



USAID
FROM THE AMERICAN PEOPLE



AVANSE WORKPLAN

**APPUI À LA VALORISATION DU POTENTIEL AGRICOLE DU
NORD, POUR LA SÉCURITÉ ÉCONOMIQUE ET
ENVIRONNEMENTALE (AVANSE)**

FY 2015 (OCTOBER 2014–SEPTEMBER 2015)

SEPTEMBER 2014

This publication was produced for review by the United States Agency for International Development. It was prepared by DAI.

AVANSE WORKPLAN

FY 2015 (OCTOBER 2014–SEPTEMBER 2015)

Program Title: Appui à la Valorisation du potentiel Agricole du Nord, pour la Sécurité Économique et environnementale (AVANSE)

Sponsoring USAID Office: USAID/Haiti

Contract Number: AID – 521 – C – 13 – 00006

Contractor: DAI

Date of Publication: October 10, 2014

Author: DAI

The authors' views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

October 11, 2014

Revised submission for USAID Review.

CONTENTS

- CONTENTS V**
- TABLES AND FIGURES VIII**
- ABBREVIATIONS XI**
- AVANSE 13**
 - Critical Assumptions..... 16
- UPDATED MANAGEMENT STRUCTURE AND SYSTEMS..... 17**
 - Management Structure..... 17
 - Tailored Systems 19
- AVANSE FY2015 ACTIVITIES 21**
- AVANSE FY2015 OVERALL STRATEGY..... 21**
- INTERMEDIATE RESULT 1: AGRICULTURAL PRODUCTIVITY INCREASED 23**
 - Strategy..... 23
 - Text Box 1: Farmer Field School Model 23
 - Sub-Result 1.1: Knowledge and Availability of Improved Production Technologies and Systems Increased..... 28
 - Text Box 2: Key Partners for Sub-Result 1.1 28
 - Sub-Result 1.2: Strengthened Extension of Agriculture Technologies 29
 - Text Box 3: Key Partners for IR 1.2..... 30
 - Sub-Result 1.3: Access to Inputs Increased 36
 - Text Box 4: Key Partners IR 1.3..... 36
 - Sub-Result 1.4: Irrigation Systems Constructed/ rehabilitated Management Capacity Increased 37
 - Text Box 5: Key Partners for IR 1.4..... 38
 - Sub-Result 1.5: Property Security Strengthened 40
 - Text Box 6: Key Partners IR 1.5..... 41
 - Text Box 7: Gender Inclusion in IR 1..... 42
- INTERMEDIATE RESULT 2: WATERSHED STABILITY IMPROVED 43**
 - Strategy..... 43
 - Sub-Result 2.1: Watershed Governance Bodies Established at the Sub-Watershed Level..... 45
 - Text Box 8: Key Partners for Sub-Result 2.1 45
 - Text Box 9: Sub-Watershed Management Plans..... 46

Sub-Result 2.2: Critical Slopes Stabilized Through Public Works.....	48
Sub-Result 2.3: Critical Slopes Stabilized Through Farmer-Level Investments.....	48
Text Box 10: Key Partners for Sub-Result 2.3.....	48
Sub-Result 2.4: Crisis-Management Capacity Stenghtened	50
Text Box 11: Key Partners for Sub-Result 2.4.....	50
Text Box 12: Gender Inclusion in IR 2.....	50
INTERMEDIATE RESULT 3: AGRICULTURAL MARKETS STRENGTHENED	51
Strategy.....	51
Sub-result 3.1: Improved Transportation Infrastructure.....	52
Sub-Result 3.2: Improved Access to Storage and Processing Facilities and Sub-result 3.5 Relationships in Targeted Value Chains Strengthened.....	52
Text Box 13: Key Partners for IRs 3.2 and 3.5	52
Text Box 14: Understanding the Needs of Women Entrepreneurs	53
Sub-Result 3.3: Increased Access to Financial Products.....	65
Text Box 15: Key Partners for IR 3.3.....	65
Sub-Result 3.4: Improved Market Information Systems.....	66
Text Box 16: Key Partners for IR 3.4.....	67
Text Box 17: Gender Inclusion in IR 3.....	67
INTERMEDIATE RESULT 4: CAPACITY-BUILDING SUPPORT TO IMPLEMENTING PARTNERS	69
SUB-RESULT 4.1: STRENGTHEN IPS AND POTENTIAL DIRECT AWARD-HOLDERS TO RESPOND TO USAID FORWARD OBJECTIVES.....	71
Text Box 18: Key Partners for Sub-Result 4.1	71
SUB-RESULT 4.2: STRENGTHEN THE GENERAL IMPLEMENTATION CAPACITY OF BENEFICIARIES & PARTNERS IN THE PROJECT ZONE (CBOS AND OTHER GENERAL PARTNERS).....	78
Text Box 19: Key Partners for Sub-Result 4.2.....	78
CROSS-CUTTING – INFRASTRUCTURE.....	80
STRATEGY	80
Rapid Response Infrastructure Works (Irrigation, Hillside Stabilization, Roads)	80
SUB RESULT 1.4: IRRIGATION SYSTEMS CONSTRUCTED/REHABILITATED AND MANAGEMENT CAPACITY OF USERS INCREASED	83
Text Box 20: Key Partners for Sub-Result 1.4.....	83
SUB-RESULT 2.2: CRITICAL SLOPES STABILIZED THROUGH PUBLIC WORKS ..	86
Text Box 21: Key Partners for Sub-Result 2.2.....	86
SUB-RESULT 3.1: IMPROVED TRANSPORTATION INFRASTRUCTURE.....	88
Text Box 22: Key Partners Sub-Result 3.1	88

Text Box 23: Gender Inclusion in Infrastructure	91
CROSSCUTTING ACTIVITIES – INFORMATION, ANALYSIS, AND ENVIRONMENTAL COMPLIANCE UNIT	91
Strategy.....	91
Monitoring and Evaluation of Implementation	91
Environmental Compliance.....	92
Gender Analysis.....	95
CROSSCUTTING ACTIVITIES – COMMUNICATIONS & OUTREACH.....	96
ACTIVITIES COST ESTIMATES	97
ANNEX A: MAPS	101
ANNEX B: AVANSE INDICATORS.....	104
ANNEX C: STTA FOR FY 2015	121
ANNEX D: DETAILED TIMELINE OF ACTIVITIES	123
ANNEX E: PROCUREMENT LIST OF GENETIC MATERIAL.....	141
ANNEX F: PROFILES IN COLLABORATION.....	143
Agreements with FECCANO and PISA	143
ANNEX G : CROP PRODUCTION PROTOCOLS	144
MAIS EN CULTURE PURE	144
ASSOCIATION MAÏS- VIGNA EN CONDITION PLUVIALE	146
HARICOT EN CULTURE PURE SOUS IRRIGATION	149
HARICOT/MAÏS/MANIOC EN SEC	151
COCOA	153
1. New plantations.....	153
2. Plantations already established	156
BANANE.....	158
ITINERAIRES TECHNIQUES DE LA CULTURE DE RIZ – SRA (TECHNIQUES AMELIOREES)	161
ITINERAIRES TECHNIQUES DE LA CULTURE DE RIZ – SRI.....	165

TABLES AND FIGURES

Figure 1: Map of AVANSE Target Zones	14
Figure 2: AVANSE - Delivering Household Results	15
Table 1: Critical Assumptions for AVANSE FY2015.....	16
Figure 3: Updated Organizational Chart for Technical Team.....	18
Table 2: Farmer Beneficiaries Receiving Productivity Enhancing Support, IR1 and IR2	22
Table 3: AVANSE Efforts with Producers Across Targeted Value Chains	25
Table 4: Farmers receiving assistance through IR 1 FFs	27
Table 5: Crop Technologies To be used in FY2015	28
Figure 4: Crop Implementation Sites across AVANSE Target Zones	31
Figure 5: TRAINING FOR PRODUCERS VIA FFS FOR EACH FOCUS CROP	32
Table 6: Propagation of Targeted Crops.....	37
Table 7: WUA Training Activity Locations.....	38
Table 8: Geographic Area for Small- Scale Irrigation Pilot	40
Table 9: Main Crops Used in Demonstration Blocs	44
Table 10: Number of New Hectares Under & New Farmers Beneficiaries Using Improved NRM Management Practices in FY 2015.....	44
Table 11: Sub-Watershed Management Bodies	45
Table 12: Key IR3 Outputs for FY 2015.....	52
Table 13: AVANSE partnership targets	57
Table 14: Annual Cycle for Voucher Implementation	64
Table 15: AVANSE capacity-building activities.....	70
Table 16: IR 4 Status of Support to Existing AVANSE IPs Already Receiving Support from IR4	72
Table 17: Recent and Potential AVANSE IPs Who Will Receive Support from IR4 in FY15	75
Table 18: Anticipated Longer-Term Direct Awards	77
Table 19: Small-Scale Pump Locations	82
Table 20: Irrigation Systems Rehabilitation and Extension Works	84
Table 21: Major Drainage Works in 2015	86

Table 22: Ravine Stabilization Works	88
Table 23: Calendar for rural road rehabilitation	90
Table 24: Illustrative activities spending by sub-result in FY 2015	97
Figure 6: Map of AVANSE Targeted Zones	102
Figure 7: Crop Implementation Sites across AVANSE Target Zones	103

ABBREVIATIONS

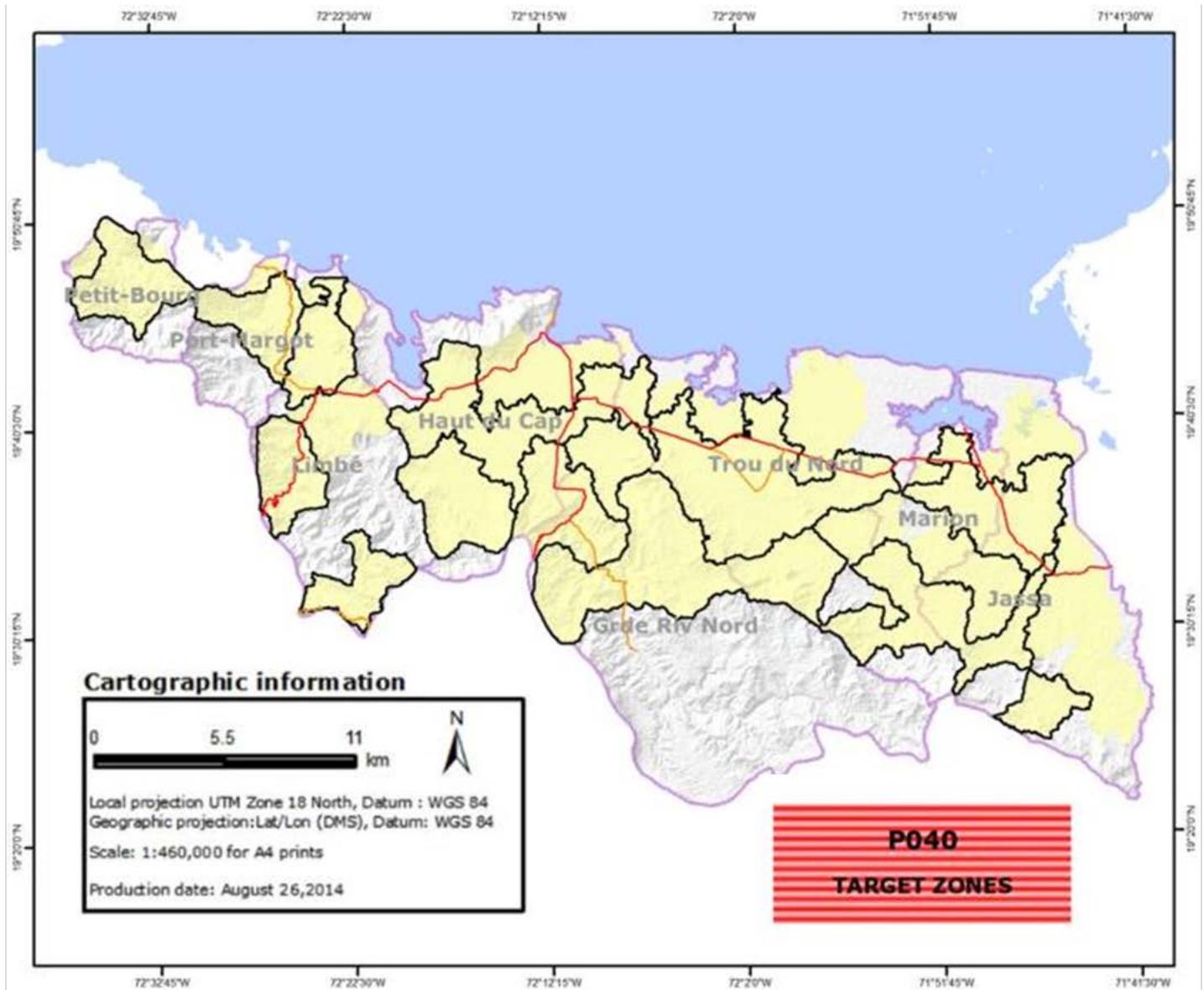
APS	Annual Program Statement
AVANSE	Appui à la Valorisation du potentiel Agricole du Nord, pour la Sécurité Économique et environnementale
BAC	<i>Bureaux Agricoles Communaux</i>
CACHE	Caribbean Council of Higher Agricultural Education
CNSA	Conseil National pour la Sécurité Alimentaire
DDA	<i>Directions Départementales Agricoles</i>
DEED	Développement Économique pour un Environnement Durable Project
DFPEA	Direction de. Formation et de Promotion des Entreprises Agricoles
DGI	Directorate General of Taxes
DR	Dominican Republic
EOI	Expression of Interest
FAMV/UEH	Faculté d'Agronomie et de Médecine Vétérinaire/Université d'État d'Haïti
FFS	farmer field school
FOG	Fixed Obligation Grant
FTF	Feed the Future
FTF	Feed the Future Initiative
FTF-N	U.S.-Haiti Feed the Future Partnership: Northern Corridor Project
FY	fiscal year
Gds	Gourdes
GIS	Geographic Information System
ha	Hectare
HIMO	High-intensity main d'œuvre
ICT	Information and Communications Technology
IDB	Inter-American Development Bank
INARA	National Institute for the Application of Agrarian Reform
IP	Implementing partner
IR	Intermediate Result
LTTA	Long Term Technical Assistance
M&E	Monitoring and Evaluation
MARNDR	Ministry of Agriculture, Natural Resources and Rural Development (in French)
MDE	Ministry of the Environment (in French)
ME	Micro Enterprise
MIS	Market Information System
MT	Metric Ton
NGO	Nongovernmental Organization
NRM	Natural Resource Management
NUPAS	Non-US Organization Pre-Award Survey

OCA	Organizational Capacity Assessment
ORE	Organization for the Rehabilitation of the Environment
PIA	MARNDR Agricultural Intensification Program
PIF	Production Intensive par Fragmentation
PMP	Performance Monitoring Plan
PO	producer organization
PPI	MARNDR/Projet de Developpement de la Petite Irrigation
PPP	Public-Private Partnership
RESEPAG	Strengthening of Agricultural Public Services Project
RFP/RFA	Request for Proposals/Request for Applications
SME	Small and Medium-Sized Enterprise
SNS	National Seed Services
SOW	Scope of Work
SRI	Systeme Rizicole Intensive
STTA	Short-Term Technical Assistance
SWMB	Sub-Watershed Management Body
TAMIS	Technical and Administrative Management Information System
ToT	Training of Trainers
UCNH	Université Chrétienne du Nord d'Haïti
URHC	Université Roi Henri Christophe
USAID	U.S. Agency for International Development
USD	US Dollars
USDA	US Department of Agriculture
WUA	Water User Association

AVANSE

The U.S.-Haiti Feed the Future Partnership: Northern Corridor Project (FTF-N) is a five-year (three years with the possibility of two option years) initiative called *Appui à la Valorisation du Potentiel Agricole du Nord, pour la Sécurité Economique et environnementale (AVANSE)*. AVANSE is increasing food security and farmer incomes in the Northern Corridor. The Northern Corridor consists of the Massif du Nord (Northern Range), the Plaine du Nord (Northern Plain), the northern coastal area, comprising six major watershed basins. The AVANSE Project Zone also includes two cacao extension zones in Borgne and Port Margot. The map on the next page illustrates the 8 targeted zones where AVANSE is working (see also Annex A).

FIGURE 1: MAP OF AVANSE TARGET ZONES



Location map



Legend

Boundary	Area_ha
Intervention Zones	165,352.4
Watersheds	262,435.6
Target Zones	109,498.8

Road network
Primary
Secondary

Data sources

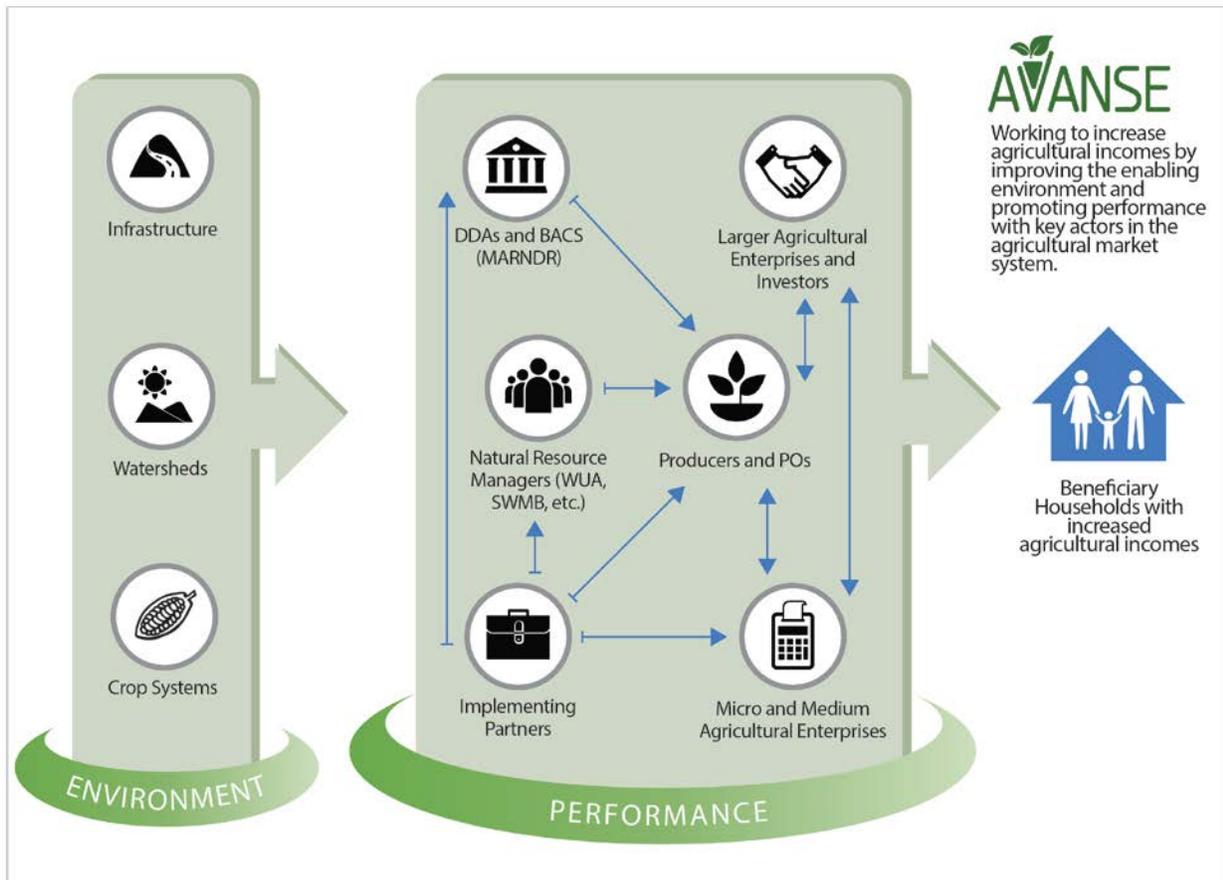
Watershed are from DAI GIS team based on DEM 30m
 © AVANSE 2013

Open Street Map are from Hunamanitarian Open StreetMap team
 © OSM 2013

Target zones are from AVANSE GIS team derived from hydrological study
 © AVANSE 2013

AVANSE is the flagship Feed the Future (FTF) activity in northern Haiti. AVANSE uses a rigorous, market-driven approach to increase agricultural income by increasing agricultural productivity in targeted value chains, stabilizing watersheds above selected plains, strengthening agricultural markets, fostering local capacity, and improving infrastructure. AVANSE, in partnership with farmers, agribusinesses, and CBOs, will directly benefit 63,500 rural households, increasing their income and food security. Specifically, 43,500 households will double their agricultural income over the life of the project due to AVANSE assistance. The figure below illustrates how AVANSE works through agricultural market systems in the North to achieve Feed the Future results. Annex B illustrates AVANSE’s indicators across each IR. AVANSE works to facilitate an enabling environment by improving infrastructure and watershed management as well as promoting the use of effective crop systems. Simultaneously, AVANSE works to promote performance across key actors in the Agricultural Market System to deliver results.

FIGURE 2: AVANSE - DELIVERING HOUSEHOLD RESULTS



This is AVANSE’s second twelve-month workplan. It workplan outlines AVANSE’s activities for fiscal year (FY) 2015 (October 2014 – September 2015). AVANSE staff engaged in reflection and planning activities to design the activities included in this workplan, building on lessons

learned from implementation success and challenges. The workplan structure consists of the following main sections:

- Updated Management Structure
- Workplan Activities for each AVANSE Component
 - Strategy
 - Detailed Activities
- Annexes

CRITICAL ASSUMPTIONS

AVANSE’s achievement of project goals and targets includes critical assumptions about certain external factors remaining unchanged or any expected changes occurring as anticipated. AVANSE will monitor these assumptions in order to ascertain whether any failure to achieve project objectives is the result of internal, manageable factors or uncontrollable, external forces. AVANSE has identified six critical assumptions that relate to governance, economic, and environmental stability. While these are largely qualitative indicators, they provide an overall framework within which AVANSE operates.

TABLE 1: CRITICAL ASSUMPTIONS FOR AVANSE FY2015

Assumptions	Definition
Government of Haiti support for agricultural development is sustained.	The Government of Haiti’s Ministry of Agriculture continues to support agricultural development through increased agricultural production and improved market linkages within the agricultural sector to benefit Haiti’s food and economic security.
Agricultural markets remain active.	Agricultural markets remain active facilitating an environment of growth for farmers and agricultural enterprises.
Support for AVANSE is sustained.	The Government of Haiti and USAID support for AVANSE remains strong
The impacts of natural hazards on agricultural production are limited.	The effects of natural hazards such as drought, or flooding do not substantially impact farming crop cycles in targeted zones.
Environmental and political stability is maintained.	Environmental and political conditions in Haiti remain conducive to agricultural development with no significant deterioration.

UPDATED MANAGEMENT STRUCTURE AND SYSTEMS

AVANSE proposes an updated management structure and tailored systems to directly confront implementation challenges and ensure results in FY2015.

MANAGEMENT STRUCTURE

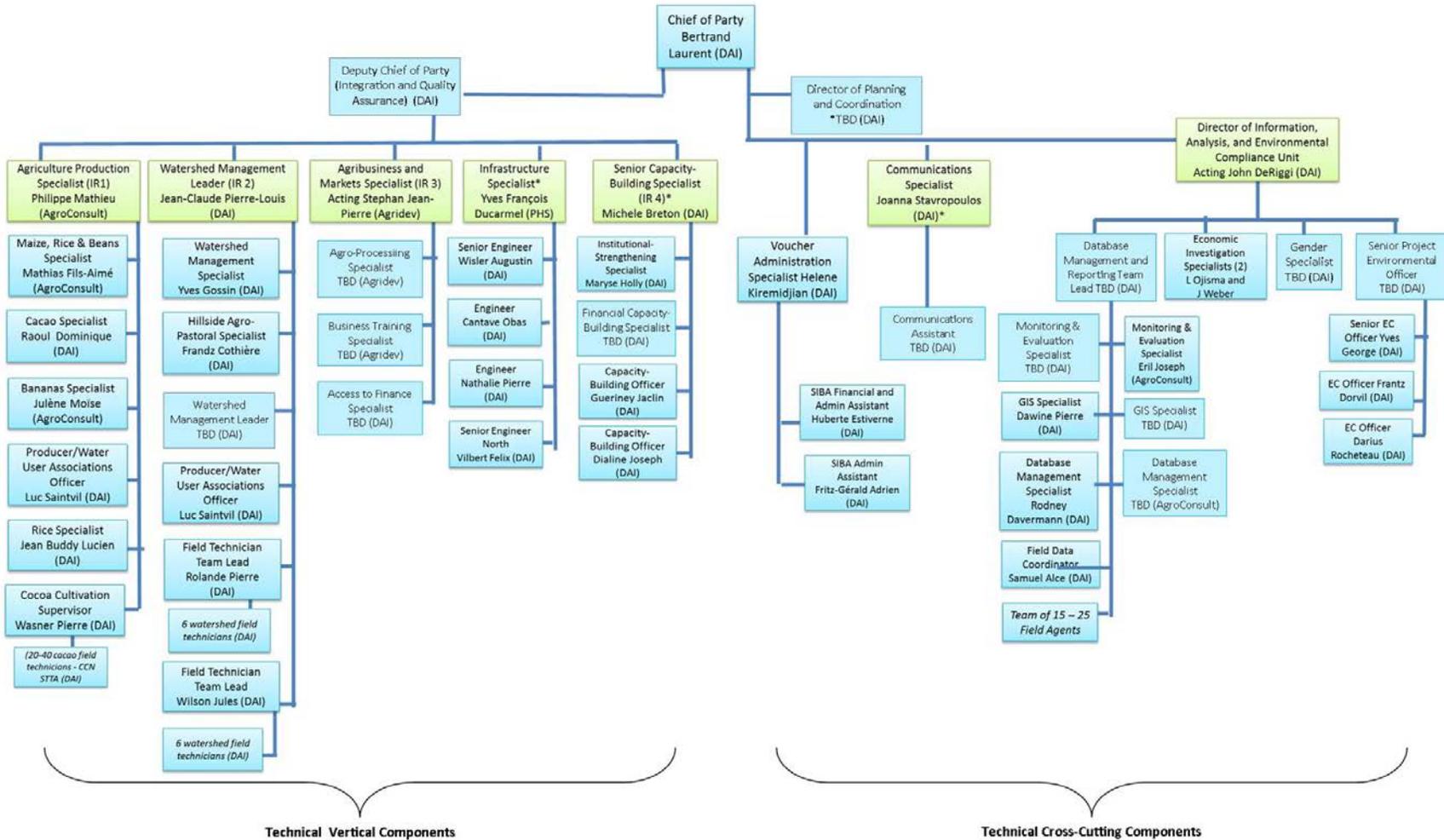
As AVANSE moves from startup to full implementation, the project is revising its management, service delivery, and cross-IR program support in order to improve coordination, expedite implementation, and ensure compliance.

AVANSE is currently seeking a replacement DCOP with a revised scope of work that focuses on better technical integration across all AVANSE components. AVANSE proposes a new position, the Planning Director, who will work to ensure better linkages between the technical components and the project's procurements functions as well as coordinated scheduling between activities project wide. Specifically, the Planning Director will focus on improving coordination across the technical team and collaboration with the Subcontracts/Grants Team as well as the Operations Team so that AVANSE can better implement - bridging technical and operational gaps in the project. The Planning Director will bolster the technical and management leadership provided by the DCOP and the COP.

In addition to changes in staff, AVANSE has increased the size of its database management, GIS, and M&E offices and fused them into a single Data Management & Reporting Team within the new Information, Analysis and Environmental Compliance (IAEC) Unit. This unit also includes the project economic analysts, the Environmental Compliance Unit, the SIBA voucher program and other data-heavy, cross-cutting "services" to the other technical teams. This restructuring is a management response to impediments to effective implementation that the project has observed and attributed to the data/monitoring teams operating in their own separate spheres; it also improves the project's ability to support initiatives that involve more than one component—such as GDAs, environmental compliance, gender programs, and M&E, while also permitting more efficient monitoring, analysis and reporting.

The organizational chart below illustrates the updated structure for the technical team on the project. Short term technical assistance (STTA) complements AVANSE's staffing and Annex C includes a summary of anticipated STTA for the coming year.

FIGURE 3: UPDATED ORGANIZATIONAL CHART FOR TECHNICAL TEAM



Technical Vertical Components

Technical Cross-Cutting Components

TAILORED SYSTEMS

In order to expedite implementation, AVANSE will take a more focused approach to engaging implementing partners in FY2015 (this is described in further detail in the Cross-Cutting: Engaging Implementing Partners Section of the workplan).

Where advisable and compliant, AVANSE will engage in limited procurements to expedite procurement and partner engagement. Recognizing the challenge in identifying vendors able to deliver the needed inputs for the 2013-2014 growing season, AVANSE will better tailor its procurement scopes and use a more rigorous screening process to limit procurements to qualified vendors and then provide them with more targeted technical assistance to ensure the continued availability of critical inputs. The screening process includes using known vendors identified in consultation with MARNDR, as well as supporting the replication and availability of genetic material. The technical process for this is described further detail in both IRs 1 and 2 of this workplan, and the business support for input suppliers is included in IR3 activities.

AVANSE FY2015 ACTIVITIES

AVANSE FY2015 OVERALL STRATEGY

The implementation of AVANSE activities was strongly affected by the drought that occurred in the fall and winter months of FY 2014. This had a major impact on the main season for most of IR1s short-cycle, rain-fed crops (maize and beans). In many maize and bean Farmer Field Schools (FFSs), farmers either did not sow any seeds or lost most of their harvests. Lower rates of success with banana plantation and cacao grafting can also be traced to the effects of the drought. Rice, in contrast, produced to schedule as expected—largely because it is an irrigated crop and the drought did not become so severe that it interfered with river intakes to the systems in the project's three rice target areas.

In light of this experience, showing the importance of unanticipated climate-related events, we have made two major adjustments to our overall strategy and plan. These are:

We have added a new 'urgent response' activity to our infrastructure component. In addition to our ongoing irrigation works, road rehabilitation and hillside stabilization works, which will continue as planned, we believe it is important to establish an infrastructure contingency capacity for rapid response to urgent needs. Thus we have set aside a budgetary resources and will create the appropriate contractual mechanism to respond to urgencies—largely those resulting from climate-related events. We have already started planning for a significant level of investment in small-scale pumps to reduce the vulnerability of farmers to drought. We will target these pumps mainly to farmers in the banana and maize/bean producing areas in the Bord-de-Mer/La Suisse and Limonade/Bois de Lance target zones. In addition to small-scale irrigation, we are also planning to conduct rapid interventions to correct drainage issues that arise in our target zones. Similar provisions for rapid interventions are planned for hillside stabilization works and rural road repairs. It needs to be emphasized that although we will put into place rapid contractual mechanisms to do this work (most likely an IQC with qualified construction firms), we will still follow USAID Environmental Compliance procedures and present the needed EMPRs to USAID. This is described in more detail in the infrastructure section of our work plan that comes below.

We will set up a network of weather stations to provide hard data on climatic events. We are procuring 40 weather stations that will be sited throughout the project zone to collect rainfall and other simple weather data. This will allow Haitian government authorities in the MARDR and the MDE to get access to previously unavailable regional data and aid in the medium and long term tracking of climate change in the project areas. We will operate these stations internally with project staff initially, while seeking eventually to hand over the stations to a suitable local partner.

The new and ongoing infrastructure activities will create a more stable and less risky agricultural environment for farmers in the productive plains and enhance the revenue-increasing activities of farmer operating both in IR1 focus crops and farmers being assisted on the upper slopes by

IR 2 with improved agro-forestry production. In FY 2015, we will significantly ramp up the scale of both our IR 1 and IR 2 activities, adding many more farmers to the project beneficiary rolls. In fact, we intend to more than triple the number of IR 1 beneficiaries and increase the number of IR 2 beneficiaries receiving integrated agro-forestry assistance more than eightfold. By the end of September 2015, AVANSE will be at 82 percent of its three-year target of 43,500 assisted farmers adopting new practices with the objective of doubling crop income. With this level of outreach at the end of FY 2015 and just before the main planting season in FY2016, AVANSE will be positioned to exceed the 43,500 objective in the first quarter of FY 2016.

TABLE 2: FARMER BENEFICIARIES RECEIVING PRODUCTIVITY ENHANCING SUPPORT, IR1 AND IR2

Crop/System	Q1	Q2	Q3	Q4	Total FY 2015	Total FY 2014	Cumulative Total
IR 1 Focus Crops							
Cacao	4,000				4,000	4,033	8,033
Bananas	1,500		2,000	2,000	5,500	508	6,008
Rice		1,000		1,000	2,000	1,000	3,000
Maize & Beans	2,000		10,000		12,000	1,416	12,416
Total IR1	7,500	1,000	12,000	3,000	23,500	6,957	30,457
IR 2 Agro-Forestry Systems							
Agro-Forestry (Demonstration Block) ¹		1,800	1,800	900	4,500	600	5,100
Grand Total	7,500	3,800	13,800	3,900	28,000	7,557	35,557

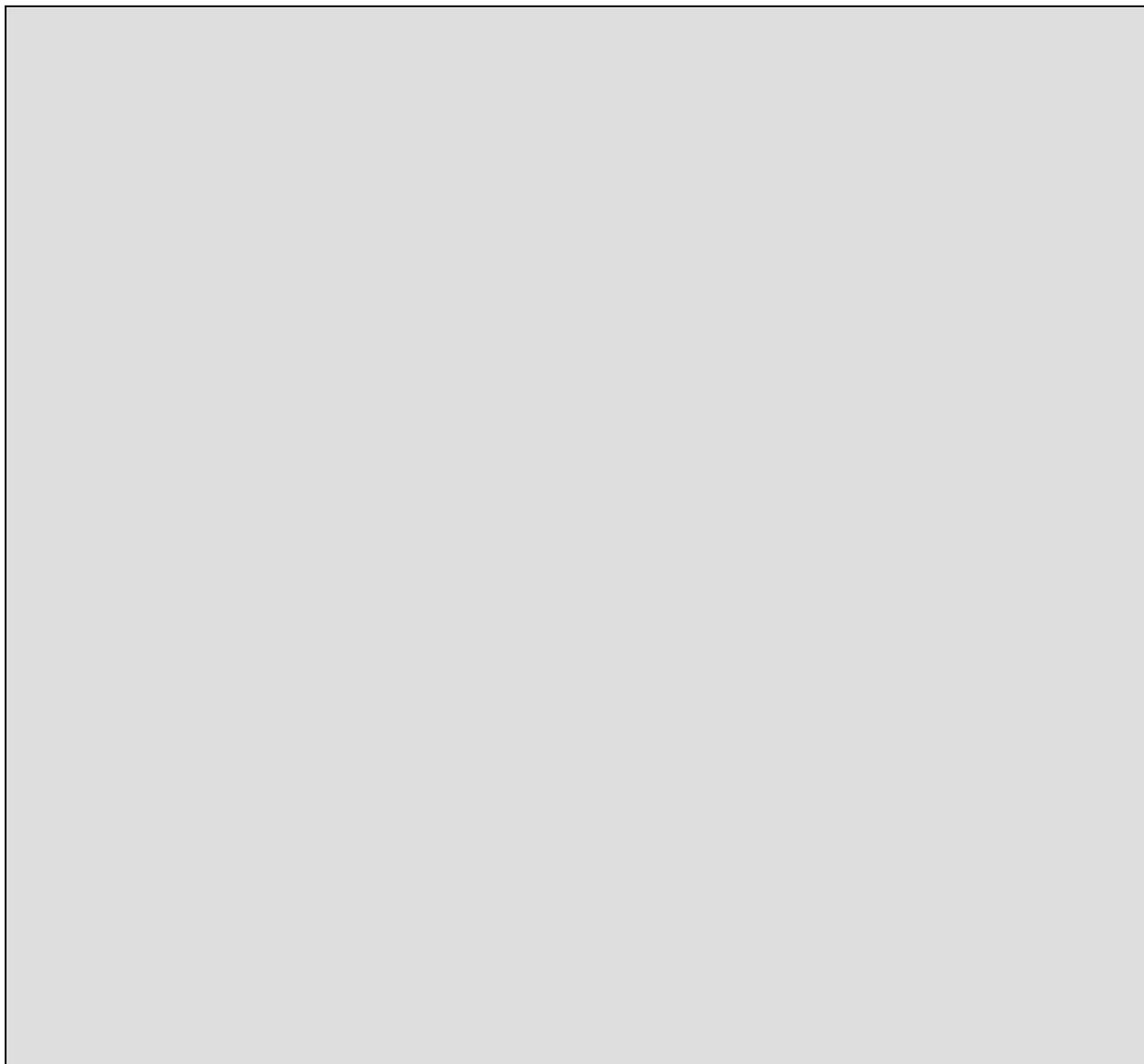
We detail the actions that lead to achievements in the text below. A detailed workplan chart with the timeline of activity implementation is found in Annex D.

¹ These numbers include only farmers participating in project activities to introduce integrated agro-forestry improvements. We are not including farmers supported by IR2 who benefit from large-scale reforestation activities, since the short-term revenue earning potential of these measures is less important.

INTERMEDIATE RESULT 1: AGRICULTURAL PRODUCTIVITY INCREASED

STRATEGY

AVANSE's strategy to increase agricultural production is grounded in the team's deep-rooted experience and knowledge of the five targeted value-chain crops (Banana/Plantain, Cacao, Maize and Beans, and Rice). AVANSE uses the common approach of farmer field schools (FFS) (see text box below) to introduce improved technologies, practices, and inputs tailored to each crop to increase both the productivity and profitability of small-farmer agriculture.



In FY2014, AVANSE refined and perfected nine technical packages for the five target crops, focusing on the appropriate use of good agricultural practices (GAP) as well as inputs and planting materials. The table on page 25 provides a brief summary of AVANSE's technical

support for each targeted crop. The full details of each crop technical packages are described in Annex G.

AVANSE provides direct support to FFS producers through the different planting seasons, and then support tapers off as farmer members are expected to self-manage the continued application of the technical packages. This occurs on a schedule that varies according to the crop production cycle. For cacao and bananas, both long cycle crops, AVANSE works with FFS for two years. For the short-cycle crops, rice, beans and maize, support to FFS last for two production seasons. In each major planting season, AVANSE project support is also expanded to new FFS being supported in the chosen locations as well as adjacent areas to deepen and widen the footprint of farmers who understand and apply the new crop technologies. It is important to note that FFS are designed as essentially ephemeral constructions designed to anchor knowledge of new crop technologies in a small core of community members—often with some subsequent adaptation of the models by the farmers themselves. Thus sustainability of the FFS assistance mechanism is not our objective. Rather, our objective is to engender long-standing improvements in small farmer agricultural practices driven by increased economic returns and enabled by more efficient input markets. The diffusion of this will be through informal neighbor-to-neighbor exchanges in the local community—the FFSs are just the initial spark. The issue of input markets is a critical component of sustainability. This is addressed through our work to promote market-oriented demand subsidies through vouchers that do not distort private suppliers' incentives and actually encourage them to expand the supply of the inputs required by the target crop technical packages. This is described in more detail under IR 3, since most of the input voucher work involves working with private input supplier enterprises supported directly by IR3. This underlines how the sustainability of IR 1 introduced farm-level innovation is reinforced by market development efforts focused on the input sector under IR 3.

TABLE 3: AVANSE EFFORTS WITH PRODUCERS ACROSS TARGETED VALUE CHAINS

	Cacao	Banana/Plantain	Maize & Beans ²	Rice
Producer Planting Seasons	October – December April – May	September - November March - May	November – December, March – April	January, May, August
Critical Gaps	Limited availability of high yielding materials, new plantations can have significant lag times to generate revenue.	Limited access to means and technologies to manage Sigatoka and nematodes problems. Poor control of the water (flooding, drought alternation). Lack of means for adequate soil preparation	Limited access to and utilization of improved varieties. Poor management of pests and disease.	Limited availability of water control across targeted zones. Weak agricultural practices with waste of water, fertilizer and inefficient density pattern. Limited availability of labor.
Key Aspects of our Approach	<p>New plantations</p> <p>Development of new plantation management models for new cacao orchards based on optimal use of super-trees. Utilization of inter-cropping practices at the first stages of plantations with a range of cacao densities (3 x 3m, 4 x 3m, and 4 x4m) based on farmers objectives.</p> <p>Old plantations</p> <p>Increased productivity and production of old Cacao trees by: Maintenance, rehabilitation and regeneration.</p> <p>Using grafting methods to reproduce and propagate the best performance.</p>	<p>Adaptive Plantation Management to address triple threats of water (both drought and flooding), nematodes, and sigatoka.</p> <p>Application of organic matter (manure and compost) and chemical fertilizer to have healthy, stronger and more productive plants</p> <p>Use of biological produce to control nematodes</p> <p>Promotion of <i>Plantes Issues de Fragments</i> (PIF) propagation technique in microenterprises to</p>	<p>Maize centered model - promote improved inputs to increase yields and diversify varieties (e.g. short cycle varieties and high-yielding crops – maize, black-eyed peas, pigeon peas, lima beans, etc.). This year the model will continue to be refined to incorporate improved pest management, post-harvest handling, and access to dry storage.</p> <p>Bean centered model – promote improved inputs (e.g. seeds for short-cycle climate-smart beans). This year the</p>	<p>Systeme de riziculture intensive (SRI) to promote higher yields where there are higher levels of water control</p> <p>Key elements of the model:</p> <p>Nursery in dry conditions, early transplanting of early young plants at 2 leaves (10 days), controlled density with defined spacing (25x25 cm), efficient control of the weeds (early weeding), alternation of irrigation and dewatering.</p> <p>Improved traditional rice model (SRA)</p> <p>In the areas with poor level of</p>

² Maize and Beans are cropped together and thus AVANSE's technical packages combine them in implementation.

	Cacao	Banana/Plantain	Maize & Beans ²	Rice
	<p>Cacao strains (super-trees)</p> <p>Certification of Grafters to make available professional and reliable services to the cacao producers.</p>	<p>encourage availability of more healthy seedling and disease tolerant varieties.</p> <p>Prospections on possibilities to installed tissue culture lab in the North Corridor</p>	<p>model will continue to be refined to incorporate better water management and strategic irrigation based on lessons learned from the drought in FY2014.</p> <p>Better seed management through improved selection and seed exchanges, as well as exploring long-term solutions with MARNDR and the private sector for improved seeds</p> <p>Grains storage Increase of the grains storage capacities at the level of the farms and producers organizations.</p>	<p>water control.</p> <p>Keys elements of the model:</p> <p>Late transplanting at 20 days with then the same practices of the SRI model.</p>
Targeted Zones	<p>Zone 1 : Limbé, Zone 2 : Plaisance, Pilate, Zone 4 : Plaine du Nord, Acul du Nord, Grande Rivière du Nord, Bahon, Zone 5 : Limonade, Zone 6 : Trou du Nord, Les Perches, Acul Samedi, Zone 8 : Port Margot, Borgne</p>	<p>Zone 1 : Bas-Limbé, Acul du Nord (Camp-Louise) Zone 3 : Bord de Mer de Limonade, Quartier Morin, Zone 4 : Grison Garde, Plaine du Nord, Zone 5 : Trou du Nord, Caracol</p>	<p>Zone 3 : La Suisse, Milot, Quartier Morrin Zone 4: Grison Garde Robillard; Zone 5: Bois de lance, Dubout, Caracol, trou du Nord, Grand Bassin, terrier Rouge Zone 7: Bayaha, Maribaroux, Ferrier</p>	<p>Zone 3 : La Suisse; Zone 4 : Grison garde; Zone 7 : Fort-Librté - Bayaha (Chalopin, Coicou), Ounaminthe Ferrier (Haut Maribaroux, Bas Maribaroux)</p>

Sustainability of the changes in small farmer cropping practices will also be enhanced by our efforts to build pools of technical knowledge of these practices within institutions that will continue to serve farmers in the North after the end of AVANSE. The most important of these institutions is the Haitian Ministry of Agriculture (MARNDR). In FY2014, AVANSE signed a memorandum of understanding (MOU) with the MARNDR to define areas of collaboration, roles, and responsibilities between AVANSE and the MARNDR. Specific areas of collaboration with MARNDR to promote agricultural productivity include:

- Joint targeting of project crop implementation sites and target zones, with approval of all AVANSE sites from the regional *Directions Départementales Agricoles* (DDAs);
- Engagement with *Bureaux Agricoles Communaux* (BAC) staff technical skills building so they can support FFS implementation in targeted zones;
- MARNDR granting access to facilities and material resources for joint activities;
- Joint collaboration on the administration of agricultural input voucher activities, with Ministry staff playing a role in the control and verification of the delivery of goods and services, with AVANSE working with the Ministry to register beneficiaries with local BACs, and with both partners participating in setting key policy-level parameters (such as subsidy levels and supplier qualification criteria); and
- Strengthening of the capacity of MARNDR regional units (through both material support and staff training), specifically for the BACS inside and near of project Target Zones and for the two regional DDAs.

During FY 2015, AVANSE will also conduct two procurements to engage local implementing partners formed into consortia to expand our crop extension capacities for maize/beans and bananas. Through these arrangements, we will also work with and strengthen the knowledge of the local NGOs/firms engaged in these activities. This will further deepen the pool of future technical assistance providers for these crops in the North. Table 3 below shows the total number of farmers entering the IR 1 FFS training program by crop and by quarter.

TABLE 4: FARMERS RECEIVING ASSISTANCE THROUGH IR 1 FFS

Crop	Q1	Q2	Q3	Q4	Total FY 2015	Total FY 2014	Cumulative Total
Cacao	4,000				4,000	4,033	8,033
Bananas	1,500		2,000	2,000 ³	5,500	508	6,008
Rice		1,000		1,000	2,000	1,000	3,000
Maize & Beans	2,000		10,000 ⁴		12,000	1,416	12,416
Total	7,500	1,000	12,000	3,000	23,500	6,957	30,457

³ These banana farmers to be supported through the banana IP consortium.

⁴ 6,000 to be supported through the maize/beans IP consortium. The rest through direct AVANSE implementation.

SUB-RESULT 1.1: KNOWLEDGE AND AVAILABILITY OF IMPROVED PRODUCTION TECHNOLOGIES AND SYSTEMS INCREASED

TEXT BOX 2: KEY PARTNERS FOR SUB-RESULT 1.1

- MARNDR
- Producer Organizations
- Implementing Partners

Activity 1: Adjust and refine the mix of key production technologies.

During FY2014, in its initial year with FFS, AVANSE has tested and adjusted many of the production technologies that are included in its crop packages. These are shown below in Table 3. It is important to note that this list of technologies is not static and will be evolving constantly over the life of the product in accordance with such factors as small-farmer acceptance, market availability and technical performance. IR 1 staff will be constantly following these issues and making needed adjustments to respond to changes in the environment or to technological developments that may present new opportunities.

TABLE 5: CROP TECHNOLOGIES TO BE USED IN FY2015

CROPS	TECHNOLOGY INTRODUCED	MAIN DETAILS
CACAO	Trimming of cover trees and pruning of cacao trees	Trimming of cover trees to reduce the shade on cacao trees. Pruning of cacao trees to stimulate adequate growth. Reducing damages by pests. Increasing flowering and cacao production.
	Grafting	Progressive regeneration of old cacao plantations. Propagation of the most productive cacao from clonal gardens and super trees to improve productivity
	Improved plantation techniques & planting densities	Combination of cacao seedlings with the temporary shade crops like plantain/banana
BANANA	Production of healthy suckers via PIF (Plants Issued from Fragments)	Training and vulgarization of PIF methods. Sets of good practices, before planting, notably trimming suckers
	Plantation techniques	Promotion of optimal densities for a better humidity management
	IPM for the control of Sigatoka disease	Sets of good practices notably the elimination of affected leaves and/or parts of leaves
	Safer Nematodes control	Utilization of biological nematocide integrating <i>bacillus firmus</i>
	Fertilization	Use of manure and compost and chemical fertilizer
RICE (SRI)	Improved nursery techniques	Use of pure varietal selected seeds. Pre-germination; Dry nurseries. Utilization of smaller seed quantities

	More performant rice varieties with capacities of re-growing	Utilization of Jaragua and Jouma varieties
	Transplanting techniques and density	Very young plants (8 to 12 days after sowing for SRI as opposed to 20 days for unimproved) per hole-differing from 25 cmx 25 cm in unimproved rice model
	Optimal control of the weeds	Utilization of mechanical conic-weeder .Utilization of herbicides 2-4-D
	Fertilization	Optimal valorization of the soil richness and of the organic matter in the soil. Utilization of lower quantity of chemical fertilizer to respond to the needs of the rice at the right development stage (NPK, Urea, DAP)
BEANS AND MAIZE	Short-cycle high quality seeds	Chicken corn for maize. Icta Ligero for common beans. California #5 for black eyes peas and Ford Hook and Bese-ba for lima beans.
	Pest control	Utilization of pesticide to control the white fly on beans. Utilization of Sevin for caterpillar control on maize. Utilization of pesticide to control the beetles in black eyes peas seeds.
	Fertilization	Utilization of reasonable quantity of chemical fertilizer at the right development stage. Only urea for the corn and NPK for the common beans.
	Introduction/spreading of new beans variety resistant to drought and heat	Lima beans (local variety and Ford Hook)
IRRIGATION IN DRY LANDS	Better control of the quantity of water utilized and reduction of water loss.	Drip-by-drip irrigation systems
	Solar pumping	Installation of solar pumps on banks to extract water from river

SUB-RESULT 1.2: STRENGTHENED EXTENSION OF AGRICULTURE TECHNOLOGIES

AVANSE's Sub-Result 1.2 activities focus on the "roll-out" of the crop packages and technologies developed and tested by AVANSE under IR1.1. Whereas in the first full fiscal year of the project, our interventions rested relatively modest (reaching 6,957 of the 43,500 farmer 3 year target), this is the year that our production activities will be scaled-up to reach an additional 23,500 farmers. We will do this with the addition of new resources through the engagement of outside technical implementing partner (IP) consortia to provide extension support for maize/beans and bananas during the year. This will allow us to concentrate in-house resources and management focus on the remaining focus crops. This ramp-up will expand the scale of AVANSE's production innovations by opening new FFS in each of the focus crops to reach over 30,000 farmers by the end of FY2015.

We note that our efforts to involve IPs that are Haitian organizations through competitive procurements with public Requests for Proposals (RFPs) is the first step in the withdrawal of AVANSE's direct management of field activities. It is anticipated that the selected extension IPs will continue to diffuse technical assistance across target areas throughout the life of the project. This strategy is also consistent with the MARNDR's extension strategy as embodied in the

PTTA and RESEPAG projects—which emphasizes the involvement of Haitian service providers as suppliers of extension trainings to farmers instead of Ministry staff. It is also consistent with USAID FORWARD.

A map of the main target zones and crop sites targeted for this expansion is given below. The narrative that follows describes specific activities.

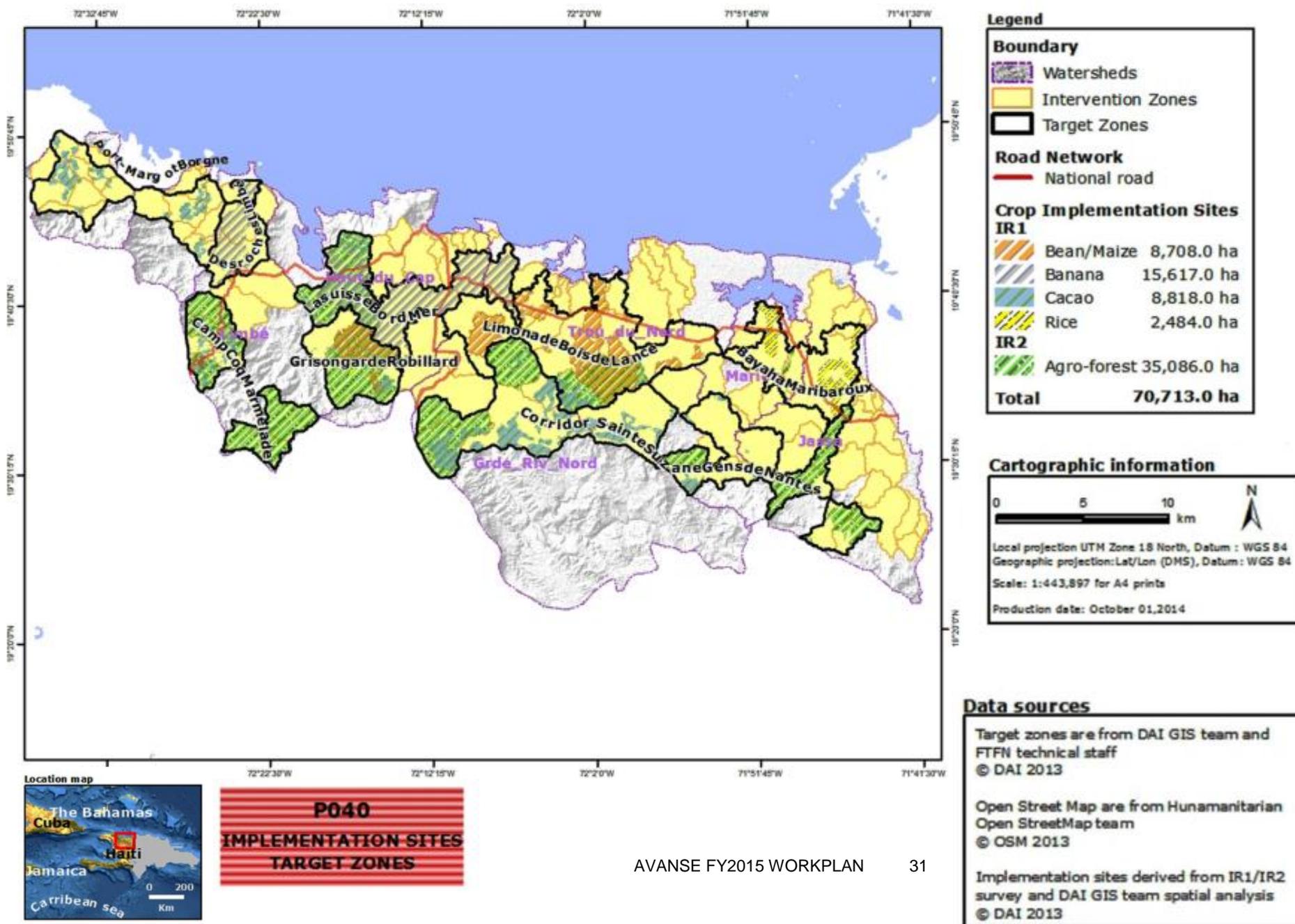
TEXT BOX 3: KEY PARTNERS FOR IR 1.2

- **MARNDR**
- **Producer Organizations**
- **Regional Training Centers (CFAIM, Saint Barnabas)**
- **Implementing Partners**
- **Auburn University**
- **Haitian Universities**



Valmir Mamonvil, an AVANSE cacao producer, next to his super tree that produces around 400 cacao pods each year.

FIGURE 4: CROP IMPLEMENTATION SITES ACROSS AVANSE TARGET ZONES



Activity 1: Diffuse improved practices for focus crops to small producers

As described in Table 2, the targeted crops are at the heart of AVANSE efforts to increase productivity. AVANSE will continue to support diffusion of improved cropping practices for these crops by expanding the network of FFS during FY 2015. The IR1 crop agronomists will finalize the set of didactical supports (booklets, posters, and factsheets) that will be reproduced for use in direct AVANSE and extension IP-delivered field trainings. The calendar for FFS field training sessions is determined by the cropping cycle for each crop and is depicted graphically below in Figure 4. Strategies to ensure the supply of key planting materials for these efforts are described below under Sub-Result 1.3.

FIGURE 5: TRAINING FOR PRODUCERS VIA FFS FOR EACH FOCUS CROP

CROPS	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
CACAO	Establishment and maintenance of New cacao plantations							Establishment and maintenance of new cacao plantations				
	Productivity-increasing measures for existing cacao plantations					Productivity-increasing measures for existing cacao plantations						
						Rehabilitation techniques for old cacao trees						
			Major diseases, insects and other pests of cacao and control methods					Major diseases, insects and other pests of cacao and control methods				
	Harvest and post-harvest treatment of cocoa											
BANANA / PLANTAIN				Soils preparation Picketing, Hole digging, Choice and selection of suckers, Trimming, Seeding and planting Nematodes control				Soils preparation Picketing, Hole digging, Choice and selection of suckers, Trimming, Seeding and planting Nematodes Control				
					Weeding, Fertilization Application of Herbicide, Leaf removal, De-suckering, Pistil removal					Weeding, Fertilization Application of Herbicide, Leaf removal, De-suckering, Pistil removal		
						Diseases control				Diseases control		

CROPS	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
						Harvest techniques Post-Harvest treatments						Harvest techniques Post-Harvest treatments
BEANS AND MAIZE			Soil Preparation								Soil Preparation	
				Sowing techniques Density control and layout of the different species							Sowing techniques Density control and layout of the different species	
	Weeds and Insects Control				Weeds and Insects control						Weeds and Insects Control	
	Fertilization				Fertilization						Fertilization	
		Harvest and Post-harvest operations					Harvest and Post-harvest operations					
RICE	Soil Preparation					Soil Preparation						Soil Preparation
	Variety choice Preparation of seeds Nursery						Variety choice Preparation of seeds Nursery					
	Transplanting Water control in the plot						Transplanting Water control in the plot					
		Fertilization and fertility management Weeding					Fertilization and fertility management Weeding					
				Different problems in rice crop							Different problems in rice crop	
							Harvest techniques and post-harvest operations					Harvest techniques and post-harvest operations

As mentioned above, during the first quarter of FY 2015, under the direction of the new IAEC unit Director, AVANSE will conduct an internal review of FFS operations to date. This will review will assemble participant feedback and data on participation rates and correlate this information with objective measures of impact to deduce lessons that will help the team refine its future strategy.

Activity 2: Prepare and Issue RFP to Identify Implementing Partners to Oversee Extension and FFS Models for Maize/Beans and Bananas

The model of extension IP engagement that we plan to use for IR 1 field activities has changed since the beginning of the project. An APS issued in FY 2014 limited to Haitian organizations did not yield enough qualified respondents with experience in managing field trainings in the focus crops to be sure that AVANSE could step back completely from field training activities in FY 2015 as planned initially. In consequence, we are changing our approach in two ways.

The first change in approach is that we will hold new, competitive RFP procurements and explicitly state in the instructions to respondents that two-tiered contracting with the formation of prime and sub-contractors is encouraged.

Secondly, we will state that, whereas prime contracting responsibilities will be limited to Haitian organizations (in accordance with FORWARD objectives), the participation of international NGOs with experience in field-based agricultural production trainings will be encouraged. In this manner, we intend to encourage applications from Haitian and international NGOs in consortia, which will significantly increase the pool of qualified respondents, as well as creating conditions in which a certain degree of knowledge transfer on contracting and technical matters can take place between the international and Haitian consortia partners. We will hold RFP workshops in Cap Haitien and Port-au-Prince to publicize and explain this concept to potential respondents. Since the local consortium will not yet have been cleared to conduct USAID-authorized procurements, AVANSE will still conduct the procurement of the planting material and other inputs for the consortium, which will furnish the required material for use across FFS networks.

We are focusing this IP-based extension approach on beans/maize and bananas in FY 2015. The RFP for beans/maize will be issued in November 2014 in order for field implementation through the selected IP to begin in March 2015. The RFP for bananas will be issued in February for field implementation to begin in September.

Activity 3: Roll out AVANSE crop package extension programs through local implementers.

As IP consortia begin to implement FFS training programs, AVANSE IR 1 staff will provide methodological support both on training methods as well as on technical content, coaching, and



Photo 1: An AVANSE-supported rice field planted with the SRI methodology

quality-control supervision of IP-implemented trainings. FFS trainings will begin just prior to the planting season and continue throughout each agricultural cycle. The IAEC team will work with the IP consortia to extend AVANSE M&E methodologies in order to ensure data coherence and application of the same data collection tools across the activities. IPs will be responsible for reporting the beneficiary data in accordance with the same protocols that apply to AVANSE-supported FFSs. Seasonal results will be captured through AVANSE's post-harvest surveys. AVANSE will provide continued technical oversight and monitoring of IP consortia to quickly address any challenges. An estimated 12,000 farmers will be reached through these two IPs in FY 2015.

Activity 4: Capacity-Building Support to Targeted BACS in the Northern Corridor.

IR 1 staff, under the direction of Philippe Mathieu, will implement a general agreement with the two DDAs in the North and North-East to begin a program of coordinated field activities and capacity-building support to BACs that the project has identified as being crucial to IR 1 activities in the 8 project target zones. In the first quarter of FY 2015, the team will sign agreements with the MARNDR's regional DDAs covering necessary material assistance that will be provided by AVANSE to the targeted BACs to allow them to implement the agreed activities in the work plan. AVANSE will coordinate with USAID for the necessary approvals and dispositions of these procurement actions.⁵ Upon the completion of these agreements, AVANSE will develop a detailed workplan and begin implementing joint activities. It is anticipated that these will cover the following: training of BAC staff in relevant IR 1 Crop packages; participation of BAC staff in FFS trainings; access to DDA and BAC field facilities on the part of AVANSE staff; sharing and coordination of beneficiary data and involvement of BAC staff in verification of AVANSE voucher distributions; and support from MANDR in occasional infrastructure maintenance actions.

⁵ In addition to the BACs, the MARNDR's CFAIM center in Limbé will also be supported with material assistance and serve as a field support location for AVANSE staff—similar to our plans for working with the BACs.

Activity 5: Leverage and promote production expertise through Universities and institutions specialized in agriculture.

AVANSE will work with Auburn University and universities and Northern Corridor institutions of higher learning including *the Faculté d'Agronomie et de Médecine Vétérinaire/Université d'État d'Haïti* (FAMV/UEH); the *Université Roi Henri Christophe* (URHC), and the *Université Chrétienne du Nord d'Haïti* (UCNH), as well as the MARNDR/DFPEA, and the Caribbean Council of Higher Agricultural Education (CACHE). These collaborative efforts will reinforce local agricultural training and field extension capacity. Specifically, we will:

- Set up monitoring protocols for agronomic results monitoring of FFS field results with the involvement of Auburn and local University staff and students;
- Soil testing with a focus on fertility management and increased precision in fertilization;
- Based on this soil testing, develop a fertility map of AVANSE targeted zones.
- Development of micro and macro propagation to ensure permanent availability of high quality banana suckers, plant cutting and yam mini-sets for tolerant and highly productive varieties with eventual implementation of a tissue culture lab; and
- Inoculation of legumes for better growth and improved productivity;

Specifically, Auburn will promote access to the latest database on agriculture and agronomy research as well as promote a culture of applied research and learning across the Northern Corridor to promote agricultural production and development.

SUB-RESULT 1.3: ACCESS TO INPUTS INCREASED

AVANSE works through local producers and input suppliers to promote the use of high-quality inputs across the Northern Corridor. More information on access to inputs is found under the voucher activity described under IR3.

TEXT BOX 4: KEY PARTNERS IR 1.3

- **MARNDR**
- **Other donor members of the *Table de Concertation* for input vouchers**
- **Agricultural input supply houses**
- **Local service providers (land plowing firms, fertilizer dealers, etc.)**
- **Producer Organizations**
- **Implementing Partners**

Activity 1: Identify, procure, and multiply improved foundation planting materials; initiate first- and second-round nursery production and multiplication.

AVANSE will continue to procure improved planting materials crucial to increasing overall productivity (anticipated procurements are included in Annex E). AVANSE will support the multiplication of these crops, which is essential to establish a local reservoir of high-quality genetic material currently lacking in the Northern Corridor. The table below describes how AVANSE will support seed/seedling multiplication across targeted crops.

TABLE 6: PROPAGATION OF TARGETED CROPS

	Cacao	Banana/Plantain	Maize & Beans	Rice
Approach to propagation	Promote super trees, and improved grafting techniques with nurseries in the Northern Corridor. As well as introduction of new plants.	Promote PIF propagation technique with nurseries in the Northern Corridor. (note: PIF multiplication sessions are beginning in September 2014)	Provide training and technical assistance to AVANSE producers to select the best seeds for replication (maize) and exchange and replication (beans).	Providing training to better rice producers to become seed producers as well for additional income and propagation of successful varieties.
	AVANSE will also provide technical assistance, mentoring, and training to nurseries as part of the micro- and medium- enterprises under IR 3 to promote their market viability.			
Cross-cutting partnerships to promote improved seeds and seedlings.	AVANSE will work with both the Haitian Government and the private sector to promote access and availability of the best seeds and seedlings for the Northern Corridor. With the Ministry of Agriculture and governed by AVANSE's MOU with MARNDR, AVANSE will share information and seek opportunities to leverage knowledge and experience with the National Seed Services (SNS) to explore long-term policy solutions.			

Activity 2: Access to other inputs.

Access to other inputs like fertilizer, pesticides, etc. is included in more detail within the voucher section of the workplan under IR 3.

**SUB-RESULT 1.4: IRRIGATION SYSTEMS CONSTRUCTED/ REHABILITATED
MANAGEMENT CAPACITY INCREASED**

Strengthening of the water-user associations is included here. The infrastructure component of the workplan includes a detailed description of the construction and rehabilitation efforts.

AVANSE is implementing capacity-building activities for Water-User Associations (WUAs) in a total of eight irrigation systems, as shown in the table on the next page. The support to be provided will depend on the particular needs of the WUAs. In the Grison Garde, Dubré and La Suisse systems, we will be implementing a program to reinforce existing WUAs that are already managing their systems. In the Chalopin, Robino, Glaudine and Dumas systems, we will need to create new WUAs from scratch to complement the planned rehabilitation and/or extension works. AVANSE is coordinating with the MARNDR and the PPI-2 project to furnish the needed institutional capacity building for the creation of new associations located on three non-AVANSE systems that are being built by the PPI-2 project (Glaudine, Roches Plates and Dumas). These locations are shown in the table below.

TABLE 7: WUA TRAINING ACTIVITY LOCATIONS

System Locations	WUA Status and Reinforcement Needs
Existing systems being rehabilitated/extended by AVANSE Infrastructure Component	
Grison Garde	Existing WUAs, not in conformity with new WUA law, need strengthening
Dubré	
La Suisse	
Chalopin	No WUAs. Need to create new Associations d'Irrigants
Robino	
Systems being constructed by PPI-2	
Glaudine	No WUAs. Need to create new Associations d'Irrigants
Dumas	
Roches Plates	

TEXT BOX 5: KEY PARTNERS FOR IR 1.4

- MARNDR (DDA Nord & Nord Est, PPI-2)
- INARA
- DGI
- WUAs
- IPs

Activity 1: Assessment of Water-User Associations' Capacity in Irrigated Crop Implementation Sites.

In October 2014, AVANSE began the assessment of Water User Associations (WUA) in the eight sites. The assessment will be completed in December 2014. It will be used by the IR1 WUA specialist to plan the training activities of the Training IP that is being engaged simultaneously that is described in Activity 2 below. The assessment will identify the detailed institutional strengths and weaknesses of water-user associations.

Activity 2: Management strengthening program for WUAs.

As of the writing of this workplan, AVANSE was finalizing solicitations to be released at the end of FY 2014 to identify IPs to provide on-the-ground management capacity strengthening to the WUAs in the eight supported systems. There will likely be two lots—one for systems in the *Département du Nord* and another for systems in the *Département du Nord-est*.

The management strengthening plan will consist of five training models covering the following elements:

- Finalization of institutional statutes and internal rules as per the law governing WUAs and the MARNDR's policies and formal registration (if not already attained);
- Elaboration of a water management plan with budgeted maintenance expenses and revenue projections from water-user fees that the WUAs will be mandated to collect upon legalization;
- Determining water-user fees;
- Elections of WUA officers and committees;
- Legalizing land titles, especially for women members;
- Integrating women into the governance structures;

- Separating WUA business- and revenue-generating activities into separate institutional structures in order to avoid conflicts of interest and focus management attention on water management;
- Planning distribution guidelines and commencing operations with distribution in new/rehabilitated channels (in coordinating with Infrastructure)

Key output targets by quarter for this activity are as follows:

Quarter 1: Signing of WUA reinforcement IP contracts, separation of business generating activities from water management for WUAs in Grison Garde, Dubré, La Suisse and Roche Plate.

Quarter 2: Registration/Approval of statutes for all eight WUAs; irrigation management plans finalized for all eight WUAs,

Quarter 3: Elections for management committees for all eight WUAs.

Quarter 4: Operations and collection of water user fees for all eight WUAs

Activity 3: Establish small-scale irrigation projects

This activity will contribute to both sub-results 1.4 and 1.5. Under the new “urgent interventions” infrastructure activities, AVANSE will be providing support to small farmers by providing 40 8 – 10 inch pumps (with testing of solar powered solutions) linked to small-scale drip irrigation to irrigate 800 hectares. AVANSE estimates each pump will reach approximately 26 producers. Infrastructure staff will conduct rapid site studies with technical calculation on flow requirements flow management, and IR 1 staff will coordinate with help on selecting locations and in providing production assistance to farmers and providing small scale irrigation system management strengthening support.

This activity will be focused on two separate areas: the dry plain lands in the east, and the wetter humid plains in the West. These are listed on the following page in Table 8. The western wet plain area suffered particularly from the FY 2014 drought, with significant losses in the bananas, and the beans and maize crops. This has had a negative impact on IR 1 FFS trainings for all these crops. The provision of these small-capacity irrigation pumps will mitigate such episodes in the future for IR1 FFs active in three zones.

In the dry land areas where dryland crops such as peanuts and charcoal harvesting are most prominent, there are two key issues: 1) access to water and improved irrigation; and 2) land tenure and access and utilization of land. While AVANSE seeks to move forward on identifying solutions to land access (please see IR 1.5 below), this activity will support the piloting of small-scale irrigation efforts to define an appropriate technical model for scaling up access to water and improved irrigation.

TABLE 8: GEOGRAPHIC AREA FOR SMALL- SCALE IRRIGATION PILOT

Geographic Area for Small Pilots	Anticipated Crops
Dry land sites: Caracol, Terrier Rouge, and Limonade	Vegetables, Fruit, pulses/legumes
Wet land sites : Bord du Mer, Limonade, La Cadouche, Camp Louise, Bas Limbe (small dams and temporary sluices)	Plantain, maize, beans and other crops

SUB-RESULT 1.5: PROPERTY SECURITY STRENGTHENED

The large areas of semi-arid, rain-fed dry plains in the Trou du Nord, Marion, and Jassa watersheds face land tenure issues and pressure. On formerly private plantations, the Directorate General of Taxes (DGI) has signed long-term leases for sisal operations in Terrier Rouge and Fort-Liberté municipalities. Now, with the construction of the North Economic Pole and the new State University of King Henry Christophe in Limonade, the pressure on land in the Northeast has seriously increased. Many tracts of land have been neglected by their leaseholders, and small farmers— among the poorest in Haiti—have occupied large portions with itinerant plantings of rain-fed crops, livestock, and charcoal-making activities.—In order for land tenure issues to be resolved, a mutual common interest between land owners and land users needs to be identified. Our approach will be to identify specific tracts of land with clear legal lease agreements in which new investments in small irrigation works (or potentially other agricultural systems appropriate for dry lands) can create revenue streams that will benefit both the legal lease holder and small farmers who are either already occupying the land or who would then colonize or exploit all or part of the new irrigated perimeters put into place. With written agreements between the small holders and the lease holder, this type of investment has the potential to foster more secure land rights for the former as well as providing a win-win economic result that benefits both parties.

Activities to address this sub result began in the last quarter of FY2014. On a practical level, the distribution of pumps to farmers in the dryland sites mentioned in the last activity under Sub-Result 1.4 will yield concrete experiences that we will use to refine the technical model for a grants program to expand small pump-driven systems in dry lands. Secondly, the diagnostic study mentioned below in Activity 1 was started and will be completed in the first month of FY 2015. This will be used to advise the project on potential sites and provide guidelines for how to approach the critical issue of deciding what land titling requirements should be on the main dry land tracts in the North-East in order to fund small scale investments in irrigation. IR 2’s WUA advisor will work with winning grantees and small farmers to help negotiate agreements and revenue sharing formulas. He will involve local stakeholders such as POs active in the zone and local governments to make them aware of grant-supported schemes and to achieve consensus as to the key issue of selection of eligible small farmer participants, which will be particularly sensitive in cases where the outcome involves settlement by new arrivals and not farmers already present on the land.

TEXT BOX 6: KEY PARTNERS IR 1.5

- MARNDR
- DGI
- Institut de la Réforme Agraire (INARA / Nord)
- Private lease-holders/developers
- Producer Organizations/CBOs
- Irrigation equipment providers

Activity 1: Diagnostic study.

This study is underway and will be completed in November 2014. The study will address two types of issues. First, it will clarify the formal underlying legal situation of the large tracts of dry land in the Marion, Trou du Nord, and Jassa watersheds, complete with mapping of the particular regimes of land tenure applying to different portions of the zone as well as an overview of the institutional context of the current land-tenure situation. Second, the study will seek to identify promising sites and partners where potential exists for fostering collaborative agreements between land holders who wish to invest in irrigated agriculture production schemes (and are willing to enter into formal agreements with smallholders) and the smallholders who would be included in such schemes.

Activity 2: Dry Lands Grant Fund.

As described above, these facilities are intended to spur investment in undeveloped dry lands that can be irrigated with pump-based systems and organized so as to include small farmers (particularly women), ensuring land access. These may also serve new demand created by the Caracol industrial park and be linked to regional export markets (notably the Bahamas and Turks and Caicos). These will be market-oriented grants with the landowners and lessees taking the role of developers, responsible for managing the relationship with sub-lease-holding small farmers as well as for operating the system as a private, profitable enterprise responsible for maintenance of pumps and basic shared infrastructure.

With the results of the assessment available in November, we will determine the formal evidence required of lease holders to verify lease status and target specific tracts for inclusion in an APS. It should be noted that while we see that most interest is likely to be for pump-driven irrigation, we will also open up the possibility of grant assistance for other types of dry-lands agriculture that would not necessarily involve irrigation. This could include such crops as peanuts and sisal, which are both viable as dryland crops. The grants will pay for a share of the development costs of the land. Additional technical assistance support for the ensuing schemes will be given as needed through STTAs or sub-contracts to specific technical service providers.

TEXT BOX 7: GENDER INCLUSION IN IR 1

AVANSE will:

- Continue to analyze and review gender analysis of different cropping systems;
- Establish a minimum target of 21% of women participation in FFS located in the Département du Nord Est and 25% for FFS located in the Département du Nord for all IR1 crops;
- Use the results of the gender analysis to tailor technical assistance and producer engagement;
- Establish a minimum target rate of 20% for women in Water User Association management bodies;
- Establish a minimum target rate of 40% for women who will be beneficiaries of the investment in undeveloped dry lands
- Distinguish the input of women's groups from that of men's groups when incorporating this information into initial WUA diagnoses assessing challenges to irrigation system maintenance;

INTERMEDIATE RESULT 2: WATERSHED STABILITY IMPROVED

STRATEGY

AVANSE's IR 2 activities largely focus on key sub-watersheds upstream from AVANSE's crop implementation sites under IR 1. Unlike IR 1, with its production efforts directed towards five target crops, activities under IR 2 promote a wider basket of crops chosen as a function of specific agro-climatic, market, and natural-resource considerations to stabilize slopes, improve soil fertility, and increase incomes. IR 2 interventions rest along three main axes:

- (1) Improvements to watershed governance through support for the establishment of sub-watershed management bodies (SWMBs) to coordinate and stimulate adoption of non-erosive agricultural practices and natural resource investments in targeted sub-watersheds.
- (2) Infrastructure investments consisting of public works to stabilize critical slopes in targeted sub-watersheds (this is detailed in the cross-cutting infrastructure section of the workplan); and
- (3) Farmer-level investments in bio-mechanical structures, agro-forestry cropping systems, conservation, and adaptation to climate variability and change to promote market-oriented, non-erosive agriculture on hillsides.

IR 2's field level interventions in FY 2014 have been structured around demonstration blocks (or *blocs de formation*), in which generally 25 to 50 farmers with contiguous parcels on an exposed and degraded hillside come together and agree with the project to restructure an entire hillside with improved agro-forestry systems that will halt soil erosion and result in more productive land. This system aims for visible improvements in vegetative cover across a broad swathe of contiguous land—generally 30 to 100 hectares (but occasionally more, depending on the terrain). AVANSE's approach to this is to introduce appropriate cropping mixes that are paired to the degree of land degradation, along with the construction of soil- and moisture-retaining bio-physical structures. AVANSE includes both crops whose purpose is mainly to improve soil retention and for which short-term revenue earning is not a major factor along with crops that are significant revenue producers. The main types of each are shown in Table 9 on the next page. Project investments for the farmers include planting material and inputs, while farmers provide labor for collective works to build soil-protection structures.

Upper levels of such demonstration blocks are usually so degraded that they are abandoned or largely unproductive. These typically are replanted in protected maize/bean associations that represent a very significant gain in terms of crop revenue for farmers on the upper reaches of the demonstration blocs—often starting from a zero base on these lands. On lower reaches, where land is less severely degraded, highly erosive crops in association—like peanuts and manioc—are replaced with agro-forestry associations including bananas, yams, and different pulses. At these levels, incomes also benefit from increased production of highly profitable crops such as bananas and yams and from improvements in moisture retention and soil fertility. The mix of revenue crops to soil conservation crops varies usually from 80/20 to 60/40 as a function of the degree of degradation.

TABLE 9: MAIN CROPS USED IN DEMONSTRATION BLOCS

Main Soil Conservation Crops	Main Revenue Crops
<ul style="list-style-type: none"> • Vetiver grass • Elephant grass • Fruit trees • Forestry tress • Sugar cane • Pineapple 	<ul style="list-style-type: none"> • Pigeon peas • Maize • Bananas • Yams • Cowpeas • Moringa

Whereas in FY 2014 our interventions were solely structured around a core of directly supported demonstration blocks, in FY 2015 we will widen our approach by replicating demonstration blocks though grants to farmer POs so that they significantly expand the areas of land under improved agro forestry practices. We anticipate that this will result in an increase from a total of 880 ha in directly supported demonstration blocs in FY 2014 and the first part of FY 2015 to 2,430 additional ha. in FY 2015.

In addition we will significantly increase the areas of our large scale reforestation activities in FY 2016 with the addition of 6,000 ha of reforested lands.

The planed quarterly progression in the number of ha. under improved natural resource management practices as a result of project activity in FY 2015 is given in Table 10. Activities to achieve these follow in Sub-Results section below.

TABLE 10: NUMBER OF NEW HECTARES UNDER & NEW FARMERS BENEFICIARIES USING IMPROVED NRM MANAGEMENT PRACTICES IN FY 2015

Intervention	Q1	Q2	Q3	Q4	Total
Completion of existing demonstration blocks	90 ha 0 farmers	85 ha 0 farmers	73 ha 0 farmers	0 ha 0 farmers	248 ha 0 farmers
PO replication of demonstration blocks	0 ha 0 farmers	972 ha 1,800 farmers	972 ha 1,800 farmers	486 ha 900 farmers	2,430 ha 5,500 farmers
Large-Scale reforestation	0 ha 0 farmers	1,200 ha 600 farmers	2,400 ha 1,200 farmers	2,400 ha 1,200 farmers	6,000 ha 3,000 farmers
Total	90 ha 0 farmers	2,257 ha 2,400 farmers	3,445 ha 3,000 farmers	2,886 ha 2,100 farmers	8,678 ha 7,500 farmers

SUB-RESULT 2.1: WATERSHED GOVERNANCE BODIES ESTABLISHED AT THE SUB-WATERSHED LEVEL

TEXT BOX 8: KEY PARTNERS FOR SUB-RESULT 2.1

- Sub-Watershed Management Bodies
- Producer Organizations and CBOs
- MDE
- CASECs and local governments
- CFAIM
- CNIGS
- Nurseries

In FY 2014, AVANSE has worked to establish 13 SWMBs in five watersheds of the AVANSE project zone. The remaining 5 SWMBs in the Limbé watershed were established under the prior DEED project. These are all shown below in Table 11.

TABLE 11: SUB-WATERSHED MANAGEMENT BODIES

	Watershed	Sub-Watershed
SWMBs Established by AVANSE in FY 2014	Trou du Nord	SWS St Suzanne
		SWS Trou du Nord
		SWS Caracol
	Marion	SWS Perches
		SWS Acul Samedi
		SWS Dumas / Fort Liberté
	Haut du Cap	SWS Cap Haïtien
		SWS Acul du Nord
		SWS Milot
	Grande Rivière	SWS Joli Trou
	Jassa	SWS Acul des Pins
		SWS Gens de Nantes
		SWS Ouanaminthe
SWMBs Established by the USAID <i>Développement Économique pour un Environnement Durable</i> (DEED) Project	Limbé	SWS Bali
		SWS Ravines des Roches
		SWS Camp Coq/Massabiel
		SWS Souffriere/Coupe à David
		SWS Bassin/Marmelade

Whereas in FY 2014 AVANSE focused mainly on the creation of SWMBs, our attention will turn in FY 2015 to guiding them through a structured process of institutional strengthening to solidify them in their roles as centers of decision and initiative in matters pertaining to sub-watershed

governance and land use. Towards the close of this process in the last quarter of FY 2015, AVANSE will contract with local implementing partners to take over the continued coaching and capacity building work. Activities are described below.

Activity 1: Strengthen Capacity of Sub-Watershed Management Bodies

In FY 2015, AVANSE IR2 staff will guide SWMBs through a step-by step capacity-building process that is geared to the production of Sub-watershed management plans (SWMPs). SWMPs will be created through a participative process that takes roughly seven to nine months to develop and finalize. This process revolves around land-use maps identifying critical areas requiring protection and involves communities in the consideration of appropriate types of land use for specific tracts of land in the sub-watershed. The process by which SWMBs are elaborated is as important as the SWMBs themselves. AVANSE will conduct open participatory meetings with the use of GIS-based land-use map presentations to engage the SWMBs in the consideration of the pluses and minuses of different agricultural practices and other uses on lands in their immediate area. Customarily these plans identify hillside stabilization and protection sites, as well as promote the use of agro-forestry and non-erosive practices to improve soil fertility as well as increase production and income. These SWMPs are critical to sustained management and improvement of the watersheds. The text box below describes key components of the SWMPs.

TEXT BOX 9: SUB-WATERSHED MANAGEMENT PLANS

Sub-Watershed Management Plans are comprehensive documents including mapping efforts to guide the conservation of sub-watersheds. Components of the plans include documentation and conservation of the following:

- The Physical Mapping of the monograph and by Sub-Basin target: geography, geology, the topography, geomorphology, soils, climate, hydrography.
- The vegetation and biodiversity in the Sub Basin with
 - Categorization of Wildlife and the major utility of macro-fauna
 - Categorization of Flora and the major utility of the Macro-Flora
 - Distribution macro-fauna and macro-flora depending on the categorization of agro-ecological zones and sub-zones observed around the target Sub-basin
- The environmental context of the watershed and how conservation efforts will impact these, including:
 - The rainy periods: length-average rainfall intensity during the decade (2004-2014)
 - Impacts on vegetation and adaptation strategies
 - Impacts on wildlife: endangered species and / or missing
 - The Positive and Negative behaviors of living in these ecological zones social stratum.

The plans will define agro-forestry efforts that include both conservation and income generation for local communities, articulating target crops, incorporating the annual crop cycle (with yields and agro-economics), as well as forest protection.

The key steps in the SWMP-development process and the date at which they will be reached in the 13 newly created SWMBs are as follows:

- End of Q1: finalization of initial land-use maps for use in each sub-watershed
- End of Q2: participatory process of consideration completed with validation of the 13 land use maps
- End of Q3: finalization of SWMP

During this process, AVANSE will organize farmer-to-farmer visits across SWMBs to share lessons learned from experience and implementation. In FY 2015, visits will focus on lessons learned and experience from the more established SWS in Limbé. Potential areas for visits include:

- Limbé-Marmelade: Agro-Forestry systems
- Gens de Nantes-Perches-Acul Samedi : Managed woodlots
- Plateau Central : Hydro-agricultural investments and agro-forestry systems
- Visits across POs within the same sub-watershed

In addition to the internal strengthening of SWMBs, IR 2 staff will work with the Ministère de l'Environnement (MDE) and local government authorities in the two Departments covered by the project to lobby for the creation of a formal status or at least official recognition of SWMBs roles as local lynchpins for improved watershed management decisions.

Activity 2: Engagement of SWMB IPs to provide continued reinforcement

AVANSE will issue an RFP to select several (we anticipate 4 – 6) IPs to provide continued support to the 13 new SWMBs as well as the 5 previously formed SWMBs in the Limbé watershed. We will release the RFP in April in order to hand over the SWMB accompaniment tasks to the IPs at the time each SWMBs sub-watershed management plan is finalized. The role of IPs will be not only to provide continued capacity building to SWMBs but to also furnish support for local NRM projects that can be executed by the SWMBs as called for in their sub-watershed management plans. They will provide basic material elements (e.g. tools and planting material) for these SWMB-incubated projects which will include reforestation and the installation of improved agro-forestry systems such as those used in the AVANSE training blocks.

While the IPs are providing detailed programmatic support to the SWMBs, IR 2 staff will be working on the securing of longer-term funding for SWMBs. The efforts to formalize their recognition with the MDE will be key, as this can help raise the profile of SWMBs as active agents in national efforts to improve natural resource management and reduce vulnerability to climate change. This said, AVANSE will not count on solely on public and donor avenues of support; it will also investigate possibilities for accessing private-sector funding from downstream, for-profit entities that have an interest in improving watershed management—including tourist sector enterprises, private sector end-buyers such as PISA and Novella with whom IR 3 has signed collaboration agreements and industrial operations, such as those at Caracol.

Activity 3: Protection of critical coastal zones.

This activity is described in the Cross-Cutting: Information, Analysis, and Environmental Compliance section.

SUB-RESULT 2.2: CRITICAL SLOPES STABILIZED THROUGH PUBLIC WORKS

This activity is described in the Cross-Cutting: Infrastructure section of the workplan. IR 2 staff will contribute to these works by supervising the installation of biological material on the upper areas of ravine stabilization sites identified by the AVANSE infrastructure team.

SUB-RESULT 2.3: CRITICAL SLOPES STABILIZED THROUGH FARMER-LEVEL INVESTMENTS

TEXT BOX 10: KEY PARTNERS FOR SUB-RESULT 2.3

- Producer Organizations
- Local civil society groups
- CASECs and local governments
- CFAIM
- CNIGS
- Nurseries

Activity 1: Completion of existing agro-forestry demonstration blocks.

In FY 2014, AVANSE initiated its field work under IR 2 with planting agro-forestry crops and constructing physical protection structures in 18 demonstration blocks located in zones classified as sensitive by AVANSE's initial GIS analysis. Demonstration blocks were sited across the six watersheds uphill from IR 1 crop production sites. These first-round demonstration blocks are designed to constitute core repositories of planting material and serve as examples to encourage diffusion of the agro-forestry techniques being demonstrated. This second goal is addressed below under Activity 2.

With a total of 879 hectares targeted for protection in these demonstration blocks, AVANSE had protected 631 in FY 2014—meaning that the remaining 248 ha. (or 28 percent) needs to be protected in FY 2015. These remaining hectares will be protected by the end of the third quarter using the appropriate agro-forestry crops and mixes appropriate to the terrain. These areas will also serve as demonstration sites for SWMBs mentioned above to familiarize their members with the benefits of improved agro-forestry systems.

Activity 2: Replication of demonstration-block agro-forestry systems.

Following on from Activity 1, AVANSE will award 18 grants to the POs overseeing each of the demonstration blocks. These grants will provide support for the replication and acquisition of planting material, funding of direct costs of collective work gangs for construction of needed soil retention structures, and basic materials and equipment for each PO. With the support from these grants, the POs will work to extend the number of hectares under improved agro-forestry practices through investments on critical hillsides and ravines requiring protection. A total of 2,430 ha. will be protected in this manner in FY 2015. IR 2 staff will provide continued support

but these works will be managed by the POs themselves. These works will be integrated into the Sub-Watershed Management Plans being developed by the relevant SWMBs as described above.

Activity 3: Larger-scale reforestation and land reclamation.

In addition to the above activities, which are intensive replications of an integrated agro-forestry model represented in the demonstration blocks, IR2 will intervene under this activity to address protection needs on a larger-scale that can still be done with farmer interventions and which do not require intensive engineering works. These will mainly consist of investments in biological protection measures. These include: (a) large-scale plantings of forage and cover crops (grasses and legumes) on degraded hillsides that require protection; and (b) reforestation of specific hillsides with rapid-growing tree varieties with ground cover preparation using vetiver grass and the Vetiver System. It is anticipated that 6,000 ha. will be protected in this manner in FY 2015. To implement this activity IR3 will issue an RFP to engage 1 IP in each watershed. The RFP will be issued in December 2014.

Activity 4: Support nurseries and lead-farmer multipliers in targeted watersheds with agro-forestry material and capacity building.

The IR 2 team has identified nurseries with the potential to support relevant agro-forestry crops in AVANSE targeted zones. AVANSE is preparing a non-compete justification for in-kind grants (supplying critical inputs, e.g. super tree cacao seedlings, fruit tree seedlings, and other agro-forestry plants) for up to 50 local nurseries. AVANSE is also releasing subcontract procurement for an IP to provide continued technical assistance and quality assurance across the 50 nurseries. These combined efforts of inputs, technical assistance, and quality assurance will ensure the availability of critical high-quality agro-forestry inputs, as well as continued sustainable capacity to replicate agro-forestry material; IR 2 staff will provide oversight to the overall implementation of this activity. IR 3 will provide business training for the 50 nurseries. In the future, AVANSE will conduct agro-forestry procurements on a limited competition from the 50 nurseries supported by this activity.



Photo 2: Mr. Bissainthe Samson, an AVANSE trained grafter who passed his certification with MARNDR.

Activity 5: Support grafters to conduct specialized vegetative propagation across targeted zones.

In FY 2014, AVANSE trained 150 grafters and operators in specialized techniques (e.g. cacao and fruit tree grafting, as well as yam mini-set production and forage multiplication). These 150 people are in the process of training 5 peer producers each to replicate these methodologies. After the initial training, and in collaboration with MARNDR, AVANSE will review the uptake of peer-producer uptake and AVANSE will purchase successful grafts for AVANSE supported producers. AVANSE is supporting the

MARNDR to roll out a grafting certification program (to date, 6 grafters have been certified). MARNDR and AVANSE will certify grafters who demonstrate a success rate of sixty to eight per cent. AVANSE will hire from this pool of certified grafters to conduct grafting campaigns across targeted watersheds to improve agro-forestry systems.

Activity 6: Pilot small-farmer greenhouses in the project zone.

AGRIDEV STTA, with support from the IAEC team, will conduct a market study in Cap Haitian and surrounding areas to understand opportunities for market linkages—specifically with higher-value crops. This assessment will identify potential agribusinesses for partnerships (at-least 50 percent of these will be woman-owned) to test the use and profitability of greenhouses. AVANSE will engage selected agro-enterprises to participate in a 6-month test near Cap Haitian to produce higher-value crops (e.g. vegetables) using greenhouse technology (2-3 greenhouses). AVANSE will work with the enterprises to monitor the results (e.g. technical applicability, management issues, and profitability).

SUB-RESULT 2.4: CRISIS-MANAGEMENT CAPACITY STENGTHENED

TEXT BOX 11: KEY PARTNERS FOR SUB-RESULT 2.4

- Ministry of the Interior
- Provincial Governments (*Délégués*)
- Directors for Civil Protection
- Local-level governments (CASECs)
- *Comités locaux de protection civile*
- Civil Society CBOs.

AVANSE meets regularly with the *Délégués* and Directors of the two Departmental Directors from the Civil Protection Authorities in the North and the Northeast. They are currently receiving technical assistance and training from a number of Haitian and International partners. The greatest priority of support identified was in procurement of key goods to mitigate and improve responses to natural disasters.

Activity 1: Procurement of essential goods for the two civil protection authorities in the North.

AVANSE is prioritizing items from an established list provided by the Civil Protection Authorities. Illustrative items include: shovels, pick axes, handsaws to help with mitigation and early response efforts.

TEXT BOX 12: GENDER INCLUSION IN IR 2

- AVANSE has established a minimum threshold of 40% for women led producer organizations
- AVANSE’s training and capacity building efforts incorporate gender themes and are designed to consider constraints on women’s time availability
- Encourage women’s participation in SWMB committees
- AVANSE has established a minimum threshold of 40% for women’s participation in HIMO hillside stabilization works
- IR2 is engaging women in community monitoring activities around hillside soil conservation (monitoring tree planting sites, upkeep of soil retention structures, etc...)

INTERMEDIATE RESULT 3: AGRICULTURAL MARKETS STRENGTHENED

STRATEGY

Strengthening agricultural markets in the Northern Corridor of Haiti is critical to AVANSE's success in improving food security in the region. IR 3 occupies a critical role in AVANSE as the locus of support and linkages for agro-enterprises working in production, storage, transport, processing and conditioning/export—all the major steps in agricultural value chains.

IR 3 is responsible for promoting successful businesses at all levels of the value chain, from input supply and production to post-harvest handling and continuing through storage and processing to include trade and export. To reflect this, and to better support integration and successful implementation, the project's agricultural input voucher activities have been fully integrated into IR 3 to ensure a continuum of engagement and support for producers and input supply enterprises participating in the voucher activities under IR1—including nurseries, seed multipliers, land preparation service providers and agricultural input dealers and depots in the project zone. IR 3 staff will intervene with all these enterprises to help them run more efficiently and profitably.

Our approach to IR 3 is to use basic value-chain methodology to identify market potential and key leverage points in the various crop value chains and to strengthen actors at these leverage points or even to encourage new entrants into value chains. The tools for making this happen include:

- Training for micro- and small enterprises, including specific women entrepreneurship modules;
- Promoting and facilitating access to financial services and credit for enterprises;
- Vouchers as a critical service for producers to promote linkages to key actors in the value chain;
- Assistance with minor physical investments and training to help agricultural input dealers become compliant with USAID Reg. 216 standards.
- Grant funding for agro-enterprises in key roles in the five target crop value chains;
- Improved linkages with larger private sector enterprises in the project area (this includes investments and partnerships that directly link producers to private sector enterprises); and
- Performance improvements with service providers -- including market information systems and transaction-cost reducing electronic means of payment.

The philosophy underlying our market-strengthening implementation is to include private-sector enterprises and entrepreneurs at all levels, from large-scale enterprises to smaller-scale microenterprises at the farm level. All agriculture value-chain enterprises in the Target Zones working with the target crops will be eligible to receive support through IR 3, the sole requirement being that they be providing needed goods and services, with priority given to efforts most likely to deliver scale and impact. Table 12 shows the key outputs expected from IR 3 during FY 2015.

TABLE 12: KEY IR3 OUTPUTS FOR FY 2015

	Q1	Q2	Q3	Q4	Total
New Medium Enterprises trained	0	8	0	0	8
New Micro Enterprises trained	0	0	200	0	200
Firms formalized	0	50	100	50	200
Agro-Enterprise Grants Signed	0	20	40	20	80
New Private Sector Collaboration Agreements signed	1	1	1	1	4
New farmers using Mobile Money	50	200	50	0	300

SUB-RESULT 3.1: IMPROVED TRANSPORTATION INFRASTRUCTURE

Improved transportation infrastructure is included in the Cross-Cutting Infrastructure section of the workplan.

SUB-RESULT 3.2: IMPROVED ACCESS TO STORAGE AND PROCESSING FACILITIES AND SUB-RESULT 3.5 RELATIONSHIPS IN TARGETED VALUE CHAINS STRENGTHENED**TEXT BOX 13: KEY PARTNERS FOR IRS 3.2 AND 3.5**

- Agro-enterprise clients in key value chain functions in target zones (nurseries, plowing enterprises, mills, input dealers)
- Producer organizations
- Private sector PPP partners
- SME training specialists
- MARNDR
- The IDB/MARNDR PTTA project

Activity 1: Continued use of value chain and agro-enterprise data to facilitate growth.

In FY 2013-FY 2014, IR3 developed detailed analysis in key areas agro-enterprises in project's target zones. These analyses included:

- Value-chain analysis for AVANSE crops across IRs 1 and 2 (AVANSE will finalize value chain analysis for target crops in IR 2 early in FY 2015);
- Analysis of barriers and enablers for women-entrepreneurs in target zones; and
- Deeper analysis of key value chains to identify and address bottle-necks (e.g. plowing services - there is high demand for services, but not enough plowing services available)

These analyses inform the design of activities under IR 3. In collaboration with the IAEC team, IR 3 has developed agro-enterprise typologies to inform training and finance activities as well as voucher programs, and to populate a database with spatial and technical data on specific enterprises. AVANSE will continue to update this “agro-enterprise client database” throughout the project to monitor and guide implementation. The database will include the name and location of the enterprises, name and contact information on owners (including sex), type of enterprise (following a standard classification system to be developed by AVANSE IR 3 staff), estimated fixed assets, self-reported turnover, and precise legal status (such as a non-profit association, a cooperative, etc...).

Activity 2: Business skills training and performance improvement.

AVANSE’s approach to business-skills training revolves around the strengthening of Haitian entities by offering them improved training materials, pedagogical approaches and methodologies developed by DAI’s international consortium partner, Making Cents. Making Cents has tailored training courses that are particularly well-suited to agro-enterprise business people operating at both the medium and micro and small enterprise levels with different levels of literacy and numeracy. There are three separate tracks for training: (a) a track for Producer Organizations and Micro/small-Enterprises; (b) a track for Medium Enterprises; and (c) a track specific to women entrepreneurs at both the micro- and small enterprise levels (see text box).

TEXT BOX 14: UNDERSTANDING THE NEEDS OF WOMEN ENTREPRENEURS

Women entrepreneurs—like women generally in Haiti—face many obstacles. IR 3 is investigating the best way to address the needs of women entrepreneurs to ensure technical assistance and support is targeted and relevant to reduce barriers, promote equity, and empower women. The separate track for women-entrepreneurs is under review and may be changed to integrate female and male participants in the same training with additional modules for women entrepreneurs. The review and analysis to guide this decision is taking place in September (as of the writing of this workplan) and a final decision will be made in early FY 2015.

In FY 2014, AVANSE conducted assessments, adapted, and piloted training materials to reflect the needs and context of the Northern Corridor.

Sub-activity 1: Roll out mentoring and trainings to selected medium enterprises through Sofitraining.

AVANSE selected medium enterprises based on their sales numbers and annual number of employees. In FY2014, AVANSE identified SOFITRAINING as a preferred local implementing partner to roll out medium enterprise trainings under IR3. AVANSE selected Sofitraining after a competitive procurement on the basis of the firm’s capacity and experience. Eight enterprises registered for the training in FY14 and we expect another 8 to register in FY15. The tailored performance improvement and training support includes 3 phases:

Phase 1: Conducting a self-assessment to identify performance needs and gaps among enterprises; Phase 1 with the 8 initial enterprises was completed during the last quarter

of FY14. Sofitraining staff will repeat this phase during the second quarter of FY15 with the 8 additional firms AVANSE will be recruiting during the first quarter.

Phase 2: Developing performance improvement workplans to address the needs identified in the self-assessment. For the first 8 enterprises this training will take place during the first quarter of FY15 and will be completed by the end of the quarter. It will be conducted with the remaining 8 enterprises during quarter 2.

Phase 3: Delivery of tailored coaching services to each enterprise to help them implement their performance improvement workplans. The coaching for the first 8 enterprises will start in January 2015 for a 3 months period. The next 8 firms will be coached during the third quarter of FY15.

Sub-activity 2: Roll out of capacity support / performance improvement for Micro/Small-Enterprises. AVANSE conducted a needs assessment at the close of FY 2014 with the assistance of our business training sub-contractor Making Cents. During the first quarter of FY 2015, we will develop and test the curriculum for training and mentoring of micro and small enterprises. During that quarter, AVANSE will also be releasing an RFP to identify the local implementing partner to deliver training for micro/small enterprises. During the second quarter, Making Cents STTA will train the staff of the selected local implementing partner who will become lead local business trainers who will be assigned specific geographical zones in which they will deliver trainings to local Micro/Small Enterprises as part of our on-going training program. This “Business Agents” will work for and receive continued reinforcement from the selected Micro-Small Enterprise training IP. They will deliver a business management curriculum designed for smaller rural businesses in their geographic zone. This program will be implemented in coordination with the Ministry of Commerce, the MARDR and the Chamber of Commerce—as we plan to sign an MOU with either the MARNDR or the Ministry of Commerce to provide the selected supervising IP with an office and to share information on MSEs in the zone and their training and financing needs. This link between the IP and these key Ministries is intended to set up a continuing relationship that will continue after the close of AVANSE.

Towards the end of the second quarter, Business Agents will advertise the training program through local outlets and to the businesses already in the AVANSE agro-enterprise database. Business Agents will meet with business owners at their place of business to confirm whether the enterprise meets the selection criteria and to gather base line information on performance. This exercise will also enable them to map the value chain in their zone and better understand the business opportunities available.

Businesses Agents will conduct first phase of MSE trainings on site with the selected enterprises throughout the third quarter. Based on the preferences expressed by businesses during the training, the Agents will organize additional technical trainings in conjunction with AVANSE staff. Business topics will include: record keeping, marketing, product differentiation, market studies, formalization procedures, etc. Technical topics may include: processing, quality control, and grading, packaging, improved methods of storage and transport, obtaining certifications (for exporting), etc. Training can also include guidance on formalization procedures. We will ensure that the nurseries selected to work as centers of genetic material replication by IR 1 and IR 2, as well as the cacao clonal gardens are targeted by these trainings.

Business Agents will provide on-going coaching to the enterprises in the fourth quarter and throughout FY 2016 to help them apply their business or technical training. The Agents will also provide on-going information on market opportunities as well as service providers in the zone that can help them become more successful. They will also collect data on business results, in order to feed into the M&E system.

Sub-activity 3: Support to formalize micro/small enterprises. In addition to mentoring and training through the tailored curriculum, the needs assessment in FY 2014 identified registration as a major obstacle for micro/small enterprises. Within its database of agro enterprises AVANSE has identified over 400 informal enterprises. In FY 2015 AVANSE is engaging local business service providers to help these micro/small enterprises register their businesses. Specifically, AVANSE will hire local business service providers to help individuals and enterprises register with the appropriate institution (*Ministère du Commerce, Direction Générale des Impôts, Mairies* etc. In the first quarter AVANSE will, start by registering 10 enterprises to better understand the process and costs before launching the appropriate mechanism to hire a local firm to implement this activity.

Activity 3: Improve Private Sector–Small Producer Linkages and Partnerships.

In addition to the smaller “agro-enterprises clients,” IR3 staff will work with large private-sector concerns to engage them in value chain services in the AVANSE targeted zones of intervention. These activities will help small farmers improve linkages to private-sector players either through direct sales relationships or through specialized intermediaries. In this fashion, the activity will contribute to strengthening commercial relationships between the structured private sector and small farmers. For linkages to work, the structured private sector (i.e.; exporters, food processors, financing institutions, wholesalers, supermarket buyers) needs to better understand small or medium producer contexts and make a commitment to engage small farmers directly with respect in the value chain. Likewise, small and medium producers need to understand and meet demand in terms of produce size, maturity, and quality (e.g. standardized, properly packaged, and consistent). There is no fixed formula for doing this: STTAs from AGRIDEV (notably Junior Paul) will be heavily involved, as will all AVANSE LT TA IR 3 staff.

In many cases, these linkages and partnerships will lead to private-sector investments to further AVANSE objectives. AVANSE (IR 3 staff and AGRIDEV STTA) has already signed two formal partnerships and will continue to engage the private sector around joint activities beneficial to both producers and the private sector that contribute to AVANSE’s targets and objectives. The table below illustrates the progress to date and anticipated activities as of the writing of this workplan. There is a detailed profile of two signed agreements with NOVELLA and PISA included in annex to this workplan (see Annex F).

Our partnership activities with private end-market players such as NOVELLA and PISA are critical to our strategy of promoting sustainable changes in value chains. They are the major vector for project activities to catalyze new investment in post-harvest handling, storage and processing and feed directly into Activities 4 and 5 listed below after the Table 13. We will also use the Agro-Enterprise Grants described below under Sub-Result 3.3 (Increased Access to Finance) in support of concrete investment projects developed in concert with the private sector partners targeted by the IR 3 team. In any event, our approach is to not engage project resources in post-harvest infrastructure without firm buy-in from private sector investors. It is this partnership activity that generates such opportunities. These types of agreements are listed in Table 13 below under “**Collaboration Agreements**”. Projects are classified in this manner if there is a potential for mobilizing significant levels of private investment. IR 3 will manage these Collaboration Agreements as discreet projects that integrate with other IR activities as much as possible. These Agreements will feed into Activity 5 focusing on improving post-harvest handling, storage and processing.

The other lines in the Table 13 on the following pages are for **“Market Linkage Partnerships.”** These are simply firms that we have helped by providing market linkage information –mainly linking them to producers in the project zone. These are treated below under Activity 4

TABLE 13: AVANSE PARTNERSHIP TARGETS

Private Firm Partner	Nature of Business	Major Goals of Joint Project	Potential Collaboration Mechanism	Current Status of Agreement	Potential Private Sector Investment	FY2015 Planned Actions
Signed Collaboration Agreement						
Maison Novella	Cacao export	(1) Increase cacao production in partnership with small farmers in North; (2) Introduce fermented cacao; (3) Improve post-harvest processing with fermentation to raise quality and farm gate prices (4) Certify supply chain (5) Disseminate price information's to farmers	Collaboration Agreement	Agreement Signed. Finalizing detailed work plan	1.3 million USD	Start implementation
Rebo/PISA	Cacao export	(1) Increase cacao production in partnership with small farmer in North; (2) Support operation to produce and export fermented cacao 3) Improve post-harvest processing with fermentation to raise quality and improve farmer price incentives; (4) certify supply chain & improve traceability	Collaboration Agreement	Agreement signed. Working on detailed implementation plan.	800,000 USD	Start implementation
Total Signed Collaboration Agreement					2.1 million USD	
Potential Collaboration Agreements foreseen in FY2015						

Private Firm Partner	Nature of Business	Major Goals of Joint Project	Potential Collaboration Mechanism	Current Status of Agreement	Potential Private Sector Investment	FY2015 Planned Actions
SEPAC	Rice processing	<ul style="list-style-type: none"> - Rehabilitate/build irrigation and drainage system - Structure rice farmer groups to supply paddy rice to CLES - Invest in processing infrastructure - Market linkage with buyers 	Collaboration Agreement	Formalization of MOU depends on AVANSE's ability to invest in drainage and irrigation systems for farmers	1 million USD	Sign MOU, implement co-investment plan
LEA Trading & Industrial Park Caracol	Food distribution	Creation of retail unit to sell local food to Caracol industrial park employees	Collaboration Agreement	Negotiations between industrial park and LEA trading underway	TBD	Finalize market linkage operation Sign MOU, implement co-investment plan
Banamiel Group/ Haitian investors	Banana export	Develop an integrated Haitian-Dominican banana production- export program with Dominican firm Banamiel that is a potential investor in production and post-harvest storage and transport.	Collaboration Agreement	Feasibility study underway	TBD	Complete feasibility study Sign MOU, identify and link Haitian investors to Banamiel
SISALCO	Sisal Processing	<ul style="list-style-type: none"> - Support production of sisal in dry lands - Setup sisal processing mill in the North 	Collaboration Agreement	MOU negotiation	1 million USD	Sign MOU, begin sisal production

Private Firm Partner	Nature of Business	Major Goals of Joint Project	Potential Collaboration Mechanism	Current Status of Agreement	Potential Private Sector Investment	FY2015 Planned Actions
CLES	Rice processors	<ul style="list-style-type: none"> - Structure/support rice farmer groups to supply paddy quality paddy rice to CLES - Invest in processing infrastructure - Market linkage with buyers 	Collaborative Agreement	Grant application under review	100,000 USD	Sign MOU; implement upgrading in storage and processing
G&G Agroentreprise	Rice Processing	<ul style="list-style-type: none"> - Structure/support rice farmer groups to supply quality paddy rice to G&G - Invest in processing infrastructure - Market linkage with buyers 	Matching Grant	Grant application under review	100,000 USD	Subsidize processing facility (if approved)
Jacques Sauveur Jean	Rice farming and processing and distributor	Develop an improved rice processing facility to service small farmers	Matching Grant	Grant application under review	100,000 USD	Subsidize processing facility (if approved)
Total Potential Signed Collaboration Agreement					> 2.5 million USD	
Market Linkage Partnerships						
CALI	Corn processing	Facilitating market linkages activities to sell corn	Market Linkage	First order from <i>Ministère des Affaires Sociales</i> executed	None	Supervise second sale to MAS. Link to private sector buyers

Private Firm Partner	Nature of Business	Major Goals of Joint Project	Potential Collaboration Mechanism	Current Status of Agreement	Potential Private Sector Investment	FY2015 Planned Actions
AIGG	Rice processing	Facilitating market linkages activities to sell rice	Market Linkage	Order secured Waiting for harvest	None	Finalize sale of 500 MT rice to MAS Link to private sector buyers
AGROPAK	Yam export	Market linkage for the supply of yam to AGROPAK	Market linkage	Waiting for information about availability from IR2 team	None	Identify producers groups
Quiskeya	Food processor	Market linkage for the supply of dry banana chips to Quiskeya	Market linkage	Assessing capacity of banana processors in the north	None	Identify dry banana suppliers in North Link suppliers to Quiskeya
RAFAVAL	Cacao processing	Link RAFAVAL to US buyer	Market Linkage	Waiting for buyer to place first order of raw chocolate	None	TA to RAFAVAL for the supply of raw chocolate to US buyer

Activity 4: Facilitating market linkages

AVANSE's market linkage work consists of two types of intervention: sustained interventions within the framework of a larger agreement to access new markets for small farmer or agro-entrepreneur product from the project zone—mostly within the framework of a Collaboration Agreement; and more opportunistic interventions to link producers with specific market buyers or provide technical assistance to producers, exporters and processors to help them access new market.

An example of the first type can be seen with AVANSE's Collaboration Agreement with NOVELLA under which the IR3 Team is piggy-backing on the pre-existing IR1 FFS organizations to set up new direct-buying windows for direct exporter purchases from farmers grouped around the FFSs who are organized into small-scale associations on a scale that is similar to the FFS—essentially a transformation of the informal temporary FFS network into a formal body with a fully traceable record keeping to serve as an organized direct buying network that reduces the number of intermediaries between the farmers and NOVELLA. This creates much stronger market linkages between farmers and NOVELLA—allowing for the smoother transmission of price incentives promoting better drying which is key factor in obtaining higher export and therefore farmgate prices. As of the start of the work plan period, AVANSE had formed 10 direct purchase groups involving roughly 250 farmers—and by the end of the fiscal year counts on having 2,000 participating farmers or roughly 15% of all cacao farmers in the North. AVANSE will provide groups with support on improved post-harvest handling and drying (described in Activity 5 below), MIS development (described under Sub-Result 3.4, Activity 1) and technical assistance to establish fair trade and/or organic certification systems that will permit NOVELLA to access higher-priced certified cacao markets. AVANSE will also work to establish certification systems for PISA's network of cacao. Other examples of sustained market linkage built around TA include the work foreseen with rice millers like CLES to develop improved packaging and quality with new market linkages to private sector distributors in Port au Prince as well as ethnic market buyers in the US and Canada.

As an example of more opportunistic market linkages AVANSE will also offer help to link small scale regional artisanal chocolate producers such as RAFAVAL and De La Sol with ethnic market importers in the US and higher-paying distributors in Port au Prince. Similar possibilities exist for linking IR2 producers of yams and pineapple with ethnic market importers in the US, The mango exporter AGROPAK has already expressed an interest in buying yams and pineapples. IR3 will work to develop these linkages with IR2 staff in the upcoming year. AVANSE will also continue to link corn and rice producers to local WFP procurements as it did successfully in FY 2014 for the corn miller CALI.

Finally IR3 will conduct continual evaluations of potential new project to establish market linkages. One such initiative to be conducted in the first quarter of FY 2015 is a feasibility study for the production of certified export bananas/plantains that is under discussion with the Dominican exporter Banamiel. Should that project prove its feasibility, more assistance with financing and technical assistance will be provided in the following quarters.

Activity 5: Facilitating improved post-harvest handling, storage and processing

The IR3 team has developed a pipeline of individual projects that involve investments in improved processing, storage and post-harvest handling. The origin of these projects lie either in Collaboration Agreements or Agro-Enterprise grant applications that are described below in the Access to Finance section. As of the start of the workplan period these project are as follows:

Improve the quality of unfermented cacao through improved post-harvest handling. Within the framework of its Collaboration Agreement with NOVELLA, AVANSE will be promoting improved drying and testing of unfermented cacao sold to NOVELLA through the direct farmer sales groups described in Activity 4. This initiative will involve technical assistance to establish clear price publication mechanisms that incentivize farmers to rapidly dry their cacao without exposing it to contamination and by introducing a new model of drying tables with attached plastic tunnels that trials in FY 2014 have shown can speed the drying of cacao and make it easier for farmers to protect it from rain. In addition, we will engage the services of an international cacao processing specialist, working through the Haitian cacao consulting firm AYTIKA to advise NOVELLA on grading and handling procedures for producing high quality unfermented cacao—as an add on to the more intensive work that will be done by AYTIKA to develop fermented cacao as described in the next activity.

Expand the production of high-quality fermented cacao. AVANSE will provide training and grants support, where needed, to support the expansion of fermented cacao processing or to all the main cacao exporters active in the North: FECCANO, NOVELLA and PISA. This work will be piloted by the Haitian cacao consulting firm AYTIKA with assistance from leading international cacao post-harvest handling experts. This will include technical assistance to help all exporters design their fermenting processing lines and develop appropriate strategies and operational procedures that will help them achieve specific market quality levels that are appropriate for their capacity. AYTIKA will also assist them in formulating marketing strategies for fermented cacao. A contract between AVANSE and AYTIKA will be signed at the beginning of the second quarter of the fiscal year to launch this initiative.

Improve the quality of small-scale chocolate producers with investments in processing equipment and improved food safety. AVANSE will also work with a number of smaller artisanal chocolate producers, including RAFAVAL, Chouchouro, and De La Sol through the Agro-Enterprise Grants facility to help them acquire purpose-built small scale chocolate milling kits and kitchen equipment necessary to produce higher quality chocolate that can be sold into export and local distribution networks. This will include technical assistance on food safety and hygiene. Support will also be provided to develop local distributors of appropriate packaging materials to help these actors obtain sustained access to improved packaging. Finally AVANSE will also help these processors with sample shipments and external market linkages to ethnic market distributors in the US.

Upgrade rice milling operations in the zone to improve product quality. AVANSE will also use the Agro-Enterprise Grants facility to offer a program of support to rice millers

taking product from IR1 rice production areas. The most immediate partners are likely to be CLES, G&G Enterprises, Jacques Sauveur Jean and AIGG. Support will be two-fold: technical assistance and grants support to allow these players to increase their drying surfaces, which is a critical component of product quality; and also support will be given to acquire appropriate rice milling equipment with destoning, grading tables and improved mills. Aid will also be provided for marketing and packaging.

Upgrade corn milling operations in the zone to improve product quality. Similar to its plan with rice mills AVANSE will work with the main corn mill in the zone—CALI in Limonade to upgrade its operations to improve the quality of its corn meal. Grant assistance will be given to CALI so it can add to its storage capacity and improve its drying operations, thereby helping it to reduce product losses which are a major problem.

Spur investments to create needed agro-chemical storage facilities that are able to respect international environmental compliance norms. During the second quarter of FY 2015, AVANSE will conduct a specific grant RFA to encourage application to leverage investments in new or rehabilitated agro-chemical storage facilities. Such facilities will be needed if the AVANSE and PTTA voucher programs are to reach their expansion target—as it is becoming apparent that the lack of environmental compliant retailers on one level and wholesalers who can rapidly replenish stocks on another level is a real constraint to the availability of fertilizer and other agro-chemicals in the project zone. This program will be designed with the input of international fertilizer marketing specialist and input advisor Joel LeTurioner. Grants support will provide funding on a cost share basis for establishing warehouses that are fully compliant with USAID Reg 216. Applications will be encouraged from existing agro-chemical retailers and wholesaler/importers.

In addition to the initiatives identified here, IR3 staff will be continually searching for similar projects that show potential for sustainability as new Grants and Collaboration Agreements are made.

Activity 6: Scaling up the use of vouchers (bons d'achat) as a market-oriented subsidy mechanism.

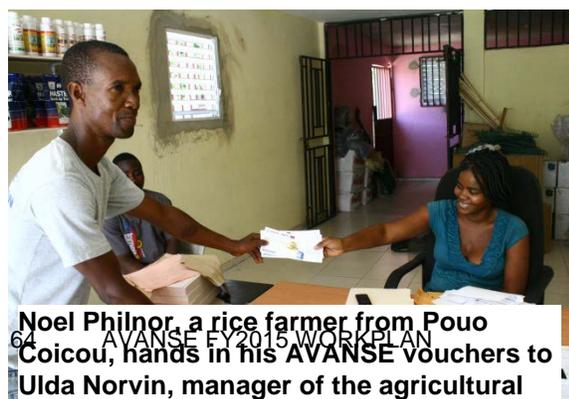
This activity is transversal cutting across AVANSE's components. FY 2014 included the administration of a pilot activity with rice, banana/plantain, and cacao farmers and plans to expand the voucher program in FY 2015. (Critical aspects of the scale-up this year consists in including an increased number of farmers (18,000 producers across beans, maize, banana/plantain, and rice crops), maintaining engagement with producers enrolled in the voucher program in FY 2014, sustaining engagement with MARNDR in the design, implementation, and monitoring of voucher activities, identifying a specialized voucher administration subcontractor, and facilitating relationships between affiliated distributors and importers to secure a stock of fertilizers for both AVANSE and the PTTA/MARNDR programs outside of the MARNDR's import subsidy scheme, which led to irregular fertilizer supply and price speculation during the pilot phase of our voucher program which is also known by its French-language acronym (SIBA).

Collaborative design, implementation and monitoring of the voucher activities with MARNDR. Close engagement with MARNDR is critical to the current and continued success of the voucher activity. The SIBA Manager will regularly consult and engage with MARNDR in the design, monitoring, and implementation of SIBA activities. The SIBA Manager and team will work as a team with AVANSE’s Environmental Compliance unit and the Infrastructure team to ensure that participating retail outlets are fully compliant with Regulation 216 or have a USAID EMPR and are implementing an action plan to become compliant. The voucher program is tied to the annual agricultural season below. The table below illustrates the annual cycle as it is occurring to scale up the vouchers for FY2014-2015. Continuing STTA guidance for the voucher program will be provided by Senior International Voucher Expert Joël Le Turioner.

TABLE 14: ANNUAL CYCLE FOR VOUCHER IMPLEMENTATION

Planning	Implementation	Lessons Learned
June – October (ongoing)	November - October	Ongoing
In collaboration with MARNDR and informed by the experience of both AVANSE and the IDB/MARNDR PTTA project, AVANSE will design the internal voucher parameters (subsidy levels, selection of voucher goods and services, quality criteria for goods and services), negotiate to establish supplier networks, and negotiate financial arrangements for voucher implementation, as well as the design, printing and distribution of vouchers to affiliated financial institutions.	In FY 2015, AVANSE will expand implementation of the voucher program. AVANSE will conduct field supervision with MARNDR, monitoring of supplier relations, troubleshooting and operational coordination with the MARNDR and other projects using vouchers in the project zone.	Continued monitoring and learning is a critical part of the voucher activity implementation. At the end of each year, AVANSE will conduct a review to gather lessons learned and ensure improved efficiency over time.

Collaboration with MARNDR will happen through the participation to the monthly *Table de Concertation* hosted by the MARNDR in Port au Prince with PTTA/MARNDR/IDB’s implementing agencies as well as via Coordination meetings organized regionally by the *Directions Departementales Agricoles* (DDAs) in the North and North-East Departments. Joint monitoring efforts will also be undertaken to oversee progress and implementation through field visits, and quarterly data reviews. In addition to this ongoing dialogue and engagement, AVANSE will work with MARNDR to sponsor planning and learning events in March and August to capture lessons learned from implementation and contribute to the planning and design of continued implementation.



Noel Philnor, a rice farmer from Pouo Coicou, hands in his AVANSE vouchers to Ulda Norvin, manager of the agricultural shop Comag.

AVANSE will subcontract a specialized voucher administration subcontractor for an annual performance contract to assist in the administration of the voucher program (likely to be extended on an annual basis). A specialized voucher administration firm is needed to handle the complex

administration issues in a large-scale voucher program. Given that vouchers are emerging in Haiti as a new subsidy mechanism, careful supervision and technical assistance by AVANSE staff will be essential. The first subcontract is anticipated to be from September 2014 through FY2015. In all likelihood, a series of such contracts will be required for the duration of AVANSE input voucher activities.

Directly procure fertilizer through local importers and include local importers in the network of affiliated suppliers. The initial test voucher program operated under the assumption (which turned out to be largely unsubstantiated) that supply of fertilizer in the targeted zones would come from quantities imported under the MARNDR import subsidy program. The expanded scale-up of voucher activities will need to work with the large-scale fertilizer importers to import fertilizer, separate from the fertilizer imported for the MARNDR import subsidy scheme, to ensure adequate quantities for both AVANSE and MARNDR's PTTA project. AVANSE voucher staff will work closely with these importers and with the MARNDR PTTA project to assess needs in advance of the seasons and to establish import schedules with the major fertilizer importers. MARNDR/PTTA and AVANSE will both enroll producers through their respective field structures to demonstrate small producer demand to importers to encourage appropriate imports of fertilizer. The SIBA team will work closely with the MARNDR to stay abreast of international fertilizer pricing data in order to inform planning and decision making. AVANSE will work with MARNDR, importers, input dealers (*fournisseurs*), and local financial institutions to facilitate access to credit and ensure liquidity is not a major obstacle to the input market system.

Investigate opportunities to expand the voucher program with additional actors in the agricultural market system (e.g. processors /post-harvest activities, mobile money, etc.). In collaboration with the IAEC and IR 3 teams conduct feasibility and market analysis and if promising, incorporate into the continued design and implementation of the AVANSE voucher initiative. As with all activities in the AVANSE portfolio, where vouchers are to be issued for activities that have a degree of environmental risk the project's mandated environmental compliance procedures as outlined in the approved project EMPR will be followed.

SUB-RESULT 3.3: INCREASED ACCESS TO FINANCIAL PRODUCTS

Financial products and services are critical for agro-enterprises, whether they are small producers at the farm level who need a way to access inputs, or large agro-enterprises who need continued access to working capital. AVANSE is building tailored solutions for the working capital needs across agriculture and food security actors in targeted zones.

TEXT BOX 15: KEY PARTNERS FOR IR 3.3

- Banks
- MFIs
- MARNDR

Activity 1: Launch agro-enterprise value chain grants.

AVANSE has developed and submitted an APS to USAID for the Agro-Enterprise Value Chain Grant window. USAID approved the APS solicitation and it is in process. In FY 2015, AVANSE

will use the grants facility to not only provide stand-alone subsidies to agro-enterprises with viable commercial projects, but also to help such enterprises access formal credit from banks and other financial institutions. In particular, IR 3 staff will seek to broker agreements with banks for the use of project grant funds as the required borrower contribution in a separate equipment loan. In this manner, AVANSE will disburse grants directly to the lending bank or to an equipment vendor in the name of the beneficiary who will receive commercial financing for the remaining balance of the equipment purchase after AVANSE's grant contribution. The first set of such arrangements will be focused on supporting plowing enterprises with new tractor acquisitions, since AVANSE's financial analysis have determined the profitability of such business for which there is a patent need—particularly in irrigated areas.

Activity 2: Identify and facilitate agro-enterprise client contacts with appropriate financial institutions and partners.

AVANSE has faced recruitment challenges identifying a qualified Access to Finance Specialist and is shifting focus to subcontract with a local Haitian financial consulting firm to provide the necessary expertise and expand the project's implementing partners. Critical skills include brokering partnerships with financial institutions. AVANSE's newly hired Access to Finance Specialist will assist producers, POs, and agro-enterprise clients with assistance to complete loan-application requirements and business plans. Despite these challenges, AVANSE has brokered a relationship between a local agro-enterprise CLES and Root Capital for a contract based working capital loan between 100,000 and 300,000 USD.

Activity 3: Support diffusion of Mobile Money Products among value chain actors in the project zone.

Based on the field research and in-depth review conducted in FY 2014, AVANSE partner MEDA has conducted a pilot design for this activity. AVANSE will jointly launch a pilot with DIGICEL to promote the penetration of mobile money in rural areas of the North around two separate axes: (1) the major private cacao buyers in the North (NOVELLA, PISA, and FECANNO) will use mobile money with producers; and (2) efforts targeting larger *Madame Saras* operating in the rice value chain. MEDA will provide a combination of training and technical assistance focused on the *Madame Saras* along with NOVELLA and PISA. The idea is to encourage them to convert their purchase payments from cash to electronic forms in order to constitute an initial core network of liquid rural users who will provide the needed demand to justify broader business affiliations. This will also provide an expanded agent network to support a wider expansion of mobile money usage. AVANSE plans for MEDA to begin implementation of the larger pilot in November, when the *Banque de la Republique d'Haiti* (BRH)/ Haiti's central bank is expected to lift critical restrictions on electronic wallet size. (The current restrictions on volume of mobile money transactions from a single wallet make it difficult for *Madame Saras* and cacao purchasers to use.)

SUB-RESULT 3.4: IMPROVED MARKET INFORMATION SYSTEMS

Existing, formal MIS systems for wholesale agricultural markets in Haiti serve mainly public-sector and NGO researchers by communicating the price information they need for their analyses. Since such price information is neither diffused in timely enough fashion nor exact

enough to be of use to commercial actors in agricultural value chains, it is of little economic relevance. The main exception to this was the “*Kout Lambi*” system that diffused the price of cacao purchases at the factory gate of Novella via SMS. AVANSE aims to restart this model and encourage the development of other MIS mechanisms useful to farmers, traders, and enterprises active in the main AVANSE crops in the North.

TEXT BOX 9: KEY PARTNERS FOR IR 3.4

- MARNDR
- CNSA
- PASA
- Novella
- DIGICEL
- NATCOM

Activity 1: Work with Novella to restart and improve the “*Kout Lambi*” cacao MIS system.

Funding to re-launch the *Kout Lambi* cacao MIS is part of the collaborative agreement that AVANSE is negotiating with NOVELLA. The IR 3 team is reviewing the actual model for the *Kout Lambi* and will be suggesting changes such as making an “on demand” service to reduce the cost for Novella and transform the mechanism into a demand-driven service. PISA has agreed to add a similar system to their network of farmers to make their cacao prices, quality requirements, and collection time/location information available to farmers. The cacao MIS is essential for setting up the traceability system for organic certification. AVANSE agreements with PISA, FECCANO, and Novella include organic certification support. During the next quarter, AVANSE will hire a local firm with previous product traceability experience to help with the organic certification.

Activity 2: Design of commercially useful MIS system.

AVANSE will contract an international consultant with experience in developing commercially-oriented, transactions-focused MISs to conduct a combined feasibility/design assessment for setting up a market-oriented MIS system that would respond to the needs of traders, farmers in the project zone for rapid information that would be useful to them for commercial transactions. This will be conducted by a consultant with knowledge of sustainable SMS-based MIS systems financed by cell phone operators in other countries. The consultant will look at the experience to date of such initiatives as the work USDA PASA is doing with the Ministry of Agriculture as well as other USAID project (in particular WINNER’s *koze peyizan* system) and will distill the lessons from these existing MIS systems, meet with potential implementers/sponsors (telecoms companies mainly) and then work with AVANSE staff define where demand opportunities exist for fee-based SMS price diffusion within the universe of project stakeholders. The consultant will then develop and recommended a strategy and a set of actions to respond to these needs, using existing and new solutions.

TEXT BOX 107: GENDER INCLUSION IN IR 3

- Identification of women-owned enterprises in initial Agro-Enterprise survey data collection to

facilitate targeting of women entrepreneurs.

- Elaboration of specific training models at ME and SME levels for all women-groups (women entrepreneurship training).
- Focus post-harvest storage investment/grant actions on individual **Madame Saras** in key zones (rather than Producer Organizations)
- Develop formalization assistance program for women micro-entrepreneurs.
- Work with MFIs/Banks to diffuse financial products for *Madame Saras*.
- Promote mobile money use as way of addressing women's security concerns.

INTERMEDIATE RESULT 4: CAPACITY-BUILDING SUPPORT TO IMPLEMENTING PARTNERS

Capacity-building cuts across the entirety of the project. The table on the following page illustrates how AVANSE approaches capacity building across the project, with IR 4's role highlighted. It is important to note that "capacity-building" for local entities extends beyond IR 4 alone. All of the technical IRs engage in capacity-building, with both beneficiaries and implementing partners. IR 1 focuses mainly on farmers and WUAs, as well as extension IPs and the MARNDR bodies responsible for agricultural extension. IR 2 focuses on SWMBs, CBOs engaged in agro-forestry activities, and on the IPs working to execute project activities in both those areas. IR 3 focuses on increasing the capacity of commercial enterprises (which can be PO-based or private) through market linkages, training, technical assistance and finance. IR 4 focuses on working with local IPs and beneficiaries to improve internal management procedures, financial systems and controls, human resources, strategic planning, and overall operations to prepare partners for consideration for direct awards from USAID under the FORWARD initiative. Each IR team has the key expertise to deliver their respective capacity building assistance in accordance with their technical specialty. This array of capacity-building



responsibilities is shown below in table 15.

TABLE 15: AVANSE CAPACITY-BUILDING ACTIVITIES

	Actors Focused on Increasing Production	Actors Focused on Protecting Watershed and Environmental Protection	IPs and CBOs focused on Markets and Market Linkages	GOH Actors
IR 1	Farmer field schools and agriculture-focused technical assistance to producers and implementing partners around 5 targeted value-chains. + WUAs			Develop a detailed action plan for collaboration with MARNDR based on the MoU. Work with BACs on diverse aspects of IR1 field activities
IR 2	Agroforestry training and agriculture-focused technical assistance to producers and IPs focused on increasing production in Agro-Forestry.	Training and technical assistance to farmers, CBOs, and newly created SWMBs to improve watershed management and environmental protection. Also IPs engaged for agro-forestry		Work with MDE to legalize SWMBs
IR 3			Training and technical assistance to commercially motivated organizations (medium, small and micro-enterprises as well as PO operated enterprises) improve business operations and profitability, financial planning, access to finance, legal registration.	Work with MARNDR or Ministry of Commerce to co-locate and implement a rural micro enterprise training program. Train staff on training methodology and tools. Work with MARNDR/BACs to strengthen capacity to monitor input voucher implementation
IAEC	Training and technical assistance to improve environmental protection and gender equity and women's empowerment.			Coordinate with MDE or other appropriate actor for developing a weather station monitoring plan
IR 4	Provide support to IPs to help them meet USAID FORWARD direct assistance requirements. This will include conducting institutional capacity assessments, developing performance improvement plans, monitoring progress, and providing technical assistance / performance support to meet NUPAS standards around key operational areas (finance, administration, HR, governance, asset management, planning, and legal compliance). Provide support to potential and actual beneficiary organizations (CBOs, POs, Educational Institutions) that do not have a realistic chance for qualifying for direct funding from USAID under the more rigorous NUPAS standards or the FOG (Fixed Obligation Grant) standards under USAID FORWARD guidelines.			

IR 4 builds upon the combined efforts of IRs 1–3. As organizations and firms enter the pool of AVANSE implementing partners (IPs) as a result of grants, subcontracts or procurements, IR 4 assesses each one, determining their potential to meet USAID managerial compliance standards and interest in receiving future direct USAID funding. Based on these assessments, IR4 develops Action Plans to foster their organizational capacity. Action Plans include trainings and direct support from AVANSE, as well as concrete actions IPs can take themselves to meet USAID standards.

SUB-RESULT 4.1: STRENGTHEN IPS AND POTENTIAL DIRECT AWARD-HOLDERS TO RESPOND TO USAID FORWARD OBJECTIVES

TEXT BOX 18: KEY PARTNERS FOR SUB-RESULT 4.1

- **Implementing Partners (including local firms, medium and large enterprises, and NGOs)**
- **Technical Assistance providers (including Audit Firms, Training Organizations, etc.)**

Activity 1: Continue to provide capacity building to established AVANSE IPs already receiving support from IR4 to prepare them to receive direct USAID funding.

IR4 will work with existing IPs to foster improvements in their capacity and performance and prepare for potential funding under USAID Forward. The Table below illustrates the planned activities and anticipated progress for IPs *already* receiving direct support from IR4. Ensuring that these partners are ready for direct engagement with USAID by the end of FY15 will allow USAID the time to administer awards with local partners.

TABLE 16: IR 4 STATUS OF SUPPORT TO EXISTING AVANSE IPS ALREADY RECEIVING SUPPORT FROM IR4

Name of IP	Type of Firm	Area of Engagement with AVANSE	Potential USAID Award Status	IR4 Support Areas in FY15	Anticipated Readiness Date
Agridev	Agribusiness Consulting firm	Sub-contract IR3	DIRECT AWARD	<ul style="list-style-type: none"> - Coaching/monitoring on procedures implementation - Financial conformity training - Project Management training - Writing a proposal for USAID - Organizational Governance/ethics training - Strategic planning 	September 2015
AgroConsult	Agriculture Consulting firm	Sub-contract IR1	DIRECT AWARD	<ul style="list-style-type: none"> - Tailoring of admin procedures - Coaching/monitoring on procedures implementation - Financial conformity training - Project Management training - Writing a proposal for USAID - Organizational Governance/ethics training - Strategic planning 	September 2015
CPD	Financial cooperative	SIBA Voucher Program	DIRECT AWARD	<ul style="list-style-type: none"> - Doing business with USAID training - Financial conformity training - Project Management training - Writing a proposal for USAID 	September 2015

Name of IP	Type of Firm	Area of Engagement with AVANSE	Potential USAID Award Status	IR4 Support Areas in FY15	Anticipated Readiness Date
CPF	Financial cooperative	SIBA Voucher Program	DIRECT AWARD	<ul style="list-style-type: none"> - Doing business with USAID training - Financial conformity training - Project Management training - Writing a proposal for USAID 	September 2015
KPTAT	Financial cooperative	SIBA Voucher Program	DIRECT AWARD	<ul style="list-style-type: none"> - Doing business with USAID training - Financial conformity training - Project Management training - Writing a proposal for USAID 	September 2015
LE LEVIER	Federation of financial cooperatives	SIBA Voucher Program	DIRECT AWARD	<ul style="list-style-type: none"> - Doing business with USAID training - Financial conformity training - Project Management training - Writing a proposal for USAID 	September 2015

Name of IP	Type of Firm	Area of Engagement with AVANSE	Potential USAID Award Status	IR4 Support Areas in FY15	Anticipated Readiness Date
Jaden Lakay	Agriculture services and products	IR1 Service Provider	FOG eligible	<ul style="list-style-type: none"> - Tailoring of admin procedures - Coaching/monitoring on procedures implementation - Doing business with USAID training - Financial conformity training - Project Management training - Writing a proposal for USAID - Organizational Governance/ethics training - Strategic planning 	September 2015
Scagitech	Agriculture Consulting firm	Sub-Contract IR4	FOG eligible	<ul style="list-style-type: none"> - Tailoring of admin procedures - Coaching/monitoring on procedures implementation - Doing business with USAID training - Financial conformity training - Project Management training - Writing a proposal for USAID - Organizational Governance/ethics training - Strategic planning 	September 2015

Activity 2: Provide capacity-building support to potential and new AVANSE IPs to prepare them to receive direct USAID funding.

There are also a number of IPs that have recently entered into contractual relationships with AVANSE that IR 4 prioritized for receiving support in FY 2015, but for which we have not yet started a program of support. In addition, there are a number of NGOs and associations in the zone who have strong programs that are directly related to AVANSE objectives such that they have the potential to either become IPs for AVANSE in the future or to receive future direct funding from USAID. IR 4 is in the process of conducting and finalizing OCAs with all these partners as of November 2014. IR 4 will tailor Action Plans to each of these partners based on the results of the OCAs to ready them to receive potential USAID direct support as early as the end of the fiscal year. The table below lists these IPs, their technical roles in relation to AVANSE objectives, and whether they are likely to qualify for a direct award (contract) or for a FOG. Based on previous OCAs and AVANSE implementation, we anticipate our support will be focused on doing business with USAID and improving operational systems and procedures.

TABLE 17: RECENT AND POTENTIAL AVANSE IPS WHO WILL RECEIVE SUPPORT FROM IR4 IN FY15

Name of IP	Type of Firm / Organization	Current Linkage with AVANSE Objectives	Anticipated Future Engagement with USAID based on AVANSE's current relationship
Transversal	Voucher administration company	IR3	Direct Award
Fonkoze Services Financiers	microfinance institution	IR3	Direct Award
Sofihdes	Management Consulting & Training	IR3	Direct Award
GeoSociety	Hydraulic Consulting/Engineering firm	IR1	FOG/Direct Award
CPH	WUA support NGO	IR1	FOG
AGETECH	Engineering firm	Studies & Construction, contract in process	Direct Award
Planconsult	Engineering firm	Studies & Construction, contract in process	Direct Award
CECOM	Engineering firm	Studies & Construction, contract in process	Direct Award
Veterimed	Enclosed livestock & fodder production	IR2	FOG

Name of IP	Type of Firm / Organization	Current Linkage with AVANSE Objectives	Anticipated Future Engagement with USAID based on AVANSE's current relationship
FECANO	Federation of Cacao Cooperatives	IR3	FOG
CALI	Ag Industry	IR3	FOG
CLES	Ag Industry	IR3	FOG
RAFAVAL	Ag Industry	IR3	FOG

Activity 3: Prepare AVANSE IPs to Directly Transition to USAID Assistance starting at the end of the Base Period of Performance.

As noted previously in the workplan, AVANSE relies substantially on its IPs to achieve results. Given the intention of USAID to transition to local partners via direct funding arrangements not passing through the AVANSE budget after the base period of the AVANSE contract, AVANSE proposes to develop a phased transition plan for transferring contractual and budgetary responsibility for administering these awards from AVANSE to USAID. This transition plan would be applied to all AVANSE IPs engaged under Activities 1 and 2 through the following steps:

Step 1: Design of the Contractual Procedures and Approach to Transfer AVANSE IPs to Direct USAID Funding. (November 2014 to January 2015). AVANSE and USAID will discuss the contractual administrative mechanisms by which subcontracts and grants established under the terms of the AVANSE contract will be transitioned to a new contractual mechanism directly administered and funded by USAID. Although the exact contractual details of the transfer will be decided in consultations between AVANSE and USAID, we believe that it is highly desirable to integrate provisions for the transfer of funding into the contracts or grants between DAI and its key implementation IPs. This will increase the attractiveness of all the major IP competitive procurements to be issued in the next six months by allowing AVANSE to extend the horizon of its procurements beyond the end of the base period. In addition, since meeting NUPAS compliance requirements will entail significant cost increases for most IPs, it is important to assure them a pipeline of future revenue sufficient to justify the added costs that they will need to incur to improve their NUPAS score (such as adding administrative staff with a high level of training). One such arrangement could consist of one year of funding under AVANSE funding followed by two (option) years of subsequent funding directly from USAID.

Step 2: Committing to Direct Funding for Individual IPs. As IPs are qualified with passing scores on certification examinations, we propose to reward them by exercising contractual actions to make official the commitment of direct funding from USAID according to the transition plan agreed upon through Step 1, whereby a fixed date is set for the transfer from AVANSE to direct USAID funding. This step will be conducted on a rolling basis as IPs pass through the IR 4 “graduation” pipeline. The earliest that AVANSE plans to qualify IPs to pass the certification tests for direct awards is September 2015 (as seen in Table 16 above). These commitments may be either as FOGs, as contracts, or as cooperative agreements. AVANSE will work with USAID to establish the necessary Scopes of Work and Program Descriptions and coordinate to fix transition dates.

Step 3: Transfer of funding from AVANSE to direct USAID funding. At the agreed transition date, funding responsibilities will be shifted from AVANSE to USAID. AVANSE will continue to provide technical oversight and aid in collecting monitoring and evaluation data from IPs under direct awards with USAID.

We recognize that this process is untested and subject to a significant degree of variability. However, we feel it is important to plan in advance and set the ground rules as much as possible in order to be ready. Although it is impossible to predict exactly how many AVANSE IPs will qualify for direct funding, we anticipate that the universe of possible direct awards will resemble what is shown in Table 18 below.

TABLE 18: ANTICIPATED LONGER-TERM DIRECT AWARDS

Role of IP	Type of Partners Anticipated	Illustrative Potential Local Partners
IR 1: Crop Extension Providers	Agro-Enterprises in Value Chains, Consulting Firms, National NGOs	Caritas, FONEDE, Jaden La Kay, AgroConsult, AGRIDEV, NOVELLA, PISA
IR1: WUA Capacity Building	Consulting Firms, National NGOs	GeoSociety, CPH, HydroTech
IR2: SWMB Strengthening	Local and National NGOs	Plan Consult, AGRO EN ACTION.
IR2: Agro-Forestry Production Extension	Local and National NGOs	GRADES, Plan Consult, CPH
IR3: Small & Micro Enterprise Training	National NGOs, Consulting Firms	GTIH, CFET,

Role of IP	Type of Partners Anticipated	Illustrative Potential Local Partners
IR3: Voucher Administration	Consulting Firm	Transversal
IR3: Voucher Payments	Local Credit Unions, MFIs	Le Levier, Fonkoze
IR3: Medium Enterprise Training	Consulting Firms, National NGOs	SOFIHDES, CFET
IR3: Cacao Post-Harvest TA	Consulting firms, National NGOs	AYTIKA SA, AGRIDEV

SUB-RESULT 4.2: STRENGTHEN THE GENERAL IMPLEMENTATION CAPACITY OF BENEFICIARIES & PARTNERS IN THE PROJECT ZONE (CBOS AND OTHER GENERAL PARTNERS)

TEXT BOX 19: KEY PARTNERS FOR SUB-RESULT 4.2

- Technical Assistance providers (including Audit Firms, Training Organizations, etc.)
- CBOs

Activity 1: Strengthen local agricultural CBOs in the Northern Corridor, with a focus on governance and resources.

CBO capacity to make contributions to improved agricultural results in the Northern Corridor remains weak. The greatest need among CBOs identified to date is simple registration to become legally recognized by Haitian authorities. AVANSE will continue to provide registration training and registration support to targeted CBOs in the Northern Corridor. CBOs have been prioritized based on the following criteria: (a) having more than 30 members; (b) having at least 30% women's participation and (c) being engaged in AVANSE technical areas from IR1-3.

AVANSE will continue to support these CBOs with registration assistance so they are better able to access support from AVANSE and other actors. IR 4 will monitor the number of CBOs who obtain their legal status. Additionally, many CBOs face resource constraints. AVANSE will continue to provide support through in-kind grants for materials and equipment across the technical IRs as activities are identified that support technical IR needs.

Based on individual capacity assessments performed amongst 100 which already received support in FY 2014 (organizational capacity building training), IR4 will design a more focused

group capacity strengthening program for the most promising CBOs. The criteria for the selection of stronger OCBs were the following:

- Sector of activities (according to AVANSE objectives)
- Structure
- Previous experience in managing grants from external donors
- Knowledge and skills of key officers

CROSS-CUTTING – INFRASTRUCTURE

STRATEGY

AVANSE's infrastructure strategy has undergone a major adjustment, formally articulated for the first time in this workplan. Whereas last year we focused entirely on infrastructure projects within the framework of the ongoing contractual works in discussion with USAID since project inception (by finalizing a list of rehabilitation works on 7 rural roads, a final list of rehabilitation and extension works at 5 irrigation sites, and the selection of 3 hillside ravines for stabilization works), this year we are adding a new rapid, reactive, 'urgent' small-infrastructure capacity to our irrigation, hillside stabilization, and rural roads infrastructure components. The driving force in this change has been the exceptional drought of FY 2014, which clearly showed the need for small-scale pump installation in many of the major banana-producing areas in the zone of Quartier Morin, Bord de Mer/Limonade and elsewhere in the Plaine du Nord. The problem is larger than just irrigation, however, as climate events can also cause serious damage to roads and exposed hillsides. We have therefore designed our "urgency" activities to tackle all three types of interventions.

This new urgent infrastructure works component is described in the first section below. It cuts across all three technical IRs since it spans irrigation, roads and hillside stabilization.

RAPID RESPONSE INFRASTRUCTURE WORKS (IRRIGATION, HILLSIDE STABILIZATION, ROADS)

Implement Critical Urgent Infrastructure Works (mapped as separate activities under each sub-result below)

At the end of FY 2014, AVANSE revised its infrastructure component to include a new rapid reacting capacity to respond to urgent infrastructure needs that are diagnosed in the project quarter—in addition the ongoing infrastructure construction projects that are described in the following sections.

The process for identifying and approving such project will follow clear steps. First, possible projects will be identified by project staff in IR 1, IR 2 and IR 3, the MARNDR, or local government authorities. Sites will then be evaluated by the infrastructure component staff and, if judged to fall within the budgetary and programmatic parameters of the project, will be targeted for consideration. The MARNDR, as the main counterpart for AVANSE and as the representative body for rural infrastructure, will be consulted and asked to provide a formal request for AVANSE's intervention. AVANSE will then prepare technical terms of reference, estimated budget and an EMPR for each site that will be presented to the USAID COR for approval.

After receiving USAID approval, AVANSE will expedite the contractual processes for initiating construction in one of two ways. If the works are not judged to be too complicated or require specialized engineering expertise to execute, AVANSE's own engineering team will arrange to

rent equipment and operators from local construction firms through blanket purchase agreements and supervise the works themselves. In instances where specialized expertise is required, especially for irrigation and road rehabilitation, AVANSE is including extra provisions for such work within the IQCs bids it will be issuing for road and irrigation constructions foreseen for February. In this manner, we will have the ability to respond rapidly with pre-qualified construction firms.

Works foreseen under this facility area with specific estimations of costs foreseen until the end of the option period in March 2016 are as follows:⁶

Irrigation works (\$400,000)

Two main types of urgent irrigation works will be undertaken in the first two quarters of FY 2015: urgent repairs to existing irrigation systems and the installation of small collective pumps to feed small farmer production in both IR1 banana and beans/maize sites and in dryland sites targeted for interventions by IR1. More detailed plans for each of these are described below.

Urgent repairs to existing irrigation systems. After reception of requests for intervention by the MARNDR, AVANSE will undertake a number of small scale repairs to the Chalopin, Dubré and Grison Garde systems. This will be done through contracts to local construction firms under the direct supervision of AVANSE engineers. The work, which will be finished by the end of the first quarter, will consist of:

- Sluice gate and distribution equipment repairs
- Canal break repairs
- Canal dredging
- Dam repair
- Dike construction along rivers
- Reconnecting systems to water source by removing built-up sediment at intake

Installation of small-scale pumps to feed micro-scale irrigation systems. Together with IR1, the AVANSE engineering team has identified a number of sites that are appropriate for the installation of 40 small-scale pumps to feed small-scale systems of around 20 ha with approximately 26 farmers on 20 ha per pump.⁷ These sites are shown below in Table 19.

⁶ The cost estimates given for these infrastructure works and all others in this chapter of the workplan are based on infrastructure team estimates prior, in many cases, to the technical studies and construction contracts. Actual costs may vary from these amounts.

⁷ Earlier versions of the workplan called for 200 pumps. The number has been reduced after field investigations indicated that existing wells were not deep enough and that extensive well digging would be required and that larger 8-10 inch pumps, instead of the 4-inch pumps initially planned, would be better suited to draw the water from a greater depth. Whereas the pumps initially planned would serve 5 to 6 farmers, the larger pumps will serve 26 .

TABLE 19: SMALL-SCALE PUMP LOCATIONS

Geographic Location		Number of Pumps	
Commune	Section Rurale	Q1	Q2
Caracol	Grand-Fond	3	3
	Chadert,	1	
	Jaquesyl	1	
	Fleury, Ti-Kouline, Magnon, Moreau		18
Terrier-Rouge	Paulette		2
Limonade	Bois de Lance		2
	Bord de mer		5
Quartier-Morin	Galman, Morne-Pelée, Bourgeau		5
TOTAL		5	35

At each site, AVANSE will provide well digging and pump installation, as well as working with the groups of 25 farmers to establish simple management and maintenance arrangements (with the support of the IR1 WUA advisor). AVANSE will also coordinate the cession of the land on which the pumps are located from the individual farmers to the MARNDR to guarantee free access and prevent private capture of the well benefits.

Drainage Works (\$180,000)

The engineering team has identified sites in Bas Limbé and Camp Louise that will be targeted for small scale drainage works in the first quarter of FY 2015.

Roads (\$300,000)

Work will be completed in the first quarter of FY 2015 to repair a road break near La Bruyère due to erosion. Other road repair operations will be conducted as needed during the fiscal year.

Hillside Stabilization (\$100,000)

AVANSE will also conduct rapid intervention to stabilize ravines with gully plugs in response to specific requests. A number of sites in the Perches/Sainte Suzanne corridor have already been identified.

SUB RESULT 1.4: IRRIGATION SYSTEMS CONSTRUCTED/REHABILITATED AND MANAGEMENT CAPACITY OF USERS INCREASED

TEXT BOX 20: KEY PARTNERS FOR SUB-RESULT 1.4

- MARNDR
- WUAs
- Regional Administration (*Délègues*)
- Construction and technical study IPs.

Activity 1: Ongoing Larger Scale Irrigation Works

AVANSE will rehabilitate and extend five systems in FY2015. These are described below

Dubré System. The system is located at Dubré in the 1st section of the Panchène Bonet commune of Milot. It covers 50 hectares in a zone with the potential for another 50 hectares of irrigation with extension works. It is fed by a river intake as is entirely gravity driven. The nature of the work foreseen concerns the extension and rehabilitation of the existing perimeters with construction of new drains.

La Suisse System. The system is located in the Mariné (Mamané), 2nd section of La Suisse commune in the Plaine du Nord. It covers 100 ha out of a potential 300 ha. It is fed with a river intake and is gravity driven. It includes a dam, primary canals in cement and secondary and tertiary canals in beaten earth. Works foreseen include rehabilitation of the intake dam, rehabilitation of the canals and the construction of a drainage system to serve the entire system.

Grison Garde System. The system is fed by an intake on the right bank of the river Mornet. The system has a main canal and 11 sluice gates controlling flow to secondary canals. Canals are both in earth and in cement. The cement canals are, however, too low in relation to the field they are supposed to serve. Total potentially irrigated areas are 350 ha., but only about 220 is in use currently. The Project will rehabilitate and extend the system with works to rehabilitate the dam, rehabilitate primary and secondary canals, construct new primary, secondary and tertiary canals in cement, replace distribution mechanisms.

Robino System. This system is in the 1st section of the Haut Maribahoux commune of Ouanaminthe. It covers a total area of 300 ha and is fed from the river Jassa via a canal in beaten earth that empties into Gérard Lake on which there is a dam that marks the entry into the system. It is all gravity fed. It serves the following locations: Gérard, Tavo, Lagareine, Hovoie, Teta and Jaco. The system has an intake and secondary and tertiary canals in beaten earth. There are no distribution control mechanisms. The system has been dysfunctional since 2007. Planned works include opening of a second intake from the second Makimara dam, construction of primary and secondary canals in cement, installation of distribution control mechanisms. These works will allow the system to resume operations.

Chalopin System. The system is in the Bayaha section of the Fort Liberté commune. As with the other systems it is a gravity-fed system which covers 570 ha of which only 170 ha are currently under irrigation. It is fed by an intake on the river Marion. Foreseen works include: rehabilitation of the intake dam, rehabilitations of primary canals,

construction of new secondary and tertiary canals in cement and the construction of a general drainage system.

The table 20 below provides data on cost, the number of hectares of planned extensions and expected quarterly progress in contracting and construction. As shown in the table, construction of the Grison Garde, la Suisse and Dubré Systems will be completed in FY 2015. This will translate into a total of 370 rehabilitated hectares and 600 ha in new irrigated lands from system extensions during the fiscal year. The total budget for all these works (studies and execution) is \$4.284 million—not all of which will be spent in FY 2015.

TABLE 20: IRRIGATION SYSTEMS REHABILITATION AND EXTENSION WORKS

Basic Data on System			Quarterly Progress			
System	# Ha	# Ha in				
Estimated Budget	under irrigation	Planned extension	Q1	Q2	Q3	Q4
Dubré \$591.5K	50	50	Technical Studies to be contracted in November. Technical Studies Started in December	Technical Studies Finalized in February RFP for construction in February/March	Signature of construction contract in April Construction starts in April/May	Construction in progress (reception planned for 1 st quarter FY 2016)
La Suisse \$520K	100	200	Technical Studies to be contracted in November Technical Studies Started in December	Technical Studies Finalized in February RFP for construction in February/March	Signature of construction contract in April Construction starts in April/May	Construction in progress (reception planned for 1 st quarter FY 2016)
Grison Garde \$780K	220	350	Technical Studies to be contracted in November Technical Studies Started in December	Technical Studies Finalized in March RFP for construction in February/March	Signature of construction contract in April Construction starts in April/May	Construction in progress (reception planned for 1 st quarter FY 2016)

Basic Data on System			Quarterly Progress			
System	# Ha	# Ha in				
Estimated Budget	under irrigation	Planned extension	Q1	Q2	Q3	Q4
Robino \$888K	0	300	Preparation of SOW for technical Study RFP	Technical Study launched	Finalization of technical studies RFP for construction	Signature of construction contract and launch of construction works (Reception planned for March 2016)
Chalopin \$1,350K	170	400	Review and acceptance of Technical Studies completed by MARNDR and PPI-2	Construction RFP Issued	Signature of Construction contract and launching of works	Monitoring of works (Reception planned for February 2016)

Activity 2: Large-scale drainage works

Drainage is a major issue in the plains of the North and North-East due to slow drainage provoked by general low soil permeability. In addition underground water rising to levels where it blocks normal drainage routes is a recurrent problem. To address these issues the AVANSE infrastructure team will undertake a general study of drainage problems in both the North and North East plains and has reserved a budget for executing major drainage construction works. These are detailed below as two sub-activities.

Sub-Activity 1: Technical studies of drainage in the North and North East plains.

AVANSE will prepare as SOW and procure qualified technical engineering firms to compete the required studies for addressing the following issues: identification of zones where drainage works are needed; geo-spatial localization; production of GIS maps of zones affected; calculation of flows; technical calculations for required construction works; identification of downstream reception routes and capacities; environmental risk factors.

Sub-Activity 2; Execution of designated drainage construction works. These will be designed following the specifications made available in the studies. Preliminary study results will be used to fast track the construction contracting process. Interventions are planned in three zones: Bas Limbè, Plaine du Nord, and Bas Maribahoux. The major focus of these works will be to correct the level of the riverbeds that are fed by the irrigation drainage systems. Discussions are being held with the MARNDR with the

objective of having the Ministry undertake the actual construction work, after the studies are completed, with some material support from AVANSE.

The total budget for this activity is \$790,000. The activity calendar is given in the table on the next page.

TABLE 21: MAJOR DRAINAGE WORKS IN 2015

Sub-Activity and Budget	Quarterly Progress			
	Q1	Q2	Q3	Q4
Technical Studies \$300,000	Finalization of SOW for Technical Studies RFP issued	Technical Studies Contract Signed Preliminary Conclusions made available	Continued work on studies	Studies Finished
Construction Works \$490,000	Not Started	RFP for Construction Issued	Signature of Contract and start of Construction Works	Monitoring of Works

Activity 3: Implement critical, urgent infrastructure works - irrigation

The infrastructure team will react rapidly to urgent infrastructure/irrigation needs as they arise, as described at the beginning of the section for this component.

SUB-RESULT 2.2: CRITICAL SLOPES STABILIZED THROUGH PUBLIC WORKS

TEXT BOX 21: KEY PARTNERS FOR SUB-RESULT 2.2

- Ministry of the Interior
- Ministry of the Environment
- Local governments
- SWMBs
- Civil society groups
- POs

Activity 1: Large-scale ravine stabilization requiring public works

During FY 2014, AVANSE identified a total of 54 ravines requiring large scale public stabilization works on areas that were critical for IR 1 production and downstream communities in general. As part of its prioritization process, AVANSE put in place a number of selection criteria to develop a final list of sites. These were:

- The ravine must be located inside an IR 1 Target Zone ;

- The sub-watershed where it is located must exhibit an important degree of environmental degradation;
- The potential production of IR 1 focus crops in the underlying watershed
- The level of damage provoked by the ravine during periods of high rain for crops, people and agricultural infrastructure;
- The priority assigned to the zone by the MARNDR and local municipalities; and
- Localization on the periphery of the Demonstration Blocks of IR 2

Using these criteria, three ravines have been selected for treatment in FY 2015. These are described briefly below

Breda Ravine. This ravine is in the Haut du Cap watershed in the 1st Section Communale of le Cap. The sub watershed is very large one. The ravine is 4.1 KM long and an average width of 6 meters. Its height varies between two and six meters. Actions to stabilize slopes above the ravine will be addressed by IR2 as these involve mainly biological protection measures. The Infrastructure team will use masonry retention walls for slopes on the main channel and in urban areas. Gabion works are also foreseen to stabilize alluvium. The Breda Ravine was selected due to its impact on the La Suisse irrigation system, as alluvia from it falls regularly into the Rivière du Cap leading to water back-up into the La Suisse system.

Blondo Ravine. The Blondo ravine is in the Limbé watershed in the 5th section communale of Limbé. It has a length of 3 km and an average width of 8 meters. The height of its walls is between two and six meters. The main ravine is on an 8 percent slope with secondary branches on 20 percent slopes. Soil conservation and biological protection above the ravine as well as final treatment will be the responsibility of IR2. The major engineering works of retaining walls and *gabionage* will be the responsibility of the Infrastructure team. The Blondo ravine was selected due to its proximity to the Garo Jako IR 2 demonstration block and its planned FY2015 extension into the Blondo zone near Camp Coq.

Divial Ravine. This is in the Jassa watershed in the local zone of Acul des Pins. It is 3.6 km long with an average width of 10 meters. It is between 1 and 4 meters high with slopes between 5 percent in the main channel and 20 percent on the secondary branches. Soil conservation and biological protection above the ravine as well as final treatment will be the responsibility of IR 2. The major engineering works of retaining walls and gabionage will be the responsibility of the Infrastructure team. The Divial ravine was selected because of its proximity to the Roger/Dilaire IR 2 demonstration block near Acul des Pins.

Construction on all three ravines will be finished in FY 2015. The total budget for these studies and works is \$850,000. The quarterly progress of this work is shown below in Table 22.

TABLE 22: RAVINE STABILIZATION WORKS

Activity	Types intervention	Quarterly Progress			
		Q1	Q2	Q3	Q4
Ravine Bréda \$400,000	-Cleaning out the ravine -Soil conservation structures on upper slopes -Masonry works -Gabionnage -biological protection	Technical Studies. Completed Launch of RFP for construction.	Signing of construction contract Launch of works.	Monitoring construction	Preliminary reception of construction
Ravine Blondo \$250,000	- Cleaning out the ravine -Soil conservation structures on upper slopes -Gabionnage -biological protection	Technical Studies. Completed	Launch of RFP for construction Signing of construction contract Launch of works.	Monitoring construction	Preliminary reception of construction
Ravine Divial \$200,000	Cleaning out the ravine -Soil conservation structures on upper slopes -Gabionnage -biological protection	Technical studies in progress	Technical Studies. Completed Launch of RFP for construction.	Signing of construction contract Launch of works.	Preliminary reception of construction

Activity 2: Implement critical, urgent infrastructure works – critical slopes

The infrastructure team will react rapidly to urgent infrastructure needs for stabilizing critical slopes as these needs arise, as described at the beginning of the section for this component.

SUB-RESULT 3.1: IMPROVED TRANSPORTATION INFRASTRUCTURE

TEXT BOX 22: KEY PARTNERS SUB-RESULT 3.1

- **MARNDR**
- **Local governments (CASECs)**
- **Producer Organizations**
- **CBOs**
- **Transport service providers**
- **Construction IPs.**

Activity 1: Rural Road Rehabilitation

AVANSE has targeted a total of 7 rural roads for rehabilitation. Six of these were the subject of preliminary CBAs that were completed in FY 2014. The seventh, the Borgne-Petit Bourg Borgne road was added to the list in the last quarter of FY 2014 because of its key role in opening access to a zone with very high cacao production with many IR1 FFSs. As a

consequence, its contracting process is somewhat behind the rest. Details on the roads are as follows:

Carrefour Bergen – Haut Madeleine Road. The Carrefour Bergen-Haut Madeleine Road is in the Department du Nord-est inside of the Perches Commune. It is on flat land with minimal differences in elevation. The roadbed is severely degraded with deep ruts making it difficult to travel during periods of rain or when it is flooded by an adjacent river. Main works foreseen are: construction works to stabilize and protect the roadsides, digging of new drains, culverts and canals, as well as stripping and resurfacing the roadbed.

Route Nationale 6 at Coicou. This road is in a flat plain that has benefited from a new irrigation system built by the PPI-2 Project. The road surface is in light earth and becomes totally blocked during the rainy season, keeping farmer from evacuating their crops. Main works foreseen are: stripping and compacting the road bed, resurfacing, digging of new drains, culverts and canals.

Roches Plates – Juchereau Road. This road in the Commune of Roches Plates in the North Eastern Département has a low level of relief with elevation varying between 58 and 98 meters. The road has no very steep grades, but it crosses the Juchereau river with a ford that can make traffic impassible. Works foreseen include: Stripping and refilling the road surface, compacting the surface, construction of drainage canals and culverts, construction of a ford window.

Carrefour Séminaire - Acul Jeannot Road. This road in the Département du Nord, Commune of Limbé is entirely in beaten earth. The first part of the road is on the plaine with a moderate 5 percent grade. The second part of the road has steeper 10 percent grade. The poor state of the surface along with the steep grade renders it impractical when it rains. Main works foreseen are: stripping and compacting the road bed, resurfacing, digging of new drains, culverts and canals.

Limonade - Bois-de-Lance Road. This road, in the North-East Département, crosses a plain with minimal elevation (41 to 59 meters) and little slope. The road is often impractical because of mud and standing water with highly degraded culverts and small bridges.

Robillard-Grison-Garde Road. The road is in the Département du Nord, in the Commune of Acul du Nord. The road is in beaten earth on a flat surface in the Plaine du Nord and suffers from serious drainage problems. The road surface is in fairly good shape. Construction works will center on the compacting and filling the surface, construction of drainage canals, channels and culverts with outlet heads.

Petit Bourg de Borgne – Borgne Road. This road links Petit Bourg de Borgne to Borgne and is a major axis for the evacuation of cacao. The road is in a critical state with severe degradation of the road bed with difficult river ford passage. A preliminary evaluation of the road has yet to be done so it is not possible to be precise about the nature of the works.

An RFP for the technical studies for the first six roads was released in FY 2014. Preliminary CBA and EMPRs have been completed for all these roads. The studies will be awarded and begin in the first quarter of FY 2015. Construction will begin on the first six roads in the second quarter. All six will be in the preliminary reception phase by the end of FY2015. The Petit Bourg Borgne road will be completed in FY 2016. The total budget for studies and construction of all seven roads is \$3.225 million.

At the close of FY2014, the AVANSE infrastructure team was finalizing preliminary analyses for adding one additional road segment to the above list. This is the La Bruyère- Soufrière road. During the first quarter of FY 2015 the infrastructure team will conduct the needed preliminary analyses, site visits, EMPR and CBAs in order to initiate the technical study before the end of the calendar year.

TABLE 23: CALENDAR FOR RURAL ROAD REHABILITATION

Road Budget	KMs	Quarterly Progress			
		Q1	Q2	Q3	Q4
Robillard/ Grison-Garde \$190,000	5.4	Technical study contract signed, Study begins	Construction RFP released. Signature of Contract and start of construction	Monitoring of construction	Preliminary Reception of works
Carrefour Séminaire / Acul-Jeannot \$361,500	3.00	Technical study contract signed, Study begins	Technical studies finalized. RFP for construction released. Signature of Contract and start of construction	Monitoring of construction	Preliminary Reception of works
Carrefour Juchereau / Roches Plates \$660,000	5.4	Technical study contract signed, Study begins	Technical studies finalized. RFP for construction released. Signature of Contract and start of construction	Monitoring of construction	Preliminary Reception of works
Coicou / Route Nationale #6 \$750,000	6,3	Technical study contract signed, Study begins	Technical studies finalized. RFP for construction released. Signature of Contract and start of construction	Monitoring of construction	Preliminary Reception of works
Carrefour Bergen / Haut Madeleine \$509,000	4.0	Technical study contract signed, Study begins	Technical studies finalized. RFP for construction released. Signature of Contract and start of construction	Monitoring of construction	Preliminary Reception of works
Limonade / Bois de Lance \$675,000	5.4	Technical study contract signed, Study begins	Technical studies finalized. RFP for construction released. Signature of Contract and start of construction	Monitoring of construction	Preliminary Reception of works
Borgne / Petit bourg de Borgne \$80,000	11.00	Preliminary Site Evaluation, CBA completed EMPR completed	SOW completed for studies RFP for studies released	Technical study begins	Technical Studies completed. RFP for Construction released.

Activity 2: Implement critical, urgent infrastructure works – rural roads

The infrastructure team will react rapidly to urgent infrastructure needs for rural roads as these needs arise, as described at the beginning of the section for this component.

TEXT BOX 23: GENDER INCLUSION IN INFRASTRUCTURE

- Ensure that construction contracts include the provision that 30% of laborers be women.
- Ensure that women and women's organizations are included in community meetings on infrastructure improvements, infrastructure maintenance committees and focus groups on safety.

CROSSCUTTING ACTIVITIES – INFORMATION, ANALYSIS, AND ENVIRONMENTAL COMPLIANCE UNIT

STRATEGY

In FY2014, AVANSE restructured its M&E, economics, data collection and management, GIS, and environmental compliance teams into a new Information, Analysis, and Environmental Compliance (IAEC) Unit. This restructuring allows AVANSE to better capture learning, experience, and knowledge across implementation, integrating lessons into adaptive management and adjusting implementation as needed. The IAEC team has three functions:

1. Monitoring and evaluation of implementation - tracking progress of project activities against the M&E plan, signaling significant positive or negative variance in achieving results, and providing information needed to make course corrections.
2. Environmental compliance – ensuring AVANSE activities create no adverse environmental effects and promote environmental stabilization and protection.
3. Gender analysis – tracking progress and ensuring AVANSE activities improve gender equity and women's empowerment.

The IAEC team engages project staff, stakeholders, and beneficiaries across these functions.

MONITORING AND EVALUATION OF IMPLEMENTATION

AVANSE's M&E plan approved by USAID is the guiding document for all of AVANSE's M&E activities.

Activity 1: Semi-Annual Post Harvest Surveys. AVANSE will conduct two annual post-harvest surveys of beneficiaries to track progress on indicators tracking economic and agronomic productivity related to the main five focus crops.

Activity 2: Annual Exporter Survey. The team will lead an annual survey to collect quantity and price data from cacao exporters. AVANSE will use this data to measure progress against indicators for which cacao export figures are required.

Activity 3: M&E Results Reporting. As described in the M&E Plan, AVANSE follows an annual reporting cycle based on the fiscal year. AVANSE drafts the annual results report in October each year for the previous twelve-month period. The next report in October 2014 will cover project implementation through FY2014. Complementing the full annual report, AVANSE includes quarterly output indicators from activity implementation in AVANSE quarterly reports.

Activity 4: Field Site and Sample Verification Visits. The team will conduct regular field site visits throughout the workplan period to validate data collected by AVANSE technical staff and IPs. During these visits, team members will also review FFS, PO, and other IP records to ensure that seasonal post-harvest survey samples are reflective of the total population of AVANSE beneficiaries and identify any adjustments that need to be made before the post-harvest and exporter surveys.

Activity 5: Continuous Updating of Beneficiary Database. Project staff and IPs will be required to provide continual monthly updates for the overall AVANSE Beneficiary Database. M&E staff will conduct periodic verifications of this information during the site visits mentioned in the previous activity.

Activity 6: Spatial Analysis of AVANSE Implementation. As part of AVANSE's overall monitoring and evaluation efforts, AVANSE will use GIS and remote sensing tools to map implementation activities. Specific mapping efforts include detailed mapping of AVANSE targeted watersheds, land cover, crop systems, and infrastructure efforts that are updated on an annual basis.

Activity 7: Special Studies and Analyses. To further guide the design and tailoring of activities, AVANSE will periodically conduct special studies and analyses. In FY 2014, AVANSE developed crop production models based on beneficiary farmer profiles, a market demand analysis for tractor utilization, and a cost benefit analysis for road rehabilitation.

ENVIRONMENTAL COMPLIANCE

Activity 1: Reinforcement of the Environmental Compliance Team

The onboarding of Senior Project Environmental Officer Jean Marc Racine and linking the Environmental Team to an enhanced Data Management & Reporting Team during the last quarter of FY 2014 have laid important groundwork to this activity.

The reinforcement of the Environmental Compliance Team will comprise a series of formal workshops and hands-on field training exercises connected to the execution of the EA, which is a wide ranging series of important field and analytical tasks. All STTAs connected to the EA will continue have capacity-building responsibilities built into their roles.

Activity 2: Environmental Assessment for AVANSE's Six Watersheds and 2 Cacao Extension Zones.

To address environmental compliance requirements AVANSE launched a two-part Supplementary Programmatic Environmental Assessment (SPEA) in late FY 2014. This began with the preparation of two Scopes of Work: one for a scoping study to review environmental issues in the AVANSE Project Zone and develop alternative actions or conditions to address those issues, and one for a full-fledged comprehensive watershed-level environmental evaluation of the alternatives to address those issues. AVANSE submitted the SOWs to the Mission and received approval in July 2014 AVANSE launched the scoping study two weeks later and concluded the study at the end of the quarter.

During the first quarter of FY 2015 we expect approval of the scoping study and execution of the EA phase, which will a) review and adjust the issues and alternatives presented in the scoping study, b) determine the level of environmental risk and c) recommend the best alternative to address the reasonably foreseeable environmental impacts of project activities. This will include economic valuation of environmental assets in the watersheds, identification of environmental assets most at risk from unsustainable exploitation, and identification of viable economic alternatives to those unsustainable activities.

Assuming that approval of the scoping study will not be delayed, we expect the EA to be completed at the end of the first quarter of FY 2014 and a draft analysis and report to be submitted in January 2015.

After USAID reviews and gives final approval of the SPEA, AVANSE will provide a concise amendment to the existing, approved Environmental Mitigation Plan and Report (EMPR) to include any new conditions and mitigation measures. Thereafter, AVANSE's implementation of the conditions set in the SPEA and reports to USAID will become obligatory.

Activity 3: Work with IR 1, IR 2 and IR 3 to integrate environmental compliance into good agricultural practices (GAP) training approaches.

The Environmental Compliance members of the IAEC team will work throughout the workplan period to ensure that technical training packages used by IR 1 and IR 2 teams in their field-production interventions incorporate relevant environmental compliance mitigation and training measures. These will apply to AVANSE staff as well as IPs who will be engaged in the latter part of the year to implement training activities.

Activity 4: Ongoing screening of all field activities for environmental compliance.

Throughout the workplan period, the environmental compliance team will visit FFS and other implementation sites and review all activities for compliance with 22 CFR 216. This will include visiting production sites, market engagement partners, as well as infrastructure sites. In particular, it will include health and safety monitoring for construction sites. Environmental compliance staff will issue regular reports on these findings as discussed in the AVANSE EMPR.

Activity 5: Screen and train IPs in Environmental Compliance as needed.

All IPs implementing activities which pose issues for environmental compliance will be required to adhere to USAID environmental-compliance regulations. Experience with environmental compliance will constitute one of the evaluation factors during the proposal-scoring process. AVANSE subcontracts and grants include environmental compliance in the planning, monitoring, and implementation of AVANSE supported efforts. As contracts are signed with IPs, the project's environmental compliance team will conduct evaluations of IP environmental compliance capacities/knowledge and offer training so that they will be able to implement the required procedures associated with their individual Scopes of Work. The AVANSE environmental compliance team will also conduct regular visits to audit environmental compliance records and field implementation measures of IPs. IPs will be instructed to enact remediation measures when they are found to be non-compliant, and AVANSE will retain the

right to cancel contracts if these are not implemented.

Activity 6: MPA Interventions.

In light of the Marine Protected Area (MPA) that has been declared in the AVANSE Project Zone, AVANSE will complete its environmental compliance work with a number of activities in the MPA that will contribute to the EA, build local environmental governance, and promote economic activities that reinforce good environmental management. To do this, AVANSE will launch a grants window for 2-3 grants for NGOs to work with communities and local government in the MPA with each grant focusing on environmental governance and strategic planning, local capacity building and public education, food security, environmental resource management and rehabilitation, and environmental monitoring. Grantee activities will leverage local economic interests and stakeholder activities to promote sustainability (for example: beekeeping in Bas Limbé; sweet potato farming in Acul; and sea salt production and improved fishing techniques in Caracol). Prospective grant recipients will be environmental organizations with extensive experience working with multiple stakeholders to plan and execute sustainable development activities in Haitian coastal environments.

Activity 7: Baseline analysis and monitoring of the marine environment to understand the effects of chemicals, waste, sediment, and cross-border contamination.

AVANSE will launch a solicitation to identify one or several US and/or Haitian subcontractors to analyze and monitor the use and effects of chemicals (including pesticides and fertilizers) on the marine environment. This activity will also include the effects of waste, garbage, sediment, landfill, and cross-border contamination due to used irrigation water from the DR.

This activity directly contributes to AVANSE's targets for watershed management and complements the waste management plan that Cap Haitien is developing for three communes with a landfill development plan already funded by the IDB and the French development agency.

Activity 8: Weather Station Network to monitor climate variability.

In FY 2015, AVANSE will establish a network of weather stations to provide much-needed information for its agricultural production and watershed management activities as well as to monitor and report on climate variability. Recognizing the impact of climate variability as evidenced by recent droughts AVANSE will gather, analyze, use, and share climate data to inform AVANSE programming. AVANSE will subcontract with a US or Haitian service provider to install and maintain up to 40 weather stations in selected target zones and key microclimate areas in collaboration with local POs, the MDEs, and local associations. Initially, AVANSE will collect data and maintain the stations with the involvement of our regular field staff until a long-term solution can be identified with the involvement of the above actors. The weather stations will automatically transmit data daily through cellular networks to a widely accessible web-based database. AVANSE will use the data to guide AVANSE implementation, as well as make the data available to other implementing partners in the Northern Corridor including MARNDR, University Partners, and the US Department of Agriculture.

GENDER ANALYSIS

Gender is a cross-cutting theme that cuts across all of AVANSE's components as noted in text boxes throughout this workplan. The workplan includes gender activities across each IR and the project's components. To reinforce these efforts, the IAEC team will conduct gender analysis of sex-disaggregated AVANSE indicators as well as supplemental special studies and investigations to identify opportunities for AVANSE to better address equity and promote women's empowerment.

Activity 1: Use sex-disaggregated data across key indicators to guide programming. The Gender Specialist will lead review of sex-disaggregated data to identify opportunities to address gender equity and promote women's empowerment across AVANSE IR and components. Based on the data analyzed, the Gender Specialist will work with each IR to offer feedback, and identify ways to continue to integrate gender considerations, and improve AVANSE gender results.

Activity 2: In-depth gender review after the first FY2015 harvest. Baseline post-harvest data suggest gender disparities. To better understand and address these disparities, AVANSE will host an in-depth two-day gender review meeting across technical components after the first FY 2015 harvest survey to review progress and tailor implementation accordingly.

CROSSCUTTING ACTIVITIES – COMMUNICATIONS & OUTREACH

AVANSE mobilized an LTTA communications specialist in FY 2014 and launched a re-branding of the project to ensure compliance with USAID branding and marking policies as well as promote awareness and understanding of AVANSE implementation.

Activity 1: Branding of project work.

The new AVANSE logo and the correct use of the USAID logo will brand all USAID-funded project work. This will include work-site signs, training material, films, posters, flyers and seed bags as some examples in line with AVANSE's branding and marking plan. AVANSE identified vendors to produce branded communications materials. The Communication Specialist will oversee the installation and implementation of all branding material.

Activity 2: Engaging Beneficiaries and Partners

AVANSE will develop a number of communications products to further engagement with beneficiaries. Illustrative products include booklets, posters, flyers, radio shows, films, and mobile messaging. All these products will promote useful information to engage beneficiaries to apply key practices and technologies to contribute to AVANSE targets. Technical topics include: soil conservation practices, crop planting methods, grafting practices etc.

In addition to developing communications products to share information with beneficiaries, AVANSE will also solicit beneficiary feedback. Illustrative efforts include community meetings to solicit feedback and share with AVANSE management, as well as working with the IAEC team to understand the impact of messaging and communications materials through ongoing data collection and analysis efforts.

Activity 3: Share AVANSE implementation progress and lessons learned with a broader audience.

The Communication Specialist will produce communication materials to inform external audiences about the work that AVANSE is doing in its project zones. These audiences include USAID, the US Embassy, Haitian government, US audiences, Haitian national audience, and other implementing partners. Specific materials include: newsletters, success stories, media-relations, radio shows, television features, films, social media, and events. AVANSE will work with the Development Outreach Communication Specialist at USAID-Haiti to coordinate these efforts.

Activity 4: Host a Regional Cacao Conference on Environmental and Economic Aspects of Local Cacao Production.

AVANSE will host a regional conference with national and regional experts to share AVANSE results and global lessons learned on the environmental and economic aspects of local Cacao production in Haiti. The dates for the conference are still being determined as of the writing of the workplan.

ANNEX A: MAPS

(See next page.)

FIGURE 6: MAP OF AVANSE TARGETED ZONES

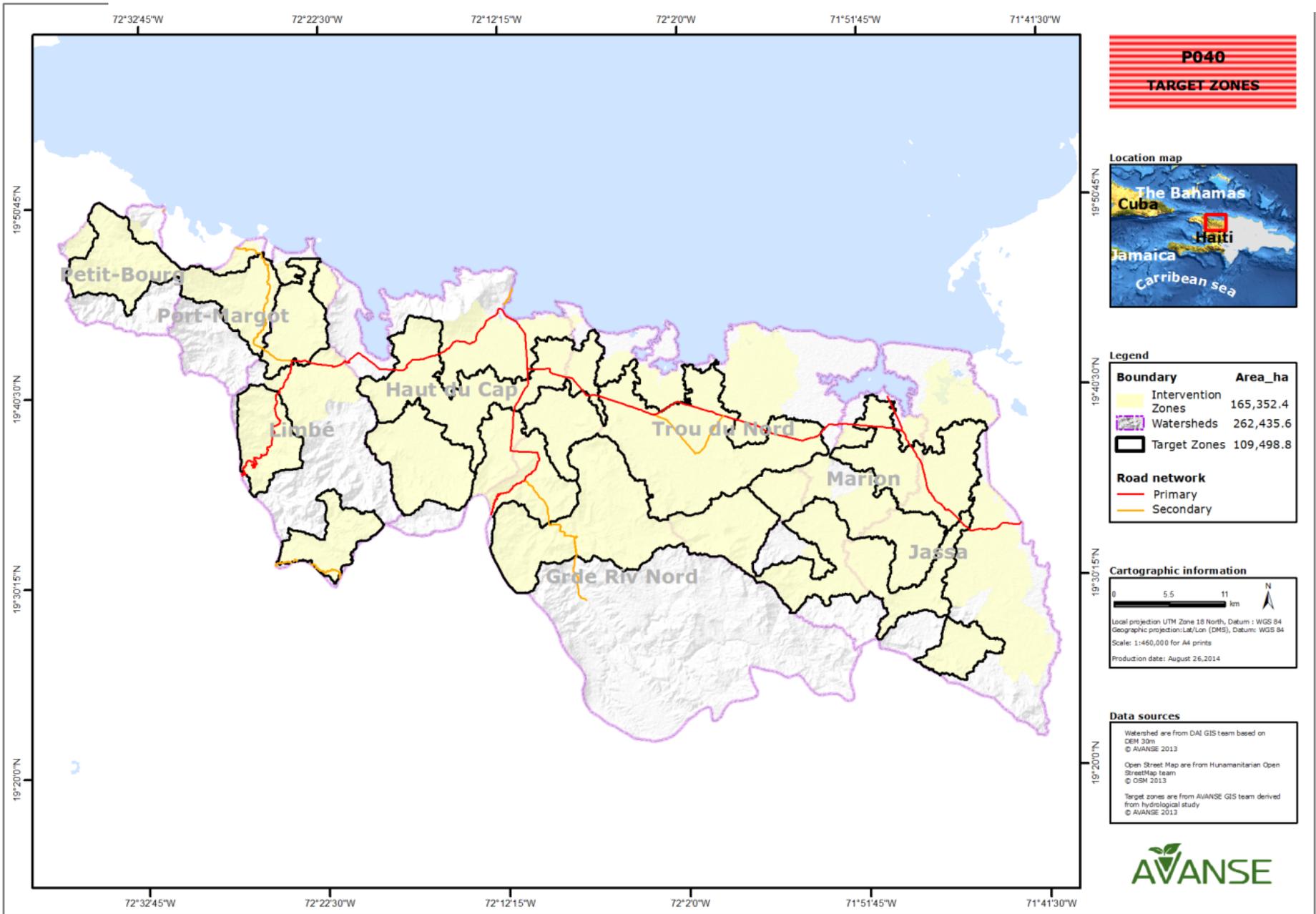
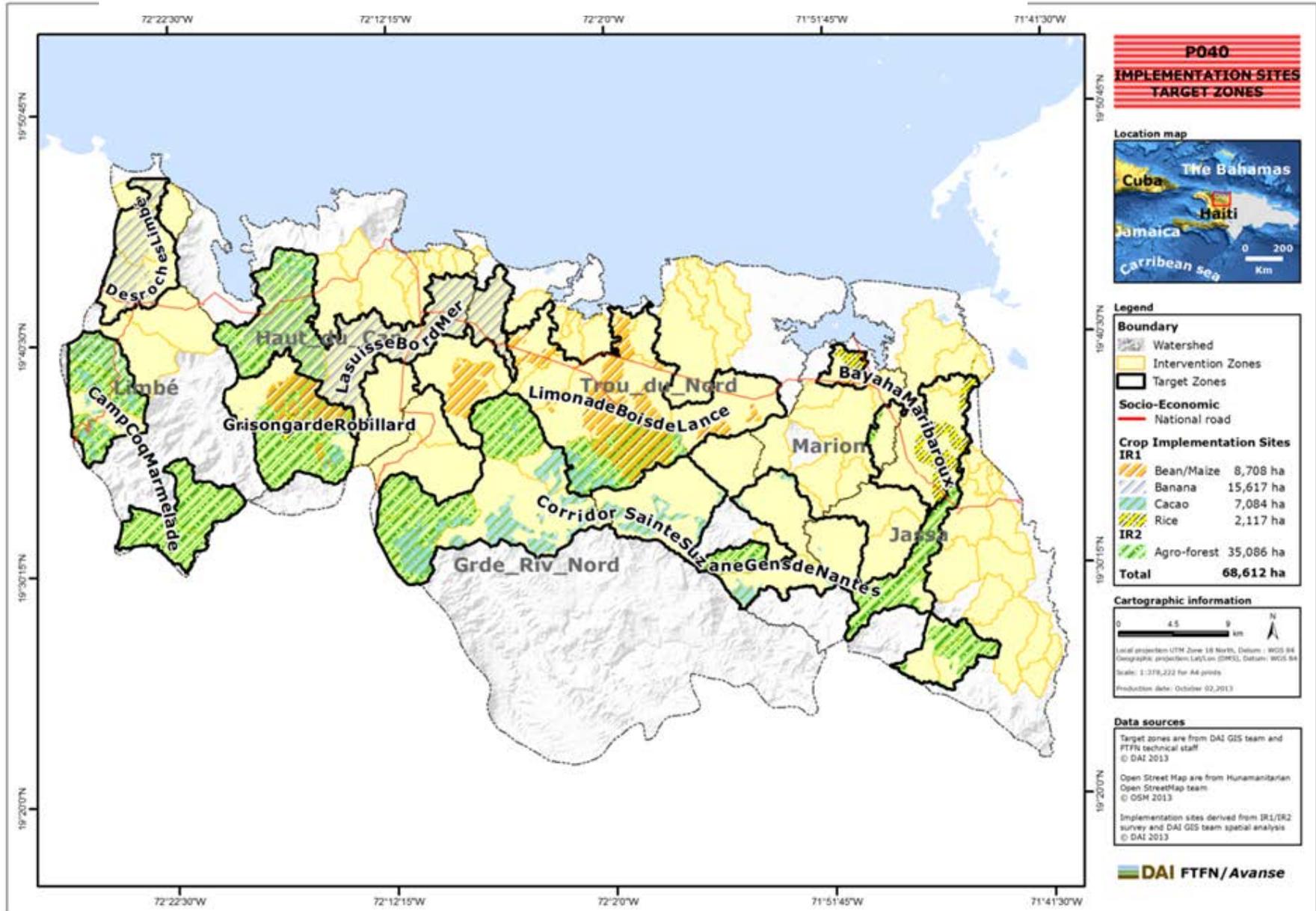


FIGURE 7: CROP IMPLEMENTATION SITES ACROSS AVANSE TARGET ZONES



ANNEX B: AVANSE INDICATORS

Indicator #	Indicator Title	Unit of measure	Disaggregation	Data Source	Baseline Year	Baseline value	FY 13 targets	FY 13 actual	FY 14 target	FY 14 results	FY 15 target	FY 15 results	FY 16 target	FY16 results	FY 17 target	FY 17 results	LOP targets
USAID FY2011 - FY2015 Goal 0.0 Stable and Economically viable Haiti																	
USAID/Haiti Feed the Future Objective: Increased Food Security																	
Impact	Per Capita Expenditure (as proxy for income)			USAID-Haiti Corridor Level HH survey													
Impact	Prevalence of underweight children under 5			USAID-Haiti Corridor Level HH survey													
FTF North objective: Increased Agricultural Income																	
(0.1) 4.5.2-36 FTF	Value of exports of targeted commodities as a result of USG assistance (cacao)	USD	commodity (cacao)	Post-harvest surveys of northern corridor producers and exporters	2013												
			Regional			36,612.00			38,442.60		43,891.51		47,881.65		59,852.06		59,852.06
			outside of region			1,323.00			1389.15		1,582.50		1,726.35		2,157.95		2,157.95
			total value of exports in USG			37,935			39831.75		45,474		49,608		62,010		62,010
(0.2) custom	Volume of cacao exports as a result of USG assistance	Metric Ton	Total	Post harvest export		28.10			29.51		34.98		38.16		47.7		47.7

Indicator #	Indicator Title	Unit of measure	Disaggregation	Data Source	Baseline Year	Baseline value	FY 13 targets	FY 13 actual	FY 14 target	FY 14 results	FY 15 target	FY 15 results	FY 16 target	FY16 results	FY 17 target	FY 17 results	LOP targets	
			Regional	surveys of northern corridor cacao producers and exporters	2013	27.12			28.48		33.76		36.83		46.04		46.03	
			outside of region			0.98			1.03		1.22		1.33		1.67		1.67	
(0.3) 4.5-11 FiF	Market Discount of targeted agricultural commodities (S) (cacao)	%	n/a	Post harvest export surveys of northern corridor cacao exporters	2013	10%			10%		5%		0%		0%		0%	
(0.4) custom	Average increase in agricultural income for beneficiary households due to USG assistance	%	Total		2013: (\$ 443)	0%			30%		60%		100%		100%		100%	
			total New/Continuing															
			New				0			30		30		40		50		
			Continuing				0			0		60		100		100		
			Gendered household Type															
			Adult Female No Adult Male (FNM)				0			20		40		60		60		
			Adult Male No Adult Female (MNF)				0			25		50		80		80		
			Male and Female Adult (M&F)				0			30		60		100		100		
	Child no Adult (CAN)				0			0		0		0		0				
IR 1. Agricultural Productivity Increased																		
(1.1) 4.5 - 16,17,18 FiF	Gross margin per hectare, animal, or cage of selected product	\$USD/ha	Corn	Post-harvest survey of beneficiary producers	2013	116.95			163.76		107		107		107		107	
			Beans			415.40			581.56		1030		1030		1030		1030	
			Rice			218.00			305.20		751.5		751.5		751.5		751.5	
			Plantain			5,035.26			5,538.79		5665		6180		7210		7210	

Indicator #	Indicator Title	Unit of measure	Disaggregation	Data Source	Baseline Year	Baseline value	FY 13 targets	FY 13 actual	FY 14 target	FY 14 results	FY 15 target	FY 15 results	FY 16 target	FY16 results	FY 17 target	FY 17 results	LOP targets
			Cacao			205.32			205.32		226		256.82		256.82		256.82
			Male_corn			179.05			250.67		168		168		168		168
			Female_corn			-139.99			-84		0		27		27		27
			Joint_corn			-25.22			-15.13		0		8		8		8
			association-applied_corn														
			Male_beans			448.48			583		1043		1043		1043		1043
			Female_beans			90.8			117.1		153		153		153		153
			Joint_beans			437.5			568.74		868		868		868		868
			Male-rice			287.05			401.87		730		730		730		730
			Female-rice			-			-		-		-		-		-
			Joint-rice			-64.68			-38.81		1051		1051		1051		1051
			Male-plantain			5472.52			6019.77		6205		6770		7898		7898
			Female-plantain			2630.23			2893.25		3417		3728		4349		4349
			Joint-plantain			4867.3			5354.03		5288		5769		6730		6730
			Male-cacao			165.73			165.73		190		216		216		216
			Female-cacao			304			304		346		393		393		393

Indicator #	Indicator Title	Unit of measure	Disaggregation	Data Source	Baseline Year	Baseline value	FY 13 targets	FY 13 actual	FY 14 target	FY 14 results	FY 15 target	FY 15 results	FY 16 target	FY16 results	FY 17 target	FY 17 results	LOP targets
			Joint-cacao			232			232		242		275		275		275
(1.2) 4.5.2-23 FTF	Value of incremental sales (collected at farm-level) attributed to FTF implementation (RiA)	Value (USD)	Total	Post-harvest survey of beneficiary producers		384,604.08			<u>392,296.14</u>	-	<u>426685</u>	-	<u>533356</u>	-	<u>533356</u>	-	<u>533356</u>
			Corn			30,568.79			31,180.17		15,878		19,848		19,848		19,848
			Beans			56,959.73			58,098.92		51,760		64,700		64,700		64,700
			Rice			51869.21			52,906.59		46,621		58,276		58,276		58,276
			Plantain			212,849.33			217,106.33		272,210		340,263		340,263		340,263
			Cacao			32357.02			33,004.16		40,215		50,269		50,269		50,269
(1.3) 4.5.2-5 FTF	Number of farmers and others who have applied new technologies or management practices as a result of USG assistance (RiA) (WOG)	#	Grand Total	Survey of beneficiary producers	2013	0		-	19,200		40,100		57,300		63,500	-	63,500
			Total Sex			0			19,200		40,100		57,300		63,500	-	63,500
			Male			0			15,360		32,080		45,840		50,800		50,800
			Female			0			3,840		8,020		11,460		12,700		12,700
			total New/Continuing			0			19,200		40,100		57,300		63,500	-	63,500
			New			0			19,200		20,900		17,200		6,200		
			Continuing			0			0		19,200		40,100		57,300		
(1.4) 4.5.2-2 FTF	Number of hectares under improved technologies or management practices as a result	ha	Total	Project records of technologies & parcels,	2013	0	-	-	<u>6,600</u>	-	<u>14,500</u>	-	<u>19,500</u>	-	<u>22,000</u>	-	<u>22,000</u>
			New/Continuing total			0			<u>6,600</u>	-	<u>14,500</u>	-	<u>19,500</u>	-	<u>22,000</u>	-	<u>22,000</u>
			New			0			6,500		8,000		5,000		2,500		

Indicator #	Indicator Title	Unit of measure	Disaggregation	Data Source	Baseline Year	Baseline value	FY 13 targets	FY 13 actual	FY 14 target	FY 14 results	FY 15 target	FY 15 results	FY 16 target	FY16 results	FY 17 target	FY 17 results	LOP targets					
	of USG assistance (RiA) (WOG)		Continuing	georef site verification visits		0			0		6,500		14,500		19,500							
			Technology total																			
			pest management			0			5,500		14,000		19,000		500							
			disease management			0			5,000		13,500		18,500		450							
			Soil-related			0			6,500		14,500		19,500		500							
			Irrigation			0			4,000		8,000		17,500		300							
			water management			0			4,500		7,000		16,500		250							
			climate mitigation or adaptation			0			2,500		5,000		6,000		6,000							
			Other			0			0		0		0		0		0		0			
			total w/one or more improved technology			0			6,600		14,500		19,500		22,000							
			Sex total																			
			Male			0						5,280		11,600		15,600		17,600				
			Female			0						1,320		2,900		3,900		4,400				
			Joint			0						0		0		0		0				
association-applied	0						0		0		0		0									
(1.5) Custom	Number of technologies or management practices made available to farmers as a result of USG assistance	#	None	Project records		0			8		10		4		0		22					
(1.6) Custom	Number of beneficiary households with increased agricultural income	#	Total	Postharvest survey of beneficiary producers		0			19,200		40,100		57,300		63,500	-	63,500					
			income doubled					0			13,200		27,650		39,500		43,500		43,500			

Indicator #	Indicator Title	Unit of measure	Disaggregation	Data Source	Baseline Year	Baseline value	FY 13 targets	FY 13 actual	FY 14 target	FY 14 results	FY 15 target	FY 15 results	FY 16 target	FY16 results	FY 17 target	FY 17 results	LOP targets
			Income increased			0			15,350		32,000		45,800		50,800		50,800
			New			0			19,200		20,900		17,200		6,200		
			Continuing			0					19,200		40,100		57,300		
			FNM			0			1,920		4,010		5,730		6,350		
			MNF			0			1,920		4,010		5,730		6,350		
			M&F			0			15,360		32,080		45,840		50,800		
			CAN			0			0		0		0		0		
Sub-IR 1.1: Availability of Improved Production Technologies & Systems Increased																	
(1.1.1) Custom	Yield per hectare for USG assisted target crops	Kg/ha	Corn	Post- harvest survey of beneficiari y producers	2013	411			764		1,200		1,200		1,200		1,200
			Beans			395			561		1,000		1,000		1,000		1,000
			Rice			1561			2591		3,184		3,184		3,184		3,184
			Plantain			6040			9,060		12,000		12,000		12,000		12,000
			Cacao			319			319		351		383		479		479
(1.1.2) 4.5.2-13 F	Number of rural households benefiting directly from USG interventions (S)	#	Total		2013	0	-		19,200		40,100		57,300		63,500	-	63,500
			total New/Continuing			0			19,200		40,100		57,300		63,500	-	63,500
			New			0			19,200		20,900		17,200		6,200		

Indicator #	Indicator Title	Unit of measure	Disaggregation	Data Source	Baseline Year	Baseline value	FY 13 targets	FY 13 actual	FY 14 target	FY 14 results	FY 15 target	FY 15 results	FY 16 target	FY16 results	FY 17 target	FY 17 results	LOP targets
			Continuing			0					19,200		40,100		57,300		
			Gendered household Type			0											
			Adult Female No Adult Male (FNM)			0			1,920		4,010		5,730		6,350		
			Adult Male No Adult Female (MNF)			0			1,920		4,010		5,730		6,350		
			Male and Female Adult (M&F)			0			15,360		32,080		45,840		50,800		
			Child no Adult (CAN)			0			0		0		0		0		

Sub-IR 1.2: Strengthened Extension of Agricultural Technologies

(1.2.1) 4.5.2-7 FTF	Number of individuals who have received USG supported short-term agricultural sector productivity or food security training (RiA) (WOG)	#	Grand Total	Training attendance forms	2013	0			16,325		32,960		44,010		46,260		46,260
			Total Sex			0			16,335		16,625		11,050		2,250		46,260
			Male			0			13,068		13,300		8,840		1,800		37,008
			Female			0			3,267		3,325		2,210		450		9,252
			Type of individuals														
			producers			0			14,700		15,400		10,700		2,200		43,000
			People in government			0			40		50		50		50		50
			People in private sector			0			75		775		0		0		850

Indicator #	Indicator Title	Unit of measure	Disaggregation	Data Source	Baseline Year	Baseline value	FY 13 targets	FY 13 actual	FY 14 target	FY 14 results	FY 15 target	FY 15 results	FY 16 target	FY16 results	FY 17 target	FY 17 results	LOP targets
			People in civil society (NGOs, CBOs, CSOs, research and academic organizations)			0			1520		400		300		0		2220
Sub-IR 1.3: Access to Inputs Increased																	
(1.3.1.) custom	Number of farmers who have access to improved agricultural inputs due to USG assistance	#	Sex total	Project record, SIBA agricultural inputs	2013	0			19,200		40,100		57,300		63,500	-	63,500
			Male			0			13,440		28,070		39,760		44,450		44,450
			Female			0			5,760		12,030		17,040		19,050		19,050
Sub-IR 1.4: Irrigation Systems Constructed/Rehabilitated and Management Capacity Increased																	
(1.4.1) 5.1-28 FiF	Hectares under new or improved/rehabilitated irrigation and drainage services as a result of USG assistance (RiA) (WOG)	Ha	None	Project record, maps	2013	0			1,400		2,000		600		0		4,000
(1.4.2.) custom	Number of kilometers of irrigation systems repaired due to USG assistance	Kms	None	Project record					28		40		12		7		87
Sub-IR 1.5: Property Security Strengthened																	
(1.5.1) 4.5.1-22 FiF	Number of rural hectares mapped and adjudicated (S)	Ha	Total	Project record	2013	0			30		120		90		240		480
			Male			0			21		84		63		168		336
			Female			0			9		36		27		72		144
			Joint			0			0		0		0		0		0

Indicator #	Indicator Title	Unit of measure	Disaggregation	Data Source	Baseline Year	Baseline value	FY 13 targets	FY 13 actual	FY 14 target	FY 14 results	FY 15 target	FY 15 results	FY 16 target	FY16 results	FY 17 target	FY 17 results	LOP targets
			communal			0			0		0		0		0		0
IR2: Watershed Stability above Selected Plains Improved																	
(2.1) 4.8.1-26	Number of hectares of biological significance and/or natural resources under improved natural resource management as a result of USG assistance	ha		Project record, maps	2013	0			5,000		6,000		8,000		4,000		23,000
(2.2) Custom	Volume of soil preserved in upper watershed areas due to USG assistance	Ton ³ /ha	Total	Project record, test site data	2013	0	0		0.5		0.5		0.5		0.5		2.0
			watershed														
(2.3) (F) 4.8.1-1)	Number of hectares of biological significance and/or natural resources showing improved physical conditions as a result of USG assistance	ha	n/a	GIS maps, Qualitative observations on site	2013	0	0		5,000		6,000		8,000		4,000		23,000
Sub-IR 2.1: Watershed Governance Bodies Established at the Sub-Watershed Level																	
(2.1.1) custom	Number of sub-watershed management bodies formed due to USG assistance	#	None	Project inventory and record	2013	5			12		0		0		0		12
Sub-IR 2.2: Critical Slopes Stabilized Through Public Works																	
(2.2.1) custom	Kilometers of biological & mechanical conservation structures built/rehabilitated	#	Biological	Project record	2013	0			90		120		120		70		400
			Mechanical			0		23		64		64		0		64	
Sub-IR 2.3: Critical Slopes Stabilized Through Farmer-level Investments																	
(2.3.1) custom	Survival rates of USG assisted tree planting	%	None	Plot site tree counts, sample	2013	0			50		60		70		70		

Indicator #	Indicator Title	Unit of measure	Disaggregation	Data Source	Baseline Year	Baseline value	FY 13 targets	FY 13 actual	FY 14 target	FY 14 results	FY 15 target	FY 15 results	FY 16 target	FY16 results	FY 17 target	FY 17 results	LOP targets
-------------	-----------------	-----------------	----------------	-------------	---------------	----------------	---------------	--------------	--------------	---------------	--------------	---------------	--------------	--------------	--------------	---------------	-------------

Sub-IR 2.4: Crisis Management Capacity Strengthened

(2.4.1) 4.8.2-26 F	Number of stakeholders with increased capacity to adapt to the impacts of climate variability and change as a result of USG assistance	#	Total	Project record, attendance forms	2013	0			5,000		6,500		6,500		2,000		20,000
			Implementing risk-reducing practices or actions to improve resilience to climate change			0			4,500		5,500		5,500		1,500		17,000
			using climate information in decision making			0			500		1,000		1,000		500		3,000
(2.4.2) 4.8.1-6 F	Number of people with increased economic benefits derived from sustainable natural resource management and conservation as a result of USG assistance	#	Total	Project record, IR2 conservation enrollment and attendance forms	2013	0			4,500		5,500		6,000		4,000		20,000
			male					3,150		3,850		4,200		2,800		14,000	
			Female					1,350		1,650		1,800		1,200		6,000	
(2.4.3) Custom	Number of people receiving USG supported training in natural resources management and /or biodiversity conservation	#	Total	Project records, attendance forms	2013	0			3,000		3,000		2,500		1,500		10,000
			Male					2,100		2,100		1,750		1,050		7,000	
			female					900		900		750		450		3,000	

IR3: Agricultural Markets Strengthened

Indicator #	Indicator Title	Unit of measure	Disaggregation	Data Source	Baseline Year	Baseline value	FY 13 targets	FY 13 actual	FY 14 target	FY 14 results	FY 15 target	FY 15 results	FY 16 target	FY16 results	FY 17 target	FY 17 results	LOP targets
(3.1) 4.5.2-38 FTF	Value of new private sector investments in the agricultural sector and food chain leveraged by FTF implementation (RiA)	USD	None	Enterprise records, survey	2013	0			500,000		1,500,000		1,000,000		500,000		3,500,000
(3.2) custom	Value of agribusiness sales due to USG assistance	USD	Total	Enterprise records	2013	20,000			0		200,000		300,000		500,000		1,000,000
			Corn			1000					10000		15000		25000		50000
			rice			4000					50000		60000		100000		210000
			Beans			2500					25000		37500		62500		125000
			Plantain			6000					65000		97500		162500		325000
			Cacao			6000					50000		90000		150000		300000
			Producers			5000					50000		75000		125000		250000
			Traders/assembles			15000					150000		225000		375000		750000
(3.3) 4.5.2-43 FTF	Number of firms (excluding farms) or Civil Society Organizations (CSOs) engaged in Agricultural and Food security-related manufacturing and	#	Firm	Project record	2013	0			10		70		70		50		200

Indicator #	Indicator Title	Unit of measure	Disaggregation	Data Source	Baseline Year	Baseline value	FY 13 targets	FY 13 actual	FY 14 target	FY 14 results	FY 15 target	FY 15 results	FY 16 target	FY16 results	FY 17 target	FY 17 results	LOP targets
	services now operating more profitably (at or above cost) because of USG assistance (RiA)		CSO			0			10		20		20		0		50
Sub-IR 3.1: Improved Transportation Infrastructure																	
(3.1.1) 4.5.1-17 FTF /4.4.3- 13 F	Kilometers of roads improved or constructed (RiA) (WOG)	Kms	Total	Project record	2013	0			40		30		30		22		122
			Improved			0			40		23		22		14		99
			Constructed			0					7		8		8		23
(3.1.2) 4.4.3.7 F	Number of beneficiaries receiving improved transport services due to USG	#	Total	Public records, transport survey	2013	0			100,000		75,000		75,000		55,000		305,000
			Male					48,000		36,000		36,000		26,400		146,400	
			Female					52,000		39,000		39,000		28,600		158,600	
Sub-IR 3.2: Improved Access to Storage and Processing Facilities																	
(3.2.1) custom	Number of storage facilities installed as a result of USG assistance	#	None	Project record	2013	0			0		35		15		0		50
(3.2.2) custom	Number of processing facilities established or improved due to USG assistance	#	Total	Project record	2013	0			5		26		5		0		36
			Corn-processing facilities			0			3		10		2		0		15
			Rice-processing facilities			0			2		10		3		0		15

Indicator #	Indicator Title	Unit of measure	Disaggregation	Data Source	Baseline Year	Baseline value	FY 13 targets	FY 13 actual	FY 14 target	FY 14 results	FY 15 target	FY 15 results	FY 16 target	FY16 results	FY 17 target	FY 17 results	LOP targets
			Cacao-processing facilities			0			0		6		0		0		6
(3.2.3) 4.5-10 FTF	Total increase in installed storage capacity (m3) (S)	cubic meters	Total	Project inventory and record	2013	0			4000		3000		3000		10,000		10,000
			Dry storage			0			4000		3000		3000		10,000		10,000
			Cold Storage			0			0		0		0		0		0

Sub-IR 3.3: Increased Access to Financial Products

(3.3.1) 4.5.2-29 F	Value of agricultural and Rural loans	USD	total	Survey of beneficiaries	2013	0	0		25,000		200,000		200,000		75,000		500,000
			Producers			0			0		0		0		0		0
			Local Traders/Assemblers			0			25,000		200,000		200,000		75,000		500,000
			Wholesalers			0			0		0		0		0		0
			others			0			0		0		0		0		0
			Total Sex														
			Male			0			0		0		0		0		0
			Female			0			0		0		0		0		0
			Joint			0			0		0		0		0		0
			N/A			0			0		0		0		0		0

Sub-IR 3.4: Improved Market Information Systems

Indicator #	Indicator Title	Unit of measure	Disaggregation	Data Source	Baseline Year	Baseline value	FY 13 targets	FY 13 actual	FY 14 target	FY 14 results	FY 15 target	FY 15 results	FY 16 target	FY16 results	FY 17 target	FY 17 results	LOP targets		
(3.4.1) Custom	Number of farmers accessing market information due to USG assistance	#	Total	Project records, phone list	2013	0	0		4,000		12,000		24,000		30,000		30,000		
			Male						2,800		8,400		16,800		21,000		21,000		
			Female						1,200		3,600		7,200		9,000		9,000		
Sub-IR 3.5: Relationships in Targeted Value Chains Strengthened																			
(3.5.1) 4.5.2-12 FiF -F	Number of public-private partnerships formed as a result of FTF assistance (S)	#	Total	Project record	2013	0			2		2		2		2		8		
			Agricultural production						0		2		1		1		5		
			Agricultural post-harvest transformation						0		0		1		1		3		
			nutrition						0		0		0		0		0		
			other areas						0		0		0		0		0		
			multi-focus						0		0		0		0		0		
(3.5.2) 4.5-2 FTF	Number of jobs attributed to FTF implementation (RiA)	#	Total	Project record, agribusiness survey	2013	0	0		10,000		13,500		13,500		8000		45,000		
			Urban						0		0		0		0		0		
			Rural						0		10,000		13,500		13,500		8000		45,000
			new						0		10,000		5,500		5,500		3000		24,000
			continuing						0		0		8000		8000		5000		21000
			Male						0		7,000		9,450		9,450		5600		31,500

Indicator #	Indicator Title	Unit of measure	Disaggregation	Data Source	Baseline Year	Baseline value	FY 13 targets	FY 13 actual	FY 14 target	FY 14 results	FY 15 target	FY 15 results	FY 16 target	FY16 results	FY 17 target	FY 17 results	LOP targets
			Female			0			3,000		4,050		4,050		2400		13,500

IR4: Capacity of Local Organization Strengthened

(4.1) 4.5.2-11 FTF	Number of food security private enterprises, producers organizations, water users associations, women's groups, trade and business associations, and community-based organizations (CBOs) receiving USG assistance (RIA) (WOG)	#	Total	Project record	2013	0			960		1740		2478		2891		2891
			total New/Continuing			0			960		780		738		413		2891
			new			0			960		180		58		25		1223
			continuing			0			0		600		680		388		1668
			Type or organizations			0											
			private enterprises			0			100		225		250		275		850
			producers organizations			0			15		30		40		40		125
			water user associations			0			5		15		18		18		56
			women's groups			0			15		30		45		45		135
			trade and business associations			0			15		30		35		35		115
Community based organizations	0			810		450		350		0		1610					

Sub-IR 4.1: Strengthen IPS and Potential Direct Award-Holders to Respond to USAID Forward Objectives

(4.1.1) CBLD-5 FiF	Score in percent, of combined key areas of organization	%	Ratio	Beneficiary Assessme	2013	51.34			70		90		100		100		100
--------------------------	---------------------------------------------------------	---	-------	----------------------	------	-------	--	--	----	--	----	--	-----	--	-----	--	-----

Indicator #	Indicator Title	Unit of measure	Disaggregation	Data Source	Baseline Year	Baseline value	FY 13 targets	FY 13 actual	FY 14 target	FY 14 results	FY 15 target	FY 15 results	FY 16 target	FY16 results	FY 17 target	FY 17 results	LOP targets
	capacity amongs USG direct and indirect local implementing partners (S)		Numerator: total numbers of points scored	nt		1109											
			Denominator: total numbers of points possible			2160											

Sub-IR 4.2: Strengthen the General Implementation Capacity of Beneficiaries & Partners in the project zone

(4.2.1) 4.5.2-42 FiF	Number of private enterprises, producers organizations, water users associations, women's groups, trade and business associations, and community-based organizations (CBOs) that applied new technologies or management practices as a result of USG assistance (RiA) (WOG)	#	Total	Project record, organization survey	2013	0	-	-	270		750		1280		1720		1720
			total New/Continuing			0			270		480		530		440		1720
			new			0			270		310		50		20		650
			continuing			0			0		170		480		420		1070
			type of enterprises														
			private enterprises			0			42		300		325		325		992
			producers organizations			0			10		20		25		25		80
			water user associations			0			3		10		15		15		43
			women's groups			0			5		25		35		40		105
			trade and business associations			0			10		25		30		35		100
			Community based organizations			0			200		100		100		0		400

ANNEX C: STTA FOR FY 2015

While this list is not exhaustive of all of the STTA AVANSE, it includes anticipated STTA as of the writing of this workplan. As STTA is needed for the project, AVANSE will continue to submit requests to USAID, changing this list as necessary for effective project implementation.

IR	Consultant	Position	LOE
Cross-Cutting Technical Support			
Cross-cutting	Tom Lenaghan	Technical Backstop	90
Cross-cutting	Leon Skarshinsky	Backstop	24
Cross-cutting	Joël Le Turioner	Senior Agricultural Input Voucher Expert	105
Information, Analysis and Environmental Compliance Unit			
IAECU	John DeRiggi	International GIS Specialist / Database Engineer	88
IAECU	Neil Enet	Management Information System Specialist (STTAs in Haiti)	24
IAECU	Glenn Richard Smucker	Senior M&E Field Specialist	90
IAECU	Jaclyn Carlsen	ICT/ Mobiles Advsiors	30
IAECU	Andrew Watson	Environmental Compliance Specialist	24
IAECU	Alan Schroeder	Integrated Pest Management Specialist/Trainer	24
IAECU	TBD	Environmental Compliance and Capacity Building STTA	60
IAECU	TBD	Economic Valuation of Environmental Assets	30
IR 1 Agricultural Productivity Increased			
IR 1	Philippe Charles	Banana Specialist to Review Value Chain Progress, Opportunities, and Linkages	24
IR 1	Brian Kent Matlick	Senior Cacao Specialist to Review Value Chain Progress, Opportunities, and Linkages	24
IR 1	Maurois Francois	Rice Specialist to Review Value Chain Progress, Opportunities, and Linkages	24
IR 1	Jean Agnus Laraque	Beans Specialist to Review Value Chain Progress, Opportunities, and Linkages	24
IR 1	Pierre Laureore	Banana and Plantain Specialist to Review Value Chain Progress, Opportunities, and Linkages	24
IR 1	TBD	University Partnership Linkages (Auburn University)	24
IR 1	TBD	Soil Fertility Specialist (Auburn University)	30
IR 1	TBD	Land Tenure Specialist	24
IR 2			
IR 2	TBD	Triannual Technical Results Review	24
IR 2	TBD	AgroForestry Specialist to Review Value Chain Progress, Opportunities, and Linkages	24
IR 3 Agricultural Markets Strengthened			
IR 3	Caroline Hossien	Senior Women's Entrepreneurship Specialist	24
IR 3	Michelle Muldoon	Gender Specialist	24
IR 3	Timothy Nourse	Senior SME-level Curriculum Specialist	24
IR 3	Junior Paul	Business & Value Chain Development Specialist	120
IR 3	Andrew Tonks	Senior Agribusiness/PO-Level Curriculum Development	36
IR 3	TBD	Mobile Money Specialist (MEDA)	24

IR	Consultant	Position	LOE
IR 3	TBD	MidYear Technical Results Review	12
IR3	Edgar Ariza-Nino	Support to MIS Systems	30
IR4 Capacity of Local Organizations Strengthened			
IR 4	Kirsten Weeks	Capacity-Building Mentor and Planning and Coordination Support	48
Operations			
Ops	TBD	Acting Senior Finance and Administration Manager	24
Ops	Robyn Folsom	International Grants and Subcontracts Specialist	24
Ops	Intissar Hemim	Acting Procurement Manager	24
Ops	Andrea Falso	Grants and Subcontracts Specialist/Trainer	24
Ops	Max Goldensohn	Acting Chief of Party while COP on Leave	24
Ops	Johara Hall	Home Office Backstop (STTAs in Haiti)	54
Ops	Shikha Gupta	Project financial planning specialist (STTAs in Haiti)	36
Ops	Sarah Reynolds	Home Office Backstop (STTAs in Haiti)	36
Ops	Andrea Kornfeld	Field Accounting Systems Check and Upgrades	14
Ops	Dan Langfitt	Associate for General Operations Support and Compliance	72
Ops	Dejan Momirovic	IT Specialist	12
Ops	Fatima Albegonova	Project Manager (STTAs in Haiti)	36
Ops	Marina Mutchler	HR Support	36
Ops	Mike Walsh	Ethics and Compliance Review	12
Communications			
Comms	TBD	Communications and Documentation Support	36
Comms	TBD	Conference /Meeting Specialist	18

ANNEX D: DETAILED TIMELINE OF ACTIVITIES

Activities		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept
IR 1: AGRICULTURAL PRODUCTIVITY INCREASED													
1.1 Knowledge and Availability of Improved Production Technologies & Systems Increased													
Activity 1: Adjust and refine the mix of key production technologies													
ID and engage new farmers	Cacao												
	Plantain												
	Maize and Beans												
	Rice												
Identify Implementing Partner to Support FFS for Maize and Peas													
Capacity Building for Implementing Partner to Roll Out and Support FFS for Maize and Peas (linkages with IR 3 to find buyers and IR 4 to provide capacity building)													
IP rolls out FFS model to local partners													
CBOs roll out FFS to local producers													
Buy Inputs	Cacao												
	Plantain												
	Maize and Beans												
	Rice												
Capacity Building	Cacao												
	Plantain												

Activities		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept
	Maize and Beans												
	Rice												
Nursery and seedlings/suckers preparation	Cacao												
	Rice												
Planting	Cacao												
	Plantain												
	Maize and Beans												
	Rice												
Pest and Disease Control	Cacao												
	Plantain												
	Maize and Beans												
	Rice												
Management of the fertility	Cacao												
	Plantain												
	Maize and Beans												
	Rice												
Harvest	Cacao												
	Plantain												
	Maize and Beans												
	Rice												
Activity 3: Monitor and adapt technical models so they are mutually reinforcing.													
1.2: STRENGTHENED EXTENSION OF AGRICULTURE TECHNOLOGIES													
Activity 1: Diffuse improved practices for focus crops to small producers													

Activities		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept
Activity 2: Prepare and issue RFP to identify IPs to oversee extension and FFS models for maize/beans and bananas													
Select IP													
Activity 3: Roll out AVANSE crop package extension program through local implementers													
Train IP in management and supervision of FFS extension and support													
IP oversees rollout of FFS extension and support to maize and bean producers.													
Activity 4: Capacity-building support to targeted BACs in the Northern Corridor													
Activity 5: Leverage and promote production expertise through universities and institutions specialized in agriculture													
1.3: Access to Inputs Increased													
Activity 1: Identify, procure, and multiply improved foundation planting materials; initiate first- and second-round nursery production and multiplication.													
Please note - the detailed schedule for nursery and grafting support is included in IR 2. Please see the cycle above, where we describe when AVANSE plans to purchase inputs.													
1.4: Irrigation Systems Constructed/ rehabilitated Management Capacity of Water-User Associations Increased (NB: Construction efforts included with Infrastructure)													

Activities		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept
Activity 1: Assessment of Water-User Associations' Capacity in Irrigated Crop Implementation Sites.													
Activity 2: Management strengthening program for WUAs.													
Activity 3: Establish small-scale irrigation projects													
Detail Pilot Implementation Plan													
Select and submit for USAID approval Beneficiaries as Recipients and Managers of Small-Scale Irrigation Systems													
Procure Equipment													
Develop Agreements with Local Partners/Producers to Manage Irrigation Systems.													
Install Irrigation Systems for Pilot													
Monitor Impact													
Define plans for scale-up / replication													
1.5: Property Security Strengthened													
Activity 1: Diagnostic study.													
Activity 2: Dry lands grant fund													
Conduct irrigation pilot and preliminary scoping													
Based on Results of the Small-Scale Irrigation Pilot and the Land Tenure Diagnostics, Design the Detailed Scope for the Dry Lands Grants Program and Submit to USAID Approval													

Activities		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept
Submit Dry Lands Grants Program to USAID for Approval													
Implement Dry Lands Grants Program.													
INTERMEDIATE RESULT 2: WATERSHED STABILITY IMPROVED													
2.1: Watershed Governance Bodies Established at the Sub-Watershed Level													
Activity 1: Strengthen capacity of Sub-Watershed Management Bodies													
AVANSE staff provide direct support (technical assistance, inputs) to SWMB for community mobilization reforestation efforts.													
Procure inputs (e.g. tools, saplings) for community mobilization reforestation efforts													
Solicitation Released													
Implementing Partners awarded													
Orientation for IPs to develop SWMPs													
IPs support SWMBs to develop and implement plans													
AVANSE staff provide technical oversight and capacity building support to IPs supporting SWMBs													
Activity 2: Engagement of SWMB IPs to provide continued reinforcement													
Logistics Planning for Site Visits (Select Sites, plan transport, etc.)													

Activities		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept
Field Visits (25 producers per watershed (6 watersheds), each visiting 2 sites per year)													
Activity 3: Protection of critical coastal zones (see activity 6 under IAEC/ Environmental Compliance)													
2.2: Critical Slopes Stabilized Through Public Works (Note: Appears under Infrastructure)													
2.3: Critical Slopes Stabilized Through Farmer-Level Investments													
Activity 1: Completion of existing agro-forestry demonstration blocks													
Activity 2: Replication of demonstration block agro-forestry systems													
Activity 3: Larger-scale reforestation and land reclamation													
Activity 4: Support nurseries and lead-farmer multipliers in targeted watersheds with agro-forestry material and capacity building													
Award in-kind grants to up to 50 nurseries													
Solicit and award IP to provide technical assistance and quality assurance to nurseries													
IP provides technical assistance and quality assurance to nurseries													

Activities		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept
AVANSE technical staff provides ongoing oversight and TA to the IP (includes support from IR3)													
Activity 5: Support grafters to conduct specialized vegetative propagation across targeted zones													
150 Grafters Train 5 peers each													
MARNDR and AVANSE review of Grafters for Certification													
Grafting campaign with certified graftors													
Activity 6: Pilot small-farmer greenhouses in the project zone.													
finalize site selection for 10 greenhouse pilots													
greenhouse pilot conducted													
2.4: Crisis-Management Capacity Strengthened													
Activity 1: Procurement of essential goods for the two civil protection authorities in the North.													
INTERMEDIATE RESULT 3: AGRICULTURAL MARKETS STRENGTHENED													
3.1: Improved Transportation Infrastructure (this is detailed in the Infrastructure section of the schedule)													
3.2: Improved Access to Storage and Processing Facilities and Sub-result 3.5 Relationships in Targeted Value Chains Strengthened													
Activity 1: Continued use of value chain and agro-enterprise data to facilitate growth.													
Finalize Value-chain analysis for AVANSE crops in IR 2													
Continue to update and use Agro-Enterprise Database													

Activities		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept
Update database structure to define enterprise based on project and USAID definitions for enterprises													
Activity 2: Business skills training and performance improvement.													
Sub-activity 1: Roll out mentoring and trainings to selected small/medium enterprises through Sofitraining	-												
Sub-activity 2: Roll out of capacity support / performance improvement for Micro/Small-Enterprises.													
Update curriculum based on Assessment	-												
Identify a local IP to roll out training	-												
Train Ips to deliver curriculum	-												
Roll out training to enterprises	-												
Sub-activity 3: Support to formalize micro/small enterprises.													
Rapid feasibility analysis for registration	-												
Finalize design for registration support activities.	-												
Engage accompagnateurs	-												
Train Accompagnateurs	-												
Provide registration support to enterprises.	-												

Activities		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept
Activity 3: Improve Private Sector--Small Producer Linkages and Partnerships.													
Continued support to established partnerships													
Establishing New Partnerships and Collaboration Opportunities													
Continued engagement and support for Market Linkages													
Developing New Opportunities for Market Linkages													
Activity 4: Scaling up the use of vouchers (Bons d'Achat) as a market-oriented subsidy mechanism.													
Ongoing Collaborative design, implementation, and monitoring of the voucher activities with MARNDR.													
Subcontractor to implement voucher program.													
Finalizing the list of affiliates for participation in the voucher program													
AVANSE reimburses affiliated input suppliers for subsidy amount based on voucher utilization.													
Pilot of new voucher initiatives (e.g. output marketing, plowing, etc.)	TBD												
Monitoring and Learning of SIBA													

Activities		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept
Continued engagement across affiliated enterprises to address environmental compliance.													
3.3: Increased Access to Financial Products													
Activity 1: Launch agro-enterprise value chain grants													
Detailed applications due for review													
Selection of grantees for submission to USAID for approval.													
Awarding of grantees													
Grantee implementation													
Procurement of goods and materials for in-kind grants													
Activity 2: Identify and facilitate agro-enterprise client contacts with appropriate financial institutions and partners													
<i>General Credit Support to AVANSE-supported Enterprises</i>													
Identify and engage financial institutions for joint credit opportunities.													
Provide technical assistance and accompaniment to targeted agro-enterprises to access credit opportunities.													
Activity 3: Support diffusion of Mobile Money Products among value chain actors in the project zone.													
Implement Mobile Money Pilot with MEDA													

Activities		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept
Analyze pilot for opportunities to scale-up													
Sub-Result 3.4: Improved Market Information Systems													
Activity 1: Work with Novella to restart and improve the “Kout Lambi” cacao MIS system	The updated MIS builds upon Novella’s experience and system, but will be updated based on STTA.												
Activity 2: Design commercially useful MIS system													
STTA designs MIS across targeted value chains													
Pilot the MIS in targeted areas													
Impact Study of MIS													
Intermediate Result 4: Capacity Building Support to Implementing Partners													
4.1: Strengthen IPS and Potential Direct Award-Holders to Respond to USAID Forward Objectives													
Activity 1: Continue implementation of established performance improvement plans for identified potential direct award-holders (for contracts, cooperative agreements)													
Activity 2: Conduct organizational capacity assessments (OCAs) for new IPs as they are engaged by the different technical IR teams													
Activity 3: Technical support and ongoing review and monitoring of IP performance													
Finalize Action Plans for each existing partners already identified.													

Activities		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept
Develop Action Plans for Newly Identified Ips who are potential USAID award holders (both FOG and DIRECT)													
Design structure for a curriculum for a Comprehensive Training Program for Potential USAID Direct and FOG Holders.													
Engage consultant IP to finalize curriculum and IP to deliver the training (as needed).													
Finalize Tailored Curriculum													
Training starts for existing and then additional training for newly engaged Ips													
Identify and engage specialized technical assistance providers - e.g. auditors, etc. on an ongoing basis													
Sub-result 4.2: Strengthen the General Implementation Capacity of Beneficiaries & Partners in the project zone (NGOs/CBOs, MARNDR, etc.)													
Activity 1: General capacity-building to agricultural and NRM support in the Northern Corridor to support FORWARD qualification at the FOG level													
Plan and Define curriculum													
Identify IP(s)													
Implement Curriculum													
Activity 2: Strengthening local agricultural CBOs													
Draft Action Plan													
Implement Action Plan for targeted BACS/DDAs													

Activities		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept
Cross-Cutting – Engaging Implementing Partners (NB: This activity is cross-cutting across all of the IRs and components and the activities are included in other sections of this table)													
Cross-Cutting – Infrastructure - note more detailed schedule based on the stages of studies, design, procurement, and construction is included within the narrative.													
Sub Result 1.4: Irrigation Systems Constructed/Rehabilitated and Management Capacity of Users Increased													
Activity 1: Ongoing, larger-scale irrigation works at Dubre, La Suisse, Grison Garde, Robino/Haut Maribahoux, and Chalopin													
Activity 2: Large-scale drainage works													
Sub-activity 1: Technical studies of drainage in the north and northeast plains													
Sub-activity 2: Execution of designated drainage construction works													
Activity 3: Implement critical, urgent infrastructure works - irrigation													
Sub-Result 2.2: Critical Slopes Stabilized Through Public Works													
Activity 1: Large-scale ravine stabilization requiring public works													
Ravine stabilization at Bréda (Haut du Cap/1st section)													
Ravine stabilization at Blondo (Limbe/5th section)													
Ravine stabilization at Divial (Jassa/Acul des Pins)													
Activity 2: Implement critical, urgent infrastructure works – critical slopes													

Activities		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept
3.1: Improved Transportation Infrastructure													
Activity 1: Rural road rehabilitation (Carrefour Bergen/Haut Madeleine, Route Nationale 6 at Coicou, Roches Plates/Juchereau, Carrefour Seminaire/Acul Jeannot, Limonade/Bois-de-Lance, and Robillard/Grison-Garde)													
Activity 2: Implement critical, urgent infrastructure works – rural roads													
Crosscutting Activities – Information, Analysis, and Environmental Compliance													
Monitoring and Evaluation of Implementation													
Activity 1: Semi-Annual Post Harvest Surveys.													
Activity 2: Annual Exporter Survey.		TBD											
Activity 3: M&E Results Reporting.													
Activity 4: Field Site and Sample Verification Visits													
Activity 5: Continuous Updating of Beneficiary Database.													
Activity 6: Spatial analysis of AVANSE Implementation.													
Activity 7: Special Studies and Analyses.													
Environmental Compliance													

Activities		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept
Activity 1: Reinforcement of the Environmental Compliance Team													
Activity 2: Environmental Assessment for AVANSE's Six Watersheds and 2 Cacao Extension Zones.													
Activity 3: Work with IR1/IR2/IR3 to integrate environmental compliance into good agricultural practices (GAP) training approaches.													
Activity 4: Ongoing screening of all field activities for environmental compliance.													
Activity 5: Screen and train IPs in Environmental Compliance as needed													
Activity 6: Marine Protected Area (MPA) Interventions.													
Grant Solicitation submitted to USAID for approval													
Issue RFA													
Grants Awarded													
Implementation													

Activities		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept
Activity 7: Baseline analysis and monitoring of the marine environment to understand the effects of chemicals, waste, sediment, and cross-border contamination.													
Subcontract Solicitation Issued and Awarded													
Implementation													
Activity 8: Weather Station Network to monitor climate variability.													
Procuring Equipment													
Installing Equipment													
Using Weather Data													
Gender Analysis													
Activity 1: Use sex-disaggregated data across key indicators to guide programming.													
Activity 2: In-depth gender review after the first FY2015 harvests.													
Cross-cutting: Communications													
Activity 1: Branding of project work.													
Activity 2: Engaging Beneficiaries and Partners													
Activity 3: Share AVANSE implementation progress and lessons learned with a broader audience.													

Activities		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept
Activity 4: Cocoa Conference (TBD)		TBD											

ANNEX E: PROCUREMENT LIST OF GENETIC MATERIAL

Crops	Order Date (Arrival date)	Origin
IR 1: Agricultural Productivity Increased (Material going to IR1 Crop Implementation Sites)		
Cacao plants	January 2015 (September-December 2015)	Haiti
Cacao budwood (supertrees Cacao, Peyi)	March-April 2015(June –July 2015) June-July 2015 (November 2015-January 2015)	Haiti and Dominican Republic
Lima bean seed (local variety, ford hook)	August 2014 (October 2014) December 2014 (February 2015)	Haiti and USA
Vigna bean seed (California #5)	December 2014 (February 2015)	Haiti
Pigeon pea seed (non photo periodic, Arroyo Loro IDIAF)	December 2014 (February 2015)	Haiti and Dominican Republic
Common bean seed (Icta Ligero)	July-August 2015 (November 2015)	Guatemala and Dominican Republic
Rice seed (Jouma 67, Jaragua)	July 2014 (End of November 2014) February 2015 (June 2015)	Haiti/ Dominican Republic ⁸
Banana / Plantain (local varieties)	May 2015 (September –December 2015) January 2015 (June2015)	Haiti
Maize seed (chicken corn)	July 2015 (September-October 2015) December 2014 (March 2015)	Haiti/ USA
IR 2: Watershed Stability Improved (Material going to IR2 Hillside Sites)		
Vetiver (<i>Vetiveria zizanioides</i>)	September 2014 (December 2014)	Haiti
Elephant grass	September 2014 (December 2014)	Haiti
Sugarcane (<i>Saccharum officinale</i>)	September 2014 (December 2014)	Haiti
Pineapple (<i>Ananas comosus</i>)	September 2014 (December 2014)	Haiti
Cashew nut (<i>Anacardia occidentale</i>)	November 2014 (February 2015)	Brazil and Haiti
Mango (<i>Mangifera indica</i>)	November 2014 (March 2015)	Haiti
Arbre veritable (<i>Artocapus incisa</i>)	November 2014 (March 2015)	Haiti
Avocado (<i>Persea americana</i>)	November 2014 (March 2015)	Haiti
Cocoa (<i>Theobroma cacao</i>)	November 2014 (March 2015)	Haiti
Papaya (<i>Carica papaya</i>)	November 2014 (March 2015)	Haiti
Citrus (<i>Citrus sinensis</i>)	November 2014 (March 2015)	Haiti
Avocado (<i>Persea americana</i>) for grafting	November 2014 (March 2015)	Haiti
Citrus (<i>Citrus aurentifolia</i>) for grafting	November 2014 (March 2015)	Haiti
Mango (<i>Mangifera indica</i>) for grafting	November 2014 (March 2015)	Haiti
Budwood for grafting (mangos)	November 2014 (March 2015)	Haiti
Budwood for grafting (avocados)	November 2014 (March 2015)	Haiti
Spanish cedar (<i>Cedrela odorata</i>)	November 2014 (March 2015)	Haiti

⁸ The variety named Prosequisa who provide interesting yields in Haiti, has been developed in DR where good quality basic seeds are available

Crops	Order Date (Arrival date)	Origin
Earleaf acacia (<i>Acacia auriculiformis</i>)	November 2014 (March 2015)	Haiti
Large-leaf "Brazilian" mahogany (<i>Swietenia macrophylla</i>)	November 2014 (March 2015)	Haiti
Haitian oak (<i>Catalpa longissima</i>)	November 2014 (March 2015)	Haiti
Colubrina (<i>Colubrina arborescens</i>)	November 2014 (March 2015)	Haiti
Paradise tree (<i>Simaruba glauca</i>)	November 2014 (March 2015)	Haiti
Yam (<i>Dioscorea rotundata</i>)	September 2014 (November 2015)	Haiti
Yam (<i>Dioscorea guinensis</i>)	September 2014 (November. 2015)	Haiti
Taro (<i>Colocassia esculenta</i>)	January 2015 (March 2015)	Haiti
Pigeon pea (<i>Cajanus cajan</i>)	January 2015 (March 2015)	Haiti
Banana (<i>Musa paradisiaca</i>)	September 2014 (March 2015)	Haiti
Plantain (<i>Musa sapientum</i>)	September 2014 (March 2015)	Haiti

Notes to Annex on foreign Procurements Listed:

Cacao: budwood from high-yielding cacao varieties in the DR is needed and is not readily available in Haiti. We note that, like Haiti, the DR is free from fungal diseases that are present in the rest of Central and South America—and as such is the only country from which the import of genetic material is authorized by the MARNDR.

Beans: Haiti has no domestic production of base material for beans. We intend to procure Arroyo Negro from the DR and ICTA Ligerio from Guatemala.

Maize: Local varieties of maize will be sourced locally. These include chicken corn and Hugo (the hybrid varieties used for irrigated systems in the South). International procurement of maize will be necessary to obtain the drought resistant Comayagua varieties from Mexico and other hybrids produced in Mexico and the US that have been used by WINNER with success.

Bananas: Haiti does not produce planting material that is resistant to black Sigatoka disease. This must be obtained from the DR.

Cashew nuts: High-yielding, disease-resistant varieties are not available in Haiti and must be procured in Brazil.

ANNEX F: PROFILES IN COLLABORATION

AGREEMENTS WITH FECCANO AND PISA

At the end of FY 2014, AVANSE signed two collaborative agreements with 2 cacao exporters in the north, Novella and PISA. A third agreement is being finalized with the third cacao exporter FECCANO. The objective of this Collaborative Agreement between NOVELLA and AVANSE and FECCANO is to improve the quality of the cacao product in the North of Haiti through practices such as improved drying and traceability, raising the level of production of cacao, and doubling the income that cacao farmers earn from cacao.

NOVELLA is the largest Haitian cacao-exporting enterprise and accounts for two-thirds of Haiti's cacao exports. Operating exclusively in the northern region of Haiti, the company purchases non-fermented cacao from speculators and markets them on the European and North American markets. Under their agreement, Novella and AVANSE plan on increasing the production of cacao by producing and distributing over 500,000 high quality seedlings to producers and by training farmers on production techniques through Farmer Field Schools. Quality will be improved by introducing new post-harvest technology (drying tables) and training farmers on post-harvest techniques. AVANSE will also support Novella in transitioning to fermented cacao, which will significantly improve the quality of cacao exported. Under the agreement, Novella and AVANSE have also developed an innovative purchasing system that will allow Novella to purchase directly from the farmers allowing them to capture the full price paid by Novella, representing a potential increase of 20% to 30% in farmer revenue.

Produits des Îles, S.A. is a subsidiary of REBO, S.A. that was created in 2012 and specializes in the production, processing and marketing of agricultural commodities produced in Haiti. In April 2014 the company launched its first cacao campaign in the North. Under their agreement, PISA and AVANSE will increase cacao production in the North by producing and distributing over 500,000 high quality cacao seedlings to farmers in the North and training farmers on new production technics through Farmer Field Schools. Cacao quality will be improved through direct purchase of freshly harvested cacao that will be fermented in PISA's newly built facility in Acul du Nord. AVANSE will provide technical assistance to PISA on cacao fermentation and drying. The direct purchases will enable the farmers to capture 100% of the price paid by PISA.

AVANSE and its partners have developed detailed workplans and budgets for the activities that will be implemented throughout the remainder AVANSE project.

ANNEX G : CROP PRODUCTION PROTOCOLS

MAIS EN CULTURE PURE

Campagne : printemps (mars-avril)

Paramètres pris en compte : labourage-matériel végétal- fertilisation -lutte phytosanitaire

Rdt espéré : 1,5 TM/ha

Description/ Opération	Période	Techniques	Éléments de stratégie
Type de sol		Limon sablonneux; profond et bien drainé; riche en éléments nutritifs	Les sols fertiles permettent de minimiser l'apport des engrais chimiques
Préparation de sol			
Avant labourage		Épandage des déchets de culture, paille et fumier sur le sol	
Labourage	Un mois avant le semis	Utilisation de bon matériel pouvant garantir un labour jusqu'à 30 cm de profondeur en vue de favoriser un bon développement racinaire.	
Hersage	Environ deux(2) semaines après le labourage	Deuxième tour de labour croisé dans le cas de l'utilisation de la charrue à traction animale	
Billons		Pas obligatoire	La culture se fait à plat
3. Semis	Aux premières pluies	Semis a 4 cm de profondeur dans des rangées espacées de 0,75 cm et distance sur rangée 0,15 cm a raison d'une (1) semence par poquet soit une densité de 89000 plantes a l'ha	
4. Désherbage			
Désherbage 1	Deux semaines après la plantation	Manuel avec houe et serpette à la fois. La serpette permet de désherber au plus près de la plante sans l'endommager.	
Désherbage 2	Quand le maïs atteint le stade de 6-8 feuilles	Sarclage- buttage pour renforcer les plantes de maïs.	

Description/ Opération	Période	Techniques	Éléments de stratégie
Aspersion (contrôle insectes)	A partir de l'observation de 5 % de plantes infestées par des chenilles	Deux (2) applications de Sevin (carbaryl 80 %) à raison de 6-8 grammes par gallon d'eau. Intervalle de traitement 15 jours entre les applications. Au cas où l'infestation persiste après les deux applications de Sevin (carbaryl 80 %), faire une application de Tricel (chlorpyrifos-ethyl) a raison de 10 ml par gallon d'eau.	
Fertilisation	Au moment du sarclage-buttage	Application de 100 kg de 46-0-0 (urée) si le sol est humide .Épandage de l'engrais tout autour de chaque poquet de maïs juste avant le buttage pour s'assurer de la couverture de l'engrais.	
Récolte	Maturité physiologique	Quand dessèchement des spathes et de l'ensemble de la plante .	
Post- récolte		Séchage au soleil pendant un (1) à deux (2) jours, battage-égrenage ; nettoyage puis stockage en silo à 13 % d'humidité.	

ASSOCIATION MAÏS- VIGNA EN CONDITION PLUVIALE

Campagne : printemps (mars-avril)

Paramètres pris en compte : labourage-matériel végétal- fertilisation -lutte phytosanitaire

Rendement espéré : 1 TM /ha

Description/ Opération	Période	Techniques	Éléments de stratégie
Matériel végétal		<p>(1) Maïs : chicken corn amélioré (10 kg/ha)</p> <p>(2) Vigna (pois inconnu) : population locale et/ou Cowpea California blackeye #5; (5 kg/ha)</p>	<p>(1) Chicken corn : population locale améliorée et adaptée à différentes conditions agro écologiques du pays</p> <p>(2) Population locale : rendement satisfaisant en cas de contrôle des insectes</p>
Type de sol		<p>-Bien drainé, ces espèces ne tolèrent pas de l'eau en permanence</p> <p>-Relativement riche pour minimiser l'apport des engrais chimiques</p>	
Préparation sol			
Avant labourage		Épandage des déchets de culture, paille, fumier sur le sol	
Labourage	Un mois avant le semis	Utilisation de matériels pouvant fournir un labour jusqu'à 30 cm de profondeur	
Hersage ou deuxième tour	Environ deux(2) semaines après le labourage	Deuxième tour de labour croisé dans le cas de l'utilisation de la charrue à traction animale	
Billonnage		Pas nécessaire	la plantation se fait à plat

Description/ Opération	Période	Techniques	Éléments de stratégie
Semis			
Semis 1	Aux premières pluies	Semis du vigna dans des lignes espacées de 1,5m. Distance entre poquet 0,50m et 2 grains par poquet soit l'équivalent de 26000 à 27000 plantes à l'ha	Le vigna n'étant pas la principale culture de la campagne, il doit être moins dense que le maïs
Semis 2	Après levée complète du vigna	Semis du maïs en alternant deux (2) lignes avec une rangée de vigna : espace entre ligne 0,75 m et entre poquet 0,50 m, 2 grains par poquet; espace entre rangée maïs et vigna 0,40m, soit l'équivalent de 53000 à 53500 plantes à l'ha .	
Désherbage			
Désherbage 1	Une semaine après levée du maïs	Désherbage à la houe et serpette. L'utilisation de la serpette permet de désherber au plus près de la plante sans l'endommager.	Un désherbage précoce est recommandé quand les mauvaises herbes sont très envahissantes
Désherbage 2	Quand le maïs atteint le stade de 6-8 feuilles	Sarclage- buttage pour renforcer les plantes de maïs. Arracher à la main les mauvaises herbes tout près des plantes de vigna. Continuer au besoin avec le désherbage à la main sur le vigna, car la récolte étant échelonnée sur un temps relativement long.	
Aspersion (contrôle insectes)	A partir de l'observation de 5 % de plantes infestées par des chenilles	Deux (2) applications de Sevin (carbaryl 80%) à raison de 6-8 grammes par gallon d'eau. Intervalle de traitement 15 jours entre les applications. Au cas où l'infestation persiste après les deux	

Description/ Opération	Période	Techniques	Éléments de stratégie
		applications de Sevin (carbaryl 80 %), faire une application de Tricel (chlorpyriphos-ethyl) a raison de 10 ml par gallon d'eau.	
Fertilisation	Au moment du sarclage-buttage	Application de 100 kg de 46-0-0 (urée) si le sol est humide .Épandage de l'engrais tout autour de chaque poquet de maïs juste avant le buttage pour s'assurer de la couverture de l'engrais.	
Récolte	Maturité physiologique	Quand dessèchement des spathes et de l'ensemble de la plante pour le maïs ; la récolte est étalée dans le cas du vigna qui peut être utilisé vert ou mature.	
Post- récolte		Séchage au soleil pendant un (1) à deux (2) jours, battage-égrenage ; nettoyage puis stockage en silo à 13 % d'humidité.	

HARICOT EN CULTURE PURE SOUS IRRIGATION

Description/ Opération	Période	Techniques	Éléments de stratégie
1. Variété		Icta ligero	Utiliser Icta ligero dans le cas où le débit de l'eau d'irrigation est faible, son cycle étant plus court que celui des autres. Il bénéficiera des pluies de décembre au stade
2. Préparation de sol	Octobre-1ère semaine novembre		
2.1 Labourage	Octobre	Utiliser de bons matériels pouvant garantir un labour de 30 à 50 cm de profondeur en vue de favoriser un bon développement racinaire.	Mettre en place une stratégie qui facilitera cette opération. Tout retard dans la réalisation de cette opération aura des conséquences sur les dates de semis. Les semis tardifs ne sont pas conseillés.
2.2 Billons	Octobre, après dessèchement total des herbes	Rassembler les herbes desséchées sous les billons	
3. Semis	Durant les vingt premiers jours de novembre	Utiliser 60 kg /ha de semences saines, avec un taux de germination de 90%, semer sur des lignes distantes de 50 cm Distance entre pieds sur la rangée 10 cm.	
4. Désherbage			
4.1 Désherbage1	18 à 22 jours après levée complète	Manuel avec houe et serpette à la fois. La serpette permet de désherber au plus près de la plante sans l'endommager.	Opération à réaliser à temps afin d'éliminer les compétitions avec les mauvaises herbes. Icta ligero étant une variété très précoce et qui supporte la compétition avec les adventices le désherbage doit être fait à temps à partir du quinzième jour.
4.2 Désherbage2	Au moment de remplissage des gousses	Cette opération se fera à la main, elle permettra l'aération de la parcelle et évitera pourriture des gousses s'il pleut beaucoup.	
5. Fertilisation			
5.1 Fumure de fond	Épandage de fumier avant l'érection des billons, épandage de l'engrais complet avant semis	Épandre du fumier bien décomposé au moment ou avant l'érection des billons, le rassembler sous les billons. Épandre 6 sacs d'engrais complet 12-24-24 avant semis.	Un apport de fumier bien décomposé et d'engrais permettra d'augmenter significativement les rendements
5.2 Fumure de couverture	Apport d'un ½ sac d'urée 46-0-0 à la floraison	Épandre à la volée du sulfate 21-0-0 ou urée à l'initiation de la floraison	Cette application n'est pas nécessaire si utilisation de rhizobium
6. Control des pestes et des maladies			

Description/ Opération	Période	Techniques	Éléments de stratégie
6.1 Contrôle des insectes	Aspersion avec insecticide tout de suite après levée.	Utiliser Actara pour contrôler attaque des crickets	Rapprochement nombre de pieds récoltés du nombre de pieds semés- Prévention contre attaque de crickets
6.2 Contrôle des insectes	Après désherbage 1, renouveler au besoin	Alterner les produits pour éviter développement de résistance et pour obtenir meilleur résultat	
7. Irrigation	Une fois par semaine, s'il ne pleut pas.		
8. Récolte	Lorsque 90% des gousses changent de couleur		
9. Opération post récolte et stockage		Séchage, vannage, tri.	

HARICOT/MAÏS/MANIOC EN SEC

Discription/ Opération	Période	Techniques	Éléments de stratégie
1. Variétés		Haricot : Icta ligero Maïs : chicken corn amélioré Manioc : population locale	Utiliser Icta ligero. Du fait de son cycle court, elle pourra mieux profiter des pluies de décembre.
2. Préparation de sol	Octobre-1ère semaine novembre	Utiliser de bon matériel pouvant garantir un labour de 30 à 50 cm de profondeur favorisant ainsi un bon développement racinaire	
3. Semis			
3.1 Plantation manioc	Troisième décade octobre	A plat dans des trous à raison d'une bouture par trou. Dans ces conditions la densité de plantation du manioc varie entre 6500 à 7000 pieds par ha. distance de plantation 1,00m *1.5m	Mettre en place une stratégie qui facilitera cette opération. Tout retard dans la réalisation de cette opération aura des conséquences sur les dates de semis. Les semis tardifs du haricot ne sont pas conseillés. Le manioc bénéficiera des opérations qui rendront le sol meuble et léger. Dans cette association, le manioc est la composante à plus long cycle. Les opérations de désherbage continueront après les récoltes du maïs et du haricot. Les agriculteurs auront tendance à faire une autre association de maïs et de pois inconnu à la récolte du haricot et du maïs afin de réduire le coût d'entretien du manioc. Le projet n'aura pas intérêt à les empêcher.
3.2 semis haricot	Après bourgeonnement complet des boutures de manioc durant les 20 premiers jours de novembre	Semer sur lignes distantes de 50 cm à raison d'une graine par trou. La qualité de la semence étant garantie. Ainsi, la densité de semis varie de 200000,00 à 250000,00 pieds par ha.	Utilisation de la même séquence de semis que les agriculteurs, il nous paraît logique.
3.3 Semis maïs	Directement après semis du haricot	Entre les pieds de manioc à 33 cm entre eux soit 3 poquets de maïs entre 2 pieds de manioc. La densité de semis sera de l'ordre de 22000,00 pieds par ha.	Le maïs, plante C4, est plus compétitif que le haricot; la densité de semis ne peut pas être au-delà de celle proposée dans le modèle.
4. Désherbage			
4.1 Désherbage1	Désherbage du haricot entre 15et 20 jours après levée	Désherbage manuel à la houe et avec serpette. La serpette permet de désherber le plus près de la plante sans l'endommager.	Opération à réaliser à temps afin d'éliminer compétitions avec les mauvaises herbes. Icta ligero étant une variété très précoce et qui supporte mal la compétition avec les adventices le désherbage doit être fait à partir du quinzième jour.
4.2 Désherbage2	Désherbage du haricot au moment du remplissage des	Désherbage à la main pour permettre aération de la parcelle et éviter pourriture des gousses sur pied en cas de fortes	Opération bénéfique pour le maïs dont le cycle de production est plus long que celui du

Discription/ Opération	Période	Techniques	Éléments de stratégie
Désherbage3	grains Désherbage du manioc selon besoin	pluies. Au besoin, en ayant soin de butter au moment du désherbage	haricot.
5. Fertilisation			
5.1. Fumure de fond	Enfouissement des herbes desséchées enfouissement de fumier, épandage de 200 kg de 12-24-24 au semis du haricot	Apport de fumier bien décomposé et à volonté au moment des travaux de préparation de sol. Épandage de 4 sacs d'engrais complet 12-24-24 (ou 10-20-20) au moment de l'opération de semis du haricot s'il pleut ou si le sol est très humide	Un apport de fumier bien décomposé et d'engrais permettra d'augmenter significativement les rendements. Apport du fumier et de paille permettra de conserver l'humidité sur la parcelle beaucoup plus longtemps. L'apport d'engrais sera fait si le sol est très humide ou si il pleut.
5.2. Fumure de couverture	Épandage de 1 sac de sulfate 21-0-0 ou ½ sac d'urée 46-0-0 à la volée au moment de l'initiation de la floraison	A la volée, au moment de l'initiation à la floraison s'il pleut ou si le sol est très humide	Non nécessaire si inoculation avec rhizobium.
6. Contrôle des pestes			
6.1	Après levée complète du haricot : aspersion contre les mouches blanches	Utiliser Actara (thiamethoxam 25 %) pour contrôler les insectes soit 130 grammes pour 10 pompes d'eau de 4 gallons.	Rapprochement nombre de pieds récoltés du nombre de pieds semés- Prévention contre les attaques de crickets et chenilles sur le haricot et sur le maïs.
6.2	Au cas où l'infestation persiste, il faut alterner les produits.	Alterner les produits	L'utilisation d'un seul produit n'est pas recommandée pour éviter tout développement de résistance
	Aspersion contre les chenilles sur maïs	Utilisation de sevin wsp Carbaryl 80% ou Tricel – chlorpyriphos 75 %	
7. Irrigation			
8. Récolte	Pour le haricot, lorsque 90% des gousses changent de couleur Pour le maïs et le manioc on procédera comme on le fait traditionnellement		Des recommandations seront faites aux producteurs pour les inciter à bien sécher leur maïs et à contrôler le taux d'humidité avant toute opération post récolte et notamment au moment du stockage entreposage.
9. Opération post récolte et stockage			

COCOA

Three strategies will be developed for Cacao: new plantings, grafting and management of old plantings. In any case, best management practices are required for better productivity.

1. NEW PLANTATIONS

Discription/ Opération	Période	Techniques	Eléments de la stratégie
1.Varieties		Local, Criollo, Trinitario	The project will put in place 45 clonal garden with varieties coming from DR and also the super trees identified in Haiti mainly by DEED
2. Establishment of nurseries / contract for seedlings	February – April August –September	Grafting Seedling in nursery	Contract with local enterprises Strengthening capacity of enterprises
3. Soil preparation	August –November February-April	Land clearing, de-root dead trees, etc.	Training and awareness through the FFS
4. Planting of temporary shade	1.5 month (corn, taro) to 1 year (banana) before planting cocoa	Banana, fruit and forest trees can be planted to create shadow for the cacao trees.	Others crops will be associated with cocoa during the establishment like maize. Plantations will be established in the appropriate delay to produce sufficient shade
5. Planting of permanent shade	At the beginning or during rainy season March - May, September – December	Woody species will be planted at a distance greater than the temporary shelters. The distance varies with the species, an average of	Species for permanent shade will set before the cocoa, before or during the provisional shade

		12 mx 12 m	
6. Plantation marque /Picketing	1- 5 days before planting cocoa, temporary shade in: September –December March -April	Cocoa: 4mX3m, 4mX4m, 3mX3m	Spacing will be adapted to the socioeconomic conditions of producers
7. hole digging	September -November	Dig holes to put the cacao plants	
8. cocoa grafting in nurseries	June – August	Use budwood from local supertrees and Dominican Republic	Identification and selection of supertrees Great care to accelerate the growth of branches of supertrees Acquiring budwods Contract with grafters
9. Cacao planting	September – December March – April	Use of healthy plants and different densities: 625-833-1111plants per ha. Mulching of straw can be used around the plant.	Technology transfer and awareness through FFS
10. Weeding/Cleaning	First cleaning: 2 to 3 months after planting; Second cleaning: 3 to 4 months after the first one.	Cleaning of the planting, weeding	
11. Fertilization	Twice a year: First: A least 3 months after plantation or after 2 nd cleaning; Second: At the beginning or just before the main	Soil test are necessary. Use of compost or chemicals, Formula as need: 15-15-15, 10-10-10, Urea (46-0-0). f 200- 300 kg/ha	The application rate varies with the plantation age.

	flowering period		
	In clonal garden: At the beginning of rainy seasons and almost each month during rainy seasons	Alternately: complete fertilizer (15-15-15) and urea (46-0-0). 0.5 – 1.5 pound/tree/2 times a year	Application rates: 10 -30 gr/tree
12. Grafting	When the young trees reach to 1 meter high	Side grafting	Contracts will be pass by the project with individual grafters and grafting enterprises to stimulate the adoption of this technic
13. Pruning	Pruning is done earlier to remove chupons, manage the grafted seedling and young. Trees. Second year of planting: pruning twice; Third year and beyond: pruning 2 times.	Trimming of branches that are dead, infected, broken; elimination of suckers and chupons , etc. maintain cacao tree height at a certain level.	
14. Shade adjustment	Twice a year	Prune shade trees; eliminate excess to let the sun penetrate the cacao trees	
15. Pest control	It depends on the type of treatment: - In nurseries : (diseases and insects)	Control of rodents and birds; control of insects	Integrated pest management will be encouraged by the project

16. Harvest	3-4 years after planting; regularly between April and June and between September and November		
--------------------	--------------------------------------------------------------------------------------------------------	--	--

2. PLANTATIONS ALREADY ESTABLISHED

Discription/ Opération	Période	Techniques	Eléments de la stratégie
2. Cleaning	On a regular basis: 2 times a year	Cleaning of the planting, weeding	
3. Fertilization	Especially young plantations: Twice a year during or just after the clearing and pruning. Second: January – February or just before the main flowering period	Soil test are necessary. Use of compost or chemicals; 200 to 300 kg of 15-15-15 per ha in two applications.	Fertilizer application will be done during rainy season.
4. Grafting	June – august January – February	Side grafting: To remove or replace the existing unproductive trees. Grafting of the greedy and the regrowth after the cut of the old trees	Contracts will be pass by the project with individual grafters and grafting enterprises to stimulate the adoption of these practices Strengthen capacity of producers who are already trained on this technique
5. Pruning	Pruning 2 times a year. The main or heavy pruning will be done just after the main harvest season: June – September.	Pruning will be done to increase cacao production, to reduce pest and diseases infestation, control the shape and height of the tree, to ensure easy access for harvesting. Trimming of branches that are dead, infected, broken; elimination of suckers, etc. maintain	The pruning will be realized by producers who are members of FFS

		cacao tree height at a certain level.	
6. Rehabilitation of Old Cacao Trees	After harvest season, before rainy season	<ul style="list-style-type: none"> - Cocoa pruning to move unproductive trees - Side Grafting to replace unproductive cocoa trees 	The rehabilitation will be done by the producer, member of FFS
7. Shade adjustment	Twice a year. The heavy will be done after the main harvest season, approximately one or two months before the rainy season	Prune shade trees; eliminate excess to let the sun penetrate the cacao trees	This practice will be done by producers who are members of FFS
8. Pest control	<p>Almost all the year. We use integrated pest control. Particularly, we do:</p> <ul style="list-style-type: none"> - Rat control: At the beginning of harvests season. - health pruning and control: All the year 	<p>Control of rodents and birds; control of insects</p> <ul style="list-style-type: none"> - Trap against rats / natural pesticide especially - Control of fungal attacks after grafting mainly 	Integrated pest management will be encouraged by the project
9. Harvest	Almost all the year, with two main periods of harvest : March – June, September – December		

BANANE

Opération	Période	Techniques	Éléments de stratégie
1.- Brise de vent	Les brise-vents doivent être établis de façons permanentes avant les bananeraies.	Plantation de plantes à croissance rapide, comme le leucena ou autres à distance assez rapprochée, pour diminuer l'effet destructeur des vents. Plantation en zigzag. Bien connaître le calendrier de passage du vent	Plantation commerciale ou de grande superficie.
2.- Choix de Variétés	Avant la plantation / un mois	Plantain (french plantain/ Bâtard)	Provenance des rejets : plantations saines ou des centres de multiplication de plantules saines
3.- Préparation de sol <ul style="list-style-type: none"> Labour Hersage Trouaison 	<ul style="list-style-type: none"> Labour : 1 mois avant la plantation ; Hersage : 15 jours après le labourage ; Trouaison : 1 à 2 jours après le hersage ; Plantation : 8 jours après Trouaison 	<ul style="list-style-type: none"> Labour profond ; 30 cm minimum ; Hersage : bien émiettes les mottes de terre ; Trouaison : dimension : 40 cm x 40 cm 	Mettre en place une stratégie pour faciliter la réalisation de ces opérations : <ul style="list-style-type: none"> Tracteur ou charrue à traction animale ; Hersage : à la houe ou tracteur Trouaison : à la houe ou mèche mécanique
4.- Drainage	<ul style="list-style-type: none"> Drainage dans les sols hydromorphes. 	Creusement tout de suite après le labour de drains devant favoriser l'évacuation des eaux en excès dans les plantations La forme de construction des drains (drains intelligents) doit favoriser le contrôle du niveau de la nappe phréatique.	A Bas-Limbé et Camp-Louise, Là où il y a excès d'eau dans les plantations, le drainage est indispensable dans les plantations Dans ces zones les producteurs ont déjà l'habitude de faire de tels drains
5.- Préparation de drageons <ul style="list-style-type: none"> Parage Pralinage 	<ul style="list-style-type: none"> Un jour avant le pralinage ; Pralinage : 2 jours avant la plantation 	Parage et Pralinage : Une fois que les rejets soient enlevés du plant mère, toutes les particules de sol, les racines ainsi que la couche superficielle du bulbe soient complètement enlevées avant d'être plongés dans une bouillie de nématicide	Cette opération doit être entreprise dans les zones de production des drageons, mais non dans les zones de plantation.
6.- Piquetage	<ul style="list-style-type: none"> Avant la trouaison 	Placer des piquets là où les trous vont être creusés, 2 m 50 x 2 m 50 soit 1600 plants à l'hectare	Densité essentielle pour contrôler des maladies comme la Sigatoka. Des densités moins importantes favoriseraient une baisse de l'humidité au sein des plantations. Cependant cette densité serait l'optimale vu que la plantation se fait en régime pluvial et que elle peut être sujette à des sécheresses
7.- Plantation <ul style="list-style-type: none"> Plantules saines Drageons traités 	Deux saisons sont ciblées : <ol style="list-style-type: none"> Septembre Mars-Avril 	Toutes les parties souterraines doit être complètement enterrées Plantules saines et drageons traités: plantation 8 jours après trouaison	Le choix de la date de plantation doit être en étroite relation avec les saisons de pluie et les prix du marché. Si l'eau est disponible, la plantation peut se faire à n'importe quelle période.

Opération	Période	Techniques	Éléments de stratégie
8.- Œilletonnage	Lors de l'apparition du premier rejet et prendra fin à la floraison	Avant la floraison tous les rejets doivent être enlevés du plant mère jusqu'au sol. Un rejet baïonnette sera retenu pour assurer le deuxième cycle, sa sélection se fait après la floraison Désinfecter l'outil avant et après cette opération	Dans le but de maintenir la même densité de plantation dans le cas de la lutte contre la Sigatoka noire.
9.- Désherbage			Les mauvaises herbes doivent être éliminées les cinq premiers mois au moins après la plantation tant que la couverture végétale n'est pas suffisante.
9.1.- Désherbage 1	Désherbage de la banane 30 à 90 jours après levée	Sarclage à la houe ou avec serpette	Les plantations doivent être toujours propres afin d'éviter la compétition avec les mauvaises herbes.
9.2.-Désherbage 2	A Partir de 90 jours à la récolte	1'application de Glyphosate à raison de 6 l/ha, arroser les parcelles avant l'application des herbicides. L'herbicide doit être appliqué à la repousse et ne doit jamais toucher les bananiers.	L'utilisation d'herbicide est moins coûteuse que le désherbage manuel ou à l'aide des houes. Désherbage chimique technique moins pénible assurant de très bons résultats, très peu de temps et applicable même durant la saison pluvieuse. Opération à réaliser si la parcelle n'est pas en association avec d'autres cultures comme le haricot, le maïs, le manioc, le gombo.
10.- Fertilisation			
10.1.- Fumure de Fond	Avant plantation	Enfouissement des herbes desséchées, Fertilisation organique et minérale: A appliquer lors de la plantation au moment du semis. Epannage 125 grammes de 20-10-20 dans les trous de banane Epannage de fumier et ou compost bien décomposé 2.5 kg de fumier ou compost bien décomposé soit 4000 kg /ha.	Il faut restituer au sol les éléments tirés par le bananier pour espérer maintenir les rendements à un niveau élevé. La fumure organique, contribue non seulement à la nutrition de la plante, mais permet également une amélioration de la structure du sol, en favorisant la capacité de rétention en eau autour de la plante, et les échanges gazeux également. (on compte apporter 4000 kg/ha de fumier en une seule application, et trois applications d'engrais deux complets et un simple).
10.2.- Fumure de couverture	Application au 3ème mois	Epannage de 125 g/plant de 20-0-46 Les épandages d'engrais chimiques auront lieu en	.

Opération	Période	Techniques	Éléments de stratégie
		couronne autour du bananier à environ 30 à 50 cm du stipe	
	Application au 5ème mois	Epandage de 125 g / plant de 20-10-20 soit 1/4 de lb Les épandages d'engrais chimiques auront lieu en couronne autour du bananier à environ 30 à 50 cm du stipe	
11.- Lutte contre des ravageurs et maladies.			
11.1.- Parasites telluriques (nématodes)	Avant la plantation.	Avant la plantation, le sol doit être libéré des nématodes phytophages par rotation de cultures, labour. Les drageons doivent être convenables traités, c'est-à-dire pare et praliné, si possibles trempés dans une bouillie de nématicides.	Formation des planteurs sur les moyens de lutte par les encadreurs. Supervision fréquente lors des traitements par les techniciens du projet
11.2.-Sigatoka noires et jaunes	Prévention, techniques intégrées dès l'apparition de la première feuille malade	Dans le cas de la Sigatoka noire, la distance de plantation est importante environ 2,50 x 2,50 m aussi bien l'effeuillage.	Formation des planteurs sur les moyens de lutte par les encadreurs. Supervision fréquente par les encadreurs. L'apport de fertilisant organique et ou chimique permet aussi de lutter contre les pestes en donnant plus de vigueur à la plante.
12.-Effeuilage et enlèvement des gaines sèches	Dès l'apparition de la première feuille malade	Dans la lutte contre la Sigatoka Noire c'est une pratique très importante, elle permettra à la longue de faire baisser la pression de l'inoculum en diminuant la quantité de spores en circulation dans la zone	Former les planteurs sur l'importance de cette technique. Pratique à faire surtout au début de la saison pluvieuse.
13.- Castration /émasculation	15 à 20 jours, juste après l'émission complète des fruits	Éliminer très tôt les fleurs après l'émission complète des fruits. Cette pratique permet un remplissage des doigts et une maturation de fruit beaucoup plus rapide.	Formation des planteurs / pratique en plein champ
14.- Tuteurage	A la floraison	Le tuteurage à l'aide de bambous ou l'étagage à l'aide d'une perche fourchue sera pratiqués ou autre dispositif fabriqué avec d'autre matériel.	Appui technique est indispensable dans la mise en place un tel système, très important qui peut aider lors de forts vents vent. Les variétés utilisées se comportent très bien, les planteurs ont trouvé une adéquation entre la date de plantation et le port de la variété
15.- Récolte	Démarrage de 10 à 12 mois après la plantation	Manuelle avec un rendement moyen de 12 TM /ha (rendement actuel 6 TM).	Bien former les planteurs pour qu'ils laissent le rachis de la banane en plein champs afin de restituer au sol un peu de matière sèche et de fertilisant.

ITINERAIRES TECHNIQUES DE LA CULTURE DE RIZ – SRA (TECHNIQUES AMELIOREES)

Plusieurs opérations de l'ITK de SRI suivant les circonstances peuvent être modifiées pour avoir le Système de Riziculture Améliorée. Elles peuvent concerner :

1.- La mise en place de la pépinière. En milieu totalement inondée on peut ne pas pouvoir installer une pépinière sèche ; il n'y a aucun problème alors pour qu'on la mette en place comme on a l'habitude de le faire suivant les techniques traditionnelles. C'est le temps passées en pépinière avant que les plantules soient repiquées qui va jouer.

2.- Le nombre de temps passé en pépinière et le stade de la plantule au repiquage. Au lieu de laisser les plantules passer 1 mois et demi en pépinière avant de les repiquer, on peut le faire entre 20 à 22 jours avant que les racines des plantes soient totalement développées. Ainsi on peut espérer encore un très bon tallage.

3.- Alternance Irrigation et assèchement. Effectuée au cours des premières semaines après le repiquage, cette opération permettra que le développement et l'enracinement des jeunes plants s'effectuent de manière optimale. En effet là où on peut avoir un minimum de gestion de l'eau, même si on n'a pas pu respecter les premières opérations typiques au SRI, on aura un meilleur système racinaire et beaucoup plus de talles.

Opérations	Période	Techniques	Eléments de stratégie
1.- Choix de Variétés	Un mois avant la plantation	pour X ha a raison de 12 à 15 kg/ha <ul style="list-style-type: none"> Juma 20% et Jaragua à 80% 	Les variétés juma (57 & 67) sont universelles a toutes les zones de concentration retenues et donnent de très bons résultats. Il en est de même pour la variété Jaragua
2.- Préparation Sol de la parcelle	3 à 4 jours avant le labourage Jo	Mise en boue <ul style="list-style-type: none"> Labour profond 30 cm à la houe ou au motoculteur pour un bon développement racinaire Nivelage avec un planeur la veille du repiquage 	Ces opérations permettront aux variétés de bien développer leur potentiel et de donner de bon rendement
3.- Sélection et		➤ Vannage de semences	

Opérations	Période	Techniques	Eléments de stratégie
traitement des semences	Avant pré-germination et semis	<ul style="list-style-type: none"> ➤ Triage des semences dans l'eau : Les graines vides qui surnagent sont enlevées ➤ Utiliser 2 sachets de 40 Gr de Thiram25 ou Dithane pour 100 lbs de semences ➤ Trempage des semences pendant 24 heures dans un seau avec de l'eau tiède 	La pré-germination permet d'avoir une repousse uniforme au niveau de la pépinière. C'est fondamental car calculée pour emblaver une quantité déterminée de terre.
6.- Semis de la pépinière	1 jour après pré germination	<ul style="list-style-type: none"> ➤ Utiliser 80 à 100 lbs de semences à l'hectare soit 40 à 45 kg/ha. ➤ Semer en début de matinée ou en fin d'après-midi. 	
7.- Gestion de la pépinière	1jour après pré-germination 1jour après pré-germination Période en pépinière A partir du 2ieme jusqu'au 5ieme jour après semis	<ul style="list-style-type: none"> ➤ On recouvre les semences avec une couche fine de fumier bien décomposé ou du terreau. ➤ On tasse le sol un peu ➤ On couvre le sol avec la paille sèche (mais sans graines !) pour protéger les semences contre la chaleur, la pluie, les oiseaux et les rats ➤ Arrosage chaque matin et soir avec un arrosoir, ou au besoin ➤ Vérifier la levée à partir du 2ieme jour après semis et enlever progressivement la paille jusqu'au 5ieme jour. ➤ On recouvre les semences qui apparaissent en surface avec un peu de terre. 	
8.- Prélèvement des plants de la pépinière	8 à 12 jours après semis 8 à 12 jours après semis	<ul style="list-style-type: none"> ➤ Arrosage de la pépinière avant prélèvement ➤ Avec une pelle, enlever la motte entière à une profondeur de 10-12 cm ➤ Transport de la motte sur une assiette, dans une cuvette ou autre récipient au champ ➤ Prélèvement et transport des plants doit être échelonné, au fur et à mesure de l'avancement du repiquage. 	
9.- Transport des plants	15 a 20 jours après semis	<ul style="list-style-type: none"> ➤ Les plantules plusieurs feuilles sont transplantées, ➤ Elles sont âgées entre 15 a 20 jours ➤ Entre le prélèvement des plants de la pépinière et le repiquage, il ne faut pas dépasser 15 minutes si possible (30 minutes maximum !) 	Repiques a ce stade les plants sont plus aptes à développer beaucoup plus de talles.

Opérations	Période	Techniques	Eléments de stratégie
	15a 20 jours après semis		
10.- Repiquage	15 à 20 jours après semis	<ul style="list-style-type: none"> ➤ La boue doit être bien épaisse et collante ➤ Il ne doit pas y avoir de l'eau stagnante dans la parcelle ➤ Le repiquage peut se faire: <ul style="list-style-type: none"> - sur rayonnage croisé à l'aide d'un rayonneur gradué de 25cm avec un repiquage en avançant. - En quinconce sans tenir compte d'une distance stricte mais en évitant une trop forte densité ➤ On assure l'alignement des rangées de transplantation dans les deux directions du champ (ce qui va permettre de faire un sarclage croisé) <p>Le repiquage doit être fait avec beaucoup de soin :</p> <ul style="list-style-type: none"> ➤ Prélever la plantule avec une motte de terre ➤ Chaque plantule est glissée latéralement dans la boue, les racines sont horizontalement couchées dans la boue ➤ Les racines doivent avoir la forme d'un L et pas d'un J <p>On appuie un peu avec le pouce pour que le plant soit enfoncé à 1-2cm de profondeur et colle dans la boue</p>	La densité 25 cm X 25 cm observée permet de limiter sinon d'éviter la compétition entre les plantes tant pour la lumière que pour les nutriments
11.- Gestion du champ pendant 2 semaines après repiquage	2 semaines après repiquage	<ul style="list-style-type: none"> ➤ Après la plantation, le champ peut être légèrement irrigué et maintenu humide pour assurer le bon enracinement des plants – ➤ On fait le regarnissage au fur et à mesure qu'on constate des manquants avec le reliquat de la pépinière SRI ➤ Pendant 2 semaines où les plantules s'établissent, le champ doit rester bien humide. 	
12.- Sarclage	10 à 15 jours après repiquage	<ul style="list-style-type: none"> ➤ Premier sarclage à la machette ou utilisation d'un herbicide approprié dépendamment des caractéristiques des MH. Pour le 2-4,D le dosage est de 3lt/ha ➤ On sarcle tous les 10 à 15 jours selon la pression des mauvaises herbes et fréquence d'irrigation. Idéalement, on sarcle 4 fois par saison. 	

Opérations	Période	Techniques	Eléments de stratégie
	10 à 15 jours après le 1 ^{ier} sarclage	<ul style="list-style-type: none"> ➤ Une lame d'eau doit être présente au moment de sarclage ➤ Le sarclage doit se faire quand les MH sont encore petites ➤ Les mauvaises herbes se trouvant tout près des pieds de la plante peuvent être enlevées à la main et enfouies tout près des pieds du riz ➤ L'eau ne doit pas être évacuée de la parcelle après le sarclage pour ne pas perdre les nutriments de la parcelle ➤ Un sarclage croisé dans les deux sens est recommandé 	
13.- Irrigation	<p>2 semaines après repiquage</p> <p>Puis au besoin durant tout le cycle</p> <p>3 semaines avant récolte, évacuation totale de l'eau dans la rizière</p>	<ul style="list-style-type: none"> ➤ Pendant 2 semaines après repiquage, le sol est gardé humide. ➤ Par après on adopte le système d' 'irrigation et assèchement alternatif' : Une lame d'eau de 1 à 2 cm est introduite dans la parcelle, on laisse dessécher jusqu'à l'apparition des fissures du sol avant une nouvelle irrigation. ➤ Il est conseillé de ne pas garder très longtemps la rizière sèche sur sol argileux ➤ La fréquence d'irrigation n'est pas déterminée, mais dépend du sol et climat ➤ Début de montaison, une couche d'eau de 2 à 3 cm est retenue en permanence ➤ 3 semaines avant la récolte, la parcelle est drainée pendant la maturation 	L'alternance entre irrigation et assèchement de la parcelle permet aux racines de s'oxygéner et par voie de conséquence de bien se développer
14.- Fertilisation	<p>15 jours après repiquage : 150 Kg/ha 20-20-10</p> <p>30 jours après repiquage : 100 Kg/ha Urée</p> <p>45 jours après repiquage : 150 Kg/ha DAP</p>	<ul style="list-style-type: none"> ➤ L'application de la fumure organique constitue la base de fertilisation. ➤ Au moment des carences apparentes (jaunissement), un sarclage est recommandé afin de mobiliser les nutriments dans le sol. ➤ Au cas de carences persistantes, une application réduite des fertilisants chimiques peut se faire pour correction. ➤ Il est à éviter d'appliquer les engrais dans l'eau présente dans la parcelle, mais de les appliquer immédiatement avant le sarclage pour les enfouir davantage dans le sol. 	
15.- Récolte et	Elle s'opère plus ou moins 3	<ul style="list-style-type: none"> ➤ 3 semaines avant la récolte, la parcelle est drainée 	Elle se fait à l'aide de la faucille ou de

Opérations	Période	Techniques	Eléments de stratégie
opérations post récolte	mois après repiquage	totalemment.	la machette. Le battage se fait sur des bâches à l'aide de la Batteuse à pédales à vulgariser car très pratique

ITINERAIRES TECHNIQUES DE LA CULTURE DE RIZ – SRI

Opérations	Période	Techniques	Eléments de stratégie
1.- Choix de Variétés	Un mois avant la plantation	2 variétés retenues : Juma et Jaragua Prévisions pour X ha a raison de 6 kg/ha <ul style="list-style-type: none"> • Juma 67 20% • Jaragua FI 80% 	Les variétés juma(57 & 67) est présente dans toutes les zones de concentration retenues et donnent de très bons résultats. La variété jaragua est connue dans le Nord-Est
2.- Préparation Sol de la parcelle	J0 12 Jours au moins après le labour 1 jour après hersage 1 jour après hersage	Labour profond 30 cm à la houe, à la charrue attelée ou au tracteur pour un bon développement racinaire Mise en boue, émottage avec de la houe ou au motoculteur(Hersage) Nivelage avec un planeur la veille du repiquage Rigole périphérique de 30 cm de large et 30 cm de profondeur à l'intérieur de la parcelle	Ces opérations permettront aux variétés de bien développer leur potentiel et de donner de bon rendement Les résidus végétaux ont eu le temps de se décomposer et vont augmenter le % de matières organiques présents dans le sol. Cette opération facilite l'enracinement et le développement des jeunes plants. L'eau d'irrigation circule d'abord dans la rigole avant d'irriguer la parcelle de culture. Elle permet d'ajuster le niveau de l'eau avec précision.
3.- Application fumure organique	5 jours après le labour (Jo)	Application de 10 T/ha de fumier ou compost, bien reparti sur la rizière	A défaut de fumier ou de compost on peut compenser la fumure de fond avec une petite dose de DAP
4.- Préparation sol de la Pépinière sèche	Jo	<ul style="list-style-type: none"> • Pépinière installée à côté de la rizière et tout près d'une source d'eau. • Dimension : 1m de largeur sur 6 m de long pour le repiquage d'une rizière de 600 m2. Profondeur : 12-15 cm (racines des plants de 8-12 jours sont 7,5 cm de long) 	Le sol de la pépinière doit être meuble constituée d'une terre légère, aérée, avec beaucoup d'humus et réduite en poudre au-dessus mais pas sableuse. Pour cela on mélange l'argile avec du sable et du fumier
5.- Préparation des		➤ Vannage de semences	La pré-germination permet d'avoir une

Opérations	Période	Techniques	Éléments de stratégie
semences	J0 J0 1 jour après trempage	<ul style="list-style-type: none"> ➤ Triage des semences dans l'eau : Les graines vides qui surnagent sont enlevées ➤ Trempage des semences pendant 24 heures dans un seau avec de l'eau tiède ➤ Pré-germination facultative de 24 heures dans un endroit chaud ou dans un trou préchauffé après le trempage ➤ Quantité de semences pour 1/20^{ème} de <i>carreau</i> : 0.9 livres soit 18 lbs/Cx (cela inclut des réserves au cas des pertes) semé sur 6 m² de pépinière 	repousse uniforme au niveau de la pépinière. C'est fondamental car calculée pour emblaver une quantité déterminée de terre.
6.- Semis de la pépinière sèche	jour après pré germination	<ul style="list-style-type: none"> ➤ Bien arroser la pépinière, pour que le sol soit bien entassé et humide. ➤ Diviser le lot de semences en 3 parties : semer chaque moitié de la pépinière avec une partie de semence, et combler les vides avec la 3ème partie. ➤ Les semences ne doivent pas se toucher (distance entre deux graines : la longueur d'une graine). ➤ Semer en début de matinée ou en fin d'après-midi. 	
7.- Gestion de la pépinière	1jour après pré germination jusqu'au 12 ^{ème} jour 1jour après pré germination jusqu'au 12 ^{ème} jour	<ul style="list-style-type: none"> ➤ On recouvre les semences avec une couche fine de fumier bien décomposé ou du terreau. ➤ On tasse le sol un peu ➤ On couvre le sol avec la paille sèche (mais sans graines !) pour protéger les semences contre la chaleur, la pluie, les oiseaux et les rats ➤ Arrosage chaque matin et soir avec un arrosoir, ou au besoin ➤ Vérifier la levée à partir du 2ieme jour après semis et enlever progressivement la paille jusqu'au 5ieme jour. ➤ On recouvre les semences qui apparaissent en surface avec un peu de terre. 	
8.- Prélèvement des plants de la pépinière	8 à 12 jours après pré germination	<ul style="list-style-type: none"> ➤ Arrosage de la pépinière avant prélèvement ➤ Avec une pelle, enlever la motte entière à une profondeur de 10-12 cm ➤ Transport de la motte sur une assiette, dans une cuvette ou autre récipient au champ ➤ Prélèvement et transport des plants doit être échelonné, au fur et à mesure de l'avancement du repiquage. 	
9.- Transport des plants	8 à 12 jours après pré germination	<ul style="list-style-type: none"> ➤ Les plantules à 2 feuilles sont transplantées, ➤ Elles sont âgées entre 8-12 jours ➤ Entre le prélèvement des plants de la pépinière et le repiquage, il ne faut pas dépasser 15 minutes si 	

Opérations	Période	Techniques	Eléments de stratégie
10.- Repiquage	8 à 12 jours après pré germination	<p>possible (30 minutes maximum !)</p> <ul style="list-style-type: none"> ➤ La boue doit être bien épaisse et collante ➤ Il ne doit pas y avoir de l'eau stagnante dans la parcelle ➤ Le repiquage peut se faire: <ul style="list-style-type: none"> - à l'aide d'une corde graduée de 25cm, sur ligne et entre poquets avec un repiquage en reculant - sur rayonnage croisé à l'aide d'un rayonneur gradué de 25cm avec un repiquage en avançant. ➤ On assure l'alignement des rangées de transplantation dans les deux directions du champ (ce qui va permettre de faire un sarclage croisé) <p>Le repiquage doit être fait avec beaucoup de soin :</p> <ul style="list-style-type: none"> ➤ Prélever la plantule avec la graine et une motte de terre ➤ Chaque plantule est glissée latéralement dans la boue, les racines sont horizontalement couchées dans la boue ➤ Les racines doivent avoir la forme d'un L et pas d'un J <p>On appuie un peu avec le pouce pour que le plant soit enfoncé à 1-2cm de profondeur et colle dans la boue</p>	Nécessité de disposer de rouleaux marqueurs pour cette opération
11.- Gestion du champ pendant 2 semaines après repiquage	1 à 14 jours après repiquage	<ul style="list-style-type: none"> ➤ Après la plantation, le champ doit être légèrement irrigué et maintenu humide pour assurer le bon enracinement des plants – ➤ On fait le regarnissage au fur et à mesure qu'on constate des manquants avec le reliquat de la pépinière SRI ➤ Pendant 2 semaines où les plantules s'établissent, le champ doit rester bien humide. 	
12.- Sarclage	15 jours après repiquage	<ul style="list-style-type: none"> ➤ Premier sarclage avec la sarceuse conique à 15 jours après repiquage quand les plantules sont bien installées et ancrées dans le sol. ➤ On sarcle tous les 10 à 15 jours selon la pression des mauvaises herbes et fréquence d'irrigation. Idéalement, on sarcle 4 fois par saison. ➤ Une lame d'eau doit être présente au moment de sarclage 	Nécessité de disposer de sarceuses coniques pour diminuer le travail

Opérations	Période	Techniques	Éléments de stratégie
	40 jours après repiquage : 50 Kg/ha d'Urée 50 jours après repiquage : 75 Kg/ha de Sulfate d'Ammonium	<ul style="list-style-type: none"> ➤ Au moment des carences apparentes (jaunissement), un sarclage est recommandé afin de mobiliser les nutriments dans le sol. ➤ Au cas de carences persistantes, une application réduite des fertilisants chimiques peut se faire pour correction. ➤ Il est à éviter d'appliquer les engrais dans l'eau présente dans la parcelle, mais de les appliquer immédiatement avant le sarclage pour les enfouir davantage dans le sol. 	
Herbicides et pesticides	10 à 15 jours après repiquage et après au besoin S'il y a infestation d'insectes suceurs	<ul style="list-style-type: none"> ➤ Sarclage à l'aide de la sarcluse conique ou Application de l'herbicide. Pour le 2-4,D, dosage : 3lt/ha ➤ Utilisation d'insecticides appropriés à la dose requise 	
15.- Récolte et opérations post récolte	Elle s'opère plus ou moins 3 mois après repiquage	<ul style="list-style-type: none"> ➤ 3 semaines avant la récolte, la parcelle est drainée totalement. 	Elle se fait à l'aide de la faucille ou de la machette. Le battage se fait sur des bâches à l'aide de la Batteuse à pédales à vulgariser car très pratique

N.B.- Conduite avec Méthode SRI

- 1.- Semis sur pépinière Sèche
- 2.- Repiquage de jeunes plants à 2 feuilles
- 3.- repiquage d'un seul brin par touffe espacée de 25 cm X 25 cm
- 4.- Fertilisation composée de :
 - Fumure de fond : 5t/ha de Compost
 - Fumure d'entretien : 75 kg de 20-20-10, 10 jours après repiquage
 - 50 Kg/ha d'Uree, 40 jours après repiquage
 - 50 Kg/ha de SA, 50 jours après repiquage
- 5.- Trois séries de sarclage mécanique réalisé à 10 jours après repiquage et répété tous les 15 jours avec la Sarcluse conique
- 6.- Alternance d'irrigation de 3 jours et d'assèchement de 4 jours pendant la période végétative