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## **Priority adaptations to climate change for fisheries and aquaculture in Samoa: reducing risks and capitalising on opportunities**

**Samoa Ministry of Agriculture and Fisheries, SPC, AusAID, GIZ and FAO**

**4-5 April 2013**

**Apia**

### **Background**

Fisheries and aquaculture are vital to the development goals of the Pacific Islands region. Nowhere else in the world do so many countries and territories depend as heavily on the benefits derived from catching or growing fish and shellfish. Industrial fish processing operations and fishing fleets account for a substantial proportion of gross domestic product in several countries and territories. Licence fees from distant water fishing nations also make even more significant contributions to government revenue, especially for small island states. In addition, fisheries and aquaculture provide jobs and other opportunities to earn income

Fish is also a cornerstone of food security in the region. Fish consumption is at least 2–4 times greater than the global average in more than half of all 22 Pacific Island countries and territories (PICTs). In rural areas, fish often makes up 50–90% of dietary animal protein and most of the fish consumed (60–90%) comes from subsistence fishing.

In Samoa, annual per capita consumption of fresh fish is estimated to be >80 kg per person per year. Fifty per cent of survey households in Samoa derived their first or second source of income from catching or selling fish with and the annual coastal fish catch is estimated to be around 8,500 tonnes, comprised of ~7,000 tonnes of finfish and 1500 tonnes of invertebrates. Samoa also benefits from both freshwater and coastal aquaculture.

To maintain or improve the important contributions made by fisheries and aquaculture in the face of the many drivers affecting the sector, PICTs are implementing the plans required to (1) optimise the economic benefits derived from tuna fisheries, (2) provide sufficient fish for the food security for rapidly growing populations, and (3) identify the number of livelihoods that can be sustained from coastal fisheries and aquaculture.

Climate variability and climate change are among these drivers and climate change is expected to progressively increase in significance. SPC and FAO are assisting PICTs to understand how climate change may affect their plans to maintain or improve the benefits they derive from fisheries and aquaculture, SPC has co-ordinated a comprehensive assessment of the

vulnerability of tropical Pacific fisheries and aquaculture to climate change<sup>1</sup>, and FAO has produced a global overview of the current scientific knowledge and adaptation and mitigation options for the sector<sup>2</sup>. Recently, SPC and FAO have summarised the priority adaptations to climate change for Pacific fisheries and aquaculture<sup>3</sup>

With the support of SPC, FAO and GIZ, the Ministry of Agriculture and Fisheries is organising this workshop to help stakeholders in the fisheries and aquaculture sectors to use this information to identify priority adaptation actions to climate change with the ultimate aim of building resilience and flexibility at the community and enterprise levels.

## **Objectives of the Workshop**

The objectives of the workshop are to provide the government departments, non government organisations, communities and enterprises with a sound understanding of (1) the main projected effects of existing climate variability, global warming and carbon dioxide emissions on the ecosystems supporting fisheries and aquaculture; (2) the consequences for current and future production, food security and livelihoods; and (3) the actions required to reduce the risks and capitalise on the opportunities.

An interactive format will allow participants to:

- understand the direct and indirect effects of climate change and ocean acidification on oceanic and coastal fisheries production and aquaculture;
- identify the implications of the projected changes to fisheries and aquaculture activities for economic development, food security and livelihoods; and
- choose and prioritise the adaptations and policies needed to build the resilience of enterprises and communities to the projects threats and to equip them to take advantage of the potential opportunities.

## **Expected Outputs**

Participants will leave the workshop with (1) an increased awareness of climate change implications for fisheries and aquaculture in Samoa; (2) knowledge of the tools to better understand the vulnerabilities of enterprises and communities to these changes; and (3) clear ideas about the planning and actions needed to assist the sector adapt to climate variability, climate change (including the risk of climate-induced natural disasters).

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<sup>1</sup> Available at <http://cdn.spc.int/climate-change/fisheries/assessment/>

<sup>2</sup> Available at <http://www.fao.org/docrep/012/i0994e/i0994e00.htm>

<sup>3</sup> Available at [http://www.spc.int/DigitalLibrary/Doc/FAME/Meetings/13\\_SPC\\_FAO\\_climate\\_workshop\\_Proceedings.pdf](http://www.spc.int/DigitalLibrary/Doc/FAME/Meetings/13_SPC_FAO_climate_workshop_Proceedings.pdf)

# Programme for Samoa Climate Change Workshop

**Thursday 4 April 2013**

08h30 **Registration** and tea/coffee – FAO meeting room

## **Session 1: Welcome and introduction**

09h00 Welcoming remarks by **CEO - MAF** and prayer

09h15 Keynote address & Official opening – **Hon. Minister - MAF**

09h30 Statement by FAO Representative

09h45 Statement by SPC Representative

## **COFFEE & TEA: 10h00 – 10h20**

10h20 The fisheries and aquaculture sector in Samoa– Joyce Samuelu Ah-Leong

10h40 Objectives and structure of the workshop – Johann Bell

## **Session 2: Understanding the projected changes to surface climate and Pacific Ocean**

11h00 Observed and projected changes to surface climate

11h20 Observed and projected changes to the ocean

11h40 Breakout groups to discuss projected climate change impacts

## **LUNCH: 12h20 – 13h30**

## **Session 3: Understanding projected changes to coastal fisheries**

13h30 Projected changes to coral reefs and mangroves

13h50 Projected changes to coastal fisheries

14h10 Breakout groups to discuss coastal fish habitats and stocks

## **Session 4: Understanding projected changes to tuna**

14h50 Projected changes to tuna food webs and stocks

## **COFFEE & TEA: 15h10 – 15h30**

15h30 Breakout groups to discuss effects on food webs for tuna

## **Session 5: Understanding projected changes to freshwater fisheries and aquaculture**

16h10 Projected changes to freshwater habitats and fisheries

16h30 Projected changes to aquaculture production

16h50 Breakout groups to discuss freshwater fisheries and aquaculture production

17h30 **End of Day 1**

## Friday 5 April 2013

### Session 7: Implications, adaptations and suggested policies

09h00 Implications for food security and livelihoods

09h20 Adaptations and supporting policies

09h40 Importance of 'Ridge to reef' approaches

10h00 Breakout groups to discuss implications, adaptations and policies

### COFFEE & TEA: 10h40 – 11h00

11h00 Working groups to identify priority adaptations

### LUNCH: 12h30 – 13h30

### Session 8: Communication and integrating with national strategic plans

13h30 Communicating climate change concepts to communities

13h50 National Action Plans

14h10 Breakout groups to discuss communication and National Action Plans

### COFFEE & TEA: 15h00 – 15h20

15h20 Finalising the outputs of the workshop

16h00 **Closing of the workshop – Remarks by CEO-MAF**