

**Hands on Practical Training in Organic Farming Practices as a Strategy to  
Increase Resilience of Rural Agriculture to Climate Change Impacts**

6<sup>th</sup> April to 12<sup>th</sup> June 2015

FUNDED BY THE SPC/USAID CLIMATE CHANGE RESILIENCE PROJECT

SHORT REPORT

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## **1.0 Overview**

Zai Na Tina Centre for Organic Systems (ZNT) facilitated a Hands-on Practical Training on Organic Agriculture or Farming to some farmers from Choiseul in April to June 2015 at its Demonstration and Research Farm at Burnscreek, East Honiara, Solomon Islands. Organic farming, based on agro-ecological principles, can increase the resilience of food production systems and therefore food security to climate change through increasing soil fertility, soil stability, soil water storage and ensures biodiversity conservation. The training was funded by the SPC/USAID Pacific Climate Change Resilience project, based in Suva, Fiji Islands. The training covered all aspects of farming such as nursery, field establishment, field crop management, pest and disease management, soil health management, composting, mulching, crop rotation etc, including harvesting and marketing of farm produce. The training also include theory presentations on principles of organic farming, soil health, plant nutrition, pest and disease management and animal husbandry from an organic perspective. Specific adaptation farming practices were emphasized during the course of the training.

## **2.0 Training Participants**

There were 9 participants who attended this training initially, however, 2 men withdrew in the first month due to family issues. Only 5 women and 2 men (See list on Appendix 1) remained until the end of the training/internship program. In addition, four of the participants were young farmers. The participants came from 3 communities (Sepa, Subesube and Loimuni) which were involved in the SPC/USAID project in Choiseul.

## **3.0 Training Program Content**

The training/internship program was scheduled from the end of March to early June (Appendix 2). However, due to the late arrival of the participants, the program actually started on the 6<sup>th</sup> of April to the 12<sup>th</sup> of June 2015. Program outline was as presented in Appendix 3. The training program mainly involved hands-on practical work experience, in which the interns work under the supervision of mentors (ZNT staff) in various divisions of the farm. The interns were rotated to other divisions on a weekly basis. This way they were able to cover all aspects of farming – from the nursery to the field, harvesting and marketing. Every new learning experience was explained first before interns attempt to carry out the job. Each intern has a list of competencies or learning encounters (Appendix 4) which were signed by the Training Coordinator on completion of a particular task. Basically, the interns carried out practical work that involved the following

activities: crop rotation, inter-cropping, growing legumes, minimum soil tillage/cultivation, composting and mulching.

In the nursery, they carried out soil preparation and sterilisation, seed germination, pricking and general maintenance of plants in the nursery. In the field, they carried out minimum cultivation of soil in the prepared beds, marked out the right spacing for the different plants, and maintained the permanent bed system at ZNT. They also carried out direct planting either thru cuttings/suckers or seeds, or by transplanting seedlings from the nursery. They also carried out crop management practices such as weeding, watering, applying compost, mulch, manure; and ensuring pests and diseases are removed. They also learned how to recognise and harvest vegetables that are ready, learn how to prepare and package them for sale. They were also directly involved in the marketing and delivery of farm products to ZNT's clients, thus giving them a complete farming experience.

The 1 week workshop (theory) on organic farming principles (Appendix 5) scheduled for March was also rescheduled due to the late arrival of the participants. It was spread out over the duration of the training over several evenings so as not to disturb the practical training sessions during the day. The content of the workshop was also modified leaving out the practical components. This was because the practical components were covered in the practical sessions during the day.

The "Farming as a Business" workshop (Appendix 3) was also briefly covered over one session due to time limitations. During this session it was emphasized that farming must be treated as a business operation, with record keeping, crop scheduling, crop diversification and value adding as important requirements for a successful and profitable farming business that continuously generate income throughout the year. A more detailed coverage would be beneficial in the future.

#### **4.0 Limitations, Constraints and Lessons learnt**

Perhaps the length or duration of the training program is a bit too long. This is because some of the participants have families and it was difficult being away for too long. Therefore, we are looking at reducing the duration of the training to 2 months or less for similar future trainings.

Livestock training was limited to poultry since the farm is mostly a vegetable farm. Thus, the interns could not learn about piggery or cattle or bees during this internship program. Furthermore, another limitation of this program is the lack of means to follow up on the participants to see if they have continued to practice what they learned and provide moral and technical support.

## **5.0 Hands-on Training Program Outcome and Conclusion**

The training/internship program was well appreciated by the participants. They were keen to learn and participate in the day to day operations of the farm. Work attendance was excellent except for one or two who have satisfactory attendance. Nonetheless, they expressed gratitude for the opportunity to come to ZNT and learn a different way of farming. While the theory workshop trainings were informative, the hands-on practical training was much preferred as they felt that they learn more from the practical work.

The interns were awarded with a certificate of achievement in Organic Agriculture at the end of this training program (see photos in appendix 6).

### **Acknowledgment**

ZNT acknowledged the SPC/USAID for funding this program. In particular Ms Vuki Buadromo and Mr. Nick Nonga from the SPC/USAID project for their support. I would also like to thank Ms Mia Rimon and her staff at the SPC Regional Office in Honiara. Without their support to the program it would not have been successful.

**Signed:**



**Dr. Shane Tutua, Manager, ZNT**

**Appendix 1: List of Participants for the Hands on Practical Training/Internship**

No.	Name	Sex	Community
1	Glarys Damusoa	F	Sepa
2	Ruth Pitakamoki	F	Sepa
3	Nester Poloso	F	Sepa
4	Willy Pitakoe	M	Sepa
5	Doreen Poloso	F	Subesube
6	Flavian Pogeava	M	Loimuni
7	Muriel Sualala	F	Loimuni

**Appendix 2. Internship Program Timeline**

Week	March	April	May	June
WK1		Hands-on Practical	Hands-on Practical	Hands-on Practical
WK2	Interns arriving from Choiseul	Hands-on Practical	Farming as a business (To be spread over several days) Hands-on Practical	Hands-on Practical
WK3	Organic Farming workshop commenced on the 23 <sup>rd</sup> March	Hands-on Practical	Hands-on Practical	Wrap up week and Presentation of Certificate in Organic Farming at the End of week.
WK4	Hands on Practical work begins	Hands-on Practical	Hands-on Practical	Interns departing for Choiseul

**Appendix 3: Program Outline for the SPC-USAID Agriculture Internship**

The internship program outline with climate change adaptation as the overall theme.

1. An organic agriculture workshop covering organic concepts, soil health, plant nutrition, plant health and animal health. 1 week duration.
2. Hands-on practical work covering how to raise seedlings and management of seedlings in the nursery, field crop establishment, field crop management, soil health/fertility management, plant health management, harvesting and post-harvest practices, Marketing of produce, poultry production. 11 weeks duration
3. Additional evening classes on “farming as a business” with emphasis on high value crops, crop scheduling, crop diversification, value adding, record keeping and gross margin analysis within the context of specific crops.

## Appendix 4: Competency-based Hands-on Practical Learning Sheet

Candidate Name: \_\_\_\_\_

Year \_\_\_\_\_

Competencies	Learning Sessions					Supervisor's Signature
	1	2	3	4	5	
<b>Nursery</b>						
Prepared organic soil media mixtures						
Germinated seeds successfully						
Pricked out seedlings						
Watered young seedlings correctly						
Applied manure to young seedlings						
Aerated young seedling roots						
Handled plants during transplanting						
<b>Field Crop Establishment</b>						
Prepared planting beds						
Transplanted seedlings onto the beds						
Direct sowed seeds of field crops						
Prepared and planted cuttings						
<b>Field Crop Management</b>						
Cultivated soil around plants						
Applied manure to plants correctly						
Prepared/ applied organic pest repellants						
Carried out cultural pest control						
Pruned out unwanted growths						
Staked climbing plants						
Managed weeds						
Watered field plants						
<b>Soil Fertility Management</b>						
Applied mulch and/or retain farm residues						
Applied compost/manure to the soil						
Produced compost						
Rotated legumes with other crops						
<b>Harvesting and Marketing</b>						
Recognized mature or ready crops						
Handled/processed products after harvest						
Priced & sold vegetables at various outlets						
Delivered orders to clients						
<b>Farm Design</b>						
Demarcate plots and dug out beds						
Established or maintained drains						
Planted legume or multipurpose trees						
<b>Seed Saving</b>						
Processed, dried and stored seeds						
<b>Livestock</b>						
Managed Poultry for eggs and meat						

## Appendix 5: Organic/Agro-ecological Farming Workshop Schedule

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
<b>Time</b>	<b>Theme:</b> <b>Principles of Organic Agriculture</b>	<b>Soil is a living organism</b>	<b>Plant nutrition = Soil nutrition</b>	<b>Pest disease and weed management</b>	<b>Animal Husbandry</b>
8.30 am	Introductions and opening	Living Organisms	Balanced nutrition	Introduction: What's a healthy plant?	Role of Animal Husbandry
	What is organic agriculture?	What makes soil fertile?	Soil organic matter as a source of nutrients	Preventative Measures -Plant resistance -Long term Preventative strategies	Requirements of farm animals
	Principles and Aims	Improving soil fertility	Nutrients and Nutrient Cycles	Ecology of pest and diseases	Principles of shed designs and stocking rates
<b>10.00 am</b>	<b>Morning tea</b>	<b>Morning tea</b>	<b>Morning tea</b>	<b>Morning tea</b>	<b>Morning tea</b>
	Differences from other farming systems	Soil erosion & tillage	Associating Crops, crop diversity and Crop Rotation in nutrient management	Curative Measures -Traps -Bio-control, -botanical pesticides	Feeding animals
	Why farm organically?	Soil water conservation & mulching	Manures /Organic Fertilisers Green Manures	Weed Management	Animal health and breeding
<b>12.00 pm</b>	<b>Lunch</b>	<b>Lunch</b>	<b>Lunch</b>	<b>Lunch</b>	<b>Lunch</b>
1.00 pm	Composting theory	Assessing soil health Status of a Farm	Check for nodules in legume roots Making Liquid Fertiliser	Identification of Pest, diseases Useful insects Most common weeds	Wrap Up Session
	Overview KGA Organic Seed Garden and Zai Na Tina Organic Farm	"	Identify where nutrients are lost in a farm		Close at 2 pm
<b>3.00 pm</b>	<b>Afternoon Tea</b>	<b>Afternoon Tea</b>	<b>Afternoon Tea</b>	<b>Afternoon Tea</b>	
3.30 pm	Activity: Building a Compost	Activity: Making and using an A frame	Activity: Making a botanical pesticide	Applying a bio-pesticide to plants	
		Alley cropping	Activity: Seed processing and storage	Checking and turning a compost	
4.30 pm	Closing time	Closing time	Closing time	Closing time	

**Appendix 6:** The seven SPC/USAID interns awarded with a Certificate of Achievement in Organic Agriculture with other interns from the Rural Training Centres: Doreen Poloso (3<sup>rd</sup> right, 1<sup>st</sup> row), Muriel Sualala (4<sup>th</sup> right, 1<sup>st</sup> row), Nester Poloso (5<sup>th</sup> right 1<sup>st</sup> row), Ruthy Pitakamoki (3<sup>rd</sup> left 1<sup>st</sup> row), Flavian Poqeava (2<sup>nd</sup> right, 2<sup>nd</sup> row), Glarys Damusoa (5<sup>th</sup> right, 2<sup>nd</sup> row) and WillyPitakoe (2<sup>nd</sup> left, 2<sup>nd</sup> row).

