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# QUARTERLY REPORT #13: JULY-SEPTEMBER 2013

## *DEZENVOLVE AGRICULTURA COMUNITÁRIA (DAC) PROJECT*

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## Contents

Quarterly Highlights .....	3
Activities Year Three.....	4
Activity One: Assist SHA farmers to manage their commercial horticulture activities (PEOPLE) .....	5
Activity 1A: Continued improvement in the current truck farming operations (managerial) .....	5
Activity 1B: Assistance to the original three communities during the preparation of a comprehensive long-term business plan .....	6
Activity 1B: The formation of a legal business entity .....	6
Activity Two: Assist SHA farmers to improve horticulture technology and practices to meet market demand for product quantity and quality (PRODUCTION).....	7
Activity 2A: Continued improvement in the current truck farming operations (technical)..	8
Activity 2B: Environmental Protection and Improvements .....	16
Activity 2C: Identification of more communities interested in a truck farming venture.	17
Activity Three: Assist SHA farmers and other value chain actors and stakeholders to develop a strong horticulture value chain that routinely increases sales volume and profits (VALUE) .....	17
Activity 3A: Horticulture Value Chain Stakeholders Seminar .....	18
Activity 3B: Formation of / Participation in Horticulture Working Group .....	18
Activity 3C: Maintenance of diverse client base and continued improvement in sales volume .....	18
Activity 3D: Business development support to key actors in value chain.....	18
Activity 3E: Market Research .....	19
Activity Four USAID/ConocoPhillips GDA Partnership Project Expansion.....	20
Activity 4A: Engagement of at least 5 additional communities with at least 150 new farmers .....	20
Activity 4B: Assist farmers to manage their commercial horticulture activities (PEOPLE).. .....	21
Activity 4B-1: On-site training and technical assistance (Managerial Skills).....	21
Activity 4B-2: Integration of farmers into District Organization .....	22
Activity 4C: Assist SHA farmers to improve horticulture technology and practices to meet market demand for product quantity and quality (PRODUCTION) .....	23
Activity 4C-1: On-site training and technical assistance (Technical Skills) .....	23
Activity 4C-2: Assisting communities to develop agriculture assets .....	28

Activity 4D: Environmental Protection and Improvements.....	29
Financial Report .....	<b>Error! Bookmark not defined.</b>
Administrative and Technical Management.....	31
Financial Report .....	31
Personnel .....	31
Long Term Technical Assistance: .....	31
Short Term Technical Assistance:.....	31
Significant Events .....	31
Annex 1.....	32
Updated Year 3 Workplan Timeline.....	32

## Quarterly Highlights

**Farm sales of 122 m.t. from the SHAs generated \$93,100 during the quarter:** One additional community from the Dilimart expansion areas, Casnafar, harvested for the first time.

<b>Totals of Vegetable Production from all SHAs July-September 2013</b>		
	Kg	US\$
Outdoor Production Original Groups	48,383	\$36,409
Outdoor Production Expansion	61,118	\$42,689
Greenhouse	12,884	\$14,003
<b>Total</b>	<b>122,385</b>	<b>\$93,100</b>

**Production improves compared to same period last year:** Similar to last quarter, DAC farmers increased production compared to their results in 2012. The “original” communities increased production 42% (from 33,958 kgs to 48,383 kgs) and incomes 62% (from \$22,437 to \$36,409) over the same period.

**Farmer Field School:** Training of Trainers (for 31 DAC staff and farmers) and Phase 1 implementation of this internationally recognized participatory farmer training methodology was completed in DAC communities.

**International Training:** 20 farmers completed training in outdoor vegetable production at the Value Chain Community in Bandung, West Java, Indonesia. Upon return they created demonstration plots and made presentations to disseminate the benefits to all members of their groups.

**Launch of the Horticulture Working Group:** At the DAC sponsored “Soromutu Hortikultura”, the Minister of Agriculture, H.E. Mariano Sabino, announced the launch of the Horticulture Working Group. This was the culmination of a year of work to create the momentum for the establishment of this important private sector / public sector group.

## Activities Year Three

This quarterly report follows the Year Three Workplan, describing activities and achievements in DAC's three main activities:

- 1) Assist SHA farmers to establish organizations that can successfully manage their commercial horticulture activities (*PEOPLE*)
- 2) Assist SHA farmers to improve horticulture technology and practices to meet market demand for product quantity and quality (*PRODUCTION*)
- 3) Assist SHA farmers and other value chain actors and stakeholders to develop a strong horticulture value chain that routinely increases sales volume and profits (*VALUE*)

This report also contains an updated Workplan Timeline, and a summary of project finance and administration for the quarter.

***PLEASE NOTE:*** *Data reflected in this quarterly report may come from DAC's data collection process, or from our partners Kmanek Supermarket and Dilimart. Our partners may work with more farmers than DAC will work with directly, or with farmers that DAC has not yet entered into our data collection system. As the DAC project expansion scales up rapidly, DAC's official monitoring and evaluation data collected for our indicator reporting may differ from the information in this report. All reporting to USAID on DAC's Performance Measurement Plan indicators are considered the final results.*

## **Activity One: Assist SHA farmers to manage their commercial horticulture activities (PEOPLE)**

DAC's work with PEOPLE focuses on developing sustainable ways for farmers and farming communities to manage the planning, production and sales of vegetables with their commercial buyer partners. This includes assisting farmers to develop the business skills necessary to transition from subsistence agriculture to farming as a business, helping farming communities to create the types of organizations that best meet their needs, and training group members and leaders in the management processes required for transparent and effective operations.

### **Activity 1A: Continued improvement in the current truck farming operations (managerial)**

Improving the farmer groups' ability to manage the planning, production and sales of vegetables is important for individuals and groups. DAC provides specific, proven training and tools that will assist the farmers to master the transparent communication and operations tasks of planning, record keeping, decision making, and conflict resolution that are critical to their individual and group success.

#### *Farming as a Business Training*

Completed in 12 communities with 164 farmers (see previous reports), as well as an initial introductory training given to farmer group leaders from 9 Kmanek partner sites (27 farmers). The introductory training helped the farmer group leaders to better participate and to help explain the important lessons to their communities when the training was given to all their group members. No new activity in this quarter.

#### *Farming as a Business technical assistance*

DAC Community Mobilization staff continued monitoring the impact of the Farming as a Business training, supporting farmers to make good choices about investments in their farming businesses. 8 farmers from the original communities and 13 farmers from the expansion communities purchased inputs such as fertilizer, and equipment such as irrigation pumps.

#### *Business skills training for farmers and farmer groups*

Training in Empreza Diak's customized bookkeeping system has been delivered to 14 communities with 274 farmers in the Kmanek areas. Training of Trainers was also given to Kmanek staff, to enable them to continue training new groups in the future. Almost one year after starting the training, all groups are successfully using the system.

Empreza Diak will develop a similar customized system for Dilimart and conduct bookkeeping training at all Dilimart sites in the next quarter.

#### *Organizational/managerial training – General*

No activity in this quarter.

*Organizational/managerial training for Associations in Sarin and Liurai*  
No activity in this quarter.

### **Activity 1B: Assistance to the original three communities during the preparation of a comprehensive long-term business plan**

#### *Develop business plans for Sarin and Liurai greenhouse associations<sup>1</sup>*

DAC Community Mobilization staff worked with both greenhouse associations to complete draft business plans that emphasize financial planning for greenhouse maintenance. The business plans will be finalized in the next quarter.

### **Activity 1B: The formation of a legal business entity**

#### *Registration of Sarin and Liurai Greenhouse Associations*

Complete. Both the Sarin Association Betu Laran and the Liurai Association Leu Diak were formally registered as Non-Profit Associations at the Ministry of Justice.

#### *Formation of District level horticulture organization*

A District level horticulture organization should include representation from Kmanek and Dilimart sites, as well as any other interested farmer groups such as those associated with World Vision, Hiam Health or Maryknoll Sisters. DAC Community Mobilization team began discussions with farmer groups at all 20 Kmanek partner sites to introduce the idea of bringing all groups together in a District level horticulture organization. DAC also invited participation from other organizations active in horticulture in Aileu District. Discussions with the Dilimart groups will be completed in the next quarter. A tentative meeting date has been set for the first week of November.

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<sup>1</sup> The third original community, Lequitura, no longer has a functioning greenhouse due to the negligence of the commercial owner. Therefore, a business plan for the community as a whole is not appropriate.

## Activity Two: Assist SHA farmers to improve horticulture technology and practices to meet market demand for product quantity and quality (*PRODUCTION*)

DAC's work with PRODUCTION will transfer responsibility for greenhouse and outdoor production to the SHA farmer groups and their commercial buyer partners, as they develop together the structures and procedures for managing planning, production, and sales of vegetables. DAC will also use innovative training methods such as Farmer Field School to solidify agriculture skills and empower farmers to take full responsibility for the success of their small farming businesses.

### *Production Results*

Outdoor production continued strongly, with production and income levels equal to last quarter in both the original and expansion areas.

Similar to last quarter, DAC farmers also increased production compared to their results in 2012. The "original" communities increased production 42% (from 33,958 kgs to 48,383 kgs) and incomes 62% (from \$22,437 to \$36,409) over the same period in 2012.

Dilimart began purchasing from one new community, Casnafar in Laularan subdistrict.

<b>Totals of Vegetable Production from all SHAs July-September 2013</b>		
	Kg	US\$
Outdoor Production Original Groups	48,383	\$36,409
Outdoor Production Expansion	61,118	\$42,689
Greenhouse	12,884	\$14,002.50
<b>Total</b>	<b>122,385</b>	<b>\$93,100.50</b>

The Sarin greenhouse completed production and payments were made to the farmers. The farmers paid their land lease payment, deposited savings for maintenance costs into their bank account, and shared income of \$10,002.50 among 12 farmers.

<b>Sarin Greenhouse Income</b>	
<b>Item</b>	<b>Amount</b>
Total Land Lease Payment	\$ 500.00
Total Savings for Maintenance/Repairs	\$ 3,500.00
Total Payments to Individuals for Number of Days Worked	\$ 6,462.00
Remaining funds shared equally	\$ 3,540.50
<b>Total Payment from Kmanek</b>	<b>\$14,002.50</b>

## **Activity 2A: Continued improvement in the current truck farming operations (technical)**

### *Sarin and Liurai Greenhouses technical assistance*

2 farmers from each of the greenhouse groups were sent to the Value Chain Center in Bandung, West Java (Indonesia) for a one month intensive training. This was necessary because many of the original farmers trained in Bali in 2009 have either left the groups, or taken full time jobs that prevent them from taking a daily leadership role in the greenhouse operation. The VCC uses a variety of greenhouse technologies, from simple indoor production to complicated hydroponic production similar to the Sarin and Liurai greenhouses. During one month, the farmers from Timor Leste were able to hone their skills, becoming more able to diagnose and solve production problems and maximize their production and incomes.

Both Sarin and Liurai greenhouses faced a major challenge during this quarter. The UV plastic covering the greenhouses was severely damaged in the very strong winds during August. As agreed by all parties, the repair and maintenance of the greenhouse structures is the responsibility of the farmer Associations. The Associations have been preparing for this responsibility and both groups have enough money in their savings accounts to pay for replacement plastic (Associasaun Betularan/Sarin has \$7,205 and Associasaun Leudiak/Liurai has \$6,000).

The constraint is availability of 8 meter rolls of UV plastic. No input supply store in Timor Leste currently stocks UV plastic. 8 meter rolls are a special order item (from Indonesia or China). The Associations met with Kmanek to request assistance to order and import the plastic. They have requested enough stock to repair the greenhouses now, and also to keep backup stock in case of future damage. Complete replacement of all the UV plastic on the greenhouses is scheduled for 2015, and will be planned well in advance. Kmanek agreed to assist the Associations, and the plastic should be delivered in the last week of October. Unfortunately, this will cause a significant delay in the Associations being able to begin the next period of production in the greenhouses.

DAC senior technical staff held weekly meetings with the Kmanek Greenhouse Manager and the farmer groups to give guidance and oversight of technical and managerial activities. Recommendations for action steps were sent to Kmanek management and followed up with DAC technical assistance staff as necessary.

*Sarin, Liurai, Seloi & Lequitura Outdoor Production technical assistance*

A summary of the workplans and DAC activities in this quarter is presented in the chart below.

### Outdoor Production Technical Assistance Chart

Challenge	Solution	Activities this quarter
Farmers do not use all improved techniques to maximize production	Demonstration plots to motivate farmers to implement new technologies by showing the measurable improvements in production	Demo plot harvests complete and comparison data analyzed. Results will be presented to farmers during Farmer Field School activity.
Farmers do not use enough fertilizer	Demo plots to show measurable increase in production	<p>Demo plot harvests complete and comparison data analyzed. Results will be presented to farmers during Farmer Field School activity.</p> <p>Training at VCC Indonesia shows farmers that very large amounts of compost are key to productivity. Upon return, farmers create demonstration plots to share lessons learned with all their group members.</p>
	Assist farmers to understand the “business case” for this investment	“Farming as a Business” individual technical assistance provided
	Help farmers to organize to make group purchases	Assisted 17 farmers to purchase fertilizer of their choice.
Pests and diseases	Improve farmer skills in IPM	Farmer Field School trains farmers and DAC staff in many new IPM techniques, specifically addressing the Plutella moth which is the greatest challenge for brassicas (broccoli, cauliflower, cabbages)

	Facilitate farmer access to inputs by helping farmers and buyer/input suppliers to create safe storage locations near farmer fields	No activity in this quarter – waiting for Kmanek decision on pesticide management.
	Farmer Field School emphasis on IPM for horticulture	Implementation of FFS Phase 1 complete, Phase 2 begins in 8 locations.
Farmers don't have easy and sustainable access to best practice information	Best practice manual for cultivating the top ten vegetables	No activity this quarter.
Environmental problems may impact future production	Environmental mitigation and enhancement including re-forestation	DAC staff (2) participate in training by RDP4 on best practice in forestry nursery construction and management. Forestry nurseries begun in 3 new locations (5 locations completed last quarter). Coordination with RDP4 project provides additional materials for nurseries (netting, polybags, screens) in 8 locations. RDP4, PER and CCT to provide seed and seedlings.
Farmers don't use enough water to maximize production	Train farmers on adequate use of water to maximize production	Irrigation Specialist begins developing training on "how much water is enough" – demonstrating adequate water usage for a variety of different vegetables.  All demo plots and Farmer Field School locations demonstrate benefits of drip irrigation.
	Train farmers on use of drip irrigation and assist with investment in irrigation equipment	Consultant Danny Fyffe assessed the water availability and access of 89 farmers in 4 groups (Kmanek areas) and made recommendations for

		improving access to sufficient water. This information will be used in next quarter to encourage farmers to make investments in irrigation equipment.
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*Completion of Contract Farming Model*

In Year Three, DAC will build the capacity of farmers, farmer groups, and the commercial buyers Kmanek and Dilimart to independently operate the entire contract farming process. This section of the report describes DAC support to Kmanek. DAC support to Dilimart is reported under Activity Four GDA Expansion. The key areas of capacity building and DAC activities in this quarter are described below.

<b>Contract Farming Operation</b>	<b>Challenge or Capacity Building Need</b>	<b>DAC Quarterly Activities</b>
Field Operations Management	<ul style="list-style-type: none"> <li>• Hiring staff with right qualifications, particularly in role of Field Operations Manager</li> <li>• Supervision of Kmanek staff</li> <li>• Quality control and oversight of seed distribution, monitoring, data collection and entry, inventory management</li> </ul>	<ul style="list-style-type: none"> <li>• DAC Chief of Party continued to provide technical assistance and support for quality control and oversight of Kmanek operations</li> </ul>
Production Planning	<ul style="list-style-type: none"> <li>• Set appropriate targets</li> <li>• Divide products into categories to simplify production, management and for IPM benefit</li> <li>• Assign categories to production areas</li> </ul>	<ul style="list-style-type: none"> <li>• All activities handed over to Kmanek</li> </ul>
Production Planning Database	<ul style="list-style-type: none"> <li>• Revise and improve database as needed</li> <li>• Learning to use database</li> <li>• Entering daily data</li> </ul>	<ul style="list-style-type: none"> <li>• DAC Chief of Party continued to provide technical assistance and support for use of database in planning and controlling production</li> </ul>
Individual Seed Distribution	<ul style="list-style-type: none"> <li>• Visiting each farmer group 2x per month, and distributing seed directly to individual farmers</li> <li>• Distributing seed only to farmers with good quality available seed beds</li> </ul>	<ul style="list-style-type: none"> <li>• Logistical challenges and limited staff for Kmanek lead to a failure to collect data in this quarter – DAC Chief of Party and DAC staff will assist in following quarter to ensure seed distribution is carried out regularly</li> </ul>

	<ul style="list-style-type: none"> <li>• Distributing seed only to farmers that have already transplanted previous seed given</li> </ul>	
Production Monitoring (counting seedlings and predicting harvest)	<ul style="list-style-type: none"> <li>• Data must be collected regularly and entered to database</li> </ul>	<ul style="list-style-type: none"> <li>• Logistical challenges and limited staff for Kmanek lead to a failure to collect data in this quarter – DAC Chief of Party and DAC staff will assist in following quarter to ensure required data is collected.</li> </ul>
Technical Assistance	<ul style="list-style-type: none"> <li>• Use information from production monitoring to identify problems and help farmers to solve them</li> <li>• Identify pest/disease problems and deliver pesticide/fungicide if needed</li> </ul>	<ul style="list-style-type: none"> <li>• DAC staff continue to play primary technical assistance role – this needs to be turned over to Kmanek during Year Four</li> <li>• DAC IPM Specialist coordinates with Kmanek staff about need for pesticide/fungicide in specific locations</li> <li>• Farmer Field School introduces organic pesticide made with locally available materials</li> </ul>
Input Inventory Management	<ul style="list-style-type: none"> <li>• Maintain updated inventory management spreadsheet</li> <li>• Place monthly orders based on inventory management spreadsheet</li> </ul>	<ul style="list-style-type: none"> <li>• Seed inventory management handed over to Kmanek</li> <li>• Provided technical assistance and market linkages to Kmanek Agriculture to prepare large input supply order from Indonesian suppliers, including UV plastic, organic fertilizer, dolomite limestone, EM-4 organic liquid fertilizer, and drip irrigation supplies</li> </ul>

### Training on Improved Production Planning & Management

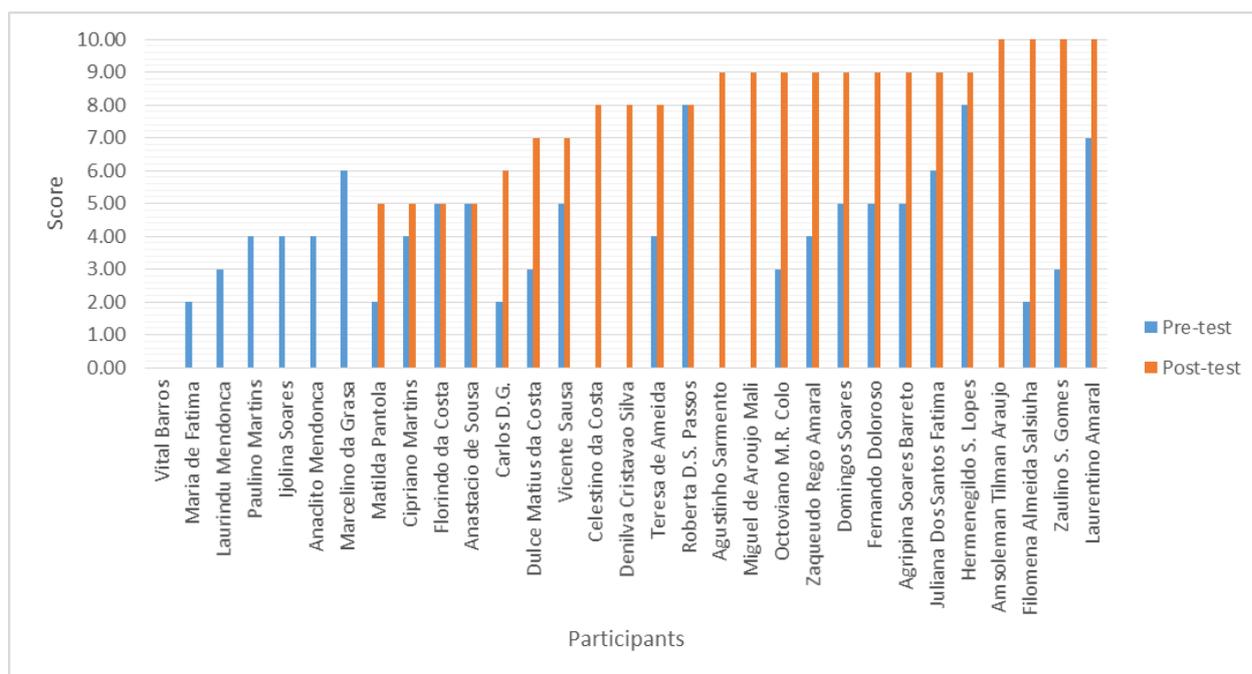
DAC COP continued to provide technical assistance and support for Kmanek management activities, including production planning, seed distribution, production monitoring, purchasing, inventory management, and staff supervision to the newly hired Kmanek Field Operations Manager.

### Farmer Field School for IPM and Horticulture Production

The focus of the Farmer Field School is on organic pesticide, adequate use of compost and organic fertilizer, and the observation of crops on a weekly basis with trouble shooting and problem solving.

Farmer Field School Training of Trainers was completed with 31 total participants (20 DAC staff and 11 farmers) participating. Among the farmers 2 women and 9 men joined the ToT. In addition to expressed interest, there were several indicators that DAC used to choose farmer participants: 1) active farmer, 2) leader in their farmer group and 3) farmers who already demonstrate good agricultural practices based on their crop productivity.

Evaluation of the training effectiveness showed significant improvement in participants knowledge and skills.



From 31 participants attending the ToT, 28 participants completed successfully. Comparing the results of the pre-test and post-test for the 28 graduates, the percentage of participants

with a “good” score increased from 17% to 87.1%. Three farmer participants were unable to complete the full training.

The implementation of the Farmer Field School, co-facilitated by ToT participants and the FFS consultants, was held in 4 communities in Selo from June through September. The training activities were very well received by participants. In each community, the FFS training plot used a combination of improved and traditional practices to make comparisons.

The most important new techniques used included:

- Use of large amounts of compost
- Duplication of EM4 and its use for accelerating compost making
- Root bacteria addition to combat pest/disease
- Fruit and flower stimulation (organic)
- Making and using organic pesticide
- Use of natural predators for control of pests
- Pest identification and control
- Pest/disease prevention, particularly with frequent monitoring and manual control

The four sites of training implementation with results:

- Foin Kman (cauliflower) - crop not yet harvested, but full organic/improved techniques show clear improvement in production (size of flower)
- Cassa Mou (chili) – For each demonstration seed bed, full organic/improved techniques harvested 5 kgs, traditional techniques harvested 1.5 kg and 1.8 kg
- Tasonih (radish) – Full organic/improved techniques harvested .0823 kg per plant, while the traditional techniques harvested .0691 kg per plant
- Hakiak Moris (Chinese cabbage) – Full organic/improved techniques harvested 1.15 kg per plant and 2.14 kg per plant, compared to average DAC production of 0.8 kg per plant.

#### *Short term technical assistance*

Danny Fyffe, the DAC irrigation consultant, completed a significant number of farmer site assessments during this quarter. Mr. Fyffe’s SOW is to assess farmer sites and provide design recommendations for low cost, appropriate technology irrigation systems that will provide DAC farmers with enough water at their sites to benefit from the use of drip irrigation equipment provided by DAC. Mr. Fyffe worked in 9 communities and provided written assessments and recommendations for 190 farmers. (89 farmers in 4 original sites, and 101 farmers in 5 sites in expansion areas).

## **Activity 2B: Environmental Protection and Improvements**

Farmer Field School for IPM and horticulture focused on production of organic fertilizer and pesticide using local materials. These new techniques will reduce farmer use of chemicals, including chemical pesticide and urea, while increasing production and quality.

Reforestation activities are under way in 8 communities in Selo. DAC is coordinating with the RDP4 program reforestation activities. Most of the RDP4 activities will be implemented through the MAF extension agents. However, RDP4 has given DAC the opportunity to participate in the program as well. 2 DAC staff were trained along with MAF extension agents, and will implement the training together with the extension agents from Suco Selo Malere and Suco Selo Kraik. 8 DAC farmer groups in these Sucos will receive the benefits (nursery materials, training and seedlings) of the RDP4 program, to complement DAC technical assistance and training. The 8 farmer groups comprise 173 farmers.

Forestry nurseries are complete in 5 communities and underway in 3 additional locations. For the forestry nursery construction, farmers contributed bamboo and wood for the frame. DAC provided polybags for growing the saplings, and 3900 tangerine and papaya seeds. RDP4 contributed plastic netting, watering cans, wire screens, and additional polybags.

RDP4 provided technical guidance on appropriate tree varieties for the Selo climate and elevation. RDP4 will provide seed for industrial tree crops such as mahogany and sandalwood, and the farmer groups will create the seedlings in their nurseries. PER is preparing seedlings of fodder trees (caliandra, leucaena) that will be distributed to each of the communities for direct planting. Farmer groups will also be requesting additional seedlings from the CCT.

DAC staff previously held community socialization meetings, and conducted a community mapping exercise to identify the most important areas for erosion prevention and mitigation.

### **Activity 2C: Identification of more communities interested in a truck farming venture<sup>2</sup>**

*Continued technical assistance to 5 communities in Selo*  
See Activity 2A.

*Expansion to additional communities*  
See Activity Four “USAID/Conoco Phillips GDA Partnership Project Expansion”

### **Activity Three: Assist SHA farmers and other value chain actors and stakeholders to develop a strong horticulture value chain that routinely increases sales volume and profits (VALUE)**

Strong organizations of farmers (Activity One) with strong horticulture production skills (Activity Two) must be integrated into a strong horticulture value chain (Activity Three).

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<sup>2</sup> A related Year Three activity “Continued coaching of about two additional communities...” has been completed in Year Two resulting in five communities fully engaged with DAC project and contract farming model

### **Activity 3A: Horticulture Value Chain Stakeholders Seminar**

Held on October 18-20, 2012. See prior reports.

### **Activity 3B: Formation of / Participation in Horticulture Working Group**

DAC sponsored a “Soromutu Hortikultura” on July 10. DAC’s strong connections with private sector, public sector, and civil society/donor organizations throughout the value chain helped to generate significant interest, with 49 participants representing all of these groups. The main topic was the presentation of the DAC horticulture market research. The Minister of Agriculture, H.E. Mariano Sabino, announced the launch of the Horticulture Working Group at the end of the event. DAC will collaborate with the MAF to hold the first official meeting of the Horticulture Working Group in the next quarter.

### **Activity 3C: Maintenance of diverse client base and continued improvement in sales volume**

Kmanek: Kmanek is now working with 23 farmer groups in Aileu Villa sub-district, with a total of ~375 farmers.

Dilimart: Dilimart is now working with 4 farmer groups in Remexio and Laularan subdistricts, with a total of 42 farmers.

Sales volumes: Volumes and incomes increased compared to the same period in 2012, and remained steady compared to the previous quarter. The “original” communities increased production 42% and incomes 62% over the same period in 2012.

<b>Outdoor Vegetable Production Original Communities</b>		
	<b>Kg</b>	<b>US\$</b>
July-September 2012	33,958	\$22,437
July-September 2013	48,383	\$36,409

### **Activity 3D: Business development support to key actors in value chain**

#### *Input Supply*

Value Chain Team Leader Nilton Aniceto presented a technical overview of input supplies for horticulture to the 4 major input suppliers. During the meeting, the input suppliers made requests for assistance from DAC. The most important request was the opportunity to visit

the farmer locations, to see first-hand the farmer needs. This visit will be scheduled in the next quarter.

*Traders/Wholesalers*

No activity in this quarter.

*Buyers*

See above section on technical assistance to Kmanek (“Completion of Contract Farming Model”).

**Activity 3E: Market Research**

DAC finalized the analysis and report of the market research results. On July 10, the research was presented at the “Sorumutu Hortikultura”, and CD’s were distributed with the market research database, the user’s manual, and the survey instructions and tools. We will also work with the MAF to include the market research information on their website and possibly integrate it into their food security data collection and analysis.

DAC finalized the Fresh Vegetable Value Chain report and will present it at the first meeting of the Horticulture Working Group in the next quarter.

## Activity Four USAID/ConocoPhillips GDA Partnership Project Expansion

In Year Two, DAC and USAID finalized a contract modification that increased the budget and scope of work to expand to at least five new communities and 150 additional farmers. Funding for this expansion is provided through a Global Development Alliance partnership with ConocoPhillips.

### Activity 4A: Engagement of at least 5 additional communities with at least 150 new farmers

#### *New communities in sub-district Aileu Villa*

Kmanek has currently reached their limits of new communities they are able to manage and buy produce from. No new communities were added in this quarter.

#### *New communities in sub-districts Remexio and Laularan*

DAC and DiliMart initiated work in one new community in Laularan subdistrict, Casnafar, but they have not yet been formally registered with the project so are not shown below.

No	SHA	# of farmers up to March 2013			New Farmers April-June 2013			Total Expansion Farmers		
		M	F	Total #	M	F	Total #	M	F	Total #
Expansion site										
1	Boklelo	7	3	10	4	0	4	11	3	14
2	Cassamau I	14	3	17			0	14	3	17
3	Cassamau II	10	0	10			0	10	0	10
4	Dou Dato			0	10	1	11	10	1	11
5	Fatubosa Aldeia I	14	6	20			0	14	6	20
6	Fatubosa Aldeia II	6	2	8			0	6	2	8
7	Fatulumau			0	14	2	16	14	2	16
8	Fo Liman ba Malu			0	6	13	19	6	13	19
9	Foin Mehi			0	19	2	21	19	2	21
10	Halibur			0	4	1	5	4	1	5
11	Remexio			0	4	1	5	4	1	5
12	Saboria	8	0	8	2	2	4	10	2	12
13	Sarau I			0	6	2	8	6	2	8
14	Sarau II			0	3	8	11	3	8	11
15	Sarlala			0	17	6	23	17	6	23
16	Talitu (Balibar)			0			0	0	0	0
17	Teblor	4	4	8			0	4	4	8
	Total (ES)	63	18	81	89	38	127	152	56	208

Results to Date

The DAC project has now exceeded the GDA targets of reaching at least 5 new communities with 150 new farmers. We are working in 17 new communities with 208 new farmers.

**Farm sales of 61 tonnes from the expansion communities generated \$42,689 during the quarter:** Production increased by 35% and incomes by 8%, compared to the previous quarter. The lower relative increase in incomes is caused by the focus of the farmers on production of leafy green vegetables during this season, which have a lower per kilo price than items such as eggplant, zucchini, etc. One new community, Casnafar, held their first harvest and sale to Dilimart. Kmanek did not add any additional groups in this quarter.

<b>Totals of Vegetable Production GDA Expansion Sites</b>		
	<b>Kg</b>	<b>US\$</b>
This quarter (July-Sept)	61,118	\$42,689
Previous quarter (April-June)	45,259	\$39,534
Total to Date (since July 2012)	127,004	\$97,164

#### **Activity 4B: Assist farmers to manage their commercial horticulture activities (PEOPLE)**

DAC's work with PEOPLE focuses on developing sustainable ways for farmers and farming communities to manage the planning, production and sales of vegetables with their commercial buyer partners. This includes assisting farmers to develop the business skills necessary to transition from subsistence agriculture to farming as a business, helping farming communities to choose and implement the types of organizations that best meet their needs, and training group members and leaders in the required skills.

##### **Activity 4B-1: On-site training and technical assistance (Managerial Skills)**

DAC will provide training and technical assistance to help farmers and farmer groups to learn how to manage the planning, production and sales of vegetables. DAC will provide specific, proven training and tools that will assist the farmers to master the transparent communication and operations tasks of planning, record keeping, financial management and decision making that are critical to their success as commercial farmers.

###### *Farming as a Business Training*

Completed in seven communities with 79 farmers (see previous reports). No new activity in this quarter.

###### *Farming as a Business technical assistance*

In the expansion areas, 13 farmers made investments in their production, purchasing inputs such as fertilizer, equipments, and irrigation pumps.

*Business skills training for farmers and farmer groups*

Training in Empreza Diak's customized bookkeeping system has been delivered to 4 communities with 74 farmers in the expansion areas. Training of Trainers was also give to Kmanek staff, to enable them to continue training new groups in the future.

Empreza Diak will develop a similar customized system for Dilimart and conduct bookkeeping training at all Dilimart sites in the next quarter.

*Organizational/managerial training – General*

*Kmanek Areas*

No activity in this quarter.

*Dilimart Areas*

No activity in this quarter.

## **Activity 4B-2: Integration of farmers into District Organization**

A District level horticulture organization should include representation from Kmanek and Dilimart sites, as well as any other interested farmer groups such as those associated with World Vision, Hiam Health or Maryknoll Sisters. DAC Community Mobilization team began discussions with farmer groups at all 13 Kmanek expansion sites to introduce the idea of bringing all groups together in a District level horticulture organization. DAC also invited participation from other organizations active in horticulture in Aileu District. Discussions with the Dilimart groups will be completed in the next quarter. A tentative meeting date has been set for the first week of November.

**Activity 4C: Assist SHA farmers to improve horticulture technology and practices to meet market demand for product quantity and quality (PRODUCTION)**

DAC's work with PRODUCTION will identify potential new sites and new farmers, link them to commercial buyers, and provide the technical assistance required for them to produce consistent, year-round, quality and quantity of vegetables according to the buyers' requirements. DAC will also use innovative training methods such as Farmer Field School and exposure to international best practices to solidify agriculture skills and empower farmers to take full responsibility for the success of their small farming businesses.

**Activity 4C-1: On-site training and technical assistance (Technical Skills)**

*Direct technical assistance*

DAC technical assistance in the expansion communities is summarized in the table below.

<b>Challenge</b>	<b>Solution</b>	<b>Activities this quarter</b>
Farmers do not use all improved techniques to maximize production	Demonstration plots to motivate farmers to implement new technologies by showing the measurable improvements in production	Demo plot harvests complete and comparison data analyzed. Results will be presented to farmers during Farmer Field School activity.
Farmers do not use enough fertilizer	Demo plots to show measurable increase in production	Farmers participating in the training in Indonesia learned that successful vegetable farmers at the Value Chain Community use approximately 10 times the amount of compost currently used by DAC farmers.  Upon return, farmers create demonstration plots to share lessons learned with all their group members.
	Assist farmers to understand the “business case” for this investment	No activity in this quarter.
	Help farmers to organize to make group purchases	7 farmers in the Cassa Mou community and 5 farmers in Fatubossa organized together to purchase inputs, particularly fertilizer.
Pests and diseases	Improve farmer skills in IPM	Farmer Field School trains farmers and DAC staff in many new IPM techniques, specifically addressing the Plutella moth which is the greatest challenge for brassicas (broccoli, cauliflower, cabbages)
	Farmer Field School emphasis on IPM for horticulture	Training of Trainers and implementation of FFS

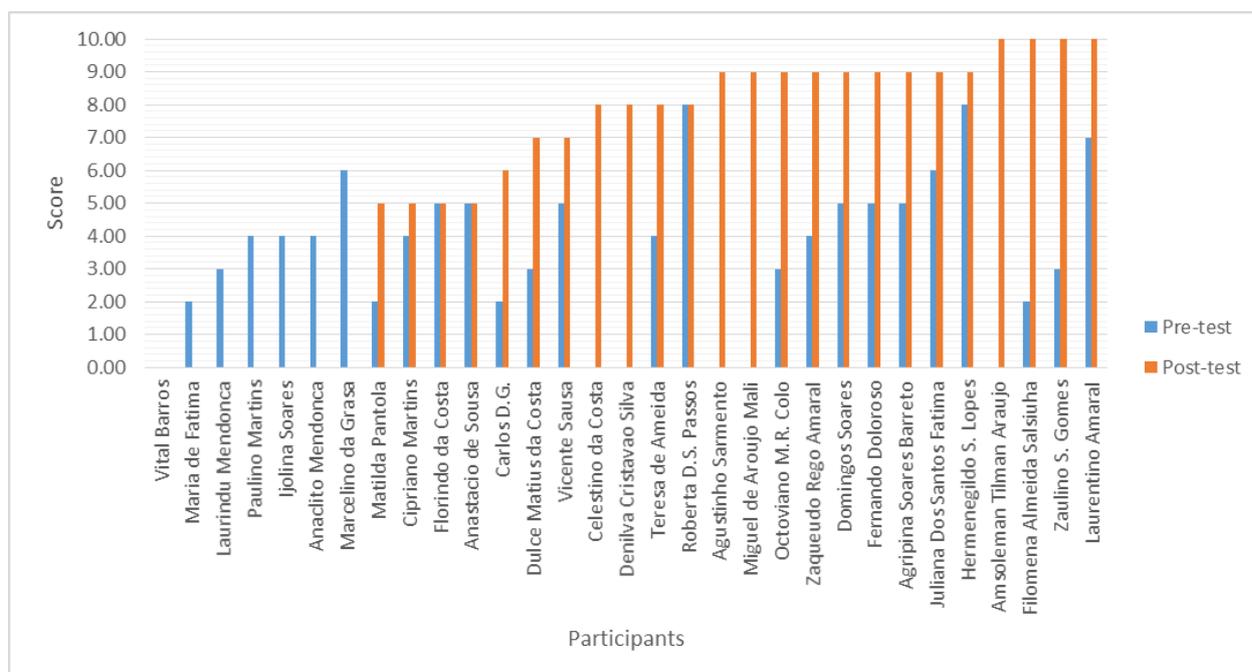
		in the first expansion location were completed.
Farmers don't have easy and sustainable access to best practice information	Best practice manual for cultivating the top ten vegetables	Manual contents completed
Environmental problems may impact future production	Environmental mitigation and enhancement including re-forestation	DAC staff (2) participate in training by RDP4 on best practice in forestry nursery construction and management. Forestry nurseries begun in 3 expansion locations. Coordination with RDP4 project provides additional materials for nurseries (netting, polybags, screens). RDP4, PER and CCT to provide seed and seedlings.
Farmers don't use enough water to maximize production	Train farmers on adequate use of water to maximize production	Irrigation Specialist begins developing training on "how much water is enough" – demonstrating adequate water usage for a variety of different vegetables.  All demo plots and Farmer Field School locations demonstrate benefits of drip irrigation.
	Train farmers on use of drip irrigation and assist with investment in irrigation equipment	Consultant Danny Fyffe assessed the water availability and access of 101 farmers in 5 expansion groups (Dilimart and Kmanek areas) and made recommendations for improving access to sufficient water. This information will be used in next quarter to encourage farmers to make investments in irrigation equipment.

### Farmer Field School for IPM and Horticulture Production

The focus of the Farmer Field School is on organic pesticide, adequate use of compost and organic fertilizer, and the observation of crops on a weekly basis with trouble shooting and problem solving.

Farmer Field School Training of Trainers was completed with 31 total participants (20 DAC staff and 11 farmers) participating. Among the farmers 2 women and 9 men joined the ToT. In addition to expressed interest, there were several indicators that DAC used to choose farmer participants: 1) active farmer, 2) leader in their farmer group and 3) farmers who already demonstrate good agricultural practices based on their crop productivity.

Evaluation of the training effectiveness showed significant improvement in participants knowledge and skills.



From 31 participants attending the ToT, 28 participants completed successfully. Comparing the results of the pre-test and post-test for the 28 graduates, the percentage of participants with a “good” score increased from 17% to 87.1%. Three farmer participants were unable to complete the full training.

The implementation of the Farmer Field School, co-facilitated by ToT participants and the FFS consultants, was held in 4 communities (1 expansion community) in Selo from June through September. The training activities were very well received by participants. In each community, the FFS training plot used a combination of improved and traditional practices to make comparisons.

The most important new techniques used included:

- Use of large amounts of compost
- Duplication of EM4 and its use for accelerating compost making
- Root bacteria addition to combat pest/disease
- Fruit and flower stimulation (organic)
- Making and using organic pesticide
- Use of natural predators for control of pests
- Pest identification and control
- Pest/disease prevention, particularly with frequent monitoring and manual control

The expansion site training implementation results:

- Cassa Mou (chili) – For each demonstration seed bed, full organic/improved techniques harvested 5 kgs, traditional techniques harvested 1.5 kg and 1.8 kg

### *International Training*

20 farmers from the communities of Boklelo, Halibur, Cassa Mou, Fatulumau, and Fatubossa attended a one month training at the Value Chain Community in Bandung, West Java. The farmers received three days of orientation to the program and basic agronomy classroom training. Farmers were then placed with community production groups to receive on-the-ground daily training for 3 weeks. The most important lessons that the farmers learned included (3 different locations each learned different things):

- Requirement for large amount of compost (10 sacs per seed bed, as opposed to Timor Leste traditional practice of 1 handful per plant)
- Advantages and disadvantages of chemical pesticide use
  - Need to select correct pesticide for given pest
  - Expense and difficult to access all pesticides
- Use of water absorbing gel to prolong humid soil
- Importance of investment in irrigation equipment instead of hand watering
- Use of plastic mulch
- New spacing requirements for specific vegetables (single row seedbeds instead of double rows)
- Intercropping 2-3 items to diversify income streams (quick growing, long growing, continuous harvesting)

Upon return to Timor Leste, the trainee group met with DAC staff for a day long debriefing. During the morning, the farmers worked in groups to create summaries of the information they had learned during the training. DAC staff learned that many of the farmers believed that the advanced techniques seemed “impossible” for them to implement on their own fields.

In the afternoon, each group presented their own summary of the new techniques they had learned. DAC staff helped them to discuss in-depth how they might accomplish a similar result in their own fields. For example, the farmers learned that sprinkler systems were used to ensure adequate watering. But, they complained that they did not have enough water or the right equipment to use sprinklers. DAC staff helped them to realize that the real “lesson” was that adequate, consistent water was crucial for good production. Given that lesson, DAC staff helped them to consider how to apply that lesson in Timor Leste. The farmers

realized that drip irrigation accomplished the same result, used less water, and was available for purchase here.

Each trainee was also responsible for implementing a demonstration plot in their community. Members from the same farmer groups collaborated to implement the following demonstration plots, all of which used improved techniques:

- Boklelo: 12 seed beds demonstrating 2 approaches to intercropping
- Halibur: 6 seed beds demonstrating intercropping with 3 crops
- Cassa Mou: 24 seedbeds demonstrating monoculture, and 2 approaches to intercropping
- Fatubossa: 6 seedbeds demonstrating intercropping with 2 crops
- Fatulumau: demonstrating intercropping with 3 crops

Trainees have been discussing their experiences and new skills with their group members throughout the demonstration plot growing season. When the plots are in full growth, DAC staff assists the farmers to arrange a half day demonstration plot presentation. Based on the summaries created during the debriefing sessions with DAC, the trainees give an overview of what they learned, and shared lots of pictures of the fields and farmers at the VCC. They also gave a more in-depth presentation and discussion of the specific techniques and crops used in their own demonstration plot. In this quarter, the presentations were made in all communities.

DAC began preparations for the second group of 20 farmers to attend the one month training from October 24-November 24.

#### *Training on Improved Production Planning*

Completed and handed over to commercial partners Kmanek and Dilimart (see previous reports).

#### *Introduction of Contract Farming Model*

Contract Farming Model introduced and fully implemented by new commercial partner Dilimart (see previous reports).

### **Activity 4C-2: Assisting communities to develop agriculture assets**

DAC will develop cost-sharing plans and partner with communities to construct facilities necessary to meet the market demand for consistent quantity and quality of produce.

#### *Horticulture nursery facilities*

To date, 153 farmers in the expansion communities have received technical assistance and materials to construct well designed nurseries. No new activity in this quarter.

#### *Forestry nursery facilities*

Forestry nursery facilities are underway in 3 communities in the Selo area (Cassa Mou, Fo Liman ba Malu, Foin Mehi). See additional information in Activity 4D: Environmental Protection and Improvements.

#### *Outdoor production facilities*

DAC continued to deliver materials and technical assistance to allow all new farmers to install outdoor production facilities appropriate for their own fields and production. DAC's goal is to provide either plastic tunnel or plastic mulch, and an irrigation solution such as drip irrigation, to at least 150 new farmers. The chart below shows distribution to date, and the number still to be distributed.

	<b>Plastic Tunnel</b>	<b>Plastic Mulch</b>	<b>Drip Irrigation</b>
<b>New Farmers in New Groups</b>	52	19	18
<b>New Farmers in Original Groups</b>	14	8	7
<b>Total</b>	66	27	25
<b>Remaining to Distribute</b>	57		125

#### **Activity 4D: Environmental Protection and Improvements**

Farmer Field School for IPM and horticulture focused on production of organic fertilizer and pesticide using local materials. These new techniques will reduce farmer use of chemicals, including chemical pesticide and urea, while increasing production and quality.

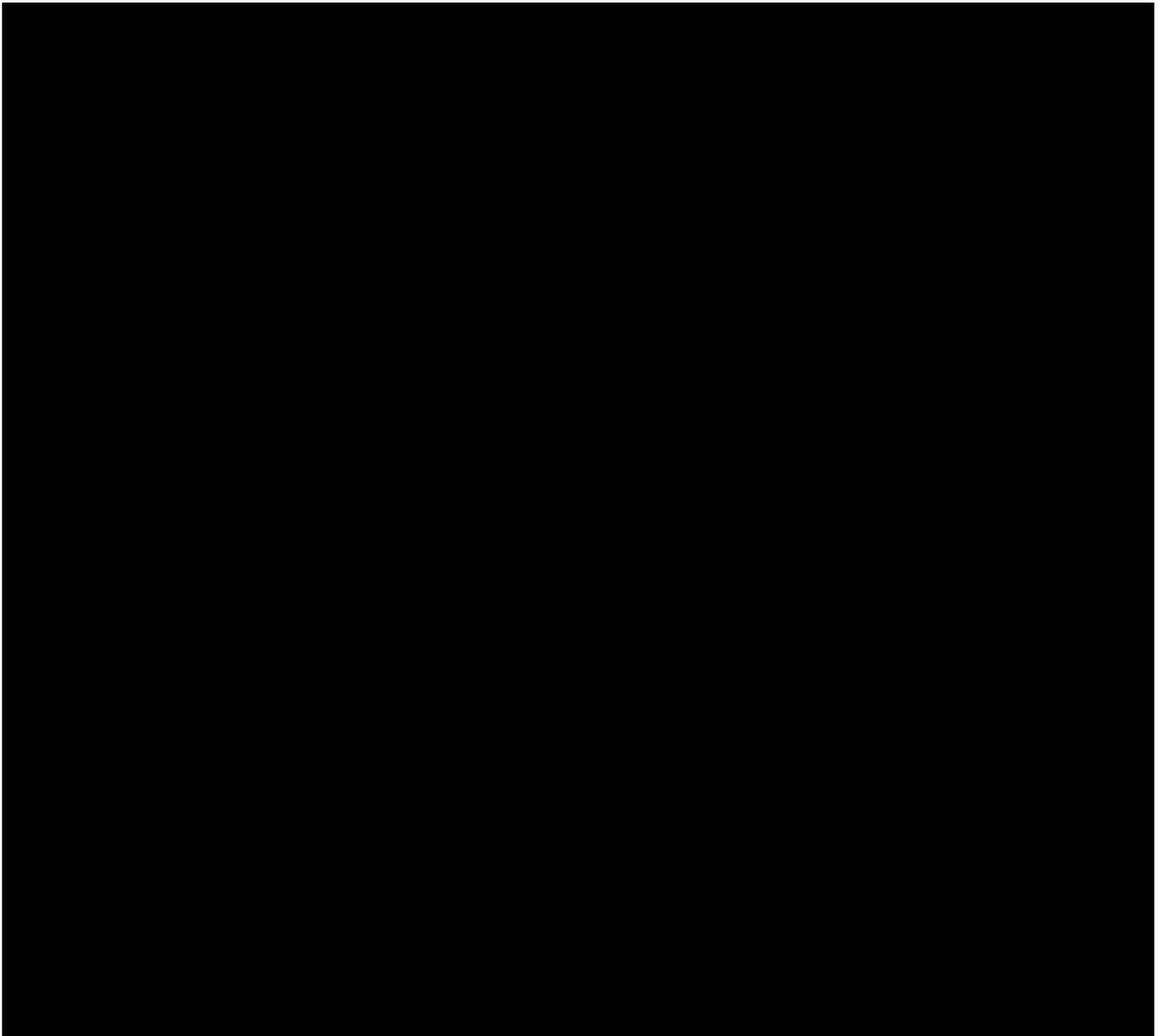
Reforestation activities are under way in 3 expansion communities in Selo. DAC is coordinating with the RDP4 program reforestation activities. Most of the RDP4 activities will be implemented through the MAF extension agents. However, RDP4 has given DAC the opportunity to participate in the program as well. 2 DAC staff were trained along with MAF extension agents, and will implement the training together with the extension agents from Suco Selo Malere and Suco Selo Kraik. DAC farmer groups in these Sucos will receive the benefits (nursery materials, training and seedlings) of the RDP4 program, to complement DAC technical assistance and training. The 3 farmer groups comprise 67 farmers.

Forestry nurseries are complete in 5 communities and underway in 3 additional locations. For the forestry nursery construction, farmers contributed bamboo and wood for the frame. DAC provided polybags for growing the saplings, and 3900 tangerine and papaya seeds. RDP4 contributed plastic netting, watering cans, wire screens, and additional polybags.

RDP4 provided technical guidance on appropriate tree varieties for the Selo climate and elevation. RDP4 will provide seed for industrial tree crops such as mahogany and sandalwood, and the farmer groups will create the seedlings in their nurseries. PER is preparing seedlings of fodder trees (caliandra, leucaena) that will be distributed to each of the communities for direct planting. Farmer groups will also be requesting additional seedlings from the CCT.

DAC staff previously held community socialization meetings, and conducted a community mapping exercise to identify the most important areas for erosion prevention and mitigation.

## Administrative and Technical Management



### SIGNIFICANT EVENTS

- On July 10 DAC hosted the “Soromutu Hortikultura” with 49 participants from the private sector, government, donor programs and NGOs. The Minister of Agriculture announced the formation of the Horticulture Working Group to be implemented with DAC assistance.

## **Annex 1**

### **Updated Year 3 Workplan Timeline**

See next two pages

DAC YEAR THREE WORKPLAN TIMELINE	2012				2013							
	September	October	November	December	January	February	March	April	May	June	July	August
<b>Activity One: Assist SHA farmers to manage commercial horticulture</b>												
<i>Activity 1A: Continued improvement in farming operations (managerial)</i>												
Farming as a Business Training												
Farming as a Business technical assistance												
Business skills training for farmers and farmer groups												
Organizational/managerial training for Associations (Sarin/Liurai)												
Develop business plans for Sarin and Liurai												
<i>Activity 1B: The formation of a legal business entity</i>												
Registration of Sarin and Liurai Greenhouse Associations												
Formation of Aileu District Horticulture Association												
<b>Activity Two: Improve horticulture production to meet market demand</b>												
<i>Activity 2A: Continued improvement in farming operations (technical)</i>												
Sarin and Liurai greenhouses technical assistance												
Sarin, Liurai, Seloi, Lequitura outdoor production technical assistance												
Completion of contract farming model												
Training on improved production planning												
Farmer Field School training of trainers (IPM / horticulture production)												
Farmer Field School training (Seloi 4 locations)												
<i>Activity 2B: Environmental Protection and Improvement</i>												
<i>Activity 2C: Identification of more communities interested in DAC model</i>												
Continued technical assistance to 5 communities in Seloi												
Expansion to additional communities												
<b>Activity Three: Develop Strong Horticulture Value Chain</b>												
<i>Activity 3A: Value Chain Stakeholders Seminar</i>												
<i>Activity 3B: Horticulture Working Group</i>												
<i>Activity 3C: Diversification of clientele</i>												
<i>Activity 3D: Business development assistance to key actors</i>												

DAC YEAR THREE WORKPLAN TIMELINE	2012				2013							
	September	October	November	December	January	February	March	April	May	June	July	August
<b>Activity Four: USAID/ConocoPhillips GDA Partnership Project Expansion</b>												
<i>Activity 4A: Engage at least 5 additional communities/150 new farmers</i>												
<i>Activity 4B-1: On site training and TA (managerial)</i>												
Farming as a Business Training												
Farming as a Business technical assistance												
Business skills training for farmers and farmer groups												
Introduce contract farming model												
<i>Activity 4B-2: Integrate farmers into District Association</i>												
<i>Activity 4C-1: On site training and TA (technical)</i>												
Direct technical assistance												
International Training												
Training on Improved Production Planning												
Introduction of Contract Farming Model												
<i>Activity 4C-2: Assisting communities to develop agriculture assets</i>												
Horticulture nursery facilities												
Forestry nursery facilities												
Outdoor production facilities												
<i>Activity 4D: Environmental Protection and Improvements</i>												