



GREEN
CLIMATE
FUND



Case Study: Programmatic approach to flood management GCF, GEF/ LDCF/ AF funded projects in Samoa

Pacific Regional Training Workshop
Appraisal and Prioritization of options for adaptation planning'28-31 May 2018

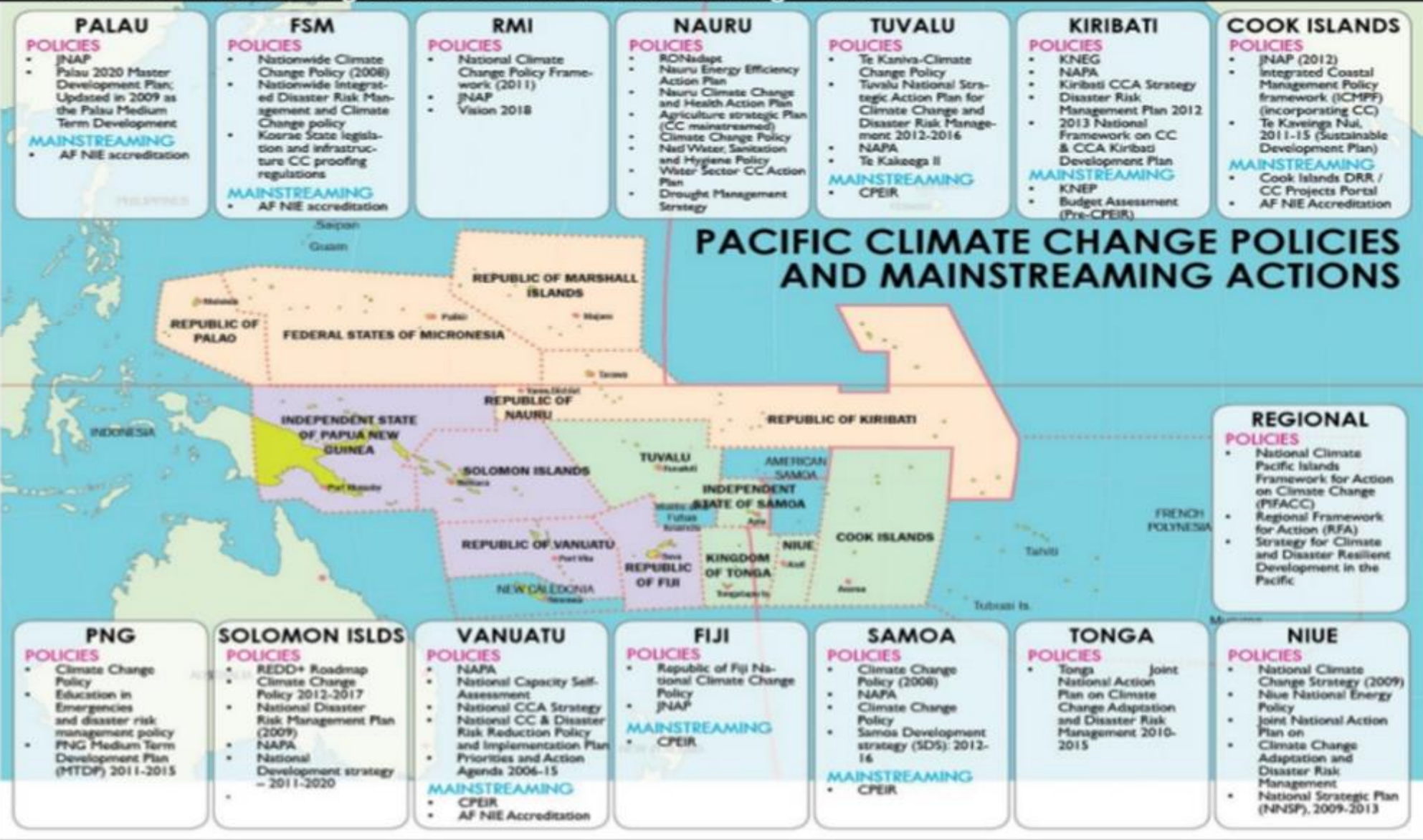
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IN PRACTICE – SOME EXAMPLES



Empowered lives.
Resilient nations.

Pacific Climate Change Policies and Mainstreaming Actions



Update on national adaptation plans

- The elements of this technical guideline have been followed and used by the PICTs to develop JNAPs, CC Policies and Strategies
- Joint National Action Plans (JNAPs) – Kiribati, Tonga, Vanuatu, RMI, Cook Islands, Niue, Tuvalu other countries have developed JNAP 2 for Cook Islands & Tonga
- Some countries have mainstreamed CC and DRM into their national development agendas – Samoa, Fiji, Solomon Islands
- Stand-alone CC and DRM Policies – FSM, PNG and working towards an integrated policy



UN
DP

UNDP Climate Change Adaptation Active Portfolio

Supporting developing countries to adapt to a changing climate

Empowered lives.
Resilient nations.

1 Supporting Integrated Climate Change Strategies



2 Advancing Cross-Sectoral Climate Resilient Livelihoods



3 Ecosystem-Based Adaptation



4 Fostering Resilience for Food Security



5 Climate Resilient Integrated Water Resource and Coastal Management



6 Community Resilience through Integrated Landscape Management



UN Strategy in the Pacific: UNDP's work on the ground is guided by the PNG Common Country Programme Document 2018-2022 and the Sub-Regional Programme Document for the Pacific Island Countries and Territories (2016-2022)

- **The National Adaptation Plan Global Support Programme (NAP-GSP)**
SIDS Pacific countries supported through the programme include PNG, Fiji, Kiribati, Samoa, Solomon Islands, Cook Islands and Tonga. The programme is funded by the GEF-LDCF. Links:

[United nations Pacific Strategy 2018-2022](#)

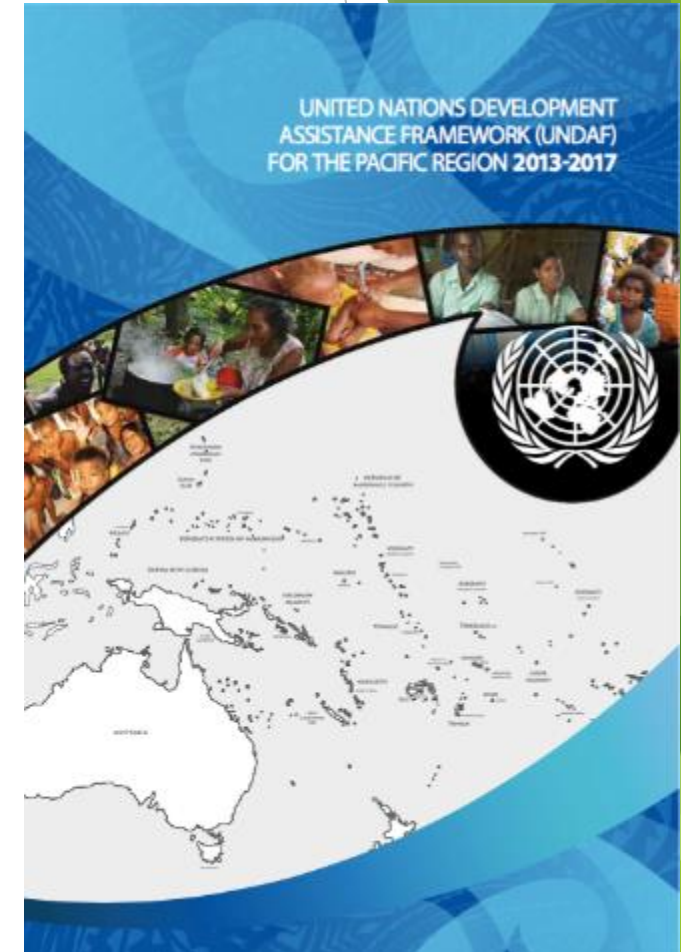
[Pacific Island Countries](#)

[National Strategic Development Priorities](#)

[Pacific Framework for Regionalism](#)

[SAMOA Pathway](#)

[Sustainable Development Goals 2018-2023](#)



Case study of Samoa: National Adaptation Programme of Action (2005)

- NAPA projects were developed in line with UNFCCC requests to identify immediate adaptation needs of Least Developed Countries, which assists in streamlining international aid
- All of the 9 NAPA Projects on the right were funded by the Global Environment Facility (GEF), Adaptation Fund, Australian Aid via various Implementing Agencies including UNDP

Samoa's 9 project profiles:

1. Securing community water resources
2. Reforestation, rehabilitation, community forestry fire prevention
3. Climate health cooperation
4. Climate early warning systems
5. Agriculture and food security stability
6. Zoning and strategic management planning
7. Implementation of coastal infrastructure management plans
8. Establishing conservation programs in highly vulnerable marine and terrestrial areas of communities
9. Sustainable tourism adaptation

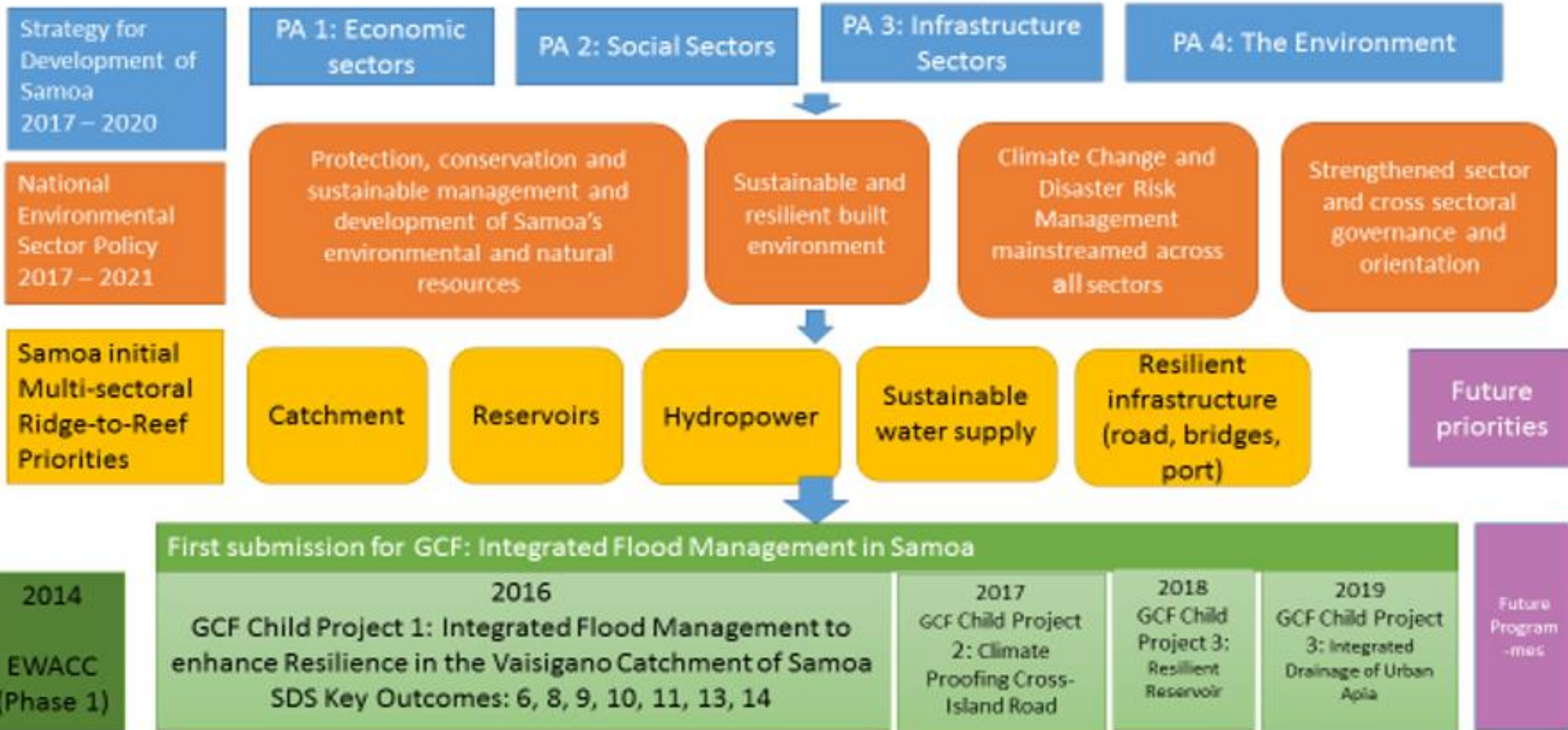
Overview of the GEF/ LDCF Projects relevant to NAPA

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- ▶ **NAPA 1:** Economy-Wide Integration of Climate Change and Disaster Risk Management to Reduce Vulnerability of Communities in Samoa (UNFCCC) - *MNRE-GEF, DMO, Water Resources, MoF, LTA, MWCSO, MWTI: PACC & GCCA EU/ EU*
- ▶ **NAPA 2 :** Integrating Climate Change Risks into the Forest Sector (UNFCCC)
- ▶ **NAPA 3,4 & 5 -** *Integration of climate change Risks and Resilience into Agriculture and health; Australian AID*
- ▶ **NAPA 6, 7 & 8 -** Enhancing Climate Resilience of Coastal Communities of Samoa to Climate Change (AF/PPCR/WB)
- ▶ **NAPA 9** Enhancing the Resilience of Tourism Reliance Communities to Climate Change Risks (UNFCCC) - *Samoa Tourism Authority*

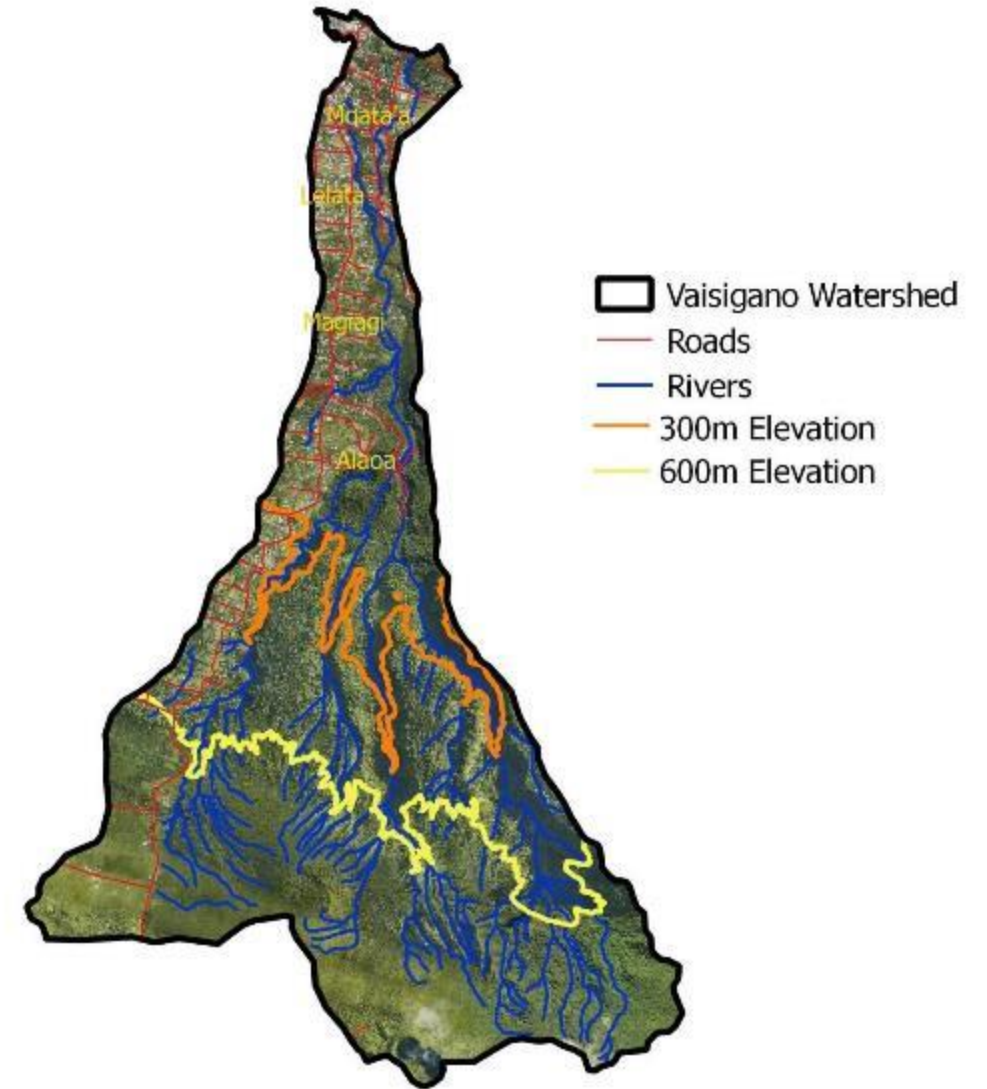
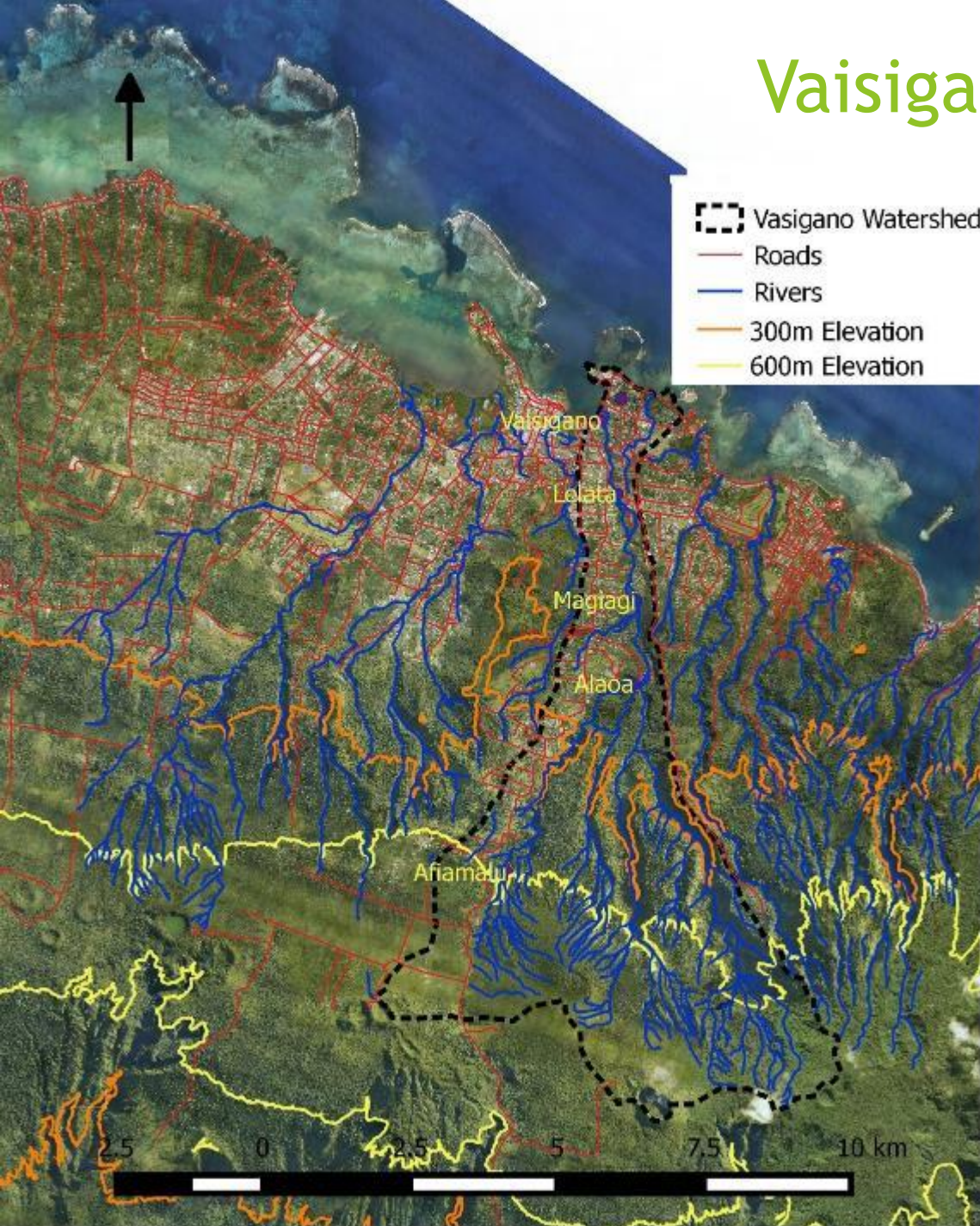
Long term vision: Towards an 'Environmentally Sustainable, Climate and Disaster Resilient' Samoa.



Samoa : Green Climate Fund Project

- ▶ The objective of Samoa's proposal is to strengthen adaptive capacity and reduce exposure to climate risks of vulnerable communities, infrastructure and the built environment in the Vaisigano Catchment.
- ▶ The project represents the GoS's initial steps in operationalising a comprehensive flood management solution to the likely consequences of extreme events in Apia.
- ▶ Three interlinked project outputs will be pursued:
 1. Capacities and information base strengthened for GoS to pursue an integrated approach to reduce vulnerability towards flood related risks,
 2. Key infrastructure in the Vaisigano River Catchment are flood proofed to increase resilience to negative effects of excessive water; and
 3. Upgraded drainage in downstream areas to increase capacity and allow for more rapid outflow of flood waters

Vaisigano Catchment



Zone of intervention:
Greater Apia Catchment Area

FUND-LEVEL IMPACT

Increased resilience of infrastructure and the built environment to climate change in Samoa.

OUTCOMES

Strengthened adaptive capacity and reduced exposure to climate risks of vulnerable communities, livelihoods and infrastructure in the Vaisigano Catchment.

OUTPUTS

1. Capacities and mechanisms in place for an integrated approach to reduce vulnerability towards flood-related risks

2. Infrastructures in the Vaisigano Catchment are flood-proofed to increase resilience to negative effects of excessive water

3. Drainage in downstream areas upgraded for increased regulation of water flows.

ACTIVITIES

1.1 Develop feasibility studies and integrate into overall programme approach

1.2. Establish early warning and health surveillance systems to track and manage flood-related health issues

1.3 Conduct awareness raising campaigns on building practices and designs for at risk communities living along the Vaisigano river

2.1 Channelization of segment 2 & 3 of the Vaisigano river streambed to decrease flood risks
 2.2 Establish ecosystem responses upstream for decreased flows during extreme weather events
 2.3 Construction upgrade of Lelata bridge
 2.4 Extension of floodwalls at Leone and Lelata bridge

3.1 Develop a climate resilient Drainage Master Plan

3.2 Upgrade drainage systems in nine (9) hazard areas to accommodate flooding events

BARRIERS

- Flood management under IWMP allows for only partially coping with increased long term hazards
- Cross-sectoral approach in the Vaisigano Catchment lacking due to absence of feasibility studies
- Early warnings only covering tsunamis and earthquakes and not floods
- Current building practices and designs put at risk communities living along the Vaisigano river

- Post-Evan new buildings codes are not enforced in previous flood affected areas.
- Financial constraints have limited the response to climate-proof infrastructure.
- Upstream afforestation in the upper and mid-catchment areas not at scale sufficient to make a difference
- Key infrastructure not designed to withstand increased water flows (Laelata bridge and Leoni bridge)

- Drainage systems in place are inadequate for the volume of water that is discharged as a result of (a) the Vaisigano during extreme events and (b) coastal inundation from frequent storm surges
- Sectoral plans recognize distinct watersheds, but do not plan for integrated management of these

PROBLEM

- Tropical storms and cyclones (damaging winds, rainfall, flooding, swells, and storm surges) have caused significant economic and social losses at the national (infrastructure) and household level.

- During extreme weather events (1 in 20 year events such as Cyclone Evans- reference the NIWA hazard map sent recently), the Apia Urban Area is most prone to flooding, particularly by excess water flowing through the Vaisigano River, causing both loss of livelihoods, dwellings as well as vital assets.
- The frequency of extreme events in Samoa is increasing and climate change projections

- Bridges are not able to withstand high volumes of flood water, severe damages suffered from tropical storms and cyclones.
- Cyclones have demonstrated that an extension of the Vaisigano bridge is needed to allow for increased channel capacity and minimize risk of damage of increased water flows

- Flood plains in AUA are flooded at every extreme weather event
- Increased volume of water flows from upper and mid-catchment areas

- A significant number of households suffer economic losses from flooding during extreme weather events for prolonged periods of time during and after floods creating health-related issues.

- Cross-sectoral approach in the Vaisigano Catchment needed with logical planning of drainage, assessing feasibility of better storage of both rain- and wastewater, EWS and raising awareness among vulnerable



Vinaka Vaka Levu
Fa'afetai Tele Lava

Thank you

Samoa CARES: Empowering and Building ownership



- An advocacy, partnership and fundraising platform for all CCA/Mitigation projects in Samoa
- A knowledge base platform to centralise all of our CCA/Mitigation initiatives
- A visual management tool to localise, learn and support projects that better suit the donor's mission
- A single, recognisable brand to bring all national CCA/Mitigation initiatives under common goals/values
- A neutral brand to welcome and support communication needs of any Ministry CCA/Mitigation project
- A stronger and more attractive value added proposition for the International development community
- A long term government commitment to foster stronger partnerships

#SamoalsReady



Samoa CARES: Communication Ecosystem

#SamoalsReady is a positive, forward looking campaign to celebrate the launch of the Community Integrated Management Plans, promote the Government’s CCA efforts, inspire Samoans working together, and thank the international community for their continuous support

