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QUARTERLY REPORT
THIRD QUARTER FISCAL YEAR 2011

April 2011 - June 2011

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APRIL – JUNE 2011

Contract No. EPP-I-04-04-000200-00

ACRONYMS

APFCK	Association des Producteurs de Fleurs Coupées de Kenscoff
BIA	Boutique d'Intrants Agricoles
BME	Bureau des Mines et de l'Energie
CIAT	Comité Interministériel pour l'Aménagement du Territoire
CETPA	Centre de Stockage et de Transformation des Produits Agricoles
CRDD	Centre Régional de Développement Durable
DEED	Développement Economique pour un Environnement Durable
DPC	Direction de la Protection Civile
FDI	Fonds de Développement Industriel
FONDEA	Fonds d'Equipements Agro-Industriels
GIKEN	Gilbert Kenol Entreprises
GIS	Geographical Information System
JEDAPEP	Jeunes Progressistes en Action pour le Développement et le Progrès
KRA	Key result area
LPG	Light Propane Gas
LULC	Land Use Land Cover
MFT	Manufacture Fabrication Transformation
MONAJEP	Mouvement National des jeunes Entrepreneurs Progressistes
MOPPAB	Mobilisation pour le Développement de Bouzi
MOU	Memorandum of Understanding
REA	Responsible d'Eancadrement Agricole
SBRI	Small Business Recovery Initiative
SOFIDHES	Société Financière Haïtienne de Développement Economique et Social
SOGEFAC	Société Générale Haïtienne d'Affacturage
SOHARDEK	Société Haïtienne pour le Développement Rural de Kenscoff
STTA	Short-Term Technical Assistance
SRI	Système de Riziculture Intensive
UNDP	United Nations Development Program
USAID	United States Agency for International Development
USGS	United States Geological Survey
WIF	Watershed Investment Fund
WINNER	Watershed Initiative for National Natural Environmental Resources

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A. OVERVIEW

In the third FY11 quarter, we implemented the Spring 2011 agricultural campaign, launched the 2011 agro-forestry campaign, continued to train Master Farmer candidates. Key achievements during this quarter include:

Livelihoods

- Inauguration of the Bas Boen CRDD on May 1st 2011
- Implementation of the spring 2011 agricultural campaign
- Implementation of the spring 2011 agro-forestry campaign
- Training of Master Farmers
- Continued technical innovations

Infrastructure

- Treatment of ravines (Kenscoff / Petionville)
- Curing of irrigation canals in Rivière Blanche
- Rehabilitation of 4 irrigation pumps in the plain of Cul de Sac
- Sudy of the Dumay road rehabilitation
- Completion of 4 potable water catchments and cisterns in Kenscoff
- Finalization of Bas Boen CRDD construction & progress on construction in Kenscoff and Duvier

Governance

- Mobilization of wardens in Parc La Visite
- Disaster contingency plan preparations in Thomazeau and Ganthier

PPPP

- Support to the mango value chain through the distribution of crates and mobile collection centers
- Distribution of chicken coops and training of farmer associations (MFT)
- Support to the corn value chain: grant to GIKEN for milling equipment and signature of a raw material supply agreement with 20 farmer associations.
- Support to Biocarburant d'Haiti for Jatropha development and biodiesel production
- Support to the cut flowers value chain in Furcy.

Project Level

- Participation at E2Tech Fair
- Presentation of WINNER to State Department and USAID Washington
- Presentation to Amcham
- Visit of WINNER technical staff in Florida
- Distribution of solar panels to farmer associations

B. LIVELIHOODS

B1. SUMMARY OF ACHIEVEMENTS

B1. 1 Spring 2011 agricultural campaign

- WINNER supported the plantation of nearly 3,750 ha in its various zones of intervention. Table 1 presents a summary of the spring 2011 agricultural campaign.
- More than 1,300 hectares were mechanically prepared using tractors.
- More than 5,550 farmers belonging to 243 associations were assisted by 58 extension agents (REAs).

Table 1. Summary of the 2011 spring agricultural campaign (as of June 30th)

Commune	# of REAs	# of Hectares assisted	# of Hectares mechanically Prepared	# of of Hectares irrigated	# of farmers assisted	# of associations assisted	# of farmer stores assisted
Cul de Sac corridor (Plain)							
Croix des Bouquets	10	336	325	336	230	13	4
Ganthier	6	84	210	84	270	9	1
Thomazeau	5	158	215	158	100	9	2
Cité soleil	2	203	210	203	154	3	1
Total Cul de Sac	**23**	**781**	**960**	**781**	**754**	**34**	**8**
Cul de Sac corridor (hillsides)							
Kenscoff	7	496			717	28	4
Petion-Ville	4	335			488	33	2
Total Kenscoff/Pétion-Ville	**11**	**830**			**1205**	**61**	**6**
Mirebalais/Saut d'Eau region							
Mirebalais	8	691	10	249	1133	78	4
Saut-d'Eau	5	430		155	692	59	6
Total Mirebalais/Saut d'Eau	**13**	**1121**	**10**	**404**	**1825**	**137**	**10**
Matheux corridor (Cabaret to St Marc)							
CabaretArcahaie	6	685	328	338	1128	6	4
Montrouis	5	325	16	16	635	5	1
Total Montrouis/Cabaret/Arcahaie	**11**	**1010**	**344**	**354**	**1763**	**11**	**5**
Grand Total	**58**	**3742**	**1314**	**1538**	**5547**	**243**	**29**

Table 2. Summary of the spring 2011 agricultural campaign by crops

Crops	# of Hectares supported	# of hectares mechanically prepared	# of hectares irrigated	# of farmers supported
	Cul de Sac corridor (Plain)			
Corn	405	475	405	417
Sorghum	250	270	250	237
Rice	126	215	126	100
Total	781	960	781	754
	Cul de Sac corridor (hillsides)			
Beans	360	0	0	418
Potato (Granola)	35	0	0	145
Potato (local seeds)	155	0	0	217
Leeks	280	0	0	425
Total	**830**	**0**	**0**	**1,205**
Mirebalais/Saut D'eau region				
Corn	637	10	229	986
Rice	484	0	174	839
Total	**1,121**	**10**	**404**	**1,825**
Matheux corridor (Cabaret to St Marc)				
Corn	189	126	154	208
Plantain	272	205	175	275
Rice	24	13	25	75
Beans	500	0	0	1,070
Potato	25	0	0	135
Total	**1,010**	**344**	**354**	**1,763**
Total area				
Corn	1,230	611	788	1,611
Sorghum	250	270	250	237
Plantain	272	205	175	275
Rice	634	228	325	1,014
Beans	860	0	0	1,488
Potato (Granola)	60	0	0	280
Potato (local seeds)	155	0	0	217
Leeks	280	0	0	425
Total	**3,742**	**1,314**	**1,538**	**5,547**

B1.2 Agro-forestry campaign

- Production of more than 2 millions tree seedlings (1,149,992 fruit trees and 960,758 forest trees) (Table 3);
- 2 federation of associations (FGPB : 83 associations, MKZPB : 15 associations) and 41 associations for a total of 139 associations involved in the campaign;
- 76 nursery sites of fruit and forest tree species established;
- 228 nurserymen candidates trained in nursery techniques, tree planting, and tree monitoring (3 persons per nursery);
- Recruitment of 16 area supervisors to support the associations;
- Orientation meetings with beneficiary associations in all zones of intervention;
- Training seminars for candidate nurserymen in all regions;
- Purchase and distribution of tools and materials for the beneficiary associations (Table 4);
- Purchase and distribution of seeds for the beneficiary associations (Table 5);
- 4,708 hectares will be planted with forest tree species;
- 9,315 hectares will be planted with fruit tree species (agro-forestry system).

Table 3. Summary of the third agro-forestry campaign by region

Region	Number of associations	Number of sites for nurseries	Forest tree seedlings to produce	Area to be planted	Fruit tree seedlings to produce	Area to be planted	Total seedlings to produce	Total area to be planted
Cabaret/Arcahaie	9	9	75,600	370.44	149,400	1,210.14	**225,000**	**1,580.58**
Mirebalais/Saut d'Eau	14	14	88,000	431.20	314,500	2,547.45	**402,500**	**2,978.65**
Pétion-Ville	87	34	555,460	2,721.75	359,290	2,910.25	**914,750**	**5,632.00**
Kenscoff	8	12	76,698	375.82	185,802	1,505.00	**262,500**	**1,880.82**
Montrouis	6	6	149,000	730.10	117,000	947.70	**266,000**	**1,677.80**
Plaine du Cul de Sac	15	1	16,000	78.40	24,000	194.40	**40,000**	**272.80**
Total	**139**	**76**	**960,758**	**4,707.71**	**1,149,992**	**9,314.94**	**2,110,750**	**14,022.65**

Table 4. Inputs and materials distributed by region

Inputs/Region	Kenscoff	Pétion-Ville	Cabaret/ Arcahaie	Cul de Sac plain	Mirebalais/Saut d'Eau	Montrouis	Total
Bags 3'x2'x8'	270,500	933,550	234,000	41,000	246,500	292,000	**2,017,550**
Bags 4'x2'x10'	0	0	0	0	170,000	70,000	**240,000**
Shades	145	510	177	20	420	144	**1,416**
Barbed wire	32	86	34	5	0	27	**184**
Strings	17	66	13	2	28	14	**140**
Drums	20	38	19	2	28	12	**119**
Wheel barrows	10	25	9	1	14	6	**65**
Tying strings	17	55	13	3	28	16	**132**
Derapines	11	22	12	1	15	12	**73**
Pruning shears	30	75	27	3	42	6	**183**
Aspersion pumps	10	25	9	1	14	6	**65**
Hoses	9	30	9	0	28	18	**94**
Boots	18	60	12	0	0	36	**126**
Sieves	20	50	18	2	28	15	**133**
Metric tape measure	10	34	9	1	14	6	**74**
Plastic gloves	60	204	54	6	84	36	**444**
Mask	30	102	27	3	42	18	**222**

Table 5. Seeds distributed by region (pounds)

Variety	Cabaret/Arcahaie	Mirebalais/ Saut d'Eau	Pétion-Ville	Kenscoff	Montrouis	Cul de Sac plain	Total
Forest seeds							
Cedar	2	5.7	35	1.5	4	1.8	**50**
Eucalyptus	4						**4**
Oak	5	5	20.6	3.5	5.9		**40**
Fraxinus	63	100	359			3	**525**
Mahogany	67	18	349.5		7.5		**442**
Capable	0.6	3.4	18				**22**
Grevilia			0.9	3.1			**4**
Pine				6			**6**
Jimpa				8			**8**
Cypress				5			**5**
Ricin					5		**5**
Leucena					1		**1**
Saman					16		**16**
Semences fruitières							
Sour sop	38		15		18		**71**
Orange	38.9	46.3	110	49.4	17.1	6.3	**268**
Grapefruit	36	52	109	32		11	**240**
Lemon	60	62	104	38.5	19	6.5	**290**
Loquat				35			**35**
Peach				34			**34**
Cachiman			25	80	6		**111**
Mango		12,375			1,834		**14,209**
Avocado		2,750			4,125		**6,875**
Breadfruit					17		**17**

B1.3 Training

In this quarter, nearly 1,000 master farmer candidates attended some form of training in our different zones of intervention (Table 7). A total of 234 master farmers were graduated this quarter, including 56 females (see Table 6).

Table 6. Number of master farmers graduated by region (April – June 2011)

Date	Region	Men	Women	Total
May 10th 2011	Kenscoff	30	16	46
May 6th 2011	Gonaives	48	10	58
April 29th 2011	Mirebalais	41	19	60
June 30th 2011	Montrouis	59	11	70
TOTAL		**178**	**56**	**234**

Table 7. Summary of WINNER Training from April to June 2011

Date	Training topics	Region	Men	Women	% Women	Total
April 2011	Potato growing techniques	Arcahaie	36	9	25%	45
April 2011	Vetiver growing techniques	Arcahaie	39	6	15%	45
May 2011	General agricultural principles	Arcahaie	27	6	22%	33
May 2011	Family planning	Arcahaie	59	13	22%	72
May 2011	Sustainable environmental management	Arcahaie	56	7	12.5%	63
May 2011	Growing techniques for SRI	Arcahaie	38	4	10.5%	42
June 2011	Nurseries and agro-forestry	Arcahaie	17	0	0%	17
April 2011	Family planning	Mirebalais	44	21	48%	65
April 2011	Nurseries and agro-forestry	Mirebalais	19	12	63%	31
May 2011	Sustainable environmental management	Mirebalais	38	31	81.5%	69
May 2011	Sustainable environmental management	Mirebalais	28	22	78.5%	50
May 2011	Pest management	Mirebalais	21	12	57%	33
June 2011	Pest management	Mirebalais	18	18	50%	36
May 2011	Corn growing techniques	Cul-de-Sac	23	10	43%	33
June 2011	Sorghum growing techniques	Cul-de-Sac	23	10	43%	33
June 2011	Family planning	Cul-de-sac	22	14	64%	36
June 2011	Small farm management	Cul-de-Sac	33	9	27%	42
June 2011	Pest management	Cul-de-Sac	28	11	39%	39
June 2011	General agricultural principles	Cul-de-sac	80	55	69%	135
April 2011	Pest management	Gonaives	32	8	25%	40
June 2011	Sustainable environmental management	Gonaives	35	5	14%	40
		Grand Total	**716**	**283**		**999**

B2 CUL-DE-SAC CORRIDOR (KENSCOFF / PÉTION-VILLE)

B2.1 Installation of sustainable rural development centers (CRDDs)

Kenscoff CRDD

During this quarter, we continued to make progress in the implementation of the Kenscoff CRDD. The training facility's construction is 85% complete. A second greenhouse has been installed and the leveling for the site of the third greenhouse was completed. For field demonstrations at the CRDD this quarter, we conducted a trial of carrots on 400m^2; trials of white carnations and red gladiolas outside the greenhouse; and installation of a demonstration plot of grasses with University of Florida experts.

We planted 5.000 plants of vetiver around the fish pond. During this quarter, horticulture consultant Richard Fethière from the University of Florida came to Haiti three times to assist with the production of flowers in Kenscoff and Duvier. He conducted an open field day for flower producers of the area at the Kenscoff CRDD and trained members of farmer associations on best practices for growing flowers.

We organized four field days for farmers at the Kenscoff CRDD: one on the production of compost for 30 farmers; one on the production of cabbage for 30 farmers; one of the production of leeks for 30 farmers; and one on the production of flowers (chrysanthemums, calla, carnations, and gladiolas for 30 farmers).

Duvier CRDD

In this quarter, we completed the construction of the building for the Duvier CRDD. The following field demonstration trials were undertaken at the CRDD in this period:

- Installation of 700 plants of the *Arabica tipica* coffee variety.
- Comparative trial of the Monsanto cabbage variety using complete fertilizer and compost. The yield with compost was 56 T/ha whereas it was 85 T/ha using chemical fertilizer.
- Potato trial with the Granola variety: Comparison of the WINNER technical itinerary vs. local techniques.
- Trial with the Carentan leek variety: Comparison of yields with and without the use of chemical fertilizer.
- Trial with the Arifi Wirifi bean variety: Comparison of yields with and without the use of chemical fertilizer.
- Trial with the California wonder pepper variety: Comparison of yields with and without the use of chemical fertilizer.
- Trial of Anthurium flowers in the CRDD.

We organized three field days at the Duvier CRDD: one on the growing of cabbage and leeks for 35 farmers; one on the growing of potatoes for 15 farmers; and one on the coffee greenhouse and the production of Anthurium flowers.

B2.2 Agricultural campaign

The spring agricultural campaign was being fully implemented in Kenscoff during this quarter. We recruited 11 extension agents to work with 487 farmers in the Commune of Petionville on 294 hectares; and 498 farmers in the Commune of Kenscoff on 504 hectares. WINNER also implemented 15 demonstration plots in the area to support the agricultural campaign. 22 Master Farmers were recruited by WINNER to assist the extension agents in providing support to farmers. In addition, some graduating Master Farmers are providing extension services directly to members of farmer associations.

B2.3 Agro-forestry

In Kenscoff, we plan to produce 1,204,050 tree seedlings during the third agro-forestry campaign. In this quarter, the following activities were conducted to prepare for this campaign:

- Organization of 45 meetings with farmers associations to prepare the campaign;
- Selection and cleaning of all nursery sites;
- Implementation of all covers in nurseries;
- Installation of all enclosures in nurseries;
- Installation of all strips to grow plants in nurseries;
- Ensuring availability of manure for all sites;
- Delivery of all bags with 40% filled by the end of the quarter;
- Training of 113 nurserymen;
- Planning and informational meetings with zone managers; and
- Delivery of tools for the campaign.

B2.4 Training

In this quarter, 295 master farmer candidates from 40 farmer associations started their training sessions in Kenscoff and Duvier. Training was provided on general agricultural principles to 54 master farmer candidates, including 21 women. 47 Master Farmers from the Kenscoff area, including 15 women, graduated on May 10th. Table 8 summarizes the training implanted in Kenscoff in this reporting period.

Table 8. Trainings in Kenscoff/Pétion-Ville this quarter (April - June 2011)

Course	Men	Women	Total	Trainer
Pest management	16	33	49	Max Augustin
Potato growing techniques	9	26	35	Pierre Marie BASQUIAT
General agricultural principles	21	33	54	Predner Duvivier

B3 CUL-DE-SAC CORRIDOR (CUL DE SAC PLAIN)

B3.1 Installation of sustainable rural development centers (CRDDs)

The highlight of the quarter for WINNER was the inauguration of the Bas Boen CRDD on May 1st with the participation of the Minister of Agriculture, the Minister of Environment and the USAID Mission Director. About 500 guests attended the event. The buildings of the Bas Boen CRDD were completed this quarter and include: administrative offices, a laboratory, a training center, dormitories, a kitchen and refectory, a shed and a storage unit.

The laboratory was set up with the assistance of experts from the University of Florida. It can provide soil analysis services; diagnostics of plant diseases; and food technology services. The plant diagnostics services will be linked via internet to the University of Florida. The training center can hold up to 40 people and the dormitory has a capacity of thirty beds. Agricultural equipments are stored under the shed.

Field trials continued at the Bas Boen CRDD during this reporting period.

- Field trials on 8949 m² of corn, focusing on plantation density, mineral fertilization, and new varieties (see Table 9).
- Trials on 11,748 m² of vegetables using technical itineraries based on best practices.

Table 9. Field trials at the as-Boen CRDD this quarter (April – June 2011)

Crop	Variety	Area (m²)	Plantation Date	Focus of the trials
Corn	Hugo, Local varieties	4,643	April 7th	Distance and planting method
	Local varieties	2,305	April 15th	Different fertilizer doses
	30F87, 30F80	2,001	April 26th	Plantation density
	Total Corn	**8,949**		
Eggplant	Black Beauty	730	April 1st	Technical itinerary based on best practices
	Black beauty and Local varieties	5,046	April 13th	Technical itinerary based on best practices
	Total Eggplant	**5,776**		
Pepper	California Wonder	1,897	April 1st	Technical itinerary based on best practices
		2,069	April 2nd	Technical itinerary based on best practices
	Total Pepper	**3,966**		
Hot peppers	Habanero Red and Orange mix	1,846	April 29th	Technical itinerary based on best practices
Eggplant, Hot peppers	Black beauty, Local eggplant and Habanero	160	April 26th	Irrigation bucket
Total		**20,697**		

We also installed 43 demonstration plots on farmer fields in the Cul-de-Sac plain on a total area of 7.74 hectares. These plots demonstrate the growing of corn, sorghum, and rice using the SRI technique. The plots were implemented with active support from Master Farmers that were applying in the field the techniques they learned during their training sessions.

Fish ponds

In this quarter, we installed a fourth fish pond at the Bas Boen CRDD. This fish pond measuring 225 m² was seeded with carp. We harvested fish from the first three ponds with an average weight of 243 grams. The Bas Boen fish ponds are demonstrating to farmers of the Cul-de-Sac plain an income generating activity that does not require much land and can generate interesting revenues all year around.

Equipment and new technologies

In this quarter, several equipments and new technologies were made available at the Bas Boen CRDD including:

- A plowing machine and a motorized rice huller were purchased for the CRDD.
- A greenhouse of 180m² was installed under the supervision of Brian Bowman of the University of Florida. This greenhouse will be used to demonstrate the production of high value crops (e.g., pepper, tomato, hot pepper, cucumber, Swiss chard) under greenhouse all year around.
- A rain gauge was installed at the CRDD to collect rainfall data.

CRDD management committee

We held two meetings with members of the Bas Boen CRDD management committee to approve the status of the CRDD. The committee was enlarged to include representatives from the Communes of Thomazeau and Ganthier, as well as representatives from two large farmer groups (OJEUDEC from Dumay and FEDEPAT from Thomazeau).

B3.2 Spring 2011 Agricultural Campaign

In this quarter, the spring 2011 agricultural campaign was implemented in the Cul-de-Sac plain.

- 23 extension agents were recruited to assist 754 farmers belonging to 34 associations in the campaign.
- Inputs were provided to farmers through 8 agricultural input supply stores (BIAs).
- Overall, WINNER supported the campaign on 780.5 hectares in the Cul-de-Sac plain including: 405 hectares of corn, 250 hectare of sorghum and 126 hectares of rice (see Table 10).
- 960 hectares were mechanically prepared using tractors.

Table 10. Summary of the spring 2011 agricultural campaign in the Cul-de-Sac plain (as of June 30th)

Crops	Area planted (ha)			Number of hectares assisted			# of hectares plowed	# of hectares irrigated	Number of farmers assisted
	Improved seed varieties	Local seed varieties	TOTAL	Improved seed varieties	Local seed varieties	TOTAL			
Corn	277	127.5	404.5	277	127.5	404.5	475.35	404.5	417
Sorghum	5	245	250	5	245	250	269.65	250	237
Rice	37	89	126	37	89	126	215	126	100
Total	**319**	**461.5**	**780.5**	**319**	**461.5**	**780.5**	**960**	**780.5**	**754**

B3.3 Agro-Forestry campaign

For the 2011 agroforestry-campaign, the Mouvement Kole Zepòl Peyizan de Belle Fontaine (MKZPB), a federation including 15 associations received a grant in kind to participate in the program in the Commune of Croix-des-Bouquets. The association has a target to produce 40,000 tree seedlings including 24,000 fruit tree seedlings and 16,000 forest tree seedlings (Table 11).

Table 11. Number of seedlings being produced in Chacha/1ere Belle Fontaine for the 2011 agro-forestry campaign

Nursery site	Planned production	Distribution by species						
		Fruit trees				Forest trees		
		Lime	Orange	Grapefruit	Total	Cedar	Fraxinus	Total
Boukan Michel	**10,000**	1,625	1,750	2,625	6,000	2,125	1,875	4000
Bwadine	**10,000**	1,625	1,750	2,625	6,000	2,125	1,875	4000
Acajou	**10,000**	1,625	1,750	2,625	6,000	2,125	1,875	4,000
Vijinie	**10,000**	1,625	1,750	2,625	6,000	2,125	1,875	4,000
Total	**40,000**	**6,500**	**7,000**	**1,0500**	**24,000**	**8,500**	**7,500**	**1,6000**

B3.4 Training

During this quarter, eight training sessions were held in the Cul-de Sac plain:

Overall, 288 master farmer candidates were trained in Bas Boen this quarter, including 85 women. A total of 48 master farmers completed their training cycle this quarter and will

received their certification. Table 12 below presents a summary of the trainings realized at the Bas Boen CRDD in this reporting period.

Table 12. Training sessions in the Cul-de-Sac plain this quarter (April – June 2011)

Training topic	Period	# of female participants	# of male participants	Total	Type of trainer
Sorghum growing techniques	June 1,3	10	20	30	WINNER staff
Pest management	April 7,8,9	3	30	33	WINNER staff
Corn growing techniques	June 26,27,28	10	20	30	WINNER staff
Pest management	June 15,16,17	11	29	40	WINNER staff
Management of small farms	May 2,3,4	9	33	42	WINNER staff
General agricultural principles	May 12,13,14	6	26	32	Short-term consultant
Environmental management	June 20,21,22	11	34	45	WINNER staff
Family planning	June 29,30	15	21	36	WINNER staff
TOTAL		**85**	**213**	**288**	

B4 MATHEUX CORRIDOR

B4.1 Installation of CRDDs

In the Cabaret area, WINNER has been using a local farm as a temporary CRDD. We have been conducting field demonstrations at this site. However, due to uncertainties over land titles, WINNER will no longer use this site. We are in the process of identifying suitable sites to establish a CRDD in the Matheux plains area, and a CRDD in the Matheux hillside areas.

In this quarter, at the Cabaret CRDD, we implemented demonstration plots of corn, eggplant, okra, and hot peppers were installed in the Matheux corridor. Table 13 below summarizes these trials.

Table 13. Field demonstration trials at the Cabaret CRDD this quarter

Crop	Variety	Area (Ha)	Plantation date	Objective
Corn	Local varieties and 30F80 hybrid	0.5	June 27th	Impact of plantation densities
Okra	Clemson pineless	0,5	June 29th	Impact of fertilizer application
Eggplant	Local varieties	0.25	June 29th	Impact of fertilizer application
Hot peppers	Local varieties	0.04	June 30th	Impact of plantation densities

We also conducted demonstration trials on farmer plots. These trials are summarized in Table 14 below.

Table 14. Field trials on farmer plots in the Matheux region this quarter

Crop	Variety	Area (Ha)	Plantation date	Objective
Potato	Granola	0.10	May 2 – 10	Adaptation of the variety to these areas
Rice	Tcs10	0,06	11 mars – 18 mars	Demonstration of SRI
Plantain	Local varieties	0.15	20 mai -6 juin	Planting density
Corn	Local varieties and 30F80 hybrid	1.6	24 mai-10 juin	Yield comparisons

B4.2 Spring 2011 agricultural campaign

In the Matheux corridor, five crops were supported during the spring 2011 agricultural campaign: corn, plantain, rice, beans, and potatoes. (see Table 15). Overall, 1010 hectares were planted; 344 hectares were plowed mechanically using tractors; 1,763 farmers were assisted by 11 extension agents (REAs) and 24 master farmers.

Table 15. Summary of the agricultural spring 2011 campaign in the Matheux corridor (as of June 30th)

Crops	Area planted (a)	Number of hectares mechanically plowed	Number of hectares irrigated	Number of farmers assisted
Corn	189	126	154	208
Plantain	272	205	175	275
Rice	24	13	25	75
Beans	500	0	0	1,070
Potato	25	0	0	135
Total	**1,010**	**344**	**354**	**1,763**

For rice, the focus was on the introduction of the system of rice intensification (SRI) in the region, which farmers appreciated. Another big success this quarter was the introduction of improved potato seeds in Goyavier and Fond Baptiste that have yielded impressive results so far. Beans were also planted in these areas. We assisted plantain farmers with planting density and with technical advice on how to deal with the black Sigatoca mushroom and nematodes that are the main threats to plantain production in the area.

The full impact of the spring 2011 agricultural campaign in the Matheux region will not be known until September.

B4.3 Agro-forestry

- In this year's agro-forestry campaign in the Matheux region, WINNER is assisting farmer associations with the objective to produce 491,000 plants (see Table 16);
- For this campaign, we are putting more emphasis to holding the farmer associations accountable for results with the value of grants tied to the successful production and transplantation of tree seedling;
- For this year's campaign in the Matheux, we are working with 15 farmer associations.
- WINNER organized training sessions for nurserymen and members of associations;
- We distributed tools and nursery equipment to each association for the implementation of nurseries;
- We selected the sites to install alcoves and fences in the nurseries;
- We worked with farmer associations to clean and prepare the nursery sites;
- Farmer associations filled plastic bags and prepared them for seeding.

Table 16. Spring 2011 Agro-forestry production targets by associations in the Matheux corridor

Commune	Associations	Production Target	Priority species
Cabaret	GVADK	17,000.00	• **Forest tree species :** Mahogany, Capable, Cedar, Oak, Eucalyptus, Fraxinus, Leucena, Ricin, Saman. • **Fruit tree species:** Breadfruit, Avocado, Cachiman, Grapefruit, LimeCorossolier, Mango, Orange.
	OPADH	17,000.00	
	OTDOC	48,000.00	
	VDC	32,000.00	
Arcahaie	AFLA	10,000.00	
	AJADCO	18,000.00	
	ONADEV	31,000.00	
	RACADAMA	37,000.00	
	REIDEC	15,000.00	
	OPD-8	64,000.00	
Saint-Marc	AT-6	31,000.00	
	KAPPG	50,000.00	
	KEBJ3A	30,000.00	
	MCDG	35,000.00	
Verrettes	KODEP	56,000.00	491,000.00

- **Coffee**
  - 3 associations (CODAPDA, COTADA et MOJEPRELADA) are involved in the revitalization of coffee production in the Matheux region, particularly in 5ème Délices;
  - 42,065 coffee plants were produced;
  - 173,000 grains were planted;
  - 152,700 coffee plants are ready to be transplanted.

B4.4 Training

Many training sessions were organized in the Matheux corridor during this quarter. Nearly 300 master farmer candidates took courses in: basic agricultural principles, family planning, environmental management, the vetiver system, the system of rice intensification (SRI), agro-forestry and nurseries (Table 17). During this quarter 70 master farmers were graduated in this region, including 11 women.

Table 17. Training summary for the Matheux corridor (April – June 2011)

Topic	Venue	Number of participants	Date	Trainer
Techniques for growing potatoes	Montrouis	45	April 15, 16	Jude P. Basquiat
The vetiver system	Cabaret	45	April 18 - 20	Luders Junior Luc
General agricultural principles	Cabaret	33	May 19 - 21	Duvivier Predner
Family planning	Cabaret	33	May 23 – 25	Margarette Bien-Aimé et Louise Pascale Toyo
Environmental management	Cabaret	65	May 26 - 28	Yves André Wainright
Agro-forestry and nursery techniques	Cabaret	17	June 6, 7, 8	Philostrome Jean Claude
Agro-forestry and nursery techniques	Saint-Marc	17	June 6, 7, 8	Stéphène Jean Méralice
System of Rice Intensification (SRI)	Montrouis	42	June 21	Jean Budy Lucien
Total		**297**		

B5 MIREBALAIS/SAUT D'EAU REGION

B5.1 Installation of sustainable rural development centers (CRDDs)

During this quarter, we installed three demonstration plots on if corn on 3.5 hecrates in the Mirebalais region. There are 4 plots at the CRDD and 4 plots on farmer fields.

We installed 11 demonstration plots of the System of Rice Intensification (SRI) on 4 hectares and conducted training sessions on SRI for over 300 farmers.

We also installed okra and eggplant demonstration plots at the CRDD.

B5.2 Spring 2011 agricultural campaign

For the spring 2011 campaign, we focused on corn and rice in the Mirebalais region. WINNER provided support to 1,825 farmers belonging to 137 associations; and 13 extension agents were mobilized to assist the farmers. The total area planted was 1,121 hectares, with 637 hectares planted with corn and 484 hectares planted with rice.

B5.3 Agro-forestry campaign

For this year's agro-forestry campaign in Mirebalais, fourteen farmer associations are receiving more the 400,000 tree seeds (80% fruit tree species). We distributed 409,300 bags for the production of 401,500 tree seedlings. As of the end of the quarter, 378,397 bags had been filled with medium (92.45 %); and 112,688 bags have been seeded (29.78 %). The tools and equipment necessary to establish the nurseries were provided to the farmer associations as grants in kind.

B5.4 Training

This quarter, we graduated 60 master farmers from the Mirebalais region on April 29th. Many training sessions were held during the quarter. A total of 312 master farmer candidates received training in:

- Sustainable environmental management,
- Family planning,

- Agro-forestryu and nursery techniques, and
- Pest management.

Table 18. Training realized in the Mirebalais / Saut d'Eau region this quarter

Training topics	Venue	Number of Participants	Date	Trainers
Sustainable environmental management	Mirebalais	69	11 au 13 mai 2011	Yves André WAINRIGHT
Sustainable environmental management	Mirebalais	50	28 au 30 juin 2011	Yves André WAINRIGHT
Family planning	Mirebalais	65	11 au 13 avril 2011	Margarette Bien-Aimé et Louise Pascale Toyo
Agro-forestry and nursery techniques	La Selle	31	6 au 8 avril 2011	Bodel JEAN-GILLES
Pest management	Mirebalais	33	3 au 5 mai 2011	Ally SAINT-VILMARD et Max AUGUSTIN
Pest management	Mirebalais	36	31 mai, 1 et 15 juin 2011	Ally SAINT-VILMARD et Max AUGUSTIN
Agro-forestry and nursery techniques	Mirebalais	12	1 au 3 juin 2011	Philostrome Jean Claude
Agro-forestry and nursery techniques	Saut-d'Eau	16	1 au 3 juin 2011	Stéphène Jean Méralice
Total		**312**		

B5.5 Support to the Mango value chain

In this quarter, WINNER provided support to farmer associations in Mirebalais and Saut d'Eau to reduce post-harvest losses for Francisque mangoes. The month of April was the height of the mango collection season in the region. WINNER provided equipment and training to four large mango producer associations (RAPCOM, SAPCO, KEOPDA, and CETPA).

WINNER provided three mobile collection centers, six sorting tables and 6,000 plastic crates to the farmer associations. This material was used to improve the collection, sorting, storing and

transport of mangoes from the Mirebalais and Saut d'Eau regions during the harvesting season.

As a result of this activity, RAPCOM was able to export 7,500 dozen mangoes this seasons versus 900 dozen last year; SAPCO was able to export 21,000 dozen mangoes out of 25,000 dozen purchased (16% losses); KOEPDA exported 15,000 dozen of the 16,300 dozen mangoes it produced (8% rejects); and CETPA exported 26,500 dozen mangoes this seasons as opposed to 16,000 dozen last year (a 40% increase).

These significant results demonstrate the importance of implementing good post-harvest practices during the mango season.

B6 GONAIVES WATERSHED

As WINNER has disengaged from the Gonaïves area, activities this quarter were limited and focused on agricultural demonstration, training, and the PPP partnership with MFT on the poultry value chain.

B6.1 CRDD Activities

The demonstration plots at the Tarasse CRDD were affected by the late rains that only started in mid-May and by the lack of water due to the defective pump #34. In this quarter, the Tarasse CRDD made its tractor available for soil preparation services to the farmers of the Gonaïves plain on over 10 hectares.

Despite water shortages, the Tarasse CRDD was able to sorghum during the spring agricultural campaign, and the satellite CRDD in Bassin Mangnan produced sorghum. Overall, the CRDDs produced 85 kilograms of corn and 320 kilograms of sorghum.

As far as field trials are concerned, the La Branle CRDD worked with members of OPLA to install a demonstration plot for the Charleston gray melon variety in hillside areas. The jatropha trials in the CRDD are yielding excellent results.

B6.2 Training

In this quarter, 58 master farmers were trained and graduated in Gonaïves, including 10 women. Master farmers received training in soil conservation, cereals, and vegetables. Overall, 111 master farmers have been graduated from the region since the inception of the program.

B6.3 Distribution of solar panels to farmer associations

In this quarter, solar panel kits were distributed to five farmer associations in the Gonaïves area: OPLA, APD, MODSEG, FPB, and MPB. These solar panels will be used to provide power to associations located in remote areas and provide essential services including: recharging cell phones, running small electric tools, and powering information technology equipment.

B6.4 Distribution of chicken coops to farmer associations

In this quarter, the farmer associations in the Gonaïves area started receiving chicken coops and hens as part of the PPP partnership with MFT. The AIZ3 cooperative received 60 coops, 3600 hens (60 per coop), and a stock of food; AIZ1 received 30 coops, 1800 hens and a stock of food; and AIZ2 received 25 coops, 1500 hens and a stock of food.

Extension agents provided training together with MFT, to members of the farmer associations receiving the coops on the building of chicken coops, feeding and nutrition of hens, water management, and how to deal with sick hens. A total of 250 farmers belonging to 11 associations received the training.

C. INFRASTRUCTURE

In this section, we present the activities related to the infrastructure component of WINNER undertaken in this reporting period in all zones of intervention. The activities are presented by Key Result Area (KRA).

C1. ESTABLISH STRUCTURES THAT STRATEGICALLY STABILIZE HILLSIDES AND CONTROL FLOODS IN PLAINS

Treatment of ravines

In this quarter, we continued with ravine treatment in several WINNER areas. Of a total of 21 ravine treatment projects assessed, three are currently being implemented.

Pétion-Ville/Kenscoff

Three ravine treatment projects that started at the beginning of the year in the Petionville/Kenscoff area continued during this quarter. They are: the treatment of the Source Madame ravine, the Sarthe I ravine, and the Martha I ravine.

To date, these projects have treated 3.353 kilometers of ravines through the installation of 4,403 m^3 of dry walls and gabions and the biological treatment of 19.25 hectares through the installation of 192,500 vetiver plants. These projects have also generated 23,492 person days of work in the Petionville/Kenscoff area.

Cul de Sac plain

In this quarter, five ravines were identified in Thomazeau for treatment, and for two of these we expect to have grants in place to start work in the next quarter. In the commune of Ganthier, three ravine treatment and soil conservation projects are being finalized.

Matheux corridor

In the Cabaret and Arcahaie regions, we prepared technical project documents for the second phase of bank reinforcements of the Courjolle river in Arcahaie, and the Torcelle river and Manegue ravine in Cabaret. It is necessary to undertake these works for the protection of the productive plains in Cabaret and Arcahaie and for the development of irrigation systems.

Mirebalais /Saut d'eau

In the Mirebalais region, we identified three ravines that are important to treat to protect the irrigation systems of Pilon-Marcellin, Source Maître Pierre, and LaKolin-Kandjo linked to nearly 1,000 hectares of mango producing areas.

C2. WATER COLLECTION AND DISTRIBUTION SYSTEMS

Cul-de-Sac

In this quarter, we completed the construction of four water catchments and of two gravity water systems in Dumisseau, 4th Communal Section in Kenscoff. This project, with a cost of just over 11 million Gourdes is intended to provide water to 25,000 people. The four water catchments are for remote areas that have no water service: Mahotière, Bois Neuf, Comnette and Despinasse. The gravity water systems are to capture water from the springs of Ti Polit and Sambou to provide potable water to the areas of Bernard I, Bernard II and Dumisseau.

WINNER also worked with the ANC association to complete a potable water system for the community of Lefevre for the benefit of 15,000 people. In this quarter, WINNER worked with the management committee to ensure proper maintenance of the system and adequate cost recovery.

C3. CONSTRUCTION OF CRDDS

In this quarter, we completed the construction of the buildings for the Bas Boen CRDD that was inaugurated on May 1st (see Section 1.5 above). The CRDD includes a training center, an administrative building and laboratory, a kitchen and refectory, a dormitory, and a

storage unit. The construction also included a parking area and fences around the facility.

In this quarter, WINNER completed the construction of the offices at the Duvier CRDD. For the Kenscoff CRDD, the construction of the administrative building and training center also started this quarter.

C4. REHABILITATION OF IRRIGATION SYSTEMS

Cul-de-Sac

In this quarter, WINNER cleaned the canals of La Serre, Dumilseau and Despulzeau in the Cul-de-Sac plain. The cleaning downstream of the la Serre canal started at the Chanbrun bridge and covered 1,000 meters with a width of 6 meters. The Desouzeau irrigation canal was cleared on a length of 4,331 meters and a width of 3 meters. To implement these works, WINNER used two backhoes, 40 workers and 4 team leaders in each site.

Mirebalais / Saut d'Eau

In this quarter, WINNER continued to work on the extension of the Wanny irrigation system in the Commune of Sarazin. This project will allow the demonstration plots at the Wanny CRDD to be irrigated, as well as to provide water to fish ponds at the CRDD.

D. GOVERNANCE

D1 CUL-DE-SAC CORRIDOR

D1.1 Protection of the Parc La Visite

This quarter, we provided support to the Ministry of Environment to field assistant wardens in the Parc la Visite. The assistant wardens were recruited among members of associations established in the Parc. Their role is to assist the "Environmental Monitoring Corps (EMC)" of the Ministry of Environment is enforcing forest preservation. WINNER provided equipment to the Ministry's EMC including boots, gloves, tools, GPS, flashlights, backpacks, and uniforms. The EMC will work side by side with local communities to ensure that the Protected Areas legislation is enforced in Parc la Visite, one of the few protected areas of unique biodiversity left in Haiti.

D1.2 Cul-de-Sac watershed management planning

This quarter, we continued to work on the Cul-de-Sac watershed management plan. We prepared detailed land use land cover maps for the Kenscoff and Croix-des-Bouquets communes that we shared with the Mayors. In the next quarter, we will field Glenn Smucker to prepare a draft of the watershed management plan and we will organize a meeting of all stakeholders from the Cul-de-Sac watershed jointly with the CIAT.

D1.3 Disaster Contingency plans (Ganthier and Thomazeau)

In this reporting period, we started working on the disaster contingency plans for the Communes of Ganthier and Thomazeau. We coordinated with the Direction de la Protection Civile (DPC) and the Municipalities to set up Civil Protection Committees in these two communes, and we hired a consultant to prepare a draft disaster contingency plan and to train members of the local committees.

D1.4 Support for water-user associations

During the second quarter of the year 2011, various activities were accomplished at the Infrastructures Maintenance Section's level.

For the Mirebalais Region :

- Mobilization meetings held with the management committee and with some irrigants from the small irrigated perimeter of Wanny ;

For the Cul-de-Sac region : :

a) Lefèvre :
- Completion of two (2) training sessions with the seven (7) members of the water adduction system's management committee ;

b) Mahotière :
- Elaboration of a training calendar for committee members ;
- Follow-up on the water adduction system : permanence Suivi du système d'adduction d'eau : permanence of the water at the hydrants;
- Follow-up on the trail maintenance with members of the MONAJEP organization. Every month two Wednesdays are set aside for community maintenance work.

c) Duvier (or Duvivier) :
- Planning awareness meetings due to a lack of willingness on the part of the beneficiaries to pay any water fee whatesoever.

d) Plaine du Cul-de-sac :
- Recruiting of water valves operators, controllers and delegates that benevolently collaborate with the management committees at the habitation, sectors and executive committee's level;
- Maintenance of the irrigation canals jointly with the Croix-des-Bouquets Mayor's Office ;
- Follow-up on the availability of water within the system, partcularly at the habitation level ;
- Planning of the dyke's reinforcement in Bassin Général (irrigation system of the Rivière Grise)
- Continuous watering of the system at the bassin Général level ,
- Planning maintenance and rehabilitation works of the great courier and of the main canals at the Rivière Grise irrigation level;
- Visit of the irrigation pumps by the WINNER project, follow-up on their water availaibility;

For the Gonaïves region :

- Meeting on the management and maintenance of the water adduction system at Bassin Magnan with the management committee.

E. PUBLIC-PRIVATE-PRODUCER PARTNERSHIPS (PPPP)

E1. CORN VALUE CHAIN

In this quarter, corn transformation equipment was provided to GIKEN in the context of a partnership between the company and corn producers in the Cul-de-Sac plain for the production of corn meal. GIKEN has agreed to purchase between 300 and 400 tons of corn from farmer associations. The corn must be delivered in bulk with a humidity of about 13%. GIKEN has signed MOUs with twenty farmer associations of the Cul-de-Sac plain that are receiving technical assistance from WINNER.

E2. POULTRY VALUE CHAIN

During this quarter, MFT started the delivery of chicken coops to farmer associations in the different zones of intervention of WINNER. MFT provided training to farmer associations on setting up the chicken coops. In Gonaïves, 6,900 egg-laying hens were distributed to farmer associations. MFT also started operations at the Gonaïves feed production plant and completed a unit of 8,000 m2 for the production of chicks.

WINNER engaged extension agents to assist the farmer associations with the production of eggs. Finally, WINNER provided MFT with a financial manager to reinforce the company's management capacity.

In this quarter, international poultry expert Tom Fattori was fielded to conduct an assessment of the poultry value chain in WINNER areas. Dr. Fattori identified the high cost of feed as a key constraint for Haitian egg production and emphasized that local production will have difficulty competing with eggs imported from the Dominican Republic if local feed prices remain high. This consultancy highlighted the need for the reinforcement of cereals value chains that will allow production costs to decrease through improved seeds, the application of technical itineraries, and reduction in post-harvest losses.

E3. FRESH CUT FLOWERS VALUE CHAIN

During this quarter, University of Florida horticulture expert Dr. Richard Fethiere continued to provide support for the development of the fresh cut flowers value chain in Kenscoff. In particular, Dr. Fethiere worked with the Association de Producteurs de Fleurs Coupées de Kenscoff (APFCK) to demonstrate best practices for the production of flowers both under greenhouse and in open field.

WINNER provided a grant to APFCK for the implementation of 11 greenhouses for the production of flowers, and fostered partnerships between the association and flower sellers in Petionville. In the first year, at least five flower varieties will be produced: calla, carnations, gladiolas, chrysanthemums, and "baby's breath". These varieties were selected based on the needs of flower sellers.

WINNER provided practical training to members of APCFK on how to build a greenhouse, and supported the association's participation at a flower fair at the Karibe convention center in April. This fair allowed the association to exhibit their products and to make contact with potential buyers.

E4. MANGO VALUE CHAIN

In the mango value chain, WINNER provided post-harvest equipment to farmer associations in the Mirebalais / Saut d'Eau region that resulted in a considerable increase in export-ready mangoes from the region (see B.5.4).

In addition, in this quarter, we finalized the PPP between DFSA (a company specializing in dried fruits) and the ADAIM farmer association in Mirebalais. Under this agreement, DFSA plans to purchase 6,000 pounds a month of dried mangoes from ADAIM. This activity should generate yearly revenues of $70,000 for ADAIM. WINNER will work with both entities to build a facility for the drying of mangoes that will be managed by ADAIM with technical assistance provided by DFSA. This activity will allow mangoes that are not destined for exports to generate income for farmers of the Mirebalais / Saut d'Eau area.

E5. JATROPHA VALUE CHAIN

The project to assist with the production of jatropha oil and biodiesel in the Cul-de-Sac plain through the grant to Biocarburant S.A. was completed in June. The project was able to implement the plantation of jatropha in marginal areas of the Cul-de-Sac plain. Overall 4,700 farmers, including 1,710 women benefitted from this project which generated an average increase in revenues of 30%.

100,000 jatropha plants were produced, of which 96,000 were planted on 50 hectares. Eight hundred kilograms of jatropha grain were harvested in nine different sites. As part of the grant to Biocarburants d'Haiti, a press has been ordered to improve the production of jatropha oil as an input to the production of biodiesel.

In this quarter, Ben Leroy of Quinvita was fielded to conduct an assessment of the jatropha trials by WINNER. The assessment concluded that the trials in the Cul-de-Sac plain were not very successful due to a lack of application of best practices; while the trials at the La Branle CRDD in Gonaïves produced excellent results. It is clear that by applying proper growing practices for jatropha on marginal lands, this value chain can be important to complement farmer revenues and to produce an alternative source of energy in Haiti.

E6. MARKETING OF AGRICULTURAL PRODUCTS

Last year, WINNER launched a request for expressions of interest for the processing and marketing an agricultural product from its areas of intervention. The ODAI-L association in Kenscoff was one of the groups selected to receive support from WINNER. In this quarter, we fielded Dr. Steve Sargent from the University of Florida to provide technical assistance to ODAI-L for the implementation of the conditioning facility for fruits and vegetables from the Kenscoff area. Dr. Sargent recommended a joint-venture between the association and private sector operators for this center. Based on this recommendation, in June, WINNER launched a request for expressions of interest for private sector operators to participate in the implementation of a fruit and vegetable conditioning center in Kenscoff with ODAI-L. Of note is that ODAI-L has a network of about a thousand farmers and is making 2,200 m^2 of land available for the building of the center.

F. PARTNERSHIP WITH THE UNIVERSITY OF FLORIDA

F1. UF TECHNICAL ASSISTANCE

University of Florida through its faculty, graduate students, and collaborators provided technical assistance to the CRDDs (Rural Centers of Sustainable Development), the Public-Private-Producers Partnership, local governance, and Livelihood components in various fields such as cut flower production, agricultural engineering, fertility management, food technology, waste management and energy production, developing a sugar cane multiplication center and a diagnostic clinic. New species, varieties, techniques and technologies were introduced by UF members (see Table 19) to enhance agricultural production, agribusinesses and post harvest. The period was highlighted by the Bas-Boën CRDD inauguration.

Table 19. Summary of UF technical assistance for April to June 2011

Topic/Field and consultants	Watershed or location
Agricultural Engineering – Drip irrigation and protected agriculture Brian Boman	Kenscoff, Bas-Boën, Cabaret, Cul-de-Sac/SONAPA, Santo, Furcy
Cassava fructose syrup Samuel Aso	Gainesville
Cut Flower Richard Fethiere	Kenscoff, Duvier
Diagnostic clinic Jeffrey Jones Joubert Fayette	 Gainesville Cul-de-sac
Food industry Art Teixeira	Gainesville
Village Scale Mango Pulp Facility Peter Clark	Mirebalais

Topic/Field and consultants	Watershed or location
Mango post-harvest/donkey packframe Art Teixeira	Gaineville
Rice analyses Richard Fethiere	Gainesville
Sugar cane multiplication center Kelly Morgan	Cul-de-Sac, Barbancourt
Tomato processing Peter Clark	Santo, Cul-de-Sac
Waste Management Timothy Townsend Hwidong Kim Max Krause	Arcahaie, Cabaret, Croix de Bouquet, Cabaret and Kenscoff Kenscoff, Bas-Boën, Cabaret Kenscoff, Bas-Boën, Cabaret

F2. CUT FLOWER PRODUCTION

It includes follow up on activities started last year, introduction of new techniques and germplasm, and training. Due to the different ecozones of the Cul-de-sac watershed and close markets, the cut flower industry offers an opportunity to develop new jobs (greenhouse construction, drip irrigation installation, growing stakes, trading agricultural inputs, developing seedlings, growing flowers, marketing, etc.) and lucrative activities along the value chain. For the period, this consultancy includes:

- **Introduction of new species and cultivars** at the Kenscoff CRDD to observe adaptation to new climatic and edaphic conditions (6 callas cultivars; 14 gladiolus cultivars (Figure 1); 4 carnation cultivars (seeds); baby's breath (seeds)
- **Introduction of three anthuriums** (rooted plugs) cultivars at the Duvier taking advantage of climate and proximity to Pétion-ville.
- **Development of a multipurpose center** to include trials, timing production and mastering techniques, demonstration to peers, farmers, and multiplication plots (inside and outside the two greenhouse) to build a gene bank and distribute quality planting materials to associations at competitive cost. A second green house is built to receive new species such as carnations and gladiolus. Gladiolus attracted women at the center (Figure 2).
- **Revenue forecast for the multiplication center in the CRDD**. By adding 105 trays in greenhouse #2 to produce 180,000 seedlings

and rooted cuttings, the CRDD can generate more than 1,300,000 gourdes per year.

- **Developing local medium** to accommodate different species to different edaphic conditions
- **Training** farmers and CRDD agronomists in new techniques and in growing the following species: anthurium, callas, baby's breath, gladiolus and carnations.
- **Production of didactic materials** for new introductions and techniques include Cultural and growing information for cut chrysanthemums, Snapdragon (*Antirrhium majus*), Carnations, and tips on keeping flowers fresher, preparing rooted cuttings from soft wood, and preparing seedlings. Tips on Calla lilies are in preparation.
- **Hands-on training in every day checking** to recognize signs of pest infestations, water, drainage or weeding needs to maintain an adequate growing environment for the plants.

Figure 1. Spreading flower production over the summer. Note both flowering and non flowering gladiolus.

Figure 2. Workshop on Gladiolous attended by a majority of women. Note that flowers are planted and sold by males.

- **Recommended and projected activities**
  - Expansion of the irrigation system with greenhouse expansion (no water, no flower)
  - Building post-harvest shed in Kenscoff to include a cool room for flowers

- Following up with training in cut flower reproduction and management of an association
- Improving the production of various medium, i.e. introduce a chipper to chop woody materials and produce coir, and other tools and equipment to mix medium
- Introducing gerbera and lilies (oriental, ginger and Peruvian) and increasing production of baby's breath
- Promoting production of bamboo stalk, ornamentals to improve Kenscoff CRDD landscape and environment and create new jobs
- Introducing containers to carry fresh flowers
- Building work benches to support tray seed production inside new hoop house

F3. AGRICULTURAL ENGINEERING

This topic includes drip irrigation, protected and vertical agriculture, and on-the-job training. For the period, various consultancies include technical assistance to primarily Kenscoff and Bas-Boën CRDDs and to the PPPP unit. For the period, the activities include:

- Designing and installing a well automation system to include starter and control for irrigation pump in Bas-Boën
- Select, purchase, pack and ship irrigation system and greenhouses components for both CRDDs
- Collaborate with procurement (both in Haiti and Washington) to provide specifications and justification for materials
- Design a remote sensing network to monitor (from Florida) precision agriculture in the Cul-de-sac watershed. This system will include WINNER CRDDs (Kenscoff and Bas Boen) and the sugar cane multiplication plot at Barbancourt.
- Recommend equipment and materials for network and monitoring system. They will be installed in August.
- Installation of an automated drip irrigation system at the Bas-Boën CRDD (Figure 3). A layout was drawn for discussion and calculating materials (Figure 4). Since the land is not rectangle, the plots vary in size, and include additional valves on the east and west sides. This system is divided into plots that are independent and include a number of microsprinklers for fruit trees (Acerolas and mangoes). It also provide water to the fish ponds and areas that the agronomist which to irrigate by flood irrigation.
  A controller system including a weather station and humidity sensors is being ordered along with camera to provide technical support from University of Florida. The camera is able to see a bug on a leave, allowing expert to make a diagnosis and to do day-to-day check on the greenhouse and on the different trials.
- Building a 20 ft wide by 100 ft long greenhouse in Bas-Boën CRDD (Figure 5) with vertical agriculture and a mist system. Planting in vertical stacker increase the production area by 16 to 25 according to the crop. The misters are installed to lower the temperature inside the greenhouse. The estimated cost s is about $7000. It is made out of materials that can be found locally such as top rails ($1500), EMT ($600) and lumber ($500). Shade cloth ($600), polyethylene ($250), the mist system ($450), vertiGro stacks ($1650) and miscellaneous tools and spare parts ($250) were imported (freight $1200). The economic study done on the hoop house that I built in Kenscoff showed that it paid for itself in about nine months. Hopefully, we can generate similar information for the Bas-Boën hoop house in the next year with high value crops.
- Presentation on micro irrigation to the WINNER staff explained the importance, advantages and trends in microirrigation. It also call attention on how easy it is once the user is able to plan.
- Training on operating and maintaining system. Only Jasmine Mesidor, Reponsable Encadrement Agricole/agronomist has acquired the technology, now that she is absent the CRDD director will have to seriously focus on appropriation of the technology and maintenance.

Figure 3 Installing components of the automated irrigation system and training

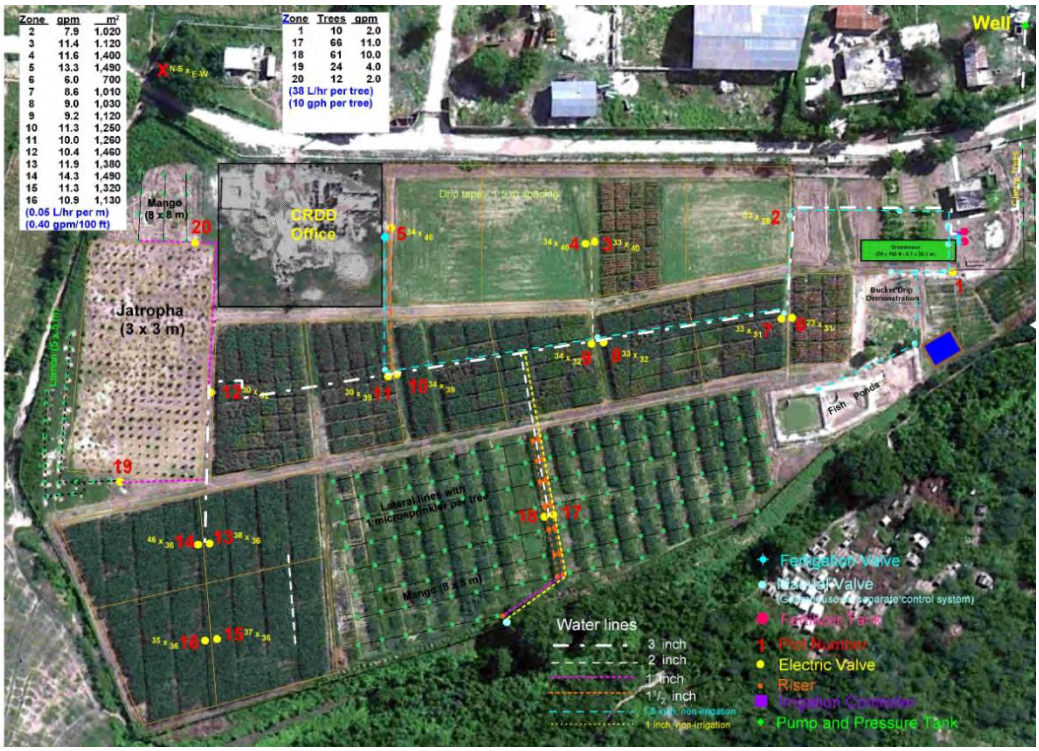

Figure 4 Layout of irrigation system in Bas-Boën

Figure 5 Greenhouse in Bas-Boën CRDD with a vertical agriculture and mist system

- **Recommended projected activities**
  - Finish installation of irrigation system at Bas-Boen
  - Install bucket drip irrigation and train local association in Furcy and Kenscoff
  - Reinstall and test solar light system in the hoophouse/greenhouse to activate production or produce on demand (flowers, high value vegetables, herbs)
  - Install water system at Fury for the cut flower industry and the farm school to be developed in this area
  - Install controller system and weather station at Kenscoff, Bas Boen CRDD and on the sugar cane multiplication plots (that has electricity 24 hours a day and internet connection)
  - Install irrigation, fertigation, weather station, and control system for Barbancourt sugar cane multiplication center
  - Training on operating, maintaining, and verifying data from weather stations
  - Training on operating and maintenance of hoop house and irrigation system at Bas-Boen
  - Provide inspection and construction oversight for Famosa greenhouses
  - Provide inspection and oversight of La Serre irrigation system to develop industrial tomato production

F4. DIAGNOSTIC CLINIC

The first plant disease clinic is established in the Cul-de-Sac plain to provide recommendation and extension services to growers. It had been inaugurated May 1st with the Bas-Boen CRDD. This lab is designed to assist producers. Its working stations (Figure 6) have state of the art equipment (digital microscopes, cameras etc.) and are open to researchers and students. Its library contains educational and diagnostic resources on pests and diseases (Table 6), and posters to easily identify pests (Annex A).

Figure 6. Diagnostic clinic with materials and posters in Bas-Boen

- **Projected activities**
  - Field lab manager and distance diagnostic professional to operate lab
  - Collaborate with CRDD professionals to identify local resources capable of operating the lab
  - Connect the lab to the Caribbean Pest Diagnostic Network
  - Start distance education classes in integrated pest management for professionals and extension agents

F5. FOOD INDUSTRY

A number of consultations addressed this topic lead by Dr. Art Teixeira, assisted by students and colleagues, Drs. Bob Bates and Peter Clark. They include product development, assistance to the private sector, the tomato and mango industry.

F5.1 Donkey Pack Frame

This project consists of design, fabrication and field testing of a prototype pack frame that can hold four small field crates filled with mangos on the back of a donkey to protect mangos from excessive bruising and damage as they are carried from the field to the road side. Two prototype designs were fabricated at the UF/ABE Department machine shop, and field tested on the back of a donkey at the UF/IFAS Equine Science Center in nearby Ocala, FL (Figures 7 and 8) New designs were fabricated and field tested during January and February, 2011.

Two graduate students are working on this project. One is a student from Haiti on a WINNER scholarship (Arthur Bonicet) focusing on quantifying the quality improvement in the fruit as a post harvest project under the supervision of Dr. Steve Sargent (See Students section for more details). Mr. Bonicet traveled to Mirebalais, Saut d'Eau and Gros Morne during the Summer semester to assess improvements in post harvest due to the distribution of crates and trial the newly develop frame tailored to the crate size. The other is a food engineering graduate student working under Dr. Teixeira's supervision with independent funding focusing on the engineering design and field testing.

Figure 7 Prototype Design 1 at ABE department

Figure 8 Field test on Design 1 in Gainesville

F5.2 Village Scale Mango Pulp Processing Facility

The objective of this project was to design, construct and make operational a village scale food processing facility to process cull mangos (less than export quality) into mango pulp. The pulp will be sold as an ingredient to soft drink bottlers wishing to enter the market with mango-based fruit juices and nectars.

- Gross margin to be expected from sale of 15 tons/day mango pulp at selling price of $800/ton from 30 tons per day of cull mangos at cost of $80/ton would be $9,600 per day, or $960,000 over a 100-day harvest season.
- Ball park estimate for cost of equipment and facilities would be in the order of $500,000-$800,000.
- Specific quotes on cost of equipment and facility are being gathered by Dr. Peter Clark in time to make a presentation of the project at WINNER headquarters in March 2011. Other pulp processing methods and equipment are being evaluated.

F5.3 Flour and Glucose from Cassava

The objective of this project was to develop village scale methods for processing cassava into flour and glucose. The flour would be a value added ingredient for use in baked goods, and the glucose would be a sugar substitute in the local markets, and an industrial ingredient for use in the Haitian malt beverage industry. Progress to-date includes the following:

- Review of large-scale technology currently used in the corn wet milling industry to convert corn starch into glucose and fructose.
- Discussions with UF experts in chemical and bioprocess engineering to explore possible approaches to scope of work.
- Preliminary draft of the project outline with details of the proposed scope of work.

F5.4 Technical assistance to PPPP unit

In the vision of revitalizing the agro-industry, the UF faculty member and colloaborators spent long hours assisting

- SHAISA and SONAPA (Societe Nationale de Producteurs Agricoles) in estimating cost for refurbishing the FAMOSA tomato plant, microirrigation and protected agriculture.
- Kenneth Michel of HITSA in analyzing rice and rice brand. Results are as follows:

Rice sample has: 9.99% Moisture (well below the 14% accepted has a maximum); 1% Ash; 10.01% Crude Protein (CP) Micro-Kjeldahl procedure; 48% Neutral Detergent Fiber; Percentage of broken rice is 50%

Bran has: 11.5% Moisture (well below the 14% accepted has a maximum) thus can be stored ; 9% Ash (amount of minerals); 7.96% Crude Protein (CP) Micro-Kjeldahl procedure; 30% Neutral Detergent Fiber (digestible by ruminants)

Sugar cane multiplication center. Due to decrease in yield, acreage and low selection diversity, it is necessary to address sugar cane genetic stock and develop a multiplication and distribution center. Three trips were made in Haiti to assess sugar cane and partnership

modalities. Interviewed were carried out to stakeholders including alcohol producers in the Cul-de-Sac region. Dr. Morgan assessed possibilities to find sugar cane cultivars in the Dominican Republic, Plaine du Nord and Central Plateau. Other areas such as Plaine de Leogane, St. Michel de l'Attalaye and the Cabaret/Arcahaie coastal plain are not explored, since 12 varieties had been identified to initiate the project. A layout for planting and drip irrigate can be seen in figure 9.

Sugarcane irrigation design. The irrigation system, diagramed below, consists of seven irrigation zones supplied from a two inch pipe at the northeast corner of the Barbancourt distillery complex as indicated in the lower left corner of the diagram. The following facilities will be provided at the point that the irrigation system connects to the two inch pipe. All equipment will be specified by the project in a later document: 1) filter, 2) injection point, 3) fertilizer mixing tank (approximately 200 liters), 4) fertilizer holding tank (approximately 1000 liters), 5) fertilizer storage room with lockable door, 6) system controller and 7) valve control wires. The two inch PVC mainline will be installed under the wall surrounding the distillery and buried in a trench to the sugarcane plots outside the wall. As indicated in the diagram below, the mainline will connect to the seven irrigation zone valves. A 1.5 inch PVC sub main manifold will be constricted in each zone to supply water from the zone valves to the individual rows of sugarcane. Drip tape specified by the project will be installed in each single or double row of sugarcane.

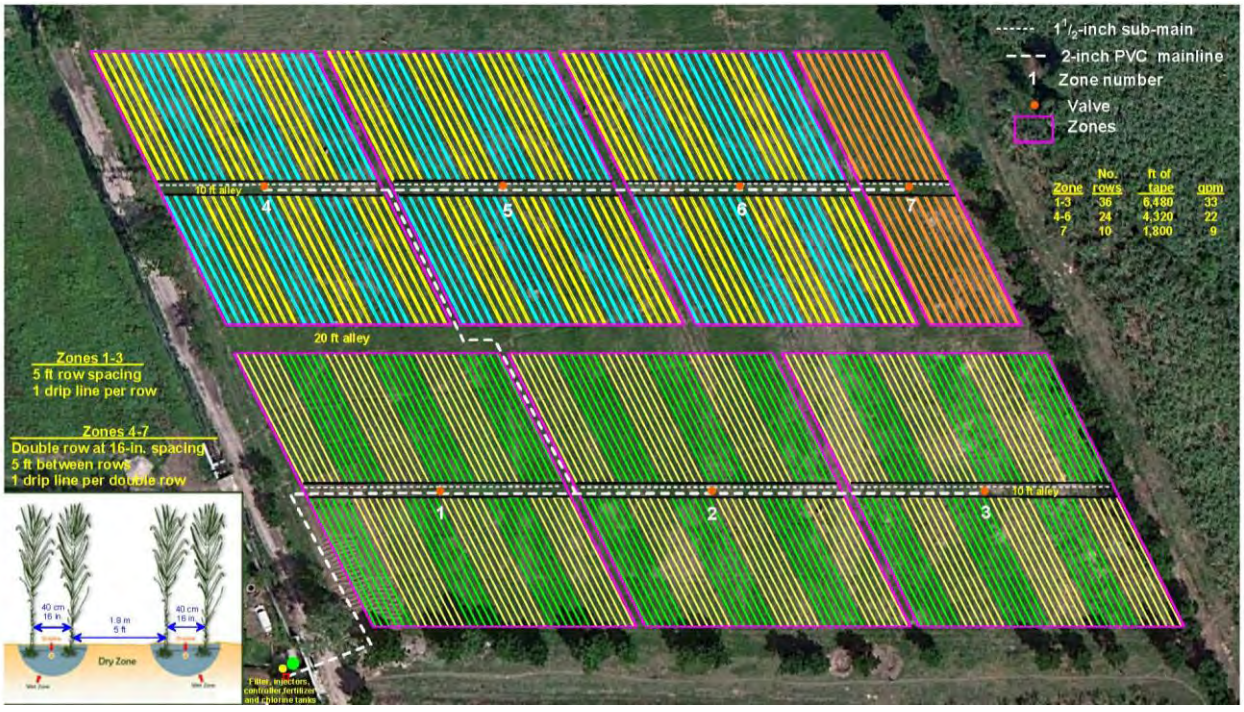

Figure 9. Sugar cane scheme for irrigation and selection trials

Sugarcane planting plan As indicated in the Figure 9 the planting plan is includes single and double row plots.

- **Single row plots.** Three zones of sugarcane (zones 1-3 below) will be planted in single rows with one drip tape per row. The 12 sugarcane varieties will be planted in plots

(indicated by different colors in the diagram below) of six rows each spaced five feet between rows with each row approximately 90 feet in length. The 12 varieties will be planted in separate plots assigned randomly in each of the three zones. Thus plots containing the 12 varieties will be replicated three times with a missing row between each of the three blocks for a total of 36 plots.

- **Double row plots.** A set of three irrigation zones (4-6 below) will be planted in a similar design to the single row plots described above, except that each row will contain two rows of sugarcane with a single drip tape installed between the rows (see illustration in the lower left corner of the diagram below). The individual rows of sugarcane in the double rows will be planted 40 cm apart with the drip tape between two sets of double rows installed at approximately 2 meters apart, providing approximately 1.5 meters between the rows of two double row plantings. As with the single row plots, the 12 sugarcane varieties will be repeated three times (zones 4-6) but with only four double rows per plot. This spacing will allow us to have a seventh irrigation zone for additional studies that will be assigned later.

- **Projected activities**
  - Installation of microirrigation system and weather station
  - Acquiring of sugar cane selections
  - Planting 12 varieties for selection
  - Monitoring climate and selections

F5.5 Waste management/Biodigester

Professor Tim Townsend, a faculty member at the University of Florida, along with other WINNER team members, visited several municipalities in Haiti to assess current solid waste management practices. The assessment visits were conducted as part of an effort by WINNER to provide needed waste management assistance to local governments. Meetings and site visits were conducted in Kenscoff, Furcy and Bas-Boen.

During each visit, the WINNER team met with representatives from the mayor's office (usually the mayor and staff in charge of overseeing waste collection and removal) and visited areas of importance with respect to waste management. These areas included the local market and its associated waste disposal areas, off-site disposal areas, and locations set aside for future disposal. The information gathered included an assessment of the current waste management practices, available resources for existing and future waste management practices (e.g., collection vehicles, containers, disposal areas), visual assessment of waste composition and characteristics, potential pilot project locations, and desired improvements by the mayor's office. Briefing and debriefing meetings were held at the WINNER offices.

In February 2011, Kenscoff became a priority. Visit to the area included measuring the waste (% of organic matter, biodigestable matter and other waste) at the market place and the area as the proposed landfill. A plan is being develop to install a biodigester in Kenscoff.

Waste Assessments

Waste was assessed to determine the amount of organic matter found and the feasibility for producing biogas and recycling plastic and other materials in Kenscoff. The study averaged the visual estimates of the eight samples (Figure 10). Each sample was at a separate area where trash has been collecting for several days. Estimates were made as a percentage of weight of the total waste sample. Food and vegetative waste account for 39%, implying that this portion can be digested to produce biogas for cooking vendors at the Kenscoff market place

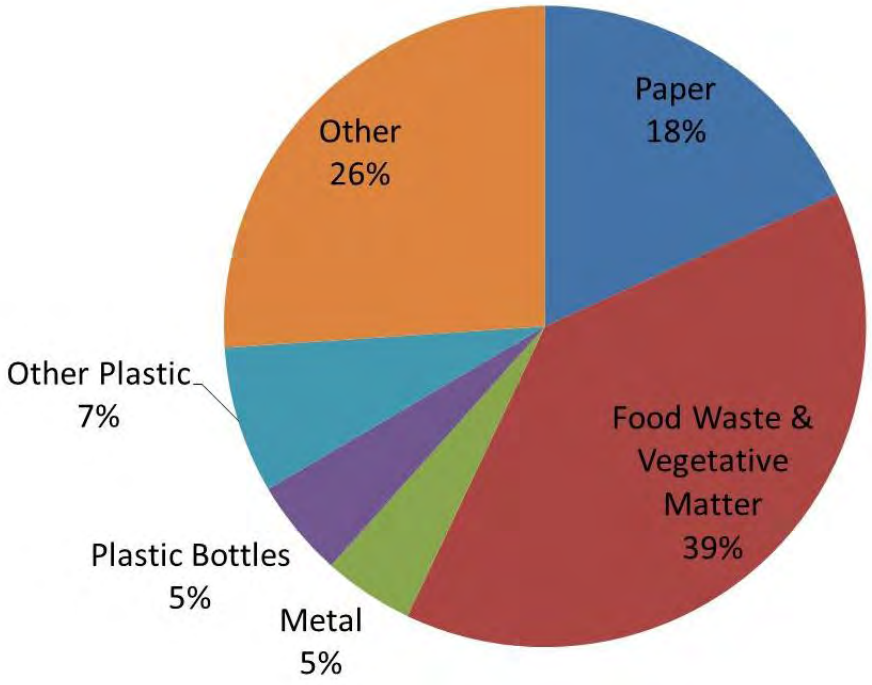

Figure 10. Results of market waste analysis in Kenscoff. (Visual estimated weight based composition; average of eight samples)

In June 2011, the Solid Waste team began construction of a digester system for the Kenscoff marketplace. The digesters are made of the typical Chatodo water reservoirs seen throughout the rooftops and streets of Haiti. In order to address the potential issues with maintaining and operating a digester system in a public area, the tanks have been divided into two groups: feedstock tanks and gas collection tanks.

The digester operator will add food waste collected from the marketplace into the two feedstock tanks. The feedstock tanks are connected to gas-collection tanks via ¼" airline tubing. As anaerobic digestion occurs, gas accumulates and the gas-collection tanks increase in height until they are full. The current system (2 feedstock tanks and 3 gas-collection tanks) will produce approximately 1800 gallons of gas daily (if fed properly). This is estimated to correspond to 3 burners operating for 3 – 4 hours each day. Construction of the project in Kenscoff was delayed and will be completed on the following trip.

John Atis and Jean-Claude Coles brought a school in the mountain village of Furcy to the attention of Dr. Townsend and the Solid Waste team. There have been two visits to the school to determine the needs and potential for WINNER to help. Construction of an in-ground anaerobic digester could be fed by the ten latrines on the school grounds. As opposed to the typical digesters constructed so far, in-ground system would have several benefits, specifically at this location.

- Because of the high altitude, the temperature in Furcy rarely exceeds 20°C. The ground would act as insulation to maintain the high temperatures (25 - 30°C) necessary for digestion and methane production to occur.
- The large tanks would take up a great amount of space and burying them would reduce the total area consumed by the digester system.
- Using gravity-fed lines from the latrines requires the digesters to be at a lower elevation than the latrines.
- It would be safest to keep all tanks and pipes away from children so as to prevent either a sewage or gas leak.

Bas-Boen An anaerobic digester was constructed at the Bas-Boen CRDD in February 2011. Modifications and maintenance have continued on the system on return trips to the area. The digester is fed agricultural waste (plant clippings and cow manure) and can produce approximately 90 gallons per day. Agronomist Jasmine Mesidor cares and monitor the biodigestion. Eventually the biogas will connect to a modified stove-top burner in the CRDD kitchen and will be used for cooking meals. However, the current volume will only allow for one or two individual meals to be prepared per day and will be a supplement to the propane stove.

At the Bas-Boen dedication, a poster was produced and translated into French to demonstrate the technology. Eggs were cooked and tested to show how it worked (Figure 11).

Figure 11. Hwidong Kim and Max Krause cook eggs with the biogas from the digester in Bas-Boen.

Recommendations and Next Steps

The following recommendations for future direction are offered:

- A conceptual outline for a pilot project is being developed. The project will focus on the market and will involve institution of a segregated collection program for compostable and non-compostable waste (and possible a PET recycling area). This conceptual outline should be submitted to each of the mayors' office along with a list of necessary requirements to be eligible for the pilot program. Necessary elements would likely include:
  - Waste collection staff (this should be available in all areas)
  - Waste collection vehicles (this will not be available in all areas)
  - A site for processing and possible disposing waste. Processing would include a composting area and (if feasible) a digester.
- We would need to get the feedback of the mayors to see which municipality would be a best fit.
- We should start being integrated into any existing WINNER efforts on market improvements. This may impact which one(s) we select for a pilot program.
- Begin development of training materials.
- Begin detailed conceptual design of pilot program. Some of this work will need specific information from the municipality for the pilot program. But some design can start regardless of location.

F5.6. Scholarship grantees

The eight graduate students had been admitted into different department at the College of Life and Agricultural Sciences. Table 20 presents their research interest.

Table 20. Glance at the WINNER Scholarship grantees

Student	Department	Research interest
Antoine Beneche	Agricultural and Biological Engineering	Flood risk modeling
Arthur Bonicet	Horticultural Sciences	Postharvest technology
Ronald Cademus	School of Natural Resources and Environment - Interdisciplinary Ecology	Hotspot Hydrologic Services Area Mapping
Lidwine Hyppolite	Agricultural Biological Engineering	Economic impact to Haitian Mango Industry of improved Post-Harvest and Processing Capabilities
Isnel Pierreval	Food and Resource Economics	Financial risk management and investment analysis
Pascale St Martin	School of Natural Resources and Environment - Interdisciplinary Ecology	Environmental and nutritional limiting factors associated with aquaculture-based protein production in Haiti
Dakson Sanon	Horticultural Sciences	Yield of specialty crops in organic system
Reginald Toussaint	School of Natural Resources and Environment - Interdisciplinary Ecology	Energy production from biowaste

G. PROJECT LEVEL ACTIVITIES

G1. SOLAR PANELS

During this quarter, RAYMAG completed the installation of 25 solar panel kits for farmer associations in WINNER's areas of intervention. The associations have already reaped clear benefits from the availability of power. Immediate benefits include being able to recharge cell phones (critical for communication) and to have lit rooms in which to hold meetings. WINNER has identified the need to provide capacity building for the associations on the proper operation and maintenance of the solar panel kits to ensure their sustainability. We are also engaging with the associations to identify uses for the kits linked to post-harvest practices for the agricultural and agro-forestry products in their respective areas.

G2. AGRICULTURAL EXTENSION USING SMS

By the end of the second quarter, 1,181 are on WINNER database and are receiving messages from «KOZEWINNER»

The Mirebalais/ Saut d'Eau region is the one with the most recipeints (365).

The messages were mainly related the Spring agricultural campaign (plowing activities, announcement with regards to the products in the farmer shops -"boutiques d'intrants"-…).

Furthermore, measures have been taken in order to provide this program with interactivity capacity –the possibility for the farmers to ask questions and react upon the SMS they have just received. A number will be exclusively dedicated to this activity. The farmers or any other recipient will have to pay the normal commercial fee for using the system. This service should be operational by the end of July since the administrative requests with the operators were tedious and several options were studied. Also, during this period, the consultant responsible for this program abruptly resigned causing another delay to the program.

During this quarter, two other tasks have been added to the program:

1. First, an inquiry in order to find out what has become of the first Master Farmer promotions (October to December 2010) at least six months after they graduated. The goal is to find out if the knowledge and skill acquired during this training has permitted them to earn more money and if yes: How much? This study will also help to adjust the program so that the farmer can make a living out of it. The questionnaire testing for this inquiry took place during the month of June and the analysis will be done during the month of July.
2. Second, the regular collect of farm gate prices for the agricultural products as well as market for the same products. The goal is to find out if the increase of prices registered at

the market level is somehow originated in the farm gate prices and if this increase results in an income increase for the farmer.

The collected farm gate price information has constituted the main part of the SMS sent to the farmers during the month of June. The initial reaction to this kind of SMS has been extremely positive since normally the farmers only get price information from the intermediaries.
This program was also affected by the abrupt resigning of the program officer.

G3. MISSION IN FLORIDA

During the month of June 2011, 8 WINNER staff members, employed either as managers or coordinator of the Regional Centers for Sustainable Development (RCSD), attended the annual workshop of the Florida flower growers associations organized in St Petersburg. They took advantage of the trip to visit some farms in the Florida area, meet the local farmers and tour some nearby training and research centers. The purpose of these tours was to understand their management system in order to improve the one of the RCSD's put in place by USAID/WINNER in Haiti.

The Delegation from USAID/WINNER witnessed the following facts:

1. The deliberate use of the latest technology in the production chain,
2. The importance of a well organized value chain in a modern agriculture sector,
3. The constant suitable training offered to all the partners of the value chain.
4. The harmonious relationship between the Florida Research Centers and the farmers in order to always apply the best modern technology to Florida agriculture.

Based upon these observations and in order to be consistent with the purpose of the trip, the delegation formulated the following recommendations:
1. To start the coconut straw collection in order to use it in the RCSD's as medium component in the horticultural greenhouses.
2. To install, in every RCSD, a drip irrigation system demonstration plot.
3. Each RCSD will have to develop an example of modernization learned during the trip that can be best applied to its region.
4. To actively promote landscaping as a way to improve rural environment.
5. To organize a workshop between all RCSD's directors in order to find out how best replicate the UF training and extension centers, perhaps, using the Master Farmers ("Paysan-Vulgarisateur") as Extension agents.

H. COMMUNICATIONS

This quarter, WINNER maintained course on its communications program including ,among others ,the production of success stories, educative videos about our approach and results in the field. Our radio shows have been temporarily suspended for evaluation. We will be working toward restarting, with an emphasis on regional aspects. Success stories produced this quarter concerned:

- System of Rice Intensification
- Results of our ravine treatment in Duvier
- Small business recovery initiatives

Various WINNER activities were also the subject of good media coverage, where we received positive mentions with key messages being:

1. WINNER puts a model modern farm for farmers in the Cul de Sac .ref : http://www.lenouvelliste.com/article.php?PubID=&ArticleID=92138
2. The international conference on SRI was also a high moment of visibility for WINNER , where the prominent TV stations covered the activity , putting it also in the context of Agriculture modernization. Nouvelliste welcomed this initiative through its article on the subject .ref : http://www.lenouvelliste.com/article.php?PubID=&ArticleID=92138

We also kept feeding our partners and beneficiaries regularly with news flashes from the field. Generally sent in French, some good ones are then translated in English, to be incorporated in bulletins to be published electronically

Branding:

During this quarter also, the communication department reassessed our need in branding which culminated in a signage campaign of our activities. More than 120 signs were installed to identify our interventions while promoting our various partnership. Benefeciaries and partners are always mentioned in our signage.

Highly visible participation

This quarter was a great opportunity for the project,to participate in regional activities related to at least one of our components. In this category, we should highlight:

- **E2tech convention on innovations**. During the 2 days of this activity, WINNER had a stand where we showcased most of the innovations introduced in rural areas. Beside more than 600 brochures distributed for the circumstances, Mr Kerby did a presentation to a group many composed of agriculture professionals and high school students. We also had in our stand a big screnn to show videos of our interventions and results
- **Orchid extravaganza.** The project helped its grantee; the association of flower producers of Kenscoff (APFCK) showcased their various products during the successful international flower convention. In their assigned booth, the association distributed brochures describing how they have profited from WINNER's support to grow more quality flowers.
- **Amcham presentation**: WINNER was invited to present its vision and preliminary results in front of more than 50 members of the Haitian American chamber of commerce. It is rather unfortunate that the press was not present to capture a convinced crowd of entrepreneurs, who at the end of Mr Estime ,s presentation , could not help announce

their interest in the vision and the establishment of a starting 100,000 dollars to advance the cause of modernization in agriculture.

Material production

We produced various communication materials for a better understanding of our aims and results. To facilitate this understanding, key to better collaboration and more partnerships we produce the following brochures:

- An updated General brochure on the WINNER project
- CRDD of Bas Boen
- The model farm (a suggestion of how the farmer should manage to make a decent living with one hectare of land)
- Innovations and technologies (a recap of key profitable innovations and techniques introduced by WINNER)
- The laboratory of Bas Boen (a brief description of the Modern laboratory at Bas Boen and its features in order to invite more farmers to take full advantage of it)
- The System of Rice Intensification (SRI)

We also produced sets of banner ups, which are a good success when used to brand our various events.

I. MONITORING AND EVALUATION

Table 21 below provides a summary of progress towards key indicators in this reporting period.

Table 21. Summary of Progress on Key Indicators for the Second Quarter of Fiscal Year 2011 (January – March 2011)

Ind #	Descriptions	Accomplishement up to FY09	Accomplishement up to FY10	Accomplishment Q1 FY11 (Oct - Dec 2011)	Accomplishment Q2 FY11 (Jan - March 2011)	Accomplishment Q3 FY11 (April - June 2011)	Accomplishment Q4 FY11 (July - Sept 2011)	FY11 actual (Q1+Q2+Q3+ Q4)	FY11 target	Accomplishement up to FY11 (FY09 total+ FY10 total+ FY11 total)	Target for life of the project	Remarks for this quarter
2	Number of vulnerable households benefiting directly from WINNER assistance	0	67,564	20,681	10,954	31635		63,270	60,000	130,834	160,000	Number of farmers assisted in 2011 spring agricultural campaign (as of June 30th) (5,547), number of households, members of 15 associations, benefiting solar panels (22,969)
F-4.5.2.5	Number of additional hectares under improved technologies or management practices as a result of USG assistance	0	9,284	2,866		3,742		6,608	20,000	15,892	50,000	Number of hectares in which WINNER provided technical assistance and inputs during the spring agricultural campaign 2011 (3742).
F-4.5.2.12	Number of individuals who have received USG supported short term agricultural sector productivity training (M-F)	0	1,247	24	186	234		444	2,500	1,691	7,000	Number of graduated PV. However, over 999 farmers including 283 women have received some training, but have not yet graduated. Master farmer candidates have received training in agricultural techniques including basic courses (general agriculture, environment small farm management), and specialized courses (cereals, vegetables, soil conservation). Number of graduated master farmer candidates is 84 (60 last year and 24 this trimester).
		0	855	24	121	178		323	1,715	1,178		
		0	392		65	56		121	785	513		

4	Number of farmers adopting new improved practices as a result of WINNER assistance		12,076	3,481		5,547		9,028	10,000	21,104	27,000	Supervised farmers applying techniques for the cultivation of crops during the spring agricultural campaign (5,547).
5	Number of farmer stores created or strengthened as a result of WINNER assistance		37	0				0	15	37	35	29 farmer stores involved in the spring agricultural campaign in Cul de Sac (8), Kenscoff (6), Mirebalais (10), Cabaret-Arcahaie (5).
F-4.5.2.9	Number of producers organizations, water- users associations, trade and business associations, community based organizations (CBOs) receiving USG assistance	0	276	2				2	40	278	120	245 associations involved in the spring agricultural campaign, 139 associations in agro-forestry campaign and 25 associations in solar panel, 20 farmer associations of the Cul-de-Sac plain involved to purchase between 300 and 400 tons.
F-4-5-2-10	Number of agriculture related firms benefiting directly from USG supported interventions	0	7		1	1		2	10	9	30	ADAIM/DFSA in Mirebalais
F-4.8.1.5	Number of people receiving USG supported training in Natural resource and/or biodiversity conservation	29	1,312			315		315	600	1,656	1,300	Vetiver growing techniques (45), Nurseries and agro-forestry (48) and Sustainable environmental management (222)
		22	787			232		232		1,041		
		7	525			83		83		615		

13	Number of potable water community organizations with sustainable management as a result of WINNER assistance	**0**	1	1	7			8	6	9	14	Rehabilitation of the potable water system in Lefèvre. Construction de 4 Impluviums à Mahotiere, Despinasse, Comnette, Bois Neuf et la Construction de 2 Captages à la Source Sambou et Bernard a Dumisseau, section communale de Bellevue la montagne de la commune de Kenscoff
F-4. 5. 2. 11	Number of public-private partnerships (PPP) formed as a result of USG assistance	0	3		2	1		3	6	6	20	PPPP with ADAIM/DFSA

J. WATERSHED INVESTMENT FUND (WIF)

The main vehicle for WINNER implementation is the Watershed Investment Fund (WIF). This $100 million fund is being used to implement broad scale investments in selected watersheds. The WIF is designed to ensure maximum flexibility to utilize local resources and build local capacity, remaining agile to promote collaboration with other projects and donors, take advantage of windows of opportunity, and quickly shift to changing conditions as new information is available or new problems are encountered.

WIF implementation instruments include grants, subcontracts, short-term technical assistance (STTA), and direct procurement of goods. Depending on the nature of the activity and the partners involved, WINNER determines which mechanism is best suited for a specific activity. Grants and subcontracts are the primary implementation instruments.

In this quarter, funding for WINNER activities through the WIF included the spring 2011 agricultural campaign, the third agro-forestry campaign, ravine treatment in Kenscoff, the completion of the CRDD construction in Bas Boen, materials for the wardens at Parc La Viste, and support to farmer associations in Mirebalais to reduce post-harvest losses during the mango harvesting season. The table below shows the funds expended this quarter through the different WIF mechanisms.

Table 22. WIF expenditures by Instrument and Component (April – June 2011)

	Livelihoods	Infrastructure	Governance	PPPP	Total
Grant	$1,289,228	$223,843	$0	$362,670	$1,875,741
Subcontract	$285,225	$441,014	$12,700	$35,092	$774,031
Direct Procurement	$792,960	$271,882	$43,349	$89,676	$1,197,867
STTA	$45,158	$24,680	$19,428	$10,384	$99,650
Training	$155,008	$0	$0	$125	$155,134
Total	**$2,567,579**	**$961,420**	**$75,477**	**$497,947**	**$4,102,422**

In terms of WIF disbursements by project components, livelihoods accounts for 64% of expenditures, followed by infrastructure with 24%, PPPP with 10%, and governance with 2%. These expenditures reflect a total of 92 grants, 14 subcontracts, 51 direct procurement actions, 16 short-term technical assistance (STTA) contracts, and 73 training activities.

Table 23 presents WIF expenditures by component and by region.

Table 23. WIF expenditures by Component and by Region (April - June 2011)

Component	Cul-de-Sac	Gonaives	Mirebalais/Saut d'Eau	Matheux	Total
Livelihoods	$1,050,593	$93,366	$760,586	$663,034	$2,567,579
Infrastructure	$906,303	$51,872	$3,244	$0	$961,420
Governance	$55,430	$6,682	$6,682	$6,682	$75,477
PPPP	$279,642	$98,306	$96,720	$23,279	$497,947
Total	**$2,291,968**	**$250,226**	**$867,233**	**$692,995**	**$4,102,422**

Overall, we spent $3,687,823 on WIF activities financed through instruments other than the letter of credit (LOC) and $1,876,965 through the LOC to finance grants.

K. FINANCIAL REPORT

SENSITIVE INFORMATION REMOVED