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Développement Economique pour un Environnement Durable (DEED)

Performance Evaluation
Final Report

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August 2013

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USAID/HAITI

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Performance Evaluation

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LIST OF ACRONYMS AND ABBREVIATIONS

BV	Bassin Versant
BAC	Bureau Agricole Communale
CBNRM	Community-Based Natural Resource management
CBO	Community-Based Organization
CFAIM	Centre de Formation en Amenagement Intégré des Mornes
CNIGS	Centre National d'Iformation Géographique et Spatiale
CUPEC	Coopérative Union des Paysans de Calouis-Fond Baptiste
DAI	Development Alternative Inc.
DDA	Direction Departmental Agricole
DEED	Développement Economique pour un Environnement Durable
FECCANO	Federation des Cooperatives Cacaoyeres du Nord
FFS	Farmer Field School
FGD	Focus Group Discussions
CNIGS	Centre National de l'Information Geographique et Spaciale
GOH	Government Of Haiti
MARNDR	Ministère de l'Agriculture des Ressources Naturelles et du Développement Rural
MDE	Ministère de l'Environment
MODEPROVES	Mouvement pour le développement économique et la promotion des valeurs environnementales et sociales
NGO	Non-Governmental Organization
NRM	Natural Resource Management
PARDFAL	Plateforme d'Appui pour le Renforcement et le Développement des Filières Agricoles dans le BV de Limbe
PG	Producer Group
PPA	Public-Private Alliance
PPP	Public-Private Partnership
SSI	Semi-Structured Interviews
SPSS	Statistical Packages for Social Sciences
USAID	United States Agency for International Development
WINNER	Watershed Initiative for National Natural Environmental Resources

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The contribution of all members (drivers, surveyors, data facilitators and experts) of the evaluation team is acknowledged. The core evaluation team included Yves Robert Personna, Ph.D, Team Leader, Environmental Expert; Wesner Antoine, Ph.D, Deputy Team Leader, Monitoring and Evaluation Expert; Sandra Jean-Gilles: Social Sciences Expert, Data collector/ Facilitator ; Clermond ELCEA, Social Sciences Expert, Data collector/ Facilitator and Amos Davilmar, Natural Resources Management Expert, Data collector/ Facilitator.

I. EXECUTIVE SUMMARY

Evaluation Purpose and Questions

This is a performance evaluation for the DEED (Développement Economique pour un Environnement Durable) project implemented in the Montrouis (January 2008-January 2011) and Limbé (January 2008-November 2012) watersheds. The evaluation is directed at addressing DEED effectiveness and providing recommendations that can guide informed decisions in terms of designing and implementing environmental and agricultural projects in Haiti. The evaluation focused on six broad evaluation questions:

1. General Question: To what extent did the project achieve its objectives?

2. Collaboration/Associations: How effectively did DEED work and develop strong linkages with recipients, the Government of Haiti at the central, regional and local levels (e.g. MOA, MOA/Damien, DDAs and BACs), and project partners? Determine how watershed management committees and farmer associations are functioning, and how they will likely function after DEED support ends. Are farmer associations able to sustain their core business functions to the benefit of members, and are watershed management committees sufficiently organized to assure stabilization of watersheds within which they reside?

3. Watershed (s): DEED modified the project strategy during the option period to increase emphasis on livelihood enhancement. Compare the two approaches (watershed focus versus greater focus on productive plains) and at the same time assess how (if) farmers in Limbé upper watershed continued their activities over the option year period without support from DEED. Did other farmers not supported by DEED adopt the technologies/techniques promoted by DEED for hillside stabilization? What were the critical DEED inputs that facilitated several local jurisdictions within a watershed to initiate a planning and coordination process for management of the whole watershed? How successful has this been?

How successful was the strategy of lowland tenant farming in the Montrouis watershed as a means to improve all hillside watersheds and farming over the long-run? For example, did farmer beneficiaries from tenant farming activities effectively replace erosive annual crops in the upper-watershed with tree crops? What is the status of the two key watersheds as a result of project interventions? Detail lessons and insights.

4. Livelihoods: How did DEED interventions help farmers and jurisdictions invest in income-generating actions that both stabilized hillsides and protected the productive plains? For example, DEED, through some innovative steps, promoted permaculture which both improved productivity and livelihoods and stabilized hillsides. Did this prove to be effective? To what extent did farmers benefit from and adopt this strategy?

5. Value chains: Confirm DEED's reported results, both qualitatively and quantitatively, in developing crop value chains, specifically cocoa. Analyze key components and linkages including production, post-harvest, and marketing components. What were critical inputs that have led to successes? Will the cocoa producer be able to provide quality cocoa to the exporter when the project ends? In general, quantify business relationships between producer groups and buyers, e.g. determine changes in farm-gate prices for cocoa. Compare farmer relationships to the exporter and quality of cocoa sold by the famers to the exporter before and after the project-supported cocoa field schools.

6. Gender: Determine DEED's impact on improving the economic status of women and how successes can be carried forward in future USAID projects. To this end, look at the composition of the farmer associations that were strengthened by DEED.

DEED Project Background

DEED was initiated within the USAID's 2007 strategy plan for Haiti that had three main strategic objectives (1) more employment and sustainable livelihoods, (2) increased access to quality social services, and (3) improved rule of law and responsive governance. DEED was implemented in two watersheds: the watershed of Montrouis (600 km^2), located in the West and Artibonite Departments, and the Limbé watershed (300 km^2) located in the North Department. The DEED project includes six integrated technical components:

(1) Strengthening community-based producer groups, associations, and enterprises,
(2) Promoting alternatives to hillside farming,
(3) Promoting and improving community-based natural resources management,
(4) Assisting the Government of Haiti develop sound NRM policies and systems,
(5) Developing watershed restoration and environmentally sustainable management plans with watershed stakeholders, and
(6) Promoting alliances with the private sector to leverage DEED resources.

The key results targeted during DEED project included:

(1) A 20 percent increase in household income in target areas as a result of improvements in agriculture, marketing, and off-farm employment.
(2) At least 50,000 hectares (ha) of fragile land under environmentally sound management a reduction in unsuitable annual cropping of about 50 percent.
(3) At least 2,500 ha of priority conservation areas under improved and sustainable management that improves the biophysical conditions of the ecosystems.
(4) At least 15,000 households deriving improved livelihoods from sound NRM.
(5) At least $7 million leveraged from the private sector for investment in enterprise development and watershed management in the target watersheds.

The DEED project was implemented for about 5 years as follows (a) 3 year base-period (January 2008-January 2011) in both watersheds focusing on hillside farmers in highly environmental degradation areas, and (b) 16 month-extension period between January 2011-November 2012 only in the Limbé watershed focusing on farmers in the low land and fertile plain areas.

Evaluation Method and limitations

Overall Approach. The evaluation questions were the entry point and formed the basis for the evaluation design considerations, selection of data sources, development of specific methods for data collection, and adequate framework for data synthesis and analysis. This approach can be schematically illustrated as follows:

Design considerations. A mixed methods approach (combination of different techniques and methods to collect the data needed) was used to adequately address the evaluation questions. Both qualitative and quantitative methods were used for data collection.

Data collection methods, data sources and analysis

Preliminary Meetings and Exploratory Field Visits. The evaluation team conducted preliminary meetings with USAID and DAI and exploratory field visits in both Montrouis and Limbé watersheds to get insight into the general context of the DEED evaluation, DEED implementation approach and spatial distribution of key partners and stakeholders within the two watersheds; thus planning the deployment of the evaluation team, the focus group discussions (FGDs) and semi-structured interviews (SSIs) with key informants.

Direct Field Observations. The evaluation team also conducted direct field observations to assess key reported project achievements in the two watersheds.

Review of Literature. The following documents were reviewed by the evaluation team: DEED project document, DEED quarterly progress and final performance reports, maps of stakeholder distribution within the two watersheds, maps of land occupation, 2007 USAID report on environmental vulnerability in Haiti. This literature review helped design and plan the evaluation.

Qualitative Methods. Selected qualitative methods included FGDs and SSIs in both Montrouis and Limbé watersheds. The evaluation team conducted a total of 15 FGDs and 17 SSI. The FGDs were conducted with small groups (~12 people) of representatives of farmers (randomly selected) supported by DEED, famers non-supported (randomly selected) by DEED, grantees and Public Private Alliances (PPAs), Producer Groups/Community-Based Organizations (PGs/CBOs), sub-watershed management committees (sub-WMC), Plateforme d'Appui pour le Renforcement et le Développement des Filières Agricoles du Bassin Versant de Limbé (PARDFAL) and enterprises. The SSI were conducted with key informants (1 or 2 people) from central and local GoH (Ministère de l'Agriculture, des Ressources Naturelles et du Développement Rural/MARNDR, Mayors, CASECS and ASECS), Novella (a cocoa exporter), Fédération des Coopératives Cacaoyères du Nord (FECCANO), Rassemblement des Comités d'Action pour le Développement Agricole Matheux Arcahaie (RACADAMA), and Porte Voix du Peuple.

Quantitative Methods. A farmer survey was conducted to measure the status of several indicators that were retained to assess the performance of DEED project. The population frame included all farmers living in DEED implementation areas in Limbé watershed and the economic zone of the Haiti Northern department. DEED implementation areas were divided into primary sampling units. The sampling scheme was a stratified cluster sampling.. Forty clusters were chosen randomly in the list of Section D'Enumeration (SDE; IHSI, Atlas Critique d'Haiti, 2006), and 24 farmers were chosen within each cluster using the random walk method. A questionnaire was designed to capture information needed to answers the evaluation questions.

Data synthesis and analysis. A parallel analysis of the data was performed i.e. the qualitative and quantitative data were analyzed independently and then the findings integrated. For the qualitative data, a synthesis framework was developed to coherently address the wealth of information collected. The quantitative data were processed with SPSS, and the results were summarized in tables and figures.

Evaluation limitations

- The evaluation was conducted 2 years after the project ended in the Montrouis watershed. During these two years, the USAID-WINNER project was implemented in the Montrouis watershed. This situation could potentially lead to some biases in the data.
- Only qualitative data were collected in the Montrouis watershed Evidence provided for the Montrouis watershed was derived only from qualitative approach.
- DAI staffs were not available during data collection period. Sometimes specific insights into activities context, constraints and lessons learned could not be provided during field visits.

Findings

General Question :

The DEED project has a satisfactory performance regarding the key target performance indicators. The key findings are summarized per project component hereafter.

Components	Indicators	Target	Achieved	% Achieved
1. Strengthening community-based producer groups, associations, and enterprises	Increase household income in target areas as a result of improvements in agriculture, marketing, and off-farm employment.	20%	-	
	increase in value from sustainable crops	20%	69.9%	**349%**
2. Promoting alternatives to hillside farming	Area (hectares) of fragile land under environmentally sound management	50,000 ha	35777 ha	**71.5%**
	a reduction in unsuitable annual cropping	50 %	-	
3. Promoting and improving community-based natural resources management	Priority conservation areas under improved and sustainable management that improves the biophysical conditions of the ecosystems.	2,500 ha	244 ha	**9.7%**
4. Assisting the Government of Haiti develop sound NRM policies and systems	# of policies, laws, agreements or regulations promoting sustainable natural resource management and conservation that are implemented as a result of USG assistance.	2	2	**100%**
5. Developing watershed restoration and environmentally sustainable management plans with watershed stakeholders	People with increased economic benefits derived from sustainable natural resource management and conservation as a result of USG assistance.	75,000	106775	**142%**
6. Promoting alliances with the private sector to leverage DEED resources	Leverage from the private sector for investment in enterprise development and watershed management in the target watersheds.	$7 million	6 466 429 $	**92.3%**

Collaboration/Associations

DEED took a participatory approach to involve multi-stakeholders from the inception of the project and in the course of its implementation. The extent of DEED collaboration and linkages with Local GoH, PGs, CBOs and enterprises was reflected through its:

- Assistance to 63 producer groups (PGs)
- Implementation of 31 grants with Haitian organizations
- Investment in 9 public-private alliances (PPAs).

The two major investments of DEED were in partnership with the MARNDR and French Development Agency (FDA) for the rehabilitation of irrigation systems in the Montrouis watershed, and Novella S.A/FECCANO for cocoa production, quality and marketing in the Limbé watershed. DEED maintained contact with MARNDR centrally by sharing their experiences and helping develop policies to foster environmentally sustainable management of watersheds. DEED helped develop community-based soil and water conservation plans with the participation and involvement of many stakeholders in Limbé and Montrouis watersheds as discussed earlier.

DEED provided training to 23 and 40 PGs in Montrouis watershed and Limbé watershed, respectively. Through the farmer field school (FFS) program, 4,900 cocoa farmers across 7 communes in the Nord Department were trained in production, harvest and post-harvest techniques. Representatives of local GoH (e.g. Director CFAIM in Limbé, Representatives of BAC: Arcahaie/Cabaret, Saint Marc in Montrouis, and Mayor of Arcahaie also benefited from training and workshops organized by DEED.

However, according to some Mayors and BAC representatives, DEED should have reinforced better the GOH institutions (e.g. MARNDR, Mayor Office) to take over at the end of the project. This would increase the project sustainability. In Limbé watershed, farmer associations and WMC that benefited from DEED project are still functioning, although DEED project ended. DEED helped create and structure 5 sub-watershed management committees (sub-WMCs). These committees, which include representatives of various stakeholders who intervene directly in the watershed, were provided with training to make them operational, sustain their activities, and ultimately stabilize their sub-watersheds. The survey in Limbe watershed revealed that 52.3% of farmers (n=922) in DEED implementation areas claimed to be beneficiaries of the project, and about 77% of them belonged to a form of association, thus further supporting that the project has reached out many members of farmer associations and PGs. In Montrouis watershed, no watershed and sub-WMCs have been created by DEED. DEED helped establish a community-based soil and water conservation plan that is not currently being implemented. Farmer associations and PGs supported by DEED are still functioning. Almost all informants recognized that DEED supported relevant training modules (e.g. conflict management, accounting, book keeping) that help build the capacities of the farmer associations and producer groups (PGs). However, there is mixed perception of the informants on whether or not DEED help farmer associations and PGs sustain their core business functions to the benefit of members.

Watersheds

The main outputs of DEED are 5 sub-WMCs created, 15000 people trained, and 50000 ha under NRM. Meetings with potential partners, training sessions and workshops organized by DEED were key inputs that help with the mobilization and active participation of multi-stakeholders in the project. These activities triggered interested collaborations between DEED and partners. DEED inputs for facilitating integrated watershed management were successful. DEED worked with multi-stakeholders including representatives of GoH, PGs, “Centre National d’Information Géospatiale” (CNIGS) and civil society for the development of sub-watershed management plans. Five sub-WMCs were created to promote environmentally sound management in the Limbé watershed as discussed earlier. These committees currently work with CFAIM and PARDFAL to seek for synergy in the interventions and obtain broad positive impacts on the Limbé watershed.

From the survey in Limbe area, it was found that 98.6 % of the beneficiaries applying at least one technique promoted by DEED, 84.9 % of the non-beneficiaries applying at least one technique promoted by DEED.

DEED interventions were effective in both low and upper watersheds. DEED brought a focus on farmers in highly environmental degradation areas and the low land fertile plain areas during the base period and extension period, respectively. Overall, information collected from FGDs and SSIs revealed that DEED has brought positive changes in both Montrouis and Limbé watersheds. These positive changes can be explained by DEED's efforts to promote sustainable agriculture practices, the production of high-value crops and the development of business opportunities to PGs benefits. Thus, it can be inferred that DEED interventions have improved the watershed conditions in comparison with a no-intervention scenario. Yet, it is difficult to argue whether or not the watershed conditions pre-DEED and post-DEED have improved or deteriorated. Many factors including frequent natural disasters have played a significant role in determining the current status of both Montrouis and Limbé watersheds. Some key informants clearly stated that hurricanes (ISAAC, Sandy) and long periods of droughts recorded recently have destroyed many achievements.

Value Chains:
DEED project promoted a series of crop value chains directed at generating income to PGs and protecting the watershed in which they reside. The most dominant crops supported by DEED were: cocoa, yam and rice. Among these 3 value chains, cocoa was much important during DEED implementation. The survey results showed that 46%, 23% and 6% (n=925) of farmers received DEED assistance in the value chains of cocoa, yam and rice, respectively. DEED support to the key components (production, harvest/post haverst, and marketing) of these crop value chains was evaluated to address the sets of questions on value chains.

Cocoa value chain

DEED interventions were successful in the cocoa value chain. DEED invested $ US 1.56 million to leverage a co-contribution of $ US 3.70 million (cash and in-kind) from the private sector (Novella S.A., FECCANO). Their efforts achieved a total of 4426 ha in cocoa. As per our survey, 46% (n=925) of farmers living in area of DEED implementation are cocoa producers. Through the FFS program, 4,900 cocoa farmers across 7 communes in the Nord Department were trained in production, harvest and post-harvest techniques. As per our survey, 83 % (n=925) of the farmers stated that the FFS had a positive impact on cocoa production and quality on their farms. To increase cocoa production, DEED promoted tests on new varieties. Six new varieties were tested at the CFAIM, according to its Director, Hector Fabien. The Director of FECCANO, Mr Wissamson Alfred, confirmed that new orchards have been established to extend cocoa production areas in the Limbé watershed. Beneficiaries and non-beneficiaries testified, during the FGDs at Limbe and Petit-bourg de Borgne, that cocoa has significantly increased. The majority of new plantings are not yet, however, in production. Yield calculated from data collected during survey (area cultivated and amount harvested) is 200 kg/ha, which is comparable to the average of 225 kg/ha reported in recent literature. In terms of cocoa quality, both FECCANO and NOVELLA S.A. confirmed that the quality of cocoa produced on the farms has substantially improved (almost ready for exportation). They both believe that farmers will keep producing good quality cocoa as a result of the skills acquired during trainings. As a result of improved cocoa quality, the price of cocoa has significantly increased from $0.34 to

$1.2/lb from 2008 to 2012, indicating much more revenues for cocoa producers considering an increase in production and relatively unchanged cost of production. The increase in price was confirmed by farmers, both beneficiaries and non-beneficiaries, in FGDs in Limbé, Port-margot and Petit Bourg de Borgne.

Yam value chain

In terms of production, DEED promoted yam cultivation in association with citrus and other woody species serving as live tutors for yams. DEED efforts reached a total of 221 ha in yam permaculture. As per our survey, 23% of farmers said that they were involved in yam permaculture with DEED. However, only 1% confirmed they continue with yam permaculture. Nonetheless, the woody species used in yam permaculture during DEED implementation remained on the plots.

Rice value chain

In terms of production, DEED invested in the extension/rehabilitation of irrigation system in Grison-garde and Mathone. Improved seeds and a new variety rice (PROSEQUISA) as well as training to 351 members of AIGG, AJPG and APIM are the main interventions to support rice production. Rice producers learned new techniques that help increase yields. This technical assistance has contributed to the intensification of rice production on about 82 ha with an estimated yield of 1181.2 kg/ha as per the evaluation survey.

Gender

During DEED implementation, women received training in the key components of the crop value chains, in natural resources management and/or biodiversity conservation. The percent of women benefited from various initiatives undertaken during DEED implementation varied between 21 and 30%. As a result of DEED assistance, about 1/3 of individuals (30%) with increased economic benefits derived from sustainable natural resource management and conservation were women. Thus, DEED had a significant impact on improving the economic status of women in both Montrouis and Limbé watershed.

Recommendations

We formulated 8 specific recommendations that are presented under 3 main categories:

Project Approach

(1) DEED project approach to engage multi-stakeholders and promote new techniques/technologies appears to be easily applicable in various watersheds in Haiti. This approach can serve as a model for designing and implementing future related project in Haiti.

(2) Envisioning the watershed as a whole is crucial for sustainable watershed management. Although a project could focus on the fertile productive plains or the highly degraded hillside of the watershed, neither the lower nor the upper part should be neglected as they are inextricably linked. Therefore, coordinated and specific interventions in both lower and upper watershed areas are needed for broad positive impacts and overall changes in the status of the watershed.

Project components and implementation

(3) Formalization of agreements between project implementation agency and producer groups and planning/execution of project activities with transparency are required to avoid misunderstanding, mistrust and failures. Tacit agreement and sudden termination of project activities can be detrimental in terms of durability of the interventions.
(4) Capacity building of community-based natural resources users revealed to be of upmost importance for sustainable watershed management. This aspect must be incorporated in all projects focusing on integrated watershed management in Haiti.
(5) Development of mutually beneficial interventions for the environment and producer livelihoods is mandatory for success as sound watershed management and improvement of inhabitant livelihoods are closely correlated.
(6) On a case-by-case watershed basis, future related project must identify and promote crop value chains that are economically viable and environmentally sustainable like cocoa in the Limbé watershed.
(7) Women and women's associations must be empowered through trainings and other technical assistance in order to play an effective role in integrated watershed management as they are often more vulnerable than men to natural resources degradation and scarcity.

Institutional arrangement for coordination during implementation and continuity at the end of project

(8) The creation of a steering committee with multi-stakeholder representatives including the implementing agency and relevant ministries (e.g. MARNDR, MDE), local authorities (Mayor, CASECs, ASECs) and community leaders could facilitate planning of project activities, and ensure continuity of the interventions as the project ends. Local GOH institutions of the steering committee would also strengthen, gain ownership during project implementation, and take over as the project ends. Such a steering committee would also facilitate coordination and synergy with other agency interventions in the watershed and adjustment in project activities consistently with changes in sectorial strategic plans.

II. INTRODUCTION

2.1. Evaluation Purpose and Questions

This is a performance evaluation for the $ 20.6 million DEED project implemented by Development Alternative, Inc (DAI). This evaluation was conducted from November 2012 to February 2013. The USAID's level of investment for this evaluation is USD 119,660.00. The evaluation was performed at the end of the DEED project's life cycle to (1) address the effectiveness of DEED project approaches and activities i.e. to learn to what extent the project objectives and goals at results levels have been achieved, and (2) provide recommendations, based on the findings and the lessons learned from the project, for future informed decisions in terms of designing and implementing environmental and agricultural projects in Haiti, especially the Feed the Future project to be implemented in Haiti's North and Northeast departments. The main audiences for the evaluation report are USAID, the Government of Haiti (through relevant ministries), farmers and agriculture producers groups, DAI and its sub-contractors and private sector partners.

The evaluation focused on six broad evaluation questions, listed hereafter.

***1. General Question*:** To what extent did the project achieve its objectives?

***2. Collaboration/Associations*:** How effectively did DEED work and develop strong linkages with recipients, the Government of Haiti at the central, regional and local levels (e.g. MOA, MOA/Damien, DDAs and BACs), and project partners? Determine how watershed management committees and farmer associations are functioning, and how they will likely function after DEED support ends. Are farmer associations able to sustain their core business functions to the benefit of members, and are watershed management committees sufficiently organized to assure stabilization of watersheds within which they reside?

3. Watershed (s): DEED modified the project strategy during the option period to increase emphasis on livelihood enhancement. Compare the two approaches (watershed focus versus greater focus on productive plains) and at the same time assess how (if) farmers in Limbé upper watershed continued their activities over the option year period without support from DEED. Did other farmers not supported by DEED adopt the technologies/techniques promoted by DEED for hillside stabilization? What were the critical DEED inputs that facilitated several local jurisdictions within a watershed to initiate a planning and coordination process for management of the whole watershed? How successful has this been?

How successful was the strategy of lowland tenant farming in the Montrouis watershed as a means to improve all hillside watersheds and farming over the long-run? For example, did farmer beneficiaries from tenant farming activities effectively replace erosive annual crops in the upper-watershed with tree crops? What is the status of the two key watersheds as a result of project interventions? Detail lessons and insights.

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***5. Value chains*:** Confirm DEED's reported results¸ both qualitatively and quantitatively, in developing crop value chains, specifically cocoa. Analyze key components and linkages including production, post-harvest, and marketing components. What were critical inputs that have led to successes? Will the cocoa producer be able to provide quality cocoa to the exporter when the project ends? In general, quantify business relationships between producer groups and buyers, e.g. determine changes in farm-gate prices for cocoa. Compare farmer relationships to the exporter and quality of cocoa sold by the famers to the exporter before and after the project-supported cocoa field schools.

***6. Gender*:** Determine DEED's impact on improving the economic status of women and how successes can be carried forward in future USAID projects. To this end, look at the composition of the farmer associations that were strengthened by DEED.

2.2. Project Background

Original Problem, underlying development hypothesis and strategic objectives

In Haiti, frequent sociopolitical instability and insecurity along with the weakness of infrastructure, the high proportion of unskilled workers, the counterproductive antagonism between the public and private sectors and the extreme environmental degradation are among the factors contributing to the economic failure. A USAID funded study on environmental vulnerability in Haiti (Smucker et al., 2007)[1] recommended interventions, in the near term, for landscape restoration in selected watersheds utilizing both participatory (e.g. involvement and commitment of local governments, grassroots organizations, users of natural resources) and integrated (e.g. linking natural resource management with urban planning, reproductive health planning, disaster preparedness and response and job creations) approaches. The rationale is that interventions in selected watersheds will allow for not only preserving their landscapes but also saving time for long-term interventions to boost broader economic growth, family planning, improved education, and good governance in secondary cities. The findings and recommendations of this study served the basis for DEED design and implementation as proof of concept and pilot activities in Montrouis and Limbé watersheds.

DEED was initiated within the USAID's 2007 strategy plan for Haiti that had three main strategic objectives (1) more employment and sustainable livelihoods, (2) increased access to quality social services, and (3) improved rule of law and responsive governance. DEED addressed these tree strategic objectives, but focused on the first objective i.e. "more employment and sustainable livelihoods".

Launched in January 2008 and implemented by Development Alternatives, Inc. (DAI) from January 2008 to November 2012, the purpose of DEED was to initiate investments in sustainable natural resource management (NRM) at the scale and density needed to produce positive landscape-level changes in the selected watersheds. DEED applied a market-based approach of high-value crops coupled with sound natural resource management (NRM) and expanded business and job opportunities as a means to sustain economic development. Although DEED primarily focused on hillside farmers where soil and environmental degradation is very critical, it also targeted lowland and floodplain farmers as the two systems are inextricably linked. DEED

[1] USAID/Haiti, 2007. Environmental vulnerability in Haiti: Findings and Recommendations. Reported prepared by Smucker, G. R., Bannister, M., D'Agnes, H., Gossin, Y., Portnoff, M., Timyan, J., Tobias, S., Toussaint, R.

valued participatory planning and partnership with the local governments, community-based organizations (CBOs), producer groups (PGs) and business owners to deliver technical services, training and business support to expand and sustain economic growth. This integrated approach allows for more livelihood options for farmers in both lowland and hillside systems, sustainable agriculture and comprehensive watershed management.

Geographic intervention areas

The watershed of Montrouis, located in the West and Artibonite Departments, includes five micro-catchments that cover 600 km^2 and receives an average of 950 mm of rain per year. It is characterized by (1) a climate mostly semi-arid (low altitude zones) and semi-humid (high mountain), (2) five major ecological zones (coastal zone, irrigated areas, savannah foothills, dry mountain, and humid mountain), and (3) soils mostly from the parent limestone. About 225,000 inhabitants live in the Montrouis watershed. The major road in Haiti, Route Nationale # 1, crosses most of the main towns including Arcahaie, Luly, Montrouis and St-Marc, which are close (less than 2-hour drive) to Port-au-Prince, the capital of Haiti. This proximity facilitates commercial exchanges with Port-au-Prince, an important asset for sustainable agriculture development. The coastal areas of the watershed offer many beautiful beaches and vacation destinations. The biodiversity has been significantly threatened as a result of inadequate agricultural practices in the hillside areas, massive tree cutting for timber and charcoal, and overuse of quarries for construction. For instance, excessive runoff after heavy rainfalls facilitates the transport and accumulation of sediments in the coastal zone, thus negatively altering coral reefs and other important habitats for marine species. Overexploitation of mangroves and recent mining of coral reefs have further increased the threat to marine species and the overall biodiversity in the coastal zone. The map hereafter (Figure 1) shows the Montrouis watershed and the location of the grantees and alliance partners of the DEED project.

The watershed of Limbé, located in the North Department, covers a surface area of 300 km^2. It is characterized by a wet tropical climate with an average of 2,000 mm of rain per year and a predominance of basaltic soils. It has abundant water resources in comparison with most other watersheds in Haiti. The landscape is dominated by fairly dense to dense agricultural zones (> 50 percent), in which nearly 30 percent are under agroforestry regime. About 105,000 inhabitants live in the Limbé watershed and mostly depend on agriculture. The watershed offers potential for viable economic opportunities in agroforestry, intensification of high value crop production and aquaculture. The biodiversity is abundant and less threatened in comparison with that of Montrouis. For instance, a dense mangrove population dwells on the coastal areas, providing habitats and food for many marine species. The maps hereafter (Figures 2 and 3) show the Limbé watershed/Economic Zone and the location of the grantees and alliance partners of the DEED project.

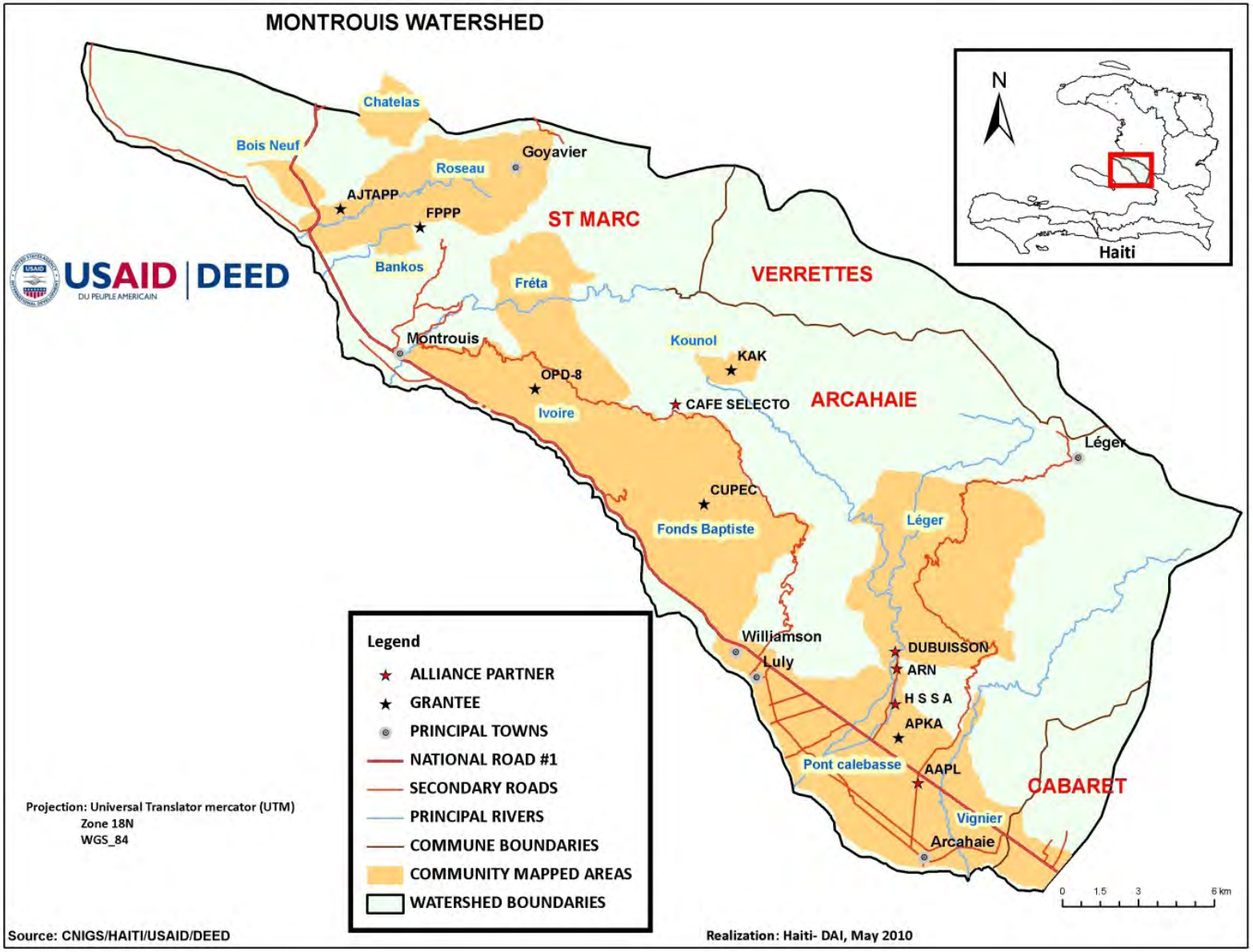


Figure 1: Map of DEED interventions and main grantee and alliance partners in Montrouis watershed

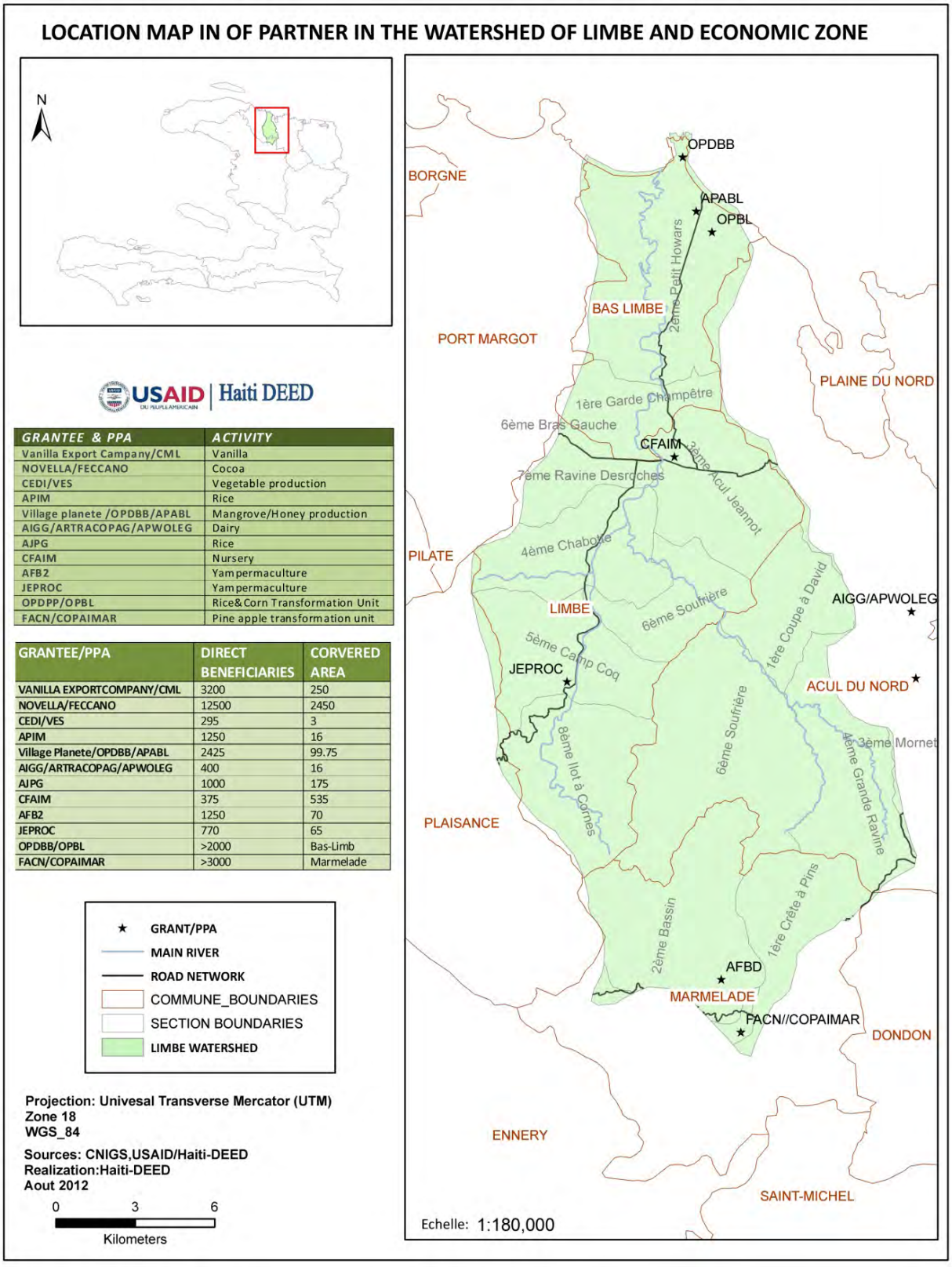
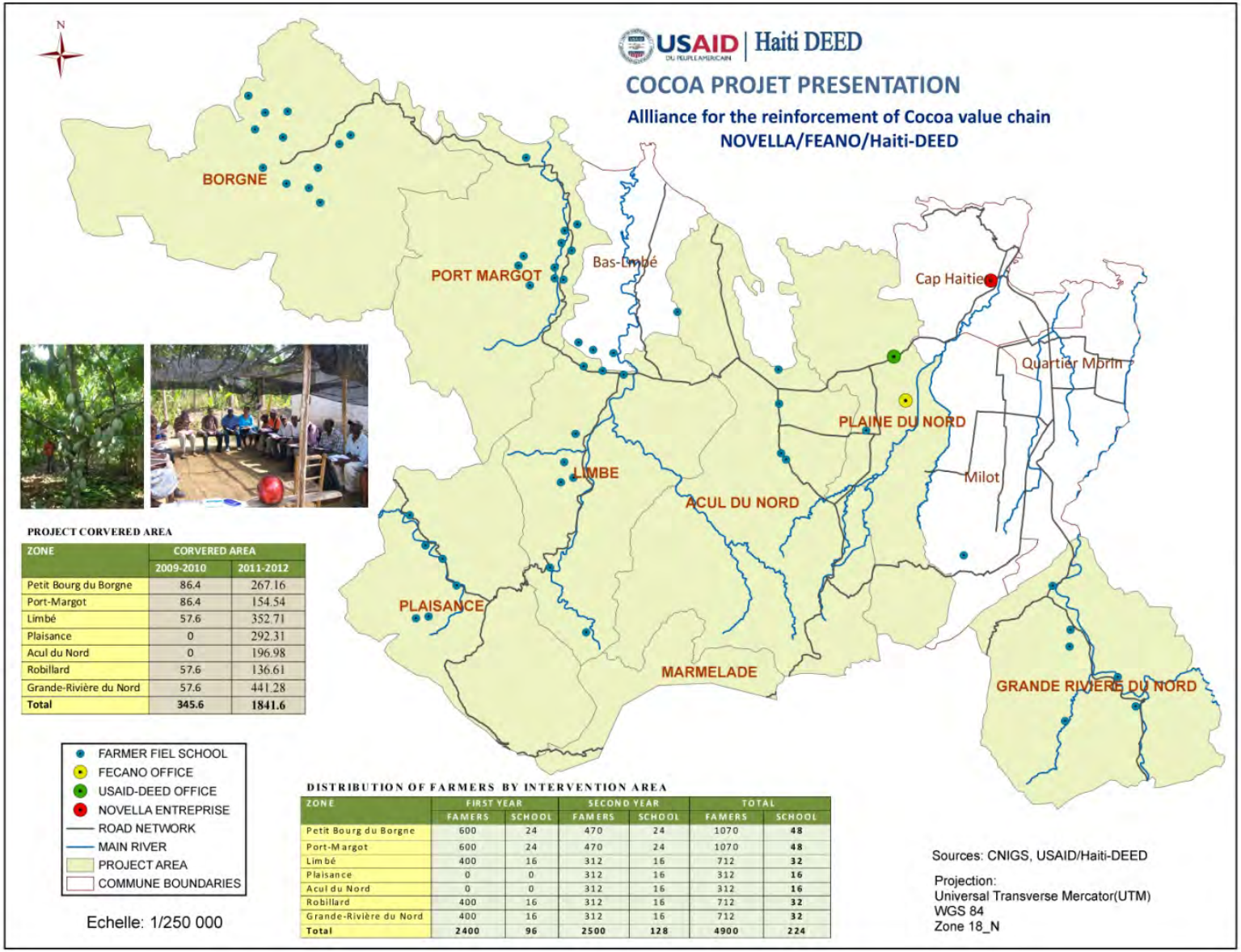


Figure 2: Map of DEED interventions and main grantee and alliance partners in Limbé watershed and Economic Zone



ZONE	CORVERED AREA	
	2009-2010	2011-2012
Petit Bourg du Borgne	86.4	267.16
Port-Margot	86.4	154.54
Limbé	57.6	352.71
Plaisance	0	292.31
Acul du Nord	0	196.98
Robillard	57.6	136.61
Grande-Rivière du Nord	57.6	441.28
Total	**345.6**	**1841.6**

ZONE	FIRST YEAR		SECOND YEAR		TOTAL	
	FAMERS	SCHOOL	FAMERS	SCHOOL	FAMERS	SCHOOL
Petit Bourg du Borgne	600	24	470	24	1070	**48**
Port-Margot	600	24	470	24	1070	**48**
Limbé	400	16	312	16	712	**32**
Plaisance	0	0	312	16	312	**16**
Acul du Nord	0	0	312	16	312	**16**
Robillard	400	16	312	16	712	**32**
Grande-Rivière du Nord	400	16	312	16	712	**32**
Total	**2400**	**96**	**2500**	**128**	**4900**	**224**

Figure 3: Cacao intervention map showing main grantee and alliance partners in Limbé watershed and Economic Zone

2.3. Project logical structure, components, expected results andchanges during implementation

The logical structure of DEED, showing the link between DEED intervention strategies and short term outcome impact or project area impact as well as the main outputs towards the accomplishments of the ultimate goal i.e. positive landscape level changes in the two selected watersheds, is summarized in Annex B.

The DEED project, which activities were implemented primarily through a series grants and public private alliances (PPAs) to producer groups and Haitian businesses, includes six integrated technical components:

(1) Strengthening community-based producer groups, associations, and enterprises,
(2) Promoting alternatives to hillside farming,
(3) Promoting and improving community-based natural resources management,
(4) Assisting the Government of Haiti develop sound NRM policies and systems,
(5) Developing watershed restoration and environmentally sustainable management plans with watershed stakeholders, and
(6) Promoting alliances with the private sector to leverage DEED resources.

The key results targeted during DEED project included:

(1) A 20 percent increase in household income in target areas as a result of improvements in agriculture, marketing, and off-farm employment.
(2) At least 50,000 hectares (ha) of fragile land under environmentally sound management a reduction in unsuitable annual cropping of about 50 percent.
(3) At least 2,500 ha of priority conservation areas under improved and sustainable management that improves the biophysical conditions of the ecosystems.
(4) At least 15,000 households deriving improved livelihoods from sound NRM.
(5) At least $7 million leveraged from the private sector for investment in enterprise development and watershed management in the target watersheds.

DEED project was implemented for about 5 years as follows (a) 3 year base-period (January 2008-January 2011) in both watersheds focusing on hillside farmers in highly environmental degradation areas and (b) 16 month-extension period (January 2011-November 2012) only in the Limbé watershed focusing on farmers in the low land and fertile plain areas. During the 16 month-extension period, the project was reshaped to a broader scope of interventions in the whole Limbé watershed while focusing on the low land and fertile plain areas. The main activities were therefore focused on:

- Providing expanded technical assistance to farmers in the fertile plains of the Limbé watershed and contiguous lowland areas to increase productivity and income from the staple crops (cereal-rice and corn principally, vegetables and tubers).
- Identifying strategic agriculture infrastructure in the selected productive plains (rural roads and bridges, crop processing or storage facilities).
- Establishing sustainable NRM activities—terracing, gully plugs, agroforestry—especially to protect investments in infrastructure and farming.

- Expand the current cocoa production quality control and marketing training to include support to new cocoa PGs or federations of producers, as well as expanded capacity building for these groups.
- Expand the use of existing grants under contract to carry out the DEED work, maximizing the use of local firms, diaspora firms, and local NGOs.

Some of other changes that occurred during the course of DEED implementation are:

- Scope of work modification in January 2010 to allow for relief efforts following the earthquake;
- Scope of work modification in June 2010 to add the cocoa production areas in Dame Marie, Grande Anse Department.
- Closedown of DEED project activities in Montrouis in late 2010 and concentration of the activities in the Limbé watershed and newly targeted adjacent economic zones in the North Department, particularly cocoa production areas, during the 16 month-extension period.
- Cost-extension of the original three-year base period from January 2011 to January 2012, followed by a four-and-a-half-month no-cost extension until May 15, 2012;
- Scope of work modification and cost-extension in May 2012;
- Scope of work modification and no-cost-extension in September 2012.

III. EVALUATION METHOD AND LIMITATIONS

3.1. Overall Approach

The evaluation questions were the entry point and formed the basis for the evaluation design considerations, selection of data sources, development of specific methods for data collection, and adequate framework for data synthesis and analysis. This approach can be schematically illustrated as follows:

3.2. Design considerations

A mixed methods approach (combination of different techniques and methods to collect the data needed) was used to adequately address the evaluation questions. This approach allowed for triangulation and complementarity, thus increasing the validity of conclusions related to the evaluation questions. Both qualitative and quantitative methods were used for data collection.

DEED activities were implemented mainly through the use of grants and PPAs to PGs and local Haitian businesses. DEED supported a total of 40 PGs and spent a total of 3.18 million in 24 grants and 4 PPAs in the Limbé watershed compared with 23 PGs and a total of 2.87 million in 7 grants and 5 PPAs in the Montrouis watershed. DEED activities ended in October 2010 and November 2012 in the Montrouis watershed and Limbé watershed, respectively. The higher number and dollar amount spent in grants/PPAs in Limbé watershed and the early termination of DEED in the Montrouis watershed (two years before the official end of the project) called for more efforts in the Limbé watershed during the evaluation. Most importantly, the review of

DEED project reports along with the orientation meeting with USAID staff and preliminary meeting with DAI staff during exploratory field visits brought the evaluation team to focus on a qualitative survey in the Montrouis watershed and on both qualitative and quantitative surveys in the Limbé watershed. The argumentation to support this choice is further detailed in Annex C.

3.3. Data collection methods, data sources and analysis

Preliminary Meetings and Exploratory Field Visits

The evaluation team conducted preliminary meetings with USAID and DAI and exploratory field visits in both Montrouis and Limbé watersheds. Preliminary discussions with both USAID and DAI staff were important to get insight into (a) the general context of the DEED evaluation and roles and responsibilities of offices/people involved in the evaluation within USAID, (b) the overall implementation approach, key achievements including milestones and deliverables, challenges and successes as well as any changes made in the course of DEED's implementation, and (c) the spatial distribution of key partners and stakeholders within the two watersheds; thus planning the deployment of the evaluation team, the focus group discussions (FGDs) and semi-structured interviews (SSIs) with key informants.

Direct Field Observations

The evaluation team also conducted direct field observations to assess key reported project achievements in the two watersheds. These observations were focused on (a) in Limbé watershed: irrigated rice culture in Grison Garde and Mathone; beehives for honey production within mangroves in Bas-Limbé; vanilla-cacao production in Limbé and Acul du Nord, yam permaculture in Limbé, vegetable culture in Marmelade and Limbé; tree nurseries in Limbe, pineapple hedgerows and pineapple processing plant in Limbe, and (b) in Montrouis watershed: ricin production in Kounol; ricin oil in Montrouis; apiculture in Piatre, Roseau, Matheux; vegetable crops and banana production in Fonds Baptiste.

Review of Literature

The following documents were reviewed by the evaluation team: DEED project document, DEED quarterly progress and final performance reports, maps of stakeholder distribution within the two watersheds, maps of land occupation, 2007 USAID report on environmental vulnerability in Haiti. These documents provided detailed information about approaches, activities and achievements pertaining to the project. They were useful for framing the FGDs, the different type of interviews and the survey questionnaire. Thus, this literature review helped design and plan the evaluation.

Qualitative Methods

Selected qualitative methods included FGDs and SSIs in both Montrouis and Limbé watersheds (Table 1). The FGDs were conducted with small groups (~12 people) of representatives of farmers (randomly selected) supported by DEED, famers non-supported (randomly selected) by DEED, grantees and Public Private Alliances (PPAs) , PGs/CBOs, sub-WMCs, Plateforme d'Appui pour le Renforcement et le Développement des Filières Agricoles du Bassin Versant de Limbé (PARDFAL) and enterprises. A moderator facilitated the FGDs while a note taker recorded information from the FGDs. The SSIs were conducted with key informants (1 or 2 people) from central and local GoH (Ministère de l'Agriculture, des Ressources Naturelles et du Développement Rural/MARNDR, Mayors, CASECS and ASECS), Novella (a cocoa exporter),

Fédération des Coopératives Cacaoyères du Nord (FECCANO) and Rassemblement des Comités d'Action pour le Développement Agricole Matheux Arcahaie (RACADAMA).

Table 1 : Summary of focus group discussion and semi-structured interviews conducted during the evaluation

	Number of FGDs	Number of Semi-Structured Interviews
Limbé wathershed	9	8
Montrouis waterdhed	6	7
Central GoHs (Secretary of State/MARNDR)	-	2
Total	**15**	**17**

Quantitative Methods

A farmer survey was conducted to measure the status of several indicators that were retained to assess the performance of DEED project. The population frame included all farmers living in DEED implementation areas in Limbé watershed and the economic zone of the Haiti Northern department. The population frame was justified by the facts that (a) some of the evaluations questions addressed farmer's beneficiaries and non-beneficiaries from DEED, and (b) the list of farmer's beneficiaries was not available. DEED implementation areas are administratively divided into communes, that were considered as primary sampling units. Within these units were defined segments, so-called "les sections d'énumérations (SDE)"by the "Institut Haïtien de Statistique et d'Informatique (IHSI, Atlas critique d'Haiti, 2006). The sampling scheme was a stratified cluster sampling. IHSI SDE maps were superposed with DEED intervention maps to define a list of SDE corresponding to DEED interventions. Clusters were chosen randomly in the list of SDE, and farmers were chosen within clusters using the random walk method. The sample size was calculated based on a proportion of 50 % of the target populations with a confidence level of 95% (typical value 1.96) with a margin of error of 10%. Thus, a sample of 940 farmers was surveyed to address the evaluation questions in the Limbé watershed. This survey was designed to have adequate power allowing for discriminating differences where they really are (Raudenbush and Liu, 2000). In this study, Optimal Design (OD) software was used to calculate the number of clusters required to achieve a power of 0.80 with an effect size of 0.40. In order to correctly identify a difference between two periods in our study, the size of the clusters needed to be 24. Having to visit 940 farmers with clusters of 24 farmers, the number of clusters visited per sub-watershed was 40.

A questionnaire was designed to capture information needed to answers the evaluation questions. The questionnaire was tested in the field. Training was provided to surveyors (most of them university graduates with prior experience in similar work). Data entry was performed in SPSS and started immediately after data collection. Double blind data entry was performed i.e. data entered twice by two independent data enterers.

Data synthesis and analysis

A parallel analysis of the data was performed i.e. the qualitative and quantitative data were analyzed independently and then the findings integrated. This analysis approach allowed for triangulation and complementarity as the analysis of qualitative data could converge with or yield deeper explanations of the analysis of the quantitative data and vice-versa.

For the qualitative data, a synthesis framework was developed to coherently address the wealth of information collected. On a daily basis, the evaluation team met to synthesize and analyze the FGDs notes: identification of emerging patterns and themes such as specific ideas, behaviors, incidents and expressions. Interesting quotes, surprising comments, similarities and differences with other groups, as well as non-verbal communication were highlighted. Themes were organized into coherent and mutually exclusive categories. Categories were further examined to determine if there were sub-categories that could allow a more detailed level of analysis. The information about identified categories were summarized and compared among groups of beneficiaries and geographic areas. The quantitative data were processed with SPSS, and the results were summarized in tables and figures.

In Annex C are presented the main data collection and analysis tools: matrix of data collection methods and data sources, and data analyses; questionnaires for FGDs and semi-structured interviews, and questionnaire for quantitative data collection.

3.4. Evaluation limitations

The main limitations of the evaluation are:

- The evaluation was conducted 2 years after the project ended in the Montrouis watershed. During these two years, the USAID-WINNER project was implemented in the Montrouis watershed. This situation could potentially lead to some biases in the data.
- Only qualitative data were collected in the Montrouis watershed as discussed earlier in 3.2. Consequently, the evidence provided for the Montouis watershed was derived only from FGDs, SSIs and direct field observations.
- Some DEED activities were implemented in Dame Marie (GrandAnse); results achieved in this area are not covered in this evaluation.
- DAI staffs left before data collection started. Field visits suffered from lack of contexts and insights into lessons learned.

IV. FINDINGS

4.1. General Question

To what extent the project objectives and goals at results levels have been achieved? In other words, what are the gaps between the actual results achieved and the targeted results?

To answer this question, the evaluation team uses performance monitoring data and compares actual results achieved versus targeted results for performance indicators related to the objectives of the project. This comparison is complemented with key informant and participant interviews and field visits.

The overall goal of the project was to generate positive landscape level changes in the Limbé and Montrouis watersheds. To achieve this goal, DEED used a participatory market based approach integrating improved management of natural resources, expanded enterprises and job opportunity in the production of high valued crops. Activities of DEED were spanned across six integrated technical components. The following table summarizes DEED performance per component and indicators. Evidence on DEED performance is also discussed below.

Table 2: Comparison of targeted results with achieved results

Components	Indicators	Target	Achieved	Percent of Achievements
1. Strengthening community-based producer groups, associations, and enterprises	Increase household income in target areas as a result of improvements in agriculture, marketing, and off-farm employment.	20%	-	
	increase in value from sustainable crops	20%	47.6%	**238%**
2. Promoting alternatives to hillside farming	Area (hectares) of fragile land under environmentally sound management	50,000 ha	35777 ha	**71.5%**
	a reduction in unsuitable annual cropping	50 %	-	
3. Promoting and improving community-based natural resources management (NRM)	Priority conservation areas under improved and sustainable management that improves the biophysical conditions of the ecosystems.	2,500 ha	244 ha	**9.7%**
4. Assisting the Government of Haiti develop sound NRM policies and systems	# of policies, laws, agreements or regulations promoting sustainable natural resource management and conservation that are implemented as a result of USG assistance.	2	2	**100%**
5. Developing watershed restoration and environmentally sustainable management plans with watershed stakeholders	People with increased economic benefits derived from sustainable natural resource management and conservation as a result of USG assistance.	75,000	106775	**142%**

6.	Promoting alliances with the private sector to leverage DEED resources	Leverage from the private sector for investment in enterprise development and watershed management in the target watersheds.	$7 million	6 466 429 $	**92.3%**

1. Strengthening community-based producer groups, associations, and enterprises

DEED worked to strengthen community producer groups, associations and enterprises for the benefits of the members (e.g. increase in income). According to representatives of MARNDR (BAC Limbe) and local authorities (Mayor Limbé), there were many commencement ceremonies for PGs from DEED accreditation programs. The FGDs with PGs leaders in the Limbe watershed confirmed that DEED reached farmers through PGs. DEED reported to have strengthened nearly 100 Haitian organization among them 24 agreed producer groups, 14 private business firms and 10 women organization. According to PGs leaders, farmers were trained on various techniques to protect natural resources and increase productivity. DEED claimed that 90 small enterprises in the two watersheds benefited from trainings trainings on business management. Networks were established between farmers and potential buyers. As a result, it was expected a 20% increase in household income in target areas from improvements in agriculture, marketing, and off-farm employment. As it was difficult to measure periodically variation in incomes associated with DEED activities, a 20% increase in value from sustainable crops was instead adopted as target. At the end of project, it was recorded a 47% increase in value from sustainable crops.

2. Promoting alternatives to hillside farming

DEED encouraged sound natural resources management in the watersheds by promoting alternatives to hillside farming. According to PGs leaders during FGDs, DEED promoted technologies that were profitable to the farmers whilst protecting the environment. Promoted technologies included cocoa in association with vanilla, pineapple in hedgerows, agroforestry with yam (yam permaculture), apiculture in mangroves, irrigated rice, pisciculture integrated with horticulture, semi-intensive goat husbandry in Limbe watershed. In Montrouis watershed, promoted technologies included banana and bean in agro-forestry system, apiculture in prosopis, production of ricin for castor oil, semi-intensive goat husbandry, and tenant farming in low-land areas. DEED claimed that 27500 households were involved in activities, such that nearly 136500 individuals were deriving economic benefits through agriculture and sound resource management. Farmer beneficiaries in Limbe and Montrouis watersheds in FGD attested that DEED promoted crops were profitable. DEED reported that 22500 kg and 1700 kg of improved rice and maize varieties were respectively introduced. According to farmers in low land areas in Grison garde and Mathone (Limbe watershed), rice productivity has increased. DEED promoted grafting of 780000 improved cocoa planting materials and 2.1 ha of budwood garden were produced. A satisfactory scenario would be a 50% decrease in unsuitable annual cropping as results of DEED activities. From the targeted 50,000 hectares (ha) of fragile land under environmentally sound management, 35,777 ha (i.e. 71.5%) were reached.

3. Promoting and improving community-based natural resources management

DEED promoted community-based NRM and the development of sustainable production system. According to FGDs with members of WMC, DEED facilitated the creation of 5 sub-WMCs with

the participation of multi-stakeholders in Limbé watershed. Community land use plan and community soil conservation were established in both watersheds as discussed further later. Annual crops were replaced by perennial crops, particularly with the establishment of new cocoa plantations as stated by the "Fédération des Coopératives Cacaoyères du Nord" (FECCANO) director. As a result, it was expected at least 2,500 ha of priority conservation areas under improved and sustainable management and, consequently, a positive impact on the biophysical conditions of the ecosystems. DEED activities led to 244 ha (9.7%) out of 2,500 ha under improved and sustainable management. Nonetheless, the mangrove system restored in Bas Limbé is a success story according to Bas Limbe local authorities (MARNDR, and mayor office) and representatives of the PARDFAL. Coastal plains in Bas Limbe were not suitable to agriculture because of winds coming from sea shore. Now rice, corn and sugarcane are being cultivated in the coastal plain because three years old mangroves serve as barriers protecting the area from winds. This added value to farmers in coastal plains aside, the mangrove system offered habitats for many marine species, thereby more resources to fishermen in Bas Limbé.

4. Assisting the Government of Haiti develop sound NRM policies and environmentally sound management

DEED proposed to help the Government of Haiti (GoH) in developing sound NRM policies. The project targeted the development and implementation of at least 2 policies, laws, agreements or regulations on sustainable natural resource management and conservation. DEED worked with GoH policymakers to review policies related to watershed management. New soil conservation plans and land use plan have been established in both watersheds. Other relevant activities by DEED included:

- Preparation of an assessment report on the status of the marine environment along the Limbé and Montrouis coastlines in collaboration of MARNDR and "Ministère de l'Environnement" (MDE)
- Transfer of DEED's technical data and imagery to CNIGS
- Facilitation of technical staff training and inter-ministerial protocols for data sharing
- Renovation of CFAIM and reinforcement of its capacity for offering updated training and technical support in NRM and conservation.

5. Developing watershed restoration and management plans with watershed stakeholders

DEED helped develop community-based soil and water conservation plans including Limbé Watershed Management Plan, Community Soil Conservation (Bas Limbé), Land Use (Bas Limbé), Community Soil Conservation (Archaie), Land Use (Arcahaie**,** Sous Bassin Roseau). These plans were developed with the participation and involvement of many stakeholders in Limbé and Montrouis watersheds according to representatives of PARDFAL, sub-WMCs, the Director of the "Centre de Formation en Aménagement Intégré des Mornes" (CFAIM), Hector Fabien, the 2nd mayor of Arcahaie, Jean Wilson François, the representatives of "Administration des Sections Communales" (ASECs), Octavius Pierre Gerard, "Rassemblement des Comités d'Action pour le Développement Agricole Matheux Arcahaie" (RACADAMA), Jean Joseph Ciné and René Wilner, and Bureau Agricole Communale (BAC)-Arcahaie/Cabaret in Montrouis, Magarette Jean Louis. DEED activities led to 106,775 people with increased economic benefits derived from sustainable natural resource management and conservation, representing 142% of the targeted results (75,000 people). It was expected that the implementation of community-based plans would lead to 2,500 ha of priority conservation areas

under improved and sustainable management. However, as discussed earlier, DEED achieved only 9.7% of the targeted results.

6. Promoting alliances with the private sector to leverage DEED resources

DEED established alliances with the private sector to leverage DEED resources. Through 31 grants and 9 PPAs, DEED leveraged $ 6, 466, 429 (i.e. 92.3% of the $7 million targeted amount) from the private sector for investment in enterprise development and watershed management in the two watersheds. One PPA that highly impacted farmers and enterprises is the Novella S.A. (a cocoa exporter)/FECCANO on cocoa. According to the MARNDR Northern Department Director, Mr Eberle Nicolas, Novella and FECCANO are still working with cocoa farmers. Mr. Wissamson Alfred, Director of FECCANO, and Jose Pierre, main technical officer of NOVELLA S.A. confirmed that they continue to support cocoa farmers.

4.2. Collaboration/Associations

Q2a. How effectively did DEED work and develop strong linkages with recipients, the Government of Haiti (GoH) at the central, regional and local levels (e.g. MOA, MOA/Damien, DDAs and BACs), and project partners?

Q2b. Determine how watershed management committees and farmer associations are functioning, and how they will likely function after DEED support ends.

Q2c. Are farmer associations able to sustain their core business functions to the benefit of members?

Q2d. Are watershed management committees sufficiently organized to assure stabilization of watersheds within which they reside?

DEED took a participatory approach to involve multi-stakeholders from the inception of the project and in the course of its implementation. The extent of DEED collaboration and linkages with Local GoH, PGs, CBOs and enterprises was reflected through its:

- Assistance to 63 producer groups (PGs)
- Implementation of 31 grants with Haitian organizations
- Investment in 9 public-private alliances (PPAs).

Table 3 shows the two major investments of DEED in partnership with the MARNDR and French Development Agency (FDA) for the rehabilitation of irrigation systems in the Montrouis watershed, and Novella S.A/FECCANO for cocoa production, quality and marketing in the Limbé watershed.

Table 3: Two major PPAs during DEED implementation

PPAs	Activity	DEED amount ($ US million)	Private amount ($ US million)
Limbé watershed			
Novella/FECCANO, *CJBC, SOCOSPOC, CAPUP, CAFUPBO, CML, MPA, KADEP, MOPLA*	*Cacao production, quality and marketing*	1.56	3.70
Montrouis watershed			
MARNDR/FDA	Irrigation system rehabilitation	1.18	1.54

Linkages with partners

Information collected during the SSIs and FGDs in both Limbé and Montrouis watershed revealed that DEED worked and established strong linkages with farmer associations, PGs, and the GoH. The informants almost unanimously reported that a series of workshops and trainings organized by DEED facilitate the development of a solid relationship between DEED and the recipients in both Limbé and Montrouis watersheds. For instance:

(1) DEED organized workshops with multi-stakeholders at the inception of the project in Montrouis and Limbe watersheds. Many stakeholders were present including potential beneficiaries, representatives of PGs, businesses, central, regional and local GoH. For instance, the North Departmental director, and BAC Directors of MARNDR all testified that they attended these workshops.

(2) DEED maintained contact with MARNDR centrally by sharing their experiences and helping develop policies to foster environmentally sustainable management of watersheds.

(3) DEED helped develop community-based soil and water conservation plans with the participation and involvement of many stakeholders in Limbé and Montrouis watersheds as discussed earlier.

(4) DEED provided training to 23 and 40 PGs in Montrouis watershed and Limbé watershed, respectively. Among these PGs, 11 participated in an accreditation training program focusing on leadership, organizational development, bookkeeping and business plan development. Through the farmer field school (FFS) program, 4,900 cocoa farmers across 7 communes in the Nord Department were trained in production, harvest and post-harvest techniques.

(5) Representatives of local GoH (e.g. Director CFAIM in Limbé, Representatives of BAC: Arcahaie/Cabaret, Saint Marc in Montrouis, and Mayor of Arcahaie also benefited from training and workshops organized by DEED.

However, according to some Mayors and BAC representatives, DEED should have reinforced better the GOH institutions (e.g. MARNDR, Mayor Office) to take over at the end of the project. This would increase the project sustainability.

Watershed management committees (WMC) and farmer associations

A summary of the key findings on how WMC and farmer associations are functioning, providing benefits to their members and assuring hillside stabilization is presented hereafter.

Limbé watershed

(1) Farmer associations and WMC that benefited from DEED project are still functioning, although DEED project ended. DEED helped create and structure 5 sub-WMC: BALI, RAHALIC, MARLA, SACOGRA, SOLCAMA. These committees, which include representatives of various stakeholders who intervene directly in the watershed, were provided with training to make them operational, sustain their activities, and ultimately stabilize their sub-watersheds.

(2) DEED has further provided material and technical assistance to CFAIM, as confirmed by his Director, Hector Fabien, in order to take a leading role and provide extension services to the sub-WMCs and other PGs. Mr Hector Fabien and representatives of the sub-WMCs stated that the CFAIM has worked closely with the 5 sub-WMC, particularly in hands-on training and management of 5 tree nurseries for reforestation and soil and water conservation.

(3) DEED helped create the PARDFAL that has worked in synergy with CFAIM to help PGs and sub-WMCs sustain their core business functions. The PARDFAL continues to support activities in a variety of value chains (e.g. cocoa, pineapple, yam, rice) and restoration of mangroves in Bas Limbé according to PARDFAL members.

(4) The survey revealed that 52.3% of farmers (n=922) in DEED implementation areas claimed to be beneficiaries of the project, and about 77% of them belonged to a form of association, thus further supporting that the project has reached out many members of farmer associations and PGs.

Montrouis watershed

(1) No watershed and sub-WMCs have been created by DEED. DEED helped establish a community-based soil and water conservation plan that is not currently being implemented. Farmer associations and PGs supported by DEED are still functioning. Almost all informants recognized that DEED supported relevant training modules (e.g. conflict management, accounting, book keeping) that help build the capacities of the farmer associations and PGs.

(2) However, there is mixed perception of the informants on whether or not DEED help farmer associations and PGs sustain their core business functions to the benefit of members. For instance, associations supported by DEED in castor oil production (APKA, KAK) and dairy production (OPD8) claimed that DEED has led them to bankruptcy. They argued that DEED breached the contract after they invested all their assets. As a result, the transformation units for both castor oil and dairy production have never been installed. However, associations supported by DEED in apiculture (AJTAPP), banana, vegetables and coffee (CUPEC) argued that DEED has contributed to their reinforcement by providing them with an opportunity to make more profit and stabilize the watershed.

More detailed evidence from the evaluation regarding this set of evaluation questions is presented below.

DEED promoted the establishment of 5 sub-WMCs in the Limbé watershed. According to the FGDs with members, the sub-WMCs still exist and include multi-stakeholders who intervene directly in the watershed. These committees play a major role in identifying problems in the watershed and raising awareness on the issue to local authorities or other concerned institutions.

They were provided with training to make them operational, sustain their activities, and ultimately stabilize their sub-watersheds. However, The FGDs revealed that local authorities are less involved after the end of DEED.

Farmer associations / PGs were trained by DEED as stated during various FGDs. BAC directors testified the participation of several PGs on training regarding business management, writing of project proposals, and various agricultural technologies/techniques. Grants beneficiaries in FGDs groups confirmed that farmer associations had to have legal paperwork to be eligible for grants from DEED. This requirement triggered a better structuration of many farmer associations in order to obtain their legal paperwork. DEED has strengthened the PGs, and farmers became more interested in social structures due to new benefits and opportunities provided. As stated in FGDs, currently associations/PGs have increased in membership because of their capabilities to attract profits to members.

The survey conducted in DEED implementation areas revealed that 52.5% of farmers participated in social structures such as farmer associations or PGs. Among these farmers 59.4% confirmed that they benefit as member of the associations/PGs, and 33.1 stated that they are in contact with potential buyers through PGs (Table 4).

Table 4: Level of participation and benefits of farmers in social structures in Limbe watershed

Farmers in DEED implementation areas	%	N
farmers participating in association/producer groups	52.5	925
farmers benefiting from producer groups	59.4	515
farmers in contact with buyers through producer groups	33.1	528

The FGDs with PGs revealed that DEED fostered networking between PGs and potential buyers. As per the survey, among the 33.1% of farmers in contact with potential buyers through PGs, 39%, 7.8%, 5.9% and 4.7% are still selling cocoa, rice, yam and pineapple through their PGs, respectively (Figure 4)

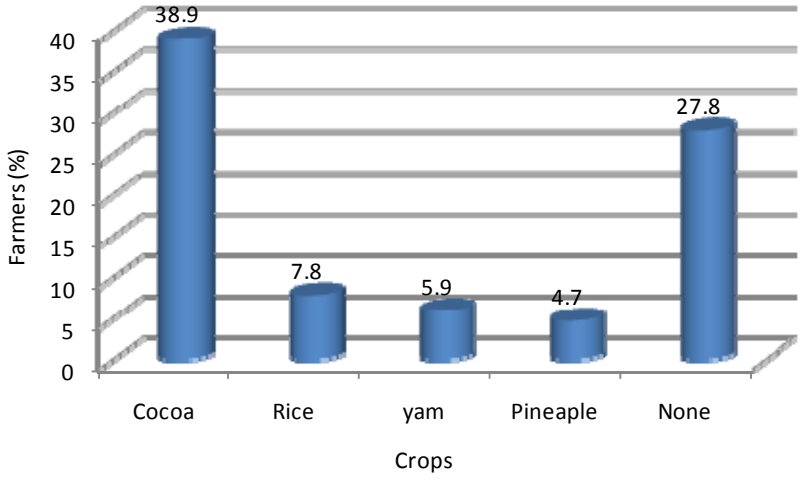


Figure 4: Farmers selling crops through networks promoted by DEED

4.3. Watersheds

Compare the DEED watershed-based approach focusing on hillside farmers in highly environmental degradation areas (promoted at the Montrouis and Limbé watersheds during the initial three year-project life) with the approach focusing on farmers mainly in low land and fertile plains of the watershed of Limbé during the last 16 option months. Specific questions to be addressed for this comparison are:

Did other farmers not supported by DEED adopt the technologies/techniques promoted by DEED for hillside stabilization? What were the critical DEED inputs that facilitated several local jurisdictions within a watershed to initiate a planning and coordination process for management of the whole watershed? How successful has this been?
How successful was the strategy of lowland tenant farming in the Montrouis watershed as a means to improve all hillside watersheds and farming over the long-run? For example, did farmer beneficiaries from tenant farming activities effectively replace erosive annual crops in the upper-watershed with tree crops? What is the status of the two key watersheds as a result of project interventions? Detail lessons and insights.

A summary of DEED assistance towards the management of both Limbé and Montrouis watersheds is presented below in Table 5.

Table 5: Summary of DEED achievements towards Montrouis and Limbé watershed management

	Target	Achievement
# WMC created or strengthened as result of DEED assistance	-	**5 in Limbé watershed** **0 in Montrouis watershed**
# people receiving DEED supported training in NRM and/or conservation of biodiversity conservation	**15000**	**55511 (370%)**
# of hectares under improved natural resource management as a result of USG assistance	**50000**	**35777 (71.5%)**
% beneficiaries applying at a least one technique/technology promoted by DEED	-	**98.6% (n=503) (from survey in Limbé)**
% non-beneficiaries applying t at a least one technique/technology promoted by DEED	-	**84.9 % (n=432) (from survey in Limbé)**

More detailed evidence from the evaluation regarding this set of evaluation questions is presented below.

Focusing on farmers in highly environmental degradation areas. During the three first years of the project, DEED targeted mainly hillside farmers in highly environmental degradation areas in both Limbe and Montrouis watersheds. DEED promoted a series of techniques/technologies directed at generating more revenues for farmers whilst reducing unsustainable agricultural practices and stabilizing hillside.These techniques/technologies mainly concern agroforestry with yam (yam permaculture), pineapple in hedgerows, cocoa association (including pruning and grafting of cocoa trees), apiculture in mangroves, pisciculture integrated with horticulture, semi-intensive goat husbandry (Limbé watershed); banana and bean in agro-forestry system, apiculture in prosopis, ricin for castor oil, semi-intensive goat husbandry, tenant farming in low-land areas (Montrouis watershed). Other soil and water conservation measures that were encouraged include terrace, dry walls, gully plugs and introduction of woody species into local farming systems.

Vanilla on cocoa tree at CFAIM

Cocoa clonal garden at CFAIM

Figure 5. Cocoa promoted by DEED through the CFAIM

Focusing on the low land and fertile plain areas. During the extension period, DEED targeted mainly farmers and PGs in the fertile lowlands and provided important technical assistance and enterprise supports in the value chains of cocoa, rice and pineapple. According to FGDs with farmers from Association des Planteurs-Irriguants de Mathone (APIM) and Association des Iriiguants de Grison Garde (AIGG), DEED extended irrigation systems in Mathone and Grison Garde (Acul du Nord) and increase rice cultivated area. DEED introduced a new variety of rice (PROSEQUISA) and provided training on rice production to 351 members of AIGG, Association des Jeunes Planteurs de Gileron (AJPG) and APIM. This technical assistance has contributed to the intensification of rice production on about 82 ha with an estimated yield of 1181.2 kg/ha as per the evaluation survey. Representatives of FECCANO and Novella SA reported that DEED also extended its interventions on cocoa production, quality control and marketing training to suitable low land areas. The cocoa FFS program promoted by DEED in collaboration with Novella S.A and FECCANO was successful. As per our survey, 83 % (n=925)

of the farmers stated that the FFS had a positive impact on cocoa production and quality on their farms (Figure 5). As a result, their revenues have significantly increased as the price of cocoa increased from $0.34 to $1.2/lb while the cost of production remained relatively unchanged.

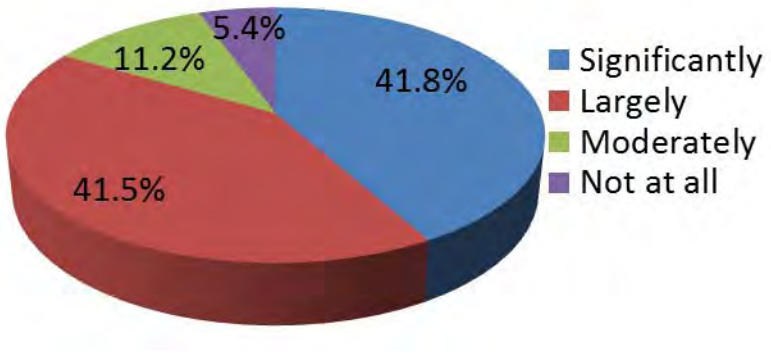


Figure 6: Producer perception on the positive impact of the FFS on cocoa production and quality

Overall, DEED interventions were effective in both low and upper watersheds. DEED brought a focus on farmers in highly environmental degradation areas and the low land fertile plain areas during the base period and extension period, respectively. However, the analysis of DEED investments revealed that neither low land nor upper watershed areas were neglected (Figure 6). It can be seen that about 1/3 and 2/3 of the investments went to the low and upper watershed areas, respectively. Thus, it can be inferred that DEED successful results were closely related to its cumulative efforts in the low and upper watershed areas. In other words, integrated watershed management efforts should consider both low and upper watershed areas as they are inextricably linked. In a scenario where fertile low-land areas exist (e.g. Montrouis, Limbé), a focus on low-land could help alleviate the pressure on environmentally degraded hillside, but simultaneous and important actions on the hillside should be conducted.

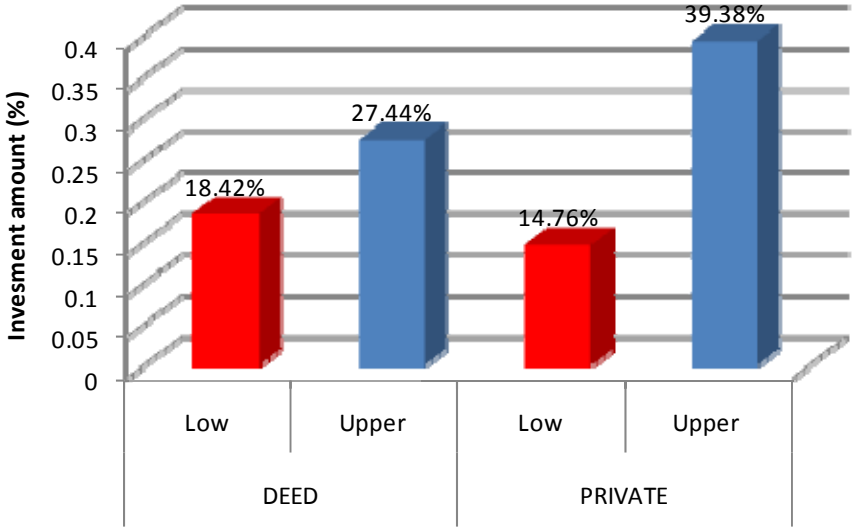


Figure 7: DEED and Private Sector investments in low ($ 4,012,505$) and upper ($ 8,080,161) watershed areas

Adoption of promoted techniques/technologies. In both Limbé and Montrouis watersheds, farmers continued to largely apply the techniques promoted by DEED. For instance:

(1) In Montrouis watershed, members of "Coopérative Union des Paysans de Calouis-Fond Baptiste" (CUPEC) continue not only to apply the new techniques but also organize outreach activities for associations and individuals in Fonds-Baptiste that had not worked with the DEED project. A variety of banana, so-called "banann gran hotè", introduced by DEED is much appreciated by the farmers for its productivity and resistant to adverse environmental conditions including gusty winds. Plots of banana and bean in agro-forestry system dominated the landscape in Fonds-Baptiste as result of DEED's support to CUPEC.

(2) Apiculture in prosopis was commonly observed in Pierre-Payen/Saint Marc due to DEED's support to "Association des Jeunes Techniciens en Apiculture de Pierre Payen" (AJTAPP). Members of AJTAPP were favorable to DEED's interventions in the apiculture value chains.

(3) In Limbé watershed, 98.6% (n=503) of farmer beneficiaries are still applying at least one technique promoted by DEED. Among 509 non-beneficiaries in DEED implementation areas, 432 or 84.9 % of them are still applying at least one technique promoted by DEED. Consistently, an extension of vegetation cover was observed in DEED's intervention areas. In the upper watershed, many plots areas were dominated by cocoa association, and pineapple in hedgerows, respectively.

The percent of beneficiaries still applying specific techniques promoted by DEED in Limbe watershed are shown in the Figure 7 below.

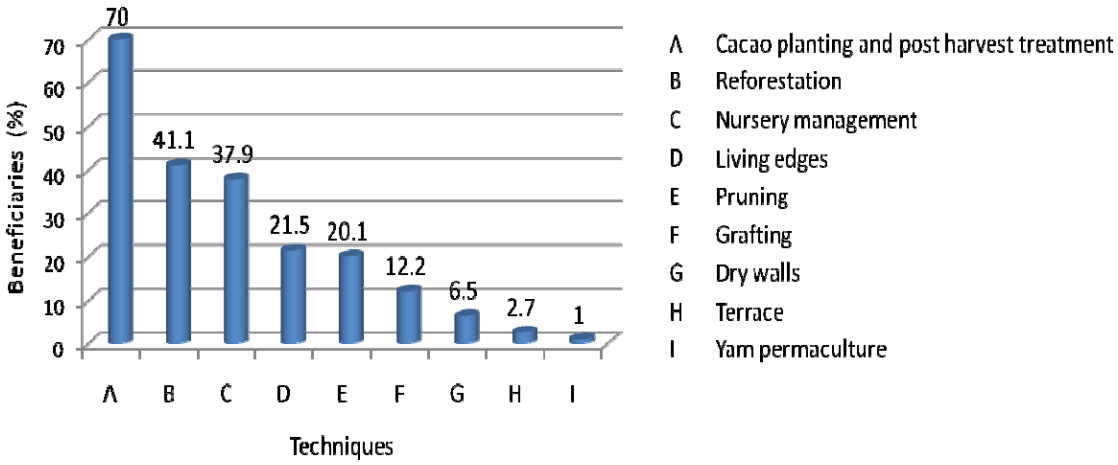


Figure 8 : Percent of beneficiaries applying techniques promoted by DEED

Non-beneficiary farmers living in DEED implementation areas were exposed to techniques promoted by DEED and apply them as well. Out of 432 non beneficiaries that participated in the survey, 365 or 84.5% are still applying at least one technique promoted by DEED. The results of the survey on how the farmers learned the aforementioned techniques are summarized in Table 6.

Table 6: Farmers learning and applying techniques for hillside stabilization?

How farmers learned techniques for hillside stabilization	Beneficiaries	Non-beneficiaries
Formation from DEED	421 (83.9%)	-
From friends or family	53 (10.6%)	284 (76.5%)
Visit to other farms	14 (2.8%)	36 (9.7%)
Other	14 (2.8%)	41 (11.0%)

Critical DEED inputs for facilitating integrated watershed management

Meetings with potential partners, training sessions and workshops organized by DEED were key inputs that help with the mobilization and active participation of multi-stakeholders in the project. These activities triggered interested collaborations between DEED and partners. DEED inputs for facilitating integrated watershed management were successful. DEED worked with multi-stakeholders including representatives of GoH, PGs, "Centre National d'Information Géospatiale" (CNIGS) and civil society for the development of sub-watershed management plans. Five sub-WMCs were created to promote environmentally sound management in the Limbé watershed as discussed earlier. These committees currently work with CFAIM and PARDFAL to seek for synergy in the interventions and obtain broad positive impacts on the Limbé watershed.

It's worth noting here that, although DEED successfully promoted CFAIM to take a leadership role and facilitate the coordination of the 5 sub-WMCs, an integrated planning for the whole watershed management is not yet resolved. For instance, CFAIM is providing technical assistance to the sub-WMCs in terms of training and management of five tree nurseries operated as small enterprises. However, a broader structure, such a steering committee that includes representatives of the 5 sub-WMCs, and other stakeholders, would be important to help define the priorities and monitor the interventions for the watershed management as a whole. Thus, representatives of sub-WMCs at the steering committees would promote these priorities for their application at the sub-watershed levels. Some key informants in the Montrouis watershed (e.g. Fontis Pierre Louis of Voix du Peuple, Magarette Jean Louis of BAC-Arcahaie/Cabaret) also reported that DEED implementation would be facilitated if a project steering committee was created with multi-stakeholder representatives (e.g. DAI, Local GoH, and other local leaders). Two secretaries of state in the MARNDR, Vernet Joseph and Fresner Dorcin, also stated the need for a broader implementation structure that would include representatives of the MARNDR. They argued that such a structure would help harmonize DEED interventions with MARNDR strategic plans and other NGOs interventions within the watersheds. Mr. Joseph emphasized the need for coordinated and specific interventions in both lower and upper watershed areas to improve the overall status of the watersheds.

Lowland tenant farming and land use management in hillside areas in Montrouis watershed

The dominance of agroforestry in Fonds- Baptiste indicated a relative improvement of land use management in hillside areas where a more permanent vegetation cover help protect the soils from erosion and degradation. This improvement in the upper watershed may be associated with many factors. One factor is that the varieties promoted by DEED apparently led to an increase in production and generated more revenues for the farmers (e.g. "banann gran hotè" in Fonds-Baptiste) as stated by members of CUPEC and "Société Coopérative pour le Développement de Fond Baptiste". Another factor is that the promoted low land tenant farming and apiculture in the Montrouis watershed might generate enough revenues for the farmers living in the hillside, thus reducing the pressure for land use in the upper watershed and encouraging the adoption of more sustainable agricultural practices. For instance, members of AJTAPP operated only 4 beehives before DEED. DEED helped them build 6 additional beehives to increase their production. They stated that they gained more revenues from these activities. They also mentioned their implications in tree planting to improve environmental conditions in their areas. However, the current data don't allow us to conclude whether or not the low land tenant farming and apiculture in the Montrouis watershed directly correlated with the observed improvement in the upper watershed. As shown in Figure 6 above, about 2/3 of DEED investments supported interventions directly in hillside.

Status of Montrouis and Limbé watershed as a result of DEED's interventions

Overall, information collected from FGDs and SSIs revealed that DEED has brought positive changes in both Montrouis and Limbé watersheds. These positive changes can be explained by DEED's efforts to promote sustainable agriculture practices, the production of high-value crops and the development of business opportunities to PGs benefits. Thus, it can be inferred that DEED interventions have improved the watershed conditions in comparison with a no-intervention scenario. Yet, it is difficult to argue whether or not the watershed conditions pre-DEED and post-DEED have improved or deteriorated. Many factors including frequent natural disasters have played a significant role in determining the current status of both Montrouis and Limbé watersheds. Some key informants (e.g. Magarette Jean Louis of BAC-Arcahaie/Cabaret, Jean Joseph Ciné and René Wilner of RACADAMA) clearly stated that hurricanes (ISAAC, Sandy) and long periods of droughts recorded recently have destroyed many achievements.

4.4. Livelihoods: How did DEED interventions help farmers and jurisdictions invest in income-generating actions that both stabilized hillsides and protected the productive plains? For example, DEED, through some innovative steps, promoted permaculture which both improved productivity and livelihoods and stabilized hillsides. Did this prove to be effective? To what extent did farmers benefit from and adopt this strategy?

(1) One of the main objectives of DEED was to help farmers increase their productivity and income whilst ensuring the stabilization of hillside. DEED promoted improved agricultural practices coupled with high value crops: cocoa in association with vanilla, yam permaculture, pineapple in hedgerows, pisciculture integrated with horticulture (Limbé watershed); banana and bean in agro-forestry system, apiculture in prosopis (Montrouis watershed) (Figure 8). The application of these integrated production systems has revealed to be environmentally

sound as they provided either a sufficient and perennial vegetation cover or anti-erosion barriers. In other words, they are clearly capable of facilitating water infiltration in the subsurface, reducing soil erosion and degradation and, subsequently, contributing to hillside stabilization. Their efficiency in environmental protection aside, the promoted crops offered an important and diversified source of revenues for the PGs as discussed further below.

(2) Results of the survey revealed that 46% (n=925) of farmers received DEED's support in the cocoa value chain. Cocoa production and quality has largely increased as stated by 83% of interviewed farmers (see Figure 5 above). As a result, cocoa price at the farms has significantly increased (more than triple): $0.34 to $1.2/lb. DEED efforts achieved a total of 4426 ha in cocoa. Vanilla, a creeping plant that grows on cocoa, can offer an extra source of revenues for the farmers. DEED Imported vanilla cuttings and in-vitro microplants that were distributed to 640 farmers who planted them on 240 ha. However, according to BAC directors, most of them died after plantation due to mismanagement in nursery. Nonetheless, vanilla remains a crop to encourage in association with cocoa to increase productivity on farms in the Limbe watershed.

(3) Results of the survey revealed that 23% (n=925) of the farmers received DEED's support in the yam value chain. DEED efforts reached a total of 221 ha in yam permaculture. In yam permaculture (Figure 9), citrus and other woody species were used as tutor for yams. As result, the farmers could harvest yams, fruits and woody products, thus expanding their sources of revenues and livelihoods. After harvesting yams, living tutors remains as trees on the parcels, protecting the other natural resources. Several of such parcels can be observed in Limbe watershed, according to MARNDR authorities. The evaluation has observed some during the field visits.

Figure 9. Yam permaculture facilitated some reforestation in Limbe watershed

(4) DEED efforts reached a total of 47 ha in pineapple. DEED worked with two PGs (ODS: Organisation Développement Soufrière, APKBA: Asosyan Plantè Kafe Basen) in the

cultivation of pineapple in hedgerows as a means to stabilize hillside. Pineapple cultivation seems to extend in DEED intervention areas. This culture offered an extra source of revenues for some PGs. Pineapple is currently sold in the local markets (farmer markets, supermarkets, hotels). Pineapple on hedgerows (Figure 10) is very effective as a soil conservation structure. According to CFAIM director, this crop is gaining huge momentum in the Limbe watershed with the installation of a processing unit in Marmelade (Figure 10). Pineapple on hedgerows could be planted throughout the watershed to feed the marmalade processing plant and protect the environment.

Pineaple on hedgerow in Limbe

FACN Pineaple processing unit

Figure 10. Pineaple in Limbe watershed

(5) DEED also substantially invested (> $ US 1.2 million) in irrigation systems in productive low-land areas and fertile plains of both Montrouis and Limbé watersheds. DEED extended irrigation systems in Mathone and Grison Garde (Acul du Nord), introduced a new variety of rice (PROSEQUISA). During FGDs, farmers at Grison-garde affirmed that irrigated agriculture extended significantly, and yields have increased in extended area with water availability. It is reported a total extension of 881 ha: 82 ha in rice production at Grison-Garde and Mathone (Acul du Nord) during the extension period, and 799 ha for the production of a variety of crops (mainly banana) in Montrouis watershed. These investments could (1) extend agricultural activities in the lower watershed and generate revenues for the PGs, (2) conceivably release the pressure for land use and facilitate the adoption of more sustainable agricultural practices on the upper watershed.

(6) Promoted fish ponds in Marmelade provided year-round water that was used to grow vegetables and sugar cane. Farmers harvested fish for their own consumption or to gain revenues from sale at the local markets. The availability of water also allowed for additional revenues and livelihoods from vegetables and sugar cane production.

(7) Promoted apiculture in mangroves and prosopis provided the farmers with more revenues. DEED efforts reached a total of 749 ha in apiculture: 25 ha in mangroves in Bas-Limbé and

724 ha in prosopis (Montrouis watershed). It is worth noting here that planting of mangroves has benefited the fisheries and fishermen, and protected crops and animals in the adjacent plains from sea breeze impacts as expressed by many farmers during FGDs.

(8) Unlike the aforementioned value chains, DEED interventions for castor oil production in Kounol (Fonds-Batiste) and Bwa-Brule (Arcahaie), and dairy production (Ivoire) were not successful as initiated partnerships and activities have not been completed until DEED ended in the Montrouis watershed, according to farmers during FGDs.

4.5. Value Chains: Confirm DEED's reported results¸ both qualitatively, and quantitatively, in developing crop value chains, specifically cocoa. Analyze key components and linkages including production, post-harvest, and marketing components. What were critical inputs that have led to successes? Will the cocoa producer be able to provide quality cocoa to the exporter when the project ends? In general, quantify business relationships between producer groups and buyers, e.g. determine changes in farm-gate prices for cocoa. Compare farmer relationships to the exporter and quality of cocoa sold by the famers to the exporter before and after the project-supported cocoa field schools.

DEED project promoted a series of crop value chains directed at generating income to PGs and protecting the watershed in which they reside. We focused here on the most dominant crops supported by DEED: cocoa, yam and rice. Among these 3 value chains, cocoa was much important during DEED implementation. The survey results showed that 46%, 23% and 6% (n=925) of farmers received DEED assistance in the value chains of cocoa, yam and rice, respectively. DEED support to the key components (production, harvest/post haverst, and marketing) of these crop value chains is evaluated to address the sets of questions on value chains.

Cocoa value chain

(1) In terms of production, DEED developed partnerships with the private sectors, namely FECCANO and NOVELLA S.A., to provide extensive hands-on training through the cocoa FFS program. In addition, the FFS training program covered a series of modules on harvest/post-harvest: when and how to harvest, proper fermentation, drying and proper storage. Representatives of both NOVELLA and FECCANO confirmed that the PPA was a success and cocoa quality and quantity have significantly improved due to DEED activities.

(2) DEED further promoted technical exchanges among cocoa producers within the Limbé and also with producers in Dame Marie (Department of Grand'Anse) for sharing their experiences and skills.

(3) In terms of marketing, DEED linked PGs with potential buyers (ex. Novella) and launched "Kout Lanbi Agrikol", an agriculture information service, through mobile telephones (DIGICEL network). The "Kout Lanbi Agrikol", which includes more than 12 500 subscribers, provides updated information on farm gate prices and other relevant information to help producers and entrepreneurs take informed decisions.

(4) DEED interventions were successful in the cocoa value chain. DEED invested $ US 1.56 million to leverage a co-contribution of $ US 3.70 million (cash and in-kind) from the private sector (Novella S.A., FECCANO). Their efforts achieved a total of 4426 ha in cocoa.

As per our survey, 46% (n=925) of farmers living in area of DEED implementation are cocoa producers. Through the FFS program, 4,900 cocoa farmers across 7 communes in the Nord Department were trained in production, harvest and post-harvest techniques. Each trained producer was asked to transfer their skills to at least 2 other producers. As a result, cocoa production and quality has significantly increased in the Limbé watershed.

(5) As per our survey, 83 % (n=925) of the farmers stated that the FFS had a positive impact on cocoa production and quality on their farms. To increase cocoa production, DEED promoted tests on new varieties. Six new varieties were tested at the CFAIM, according to its Director, Hector Fabien. The Director of FECCANO, Mr Wissamson Alfred, confirmed that new orchards have been established to extend cocoa production areas in the Limbé watershed. Beneficiaries and non-beneficiaries testified, during the FGDs at Limbe and Petit-bourg de Borgne, that cocoa has significantly increased. The majority of new plantings are not yet, however, in production. Yield calculated from data collected during survey (area cultivated and amount harvested) is 200 kg/ha, which is comparable to the average of 225 kg/ha reported by Mathurin (2012)[2].

(6) In terms of cocoa quality, both FECCANO (Mr Wissamson Alfred, Director) and NOVELLA S.A. (Mr. Jose Pierre, main technical officer) confirmed that the quality of cocoa produced on the farms has substantially improved (almost ready for exportation). They both believe that farmers will keep producing good quality cocoa as a result of the skills acquired during trainings.

(7) As a result of improved cocoa quality, the price of cocoa has significantly increased from $0.34 to $1.2/lb from 2008 to 2012, indicating much more revenues for cocoa producers considering an increase in production and relatively unchanged cost of production. The increase in price was confirmed by farmers, both beneficiaries and non-beneficiaries, in FGDs in Limbé, Port-margot and Petit Bourg de Borgne.

Yam value chain

(1) In terms of production, DEED promoted yam cultivation in association with citrus and other woody species serving as live tutors for yams. DEED efforts reached a total of 221 ha in yam permaculture. As per our survey, 23% of farmers said that they were involved in yam permaculture with DEED. However, only 1% confirmed they continue with yam permaculture. Nonetheless, the woody species used in yam permaculture during DEED implementation remained on the plots.

(2) In terms of harvest and post-harvest, the producers haven't mentioned any specific technical assistance from DEED. In yam permaculture, the producers could harvest yams, fruits and woody products, thus expanding their sources of revenues and livelihoods. The producers sell yam produced through the local market and agriculture fairs.

Rice value chain

(1) In terms of production, DEED invested in the extension/rehabilitation of irrigation system in Grison-garde and Mathone. Improved seeds and a new variety rice (PROSEQUISA) as well as training to 351 members of AIGG, AJPG and APIM are the main interventions to support

[2] Mathurin, J.P.,2012. Strategie de la filiere du cacao au niveau des regions du Nord et de la Grande Anse d'Haiti. MARNDR/DEFI

rice production. Rice producers learned new techniques that help increase yields. For instance, unlike in the past where farmers used to burn the rice straw in preparation of the land for sowing, now farmers use the straw as compost, irrigate the fields every three days, and plant rice with more space and in a linear distribution.

(2) This technical assistance has contributed to the intensification of rice production on about 82 ha with an estimated yield of 1181.2 kg/ha as per the evaluation survey. This performance is close to that reported for the valley of the Artibonite (1500 kg/ha) where the ODVA (Organization for Development of the Artibonite Valley) continuously provides a substantial technical assistance to the farmers.

(3) Several farmers in FGDs reported that rice cultivation becomes more attractive in areas of irrigation system expansion. According to them, lack of water, which was a main cause of loss in rice production, is no longer an issue.

Extension toward Gileron

Extension toward Baujoin

Rice growers beneficiaries

Figure 10. More rice at Grison Garde due to irrigation system extension

Table 7 below summarizes results from the survey about farmer participation in relevant DEED activities in the crop value chains towards livelihood improvement.

Table 7 : Farmer participation in DEED activities towards livelihood improvement

Activities	Yes	No	Don't know
Farmers Field School (n=955)	323 (33.8%)	631 (61.1%)	1 (0.1%)
Other trainings (n=894)	302 (33.8%)	587 (65.7%)	5 (0.6%)
Farmers exchange/visit program (n=953)	374(39.2%)	577 (60.5%)	2 (0.2%)
Farmer still in contact with buyers through DEED promoted networks (n=528)	175 (33.1%)	348 (65.9%)	5 (1%)

4.6. Gender: Determine DEED's impact on improving the economic status of women and how successes can be carried forward in future USAID projects. To this end, look at the composition of the farmer associations that were strengthened by DEED.

During DEED implementation, women received training in the key components of the crop value chains, in natural resources management and/or biodiversity conservation. The percent of women benefited from various initiatives undertaken during DEED implementation varied between 21 and 30% as indicated in Table 8. As a result of DEED assistance, about 1/3 of individuals (30%) with increased economic benefits derived from sustainable natural resource management and conservation were women. Thus, DEED had a significant impact on improving the economic status of women in the Montrouis and Limbé watershed. . In Montrouis watershed, women have different positions (Secretary, Vice-president) in the producer groups and associations supported by DEED, indicating their active participation in the project. Similarly, women are involved in key structures promoted by DEED like the WMC and PARDFAL (e.g. a woman is the secretary of PARDFAL) in Limbe watershed,

Table 8: Percentage of women benefiting from DEED assistance

Indicators	Males	Females	% of Females
# of vulnerable headed households benefiting directly from DEED assistance	15133	6492	30
# of individuals who have received DEED supported productivity training	16996	4504	21
# of individuals with increased economic benefits derived from sustainable natural resource management and conservation as a result of DEED assistance.	98065	39415	29
# of FEMALEs receiving USG supported training in natural resources management and/or biodiversity conservation	38,858	16653	30

During DEED interventions, 12 women's organizations/associations received technical assistance in capacity building. These organizations/associations were actively involved in the execution of DEED project activities (Table 9).

Table 9: Involvement of women's organization/associations in execution of DEED project activities

Women's organizations/associations	DEED supported activities
AFAB, SOFA, FCULV, Fanm Vanyan, Fanm Chèche lavi	Extension de l'apiculture pour la protection de l'habitat dans le bassin de Roseau.
Gwoupman Fanm Cibas, Fanm Vanyan Ivwa.	Production animale et végétale pour la

	préservation de la flore.
Mouvman Fanm Katryn Flon (Marmelade), Organisation Groupman Fanm Lombard	Intensification de la pisciculture et de la culture maraîchère à Bassin.
Association des femmes de Bas-Lime, Claire Heureuse	Reforestation de morne Pipi et intensification de la culture maraîchère en aval
CEDI (Centre d'Education et Développement intégré \dirigé par une association féminine)	Intensification Culture Maraichère en système agro- forestier

5. CONCLUSIONS AND LESSONS LEARNED

5.1. Conclusions

Component 1: Strengthening community-based producer groups, associations, and enterprises

DEED activities led to 47% increase in the value from sustainable crops, indicating an over-performance of the project as a 20% increase was targeted.

Component 2: Promoting alternatives to hillside farming

From the targeted 50,000 hectares (ha) of fragile land under environmentally sound management, 35,777 ha (i.e. 71.5%) were reached, thus indicating an under-performance of the project for this component.

Component 3: Promoting and improving community-based natural resources management

DEED targeted 2500 ha of priority conservation areas under improved and sustainable management that improves the biophysical conditions of the ecosystems. However, the project achieved only 9.7% of the expected results. Nonetheless, the mangrove system restored in Bas Limbé is a success story as both farmers and fishermen are currently benefiting from the coastal plains.

Component 4: Assisting the Government of Haiti develop sound NRM policies and systems

DEED assisted the GoH in the development of 2 NRM policies and management, thus achieving 100% of its targeted results. An important achievement of DEED is the assessment report on the status of the marine environment along the Limbé and Montrouis coastlines in collaboration of MARNDR and MDE.

Component 5: Developing watershed restoration and environmentally sustainable management plans with watershed stakeholders

DEED helped develop participatory community-based plans for soil and water conservation including Limbé Watershed Management Plan, Community Soil Conservation (Bas Limbé),

Land Use (Bas Limbé), Community Soil Conservation (Archaie), Land Use (Arcahaie, Roseau). DEED activities led to 106775 people with increased economic benefits derived from sustainable natural resource management and conservation. This achievement represents 142% of the targeted results (75,000 people), thus indicating an over-performance of the project.

Component 6: Promoting alliances with the private sector to leverage DEED resources

DEED established 31 grants and 9 PPA, and leveraged $ 6, 466, 429 (i.e. 92.3% of the $7 million targeted amount) from the private sector for investment in enterprise development and watershed management in the Montrouis and Limbé watersheds.

The overall DEED levels of performance mainly result from:

(1) Mobilization of multi-stakeholders through a series of workshops and training sessions. These activities have facilitated stakeholder participation and involvement from the inception of the project and in the course of its implementation, and helped DEED manager and stakeholders conjointly define potential collaboration;

(2) Adoption by the farmers of promoted technologies and crops that appeared to be economically viable whilst protecting the environment;

(3) Specific actions in production, harvest/post-harvest, and marketing to support selected value chains and generate more revenues for farmers, PGs and enterprises.

Collaborations/associations with stakeholders

(1) The participation and involvement of multi-stakeholders in a series of activities (e.g. trainings, workshops) indicate strong linkages with the recipients during DEED's implementation.
(2) The on-going activities of some stakeholders (e.g. CFAIM, PARDFAL, sub-WMC: BALI, RAHALIC, MARLA, SACOGRA, SOLCAMA in the Limbé watershed; CUPEC, AJTAPP in the Montrouis watershed) indicate that DEED has efficiently connected to and provided them with adequate supports for durable actions.
(3) However, some PGs (e.g. KAK, APKA, OPD8) remain very frustrated of DEED interventions, especially in the Montrouis watershed.

Watershed-based approach

(1)DEED interventions in both low and upper watershed areas have proved to be effective for watershed management.

(2)DEED accomplished key results towards integrated watershed management by facilitating participatory community-based soil and water conversation and restoration plans (Limbé and Montrouis watersheds) and the creation of 5 multi-stakeholder sub-WMC (Limbé watershed).

(3) Promoted techniques/technologies for hillside stabilization continue to be largely applied in both watersheds, thus indicating that DEED approach was successful. The increase in productivity and, subsequently, in income for members of PGs could stimulate the adoption of DEED promoted techniques/technologies.

(4) The adoption of promoted techniques resulted in positive environmental impacts in terms of protection and conservation of natural resources in both watersheds.

Farmer/producer livelihoods

(1) Overall, farmers and PGs in both watersheds largely benefited from techniques/technologies promoted by DEED. They claimed an increase in revenues and an improvement in their livelihoods as result of DEED interventions in the following value chains: cocoa, yam, rice, apiculture, pineapple, and horticulture. However, DEED interventions to support PGs in castor oil production were not successful.
(2) The adoption of integrated production systems provides sustainable livelihoods for the farmers whilst maintaining several environmental benefits.

Crop value chains

(1) DEED achieved successful results in strengthening the key components of the crop values chain including production, post-harvest and marketing, especially for cocoa.
(2) The most critical inputs by DEED that have led to successes included hands-on trainings, especially during the FFS program that reached 4,900 cocoa farmers across 7 communes in the Nord Department, technical exchanges among cocoa producers within the Limbé watershed and also with producers in Dame Marie, development of buyers-PGs networks (e.g Cocoa producers/FECCANO/Novella S.A), and information sharing to help producers and entrepreneurs take informed decisions (e.g. Kout Lanbi Agrikol", an agriculture information service through mobile telephones/DIGICEL network, included more than 12 500 subscribers).

Gender/Improving economic status of women

(1) As a result of DEED assistance, about 1/3 of individuals (30%) with increased economic benefits derived from sustainable natural resource management and conservation were women. Thus, DEED has improved the economic status of women in the Montrouis and Limbé watershed.
(2) This achievement resulted from DEED technical assistance to 12 women's organizations/associations directly involved in the execution of project activities and a series of trainings (e.g. crop production, harvest/post-harvest, marketing, and natural resources management and/or biodiversity conservation). These interventions helped built women's capacity and empower them for taking a leadership role in NRM and watershed management.

5.2. Lessons learned

(1) Multi-stakeholder participation from the inception of the project and further commitment during project implementation were among the most critical steps for DEED success. DEED effectively reached out multi-stakeholders through a series of meetings, workshops, training sessions, farmer exchange visits. These activities triggered potential partner interests for the project.

(2) An emphasis could be brought on either the upper or lower part of the watershed. However, neither the lower nor the upper parts should be neglected as they are inextricably linked.

(3) Farmers are looking for options that offer more security for their families through a diversification of revenue sources and an improvement in livelihoods. New techniques/technologies, such as those promoted by DEED, that clearly improve farmer income and livelihoods are most likely to be adopted. Thus, it is of upmost importance to consider and promote techniques/technologies that are mutually beneficial for the farmers and the environment in an effort of sound NRM an integrated watershed management.

(4) Strengthening community-based PGs and associations through training, and the implementation of economic projects that increase revenues and enhance livelihoods for members are crucial for durable interventions.

(5) Efforts for promoting a value chain should address all components (production, harvest/post-harvest and marketing) to be most likely successful. For instance, activities to increase production should be accompanied with efforts to improve product quality and presentation, establish producer-buyer network, and increase the product price and volume of sale on the market. The success of DEED in the cocoa value chain provides insight for future projects towards sustainable NRM in Haiti.

(6) Women can play an important role in watershed management if there are given an importunity to improve their economic situation and build their capacity.

(7) The sudden termination of DEED project in the Montrouis watershed led to frustrations among some producer groups. Ensuring that started projects do not stop along the way and activities are implemented with transparency could avoid mistrust from PGs and farmer associations. A situation of frustrations and mistrust could impact negatively existing and projects.

(8) Although DEED encouraged multi-stakeholder participation in the implementation of activities, a coordination structure that included representatives of multi-stakeholders was not put in place to plan the project activities. A lack of coordination in some project activities has led to failures (e.g. Vanilla micro-plants, transformation units for castor oil production and dairy products).

6. RECOMMENDATIONS

Based on the findings and lessons learned of DEED implementation, 8 specific recommendations are formulated to guide future informed decisions in terms of designing and implementing environmental and agricultural projects in Haiti. These recommendations are presented under 3 main groups (a) project approach, (b) project components and implementation, and (c) institutional arrangement for coordination during implementation and continuity at the end of project.

Project Approach

(1) DEED project approach to engage multi-stakeholders and promote new techniques/technologies appears to be easily applicable in various watersheds in Haiti. This

approach can serve as a model for designing and implementing future related project in Haiti.

(2) Envisioning the watershed as a whole is crucial for sustainable watershed management. Although a project could focus on the fertile productive plains or the highly degraded hillside of the watershed, neither the lower nor the upper part should be neglected as they are inextricably linked. Therefore, coordinated and specific interventions in both lower and upper watershed areas are needed for broad positive impacts and overall changes in the status of the watershed.

Project components and implementation

(3) Formalization of agreements between project implementation agency and producer groups and planning/execution of project activities with transparency are required to avoid misunderstanding, mistrust and failures. Tacit agreement and sudden termination of project activities can be detrimental in terms of durability of the interventions.

(4) Capacity building of community-based natural resources users revealed to be of upmost importance for sustainable watershed management. This aspect must be incorporated in all project focusing on integrated watershed management in Haiti.

(5) Development of mutually beneficial interventions for the environment and producer livelihoods is mandatory for success as sound watershed management and improvement of inhabitant livelihoods are closely correlated.

(6) On a case-by-case watershed basis, future related project must identify and promote crop value chains that are economically viable and environmentally sustainable like cocoa in the Limbé watershed.

(7) Women and women's associations must be empowered through trainings and other technical assistance in order to play an effective role in integrated watershed management as they are often more vulnerable than men to natural resources degradation and scarcity.

Institutional arrangement for coordination during implementation and continuity at the end of project

(8) The creation of a steering committee with multi-stakeholder representatives including the implementing agency and relevant ministries (e.g. MARNDR, MDE), local authorities (Mayor, CASECs, ASECs) and community leaders could facilitate planning of project activities, and ensure continuity of the interventions as the project ends. Local GOH institutions of the steering committee would also strengthen, gain ownership during project implementation, and take over as the project ends. Such a steering committee would also facilitate coordination and synergy with other agency interventions in the watershed and adjustment in project activities consistently with changes in sectorial strategic plans.

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ANNEXES

ANNEX A : Statement of Work

Statement of Work
Performance Evaluation of Développement Economique pour un Environnement Durable (DEED) Project

I. Purpose

The purpose of this Statement of Work is to complete the DEED evaluation work initiated under the Purchase Order: AID-521-O-13-00002. The above referenced Purchase Order was a firm fixed price contract that secured the services of a local firm "PYRO" for conducting a final, summative evaluation of the *Développement Economique pour un Environnement Durable* (DEED) project, a $19.5 million contract implemented by Development Alternatives, Inc.

The contract with PYRO expired as of December 29, 2012, 42 days after the signing of the award. During this period, PYRO was able to submit three (3) out of six (6) deliverables: 1) the DEED Evaluation Work Plan; 2) the DEED evaluation overall design document; and 3) the logistic plan for the implementation of the evaluation.

The purpose of this Statement of Work is to finalize the DEED summative evaluation. In order words, the evaluation team will be in charge of collecting, analyzing both quantitative and qualitative data to produce the final DEED evaluation report. The evaluation findings should help determine the effectiveness of the DEED approaches and activities and, as a result, expected to help guide and optimize the effectiveness of successfully implementing future environmental and agricultural-focused projects in Haiti, especially the newly awarded Feed the Future North project.

The primary stakeholders for this evaluation include USAID, farmers and farmer organizations, Government of Haiti, DAI and it sub-contractors, and PPP private sector partners.

II. Background

USAID/Haiti's DEED project is an alternative to previous models of natural resource management (NRM) projects as it envisions a market-based approach integrating improved management of lands and other natural resource assets with expanded enterprise and job opportunities in the production of suitable high-value crops and post-harvest food processing facilities. While initially the primary focus of DEED was on hillside farmers where environmental degradation is most critical, a contract modification increased focus on technical assistance to farmer in the fertile plains of the Limbe' watershed and contiguous lowlands to increase productivity and income from staple crops amongst other activities. Lowland farmers of the floodplain and hillside farming systems are inextricably linked. This combined approach creates livelihood options for both hillside and lowland farmers currently trapped in a cycle of poverty. DEED links the management of natural resources to sound conservation while simultaneously offering livelihood options that provide the essential stimulus for promoting sustainable watershed management. The project initially targeted two watersheds – the Limbé in

the north and the river systems around Montrouis in the west. Activities in Montrouis were suspended in the third year of the contract. At the beginning of the last quarter of the base period DEED closed down all activities in Montrouis and therefore, during the 16-month option period extension, remaining project activities concentrated primarily in the Limbé watershed and newly targeted adjacent economic development zones in the Departement du Nord, particularly cacao production areas.

DEED introduced livelihood improvements into all aspects of watershed and natural resource management. The project has intended to establish a collective vision, facilitate participatory planning, and build partnerships in its communities. It introduced innovative approaches to mobilizing target communities and producer groups and helped them develop land-use and business plans to protect fragile natural resources and create business opportunities.

The USAID/Haiti Mission promotes and takes advantage of multi-sectorial partnerships where the private sector can be a driving force for economic development. In recent years, large private sector companies, such as NOVELLA, have become increasingly committed to local economic development. Civil society, in collaboration with local governments, has been critical in organizing private farmers into farmers associations, which in turn have the requisite structure and capacity to partner with the private sector. As such, it is critical that communities, through farmer associations be directly involved in project development and implementation. DEED's aim is to promote a participatory, inclusive approach to public private partnerships that changes conventional development dynamics and mechanisms.

DEED works across six integrated technical components. These are: 1) Strengthening community-based producer groups, associations, and enterprises;2) Promoting alternatives to hillside farming;3) Promoting and improving community-based natural resources management;4) Assisting the Government of Haiti develop sound NRM policies and management;5.) Developing watershed restoration and management plans with watershed stakeholders; and 6) Promoting alliances with the private sector to leverage DEED resources.

Key results targeted for the five year project include:

1. 20 percent increase in household income in target areas as a result of improvements in agriculture, marketing, and off-farm employment.

2. At least 50,000 hectares (ha) of fragile land under environmentally sound management—a reduction in unsuitable annual cropping of about 50 percent.

3. At least 2,500 ha of priority conservation areas under improved and sustainable management that improves the biophysical conditions of the ecosystems.

4. At least 15,000 households deriving improved livelihoods from sound NRM.

5. At least $7 million leveraged from the private sector for investment in enterprise development and watershed management in the target watersheds.

DEED activities in the 16-month option period focus primarily on the targeted Limbé Watershed. USAID included specific recommendations for DEED's project activities throughout the extension, specifically:

1. Provide expanded technical assistance to farmers in the fertile plains of the Limbé watershed and contiguous lowland areas to increase productivity and income from the staple crops (cereal-rice and corn principally, vegetables and tubers);

2. Identify strategic agriculture infrastructure in the selected productive plains (rural roads and bridges; crop processing or storage facilities);

3. Establish sustainable NRM activities – terracing, gully plugs, agro-forestry, etc. – especially to protect investments in infrastructure and farming;

4. Expand the current cacao production quality control and marketing training to include support to new cacao producer groups or federations of producers as well as expanded capacity building for these groups;

5. Expand the use of existing grants under contract to carry out the DEED work, maximizing the use of local firms, Diaspora firms and local NGOs.

III. Evaluation Questions

1. General Question:

   To what extent did the project achieve its objectives? To answer this question, the evaluation will use performance monitoring data and compare actual results achieved versus targeted results for performance indicators related to the objectives of the project. This comparison will be complemented with key informant and participant interviews and field visits to implementation sites to determine project effectiveness.

2. Collaboration/Associations:

   How effectively did DEED work and develop strong linkages with recipients, the Government of Haiti at the central, regional and local levels (e.g. MOA, MOA/Damien, DDAs and BACs), and project partners?

   Determine how watershed management committees and farmer associations are functioning, and how they will likely function after DEED support ends. Are farmer associations able to sustain their core business functions to the benefit of members, and are watershed management committees sufficiently organized to assure stabilization of watersheds within which they reside?

3. Watershed(s):

DEED modified the project strategy during the option period to increase emphasis on livelihood enhancement. Compare the two approaches (watershed focus versus greater focus on productive plains) and at the same time assess how (if) farmers in Limbé upper watershed continued their activities over the option year period without support from DEED. Did other farmers not supported by DEED adopt the technologies/techniques promoted by DEED for hillside stabilization? What were the critical DEED inputs that facilitated several local jurisdictions within a watershed to initiate a planning and coordination process for management of the whole watershed? How successful has this been?

How successful was the strategy of lowland tenant farming in the Montrouis watershed as a means to improve all hillside watersheds and farming over the long-run? For example, did farmer beneficiaries from tenant farming activities effectively replace erosive annual crops in the upper-watershed with tree crops? What is the status of the two key watersheds as a result of project interventions? Detail lessons and insights.

4. Livelihoods:

How did DEED interventions help farmers and jurisdictions invest in income-generating actions that both stabilized hillsides and protected the productive plains? For example, DEED, through some innovative steps, promoted permaculture which both improved productivity and livelihoods and stabilized hillsides. Did this prove to be effective? To what extent did farmers benefit from and adopt this strategy?

5. Value Chains:

Confirm DEED's reported results¸ both qualitatively, and quantitatively, in developing crop value chains, specifically cacao. Analyze key components and linkages including production, post-harvest, and marketing components. What were critical inputs that have led to successes? Will the cacao producer be able to provide quality cacao to the exporter when the project ends?

In general, quantify business relationships between producer groups and buyers, e.g. determine changes in farm-gate prices for cacao. Compare farmer relationships to the exporter and quality of cacao sold by the famers to the exporter before and after the project-supported cacao field schools.

6. Gender:

Determine DEED's impact on improving the economic status of women and how successes can be carried forward in future USAID projects. To this end, look at the composition of the farmer associations that were strengthened by DEED.

IV. Methodology

The methodological approach proposed by PYRO and approved by USAID included a combination of qualitative and quantitative methods, with data collection from both primary and secondary sources. The data collection methods proposed by PYRO were:
(1)Review of literature and analysis of relevant documents;
(2)In-depth interviews with key informants;
(3)Focus group discussions (FGD); and
(4)Survey of project participants

The evaluation questions were considered as the entry point on which the overall evaluation was designed. Then, it formed the basis for evaluation design considerations, selection of data sources, development of specific methods for data collection, and adequate framework for data synthesis and analysis.

Design considerations

The broadness of the evaluation questions called for the adoption of a mixed methods-approach (combination of different techniques and methods to collect the data needed) in order to effectively address them. The mixed methods approach allowed for triangulation and complementarity, thus increasing the validity of conclusions related to the evaluation questions. Both qualitative and quantitative data collection methods are needed for answering the evaluation questions and developing adequate recommendations.

In addition, as DEED activities were implemented mainly through the use of grants and PPAs to PGs and local Haitian businesses, it was important that PYRO based the evaluation design on the following statistics: Out of 103 Grants and PPAs awarded during the life of the project for a total of $6,000,000, a total of 3.18 million in grants and PPAs were spent in the Limbé watershed areas. The higher number and dollar amount spent in grants and PPAs in Limbé watershed called for more efforts in the Limbé watershed during the evaluation. Most importantly, the review of DEED project reports along with the orientation meeting with USAID staff and preliminary meeting with DAI staff during the exploratory field visit brought the evaluation team to concentrate the survey (quantitative data collection) only in the Limbé watershed instead of both Limbé and Montrouis watersheds. As a result, PYRO will carry out a qualitative survey in the Montrouis watershed while it will implement both qualitative and quantitative surveys in the Limbé watershed.

Data collection methods, data sources and analysis

Review of literature

The following documents were reviewed by PYRO evaluation team: The DEED proposal, DEED quarterly progress and final performance reports; maps of stakeholder distribution within the two watersheds, maps of land occupation, 2007 USAID report of environmental vulnerability in Haiti. These documents provide detailed information about approaches, activities and achievements pertaining to the project. They were useful for framing the focus group discussions, the different type of interviews and the survey questionnaire. This literature review was a must for designing and planning the evaluation exercise.

Semi-structured Interviews with key informants

A series of semi-structured interviews will be conducted in both watersheds with representatives of local GoH (MOA, Mayors/CASECS, ASECS), members of watershed and sub-watershed management committees, the regional agriculture forum-PARDFAL (Limbé), the CFAIM (Limbé), and representatives of Novella and FECCANO (Limbé). These key informants interviews will provide sound explanations about the DEED project approach and performance, the level of satisfaction of the community, and about the factors affecting the success or failure of the project activities.

Focus Group Discussions (FGDs)

A series of focus groups will be conducted with representatives of famers (randomly selected) supported by DEED and famers non-supported (randomly selected) by DEED, grantees and PPAs, PGs/CBOs and enterprises. The facilitation of those group discussions will allow for deep exploration of some broad evaluation questions. The opinions and perceptions of focus group participants will be important for understanding the key results achieved, successes and challenges. PYRO will conduct the following FGDs:

a) In the Limbe area
Four (4) FGDs with farmers supported by DEED in Petit Bourg du Borgne, Port Margot, Limbé, and Grison/Mathone respectively;
Thee (3) FGDs with farmers non supported by DEED in Petit Bourg du Borgne, Limbé, and Grison/Mathone, respectively;
One (1) FGDs focus with representatives of grantees, PPA partners, PGs, CBOs and enterprises: Vanilla Export Company/CML, Novella/Feccano, CEDI/VES, APIM, Village Planete/OPDBB/APABL, AIGG/ARTRACOPAG/APWOLEG, AJPG, CFAIM, JEPROC, OPDBB/OPBL, FACN/COPAIMAR

b) In the Montrouis area
Three (3) FGDs with farmers supported by DEED in Archaie, Fonds-Baptise, and Roseau, respectively;
Three (3) FGDs with farmers non supported by DEED in Archaie, Fonds-Baptise and Roseau, respectively;
One FGD with representatives of grantees, PPA partners, PGs, CBOs and enterprises:
AJTAPP, FPPP, OPD-8, KAK, CUPEC, APKA; Café Selecto, Dubuisson, ARN, HSSA.

Population Survey
A household survey will be conducted in the Limbe Watersheds in order to address the evaluation questions. The sample frame is defined as farmers living in the watershed. Since a list of farmers is not available, the sampling is based on probability proportional to population size of the targeted area. The data from the "Institut Haitien de Statistique et d'Informatique (IHSI, Atlas critique d'Haiti, 2006)" is used to distribute the sample units across the area of Limbé in order to have a representative sample of the population. The SDE (Les sections d'enumérations) will be randomly selected and random walks will be used to select the survey respondents.

Since no information on the variability of the different characteristics to be measured within the target populations is available, PYRO will use the proportion of 50% recommended in this case, by most statistics agencies. A confidence level of 95% (typical value 1.96) with a margin of error of 10% will be used in the calculation of the sample size. With these parameters in mind, a sample of 940 households in the Limbe watershed is considered sufficient to address the evaluation questions. The study is designed to have adequate power in order to discriminate differences where there really are (Raudenbush and Liu, 2000). PYRO will use the Optimal Design (OD) software to calculate the number of clusters required to achieve a power of 0.80 with an effect size of 0.40. In order to correctly identify a difference between two periods in our study, the size of the clusters needs to be 24. Having to visit 940 households with clusters of 40 farmers, the number of clusters to be visited per watershed is 20.

V. Evaluation Team Composition

The core Evaluation Team will be composed of two local consultants and two data collectors. Additional staff such as enumerators and supervisors may be hired as needed.

The Team Leader will have over 15 years of experience in agricultural economics and natural resource management. In addition, the Team Leader will have demonstrated experience in monitoring and evaluating food security and watershed management projects. He/she will be responsible for entering and analyzing the data collected by PYRO, drafting and authoring the final report, in particular findings, conclusions and recommendations.

The Deputy Team Leader will have combined expertise that will best complete the Team Leader's profile to ensure that all the areas of expertise required for the evaluation are covered.

Required qualifications for the two consultants include:

- Advanced degree (Master's or above) or equivalent in development economics-related field or in a field related to an area of expertise required for evaluations (e.g. quantitative and qualitative research, monitoring & evaluation);
- Minimum of five years' experience in the monitoring and evaluation of development activities;
- Demonstrated experience with and understanding of monitoring and evaluation of the agricultural economics sector;
- Excellent oral and written communication skills in English, as well as fluency in French and Creole for both of the consultants to be able to develop instruments and conduct interviews in French and Creole;
- Experience interacting with developing country governments, international organizations, other bilateral donors, civil society representatives, and senior level government officials;
- Ability to work with diverse international teams and excellent interpersonal skills.

VI. Schedule and Logistics

It is estimated that the Evaluation Team will spend a total of 5 weeks to field the evaluation and write the evaluation report. The Evaluation Team's primary contacts within USAID/Haiti will be the Mission Monitoring and Evaluation Specialist, and the USAID/Haiti Economic Growth and Agricultural Development office.

Proposed Schedule

Task	**Number of working days (Level of Effort)**
Data collection and analysis	16
Data entry	5
Briefing on key findings with USAID/Haiti	1
First draft report	7
Finalizing report	7
Total	**36 days**

VII. Deliverables

The Team Leader will submit the following deliverables to USAID/Haiti:

1) A draft of the final report to be submitted to the USAID/Haiti Mission for review and feedback one week after the end of data collection and analysis.

2) The Team Leader will submit the final report within seven working days after receiving feedback from USAID/Haiti. The final report should integrate USAID/Haiti's comments, and contain an executive summary, evaluation context, and brief project description including approach, objectives and activities, evaluation methodology, evaluation findings. Based on evaluation findings, the consultant will present results achieved to date, draw conclusions and document lessons learned. Details about writing an evaluation report is available in the USAID publication *Performance Monitoring and Evaluation TIPS: Constructing an Evaluation Report* available at the following website: *http://www.usaid.gov/policy/evalweb/documents/TIPS-ConstructinganEvaluationReport.pdf*

The report shall follow USAID branding procedures.

The annexes to the report shall include:

- The Evaluation Scope of Work
- Any "statements of differences" regarding significant unresolved difference of opinion by funders, implementers, and/or members of the evaluation team
- All tools used in conducting the evaluation, such as questionnaires, checklists, survey instruments, and discussion guides
- Sources of information, properly identified and listed
- Disclosure of conflicts of interest forms for all evaluation team members, either attesting to a lack of conflict of interest or describing existing conflict of interest.

An acceptable report will meet the following requirements as per USAID policy (please see: the USAID Evaluation Policy)

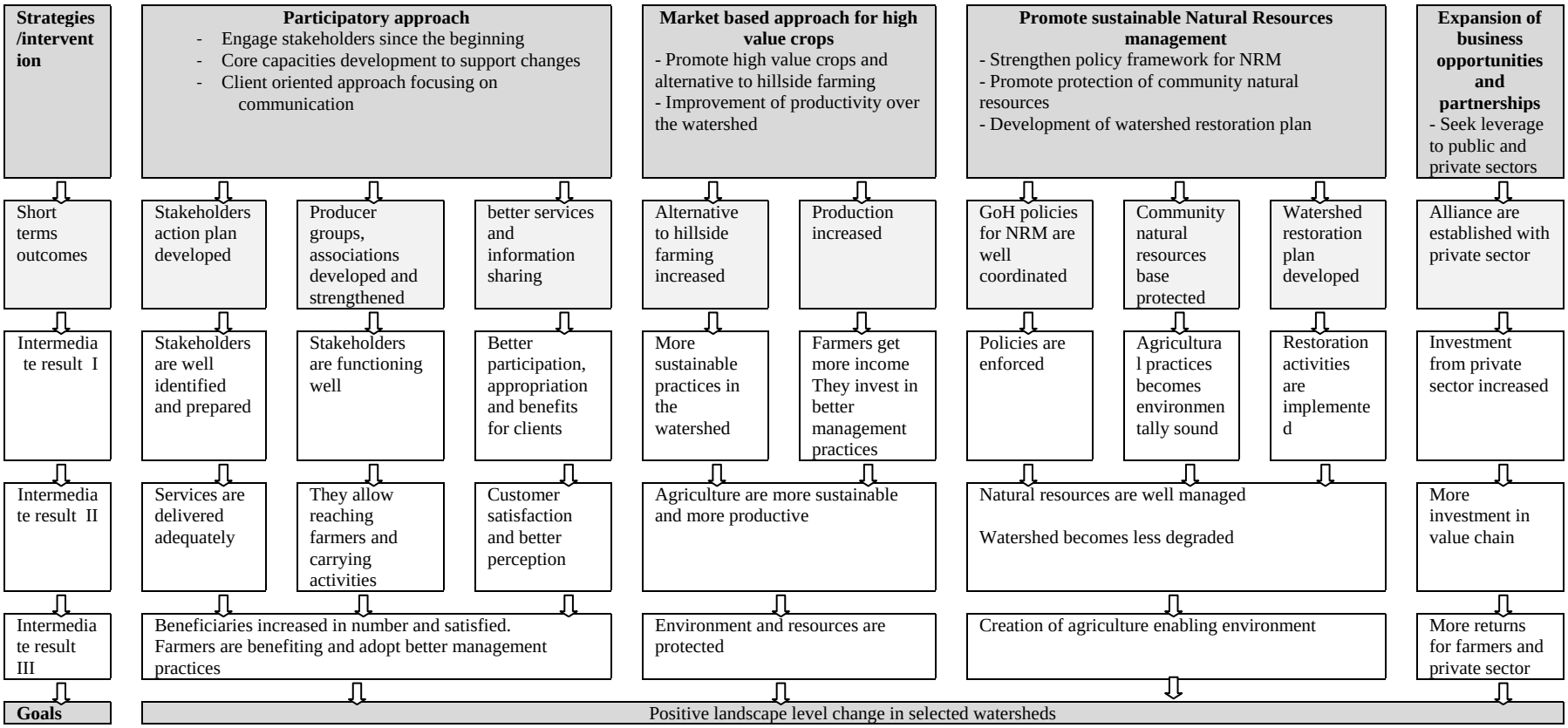
- The evaluation report should represent a thoughtful, well-researched and well organized effort to objectively evaluate what worked in the project, what did not and why.
- The evaluation report should address all evaluation questions included in the scope of work.
- The evaluation report should include the scope of work as an Annex. All modifications to the scope of work, whether in technical requirements, evaluation questions, evaluation team composition, methodology or timeline shall be agreed upon in writing by the USAID Mission M&E Specialist.
- Evaluation methodology shall be explained in detail and all tools used in conducting the evaluation such as questionnaires, checklists and discussion guides will be included in an Annex to the final report.
- Evaluation findings will assess outcomes and impacts using gender disaggregated data.

- Limitations to the evaluation shall be disclosed in the report, with particular attention to the limitations associated with the evaluation methodology (selection bias, recall bias, unobservable differences between comparator groups, etc.).
- Evaluation findings should be presented as analyzed facts, evidence and data and not based on anecdotes, hearsay or the compilation of people's opinions.
- Findings should be specific, concise and supported by strong quantitative or qualitative evidence.
- Sources of information need to be properly identified and listed in an Annex, including a list of all individuals interviewed.
- Recommendations need to be supported by a specific set of findings.
- Recommendations should be action-oriented, practical and specific, with defined responsibility for the action.

ANNEX B: Logical Framework of DEED Project

The schematic below summarizes the logical structure of DEED project. It shows the link between DEED intervention strategies and short term outcome impact or project area impact as well as the main outputs towards the accomplishment of the ultimate goal i.e. positive landscape level changes in the two selected watersheds.

Schematic of DEED Logical Framework



ANNEX C: Evaluation methods and tools

1. Argumentation for qualitative data collection in the Montrouis watershed and both qualitative and quantitative data collect in the Limbé watershed

As DEED activities were implemented mainly through the use of grants and PPAs to PGs and local Haitian businesses, it was important to summarize these statistics in order to decide on the selection and number of data collection tools developed for this evaluation. The statistics are (Table 1):

Table 10 : Statistic of PGs, Grants PPAs during DEED implementation

Watershed	**DEED support**			**Total**
	# PGs	# Grant awarded	PPAs	-
Limbé (Jan.2008-Nov. 2012)	40	24 (for a total of $ 1.32 million)	4 for a total of $ 1.86 million)	**68** for a total of $ 3.18 millions)
Montrouis (Jan.2008-Jan.2011)	23	7 (for a total of $ 0.43 million)	5 for a total of $ 2.44 millions)	**35** for a total of $ 2.87 millions)
Total	**63**	**31** (for a total of $ 1.75 million)	**9** (for a total of $ 4.30 millions)	**103** (for a total of $ 6.05 millions)

The above statistics show DEED supported a total of 40 PGs and spent a total of 3.18 millions in grants and PPAs in Limbé watershed compared with 23 PGs and a total of 2.87 millions in grants and PPAs in Montrouis watershed of which 1.18 million was awarded to the Ministry of Agriculture, Natural Resources and Rural Development-MARNDR to repair irrigation canal.

The higher number and dollar amount spent in grants and PPAs in Limbé watershed call for more efforts in the Limbé watershed during the evaluation.

Most importantly, the review of DEED project reports along with the orientation meeting with USAID staff and preliminary meeting with DAI staff during the exploratory field visit brought the evaluation team to ***concentrate the survey (quantitative data collection) only in the Limbé watershed instead of both Limbé and Montrouis watersheds.*** As a result, the evaluation proposed to conduct ***only qualitative data in Montrouis watershed*** and ***both qualitative and quantitative data in the Limbé watershed. Instead of a sample size of 470 per watershed***, the evaluation ***doubled the sample size (i.e. 470 x 2 = 940) in the Limbé watershed***. The argumentation to support this change is further detailed below:

- Considering that the project was implemented in Limbé watershed until November 2012 while terminated in the Montrouis watershed in October 2010 i.e. two years before the onset of the evaluation and the WINNER project has then implemented a series of activities in Montrouis watershed, a same survey design couldn't be technically applied in both Limbé

and Montrouis watersheds. A survey design in the Montrouis watershed would need to account for the WINNER activities and potential bias due to DEED's termination two years before the evaluation.

- Considering a limited number of grants/PPAs was awarded in Montrouis watershed and the project targeted different crops in the watershed (e.g. No cacao production was reported for the Montrouis watershed while this culture was largely supported by DEED in the Limbé Watershed and needed be emphasized as per the evaluation questions Q5a to Q5e);
- Considering that the accuracy of information provided through survey will vary with the samples size and the data can't be aggregated (e.g. different crops were promoted by DEED in the two watersheds);

it was proposed to answer evaluation questions in Montrouis only through a qualitative approach, and realize the quantitative survey only in the Limbé Watershed, while doubling the sample size. When calculating the samples, we had assumed that technologies and value chains promoted were identical on both watersheds (e.g. cocoa was grown in both watershed). It was then proposed to aggregate the data from the two watersheds to make comparisons between beneficiaries and non-beneficiaries. After reading the project documents, we realized that this assumption was not met. Due to the diversity of technology promoted and implementation strategy used in the two watersheds, data collected at Montrouis cannot be aggregated with those of Limbe to answer most of the evaluation questions. The nature of the questions suggested using different approach in the watersheds. While statistically significant and accurate performance results could be estimated in Limbe to answer the evaluation questions, this was not so obvious in Montrouis. That DEED was terminated in the Montrouis watershed two years before the onset of the evaluation could lead to significant biases in the collected data and the results. Collected information could be further distorted as a result of WINNER activities during the 2010-2012 period.

2. Quantitative data methods : sample size calculation and distribution of clusters

Population frame : all farmers living in area of DEED implementation in Limbé watershed and the economic zone of the Haiti Northern department

Sampling units : Communes reported to benefit from DEED activities :Limbé, Bas-limbé, Acul du Nord, Marmelade, Petit-bourg de Borgne, Port-Margot, Plaine du Nord, et Grande Rivière du Nord. Segments or SDE were defined within these units by superposing SDE maps (IHSI, Atlas Critique d'Haiti, 2006) to corresponding DEED maps of intervention areas.

Sample size calculation

The calculation was based on a proportion of 50% of the target population using a confidence level of 95% (typical value 1.96) with a margin of errors of 10%. For each watershed, the sample size was calculated as follows:

$$n = deff \times \frac{(Z_a + Z_b)^2 \times (P_1(1-P_1) + P_2(1-P_2))}{(P_2 - P_1)^2}$$

Where:

	PARAMETERS	Value
n	Required sample size per commune or city	TBD
P1	Hypothesized true proportion for a variable for a city	0.43
P2	Hypothesized true proportion for a variable for another city	0.57
Power	Probability of rejecting a false null hypothesis	80%
P2-P1	The minimum difference between P1 and P2 that you want to detect	14%
C.L.	Desired confidence level	95%
Test	One- or two-sided test	2 sided
Z(α)	Z-score statistic corresponding to statistical significance	1.96
Z(β)	Z-score statistic corresponding to the degree of statistical power with which it is desired to be certain that the difference between two communes (P1-P2) or improvement from baseline will be detected	0.84
Deff	Design effect	2

Source: Wayne Snedecor, G. W. and Cochran, W. G. 1989. Statistical Methods, 8th Edition. Iowa State University Press.

- **Distribution of clusters by communes and activities**

The distribution of clusters by communes and activities in the Limbé watershed including the economic zone are presented in the tables below.

Clusters by communes and activities

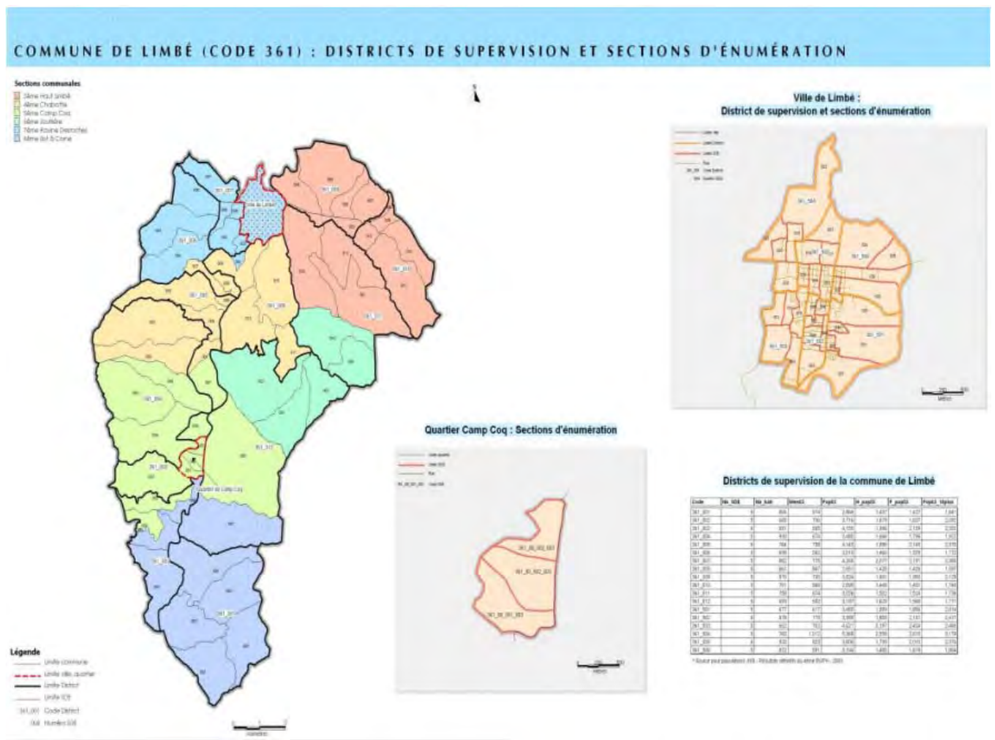
Communes	Grantee/PPA/PGs	Activities	Beneficiaries	% beneficiaries	# clusters
Zone economique*	Novella/Feccano	Cocoa	12500	44.0	18
Limbe	Vanilla export lmt	Vanilla	3200	11.2	4
Limbe	CEDI/VES	Veggies	295	1.0	1
Limbe	CFAIM	Nursery	375	1.3	1
Limbe	JEPROC	Yam permaculture	770	2.7	1
Marmelade	FACN/COPAIMAR	Transformation	3000	10.5	4
Marmelade	AFB2	Yam permaculture	1250	4.4	2
Acul	APIM	Rice	1200	4.2	2
Acul	AJPG	Rice	1000	3.5	1
Acul	AIGG/APWOLEG	Dairy	400	1.4	1
Bas limbe	VP/OPDBB/APABL	Mangroves/honey	2425	8.5	3
Bas limbe	OPBL/OPDB	Transformation	2000	7.0	2

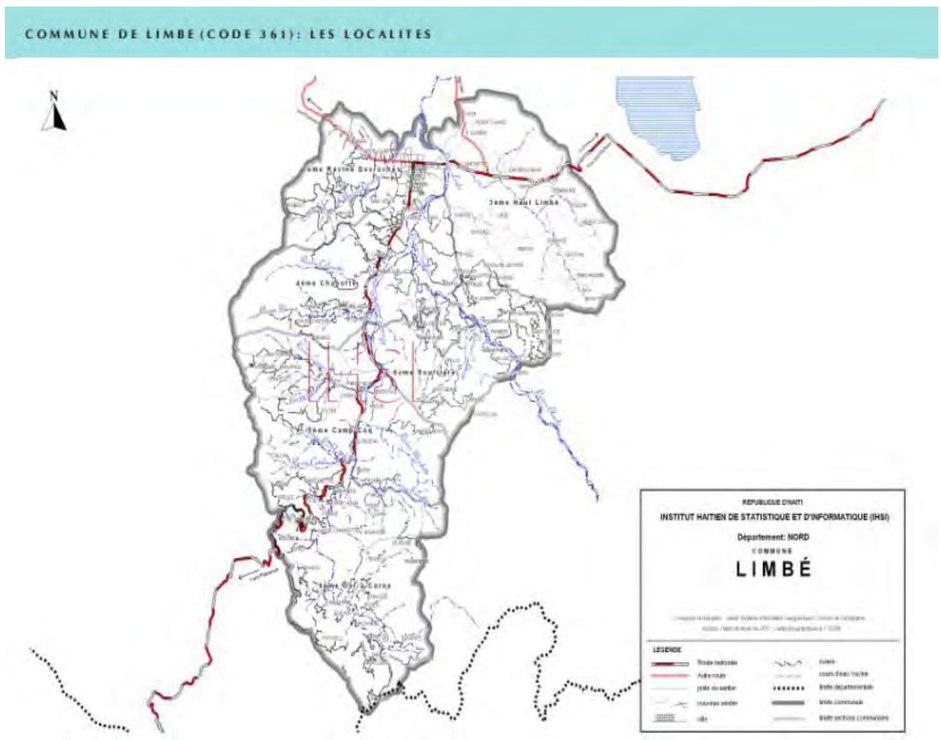
*See following table

Distribution of clusters for cocoa in economic zone

Commune	Area	% area	# of clusters
Borgne	353	16	3
Port margot	240	11	2
Limbe	410	18	3
Plaisance	292	13	2
Acul	196	10	2
Robillard (Plaine du Nord)	194	10	2
Grande riviere du Nord	498	23	4

To illustrate SDE segmentation, the commune of Limbe is presented below with the SDEs on the left and its corresponding map of localities on the right. Activity maps will be superposed with such SDE map for each communal section to get the list of SDE that will serve as master-list for choosing the clusters.
Boundaries of SDE are main rural roads (see map below), which will facilitate their localization. Corresponding localities names will help in finding SDEs as well.





Useful maps for sampling schemes: Case of Limbé

3. Summary of data collection methods, data sources and analyses

A matrix of data collection methods and data sources, and data analyses along with a wrap up of the set of questions from the various data collection tools that helped answer the evaluation questions are presented hereafter per evaluation question.

Summary of data collection methods, data sources and data analyses

Matrix of data collection methods, data sources and data analyses							
Evaluation questions	**Type of answers**	**Data collection methods**	**Indicators**	**Data sources**	**Questions**		**Data analysis methods**
					Qualitative methods	**Quantitative methods**	
General question							
Q1a	comparative	Review of literature	% increase in household income in target areas Number of hectares (ha) of fragile land under environmentally sound management Number of ha of priority conservation areas under improved and sustainable management Number of households deriving improved livelihoods from sound NRM. Dollar amount leveraged from the private sector for investment in enterprise development and watershed management.	DEED project document, progress/ performance reports	Review of literature	-	Cross-Analysis/synthesis of relevant documents
Collaboration/ Associations							
Q2a.	Descriptive	Semi-structured interviews Focus groups Review of literature	Extent to which Local GoH, PGs, CBOs and enterprises benefit directly from DEED assistance Extent to which public-private partnership formed as result of DEED assistance Grants and PPAs awarded to PGs and local businesses	Semi-structured interviews with WMC, GoH representatives Focus groups with PGs/CBOs, enterprises, grantees and PPAs Partners DEED project document, progress/ performance reports	**Annex 1** 1.8; 3.1; 3.13; 4.1; 4. 2; 4.9; 5.1; 5.10	**Annex 2** **See section 2** **Collaboration/ associations**	Thorough data synthesis/analysis
Q2b; Q2C; Q2d.	Descriptive Cause-and-effect	Semi-structured interviews Focus groups Review of literature Survey (in Limbé watershed only)	WMC/Institutions/organizations benefiting capacity/competency assessments as a result of DEED assistance Watershed management formed and or better structured as a result of DEED assistance % farmers participating in association	Semi-structured interviews with WMC representatives Focus groups with PGs/CBOs, enterprises, grantees and PPAs DEED project document, progress/ performance reports Survey of direct beneficiaries	**Annex 1** 1.8; 3.9; 3.11; 3.13 5.2; 5.3; 5.4	**Annex 2** **See section 2** **Collaboration/ associations**	Thorough data synthesis/analysis

			% farmers benefiting from producer groups % farmers in contact with buyers through producer groups % farmers thinking that the WMC is functioning well				
Watersheds							
Q3a; Q3b; Q3c; Q3d; Q3e.	Comparative Cause-and-effect	Survey (in Limbé watershed only) Focus group discussion Semi-structured interviews Review of literature	Extent to which farmers applied techniques promoted by DEED List of main actions favoring multi-stakeholder participation and integration to watershed management # WMC created or reinforce as result of DEED assistance # people receiving DEED supported training in NRM and/or conservation of biodiversity conservation % beneficiaries applying technologies promoted by DEED % non-beneficiaries applying technologies promoted by DEED # of new technologies or NRM adopted by the farmers as a result of DEED assistance	Survey of direct beneficiaries and non beneficiaries Focus groups with farmers (supported or not by DEED), PGs/CBOs, enterprises, grantees/ PPAs partners Semi-structured interviews with representatives of WMC, GoH**,** PARDFAL, CFAIM, Novella, FECANO Project document, progress and performance monitoring reports	**Annex 1** 1.1 to 1.3; 2.1 to 2.3; 3.1; 3.3; 3.10; 4.1; 4.3; 4.4; 4.6; 4.7; 5.1; 5.3; 5.5 to 5.8	**Annex 2** **See section 3 watersheds**	Independent and integrated analysis of qualitative and quantitative data
Livelihoods							
Q4a.	Descriptive	Semi-structured interviews Focus groups Survey (in Limbé watershed only) Review of literature	Extent to which farmers applied techniques promoted by DEED and improved productivity and livelihoods % farmers adopting new technologies or NRM # of people with increased economic benefits derived from sustainable NRM and conservation as a result of DEED assistance % increase in value from sustainable crops	Project document, progress and performance monitoring reports Semi-structured interviews with local GoH representatives Focus groups with PGs/CBOs, enterprises, grantees/ PPAs Survey of direct beneficiaries	1.1; ; 16; 179; 2.2; 2.4; 2.6; 3.4; 3.10; 4.3; 4.4; 4.5	**Annex 2** **See section 4 Livelihoods**	Independent and integrated analysis of qualitative and quantitative data
Value chains							
Q5a; Q5b; Q5c;	Descriptive	Survey (in Limbé	Extent to which farmers received	Survey of direct beneficiaries and non	1.4;	**Annex 2**	Independent and integrated

Q5d; Q5e.	Cause-and-effect	watershed only) Semi-structured interviews Focus groups Review of literature	training in production, post-harvest and marketing from DEED assistance % farmers participating in actions to boost production % farmers benefiting action that improve post harvest % farmers benefiting from action that enhance marketing	beneficiaries Semi-structured interviews with representatives of Novella, FECCANO, local GoH, the agriculture forum—PARDFAL, and CFAIM. Focus groups with PGs/CBOs, enterprises, grantees/ PPAs partners Project document, progress and performance monitoring reports	3.2; 3.4 to 3.9; 4.3; 4.5;	**See section 5** **Value chains**	analysis of qualitative and quantitative data
Gender	Q6a. Did DEED project encourage women participation at different levels of decisions and improve globally their status in the watersheds? For instance, are women well represented within the farmer associations and watershed management committees?						
Q6a.	Descriptive	Semi-structured interviews Focus groups Survey (in Limbé watershed only) Review of literature	Extent to which women are represented in farmer association committees and WMC # of women's organizations/associations assisted as a result of DEED assistance # of females who received DEED training or other support	Semi-structured interviews with WMC Focus groups with PGs/CBOs, enterprises, grantees/ PPAs partners Survey of direct beneficiaries Progress and performance monitoring reports	3.12; 5.9	**Annex 2** **See section 6** **Gender awareness**	Thorough data synthesis/analysis

4. Evaluation tools

Framework for qualitative data collection and synthesis

I. Focus group with Farmers who received support from DEED

1.1 Could you list the different techniques/technologies promoted by the DEED project for hillside stabilization and improvement of production in low land areas and plains? Could you explain how the project promoted these techniques?

1.2 Did you apply the techniques/technologies promoted by DEED project? Give examples (which techniques? How? Where?)

1.3 Do you continue to apply those techniques? Give examples (which techniques? Where?)

1.4 Did the project help improve marketing for agricultural products? Give examples (how? What kinds of marketing tools, which crops?).

1.5 Did the project provide off-farm employment? Give examples (how? which employment? Who? Where?).

1.6 Overall, did the project activities help you increase your income and/or livelihoods?

1.7 To what extent did you benefit from the techniques/technologies promoted by DEED?

1.8 What are the lessons learned during the implementation of DEED? In order words:

i. What worked and could be maintained?

ii. What did not work and must be changed in the future? How?

1.9 What would you recommend for a similar project in the future?

Matrix for synthesis of information from Focus group with Farmers who received support from DEED					
Questions	How? (Description)	Which/what(Specify)	Who	Where	Remarques
1.1 list the different techniques/technologies promoted by the DEED a. b. c. d.	**Cells to be filled**	**Cells not to be filled**			
1.2Techniques/technologies applied by farmers as a result of DEED support?	**Cells not to be filled**	**Cells to be filled** a. b. c. d.	Farmers supported by DEED	**Cells to be filled**	**Cells to be filled**
1.3 Do you continue to apply those techniques	**Cells not to be filled**	**Cells to be filled** a. b. c. d.	Farmers supported by DEED	**Cells to be filled**	**Cells to be filled**
1.4. Did the project help improve marketing for agricultural products?	**Cells to be filled**	**Cells to be filled**	Farmers supported by DEED	**Cells to be filled**	**Cells to be filled**
1.5. Did the project provide off-farm employment?	**Cells to be filled**	**Cells to be filled**	Farmers supported by DEED	**Cells to be filled**	**Cells to be filled**
1.6 Overall, did the project activities help you increase your income and/or livelihoods? **Provide synthesis here**					
1.7 To what extent did you benefit from the techniques/technologies promoted by DEED? **Provide synthesis here**					
1.8 What are the lessons learned during the implementation of DEED? In order words: 1. What worked and could be maintained? 2. What did not work and must be changed in the future? How? **Provide synthesis here**					
1.9. What would you recommend for a similar project in the future? **Provide synthesis here**					

II. Focus group with Farmers who did not receive support from DEED

2.1 Are you aware of the different techniques/technologies promoted by the DEED project for hillside stabilization and improvement of production in low land areas and plains? Could you explain how the project promoted these techniques?

2.2 To what extent the applied techniques had significant impacts on agricultural production and NRM in your areas? Give examples (which techniques? Where? Which crops?)

2.3 Did DEED techniques/technologies influence your decisions on how to do agriculture? Do you apply the techniques/technologies promoted by DEED project? Give examples (which techniques? Where?)

2.4 To what extent did you benefit from the techniques/technologies promoted by DEED?

2.5 Are you aware how DEED helped farmers market their agricultural products? Give examples (how? What kinds of marketing tools, which crops?).

2.6 Overall, did the adoption of DEED techniques/technologies help you increase your income or livelihoods? Explain

2.7 What's your overall impression on the DEED project?

2.8 What would you recommend for a similar project in the future?

Matrix for synthesis of information from Focus group with Farmers who did NOT received support from DEED					
Questions	How? (Description)	Which/what(Specify)	Who	Where	Remarques
2.1. List of techniques/technologies known a. b. c. d.	**Cells to be filled**	**Cells not to be filled**			
2.2 To what extent the applied techniques had significant impacts on agricultural production and NRM in your areas? Give examples (which techniques? Where? Which crops?)	**Cells not to be filled**	**Cells to be filled** a. b. c. d.	Farmers NOT supported by DEED	**Cells to be filled**	**Cells to be filled**
2.3 Did DEED techniques/technologies influence your decisions on how to do agriculture? Do you apply the techniques/technologies promoted by DEED project? Give examples (which techniques? Where?)	**Cells to be filled**	**Cells to be filled** a. b. c. d.	Farmers NOT supported by DEED	**Cells to be filled**	**Cells to be filled**
2.4 To what extent did you benefit from the techniques/technologies promoted by DEED? **Provide synthesis here**					
2.5 Are you aware how DEED helped farmers market their agricultural products? Give examples (how? What kinds of marketing tools, which crops?).	**Cells to be filled**	**Cells to be filled**	Farmers NOT supported by DEED	**Cells to be filled**	**Cells to be filled**
2.6 Overall, did the adoption of DEED techniques/technologies help you increase your income or livelihoods? Explain **Provide synthesis here**					
2.7 What's your overall impression on the DEED project? **Provide synthesis here**					
2.8 What would you recommend for a similar project in the future? **Provide synthesis here**					

III. Focus groups with grantees, PPA partners, PGs, CBOs and enterprises

In Limbé watershed: Representatives of Vanilla Export Company/CML, Novella/Feccano, CEDI/VES, APIM, Village Planete/OPDBB/APABL, AIGG/ARTRACOPAG/APWOLEG, AJPG, CFAIM, JEPROC, OPDBB/OPBL, FACN/COPAIMAR
In Montrouis watershed: Representatives of AJTAPP, FPPP, OPD-8, KAK, CUPEC, APKA; Café Selecto, Dubuisson, ARN, HSSA

3.1 What were the critical DEED inputs/actions that facilitated your participation in the project? Give examples and explain

3.2 Did DEED provide training and other supports to the members of your groups/organizations? Give examples (Which/what?, how?, where?)

3.3 Did the members of your groups/enterprises apply the techniques/technologies promoted by DEED project? Give examples (How? Which techniques? Where?)

3.4 What are most important/critical actions or inputs by DEED to strengthen the key components of the values chain including production, post-harvest and marketing?

3.5 Did the farmers produce quality crops due to DEED's support? Give examples (Which crops?, How?)

3.6 Did DEED establish a network farmer-buyer for the promoted crops? Give examples

3.7 Did DEED facilitate the access to information about production, marketing and conservation technologies? Give examples and explain? (How? Which/what)

3.8 Did the farm-gate prices of crops increase as result of DEED support? Give examples

3.9 As DEED project gets to its end, will your groups/organizations be able to produce quality crops? Justify.

3.10 Did DEED interventions help your groups/organization and the community improve NRM, increase household income and livelihoods. Give examples

3.11 Did your groups/organizations strengthen as a result of DEED interventions? Give examples.

3.12 Are there women involved in the leadership of your groups/organization? Give examples

3.13 What are the lessons learned during the implementation of DEED? In order words:

a. What worked and could be maintained?

b. What did not work and must be changed in the future? How?

3.14 What would you recommend for a similar project in the future?

Matrix for synthesis of information from Focus group with PGs, CBOS and Enterprises					
Questions	How? (Description)	Which/what(Specify)	Who	Where	Remarques
3.1 What were the critical DEED inputs/actions that facilitated your participation in the project? Give examples and explain **Provide synthesis here Provide synthesis here**					
3.2. Did DEED provide training and other supports to the members	**Cells to be filled**	**Cells to be filled** a. b.	**Cells to be filled**	**Cells to be filled**	**Cells to be filled**

of your groups/organizations? Give examples (how? Which/what?, where?)		c. d.			
3.3. Did the members of your groups/enterprises apply the techniques/technologies promoted by DEED project? Give examples (How? Which techniques? Where?) a. b. c. d.	**Cells to be filled**	**Cells to be filled** a. b. c. d.	**Cells to be filled**	**Cells to be filled**	**Cells to be filled**
3.4 What are most important/critical actions or inputs by DEED to strengthen the key components of the values chain including production, post-harvest and marketing? **Provide synthesis here** **Production:** **Post-harvest:** **Marketing:**					
3.5 Did the farmers produce quality crops due to DEED's support? Give examples (How? Which crops? Where?)	**Cells to be filled**	**Cells to be filled**	**Farmers/producers**	**Cells to be filled**	**Cells to be filled**
3.6. Did DEED establish a network farmer-buyer for the promoted crops? Give examples **Provide synthesis here**					
3.7 Did DEED facilitate the access to information about production, marketing and conservation technologies? Give examples and explain? (How? Which/what)	**Cells to be filled**	**Cells to be filled**	**Cells not to be filled**	**Cells not to be filled**	**Cells to be filled**
3.8 Did the farm-gate prices of crops increase as result of DEED support? Give examples **Provide synthesis here**					
3.9 As DEED project gets to its end, will your groups/organizations be able to produce quality crops? Justify. **Provide synthesis here**					
3.10 Did DEED interventions help your groups/organization and the community improve NRM, increase household income and livelihoods. Give examples **Provide synthesis here**					
3.11 Did your groups/organizations strengthen as a result of DEED interventions? Give examples. **Provide synthesis here**					
3.12 Are there women involved in the leadership of the PGs/CBOs/Enterprises? Give examples **Provide synthesis here**					
3.13What are the lessons learned during the implementation of DEED? In order words: 1. What worked and could be maintained? 2. What did not work and must be changed in the future? How? **Provide synthesis here**					
3.14What would you recommend for a similar project in the future? **Provide synthesis here**					

IV. Semi-structured interviews with representatives of MARNDR, regional agriculture forum—PARDFAL, CFAIM, Novella, FECANO in Limbé, Mayors/CASECS, ASECS

4.1 What were the critical DEED inputs/actions that facilitated your participation in the project? Give examples and explain

4.2 How did you participate in the project?

4.3 Did DEED interventions help farmers in your jurisdictions invest in income-generating actions that both stabilized hillsides and protected the productive plains? Give examples

4.4 Did DEED approach and strategy prove to be effective? Justify.

4.5 To what extent did farmers benefit from and adopt this strategy? Give examples.

4.6 Did you participate in the development of watershed restoration and management plans?

4.7 What's the current status of the watershed? Has watershed management improved?

4.8 What's your overall impression on the DEED project in terms of

a. strategy/approach
b. beneficiary involvement and participation
c. results achieved
d. NRM and current status of the watersheds

4.9 What are the lessons learned during the implementation of DEED? In order words:

a. What worked and could be maintained?
b. What did not work and must be changed in the future? How?

4.10 What would you recommend for a similar project in the future?

Matrix for synthesis of information from Semi-structured interviews with representatives of MARNDR, regional agriculture forum—PARDFAL, CFAIM in Limbé, Mayors/CASECS, ASECS	
Questions	**Response syntheses**
4.1 What were the critical DEED inputs/actions that facilitated your participation in the project? Give examples and explain	
4.2 How did you participate in the project?	
4.3 Did DEED interventions help farmers in your jurisdictions invest in income-generating actions that both stabilized hillsides and protected the productive plains? Give examples	
4.4.Did DEED approach and strategy prove to be effective? Justify.	
4.5 To what extent did farmers benefit from and adopt DEED strategy? Give examples.	
4.6 Did you participate in the development of watershed restoration and management plans?	
4.7 What's the current status of the watershed? Has watershed management improved?	
4.8 What's your overall impression on the DEED project in terms of : a. strategy/approach b. beneficiary involvement and participation c. results achieved d. NRM and current status of the watersheds	
4.9. What are the lessons learned during the implementation of DEED? In order words: 1. What worked and could be maintained? 2. What did not work and must be changed in the future? How?	
4.10. What would you recommend for a similar project in the future?	

V. Semi-structured interviews with members of watershed management committees

5.1 What were the critical DEED inputs/actions that facilitated multi-stakeholders participation and integrated management of the watershed as a whole?

5.2 How the watershed management committees operate? Compare before DEED (if the committees already exist) and as result of DEED project.

5.3 Are watershed management committees sufficiently organized to assure stabilization of the watersheds within which they reside?

5.4 As DEED support gets to its end, will the watershed management committees continue to operate?

5.5 Did the farmers initially supported by DEED continue to apply the technologies/ techniques promoted by DEED for hillside stabilization in their agricultural activities in Limbé upper watershed? Were there any changes in their agricultural practices after DEED's support cut? NB : Only for interview in Limbé watershed

5.6 Did the farmers NOT supported by DEED apply the technologies/techniques promoted by DEED for hillside stabilization? Justify.

5.7 Did DEED strategy and support to low land tenant farming in the Montrouis watershed help improve overall land use management in hillside areas? For example, did the beneficiaries replace erosive seasonal crops by more permanent tree crops in the upper watershed? NB : Only for interview in Montrouis watershed

5.8 What is the current status of the watershed? Has watershed management improved?

5.9 Are there women involved in the watershed management committee? What are their functions?

5.10 What are the lessons learned during the implementation of DEED? In order words:

a. What worked and could be maintained?

b. What did not work and must be changed in the future? How?

5.11 What would you recommend for a similar project in the future?

Matrix for synthesis of information from semi-structured interviews with members of watershed management committees	
Questions	**Response syntheses**
5.1 What were the critical DEED inputs/actions that facilitated multi-stakeholders participation and integrated management of the watershed as a whole?	
5.2. How the watershed management committees operate? Compare before DEED (if the committees already exist) and as result of DEED project.	
5.3 Are watershed management committees sufficiently organized to assure stabilization of the watersheds within which they reside?	
5.4 As DEED support gets to its end, will the watershed management committees continue to operate?	
5.5 Did the farmers initially supported by DEED continue to apply the technologies/ techniques promoted by DEED for hillside stabilization in their agricultural activities in Limbé upper watershed? Were there any changes in their agricultural practices after DEED's support cut? NB : Only for interview in Limbé watershed	
5.6 Did the farmers NOT supported by DEED apply the technologies/techniques promoted by DEED for hillside stabilization? Justify.	
5.7 Did DEED strategy and support to low land tenant farming in the Montrouis watershed help improve overall land use management in hillside areas? For example, did the beneficiaries replace erosive seasonal crops by more permanent tree crops in the upper watershed? NB : Only for interview in Montrouis watershed	
5.8 What is the current status of the watershed? Has watershed management improved?	
5.9 Are there women involved in the watershed management committee? What are their functions?	
5.10 What are the lessons learned during the implementation of DEED? In order words: a. What worked and could be maintained? b. What did not work and must be changed in the future? How?	
5.11. What would you recommend for a similar project in the future?	

Questionnaire for survey in Limbé watershed

Summative Evaluation Survey
Projet : Developpement Economique pour un Environnement Durable (DEED)

Producer's Last Name _____

Producer's First Name_____

Producer Code _____

Producer's Gender_____

Telephone number _____

Date of Enrollment into Project | | | | | | | | |

D D M M Y Y Y Y

Interviewer's Name (Last, First) _____
Interview Date (Day/Month/Year) _____

Time interview began _____ Time ended_____ Interview Length _____ minutes

I declare that this interview was conducted according to the survey guidelines provided.	Interviewer's Signature _____

Quality Control Checks

Field Supervisor Name (Last, First) _____

Date _____ Signature _____

Data Entry Supervisor Name (Last, First) _____
Date _____ Signature _____

Geographic Information		
Commune_____	Communal Section: Number____Name_____	Locality_____
Describe how to reach respondent's location so that he/she can be found easily next time. Include nearest schools, churches, homes of community leaders or other landmarks.		

Greetings. My name is _____. I work for an independent research company and we are conducting a survey to better understand agricultural production in the area and the work that the DEED project was doing. We are not associated with DEED project in any way. We would like to talk with you about your agriculture-related activities, as well as some background information. We will collect information from many other agriculture producers like you and the information will be combined with theirs, such that your name will not be revealed. The information you provide is completely confidential. We thank you for your time and effort.

1. General question
1.1. Do you participate in the DEED Project? _____1= Yes; 2 = No
2**. Collaboration/association**
2.1. Do you take part in any kind of producers' associations?____1= Yes; 2 = No; If no, go to 2.4
2.2. What type of association do you belong to? (*Circle all that apply*). 1= Producers groups; 2=Kombit; 3=Mouvman Payisan; 4=Sol; 5= Cooperative; 6=Watershed management committee; 7.Other (specify_____)
2.3. Is there anything you do with your association to improve your agriculture business?____1= Yes; 2 = No
2.4. Have you been in contact with potential or actual buyers to sell your crops through PG or other DEED activities? /_____/ 1= Yes; 2 = No;

2.5. Do you still sell agriculture products through your producer group network? 1= Yes; 2 = No
2.6. Are you aware of the watershed management committee? /_____/ 1= Yes; 2 = No;
2.7. Is it functioning well enough to ensure stability of watershed? /_____/ 1= Yes; 2 = No;
2.8. Now, let's talk about your producers' group agriculture activities. For how long have you been part of the group/cell? _____ months
2.9. Do you play a leadership role in your group? _____1= Yes; 2 = No; (*If no, go to 4.9)*
2.10. Which leadership position(s) do you hold? (*Circle all that apply)* 1=President/coodonate; 2=Vice-President/Vis Coodante; 3=Treasurer; 4= Secretary; 5=Komite Siveyanse; 6=Odite inten; 7=Formate; 8= Other (specify)_____
2.11. What do you do with or through your producer group to improve your agriculture business? (*Circle all that apply)* 1=Get better prices; 2=Buy inputs in bulk and/or at cheaper price; 3=Get training in production; 4= get training in harvesting/marketing; 5= Have access to contract growing; 6=Share information or get access to information you wouldn't otherwise have; 7=Fair Trade or Organic Certification; 8=Other (Specify_____)
2.12. What market(s) does your grower group sell to? (*Circle all that apply)* 1=Export market; 2= regional market (not Port-au-Prince, includes [a) market in village; b) market on small road; c) market on main road; d) market in town]; 3= Port-au-Prince market (street market/vendors); 4= supermarket (Port-au-Prince); 5=processor; 6=other (specify _____)
3. Watersheds
.
3.1. Did you participate in farmer's field school? /_____/ 1= Yes; 2 = No;
3.2. In the past 4 years, have you received any training from the DEED project? ___1=Yes; 2=No (*If no go to ___)*
3.3. What training have you received? (*Circle all that apply)* 1=Post Harvesting and quality control; 2=Nursery management; 3=Tree planting; 4=Marketing; 5=Prunning and grafting; 6=Accounting; 7=Land and crop management; 8=Group organization; 9= Soil conservation techniques 10. Other (specify)_____
3.4. What technique are you still applying after DEED supports? (*Circle all that apply)* 1=Post Harvesting and quality control; 2=Nursery management; 3=Tree planting; 4=Marketing; 5=Prunning and grafting; 6=Accounting; 7=Land and crop management; 8=Group organization; 9= Soil conservation techniques 10. Other (specify)_____
3.5. How did you learn the techniques you implemented in 3.4? _____ 1=training through DEED Project; 2=learning from a relative or friend; 3=observation or training from another farmer; 4= Other: specify_____
3.6. Do you receive any special hand-on techniques on soil conservation or other technique to protect hillsides? /_____/1. Yes, 2. No
3.7. What technique did you learned? /_____/ 1. Gully plug, 2. Dry walls, 3. Gabions, 4hedgerows with contour lines, 5. Agroforestry, 7. Yam based permaculture. 8. Mangrove planting, 9. Others_____
3.8. In the past 4 to 5 years, have you applied any technique that stabilizes hillsides and protect plains? /_____/1= Yes; 2 = No
3.9. Which soil conservation technique(s) do you still apply to protect hillsides? (*Circle all that apply).* /_____/ 1. Gully plug, 2. Dry walls, 3. Gabions, 4hedgerows with contour lines, 5. Agroforestry, 7. Yam based permaculture. 8. Mangrove planting, 9. Others_____
3.10. Do you think this technique allows you to make money? /_____/ 1. Yes, 2.No
3.11. Do you think this technique is effective in protecting both hillside and productive plains?/_____/ 1. Yes, 2.No
3.12. How did you learn the techniques in 7.6? 1=training through DEED Project; 2=learning from a relative or friend; 3=observation of another farmer; 4= Other: specify_____
3.13. Are you aware of watershed management committees in your area? _____1= Yes; 2 = No
3.14. Is it functioning well enough to ensure stability of the watershed?_____1= Yes; 2 = No
4. Livelihoods
4.1. How many parcels in low land (plains) do you own? / _____/
4.2. How many parcels in illside area do you own? /_____/
4.3.How much land do you own in total? /_____/
4.4. What crops are you cultivating the most in low lands parcels? _____ 1. Cocoa, 2. Banana, 3. Yam, 4. Rice, 5. Maize, 6. Bean, 7. Yam , 9. Vegetables, 10. Coffee, 11. Other fruits, 12. Sugarcane, 13. Pineapple, 14. Other
4.5. What crops are you cultivating the most in high land parcels?_____ 1. Cocoa, 2. Banana, 3. Yam, 4. Rice, 5. Maize, 6. Bean, 7. yams, 9. Vegetables, 10. Coffee, 11. Other fruits, 12. Sugarcane, 13. Pineapple, 14. Other
4.6. Compared to before 2008, have you changed significantly the crops you cultivated? / _____/ 1. Yes, 2. No
4.7. What crop you cultivated the most in 2008? _____ 1. Cocoa, 2. Banana, 3. Yam, 4. Rice, 5. Maize, 6. Bean, 7. Roots and tubers, 9. Vegetables, 10. Coffee, 11. Other fruits, 12.sugarcane, 13. Other
4.8. What crop are you cultivating the most now in 2012? _____ 1. Cocoa, 2. Banana, 3. Yam, 4. Rice, 5. Maize, 6. Bean, 7. Roots and tubers, 9. Vegetables, 10. Coffee, 11. Other fruits, 12. Sugarcane, 13. Other
4.9. Are you selling more honey as a result of DEED project? /_____/ 1. Yes, 2. No

4.10. Do you use any of the following agricultural inputs through DEED activities? (*Circle all that apply)* 1=Chemical Fertilizers; 2=Compost; 3=Manure; 4=Pesticides; 5= New varieties, 6. Other (Specify)_____
4.11. Do you have better access to irrigation for your plots in low lands through DEED activities? 1= Yes; 2 = No: (*If no, go to 3.1.*)
4.12. Which type of irrigation do you have access to? 1= Flood; 2= Hand watering; 3=Other (specify)_____
4.13. Did your productivity and income increase as a result of DEED project? / ____ / 1. Agree, 2. Desagree
5. Value chains
5.1. Do you grow trees like cocoa? /_____/
5.2. How much land in cocoa do you currently own? _____
5.3. How much land in cocoa did you have before the DEED Project?_____
5.4. How long have you been cocoa producer? _____
5.5. How is the productivity of cocoa over the year? _____
5.6. Where are your cocoa seedlings and othercome from? /___/ primarily b./_____/ secondly., /_____/ Thirdly 1.DEED and its partners, 2. Own nursery, 3. Other farmers nursery, 4. Other NGOs, 5. Other_____
5.7. In comparison to your other agricultural crops, what position do trees like cocoa sales hold? ____1= First, 2= Second, 3= Third, 4= Fourth
5.8. Did you participate in DEED activities that are linked to cocoa production? /_____/ , name one _____
5.9. Did you receive any cacao planting materials through the DEED project? /_____/ 1. Yes, 2. No
5.10. Did you participate in DEED activities that are linked to cocoa post-harvest? /_____/ , name one _____
5.11. Did you participate in DEED activities that are linked to cocoa marketting? /_____/ , name one _____
5.12. Do you receive price message through the project “kout lanbi kreyol”?
5.13. What was the greatest constraint/problem solved to improve cacao value chain? 1=Inputs (which ones?_____); 2=knowledge of improved techniques; 3=soil quality; 4=New varieties; 5=pests; 6=quality; 7=Other (specify)_____
5.14.Over the years since 2008, are you seeing price increased in your cocoa? /_____/ 1. Yes, 2. No
5.15. What was the price in 2008? /_____/ per pound
5.16. What is the price in 2012? /_____/ per pound
5.17. How do you explain this price increase? /____/ 1. Better quality cocoa, 2. Producer network offer better price, 3. Both, 4. Other _____
5.18. Have cocoa quality have improved thanks to DEED supports? /___/ 1. Yes, 2. No
5.19. What was the greatest constraint/problem solved increasing cocoa quality? 1=Cleanliness; 2=Drying techniques; 3=Sorting techniques; 5=Pests control; 6=weather; 7=Other (specify)_____
5.20. Do you think you will be able to keep producing good quality cacao? /_____/ 1. Yes, 2. Non
5.21. Do you grow rice? /_____/ 1. Yes, 2.No
5.22. How much land in rice do you own? /_____/ in Cx
5.23. Did rice productivity increase in your land in the past 5 years? /_____/ 1. Yes, 2. No
5.24. How can you explain increase in productivity? /_____/ 1. Water available with DEED activities, 2. New rice varieties from DEED, 3. Other_____
5.25. Did you receive seeds of improved varieties from DEED? /_____/ 1. Yes, 2. No
5.26. Do you take part in any kind of producers’ associations?___1= Yes; 2 = No; If no, go to 5.1.
5.27. What type of association do you belong to? (*Circle all that apply*). 1= Cocoa Producers groups; 2=Kombit; 3=Mouvman Payisan; 4=Rice producer group; 5= Cooperative; 6=Watershed management committee; 7.Other (specify_____)
5.28. Is there anything you do with your association to improve your agriculture business?___1= Yes; 2 = No
5.29. Have you been in contact with potential or actual buyers to sell your crops through PG or other DEED activities? /_____/ 1= Yes; 2 = No;
5.30. What market(s) does your grower group sell to? (*Circle all that apply)* 1=Export market; 2= regional market (not Port-au-Prince, includes [a) market in village; b) market on small road; c) market on main road; d) market in town]; 3= Port-au-Prince market (street market/vendors); 4= supermarket (Port-au-Prince); 5=processor; 6=other (specify _____)

5.31. Are you still selling agriculture products through your producer group network promoted by DEED? 1= Yes; 2 = No (*If no, go to 5.9*)
6. Gender awareness
6.1. Do any (*add "other" if respondent is a woman leader*) women hold leadership roles/positions in your producer group (PG)? ____1= Yes; 2 = No (*If no, go to 4.13*)
6.2. How many women hold leadership roles/positions? _____
6.3. In which of the following do women play a leadership role, that is a role in which they have the authority to make decisions? (*Circle all that apply)* 1= collective work system; 3=Trainign operations; 4=group management; 5=group leadership
6.4. Which leadership position(s) do women hold in CBO or PG? (*Circle all that apply)* 1=President/coodinator; 2=Vice-President/Vis Coodinator; 3=Treasurer; 4= Secretary; 5=Trainers; 6= Other (specify)_____
6.5. Do any (*add "other" if respondent is a woman leader*) women hold leadership roles/positions in watershed management committees? ____1= Yes; 2 = No (*If no, go to 4.13*)
6.6. How many women hold leadership roles/positions in watershed management committees (WMC)? _____
6.7. Which leadership position(s) do women hold in WMC? (*Circle all that apply)* 1=President/coodinator; 2=Vice-President/Vis Coodinator; 3=Treasurer; 4= Secretary; 5=Trainers; 6= Other (specify)_____

Annex D: List of sources of information

Staff of USAID

Harry Francois, COR
Myrlene Chrysostome
Beatrice Pierre
Joyce Kim
Steve Goertz
Hubert Silné
Juan Carlos Rodriguez
James Woolley

Staff of DAI

Rosseau Pierre, COP
Pierre Louis Jean-Claude, DCOP
Joseph Eril, M&E Officer
Pierre Wasner, Cocoa value chain technical manager

Central GoH Levels

- **Interviews with key GOH Representatives**

1. Fresner Dorcin, Secretary of State for crop production/ MARNDR
2. Vernet Joseph, Secretary of State for the boost of agricultural production/MARNDR

People met in Montrouis watershed

No	Noms complets	Organisations Représentées	Fonctions	Localisation	Téléphones
A	**Focus group avec CBOs bénéficiaires à Fond Baptiste (Formulaire 1)**				
	Joseph Alius	CUPEC	Président	Fond Baptiste	3991-9474
	Inerlien Antoine St Louis	CUPEC	Membre	Fond Baptiste	3889-9587
	Marie Julienne Joseph	SOCODEF	Trésorier	Trou Sable	3807-1246
	Nadal Orméus	CUPEC	Membre	Jean	4651-1395
	Délice Bernard	SOCODEF	Gérant	Trou Sable	4860-3080
	Jean Louis Jean Claude	CUPEC	Secrétaire	Trou Sable	4353-4387
	Maurisma Jean Eddy	KAK	Membre	Kounol	4616-2831
	Pierre Dieudonné	CUPEC	Membre	Petite Place	3833-8015
	Jean Louis Piercius	KAK	Président	Kounol	3451-9292
	Jean Magareth	OJPCFA	Membre	Dupont	3764-1426
B	**Focus group avec CBOs bénéficiaires à Pierre Payen (Formulaire 1)**				
	Nerisée Jean Robenson	AJTAPP	Trésorier	Pierre Payen	
	Bellasse Marjorie	AJTAPP	Membre	Pierre Payen	
	Israël Sedrin	AJTAPP	Membre	Pierre Payen	3710-9106
C	**Focus group avec CBOs bénéficiairesà Arcahaie (Formulaire 1)**				
	Senat Ernst	ATAIB	Vice Président	Bois Neuf	3893-3594
	Despar Marcson	APWOMOPA	Trésorier	Cabaret	3480-5166
	François Martine	AFPDA	Secrétaire	Haut Cortade	3827-0915

D	**Focus avec bénéficiaires à Ivoire (Formulaire 1) (YRP, annexe 2)**				
	Carnès Louissaint	-		Ivoire	
	Renime Louissaint	-		Ivoire	
	Léopold Célestin	OPD8		Ivoire	4384-2830
	L. Damus Jean Baptiste	OPD8		Ivoire	2226-7079
	Laurore Jean René	OPD8		Ivoire	4317-0908
	Prénélus Alphonse	OPD8		Ivoire	4380-7322 / 3711-2338
E	**Focus group avec non bénéficiaires Pierre à Payen (Formulaire 2)**				
	Erick Marcéus	-	-	Pierre Payen	
	Laguerre Walson	-	-	Pierre Payen	
	Jean Baptiste Dieuquiseul	-	-	Pierre Payen	
F	**Focus group avec PGs, CBOs, …à Arcahaie (Formulaire 3)**				
	Noël Septimus	ADJB	Coordonnateur Adjoint	Bancosse	3723-6938
	Saint Hilaire Lionel	ADJB	Porte Parole	Bancosse	3164-5872 / 4394-3374
	Mervil Marie Yolande	ADJB	Trésorière	Bancosse	4601-1231
	Emile Wilken	ATAIB	Président	Bois Neuf	3729-3159 / 3392-3269
	Germain Wagner	APWOMOPA	Secrétaire Gl	Cabaret	3649-1625
	Mentor Marie Claire Médée	AFPDA	Coordonnatrice	Carrefour Poy	3778-8713 / 3232-9066
	Gilles Jean Eliancy	UJAP	Coordonnateur Adj	Tibois	4249-8144
	Dorvilus Jean Vernius	UJAP	Secrétaire Adj	Tibois	4602-7691 / 4693-6998
G	**Interviews semi-structurés (Formulaire 4)**				
G.1	**Par Amos, D et Sandra G (annexe 1)**				
	Jean François Wilson	RACADAMA / Mairie Arcahaie	Maire Adj Arcahaie	Arcahaie	3265-4605 / 3642-6366
	Garry Joseph	OPD8	Coordonnateur	Ivoire	3408-0437
	Jean Lunick Datus	OPD8	Trésorier	Ivoire	3616-3148
	Louis Jeune Jean Ricot	BAC Saint Marc	Technicien Agricole	Saint Marc	3743-1923
G.2	**Par Yves Robert P (annexe 2)**				
	Magarette Jean Louis	BAC Arcahaie	Technicienne Agricole	Arcahaie	
	Octavius Pierre Cadet	ASEC		3eme section	

				Desvases	
	Jean Joseph Ciné	RACADAMA	Président	Arcahaie	
	Wilner René	RACADAMA	Responsable communication et formation	Arcahaie	
	Fontis Pierre Louis	Voix du Peuple	Coordonnateur et Porte Parole	Arcahaie	

People met in Limbé watershed

Semi-structured interviews				
	Institution	Name	Position	Area
	Mayor Offices	Fritz Saint-Vil	Mayor	Limbe
		Loute Theodule	Director of mayor office	Limbe
		Alibert Joslin	Mayor	Bas Limbe
	MARNDR	Joseph Fricot	BAC Director	Limbe
		Jonathan Guerrier	Deputy Director	Bas Limbe
		Hector Fabien	Director CFAIM center	Limbe
		Eberle Nicolas	North Departmental Director	Cap-Haitian
	OPBL	Prophete Cledina	Member	Bas Limbe
	APABL	Moise Jean Baptiste	Coordinator	Bas Limbe
	FECCANO	Wissamson Alfred	Coordinator	Grande Riviere du Nord
	NOVELLA	Jose Pierre	Technical coordinator	Cap-Haitian
FOCUS GROUP WITH PARTNERS / PROJECT BENEFICIARIES				
	APCHA	Tiroly Rony		Limbe
	OPD8L	Pierre Boisly John		Limbe
	AFBD	Rodrigue Andrevil		Marmelade
	Ecole fermier Cacao	Fleuridort Verdieu		petit bourg de Borgne
	Village Planète	Obei Dolce		Cap-Haitien
FOCUS GROUPS WITH BENEFICIARIES LIMBE				
	MODAB	Mondelus Vilius		Limbe
	AFB2	Docteur Renaud		Limbe
	KOREPA	Maximen Wilcher		Limbe
	JEPROC	Fleurissaint Lionel		Limbe
	CEDI VILLAGE D'ESPOIR	Maxino Elvie		Limbe
	CEDI VILLAGE D'ESPOIR	Frederic Renald		Limbe
	APCHA	Jean Baptiste Morales		Limbe
	OPBL	Dieusseul Julessaint		Limbe
	OPD8L	Pierre Luc		Limbe
FOCUS GROUP WITH NON-BENEFICIARIES_ LIMBE				
		Augustin Mitreus		Limbe
		Misidor Emmanuel		Limbe
		Cadet Ronel		Limbe
		Alcide Joana		Limbe
		Sylvainca Merelus		Limbe
		Elize Valbrun		Limbe
FOCUS GROUPS WITH BENEFICIARIES AT GRISON GARDE				
	AJPJ	Pierre Joseph		Grison garde
	AJPJ	Pierre estilia		Grison garde
	AJPJ	Drcelus Augustin		Grison garde
	AJPJ	Pierre saint julien		Grison garde
	AJPJ	Etienne James		Grison garde
	AJPJ	Remar Ismane		Grison garde
	AJPJ	Phanor Donald		Grison garde
	AIGG	Colas Thelius		Grison garde
	AIGG	Placide jean		Grison garde
	AIGG	Elie Nelson		Grison garde
	AIGG	Thelusma Felistin		Grison garde

	AIGG	Pierre Guirlene		Grison garde
	AIGG	Iralien Philistin		Grison garde
FOCUS GROUPS WITH NON-BENEFICIARIES AT GRISON GARDE				
		Jean Cilien Tanis		Grison garde
		Leclerc Saint Fleur		Grison garde
		Pierre Jean		Grison garde
		Clermond Elias		Grison garde
		Pierre Etienne Jules		Grison garde
		Louis Pierre		Grison garde
FOCUS GROUPS WITH BENEFICIARIES PORT MARGOT				
	GPL	Belmeus Bel-Andre		Port margot
	GPL	Josue Robert		Port margot
	GPL	Olivier Wilfrid		Port margot
	GPL	Clorossaint Alain		Port margot
	GPL	Supreme Roseline		Port margot
	GPL	Benoit Remy		Port margot
	GPL	Jacques Donatien		Port margot
	GPL	Joseph Joselyn		Port margot
	GPL	St Preux Jacob		Port margot
	GPL	Mme Receveur Remice		Port margot
	GPL	Andre Oramice		Port margot
	GPL	Olivier Sanio		Port margot
	GPL	Michel Jean Noel		Port margot
	GPL	Roselaine Israel		Port margot
	GPL	Louisane Charilus		Port margot
	GPL	Marie Celestin		Port margot
FOCUS GROUP WITH BENEFICIARIES_ PETIT BOURG DE BORGNE				
	ECOLE FERMIER LE GRAS	Elusma Isma	RESPONSABLE	Petit Bourg de Borgne
		Joseph Monaline	BASSIN CAÏMAN	Petit Bourg de Borgne
	ÉCOLE FERMIER MOREAU	Zaitil Luc	LEADER	Petit Bourg de Borgne
		Saint Surin Saint Cyr	MEMBRE ÉCOLE FERMIER	Petit Bourg de Borgne
		Francois Gaston	MEMBRE ÉCOLE FERMIER	Petit Bourg de Borgne
		Fils Aime Josue Henry	MEMBRE ÉCOLE FERMIER	Petit Bourg de Borgne
FOCUS GROUP WITH NON BENEFICIARIES _PETIT BOURG DE BORGNE				
		Fadius Almonor		Petit Bourg de Borgne
		Mme Mathieu Toussaint		Petit Bourg de Borgne
		Toussaint John Hubert		Petit Bourg de Borgne
		Avrilien Damour		Petit Bourg de Borgne
		Fils Aime Josue		Petit Bourg de Borgne

Annex E: Additional photos of field observations

Limbé watershed

The evaluation team at CFAIM in Limbe

CFAIM, renovated, generally host farmers trainings

Focus Group Discussion in Port-Margot

Pond in Marmelade for fish and legume production

OPD8L- run nursery promoted by DEED still getting production contract for 3000 seedlings


Three years old mangroves in Bas Limbe, mangroves still planting

Montrouis watershed


Banane in agroforestery system : Demo plot (CUPEC, Fonds Baptiste), bean production in the lowest stage



Non completed castor oil production in Bwa Brile (Arcahaie): No equipment installed

Non completed Compost production unit in Bwa Brile (Arcahaie)


Non completed castor oil production unit in Kounol (Fonds-Baptiste)