priorities: be further expanded to include a summary of the NTCCASS key objectives and specific actions as per Annex I of this Mainstreaming Report.*

H. *Appendix I: Key Actions and Priorities: the following sections to be reviewed to incorporate the following changes:*
   - ❖ *[Resource management ii] EIA considered for all large tourism developments and PEAR for smaller developments such as beach fale operations as required by PUMA.*
   - ❖ *[Resource management x] integration of water saving technologies and encouraging use of rain-water tanks through development planning approval requirement and processes, particularly for large tourism developments.*

I. *Appendix II: SWOT Analysis: the inclusion of the identified risks from climate change and the recognition that the NTCCASS (and relevant climate change adaptation measures) has been developed.*

Samoa Accommodation Standards

The SAS was developed in 2005 and reprinted in 2009 to provide a guide for minimum standards for each of the five types of tourist accommodation to ensure maintenance of high quality and standard of Samoa's tourism product. The present SAS (for Beach Fales and Hotels) does provide for a Green Policy Criteria, PUMA and other Environmental requirements – however more specific requirements to minimise risk and susceptibility of tourism operations needs to be included into the SAS.

Recommendations:

A. General Requirements: the inclusion of the need to segregate different types of waste materials and the need to ensure removal of such on a daily basis; the need to include alternative power supply available, similar to the requirement of availability of alternative water supply for the tourism accommodation properties. It is also recommended to include the availability of water storage facilities

B. Security: the current standard relating to security is divided into two separate standards 1. General Security Standards and Procedures and 2. Fire Security. It is recommended that the current standard relating to Security be amended to retain only the following and isolate those standards that relate specifically to the safety of guests, disaster management and fire to a new standard heading entitled 'Safety, Disaster Management and Emergencies'.

C. Safety and Disaster Management: the inclusion of a new standard relating specifically to the safety of guests, natural disaster management responses and climate related emergencies and fire hazards. It is recommended that the remaining standards originally under that of Security be included.

D. General Maintenance, Cleaning and Appearance: it is recommended to further expand these standards to include some of the soft interventions identified in the NTCCASS for the maintenance of trees, greenery, foliage as well as drainage systems (if applicable) to alleviate the impacts of climatic events that result in damage to infrastructure and flooding.

E. Green Policy: the current standards relating to Green Policy are a good basis for mainstreaming and it is recommended to amend the standard text slightly to reflect not

only green/environmental contributions but to reflect the soft interventions identified in the NTCCASS.

Other Key Tourism Policies

The Step by Step Guide for Tourism Operators, developed in 2008, targets those persons intending to establish a tourism operation. The Guide provides a 10 step process to be considered by the potential operator in setting up business, including – product/service, location, staffing, financing and preparation of a business plan.

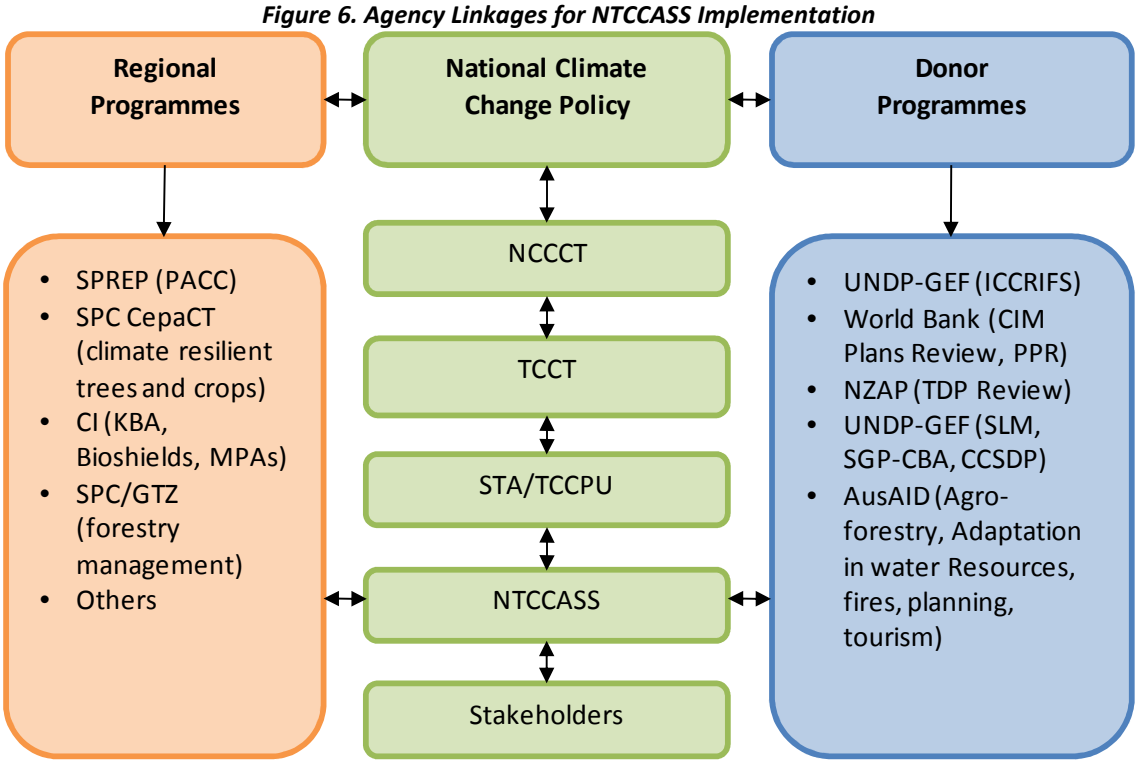
The Tourism Workforce Development Plan (2010-2012) was developed in response to skills gaps identified and training needs of the tourism workforce.

Recommendations for both policies are detailed in the Mainstreaming Report which was developed as part of the Strategy.

4.5 Agency Linkages for NTCCASS Implementation

8. The cross-sectoral nature of tourism and climate change call for a multi-stakeholder approach to finding adaptive solutions to the impacts of climate change. The establishment of effective linkages between relevant government initiatives and other programmes and projects that are involved in this area is critical in this regard. Figure 8 below shows the potential linkages between national, regional and international initiatives of relevance to NTCCASS implementation.

Figure 6. Agency Linkages for NTCCASS Implementation



CHAPTER 5: Risk Management Framework

1. Tourism is a major economic sector in Samoa and most tourism spots are located within coastal areas because of their heavy dependence on the beaches and sea as draw-cards for visitors to the islands who often perceive the environment of the islands as *"idyllic, benign and delightful"*[15]. They do not mention the cyclones, storm surges, flooding and droughts that can plague the islands at times.

2. The effects of climate change and climate variability on the tourism operations and facilities have been widely acknowledged as both direct and indirect. Direct effects include the loss of beaches, inundation and degradation of coastal ecosystems, saline intrusion and damage to critical infrastructure. Indirect consequences include the diminished beauty of natural resources, for example bleached coral and destroyed forests.

3. Tourism accounts for approximately 30% of GDP hence enhancing the climate resilience of tourism infrastructure and facilities (e.g. road systems, electricity and water supply) will have major benefits for tourism and Samoa's economy. Enhancing community resilience by improving livelihoods through development initiatives such as ecotourism will also be beneficial.

4. Climate change threatens Samoa's development progress. Risk levels for most of the weather and climate-related hazards are increasing over time, driven by the growing exposure of people and assets, for example through rapid economic and urban growth in coastal areas prone to flooding and storm surges. There are many and often strong interactions between development initiatives, as encapsulated in the MDGs, and extreme weather and climate events. Any increase in these events as a result of climate change will threaten progress to achievement of Samoa's MDGs.

5. Climate change adaptation and disaster risk reduction are integrated institutionally (the relevant agencies are both in MNRE) and administratively, by way of the coordinating and advocacy roles of the National Climate Change Country Team (NCCCT). A separate Tourism Climate Change Taskforce (TCCT) has also been established and works collaboratively with the NCCCT. National and some sectoral development plans make relatively comprehensive reference to climate-related risks and have implemented programmes and projects to help stakeholder groups reduce their vulnerability to climate change, including climate-related disasters. But the site specific nature of adaptation, and the high costs, limits the benefits for sectors, communities and the like.

6. Current approaches to village disaster awareness and preparedness are deliberately designed to simultaneously manage climate-related and other natural hazards and pressures leading to the loss of land or biodiversity. For example, funding provided under the Samoa GEF Small Grants Programme helped Vaiusu village to improve the mangrove ecosystem biodiversity for both food security and to protect the community from storm surges. The mangrove was the most highly degraded mangrove area in Samoa. The project involved replanting the mangrove area along the whole of Vaiusu Bay, as part of a large restoration project intended to also cover neighbouring villages. Similar projects could be supported for other degraded areas in the country.

[15] *Allen Perry: Tourism, Recreation and Climate Change 2005. Hall and Higham Channel View Publications.*

5.1 Risks and their Management

7. On the basis of the site inspections and rapid assessments carried out during the preparation of the NTCCASS, the following risks were identified for the tourism sector along with suggested interventions to reduce the risks.

8. The table below has tried to capture not only the physical impacts from climate change but also the encompassing issues that physical and observed impacts result to. A series of soft and hard options are also presented to try and address the issues identified. The complete Risk, Vulnerability and Resilience Assessment of visited tourism operations and sites is presented in the Site Inspection and Assessment Report completed in August 2011 inclusive of site specific information.

Table 3. Climate Change Resilience and Risk Management Framework

Climatic Threats	Environmental Risks	Infrastructure Risks on Tourism Operations	Socio – economic risks	Management Options	
				Soft Interventions	Hard Interventions
Sea Level Rise	• Coastal erosion • Inundation • Exacerbates storm surge • Increased strong wave action	• Risk to beach fales foundations • Loss of attractive beaches • Physical damage to infrastructure – power, roads, water supply	• Reduced visitor numbers, length of stay and spending • Income loss in beach accommodation and catering • Income in recreational services (tours, diving, snorkelling, kayaking) • Loss of local jobs • Income loss in local supply of produce, goods and services (food, handicrafts, cultural performance, transportation, etc) • Knock off effects in urban accommodation facilities and related activities/ services	• Re-vegetation to stabilise coastline • Government and villages to ban and/or control sand mining operations affecting coastal areas • Establish new and support existing Marine Protected Areas (MPAs) • Encourage/Enforce village ban on sand mining and unsustainable fishing practices • Increased awareness for both private and public partners on impacts of climate change	• Construct relevant coastal protection measures following proper expert assessments e.g. sea walls or groynes, where necessary • Relocate buildings or other structures so they are set back from the coastal hazard zones
Increased average temperatures	• More hot days • Drought like conditions • Impacts on food & water resources • Warming of the ocean • Coral Bleaching • Biodiversity loss	• Degradation of major tourist attractions – coral reefs, waterfalls, biodiversity • Insecurity of water and food supplies • Increased use of power for air-conditioning		• Capacity building and awareness raising programmes on climate change impacts and the importance of conservation of food, water and environment • Encourage re-vegetation. • Reduce unsustainable human induced practices eg. sand mining	• Climate-proofing of tourist facilities • Adjusting seasonal tourism operation and recreational activities management • Tourism operations to monitor their energy and water usage and impose extra charges on excess use of these resources
Increased extreme weather events	• Flooding • Drought • Cyclones • High winds • Storm surges	• Damage to accommodation/infrastructure – access roads/power supply • Perceived high risk/negative publicity • Reduced reliability on food and water supplies • Increased health risks		• Carry out awareness raising programmes on importance of maintaining drainages • Government and villages to monitor illegal dumping of waste in our drainage systems • Encourage/Enforce village bans on clearing of forests in water catchment areas	• Improve and maintain culverts and drainage ditches to reduce flooding • Improve inland river crossings • Build house foundations at a level that takes into account flooding hazards at the sites • Construct proper coastal protection measures following

		from water borne diseases • Forest fire hazard • Reduced safety and comfort of visitors and local residents • Diminished scenic value of coastal and marine areas		• Encourage sustainable land use practices • Encourage replanting of coastal species as shelter from cyclones and storm surges • Review and improve EWS to include as many tourism operations as possible • Incorporate fire control or management plans in tourism site management plans for businesses on western side of Savaii • Provide training for villagers in fire fighting techniques • Develop green belts • Re-vegetation	expert assessment • Relocate buildings or other structures outside or set back from coastal hazard zones when buildings require replacement • Design buildings to withstand high intensity winds and use more durable building materials • Ensure all tourism properties implement water harvesting to be self sufficient • Provide fire-fighting equipment for village and community use • Underground investigation of ground water extraction
Ocean acidification	• Impacts on Marine biodiversity • Impacts on coral reefs and fish resources • Spread of invasive species	• Degradation of major tourist attractions – coral reefs • Degradation of marine ecosystems and decline in fish resources as a food source		• Training and awareness programmes on highlighting the links between sustainable land use and healthy marine environments at the community and village level • Training and awareness of the importance of marine protection at the community and village level • Strengthen village bans on unsustainable fishing practices contributing to marine degradation	• Coral replanting and conservation areas prioritized in secure locations

CHAPTER 6: Results Framework

The results framework for the implementation and monitoring of the NTCCASS progress has been prepared below including baseline data, performance indicators, targets and timeframes as well as the means of verification.

Table 3. Results Framework for NTCCASS

Objectives and Time Frame	Baseline	Outcomes and Impacts	Performance Indicators	Performance Targets & timeframes	Means of Verification	Risks and Assumptions
1. Increase the resilience of the tourism sector to climate change impacts through the implementation of immediate adaptation measures	• More than 70% [16] of beach fale operations are highly vulnerable to climate change impacts. • 1990 and 1991 cyclone data, show cost to Samoa's economy USD$ 440.0m which was greater than the country's GDP in recent years[17]	• Tourist operations, especially those most vulnerable are climate resilient. • Tourism sector with increased resilience to climate change, including extremes and variability.	• Reduced number of tourist operations damaged annually by climate related disasters (as % of total number of operations). • Reduced economic losses due to climate related disasters (as % of GDP)	• Less than 20% of beach fales at high risk to cc by year 2. • Economic losses to climate change related disasters reduced to no more than 10% of GDP from year 3	• Regular STA and MNRE surveys and assessment reports • DMO reports • National economic reports	• Operators will comply with building standards and guidelines. • Funding will be made available to implement climate change adaptation programme
2. Enhance the resilience of tourist facilities and infrastructure including key resource supply (food, water, electricity) to the impacts of Climate Change	• Existing infrastructures are poorly designed and are showing signs of failure. • EIA processes are generic and not specific to tourism facilities and operations.	• Tourism facilities and infrastructure are more resilient to the adverse impacts of climate change.	• Increased number of tourism facilities and infrastructure able to withstand impacts of intensive climate related disasters (as % of total number of operations). • Reduced economic	• More than 80% of existing tourism facilities and infrastructure are resilient to climate change impacts by year 5. • Economic losses to climate change related disasters	• MNRE and STA site inspection /assessment reports • EIA reports	• EIAs are made compulsory for all major infrastructure development projects.

[16] *i.e. 52 of 74 tourist sites inspected*
[17] *Bettencourt and Warrick 2000*

			losses due to climate change related disasters (as % of GDP)	reduced by at least 10 % of GDP by year 3.		
3. Increase the resilience of the tourism sector to the impacts of climate change through mainstreaming climate risks into tourism related policy instruments	• The SDS strategy covers the period 2008-2012 and includes a number of cross-sectoral activities relevant to climate change adaptation. The TDP identified climate change under key risks to the sector.	• Policies aimed at reducing risks to tourism infrastructure from climate change impacts are developed and supported.	• All policies aimed at reducing risks to tourism infrastructure from climate change are implemented and supported. • Scaled up climate smart investment in tourism, power, water, and coastal development increased.	• Clear increase in the number of policies aimed at reducing climate change impact on tourism infrastructure at end of project. • Increased number of climate smart investment in the tourism and related sectors by end of project.	• STA and MNRE NTCCASS implementation reports. • National reports to UNFCCC	• Funding is available to support development and promotion of climate change policies and strategies. • Existing policies are regularly reviewed to identify gaps, weaknesses and strengths.
4. Strengthen human capacity to identify, analyse, implement, monitor and evaluate cost-effective mitigation and adaptation measures	• STA has limited number of staff able to carry out preliminary assessment of mitigation and adaptation measures. • MNRE and PUMA have trained staff able to carry out comprehensive assessment of mitigation and adaptations measures.	• Increased capacity of government and tourism sector to manage climate risk including through coordinated investment projects.	• Number of climate sensitive investment initiatives using state-of- the-art climate risk information and risk management approaches (as % of total number of investment initiatives)	• At least 50% of total investment initiatives are using state of the art climate risk information and risk management approaches by 2012. • Programme of on-the –job- training for STA staff on climate change mitigation and adaptation assessment established and operational by year 2	• STA annual reports • SOE reports • STA training reports	• Climate change training is integrated into STA Workforce Development Plan 2010-2012
5. Raise awareness at the national,	• STA has a number of effective means	• Increased awareness of	• Communities demonstrate	• Clear increase in ability of	• Staff performance assessment	• STA networks are maintained and

sector and community levels about the need to promote and support climate change adaptation measures	for raising public awareness (e.g. network with other government agencies, Taskforces, Beautification committees, etc) but need to include climate change awareness into these networks.	government and community about importance of climate change and the need to address them.	climate change linkages to their environment and livelihood. • Ability of tourism sector and communities to recover from climate change impacts.	government and communities to cope with impacts of climate change by 2012. • Clear reduction in time for government and communities to return to 'normal' following a climatic event at end of project.	• Staff training reports • DMO reports following disasters	remain effective. • DMO reports • Staff performance assessment reports during and after natural disasters are made part of their overall performance assessment reports.
6. Develop sustainable financing mechanisms in support of tourism climate change adaptation actions nation-wide	• Government has developed a number of proposals for implementation of NAPA projects but there is little effort to encourage public-private sector initiatives to ensure sustainability of local funding.	• Sustainable climate change financing mechanism for the tourism sector established and resourced. • Private sector – driven initiatives increased in support of pro-poor tourism activities	• Status of financing mechanism. • A number of donors sign up to support financing mechanism.	• Appropriate financing mechanism developed by year 2. • At least 50% of required investment secured by year 5. • At least 10 pro-poor tourism activities in 5 TDAs supported under the NTCCASS.	• MoF financial reports. • Donor reports	• There is adequate interest from donor and private sector community to support financing mechanisms. • Government is willing to invest in long-term climate change financing.

ANNEXES

Annex 1: List of Definitions

Adaptation: refers to all those responses to climate change that may be used to reduce vulnerability. Adaptation can also refer to actions designed to take advantage of new opportunities that may arise as a result of climate change. Adaptation therefore include policies, actions and other initiatives designed to limit the potential adverse impacts arising from climate variability and change (including extreme events) and exploit any positive consequences.

Algal Blooms: is the rapid accumulation of the algae population (typically microscopic) in an aquatic environment. Algae blooms may occur in freshwater as well. Algal blooms may be green or red result from the changes in the chemistry or temperature of water. The addition of phosphorous as a result of pollution from fertilizers is an important factor in the growth of algal blooms.

Climate Variability: refers to short-to-medium term fluctuations in the climate system, and usually includes extreme weather events such as hurricanes, floods, droughts, and other related disasters caused by weather phenomena.

Beach Re-vegetation: refers to the replanting of previously denuded beach areas with appropriate coastal tree species or vegetation.

Biological Diversity: refers to the variety of all life forms and living systems. In other words, to all different plants, animals and micro-organisms, their genetic variation, and the ecosystem they are part of.

Biodiversity Hotspots: are areas that are particularly rich in biodiversity and may be under threat.

Bio-shields: are 20-50 meter wide strips of coastal forests that can provide protection from waves, wind and salt spray. Bio shields reduce the destructive potential of waves while providing useful products and services such as habitat for birds, fish, crabs and biodiversity.

Climate Proofing: is a shorthand term for identifying risks to a development project, or any other specific natural or human asset as a consequence of climate variability and change, ensuring those risks are reduced to acceptable levels through long-lasting and environmentally sound, economically viable, and socially acceptable changes implemented at one or more of the following stages in the project cycle: planning, design, construction, operation, and decommissioning.

Crown of Thorns Starfish: refers to a sea creature with a flattened body with five or more arms extending from a central point. Starfish harm corals and reefs.

El Niño: is a natural feature of the climate system and is characterised by unusually warm temperatures. El Niño is an oscillation of the ocean-atmosphere system in the tropical Pacific having important consequences for weather around the globe.

Extreme weather events: are bigger than normal weather events.

Extreme wind gusts: refer to extremely strong winds.

Global Climate Change: refers to a significant long-term change in the earth's climate system.

Greenhouse Gas Emissions (GHG): The release of harmful green house gases to the atmosphere.

Inundation: refers to the overwhelming of land areas and other resources by water (flood) as a result of heavy rain or flooding.

King Tide: is a popular name for an especially high tide.

Millennium Development Goals (MDGs): are Development Goals set by the United Nations to be achieved during the current millennium.

Natural Greenhouse Effect: is a natural warming process. Carbon dioxide and certain other gases are always present in the atmosphere. These gases create a warming atmosphere similar to the warming inside a greenhouse, thus the term "greenhouse effect".

Rain Spray: refers to spray of rain water carried by winds

Resilience: is the ability to be adaptive, responsive and quick to recover from a disaster so that communities are environmentally, socially and economically sustainable.

Saline intrusion of fresh water lenses: the incursion of salt water onto land or underground water lens often through coastal flooding or rising sea levels. (see also salt water intrusion).

Salt spray: refers to sprays of salt water resulting from wave action against coastline and carried inland by wind.

Salt water intrusion: is the incursion of salt water onto land or underground freshwater lens.

Siltation: is the pollution of water by fine sand or clay particles carried by running water and deposited as sediment.

Spring tide: are especially strong tides. In the lunar month, the highest tides normally occur roughly every 14 days, at the new full moon when the gravitational pull of the sun and the moon are in line.

Storm surge/Wave surge: a rise above normal water level due to the action of wind stresses on the water surface, it includes rises due to atmospheric pressure. Also known as wave surges.

Susceptibility: is the likelihood of being influenced or affected by a climate event

Spillway: refers to a channel specifically made to allow for the overflow of water from a reservoir or other infrastructure.

Topography: is the layout or arrangement of the physical features of an area

Vulnerability: is susceptibility to harm or damage potential. It considers such factors such as the ability of the system to cope or absorb stress or impacts and to "bounce back" or recover.

Wave action: can be described as the "behaviour" of the waves. Waves can either be constructive or destructive. Constructive waves act to build up the beaches; this occurs when more sediment (sand) is deposited on to the beach and less is removed with the receding waves. Destructive waves are the opposite of constructive waves where more sediment is removed than is deposited onto the beach.

Annex 2: Guidelines for Implementation

Consultations with government agencies, the tourism sector, communities, NGOs and international partners indicated that the application of the following Guidelines is essential for the design and implementation of tourism climate change adaptation initiatives.

1. Tourism Benefits and Incentives

Lesson: Tourism climate change adaptation actions need to have clear benefits to the tourism operations and surrounding environment in order to be successful.

Guideline: Ensure tourism and environmental needs are integral to activities when designing and implementing tourism climate change adaptation initiatives.

2. Networks and Partnerships

Lesson: Climate change adaptation actions have a greater chance of success when designed and implemented in partnership with other interested stakeholders.

Guideline: Actively build networks and work in partnership with other interested stakeholders who may also be concerned about similar climate change events.

3. Information Acquisition and Use

Lesson: Tourism climate change programmes and actions benefit from the application of relevant local, traditional and scientific climate related information.

Guideline: Ensure that relevant local and scientific climate related information is used to determine, assess and monitor adaptation initiatives throughout their life cycle.

4. Strengthening National and Sector Capacity

Lesson: For climate change action to be effective, national and sector staff need to have the skills, knowledge and ability to design, implement and monitor adaptation programmes and actions over the long term.

Guideline: Ensure climate change programmes provide adequate support for developing and strengthening capacity of relevant government agencies, tourism sector and other stakeholders.

5. Strategic Planning

Lesson: Climate change adaptation activities best serve the tourism sector when they take a long term strategic view consistent with national development priorities.

Guideline: Ensure tourism climate change activities are part of a broader strategy to address long term development aspirations of government.

6. Managing Expectations

Lesson: Unrealistic expectations can be detrimental to the success of ongoing adaptation programmes and stakeholder engagement.

Guideline: Carefully assess and communicate the costs, benefits, risks and uncertainties of adaptation actions to all stakeholders on an ongoing basis.

7. Monitoring and Evaluation

Lesson: Community and operations level monitoring and evaluation is effective in measuring and evaluating the effectiveness or otherwise of adaptation action and is important for building local M&E capacity.

Guideline: Design adaptation projects that use community and sector-based M&E capacity.

8. Local Knowledge and Practices

Lesson: Local knowledge of climate change impacts is fundamental to the design and implementation of tourism climate change adaptation programmes and activities.

Guideline: Local knowledge and practices must be identified and form the basis of tourism climate change adaptation activities.

9. Legal Framework

Lesson: Legal mechanisms (including customary and village law) can be used to enhance climate change adaptation outcomes.

Guideline: Where necessary, use legal mechanisms (including customary law) that enhance climate change adaptation outcomes.

10. Education and Communication

Lesson: Tourism climate change adaptation programmes are most effective when they incorporate mutual learning between all the stakeholders.

Guideline: Use a two-way process of communication and education to exchange knowledge, skills and perspectives at a range of stakeholder levels.

11. Land and Marine Resource Tenure

Lesson: It is important to clearly establish the tenure and resource use right of the land and marine areas involved in climate change adaptation programmes and activities.

Guideline: To the extent possible, clearly determine land, marine and resource tenure of the areas to be affected by climate change adaptation programmes and activities.

12. Enforcement and Compliance

Lesson: Design and implementation of compliance and enforcement systems can lead to effective and sustainable climate change adaptation outcomes.

Guideline: Support the establishment of effective site-specific compliance and enforcement programmes and systems.

Annex 3: NTCCASS 5 Year Implementation Work Plan

Objectives	Expected Outputs	Activities	Years					Agency / Organisation Responsible	Cost Estimate SAT$m	Possible Funding Sources
			1	2	3	4	5			
1. Increase the resilience of the tourism sector to climate change impacts through the implementation of immediate adaptation measures	1.1. Vulnerability and Risk Assessment including Climate Change Impacts of all tourism sites implemented and Priority Sites identified for immediate consideration.	1.1.1. Building on the Site Assessment Report from the NTCCASS, carry out detail Vulnerability and Risk Assessment including Climate Change Impacts of priority and recommended tourism sites and operations to clearly identify and document impacts on the sector	X	X				Lead Agency - STA Support: MNRE, MoF, TCCT, NCCCT, DPs, consultants	1.0	AusAID (NAPA 4, NZAP STSP, IFC, PPCR, LDCF GEF, STA, etc.)
		1.1.2. Based on Assessment in 1.1.1, determine Priority Sites for immediate consideration.	X	X				Lead Agency – STA and TCCT and Consultants from Activity 1.1.1 Support: Tourism Sector		AusAID (NAPA 4, NZAP STSP, IFC, PPCR, LDCF GEF, STA, etc.)
		1.1.3 Document local experience relating to climate change and disaster risks.	X	X				Lead Agency – STA and TCCT Support: Tourism Sector and consultants	0.1	AusAID (NAPA 4, NZAP STSP, IFC, PPCR, LDCF GEF, STA, etc.)
		1.1.4 Publicise and share reports of risk assessments with tourism operators.		X	X			Lead Agency – STA and TCCT Support: Tourism Sector	0.5	AusAID (NAPA 4, NZAP STSP, IFC, PPCR, LDCF GEF, STA, etc.)
	1.2. Concrete adaptation actions for priority sites implemented.	1.2.1. Implement immediate actions on the priority sites.		X	X	X	X	Lead Agency – STA, tourism operators and relevant stakeholders , consultants Support - TCCT, NCCCT, MNRE, MoF, DPs	10.0	AusAID (NAPA 4, NZAP STSP, IFC, PPCR, LDCF GEF, STA, etc.)
		1.2.2. Review and revise adaptation plan and Climate Change Adaptation Work Plan on an annual basis or when required.		X	X	X	X	Lead Agency – STA and TCCT Support: Tourism operators, NCCCT	0.50	AusAID (NAPA 4, NZAP STSP, IFC, PPCR, LDCF GEF, STA, etc.)

2. Enhance the resilience of tourist facilities and infrastructure including key resource supply (food, water, electricity) to the impacts of Climate Change.	2.1. Increased adaptive capacity of the tourism sector to climate change and disaster risks	2.1.1 Concrete adaptation actions in the management of coastal infrastructure, food supply, water resources, shoreline and tourism recreational activities are implemented in 5 Tourism Development Areas involving 9 villages and at least 15 community-owned beach tourism operations, ensuring that both women and men participate in and benefit from these. Initiatives are replicated in remaining TDAs.			X	X	X	Lead Agency - STA, TCCT, Consultants Support: MNRE, MWCSD, Tourism Operators, Communities, Key Utilities Providers	4.00	AusAID (NAPA 4, NZAP STSP, IFC, PPCR, LDCF GEF, STA, etc.)
		2.1.2 Building on the Vulnerability and Risk Assessment in Output 1.1, carry out EIA of priority sites to determine best protection options with the help of Coastal Engineers and other relevant expertise.			X	X	X	Lead Agency - MNRE PUMA, STA, TCCT, Support: Tourism Operators, Communities, LTA	2.00	AusAID (NAPA 4, NZAP STSP, IFC, PPCR, LDCF GEF, STA, etc.)
		2.1.3 Carry out regular inspections and maintenance of coastal protection measures.			X	X	X	Lead Agency – STA and TCCT Support: MNRE, LTA, tourism operators	1.00	AusAID (NAPA 4, NZAP STSP, IFC, PPCR, LDCF GEF, STA, etc.)
	2.2. Design and Construction of public and tourism related infrastructure improved and well planned.	2.2.1 Samoan Government through LTA and MNRE to review relocation of main roads at prime tourism centres inland to allow for better planning of climate resilient measures on tourism sites.		X	X	X	X	Lead Agency – LTA, MNRE Support: STA, Communities, MWCSD, MoF, MWTI and tourism operators	0.50	AusAID (NAPA 4, NZAP STSP, IFC, PPCR, LDCF GEF, STA, etc.)

		2.2.2 Design appropriate seawall options through the engagement of relevant technical experts including marine engineers and others for the different tourism sites.			X	X	X	Lead Agency – LTA, MNRE and STA Support: Communities and tourism operators	6.00	AusAID (NAPA 4, NZAP STSP, IFC, PPCR, LDCF GEF, STA, etc.)
		2.2.3 Improve drainage design and maintenance to protect tourist properties from flooding and sometimes beach erosion.		X	X	X	X	Lead Agency – LTA, MNRE and STA Support: Communities and tourism operators	3.00	AusAID (NAPA 4, NZAP STSP, IFC, PPCR, LDCF GEF, STA, etc.)
		2.2.4 Ensure beach replenishment particularly through establishment of man-made beaches meet environmental requirements and are resilient to the impacts of climate change.			X	X	X	Lead Agency - MNRE and STA, TCCT Support: Communities and tourism operators, NCCCT	0.50	AusAID (NAPA 4, NZAP STSP, IFC, PPCR, LDCF GEF, STA, etc.)
	2.3 All tourism operators are trained and connected to the Climate Early Warning and Information System.	2.3.1 Work with DMO and MET division to identify how the Early Warning System and Climate Information Services could better address tourism sector needs.		X	X	X	X	Lead Agency – DMO and Meteorology Divisions of MNRE, TCCT Support: STA, NCCCT , Communities and tourism operators	0.05	AusAID (NAPA 4, NZAP STSP, IFC, PPCR, LDCF GEF, STA, etc.)
		2.3.2 Expand Early Warning System to include as many tourism businesses as possible.		X	X	X	X	Lead Agency – DMO MNRE Support: STA, TCCT and tourism operators	0.05	AusAID (NAPA 4, NZAP STSP, IFC, PPCR, LDCF GEF, STA, etc.)
		2.3.3 Provide support for further development of Early Warning System.		X	X	X	X	Lead Agency – MNRE, STA, MoF Support: TCCT, Development Partners and tourism operators	0.05	NZAP STSP, STA, IFC, JICA,

	2.4 Tourism facilities are resilient to the impacts of climate change and natural disasters.	2.4.1	Review the Samoa Accommodation Standards and Develop Standards for other tourism facilities and activities including Environmental Standards integrating climate change and natural disaster risk resilience measures.		X	X	X	X	Lead Agency – STA, SHA and SSTA and Accommodation Standards Committee Support: Tourism Sector and Site Operators, Travel Trade	1.00	NZAP STSP, STA, IFC, JICA,
		2.4.2	Promote through the review of the Standards the possibility of establishing a minimum distance requirement from the water's edge where beach fales or other type of accommodation properties can be built as a climate resilient measure. If approved, include in legislation and monitor compliance.		X	X	X	X	Lead Agency – STA, SHA and SSTA and Accommodation Standards Committee Support: Tourism Sector and Site Operators, Travel Trade	0.05	AusAID (NAPA 4, NZAP STSP, IFC, PPCR, LDCF GEF, STA, etc.)
		2.4.3	For tourism properties with larger beach areas, encourage coastal protection by using bio-shields and other appropriate methods. Encourage re-vegetation of tourism sites with littoral and hardened indigenous species such as the Fetau, Talie, Futu, Pu'a, where appropriate to help stabilise the beach/soil.			X	X	X	Lead Agency – MNRE, SPREP, STA, TCCT Support: Tourism Sector and Site Operators, NBC	0.20	AusAID (NAPA 4, NZAP STSP, IFC, PPCR, LDCF GEF, STA, etc.),
		2.4.4	Establish and support use of Marine Protected Areas to help restore degraded reefs and lagoons and promote to neighbouring tourist sites.				X	X	Lead Agency – MAF, MNRE, SPREP, Conservation International, METI Support: TCCT, Tourism Sector and Communities	0.20	NZAP STSP, STA, IFC, JICA, LDCF GEF

		2.4.5 Promote and Encourage renewable energy options for the various sectors of the industry. Investigate incentives for easy access by the sector.		X	X	X	X	Lead Agency – MNRE, TCCT, SPREP, and Key Institutions Support: MoF, Tourism Sector	6.00	AusAID (NAPA 4, NZAP STSP, IFC, PPCR, LDCF GEF, STA, etc.)
		2.4.6 Raise awareness of tourism operators about the Standards and carry out regular inspections to ensure compliance.		X	X	X	X	Lead Agency – STA, and TCCT Support: Accommodation Standards Committee and Tourism Operators	0.10	AusAID (NAPA 4, NZAP STSP, IFC, PPCR, LDCF GEF, STA, etc.)
		2.4.7 Develop internationally recognised Accreditation/Rating Classification System for all tourism facilities and activities including an Award Scheme to encourage wide stakeholder participation.				X	X	Lead Agency – STA, SHA and SSTA and Accommodation Standards Committee Support: Tourism Sector and Site Operators, Travel Trade	1.00	NZAP STSP, IFC, STA, JICA, LDCF GEF
3. Increase the resilience of the tourism sector to the impacts of climate change through mainstreaming climate risks into tourism related policy instruments.	3.1. Climate change adaptation mainstreamed into tourism related policies and public private partnerships.	3.1.1 Integrate recommendations from the Mainstreaming Component of the NTCCASS into the Tourism Development Plan (during the Mid-Term Review) and other tourism related policies.	X	X	X			Lead Agency – STA and TCCT Support: NZAP, Tourism Sector, MNRE, MoF, TSC, consultants	0.10	NZAP STSP, GEF – LDCF, STA, Samoa-Aust Partnership,
		3.1.2 Management Plans integrating climate risks are developed in the 4 identified Tourism Development Areas involving 9 villages and replicated in other TDAs.			X	X		Lead Agency – STA and TCCT Support: NCCCT, NZAP, Tourism Operators, Tourism Sector Committee, consultants	1.00	GEF – LDCF, STA, Samoa-Aust Partnership, NZAP STSP,
		3.1.3. Develop Technical Guide on climate resilient Beach Tourism Management Practices				X		Lead Agency – STA and Tourism Sector in beach locations. Support: TCCT, MNRE, MoF, Tourism Sector Committee	0.35	GEF – LDCF, STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA

		3.1.4. Use Best Practices and NTCCASS guidelines to guide legislative and relevant policy review to help address human activities affecting climate change adaptation.				X	X	Lead Agency – STA and Tourism Sector in relevant TDAs Support: TCCT, MNRE, MoF, TSC	0.20	AusAID (NAPA 4, NZAP STSP, IFC, PPCR, LDCF GEF, STA, etc.)
		3.1.5 Raise public awareness about guidelines to ensure compliance.			X	X	X	Lead Agency – STA and TCCT Support: MNRE, SPREP	0.05	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA
		3.1.6 Carry out regular inspections to ensure compliance with guidelines.			X	X	X	Lead Agency – STA and TCCT Support: MNRE, SPREP	0.05	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA
	3.2 Mechanisms to improve compliance with climate change legislation and policies developed and enforced.	3.2.1 Empower communities to enforce customary laws in support of climate change adaptation.	X	X	X	X	X	Lead Agency – STA and TCCT, MWCSD Support: MNRE, NCCCT, tourism operators	0.05	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA
		3.2.2. Conduct community workshops to promote compliance and involve local communities in monitoring public compliance of legislation and policies.		X	X	X	X	Lead Agency – STA and TCCT, MWCSD Support: MNRE, NCCCT, tourism operators	0.05	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA
	3.3 Mechanism to factor climate change management into national decision-making processes on trade and transport, economic development and land use planning developed and enforced.	3.3.1 Review trade, transport, economic development and land use planning policies to allow integration of climate change issues.	X	X				Lead Agency – STA and TCCT, MWCSD Support: MNRE, NCCCT, tourism operators	0.20	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA

4. Strengthen human capacity to identify, analyse, implement, monitor and evaluate cost-effective mitigation and adaptation measures.	4.1 Local community capacity enhanced to deal with decision making process and coordination amongst key stakeholders improved.	4.1.1 Strengthen local community decision-making process with respect to climate change adaptation needs.		X	X	X	X	Lead Agency - STA, MNRE, MWCSD, TCCT Support: NCCCT, Tourism Operators	0.20	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA
		4.1.2 Conduct workshop to familiarise TCCT and NCCCT with NTCCASS, the guidelines and work plan.	X					Lead Agency – STA Support: TCCT	0.005	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA
	4.2 Well resourced Tourism Climate Change Project Unit established and fully trained.	4.2.1 Establish Project Unit and appoint supporting staff with clear Terms of Reference.	X	X				Lead Agency – STA Board of Directors Support: TCCT, NCCCT, Tourism Sector, Communities, MNRE, MoF	0.50	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA
		4.2.2 Provide adequate funding and relevant support for the Unit.	X	X	X	X	X	Lead Agency – STA and TCCT Support: MoF, DPs, NCCCT, MNRE	1.00	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF
		4.2.3 Provide adequate training for staff especially in climate change impact assessment and monitoring.	X	X	X	X	X	Lead Agency – STA and TCCT Support: TTT, NCCCT, MNRE	0.05	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF
	4.3 Capacity of STA staff and key supporting Government agency staff strengthened through training and education.	4.3.1 Assess staff training needs in relation to climate mitigation and adaptation.		X				Lead Agency – STA and TCCT Support: TTT, NCCCT, MNRE	0.05	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA
		4.3.2 Prepare climate change mitigation and adaptation training programme for relevant staff in STA and selected agencies and integrate in to Tourism Workforce Development Plan and Training Calendar.		X	X			Lead Agency – STA and TCCT Support: TTT, NCCCT, MNRE	0.02	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA
		4.3.3 Implement training programme based on revised calendar.				X	X	Lead Agency – STA and TCCT Support: TTT, NCCCT, MNRE	0.50	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA

	4.4 Capacity of tourism operators and communities strengthened through training and education.	4.4.1 Building on from the NTCCASS assessment and Vulnerability and Risk Assessment in Output 1.1, implement a South-South transfer of tourism adaptation case studies between operators in Samoa as well as counterparts in the Pacific Region and other Small Island Developing States.				X	X	Lead Agency –TCCT Support: TTT, NCCCT, MNRE, STA, Regional and International Institutions, Tourism Operators	5.00	LDCF GEF, STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA
		4.4.2 Based on the findings during the NTCCASS consultations and other studies prepare climate change mitigation and adaptation training programme for tourism operators and communities and integrate in to Tourism Workforce Development Plan and Training Calendar.						Lead Agency – STA and TCCT Support: TTT, NCCCT, MNRE	0.02	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF
		4.4.3 In consideration of climate variability, implement training and education programmes targeting accommodation and tourism site owners on product diversification techniques to enhance visitors' Samoan Experience.	X	X	X	X	X	Lead Agency – STA and TCCT Support: TTT, NCCCT, MNRE, TMT, Travel Trade, Tourism Operators	0.10	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF
		4.4.4 Implement training programme based on revised calendar.				X	X	Lead Agency – STA and TCCT Support: TTT, NCCCT, MNRE	0.20	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF
	4.5 Human activities contributing significantly to the risks of climate	4.5.1 Enhance the monitoring capacity of MNRE to effectively control both legal and illegal sand mining around the country.	X	X	X	X	X	Lead Agency – MNRE Support: STA, NCCCT, MWCSD, Tourism Operators and Communities	0.10	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF

	change effectively controlled and monitored.	4.5.2 Build the capacity of tourism operators and communities in understanding the implications of sand mining, land clearing and constructing roads on steep lands on the environment and contribution to climate change risks.	X	X	X	X	X	Lead Agency – STA and MNRE Support: NCCCT, MWCSD, Tourism Operators and Communities	0.10	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF
		4.5.3 Enhance the planning capacity of Utilities Providers in effectively planning climate resilient public and tourism infrastructure	X	X	X	X	X	Lead Agency – STA and MNRE Support: NCCCT, MWCSD, Tourism Operators and Communities	0.10	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF
		4.5.4 Promote and enforce village/community watch for forest fires especially during the dry season.	X	X	X	X	X	Lead Agency – DMO, MWCSD and STA Support: NCCCT, MWCSD, Tourism Operators and Communities	0.10	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF
	4.6 Training Programmes reviewed on an annual basis and gaps indentified for future trainings.	4.6.1 Review focus, target groups and outcomes of previous climate change trainings and identify gaps and necessary actions to address gaps.	X	X	X	X	X	Lead Agency – STA and TCCT Support: TTT, NCCCT, MNRE	0.50	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF
		4.6.2 Based on annual reviews, revise training programme and implement accordingly.	X	X	X	X	X	Lead Agency – STA and TCCT Support: TTT, NCCCT, MNRE	0.50	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF
	4.7 Guidelines for a range of training methods and content for different target groups, including formal courses, participation in adaptation demonstration	4.7.1 Identify groups with training needs in specific skill areas.	X	X				Lead Agency – STA and TCCT Support: TTT, NCCCT, MNRE	0.05	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF
		4.7.2 Design special courses (formal and informal) for provision of such training.		X				Lead Agency – STA and TCCT Support: TTT, NCCCT, MNRE	0.20	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF

	projects, etc produced.	4.7.3 Carry out training and evaluate outcomes.		X	X			Lead Agency – STA and TCCT and provider Support: TTT, NCCCT, MNRE	0.10	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF
		4.7.4 Carry out refresher courses as necessary.					X	Lead Agency – STA and TCCT and provider Support: TTT, NCCCT, MNRE	0.02	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF
5. Raise awareness at the national, sector and community levels about the need to promote and support climate change adaptation measures.	5.1 Audiences for tourism climate change awareness programmes identified.	5.1.1 Identify priority audiences including tourist operators, communities, etc for climate change awareness training.		X				Lead Agency – STA and TCCT and provider Support: TTT, NCCCT, MNRE	0	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF
		5.1.2 Keep register / database of stakeholder participation in training and awareness programmes.		X				Lead Agency – STA and TCCT and provider Support: TTT, NCCCT, MNRE	0.005	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF
	5.2 Priority messages and appropriate approaches for raising awareness of different stakeholders and stakeholder groups identified.	5.2.1 Identify key messages for awareness raising based on stakeholder needs.		X	X			Lead Agency – STA and TCCT and provider Support: TTT, NCCCT, MNRE	0.005	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF
		5.2.2 Conduct awareness raising for different audiences based on their specific needs.			X	X	X	Lead Agency – STA and TCCT Support: TTT, NCCCT, MNRE	0.05	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF
		5.2.3 Monitor and evaluate outcomes of awareness raising including effectiveness of approaches used.			X	X	X	Lead Agency – STA and TCCT Support: TTT, NCCCT, MNRE	0.02	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF
	5.3 Climate change issues integrated into existing tourism public awareness programmes.	5.3.1 Develop and incorporate climate change issues such as sea level rise, erosion, flooding, droughts, strong winds and others in public awareness programmes.	X	X	X	X	X	Lead Agency – STA and TCCT and provider Support: TTT, NCCCT, MNRE	0.04	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF

		5.3.2 Incorporate climate change issues in tourism promotion programs		X	X	X	X	Lead Agency – STA and TCCT Support: TMT, NCCCT, MNRE, Tourism Operators	0.50	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF
		5.3.3 Support media participation in climate change awareness raising programmes	X	X	X	X	X	Lead Agency – STA and TCCT Support: TMT, NCCCT, MNRE, Tourism Operators	0.02	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF
	5.4 Climate change issues incorporated into primary, secondary, tertiary and adult education.	5.4.1 Forge partnership with MESC for incorporation of climate change issues into school curricula at all levels.		X	X	X	X	Lead Agency – STA, MESC and TCCT Support: TSC, NCCCT, MNRE, Tourism Operators	0.10	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF
		5.4.2 Provide financial and human resources in support for implementation of climate change school curricula.		X	X	X	X	Lead Agency – STA, MESC and TCCT Support: TSC, NCCCT, MNRE, Tourism Operators	0.10	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF
	5.5 Long term commitment by promoting full participation of all stakeholders in all aspects of climate change adaptation including collection of information, awareness raising, identifying priorities, preventing destructive activities, project development etc ensured.	5.5.1 Keep a register of all key climate change and tourism stakeholders.	X	X	X	X	X	Lead Agency – STA	0.005	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF STA
		5.5.2 Develop simplified processes for information sharing.		X				Lead Agency – STA	0.005	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF
		5.5.3 Develop and distribute calendar of climate change related events for information of stakeholders.	X	X	X	X	X	Lead Agency – STA	0.01	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF
		5.5.4 Monitor effectiveness of stakeholder participation in climate change related events and identify ways of improving through the provision of surveys and questionnaires.		X	X	X	X	Lead Agency – STA	0.002	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF

	5.6 Database of key skill areas, roles and resources that should be represented in or available to the main tourism and climate change management agencies including tourist business operators developed and made climate change accessible to all.	5.6.1 Develop database of key skills, responsibilities and resources.			X			Lead Agency – STA	0.01	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF
	5.7 Links to regional and international institutions providing services and facilities not available locally such as rapid response facilities, universities, regional and international institutions developed and promoted.	5.7.1 Keep a register of regional and international institutions with rapid response services and facilities of interest during emergency situations.		X				Lead Agency - STA MNRE, LTA, DMO	0.01	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF
	5.8 A national database of tourism climate change projects including technical information, objectives, results, outcomes and lessons learned established and maintained.	5.8.1 Take stock of all climate change projects noting their objectives, outcomes and lessons learned.		X	X			Lead Agency – STA MNRE, TCCT	0.01	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF
	5.9 Success in tourism climate change adaptation management and	5.9.1 Identify successful climate change adaptation projects, document and publicise lessons learnt.	X	X		X		Lead Agency – STA MNRE, TCCT	0	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF

	actions including cost-benefit analysis publicised.	5.9.2 Raise awareness of decision-makers to benefits of climate change adaptation projects.						Lead Agency – STA MNRE, TCCT	0	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF
6. Develop sustainable financing mechanisms in support of tourism climate change adaptation actions nation-wide	6.1 National support ensured by mainstreaming climate change adaptation issues with national decision makers.	6.1.1 Secure local support for climate change adaptation from national budgets.		X		X		Lead Agency - STA, MoF,TCCT	0	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF
		6.1.2 Raise awareness of decision makers to benefits of climate change adaptation projects.				X		Lead Agency – STA and TCCT	0.02	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF
	6.2 Economic principles explored for addressing climate change related impacts including appropriate taxes, user-pay principle, and insurance cover and incorporated into national tourism legislation.	6.2.1 Explore appropriate economic principles to be applied in support of climate change adaptation initiatives.		X	X			Lead Agency – STA and TCCT Support: MNRE, SPREP	0.02	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF
		6.2.2 Develop appropriate legislation and policies for application of economic principles.			X			Lead Agency - STA	0.035	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF
		6.2.3 Raise public awareness through media about enforcement of economic principles.				X		Lead Agency - STA	0.01	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF
	6.3 The potential economic costs of specific tourism climate change adaptation action and the necessity of adequately financing effective climate change response plans clearly demonstrated.	6.3.1 Carry out cost-benefit analysis of various existing climate change adaptation measures (sea walls, groynes, off-shore breakwaters, re-vegetation, setbacks, beach nourishment, relocation, etc)			X	X	X	Lead Agency – STA and TCCT Support: TSC, NCCCT, MNRE, Tourism Operators	0.15	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF
		6.3.2 Promote and support implementation of effective climate change response plans.			X	X	X	STA, MNRE, LTA, MWTI, MoF, Tourism sector	0.20	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF

		6.3.3 Investigate possibility of establishment of a climate change adaptation trust fund for Samoa.		X				Lead Agency - STA, MNRE, MoF, consultant	0.03	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF
	6.4 Promote priority projects for donor support.	6.4.1 Negotiate with donor partners for support of urgent priority climate change adaptation projects.			X	X	X	Lead Agency - STA, MNRE, MoF	0.01	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF
	6.5 Use NTCCASS Guidelines and work plan to seek and coordinate external support.	6.5.1 Promote NTCCASS guidelines with donor partners.		X				Lead Agency – STA and TCCT	0	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF
		6.5.2 Use Guidelines and work plan to guide fund raising for tourism climate change adaptation work.		x				Lead Agency - STA, MNRE	0	STA, Samoa-Aust Partnership, NZAP STSP, IFC, JICA, LDCF GEF
TOTAL								**SAT$**	**39.38**	

Annex 4: List of References

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