

27 March 2018

## Climate Change adaptation and the Role of Agriculture:

PAFPNet hosted 'Talanoa Dialogue' to develop a regional response to the Koronivia joint work on Agriculture statement from COP23 in Bonn.

### Introduction

A key item for Pacific countries listed on the agenda for the Subsidiary Body for Scientific and Technological Advice (SBSTA) Forty-eighth session Bonn, Germany, 30 April to 10 May 2018 is **Item 8: "Koronivia joint work on agriculture"**. This will guide work to address vulnerabilities of agriculture to climate change and approaches to addressing food security. The [Koronivia joint work on Agriculture \(KJW\)](#) came out of the Bonn COP23 meeting and focusses on 6 statements (see below).

In this PAFPNet Discussion Query, we seek your advice on what could be included in a Pacific joint response back to the SBSTA. We wish to focus on:

- Issues for agriculture caused by climate change
- The future of agriculture looks like in the Pacific, and
- Processes that communities and countries are using to adapt Pacific agricultural systems.

Essentially, the submission will need to address: Where are we? Where do we want to go? How do we get there?

We note the very short timeframe which we have been given, and seek your **comments back by 5th April**.

### Your comments?

*In the spirit of talanoa, of inclusive, participatory and transparent dialogue we welcome your comments and thoughts on the areas below. The purpose of [Talanoa](#) is to share stories, build empathy and to make wise decisions for the collective good. The six elements of the Koronivia decision are listed below. Please share stories or statements about things which have worked in your experience. You don't need to respond to all questions, but some detail in your answers will help to develop a well-rounded Pacific submission. Where are we? Where do we want to go? How do we get there?*

### **A. Modalities (ways, methods, partnerships) for implementation of further work on agricultural adaptation in the Pacific?**

For the Pacific, a regional approach offers benefits, coordinating and sharing the work of research institutions, ministries and others working in Member Countries. A community-oriented approach to the identification and development of a roadmap for agricultural adaptation strategies and approaches is desirable, but takes time and resources. Further work should be based on scientific and social evidence.

*A1. Describe approaches that would work best for your country to embed practices of agricultural, forestry and land-use adaptation to climate change in the Pacific?*

**B. Methods and approaches for assessing adaptation, adaptation co-benefits and resilience?**

All conservation agriculture approaches that employ methods of agroforestry, mixed gardening and soil conservation should be regarded as actively contributing to adaptation to climate change (climate smart agriculture).

Measures might address landscape degradation neutrality, forest loss, adoption of conservation tillage approaches, maintenance of continuous cover through agroforestry systems, and measures of soil health status. Opportunity cost measures of avoided deforestation or avoided land degradation may be one method for assessing co-benefits and resilience.

*B1. What sources of information could be used to measure adaptive changes in agricultural systems (including co-benefits and improved community resilience)?*

**C. Improved soil carbon, soil health and soil fertility under grassland and cropland as well as integrated systems, including water management?**

PICTs support approaches that improve the management of closed systems of nutrient management i.e. all approaches that reduce or prevent the losses of nutrients from the production system, as this has multiplier benefits for the reduction in importation of these elements with the associated transport emissions. Key areas for work include national agroforestry policies, further development and analysis of economics and management of agroforestry systems.

*C1. What are the greatest risks to good soil management and describe the most successful soil conservation processes that you are aware of in your?*

**D. Improved nutrient use and manure management towards sustainable and resilient agricultural systems?**

*D1. Suggest ways that soil biological activity and soil health can be improved, based on your national experience.*

**E. Improved livestock management systems?**

There has been much good work on livestock management in PICTs which must be continued to ensure that nutritional requirements of PICTs are met, and that livestock production systems contribute to adaptation through careful stewardship of the farm management, and that livestock do not contribute to greenhouse gas emissions through contributing to land degradation (soil exposure, deforestation).

*E1. What options do you see for improving integrated crop and livestock production systems to ensure efficient use of nutrients, livestock waste and protection of soils, and what needs to change?*

## **F. Socioeconomic and food security dimensions of climate change in the agricultural sector?**

Climate change impacts have strong negative effects on agricultural productivity in PICTs, especially low lying Atoll states. These effects are directly linked to reduced food security and thereby a loss of socioeconomic wellbeing. The Pacific Community recognizes that enduring decisions regarding NDCs and climate change must include equitable distribution of resources and gender-inclusive approaches to ensure that the nutritional needs and welfare of PICT populations will be safeguarded.

Priority areas for work include improved disaster contingency planning, increased access to agricultural insurance and other financial instruments for smallholder farmer and processor support, support for village-level climate change adaptation programs.

*F1. Suggest three changes to increase agricultural resilience in the Pacific?*

### **Background**

In the lead-up to the KJW statement at the Bonn Conference of Parties meeting (COP 23), which was chaired by Fiji, a series of workshops were held to discuss the role of agriculture in climate change adaptation and mitigation. Workshops identified problems such as: decline in crop productivity; changing planting dates; displacement of agricultural frontiers; changes in the life cycles of pests and diseases; changes in precipitation patterns (increase in precipitation variability, heavy or erratic rainfall leading to flooding and landslides and/or drought, cyclones, periodical water scarcity or stress and devastating hailstorms); and desertification and soil degradation. All these impacts affect productivity, food security and the resilience of agricultural systems. ([SBSTA Workshop report](#), Nov 2016, para 32).

Countries emphasized the need to find local solutions that contribute to the global climate solution through the use of technology, knowledge transfer and capacity-building, which are all important to ensuring sustainable and resilient agricultural systems. (Para. 35)

Particular technologies and practices that enhance productivity and resilience have been identified including: (1) the preparation and implementation of soil use and management plans focused on decreasing soil loss through, for example, decreased intensity of tillage; (2) resilient grassland and cattle management promoting soil restoration; (3) innovative irrigation of crops; (4) controlling soil evaporation; (5) dryland farming practices; (6) increased application of organic fertilizer; and (7) agroforestry and use of forests as reservoirs of water to support agriculture.

It was noted that farmers need more investment and financing frameworks (e.g. programmes to incentivize energy efficiency and renewables, research and development and extension services) as well as exchange of information and knowledge and capacity-building to manage existing carbon stocks and sequester additional carbon on their farms. (Para. 43)

Some of the issues recognised at the workshop, which could be part of the KJW initiative included:

- (1) exchange of information on efficient water management and irrigation systems;
- (2) assessment of ecosystem-based approaches for adaptation and participatory and gender-responsive approaches to climate action;
- (3) on- and off-farm practices and technologies, together with approaches to landscape-level management, including interaction among various sectors;

- (4) providing access to integrated technologies for the control of climate change induced pests and diseases;
- (5) exchange of information and knowledge on adaptation practices and technologies and climate information services;
- (6) climate-informed agricultural insurance;
- (7) capacity-building; and
- (8) the identification of innovative technologies and know-how for distribution through technology transfer mechanisms and international collaboration (para 51).