Improved crop production and livelihoods through soil health approaches: Climate Smart Agriculture and priorities going forward

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So what is Climate Smart Agriculture and why care?

1. Sustainable agricultural productivity, to support equitable increases in farm incomes, food security and development;
2. Adapting and building resilience of agricultural and food security systems to climate change at multiple levels; and
3. Reducing greenhouse gas emissions from agriculture (including crops, livestock and fisheries)
**Significant Achievement 1**: Improved Soil Health leading to increased crop production and livelihood of the target families

**Significance to PICTs:**
Downward spiral of soil fertility is becoming a big factor affecting food production in the Pacific Islands

SPC Land Resources Division providing scientific research and insight lead with partners.

**Beneficiaries:**
- Fiji, Samoa, Kiribati, Tuvalu, RMI and Tonga
The context and issue:

- Cropping systems in the Pacific face declining fertility, structure and biological health of soils.
- Moreover, traditional knowledge of actively managing and investing in organic residues is in decline or has been lost.

Finding answers through (participatory) research

Our contributions: Science and technical support, and partnership facilitation
Challenges we faced:
• Capacity of counterparts and farming communities
• Lack of tools, equipment and facilities

Lessons we learned:
- Community participation and ownership is key
- Capacity building is not a one off action, and needs to be supported long term
- Investment in, and accounting for, research pays off and is a worthwhile action.
Challenges we faced:
• Bridging the gap between seasonal climate forecasts and decision makers on the ground

Lessons we learned:
• Policy, decision makers and farmers know and believe in Climate variability and extreme events
• Preliminary results of work in Tonga suggests that any future improvement in forecast skill will not lead to substantial yield improvement.
• ACIAR is in a position to help SPC support countries in research into use of SCF
More CSA learnings

Bringing back trees to the farming systems

• Seed smart is great for food security – annual crops are not permanent sinks
• Trees – forest, fruits, traditional nutritious crops are longer term sinks
• We need to bring back trees to the farming systems
• Strengthen plant protection measures at farm level and develop on-farm biosecurity

- Improve resilience and reduce GHG emissions apart from improving productivity
How can we be climate smart?

Soil health and water management - whatever we do we must increase SOC
Soil Health Technology Impact Assessment

Pre Project • Post project

Positive / Negative Δ...
Buying power
Non-Rejection...
Farming system
Sales Performance
Average Yield...