

Tuvalu Agroforestry Workshop Report

7th - 14th October, 2014



Trainers from SPC:

Cenon Padolina, *Forest Genetic Resource Officer*

Vinesh Prasad, *Agroforestry Technician*

Arshni Shandil, *Research Technician*

Workshop Objectives:

- 1) To organise and conduct an agroforestry training workshop under the EU-funded Global Climate Change Alliance: Pacific Small Island States (GCCA: PSIS) Project in collaboration with the Department of Agriculture of Tuvalu.
- 2) To provide technical advice in designing and establishing agroforestry demonstration site in Funafuti.

Background

The overall objective of the EU-funded GCCA: PSIS project in Tuvalu is “*Improving Agroforestry Systems to Enhance Food Security and Build Resilience to Climate Change in Tuvalu*” is to increase resilience to climate change impacts and enhance food security. The project will benefit the 6,194 people living in the urban capital Funafuti (55% of the population) as well as one outer island yet to be selected. The key result areas are as follows: (i) enhanced understanding of agroforestry among community members, land owners, and *Kaupule* through awareness raising, capacity building and training; (ii) improved agro-forestry system implemented in demonstration sites in Funafuti and one outer island; (iii) marketing potential and access evaluated; and (iv) enhanced coordination and capacity of the Department of Agriculture.

This project shall attempt to lessen the negative impacts of climate change and urbanization in Funafuti and outer islands through reviving traditional integrated farming practices combined with innovative 'climate ready' crops and trees. The project will demonstrate intensive agricultural production on under-utilized land, while diversifying crop varieties available nationally. Such outputs will help to stabilize local food supplies, thereby enhancing food security and building resilience to economic shocks, extreme events, and the predicted effects of climate change.

Specifically the project will establish integrated agro-forestry demonstration sites on two islands, where unproductive trees will be thinned, the soil will be enhanced, and the sites replanted with trees and crops sourced from within Tuvalu, as well as imported planting materials from the Secretariat of the Pacific Community's (SPC) climate ready plant collections developed by the Centre for Pacific Crops and Trees (CePaCT). An extension team from the Department of Agriculture will train the land owners and communities in the cultivation and usage of the crops in this integrated agro-forestry farming system. Training and awareness raising will be a key component of the project, and will target farmers, women's groups, and school children.

The Forestry and the Centre for Pacific Crops and Trees (CePaCT) Teams of the Land Resources Division of SPC, in collaboration with the EU-GCCA: PSIS Team, are working together on this training on agroforestry as an initial step to meeting the aims of this Project for Tuvalu.

Summary:

Wednesday, 8th October, 2014:

Tuvalu's Prime Minister, His Excellency the Honourable Enele Sopoaga, the Minister for Natural Resources, Hon. Elisala Piita and Permanent Secretary Mr Kakee Kaitu attended the opening of the workshop. In his keynote address the Prime Minister said, 'It is very important for all of us to realise that the effects of climate change have already begun to make themselves felt, and we are one of the worst affected countries. However, we have to adapt to this changing environment and find a means of surviving. Adopting agroforestry practices that contribute to a resilient and food secure Tuvalu is the way forward and I urge all of you to take full advantage of the opportunities provided.'

The Minister of Natural Resources, in his opening remarks, highlighted the importance of agroforestry for sustenance of food security and providing resilience towards climate change and helping communities to adapt.

The workshop proper began after 10.30am and continued until 5.00pm. The final session was a demonstration on transplanting tissue culture plantlets into potting bags in the screen house. All the participants were involved in this practical training session.

Thursday, 9th October, 2014:

All the participants were introduced to the principles of nursery design and management and plant propagation techniques including seed treatment and seedling production, grafting and marcotting. The whole day training was focused on providing all the participants with a "hands-on experience" on plant propagation techniques.

Friday, 10th October, 2014:

The training workshop was attended by a record number of sixty farmers and government representatives, including thirteen women, from all nine islands of Tuvalu.

The participants were divided in groups according to the islands they represented. Altogether there were 8 groups, and they were given the task to plan and design their agroforestry demonstration farms based on the condition prevalent in their respective island. All groups presented their activity before lunch and from their design, it was evident that they all understood the concept of agroforestry and there was possibility to turn their design into a project should some funding be made available.

Following lunch, all participants went to the demonstration site being established by the Department of Agriculture to plant trees. Seedling of Coconuts (*Cocos nucifera*), Kanava (*Cordia subcordata*), Fetau (*Calophyllum inophyllum*), Futu (*Barringtonia asiatica*) and Fala (*Pandanus tectorius*) were planted on the perimeter of the demonstration site to act as wind break. Senile coconut palms were removed and coconut seedlings were planted.

The wood/shrub chipper machine was used to thrash all the debris including fallen coconut leaves and fronds were chopped to speed up decomposition that will act as soil to grow vegetables.

Saturday, 11th October, 2014:

The participants were given opportunity to provide feedback on the training and discuss the way forward for the agroforestry concept. An exit strategy for the current project was discussed.

The final practical session was a demonstration on the process of composting held at the DoA nursery.

The workshop was officially closed by Director of Agriculture at 12.00 midday.

The Ministry of Natural Resources hosted a lunch for all the participants of the training and to honour one of their retirees, Fialua Monise of the Department of Agriculture.

Annex 1

Agroforestry Training Programme

Funafuti, Tuvalu

Day One: Wednesday, 8th October 2014

Time	Activity	Resource person
8.30am – 10:00am	<ul style="list-style-type: none"> - Devotion - Welcome Remarks, Dept. of Agriculture - Welcome Remarks, SPC- EU Global Climate Change Alliance: Pacific Small Island States Project - Keynote Address, Ministry of Natural Resources - Round the room brief introduction of participants and resource people -arrangements\logistics\housekeeping 	<p>Pastor - Rev.Kitiona Tausi</p> <p>Director of Agriculture – Mr Itaia Lausavave</p> <p>GCCA: PSIS National Project Coordinator- Mr Faoliu Teakau, Department of Environment</p> <p>Minister of Natural Resources – Hon Mr Elisala Piita</p> <p>GCCA: PSIS Agriculture Technical Officer- Mr Tavau Teii, Department of Agriculture</p> <p>Ms Tinai Kepa- GCCA:PSIS Financial Manager, Master of Ceremony</p>
10:00am – 10:30am	Morning Tea and Group Photo	
10:30am – 10:50am	The Effects of Climate Change in Tuvalu	Department of Environment – Soseala Tinilau
10:50am – 11:10am	The SPC – EU GCCA: PSIS Project in Tuvalu	Mr Faoliu Teakau, Department of Environment
11:10am – 11:45am	Concept and Practices of Agroforestry in the Pacific	SPC Forestry Genetic Resource Officer- Mr Cenon Padolina
11:45am – 12:30pm	Potential of Agroforestry in Tuvalu	Itaia Lausavave
12:30pm -1:00pm	- Selection of Agricultural crop species for Agroforestry in Tuvalu	Mr Tavau Teii / SPC Agroforestry Technician- Mr Vinesh Prasad
1:00pm -2:00pm	Lunch break	
2:00pm – 2:30pm	- Selection of Tree Species for Agroforestry in Tuvalu	Fialua Monise / Cenon Padolina
2.30pm – 4:30pm	- Propagating tissue culture plantlets	Ms Arshni Shandil, SPC CePaCT (Centre for Pacific Crops and Trees)

Day Two: Thursday, 09th October 2014

Time	Activity	Resource person
8:30-10:00	Basic principles and discussions on nursery design and management: and	Cenon Padolina

	plant propagation techniques. - Propagation by seeds - Farm maintenance\planting	
10:00am – 10:30am	Morning Tea	
10:30am – 1.00pm	Practical Training - transplanting of Tissue culture to potting bags - Seed treatment and sowing	Cenon/Vinesh
1.00 pm – 2.00pm	Lunch break	
2:00pm – 4:30pm	Practical Training - Grafting - Budding - Marcotting	Cenon/Vinesh

Day Three: Friday, 10th October 2014

Time	Activity	Resource person
8.30am – 12:30pm	Group Work: Planning / designing an agroforestry farm on demo sites	Itaia Lausaveve/ Fialua Monise/ Tavau Teii
12.30pm – 2.00pm	Lunch Break	
2.00pm – 4.30pm	Demo farm development – implanting the design and actual planting	Itaia Lausaveve/Cenon Padolina/Vinesh Prasad

Day Four: Monday, 13th October 2014

Time	Activity	Resource person
8.30am – 10.00am	Compost making and Soil Improvement for Agroforestry Farms	Vinesh Prasad/Tavau Teii
10:00am – 10:30am	Morning Tea	
10.30 am – 11.30 pm	Integrated Pest Management	Matio Lonalona / Sam Panapa
11:30pm – 12:15pm	Post-Harvest Handling and Value chain.	Uatea Vave / Vinesh Prasad
12:15pm – 1:00pm	Agribusiness and Record Keeping	Matio Lonalona /Itaia Lausavave
1.00 pm – 2.00pm	Lunch break	
2:00pm – 3:30pm	- Discussion - Workshop exit strategy - Evaluation of the Training	Cenon/ Itaia/ Vinesh/ Faoliu/ Tavau
3:30pm – 4:30 pm	Closing ceremony	Itaia Lausaveve

Annex 2

List of Participants

Personal Details of Trainees							
No.	First name	Surname	Job title	Organisation	Sex	Country Represented	Year of birth
1.	Vaipuna	Esela	Planner	Kaupule	M	Tuvalu	1985
2.	Sitaake	Lopati	Kaupule Secretary	NTO Kaupule	M	Tuvalu	1968
3.	Molia	Tauita			F	Tuvalu	1980
4.	Setala	Soa	-	NTO	M	Tuvalu	1968
5.	Kaipati	Vavea	Agriculture Extension Officer	NTO KPL	M	Tuvalu	1971
6.	Talialo	K.Senee	-	N-Mea PKPL	F	Tuvalu	1985
7.	Faasiai	Usia	-	N-Maga	M	Tuvalu	1984
8.	Seti	Sopoaga	-	N-Maga	M	Tuvalu	1966
9.	Lapana	Ene	Retiree	Nanumaga	M	Tuvalu	1959
10.	Mesu	Fuafanua	Kaupule Agricultral	Nukufetau	M	Tuvalu	1982
11.	Pakasoa	Laulenese	Planner	Nukufetau	M	Tuvalu	1981
12.	Faataoto	Salesh	Funaota Project Foreman	Nukufetau	M	Tuvalu	1951
13.	Tutasi	Toma	Seafarer	Nukufetau	M	Tuvalu	1955
14.	Ioane	Malologa	Local Farmer	Dita Farmers Co.op	M	Tuvalu	1947
15.	Kamali	Talai	Land Owner	-	F	Tuvalu	1949
16.	Aasa	Tealoti	Senior Agric. Officer	Govt.	M	Tuvalu	1960
17.	Amosa	Taui	Island Secretary	Kaupule Vaitupu	M	Tuvalu	1957
18.	Seti	Safega	Farmer	Farmer	M	Tuvalu	1956
19.	Fialua	Monise	Retired Agriculture	Landowner	M	Tuvalu	1959
20.	Auega	Lafaele	Agriculture	-	M	Tuvalu	1977
21.	Faavae	Lutelu	GCCA/PSIS Rep	Dept. Agric	M	Tuvalu	1985

22.	Imo	Fiamalua	Energy Officer	Talafai	M	Tuvalu	1986
23.	Esau	Teagai	Youth & Sports Dept.	Education	M	Tuvalu	1990
24.	Meele	Tealala	Lolua	Non	F	Tuvalu	1979
25.	Pouleta	Uatea	Farmer	Nukulaelae	M	Tuvalu	1967
26.	Fiavaai	Tinei	Kaupule	Pepesila side	M	Tuvalu	1960
27.	Colin	Namowai	Kaupule	Pepesila side	M	Tuvalu	1984
28.	Pule	Taata	Kaupule	Pepesila side	M	Tuvalu	1956
29.	Kopuuga	Stanley	Farmer	Nui Kaupule	M	Tuvalu	1976
30.	Mateitalo	Kula	Farmer	Nui Kaupule	M	Tuvalu	1971
31.	Imokene	Hosea	Co, Funafuti	Kaupule F/Futi	F	Tuvalu	1994
32.	Mesako	Usufono	Land Owner	Funafuti	M	Tuvalu	1941
33.	Teuteu	Kaisami	Youth Member	F/Futi Youth	M	Tuvalu	1991
34.	Fatua	Lafita	Community Worker	Nukufetau	F	Tuvalu	1982
35.	Sau	Pauapa	Plant Protection	Funafuti	M	Tuvalu	1963
36.	Melipa	Saufatu	Draftman	Govt.	F	Tuvalu	
37.	Pauke	P.Maani	Nutritionist	Health	F	Tuvalu	
38.	Pasivao	Maani	General Manager	TCTC	M	Tuvalu	
39.	Teuleala	Manuella	ICC USP	-	F	Tuvalu	1965
40.	Tilaima	Logomalie	Officer	Home Affairs	M	Tuvalu	1960
41.	Evolini	Sakaio	Asst. Plant Protection	Agriculture	F	Tuvalu	1978
42.	Selotia	Tausi	Agric. Ext'n Officer	Agriculture	F	Tuvalu	1976
43.	Uatea	Vave	Senior Ext'n Officer	Agriculture	M	Tuvalu	1965
44.	Matio	Lonalona	Quarantine Officer	Agriculture	M	Tuvalu	1981

45.	Temetui	Mauga		Home Affairs	M	Tuvalu	1965
46.	Panapasi	Sosene	Nursery Man	GCCA	M	Tuvalu	1993
47.	Toala	Taukatea	Nursery Man	GCCA	M	Tuvalu	1986
48.	Katoa	Motu	Nursery Man	GCCA	M	Tuvalu	1985
49.	Togaitapu	Nitz	Nursery Man	GCCA	M	Tuvalu	1993
50.	Tuiiai	Kepa	Financial Officer	GCCA	F	Tuvalu	1981
51.	Tavau	Teii	Technical Adviser	GCCA	M	Tuvalu	
52.	Itaia	Lausavave	Director	Agriculture	M	Tuvalu	1960
53.	Faoliu	Teakau	Co-ordinator	Home Affairs	M	Tuvalu	1991
54.	Akunisi	Seamoa		Agriculture	F	Tuvalu	1970
55.	Hon. PM Enele	Sopoaga	Prime Minister	Tuvalu	M	Tuvalu	
56.	Hon. Elisala	Piita	Minister of Natural Resources	Tuvalu	M	Tuvalu	
57.	Kakee	Kaitu	Permanent Secretary for Natural Resources	Tuvalu	M	Tuvalu	
58.	Assistant Secretary of Natural Resources		Assistant Secretary	Tuvalu	M	Tuvalu	
59.	Reverend Kitiona	Tausi	Pastor		M	Tuvalu	
60.	Siaki	Nala	Nurseryman	ICCAI	M	Tuvalu	

ANNEX 3. Pictorials



The Opening Programme with the presence of the Prime Minister of Tuvalu, the Honourable Enele Sopoaga, the Minister of Natural Resources, the Honourable Elisala Piita and the Permanent Secretary of the Ministry of Natural Resources, Mr. Kakee Kaitu



The Prime Minister, the Honourable Enele Sopoaga, giving his inspirational talk during the Opening Ceremony



The Minister of Natural Resources, the Honourable Elisala Piita, delivering his Opening Remarks



The Director of Agriculture, Mr. Itaia Lausaveve facilitating the Opening Ceremony



A demonstration on transplanting of Tissue Culture Material into potting bag by Arshni of CePaCT



Hands on training on grafting a citrus seedling

One of the participants doing the transplanting of the TC Material into potting bags



Hands on training on marcotting a breadfruit tree



Hands on training on marcotting a breadfruit tree



The participants involved in group work on designing their own agroforestry farm in their respective island



A participant presenting her group work on their proposed design for an agroforestry farm



The participants were engaged in planting the proposed agroforestry demonstration farm in Funafuti being established by the Department of Agriculture



A Niu (*Cocos nucifera*) seedling planted on the perimeter of the agroforestry demonstration area during the field training



A Futu (*Barringtonia asiatica*) seedling planted on the perimeter of the agroforestry demonstration area by the oldest couple\participants during the field training



A Kanava (*Cordia subcordata*) seedling planted on the perimeter of the agroforestry demonstration area



A Fetau (*Calophyllum inophyllum*) seedling planted on the perimeter of the agroforestry demonstration area.



The use of portable chipping machine



A demonstration on how to do composting



Group photo of the participants to the agroforestry training in Tuvalu