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RESULTS OF PROMISING TECHNOLOGIES AND METHODS SURVEY

FIRST FARMER FIELD SCHOOL ESTABLISHED

AUGUST 2009

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1. INTRODUCTION

In a context where structured agricultural extension services are not readily available, rural producers in Haiti only have access to training and new techniques and technology in a very limited manner. Technology transfer is mostly dependent on informal exchange of information and in some cases as part of an assistance program, usually localized in a certain part of the country.

DEED is built on an asset-based approach which aims to capitalize on techniques and methods that already demonstrate success or have a high potential for success. In this light, a number of successful agriculture production and training sites have been identified throughout the country with the goal of exploiting and promoting existing expertise to producers in the Montrouis and Limbé watersheds. Instead of creating a project funded cadre of agriculture extension agents who will leave at the end of the project, DEED is promoting a network of permanent Haitian agriculture extension services that can be consulted and hired on a continuous basis.

At present, DEED has identified 18 agricultural extension sites with high potential throughout the country. These sites were chosen as having working examples of technologies that promote DEED objectives to not only provide economic incentives for producers but which are also environmentally sustainable in a watershed management context. A detailed report documenting the selection process carried out by DCOP Frisner Pierre and Nathan Kennedy is contained in the first section of this report. In the 4 months following the recommendations made in the report, DEED staff has already facilitated 3 Farmer to Farmer visit programs and established a large Farmer Field School program for 2400 cacao producers in Northern Haiti.

The second section of this report provides a summary of the Farmer to Farmer programs implemented thus far as well as a description of the development of a private sector supported Cacao Farmer Field School program. There are several more Farmer to Farmer programs that DEED is planning to facilitate with participating producer groups, such as the use of mini-set techniques to increase yam production. DEED staff will continue to 1) promote more Farmer to Farmer opportunities for watershed producer groups and 2) support returning participants in establishing their own Farmer Field Schools in their respective areas in an effort to share the knowledge gained during the exchanges.

2. RESULTS OF PROMISING TECHNOLOGIES AND METHODS SURVEY

2.1 CONTEXT

Model agricultural sites are valuable resources that have the potential to change behavior and promote entrepreneurship. DEED will capitalize on model agricultural sites in Haiti to foster innovation that leads to improved livelihoods and management of natural resources, through a farmer-to-farmer training program. The project will implement a training program that serves as a catalyst for natural resources management based on DEED's core philosophy of linked enterprise development and sustainable watershed management.

The farmer-to-farmer program will include group visits along with longer and more intensive extension agent training. Both types of training will be integrated with DEED's work plan, complementing grant development and implementation; watershed restoration planning and implementation; and the development of a framework that ensures sustainability. DEED's vision is one where farmers and producer groups adopt best practices from their peers across Haiti, supported by a network of demand-driven technical assistance. These farmer-to-farmer exchanges and a network of private extension agents form the foundation of a farmer field school that has the potential to benefit the Montrouis and Limbe watersheds for years to come.

DAI consultant, Nathan Kennedy, spent approximately two weeks cataloging and visiting potential model sites to help conceptualize and launch DEED's farmer-to-farmer program. At the end of the consultancy, over 50 model sites were cataloged, 19 sites were visited, 6 MOUs were signed with an additional 11 groups agreeing to host training. This report presents the findings of his consultancy along with a work plan and recommendations for a rapid launch of the program. Recommendations on program strategy are presented below, followed by the methodology for site selection and field notes. A complete catalog of candidate training sites can be found in Annex A.

2.2 FARMER-TO-FARMER PROGRAM STRATEGY

2.2.1 Program Rationale

DEED's farmer-to-farmer program is based on the premise that farmer led training is an effective and cost-efficient method to introduce new agricultural and natural resource management practices. The program will allow individuals and producer groups to make more informed decisions. It will also embrace proven participatory extension methods, and create a framework for long-term demand-driven technical assistance. The program will directly contribute to DEED Project Results 2, 3, and especially Result 4.

The participatory approach and demand-driven extension model that is described below has proven to be effective in different contexts. It became clear over the course of the field visits that similar programs have also worked well in Haiti. Farmers in Hinche stated during interviews that through farmer-to-farmer exchanges in Haiti, they were able to see the potential benefits of vegetable production. They said that they adopted new techniques only after learning from their peers and seeing the potential of new practices firsthand. They had received other forms of training on vegetable farming, but that a change only took hold after participating in an exchange. They are eager to host farmers to help them in the same way. The case of CAPAS (see field notes below) also represents another example of where farmer led training is functioning in Haiti. CAPAS is a subgroup of a larger producer group in the Les Cayes area. CAPAS focuses on training, and the group developed organically. It has sustained itself largely without donor assistance. CAPAS has six master trainers that work with area farmers. Farmers provide labor, and CAPAS provides training on tree nursery operations, vegetable farming, and other topics. The trainees go through a 6-month cycle of training after which they are certified by CAPAS to train others. To date 80 farmers have graduated from the program. CAPAS is a successful farmer-to-farmer program and example of a farmer field school that DEED will continue to use to help model its farmer-to-farmer program.

2.2.2 Types of Training

There are two types of farmer-to-farmer training proposed in this report. The first is a short (one to two-day) farmer-to-farmer exchange. The goal of the farmer-to-farmer exchange is to foster innovation and to empower participants. The second type of training is a relatively long-term (two to three-month) extension agent apprenticeship program. The goal of the extension agent program is to establish a sustainable network of competent service providers that serves as a demand-driven extension system. Together, the two programs are the foundation of a farmer field school, focused on the Montrouis and Limbe watersheds.

2.2.3 Farmer-to-Farmer Exchange

The farmer-to-farmer exchanges should have five essential elements. The exchanges must focus on DEED priority practices that lead to economic opportunities and the improved management of natural resources. The method by which the DEED prioritized agricultural and natural resource management practices is discussed in Section 3. Secondly, farmers who

manage the sites that are part of the exchange should lead the training. Third, while there can be a portion of the training that is conducted in a classroom setting, the majority of the training should be field-based with multiple hands-on exercises. Fourth, a competent technician and trainer should help guide the discussions and ensure the accuracy of information exchanged. This role is an important one and it requires a skilled professional who knows when to blend into the background and when to affect the conversation. Lastly, the farmer-to-farmer exchanges must be integrated with DEED activities whenever possible. This includes involving producer groups in exchanges prior to grant development, and targeted exchanges for groups implementing DEED grants. Group orientations prior to exchanges and event debriefs will assist in translating new ideas into actions and results.

Exchanges could target specific groups or pool representatives from multiple groups. Keeping with the participatory nature of the exchange, groups can be provided with an allotment of participants. However, DEED should promote the participation of women and youth in exchanges. Producer groups can also be given a choice of which sites. Visiting groups should be limited to 20 participants to maintain the effectiveness of the event.

The focus through the end of February and into early March should be finalization of site evaluation and MOUs with host groups. Still, the catalog of model exchange sites needs to be a living list centrally managed in Port au Prince with ongoing contributions from all staff and consultants. The work completed in early March precedes the distribution of an initial list of sites and practices to watershed teams and Port au Prince staff for programming. The first exchanges could then be completed by the end of March.

Ideally, a single staff member should be assigned as a coordinator for each exchange. The coordinator would be responsible for revisiting the site and developing exchange itinerary, orienting host farmers, arranging all logistics, and finalizing written agreements. The

coordinator subsequently conducts an orientation session with the visiting group. Standard orientation guides should be developed for participants and hosts. It is recommended that senior staff or expert consultants coordinate the initial exchanges, mentoring others on how the training should be organized.

After the completion of the event certificates should be distributed to participants and hosts can be certified and farmer-to-farmer trainers. The coordinator should debrief hosts and visitors separately. A sample of exchange participants should be revisited after six months and one year to assess the effectiveness of the exchange program and document success stories.

Basic Steps to Farmer-to-Farmer Exchange Implementation

1. Site and host group identified
2. MOU signed
3. Visiting group is selected by DEED
4. Visited is scheduled based on availability
5. Site and group are revisited to finalize:
 - Logistics
 - Exchange host leaders
 - Itinerary
 - Host leader orientation
 - Signed agreement
6. Visiting group orientation
7. Conduct exchange
8. Debrief with hosts and visitors
9. Certificates distributed
10. Success stories documented

The recommended sites are presented in Section 4. Candidate sites and groups for early implementation include Double Harvest, Fond de Blanc, CAPAS, Sainte Helen, Hinche, Pandiassou, Makouti, Marmelade, Grande Riviere du Nord, and Ounaminthe. The next steps for program design and implementation are discussed in more detail in Section 4.

2.2.4 Extension Agent Apprenticeships

The extension agent apprenticeship program contains similar essential elements as the exchange program. Both must focus on DEED priority practices and consist primarily of field-based training. Additionally, it is important that competent trainers and technicians participate in the program. DEED must ensure that groups hosting apprentice extension agents have a track record of technical excellence, fostering entrepreneurs, developing leaders in extension, and promoting practices that lead to sustainable management of natural resources.

Graduating extension agents have a pivotal role in the implementation of sustainability of DEED activities, as they are to provide ongoing technical assistance and inputs to grant recipients during and after DEED. They should be centered on producer group clusters, matching the technical and material needs of producer groups with extension agent training and business planning. It is clear that it will be difficult for extension agents to sell technical services alone. Therefore, it is essential to develop a customized business plans with graduating extension agents centered on marketable agricultural inputs and marketable services. Viable extension agent business selling agricultural inputs and some marketable services is the foundation of a demand-driven extension network. Other non-market services are promoted voluntarily and could be rewarded through annual "Extension agent of the Year" awards. These awards should include a significant cash prize (perhaps \$1,000) and be based on the successful implementation of a business plan, excellence in technical assistance, outreach, and the promotion of natural resource management practices.

When considering technical services is important to differentiate between those that producer groups are willing to pay for and those that they are not. This distinction is needed to differentiate the roles of DEED field technicians (and other project staff) and extension agents. It should be the role of DEED to provide non-market services, and extension agents should be established to provide services that have a market value. A clear differentiation should be made by a product-by-product basis, and demand analysis should be conducted in each case. Phase out subsidizes of marketable services could be considered in order to develop new service markets.

Site visits conducted from January 29th through February 9th yielded multiple near-term apprenticeship opportunities. Double Harvest is quite possibly the best example for vegetable production in Haiti. They have agreed to participate in our apprenticeship program, hosting as many as four trainees at any one time during three-month rotations. Another area farm, Caribbean Harvest, has signed on to the program. Led by Dr. Valentin Abe, Caribbean Harvest will train a mentor future fish farmers who will serve communities in the Montrouis and Limbe watersheds. As mentioned above, CAPAS in Les Cayes represents an excellent example of a viable service oriented producer group. DEED will look to train future service providers in vegetable production, alternative charcoal, and tree nurseries through CAPAS apprenticeships.

MPP is another group that has agreed in principle to participate in the apprenticeship program. Training with MPP could offer a wide variety of skills in integrated rural development to future extension agents.

Extension agent training could begin as early as mid-March in any of these sites. It would be ideal to schedule farmer exchanges to the same sites as extension agent classes complete their training. Graduating extension agents can lead training along with local farmers, establishing extension agent credibility with the groups that they will soon work with. DEED can also utilize trained extension agents to organize farmer-to-farmer exchanges. This would support agents at an early stage and help to promote them with farmers that could be potential customers.

As with farmer exchanges, additional work should be undertaken to identify groups that might participate in the apprenticeship program. A number of priority practices have been covered, but there are still technical areas that have not been addressed.

Apprentice extension agents should be identified and matched with host as soon as possible. Both extension agents and trainers should be given a standard orientation that lays the groundwork for a program success. All sites need to be revisited to finalize agreement, scheduling, logistics, and to develop a curriculum consistent with DEED's program objectives. A coordinator should be assigned to each host group, and similar to the exchange program; senior staff needs to mentor less experienced coordinators on program development and management. Remote monitoring should be completed weekly and on monthly monitoring should be completed at least monthly. Debriefing and DEED led extension agent training and business planning will translate newly acquired skills into action and results. Standardized monitoring should continue to assess the progress of DEED extension agents, to collect information used in the "Extension agent of the Year" award, and to document success stories. More information on recommended sites is presented in Section 4. The next steps for program design and implementation are discussed in more detail in Section 4.

2.3 METHODOLOGY FOR CANDIDATE SITE SELECTION

The process for training site selection included: cataloging candidate sites from various sources, prioritizing agricultural and natural resource management practices with DEED staff, developing a criteria for ideal training sites, and, to some degree, and adapting to time and travel constraints. Interviews with DEED staff from January 26–30 contributed to the cataloging of the majority of the list of candidate sites. These interviews were complemented with information obtained for subject area experts outside of DEED and reports authored by Glen Smucker, Nicholas Hobgood, and others. On January 28th, DEED staff participated in an exercise to prioritize agricultural and natural resource management practices. Each staff member present was allowed to vote for five practices that they felt were a priority for training and exchange. As can be seen in Table 1, jatropha, vegetable, and cacao production along with apiculture received the most votes. Sustainable charcoal production, bamboo, agroforestry, aquaculture, and international certification were also identified as priority practices. Further prioritization of sites was accomplished through the following criteria:

- Use of priority practices that have been utilized for more than ten years;
- Use of priority practices have been sustained without external finance or technical assistance;
- Managing farmers have received training or participated in an exchange program;
- Proximity to project watersheds.

In general the same prioritization and criteria was applied for both the farmer-to-farmer exchange and the extension agent apprenticeship program. However, organizations with proven extension and business models were also sought out for participation in the extension agent apprenticeship program. There are still gaps in training site selection. To some degree time and travel constraints dictated what sites could be evaluated. The sites evaluated as part of this report should only be the beginning of the cataloging of potential exchange and training opportunities.

Table 1: Priority Ranking of Agricultural and Natural Resource Management Practices

| Practice | Montrouis | Limbe | Total Votes |
|-----------------------------|------------------|--------------|--------------------|
| Jatropha | 6 | | 6 |
| Vegetable | 3 | 3 | 6 |
| Cacao | 2 | 4 | 6 |
| Apiculture | 6 | | 6 |
| Sustainable Charcoal Prod. | 3 | 2 | 5 |
| Bamboo | 1 | 4 | 5 |
| Agroforestry | 4 | | 4 |
| Aquaculture | | 4 | 4 |
| International Certification | 3 | 1 | 4 |
| Dairy | 3 | | 3 |
| Fruit Processing | 1 | 1 | 2 |
| Coffee | | 2 | 2 |
| Forest Management | 2 | | 2 |
| Mango | 1 | | 1 |
| Essential Oils | 1 | | 1 |
| Irrigation | 1 | | 1 |
| Yam | | 1 | 1 |
| Animal Husbandry | 1 | | 1 |
| Citrus | | | 0 |
| Forestry | | | 0 |
| Improved Pasture | | | 0 |
| Fertilizer | | | 0 |
| Soil Conservation | | | 0 |
| Certified Banana | | | 0 |
| Local Tourism | | | 0 |

2.4 FIELD NOTES

Site 1 - Jatropha – Cabaret – Private Owner

Visit: 1/27/2009

Recommendation: Potential demonstration site. Not recommended for exchange program.

Status: No MOU; No Agreement to host training

Location: Cabaret (N 18.75648, W 72.41759)

Contact: Kenel, tel. 392293869

Notes:

The site is located just outside of the Montrouis project area, and DEED staff recommended it. The plot is privately owned and it contains approximately 2 ha of Jatropha spaced at 3 meters (estimated 2,000 plants). The plants are 18 months old. There was a noticeable difference in the growth rate between plants in two different areas. Some plants were only 1 meter in height, while others measured over 2 meters. All of the plants had shed the majority of their leaves due to the dry conditions present during the time of the visit. The plot also served as shared pasture. The landowner comment that while the plants were not eaten by animals, some plants have been damaged as a result of farmers tying animals to the base of the jatropha plants.

Unfortunately, communication was limited with the landowner due to the fact that project staff was unable to translate. However, it was clearly understood that they have not sold any of the harvested seeds. It was not clear why the farmer initially planted the jatropha, or if there was a buyer already identified. Subsequent conversations with Valentin Abe of Caribbean Harvest (CH) confirmed that this plot was not part of the CH sponsored project in Ti Bois. Valentin Abe suspected that it was part of the excitement centered around Jatropha in 2007, when rumors circulated that Taiwanese buyer was interested in buying 60 MT from producers in Haiti.

Recommendations:

If Jatropha production is endorsed by DEED and is a priority, this could be developed demonstration site, especially with PGs in the Montrouis watershed. It is not recommended as an exchange site due to apparent lack of a producer group or a market for seeds or oil. Processing could be demonstrated using the hand operated Bielenberg press located in the Montrouis office.

If the plot is to be utilized as a demonstration site, marketing should be carefully considered. There should be an easily accessible market prior to the promotion of Jatropha. As noted in the USAID paper entitled Environmental Vulnerability in Haiti, one solution could lie with an agreement Electricité d' Haiti (EDH). The authors state that EDH and other diesel users could utilize a blend with 1% pure plant oil without modifying their engines. This represents a potential market of 35,000 gal/month for EDH alone. DEED could play a role in fostering other local markets including modified stoves and soap for jatropha. Solid economic analyses should be the first step.

Next steps:

- Development of DEED's strategy on Jatropha promotion.

Site 2 – Apiculture – Montrouis - AJTAPP

Visit: 1/27/09

Recommendation: Potential site for exchange; AJTAPP is also a good group to send on an exchange (see site 16)

Status: No MOU; No Agreement to host training

Location: Montrouis (N 19.00175, W 72.72996)

Contact: Miguel, tel. 37092978

Notes:

AJTAPP consists of 10 members and they have been producing honey for 10 years. The group has 4 sites with approximately 6 – 7 hives in each site. They sell locally and regionally and they cited a recent sale of 50 kilos. They construct their own boxes and frames. Extraction appears to take place at a nearby monastery.

They have applied for a DEED grant to expand to approximately 30 members.

Recommendations:

AJTAPP appears to be a solid organization and interviews with project staff confirm this. They are a candidate for hosting an exchange. Any should include the monastery where the processing takes place. However, the best strategy would be to involve AJTAPP in an exchange potentially with MAKOUTI in Cap Haitien and the Apiculture Cooperative in Ounaminthe.

List of practices available at AJTAPP

- Honey production
- Hive construction
- Honey extraction

Next Steps:

- Consider AJTAPP for an exchange visit to the North.
- Utilize AJTAPP for an exchange within watershed if there is a need.

Site 3 – Vegetable Production/Agroforestry/Soil Conservation – Kenscoff - Wynne Farm

Visit: 1/29/09

Recommendation: Needs to be explored further, Possible facilitator for Kenscoff farmer-to-farmer exchange.

Status: No agreement. Jane Wynne was not present.

Location: Kenscoff (N 19.00175, W 72.72996)

Contact: Miguel, tel. 37092978

Notes:

Unfortunately, Jane Wynne was not present at the time of our visit; however, we were able to meet with her associate, Gleana Stinson. Gleana works with Jane closely and she is also associated with an organization named Trees for Life. We were able to tour the gardens and nursery at Jane Wynne's residence. The farm is located about a 40-minute walk away, and we did not visit the farm because Gleana was unable to accompany us due to health reasons. They are growing loquat, macadamia, bamboo (Haitian and Chinese), vegetables, and jatropa. They are also involved in handicrafts, especially with bamboo. A cooking briquette is made on side with paper and binder. There are 100% organic and they can provide training on organic fertilizers and insecticides. The Wynne farm has been in operation for over 50 years

Gleana said that she felt that Jane Wynne would be very interested in participating in the farmer-to-farmer program. I presented the premise of vegetable farmer (not Jane) led field demonstrations and conversations with visiting farmers. Gleana said that she felt that Jane would embrace the idea and could facilitate the training. Jane usually requests that she have the opportunity to visit trainees in their communities prior to an event.

Recommendations:

The Wynne Farm could provide an excellent venue for a farmer-to-farmer exchange. There are new practices that can be introduced at the farm, and Jane Wynne could-serve as a facilitator with exemplary vegetable farmers and cooperatives in the Kenscoff area.

List of practices available at Wynne Farm/Kenscoff:

- Vegetable production
- Organic horticulture
- Tree nurseries
- Handicrafts
- Charcoal alternative

Next Steps:

- Revisit site to meet with Jane Wynne
- Complete MOU

Site 4 – Vegetable Production/Tree Nurseries/Aquaculture – Cul de Sac -Double Harvest

Visit: 1/30/09

Recommendation: Site for an exchange; Site for apprenticeship

Status: Agreed to exchange; Agreed to apprenticeship

Location: Cul de Sac, near Croix des Bouquets

Contact: Louis Philippe, Operations Manager (louisphilippe38@hotmail.com, 37404311)

Notes:

Double Harvest is a model farm in Haiti. They are a large operation with about 150 acres dedicated to agriculture. They have a large nursery operation and they will soon complete a project that will double their capacity. They produce ornamentals, fruit trees, and forestry species. The farm utilizes well water and has an extensive drip irrigation system. They sell their product only domestically. Their operation cover seed to harvest, and they produce a wide variety of vegetables including tomatoes, lettuce, eggplant, carrots, cabbage, and corn. The use compost extensively. The farm is also nearing completion on self-cleaning aquaculture system that will provide 5,000 fish per week. The system cost approximately \$165,000 to complete. The Double Harvest farm is part of the Christian charity that also has an associated sponsor a child program, clinic, and housing project.

The farm has agreed to host an exchange or apprentices. They have previous experience with both types of training. Philippe has agreed to assist in leading an exchange along with the farmer that work under him. He agreed to a farmer-to-farmer field based approach. He states that a Saturday is the best day for a visit. The farm can accommodate 3-4 apprentices at any one time. Philippe recommends a minimum of a two-month apprenticeship with a one to two week rotation through the practices listed below. Double Harvest can provide a modest stipend of 90 HTG/day along with one lunch served at the farm. It would be DEED's responsibility to arrange lodging and provide any other personal expenses. Apprentices must be able to read and write, as they will participate in all areas of farm management.

Recommendations:

Double Harvest is an excellent site to conduct an exchange or apprenticeship. Although the farm is run by a charity and is an industrial operation, it does provide excellent examples of new technologies and techniques. A post exchange debrief session will assist in helping farm translate an exchange into appropriate action. It could be ideal to arrange an exchange when an apprentice from the visiting groups area is near graduation.

List of practices available at Double Harvest:

- Vegetable production
- Irrigation
- Composting
- Tree nurseries
- Aquaculture

Next Steps:

- Complete MOU with Double Harvest
- Arrange exchange and apprenticeship

Site 5 – Fruit Processing (Infused Clarin)/Cassava – Near Petit Goave –Petit Frere du Sainte Therese

Visit: 2/2/09

Recommendation: Appropriate site for an exchange

Status: Agreed to exchange. No MOU signed.

Location: Approximately 10 km outside of Petit Goave

Contact: Frere Tamis, Administrator, 34114588 or 38469404

Notes:

There are nine Brothers in the mission. The group has several activities including infused kleren, manioc processing, and promotion of agroforestry. The brothers purchase klaren locally and infuse it with lime, vanilla, banana, coffee, cacao, and other local products. They also have a mill for manioc and they have been producing cassava cakes for approximately 15 years. Through German NGO they are training 70 farmers on agroforestry and soil conservation techniques. As part of the program they have a model plot.

Recommendations:

This site should be considered as an exchange site if farmers are specifically interested in infusing kleren. The site should be revisited to complete an MOU and investigate the model agroforestry sites that are parts of the missions training program. Participating farmers need to be interviewed to determine if they would be appropriate for inclusion in an exchange program.

List of practices available at Petit Frere du Sainte Therese:

- Infused spirits
- Manioc processing
- Agroforestry (potential)
- Soil conservation (potential)

Next Steps:

- Revisit to site to sign MOU and investigate other opportunities

Site 6 – Vegetable/Animal – Salagnac – Agricultural Research Station

Visit: 2/2/09

Recommendation: Appropriate site for an exchange. Potential Site for apprenticeship.

Status: No agreement. No MOU

Location: Salagnac

Contact: Frisner knows the director, Agronome Laculture

Notes:

Salagnac is a government run agricultural research station. It has been in operation since approximately 1974. The faculty of agronomy used it for many years as a field practicum site, and the French supported it. Three MOA agronomists are currently stationed at the site. They are currently conducting field trials on bean varieties with farmers in the area. Training has been recently conducted on improved yam production (I believe that this is not the forest variety). The region is cool with a climate similar to Kenscoff. It would most likely be pine forest under natural conditions. The area is known for vegetable production, and carrots, cabbage were abundant at the time of visit. Rabbits and coffee were also present at the research station.

Unfortunately, the resident agronomists were not present during the visit. We were however able to interview local farmers. The station can accommodate up to 150 visitors. The agronomists work closely with the local producer groups and training was conducted as recently as the previous week.

Recommendations:

The site needs to be revisited to spend more time identifying host producer groups for exchange, and opportunities for apprenticeships. Based on its reputation and the brief visit, I believe that the research station is a good candidate for both types of training.

List of practices available at the Salagnac Research Station (this is most likely incomplete):

- Improved yam production
- Improved bean production
- Rabbits
- Vegetable production

Next Steps:

- Revisit the site and further assess potential for training
- Coordinate with associated agronomists in PaP

Site 7 – Agroforestry/Apiculture – Fond de Blanc – RATRAP

Visit: 2/2/09

Recommendation: Excellent site for an exchange

Status: Agreed to training. Initial MOU near completion (2/14/09)

Location: Fond de Blanc

Contact: Mr. Brier, RATRAP leader, 37555910, personal friend of Michelet Mascary

Notes:

Fond de Blanc was a targeted community under previous PADF agroforestry project. The project began in the early 80s and resulted in the widespread planting of various species including leucaena, neem, and Albizia lebbeck (locally known as tcha tcha). Previously the community was known for sisal production, but today it has been largely reforested and there exists a culture of tree cultivation. Trees that were planted as part of the PADF project are widespread and have reached maturity. Community nurseries are still active. Farmers have found a new and more reliable source of income through the coppicing of trees for pole wood and firewood normally in a two-year rotation. Some trees have been coppiced continually for 20 years.

The community is also involved in honey production. For the past two years they have made an effort to modernize their production. They are planting trees such as gravilea, leucaena, and benzoline for bee forage. There are trained grafters in the community.

There are a number of producer groups in the area. A large group named RATRAP is not involved directly in agricultural, but it could serve as excellent organization with which to arrange training. We met with the director, Mr. Brier, and he is willing and able to help organize a farmer-to-farmer exchange. The group has served in a similar role in the past.

Recommendations:

Fond de Blanc is a prime site for a farmer-to-farmer exchange. More sustainable agricultural practices have continued for over 20 years now. They have hosted groups in the past, and priority practices are present.

List of practices available in Fond de Blanc:

- Agroforestry
- Apiculture
- Forestry
- Cultivated bee forage

Next Steps:

- Complete MOU with RATRAP
- Organize exchange

Site 8 – Charcoal/Vegetable Export/Tree Nurseries – Les Cayes – CAPAS

Visit: 2/3/09

Recommendation: Excellent site for exchange. Excellent site for apprenticeships.

Status: MOU signed

Location: Located near the end of the airport runway in Les Cayes

Contact: Isaac Cherestal, CAPAS director, 4852433, isaaccherestal45@yahoo.fr

Notes:

CAPAS is a subgroup of an agricultural cooperative named CEPA, formed in 2001. The group has over 280 members. CAPAS is organized as primarily a training organization, but they are involved in numerous activities including tree nurseries, alternative charcoal production, water filters, vegetable production, irrigation, and export agriculture.

The director Isaac has been grafting for over 18 years and has over 5 very impressive main nurseries with fruit and forestry species. He claims that there are over 20 family nurseries supported by CAPAS.

The group has an alternative charcoal business that uses techniques learned from MIT. Organic material, such as coconut husks, palm fronds, or paper is burned in a covered oil drum. The ash is collected and formed into briquettes with a simple metal cast and clay as a binder. Approximately 150 briquettes can be made with one drum. 12 briquettes are sold for 5 HGD (this seems like a very low price). They were sold out during the visit. There is much more demand during the rainy season, and they said that they made about \$250 per week during the rainy season last year. Evidence of the operations success, the business director Altidor Makenson (tel. 39139144) opened a bank account the day of the visit.

CAPAS is involved in the beginning stages of a project with 280 farmers who are cultivating scotch bonnet and “bouc” peppers for export. CAPAS is part of a three-way consortium with a Diaspora group in the US and the farmers. The diaspora group provides part of the start-up capital and will buy the product; CAPAS provides part of the capital, technical assistance, and inputs; the farmers provide the land and labor. They say that they will produce \$10,000 per quarter, and they have plans for expansion. They are using solar powered pumps for part of the production. The diaspora group is Belsoley (www.belsoley.com).

What is most interesting about CAPAS is that it is functioning as farmer field school. Although they have received outside assistance, it appears that the school developed organically and is sustaining itself. In total, it has trained 80 farmers on the practices discussed above. Isaac along with 5 other master trainers receive farmers for 3 months where they rotate through

various field based training module. As part of the program, theory is taught along side the practicum. The trainees pay for their training through their labor. The Canadian Embassy recently supported the program. They provided a grant so that CAPAS could increase its capacity and train 45 farmers.

Recommendations:

CAPAS agreed to participate in both the exchange and the apprenticeship program. They appear to be a perfect fit and they should be utilized in the first round of training.

List of practices available in Les Cayes with CAPAS:

- Vegetable Production
- Marketing/Export
- Alternative Charcoal
- Tree Nurseries and Grafting
- Irrigation
- Agroforestry
- Farmer Field School Methodology

Next Steps:

- Organize training

Site 9 – Agroforestry/Soil Conservation – Sant Helen – OPJALMAG

Visit: 2/3/09

Recommendation: Appropriate site for exchange

Status: Arranged through CAPAS

Location: Sant Helen, Camp Perin

Contact: Edison Cesar, local farmer (contact through CAPAS)

Notes:

Isaac Cherestal of CAPAS introduced this site. It was also an old PADF agroforestry site. Similar to Fond de Blanc, farmers are still planning and harvesting trees for pole wood and firewood. The site was completely deforested and there is now a changed landscape and culture of growing trees. Edison Cesar was an ex-community agroforestry promoter and he is still very proud of his involvement in the program. He stated that "...we learned to learned to harvest trees and it has changed our lives." Edison now uses his trees as a form of savings and security. He recently harvested a cedar tree and sold it for \$800, and he is putting his kids through school through money earned by coppicing his trees. There is a small community nursery in the area with fruit and forestry species.

Isaac agreed to participate in the training and to involve his neighbors. It was unclear if there is a local producers group to work with.

Recommendations:

The site has an interesting story, similar to Fond de Blanc. It should be utilized as an exchange site. It might be best to arrange this through CAPAS; although, it could also be done through a local farmers group.

List of practices available in Les Cayes with CAPAS:

- Vegetable Production
- Marketing/Export
- Alternative Charcoal
- Tree Nurseries and Grafting
- Irrigation
- Agroforestry
- Farmer Field School Methodology

Next Steps:

- Revisit site to arrange first exchange and apprenticeship

Site 10 – Irrigation – Desvariex – COEPDA

Visit: 2/4/09

Recommendation: Not recommended for and exchange

Status: No MOU

Location: Desvariex (just outside of Hinche)

Contact: Cenobe Jean Fistel, President

Notes:

This site was originally recommended as a potential exchange site for demonstrating irrigation system management and vegetable production. After interviewing Cenobe Jean Fistel the site appears to be inappropriate for a farmer-to-farmer exchange. The minister of agriculture is from Desvariex, and he is supporting the community directly with MOU funds. The irrigation system is fully subsidized and the community has no management plan to speak of.

Recommendations:

The site is not recommended for an exchange, unless it incorporated it as part of exchange conducted in the region. While not an ideal example, there could be some lessons learned through a visit (i.e. what not to do).

Site 11 – Various Practices – Hinche – MPP

Visit: 2/4/09, 2/5/09

Recommendation: Suitable site for an exchange

Status: No MOU signed

Location: Hinche

Contact: Mulaire Michel, 34554900, michel0967@yahoo.fr

Notes:

Mouvman Peyizan Papay (MPP) is a Haitian NGO focused on integrated rural development including agriculture, reforestation, and soil conservation. Their members number in the thousands and they recently celebrated their 35th year. The group is also politically active and MPP's leader Chavannes Jn-Baptiste is widely believed to be a strong contender in the next election.

MPP offers a wide range of training on integrated rural development. The group has a good reputation in training extension agents. The wide range of activities and the extension model promoted by MPP makes the group an attractive partner for training. DEED will still proceed with caution.

We were able to meet with Chavannes Jn-Baptiste in Hinche and he did agree to discuss training with DEED in more detail. He was open to participating in the program. We did not get into the details payment and other arrangements, but conversations with other MPP employees revealed that usually receive \$25 per person per day. The fee includes training meals and lodging.

List of practices available at MPP:

- Vegetable Production
- Processing
- Marketing/Export
- Tree Nurseries and Grafting
- Irrigation
- Agroforestry
- Aquaculture
- Apiculture
- Soil Conservation
- Extension training

Recommendations:

Despite the political nature of MPP, the group offers an excellent opportunity for an apprenticeship. They offer a wide range of practices, and they have a long track record of producing quality extension agents. Due to USAID's objection, the site should not be used for an exchange.

Next Steps:

- Develop a specific MOU for use with MPP based on an apprenticeship under USAID's conditions.
- Obtain USAID's formal approval
- Schedule a meeting with Chavannes Jn-Baptiste and make final arrangements

Site 12 – Agroforestry/Soil Conservation – Maissade

Visit: 2/5/09

Recommendation: The site is not recommended for an exchange

Status: No MOU

Location: Maissade

Contact: Joseph W. Alix, 4546928, alixwilner@yahoo.com

Notes:

Sites around Maissade were part of a PADF led agroforestry project. We interviewed Save the Children program Regional Team Leader, Joseph W. Alix. Unfortunately, he was very pessimistic about the conditions in the area, and he stated that there were no quality sites or groups for involvement in an exchange. We continued to inquire about specific PADF beneficiaries, but it became apparent that there are probably not any decent opportunities in the area. Frinser knows Joseph W. Alix well and trusts his opinion.

Recommendations:

Not recommended for an exchange due to apparent lack of quality sites.

Site 13 – Vegetable/Irrigation (From Ponds)/Animal Production – Pandiassou – Petit Frere de l'Incarnation

Visit: 2/5/09

Recommendation: Recommended for an exchange

Status: No MOU signed. The director was not present during visit.

Location: Pandiassou

Notes:

The Petit Frere de l'Incarnation are known across Haiti for creating microdams and ponds with associated irrigation systems and aquaculture. We visited several of these sites around Hinche and they were very impressive. Unfortunately, the director was not present during the visit, and we were unable to obtain a great deal of information. During a tour of the nearby facilities we

saw a meat processing facility with refrigeration. We also toured vegetable gardens that were interesting. The site would need to be revisited to fully assess its potential. They do work with local producer groups and we should ensure that any training involves their participation.

List of practices available with the Petit Frere de l'Incarnation:

- Micodam Construction
- Irrigation
- Vegetable Production
- Meat processing

Recommendations:

Appears to be a good site for an exchange. Special caution needs to be taken to involve local farmers and to ensure that appropriate practices and projects are shared. It would be ideal to incorporate site 14 in the same exchange.

Next Steps:

- Contact director to investigate further and potentially sign an MOU. Frisner has contact information.
- Revisit site to arrange exchange

Site 14 – Vegetable/Irrigation (From Ponds)/Fruit Processing – Pandiassou - Petit Soemes de l'Incarnation

Visit: 2/5/09

Recommendation: Recommended for exchange

Status: Agreed to training. No MOU signed

Location: Pandiassou

Contact: Sister Emmanuel, Director, 2222687, Sister Rosana 29420644

Notes:

The Petit Soemes de l'Incarnation are involved in a variety of activities, but the one that may be of most interest to DEED include fruit processing, vegetable production, and handicrafts. The sisters work with local women to produce dried mango and some dried pineapple. They stated that they processed a large amount of dried mango during the summer and early fall months, although we were not able to tour the processing facility. We did see their vegetable gardens and they were very impressive.

The Petit Soemes de l'Incarnation have conducting training before and they said that they would be interested in participating in the program. They quoted a price of \$30 per day, inclusive of lodging and meals. They welcome men a women.

List of practices available with the Petit Soemes de l'Incarnation:

- Fruit Processing
- Vegetable Production
- Handicrafts

Recommendations:

Appears to be a good site for an exchange. Special caution needs to be taken to involve local farmers and to ensure that appropriate practices and projects are shared. It would be ideal to incorporate site 13 in the same exchange.

Next Steps:

- Contact Sister Emmanuel to sign MOU
- Revisit site to arrange exchange

Site 15 – Aquaculture – Terrier Rouge (and Cul de Sac) – Caribbean Harvest

Visit: 2/6/09

Recommendation: Ideal for arranging exchanges convenient to the two watersheds. Caribbean Harvest is also recommended for aquaculture apprenticeships.

Status: MOU signed

Location: Near Croix des Bouquets

Contact: Valentin Abe, 37509540

Notes:

Caribbean Harvest led by Dr. Valentin Abe, whose hatchery and operations is base din the Cul de Sac near Croix des Bouquets. Valentin supports aquaculture project across Haiti, and he is a leading authority on aquaculture in the country. He is able to set up facilitate exchanges with various aquaculture systems. We discussed our desired farmer-to-farmer approach and he presented a number of exchange options in the north and south that would be convenient to the two project watersheds. We also discussed the apprenticeship program with him and he agreed to participate mentor trainees and help to build viable aquaculture businesses.

Valentin Abe has also been involved with jatropha ventures. He ahs largely failed to make the projects work. Still, it is worth noting that Valentin does have a motorized press and equipment for converting the PPO to biodiesel. He could be involved (e.g. linked to producers) if production becomes economically feasible.

List of practices available with Caribbean Harvest:

- Aquaculture
- Jatropha Production/Biodiesel

Recommendations:

Caribbean Harvest offers an excellent opportunity for both exchanges and apprenticeships. They have signed the MOU and they are recommended for the early implementation of both projects.

Next Steps:

- Plan first exchanges and apprenticeships with Valentin Abe.

Site 16 – Apiculture/Marketing – Cap Haitien – MAKOUTI

Visit: 2/5/09

Recommendation: Recommended for an exchange (perhaps with the Cooperative Agricole Ouanaminthe)

Status: Agreed to participate with an exchange. No MOU signed.

Location: Cap Haitien

Contact: Gerard Michel Joseph, 37322476, jo06michael@yahoo.fr

Notes:

MAKOUTI (www.makouti.com) is a organization focusing on the marketing of agricultural products. They have 20 honey production centers across Haiti where they work with individuals and producer groups to increase honey production. It appears that MAKOUTI does not purchase and consolidate honey from these centers, but rather certifies the honey with MAKOUTI's name for a 5% commission. They also provide technical assistance as part of the arrangement. They will also link buyers and sellers for a 15% commission. They stated that they collect fee on over 150, 55-gallon drums of honey a year. There is no standardized marketing of MAKOUTI certified product.

The group has received apiculture training from US farmers as part of farmer-to-farmer program. They have also participated in an exchange with honey farmers in the DR to learn how to achieve export standards for honey. They agreed in principle to participate and assist with farmer-to-farmer exchanges.

They sell miticides other apiculture inputs. They have a set hives near the Limbe office that they use for experimentation and demonstration purposes.

MAKOUTI is also involved with rabbit production and distribution of produce to markets, hotels, and restaurants. It is unclear how large is this part of their business. They received a \$70,000 grant in 2006 for a horticulture project. We believe the funding was from project called AFFAIR.

List of practices available with MAKOUTI:

- Apiculture
- Rabbit Production
- Horticulture
- Marketing

Recommendations:

MAKOUTI should be revisited to learn more about their business and capacity outside of honey production. They clearly have experiences to share for an exchange, especially related to marketing. It would be ideal to involve MAKOUTI as part of an exchange with the Cooperative Agricole Ouanaminthe, focusing on apiculture.

Next Steps:

- Revisit and arrange first exchange.

Site 17 – Dairy/Bamboo/Aquaculture – Marmelade – APWOLEM

Visit: 2/9/09

Recommendation: Recommended for an exchange

Status: MOU Signed

Location: Marmelade

Contact: Basil Ironise

Notes:

APWOLEM has been operating a Verterimed/Let Agogo associated dairy since 2005, and 165 associated farmers sell their milk to the dairy. The group is a recent DEED grant recipient to construct 12 aquaculture ponds integrated with vegetable production. They are also involved with bamboo

APWOLEM is regarded by many as a model producer group. They have hosted multiple exchanges including groups from outside of Haiti. The international exchanges were organized through the FAO.

List of practices available with APWOLEM

- Dairy
- Aquaculture (beginning DEED grant)
- Vegetable production (beginning DEED grant)
- Bamboo handicrafts

- Soil Conservation
- Agroforestry

Recommendations:

APWOLEM is recommended for an exchange for a number of priority practices. They have signed an MOU. Unfortunately, the visit was limited due to heavy rains and most practices were not witnessed firsthand.

Next Steps:

- Revisit and arrange first exchange.

Site 18 – Cacao and Cashew – Grande Rivere du Nord – CABC

Visit: 2/10/09

Recommendation: Recommended for an exchange

Status: MOU signed.

Location: Cap Haitien

Contact: Jean Zamor, President, 6204265

Notes:

CABC is a 45 year-old producer group with over 700 members. They have been involved in cacao production since 1982. They have a recently constructed stair step cacao fermentation house that has not been utilized yet. At the time of visit there was actually someone living in the fermentation house. They have been processing cacao in the traditional way yielding a lower grade and lower priced product. The President, Jean Zamor stated that they were going to invest heavily in fermented cacao this year. While the group does not export cacao directly they used to sell to an intermediary who exported their product.

The group was a beneficiary of the HAP project, and CABC was able to greatly expand its cacao production through the project.

The group was given a large donation of cashew processing equipment from Brazil. The equipment has sat idle since it arrived in 2006, but again the stated that they would start using it this year.

List of practices available with CABC:

- Fermented Cacao
- Cashew Processing

Recommendations:

Despite some of the questions surrounding the unused equipment. There is a great deal of benefit that could be gained from an exchange with CABC. They could possibly be the oldest producer group in the country, and they have a wealth of experience to share. A carefully facilitated exchange could help a visiting group understand the economic benefit gained from fermenting cacao and producing a product consistent in quality. An exchange is still recommended. The ideal time for a visit would be from March to July, during the cacao harvest.

Next Steps:

- Revisit and arrange first exchange.

Notes Concerning Other Sites

Assessments and agreements have been completed in addition to those discussed above. Project employees have completed an MOU with CAO in Ounaminthe for an exchange focusing on honey production. Talks are underway with FACN for exchanges and apprenticeships. A vegetable farm with hand-dug wells was evaluated in Terrier Rouge. Additional work is slated for the near future.

Annex A: List of Candidate Model Sites

(Please note that additional site information associated with the sites below are contained in a complete list posted on the DEED TAMIS)

| Practice(s) | Location | Organization |
|--------------------------------|-------------------------------|--|
| Agroforestry | Maissade | LORD II Project; Save the Children/USAID was initial sponsor |
| Agroforestry/Soil Conservation | Camp-Perrin Sud | ORE? Is possibly the local PG |
| Aquaculture | Cul de Sac | Caribbean Harvest |
| Akee | Croix des Bouquets | |
| Apiculture | Hinche, La Colline de Léogane | La Congrégation religieuse des Frères de Sainte Thérèse à Rivière Froide |
| Apiculture | Hinche | MPP |
| Apiculture | Montrouis | AJTAPP |
| Apiculture | Throuin | Sainte Therese Mission |

| | | |
|---|-------------------------------|-------------------------------------|
| Apiculture/Marketing | Cap-Haitien | MAKOUTI |
| Aquaculture | Tierre Rouge | |
| Aquaculture | Ti Bois à Arcahaie | CODEP |
| Aquaculture/Soil Conservation/Fruit Processing | Pandiassou | Petit Frere/Soemes de l'Incarnation |
| Bamboo | Marmelade | FACN |
| Banana | Archaea | |
| Certification internationale (produit agricole) | Arcahaie, Cabaret | APWOMOPA |
| Charcoal | Hinche | MPP |
| Charcoal | Bombardodoplis | CARE |
| Charcoal | Fond des Blancs | RATRP |
| Citrus | Les Cayes | |
| Cacao Production | Centre de formation au Borgne | |
| Cacao Production/Agroforestry/Cashew Processing | Grande Riviere du Nord | CABC |
| Coconut | Levy | MOA |
| Coffee/Forestry | Marmelade | |
| Dairy | Marmelade | COREPA |
| Dairy | Lemonade | |
| Dairy | Montrouis | |
| Essential Oils | Les Cayes | Various |
| Farmer Field School | Marmelade | COREPA |
| Forestry | Kenscoff | Wynne Farm |
| Fruit Processing | Marmelade | FACN |
| Fruit Processing (Infused Kleren)/Casava | Petit Goave | Petit Frere du Sainte Therese |
| Improved Pasture/Animal productions/Soil Conservation/Vegetable | Madian, Salagnac | |
| Irrigation | Mirebalais, Desvariex | COEPA |
| Irrigation/Watershed Management | Port de Paix | |

| | | |
|--------------------------------------|------------------------------------|-----------------------|
| Irrigation/Watershed Management | Petit Goave | |
| Jatropha | Ti Bwa | |
| Jatropha | Cabaret | |
| Jatropha | Tierre Rouge | |
| Jatropha | Port de Paix | |
| Local Tourism | Petit Goave | APV |
| Mango | Cap-Haitien, Beck Hotel | Beck Hotel |
| Mango | Leogane | |
| Mango | Gwo Mon | |
| Mango | Leogane | |
| Ornamentals | Limbé | |
| Soil Conservation | Hinche, Bwa Ferye, Basen Zim | CECI-MPP |
| Soil Conservation | Limbé | CFAIM |
| Soil Conservation | Marmelade | |
| Soil Conservation | Forêt des Pins | Helvetas-Haïti |
| Soil Conservation/Veg./Organic Fert. | Dupre, Cap Haitien | |
| Soil Conservation/Veg./Organic Fert. | Caris, Mont Organisé, Nord' Est | |
| Vegetable Production | Kenscoff | Wynne Farm and others |
| Vegetable Production | Cul de Sac | Double Harvest |
| Vegetable Production | Fon Baptiste | |
| Vegetable/Alt. Charcoal/Extension | Les Cayes | CAPAS |
| Yam Production | Vallee de Jacmel | Marcare |
| Yam Production (Forest Yam Model) | Plaisance/Pilate | |

3. FARMER TO FARMER PROGRAMS & FARMER FIELD SCHOOL

In order to ensure maximum replication, a two tiered system of participant selection is implemented with producer groups. At least two facilitators with advanced knowledge in the activity accompany promising producer group members during the exchanges. These facilitators have the responsibility to become farmer trainers after returning to their respective areas. As farmer trainers they can offer their technical services on a fee basis and establish themselves as entrepreneurs in each of their respective zones. This continuous transfer of new knowledge and techniques is important especially in rural areas where access to information is limited. Facilitators will remain in close contact with Farmer to Farmer service sites and can register and pay for additional courses once new technologies are being taught. Facilitators will be able to upgrade their techniques on a continual basis and in turn provide agricultural expertise on a fee-for-service basis in their respective areas.

Following are summaries of the five Farmer to Farmer and Farmer Field School activities that DEED has facilitated in the last 5 months.

3.1 ORGANIC VEGETABLE PRODUCTION - APOLIM

Although not one of the initial Farmer to Farmer sites identified by the study in Annex I, the Limbé DEED team identified APOLIM as an important producer group willing to offer training in the use of organic fertilisers and pesticides in vegetable production. Associated with VETERIMED a well-known organization providing veterinary and dairy production technical assistance throughout the country, APOLIM is well suited to work with APWOLEM on expanding economic alternatives for their producer members.



The APOLIM farmer to farmer exchange was attended by 10 vegetable producer members of APWOLEM and APKBA from Marmelade between March 31 and April 3. The program included :

- Techniques for making organic pesticides and fertilizers
- Training on managing a small organic fertilizer and pesticide shop
- The use of organic fertilizers/pesticides in growing perennials using terracing as a soil conservation measure
- Vermiculture as a means to enrich the soil

Upon returning to Marmelade, the participants put their training to productive use. Combining Neem seeds and other vegetable matter, they prepared pesticides to protect their first vegetable crop from insects. The participants also collected bat guano from a local cave and made their own compost following the recommendations provided in the training.

3.2 CONTOUR FARMING, HIGH VALUE ORGANIC VEGETABLE PRODUCTION AND SOIL CONSERVATION METHODS – WYNNE FARM

Wynne Farm produces loquat, macadamia, bamboo (Haitian and Chinese), vegetables, and jatropa. They are also involved in handicrafts, especially with bamboo. A cooking briquette is made on site with paper and binder. The production is 100% organic and they can provide training on organic fertilizers and insecticides. The Wynne farm has been in operation for over 50 years. The Wynne Farm is an excellent venue for farmer-to-farmer exchanges. There are new practices that can be introduced at the farm, and Jane Wynne serves as facilitator with contributions from exemplary vegetable farmers and cooperatives in the Kenscoff area.



Expertise available at Wynne Farm/Kenscoff includes:

- Vegetable production
- Organic horticulture
- Tree nurseries
- Handicrafts
- Alternatives to charcoal

From May 25-27 both DEED offices in Limbe and Montrouis facilitated the participation of 12 producer group members and facilitators from APWOLEM in Limbe and CUPEC in Montrouis.

Program objectives were to develop the producers' capacity to :

- Identify, analyze and interpret information allowing them to identify problems arising in their fields
- Make decisions based on the analysis of their own trials and experiments
- Evaluate their results and using them to orient future decisions

Expected results included :

- Demonstrate a capacity to summarize the information gained
- Exercise the ability to observe, identify and discover solutions to certain problems encountered in their day to day production practices
- Share the same concerns with other producers in their home communities.

Subject matter covered during the training focused mainly on vegetable production using soil conservation methods but included several other topics as well. Subjects covered during the training were:

- ❖ Biodiversity and soil conservation
- ❖ Vegetable production in mountainous terrain
- ❖ Composting
- ❖ Terracing
- ❖ Canal and dike construction
- ❖ Briquette and paper production

This program has already seen tangible benefits at the field level. In early June, CUPEC facilitator trainers taught 10 producers how to establish a vegetable gardening activity using terracing and soil conservation techniques. With the newly learned technology at their disposal, the CUPEC facilitators will continue to replicate the same activity with other producer group members in the area.

3.3 LOW COST FISH FARMING – CARRIBEAN HARVEST FISHERIES

Caribbean Harvest led by Dr. Valentin Abe, whose hatchery and operations is based in the Cul de Sac near Croix des Bouquets. Dr. Abe supports aquaculture projects across Haiti, and he is a leading authority on aquaculture.. He is able to set up and facilitate exchanges with various aquaculture systems. During discussions on the farmer-to-farmer approach, Dr. Abe presented a number of exchange options in the north and south that would be convenient for the two project watersheds. An apprenticeship program was also discussed with him and he agreed to participate in mentoring trainees and helping to build viable aquaculture businesses.



In March, Dr. Abe provided technical assistance in the construction of 12 earthen fish ponds in the Marmelade/Bassin area which will serve as a model production center for those interested in doing the same in the future. The ponds do not require expensive construction materials like cement which is out of the average farmer's budget. The earthen ponds can be easily replicated using customary work crews called "konbit" where farmers work in groups of 5-15 and rotate from one farmer's pond site to another.

Throughout the site selection and construction phase, Dr. Abe mentored two aquaculture facilitators, Clercius and Fascius, who have previous experience managing ponds as a result of a FAO funded program in the area. The two facilitators were intensively trained for 10 days in

soil quality assessment, pond placement, water supply, and canal and pond construction techniques.

From June 25-28, DEED facilitated a Farmer to Farmer visit to Caribbean Harvest Fisheries production center in Croix des Bouquet. Dr. Abe conducted an intensive 3 day training program on fish pond management for the two facilitators and 12 fish producers. The training program was conducted in a hands-on, practical manner with visits to sites where on-going activities provided examples of techniques useful for the fish producers. The main objectives of the training program were:

- Stimulate the curiosity and interest of the beneficiaries in order to promote the adoption of new techniques
- Increase the participants' knowledge of Tilapia and common carp production methods
- Increase the capacity of the two facilitators who will offer their services in fish production during the second phase of the project.
- Develop an entrepreneurial spirit amongst the participants
- Facilitate the adoption of fish culture as an environmentally friendly economic alternative in the watershed.

Practical technical training sessions were conducted with the goal of introducing the participants to a series of activities directly related to fish pond management. The sessions included:

- Fish biology – morphology and physiology
- Water management
- Visit to a local farm with a combination of production activities including crops, fish culture and animal production (poultry, guinea fowl and guinea pigs)
- Composting for planting and its importance in fish culture
- Tree nursery and raised plant bed techniques
- Feeding needs of both carp and Tilapia
- Signs of disease and/or stress in fish and how to remedy them



With 12 ponds already built and stocked with Tilapia and carp, the participants expressed great interest in applying the knowledge gained during the visit. The two facilitators will play a critical role in accompanying the first fish producers and have already had requests from others in the area to visit their farms to see whether they can start fish culture as well.

3.4 APICULTURE WITH NECTAR PRODUCING PERENNIALS – COOPERATIVE APICOLE DE OANAMINTHE

From June 25-28 DEED organized a farmer exchange visit between the apiculture cooperative of Ouanaminthe, CAO, and 23 producer group facilitators and members from 6 different groups. Three groups participating from Montrouis were AJTAPP, OPAR and OPD8, while the 3 from Limbé were APCHA, AGL and OGFL. The visit, entitled “Honey Production and Quality Improvement”, had as primary objectives :



- ❖ Identify, analyze and interpret information regarding problems associated with apiculture
- ❖ Take decisions based on the analysis of one’s own experiences
- ❖ Share the lessons learned and new techniques with the communities in the two watersheds.

A visit to Nazeac Dolce’s private production unit and to the cooperative’s warehouse were part of the experiential learning process for the participants. During the visit they were shown:

- How to build a bee hive
- How to use a honey extractor to separate the honey from the wax
- How to refine bees wax
- Identification of nectar producing tree species



The 24 apiculturists and facilitators were pleased with the technical information provided by the producers of the CAO cooperative. They all agreed that increasing the number of high nectar producing trees is critical to creating a solid foundation for honey production. The participants were eager to return to their fields to begin planting Moringa, Campeche, Sucrin, and strawberries in an effort to increase honey production.

3.5. CACAO FARMER FIELD SCHOOL DEVELOPED

In a joint initiative with DEED's sister program, MarChe, two of the major cacao buyers and exporters NOVELLA in the North and Wiener in the South are co-investing in Farmer Field School programs under the Public-Private Alliance (PPA) model, with the intention of continuing the program as a privately financed extension service aimed at providing technical support to producers in the areas of increased production and improved quality training and technology transfer. With production levels as low as 100 kg per hectare and a potential for more than 400 kg per hectare for extensive, subsistence level production systems, the economic benefits to the cacao producers and exporters are important. Continuing a Farmer Field School program well after the financial support from DEED and MarChe is a very interesting economic prospect for all actors in the cacao value chain.



During the months of May and June, renowned cacao expert BK Matlick visited both the DEED and MarChe programs and assisted in the recruitment process for the trainers and master trainers for the Farmer Field School. Over 60 CVs were received for the trainer positions, of which 30 were interviewed using a questionnaire developed jointly with Matlick and DEED staff. The 24 top candidates have been identified and are ready to be hired as of 13 July. Four candidates for the Master trainer position have been identified and 3 have been interviewed by DEED staff. A final interview with both NOVELLA and FECCANO, principal partners in the cacao PPA will participate in the final round of interviews and selection process. This final interview is scheduled for 10 July.

A training of trainers program was delivered on 20-30 July where two experienced cacao experts BK Matlick and George Loquvam trained 44 trainers (25 from the North and 19 from the South) in the Farmer Field School (FFS) methodology.

The program was based on practical training using modules previously tested and implemented in successful cacao FFS programs in Colombia, Ecuador and Indonesia.

Modules include the following themes and subjects:

| Modules | Subject Matter |
|--|---|
| Farmer Field Schools | <ul style="list-style-type: none"> • Group establishment • Member profile • Elements of capacity building • Participatory needs assessment |
| Farm Management | <ul style="list-style-type: none"> • Agro-ecology of cacao production • Cacao varieties, hybrids and clones • Optimal production parameters • Basic bookkeeping |
| Cacao Orchard Maintenance | <ul style="list-style-type: none"> • Pruning cacao and shade trees • Shade/light and flowering • Tree spacing and other crops |
| Grafting | <ul style="list-style-type: none"> • Sourcing bud wood from good genetical stock • Side grafting • Grafting in the nursery |
| Nursery Production and Orchard Expansion | <ul style="list-style-type: none"> • Installation of individual nursery units • Nursery management • Seedling planting |
| Quality Assurance Techniques | <ul style="list-style-type: none"> • Construction of solar dryers • Reduction of moisture and mildew • Pricing as a function of quality • International market price fluctuations |

A number of training modules have been translated into Kreyol and implemented in the TOT training held on July 20-30. Copies of the FFS modules can be found in Annex I.

Now that the 24 farmer trainers and 1 master trainer have returned to the North, they will work with NOVELLA, FECCANO and the four participating cacao cooperatives from Grande Riviere du Nord, Limbé, Port Margot, and Petit Bourg du



Borgne to identify the 2400 most promising cacao farmers interested in participating in the program. A set of criteria will be jointly developed with significant farmer input and the farmer trainers will set out to establish the 96 farmer field schools.

The program is scheduled for 12 months with NOVELLA covering the costs for the master trainer and four farmer trainers in the second 6 months of the program. If NOVELLA finds the program effective in delivering tangible benefits to the cacao sector, the business will retain a number of trainers to continue delivering extension services to the participating producers.

BK Matlick is scheduled to make 9 week-long monitoring and technical assistance visits throughout the 12 month period. During the visits Mr. Matlick is scheduled to evaluate the master trainer and the farmer trainers assuring that the FFS methodology is being respected throughout program area. Mr. Matlick will also use the time to mentor the master trainer and the farmer trainers in FFS facilitation techniques.

ANNEX I – CACAO FARMER FIELD SCHOOL MODULES

FICH ENSKRIPSYON

NAN PWOGRAM "LEKÒL NAN JADEN POU PLANTÈ" (LNJP)

ENFÒMASYON SOU PATISIPAN AN

Non _____ Siyati _____

Pyès idantite _____

Nan ki klas ou te rive lekòl _____

Sèks G F Laj _____

Adrès _____ Telefòn _____ Selilè _____

Ki aktivite biznis ou mennen _____ Eske ou gen patant _____

Enfòmasyon sou fanmi w Madanm Pitit ki Laj yo:

Depi konben lane ou ap travay tè çà _____

Depi konben lane ou nan zafè gadinaj bèt _____

Eske ou nan òganizasyon _____ ki òganizasyon _____

ENFÒMASYON SOU FÈM NAN OSWA PLANTASYON AN

Ki jaden ou fè oswa ki bèt ou gade

Si ou nan agrikilti Kakao Bannann Lòt kalite

Si ou nan zafè gadinaj bèt Bèf Chwal/bourik/milèt kochon Lòt bèt

Ki kalite enstalasyon ou genyen _____

Ki zouti, ki ekipman _____

Ki sistèm ou mete kanpe pou jere fèm nan oswa plantasyon an _____

Sèvis: : èske ou gen : dlo limyè tou rego telefòn

Ki sa wap atann de pwogram “Lekòl nan jaden” an _____

Sou en (1) nan ki ameliorasyon ou ta renmen jwenn nan aktivite jaden an e ki jan w ap mezire chanjman sa yo: _____

Siyati patisipan an

I.

FÒME GWOUP YO

- PREMYE KONTAK
AK PATISIPAN

-ÒGANIZE GWROUP
YO

-TABLI RÈG JWÈT
EPI ANTANN SOU
YO

DETÈMINE KONTNI FÒMASYON AN

- DYANÓSTIK PATISIPATIF

- DEFINISYON TÈM YO

III.

CHWAZI

PLANTASYO

NYO

IV.

DEVLOPE

AKTIVITE

APRANTISAY YO

-TRAVAIL PRATIK

SOU TERENCE

(ATELYE)

-DEZYÈM

DYANOSTIK

**-AJISTE EPI
KONPLETE
FÒMASYON AN**

V.

FINALIZE
FÒMASYON AN
EPI
FÈ SWIVI

- REMIZ DIPLÒM

- PLAN SWIVI

- PLAN AKONPAYMAN

**Nan yon sesyon fòmasyon LNJP, ki
ròl fasilite a ?**

Kijan pou plantè a aprann plis?

Sa “retroalimantasyon” vle di ?

**Esplike ki jan yo fè sa epi poukisa
yo fè l' ?**

**Poukisa antan fòmasyon an ap fèt
la, gen yon seri mouvman ak
egzèsis yo fè ak gwoup la ?**

**Nan lekòl nan jaden an, kilès ki
tabli règ jwèt yo ?**

**Ki moun ki anchaje pou chwazi lidè
nan yon kominote ?**

**Sa «Lekòl nan jaden pou plantè »
(LNJP) a ye ?**

**Ki sa ki yon “sesyon fòmasyon
Lekòl nan jaden” ? ki sa li gen
ladan ?**

**Pou ki rezon fòmasyon a gen yon seri
keksyon teknik li poze sou zafè fè
jaden ? ki objektif l’ap rapouswiv ?**

**Lè fasilite a mande pou gwoup la
fè yon prezantasyon sou yon sijè,
ki objektif l’ap rapouswiv ?**

**Keksyonè pou
mennen diskisyon ak plantè yo sou
metòd ankèt ki sèvi pou verifye
konesans yo sou fason pou idantifye, fè
prevansyon epi trete maladi ak tibèt
nwizib k'ap detwi jaden kakao**

○ AK KI METÒD YO SÈVI POU YO RIVE WÈ (NAN JADEN AN) SA PLANTÈ A KONNEN NAN ZAFÈ JERE PWOBLÈM FITOSANITÈ ?

○ POU YO KAPAB FÈ EVALYASYON SA A, AK KI MATERYÈL EPI KI ZOUTI YO SÈVI ?

KI MOUN KI CHWAZI KEKSYON POU YO POZE PLANTÈ YO ?

○

○ KOUMAN EVALYASYON AN FÈT ?

KISA L' SÈVI EPI KI KOTE YO FÈ'L ?

**KIJAN YO CHWAZI JADEN KOTE YO FÈ
EVALYASYON AN ?**

KEKSYON POU ENTWODWI NOSYON JEPN LA (JESYON ENTEGRE
PARAZIT AK BET NWIZIB NAN JADEN KAKAO)

1. LÈ YO DI JESYON ENTEGRE

**PARAZIT AK BÈT NWIZIB –JEPN- SA SA
VLE DI ? ESPLIKE.**

2. LÈ YO DI JESYON ENTEGRE

**MALADI (JEM) SA SA VLE DI ?
ESPLIKE**

**3. KI PARAZIT AK KI BÈT NWIZIB KI
ATAKE KAKAO A PI PLIS ?**

**4. KI MALADI KI BAY PLIS PWOBLÈM
NAN JADEN KAKAO E KI LAKÒZ
PLANTÈ PÈDI PLIS LAJAN?**

**5. KI METÒD OSWA KI ZOUTI YO SÈVI
POU YO KLASE PWODI ASPÈSYON YO,
SELON FÒS YO ?**

**6. KI MALADI KI BAY PLIS PWOBLÈM
NAN JADEN KAKAO E KI LAKÒZ
PLANTÈ YO PÈDI PLIS LAJAN ?**

**7. JODI JOU, KI LÒT METÒD YO SÈVI
POU KLASE PWODWI ASPÈSYON YO
SELON FÒS YO ?**

**8. LÈ YO DI KONTWÒL BIYOLOJIK SA
SA VLE DI ? ESPLIKE.**

**9. AK KI MATERYÈL E KI EKIPMAN
PLANTÈ A DWE SÈVI POU LI PWOTEJE
TÈT LI NAN MOMAN L'AP FÈ
ASPÈSYON OSWA L'AP METE LÒT
PWODWI NAN JADEN AN ?**

**KI SWEN PLANTÈ A DWE PRAN NAN
MOMAN L' AP PREPARE YON
MEDIKAMAN OSWA NENPÒT KI LÒT
PWODI CHIMIK ;**

Pou yo kapab mezire ki kantite konesans patisipan yo rive ranmase nan Pwogram lekòl nan jaden an, yo fè yon estimasyon sou yon echantiyon 430 prodiktè. pou yo rive wè sa yo konnen sou zafè kondwi jaden epi jere maladi ak bèt nwizib kap detwi kakao. Pou yo te kapab fè sa, yo te fè yon premye evalyasyon nan koumansman fòmasyon an, sa yo rele yon liy baz, lèfini yo konpare rezilta toulede evalyasyon sa yo, konsa yo vin genyen yon endikatè ki montre amelyorasyon ki pote nan kapasite plantè yo pou yo jere esyon entegre pwodwi a.

Premye evalyasyon ki te fèt nan koumansman e apre fòmasyon an, se ak yon metòd ankèt ki te chita sou yon keksyonè ki te gen ladan 20 a 25 keksyon apeprè. Keksyon sa yo te soti nan kirikilòm fòmasyon lekòl la, apre yo fin reyalize dyanostik patisipatif riral la. Yo te kouvri plizyè tèm ki gen rapò ak pepinyè, grefaj, tay pyebwa, maladi nan kakao tankou moniliaz, bale sòsyè, pouriti brin ak sentòm maladi yo, kijan pou fè prevansyon, kontwole bèt nwizib yo, evite pou maladi pa gaye nan plantasyon an, jere zafè lonbraj nan jaden an, tretman pou bay kakao a apre ou fin fè rekòt tankou kive l' elatriye.ksyon diseminasyon, metòd kontròl, lonbraj nan kilti kakao, sa pou fè ak kakao lè ou fin rekòlte l' tankou ki jan pou kive l', seche l' elatriye..

Keksyon pou teste konesans plantè yo sou tay
kakao

**SA YO RELE TAY LA E POU KI REZON
YO FÈ SA ?**

**KI JAN YO FÈ TAY NAN PYE KAKAO ?
E KONBEN FWA OU KA FÈ SA ?**

**AK KI ZOUTI YO SÈVI POU YO FÈ TAY
NAN PYE KAKAO A ?**

**KI PREKOSYON MOUN KA'P FÈ TAY
LA FÈT POU PRAN AK ZOUTI L'AP
SÈVI A ?**

**KI PI BON EPÒK POU FÈ TAY SOU YON
PYE KAKAO ?**

**KI PREKOSYON OU FÈT POU PRAN LÈ
W FIN DEBRANCHE PYE KAKAO A ?**

**LÈ OU FIN TAYE BRANCH BWA YO, KI
SA POU FÈ AVÈ YO ?**

**AK KI EKIPMAN YON BÒS GREFÈ A
DWE SÈVI POU LI PWOTEJE TÈT LI LÈ
LA'P FÈ TAY NAN PYE KAKAO A ?**

**KI SA YO RELE MASTIK POU PYE BWA
? SA LI SÈVI ?**

**SITE KONBEN KALITE MASTIK POU
PYE BWA OU KONNEN**

**KI DIFERAN TEKNIK KI GENYEN POU
GREFE KAKAO ?**

**NAN YON JADEN KOTE W JWENN
PLIZYÈ KALITE VARYETE PYE
KAKAO E KOTE PYE BWA YO NAN LAJ
POU BAY FWI, KI JAN YO FÈ POU YO
REKONET YO EPI KLASE YO ?**

**KI SA YON MOUN WÈ KI FÈ LI KA DI
YON PYE BWA ANFÒM E LI KAPAB BAY
GREFON ?**

**LÈ YO DI RENOVASYON SA SA VLE DI ;
ESPLIKE**

**NAN ZAFÈ JADEN KAKAO, LÈ YO DI
REYABILITASYON SA SA VLE DI ;**

**KISA YO RELE GREFAJ LA ? ESPLIKE
KOUMAN YO FÈ SA.**

**AK KI ZOUTI YO SÈVI POU FÈ GREFAJ
?**

**KI KALITE PREKOSYON PLANTÈ A FÈT
POU PRAN LÈ L'AP GREFE YON PYE
KAKAO ?**

**LÈ 'Y' AP GREFE KAKAO AK KI ZOUTI
EPI EKIPMAN YO SÈVI ?**

**ESKE SE SOU NENPÒT PYEBWA YO
KAPAB PRAN GREFON ? KI JAN POU
PYE BWA A YE ?' KI REGLEMAN POU
PLANTÈ A SWIV ?**

**LÈ YO FIN FÈ REKÒT GREFON YO
OSWA BAGÈT YO, KOUMAN POU YO
TRANSPÒTE YO ?**

Keksyon sou bagèt

SI POU GRÈF LA BYEN REYISI KI JAN
POU BAGÈT LA OSWA GREFON YE ?

KONBEN KÒB KONSA YO KA MANDE W’
POU YON GREFON KAKAO ?

LÈ W FIN FÈ REKÒT GREFON KAKAO YO
SA POU FÈ AVÈ YO E KI JAN POU
TRANSPÒTE LO A ?

LÈ W’AP SELEKSYONE BAGÈT LA
OSINON GREFON KAKAO A, KI JAN POU
FÈ KONNEN KE LI PARE ;

LÈ YO FIN FÈ REKÒT GREFON AN, KI
KANTITE TAN LI KAPAB KONSÈVE SAN
LI PA PÈDI ?

**POUKISA GEN RÈG JWÈT NAN
LEKÒL LA E KI MOUN KI METE
YO ?**

**AK KI MATERYÈL YO SÈVI POU
MEZIRE SA PLANTÈ YO APRANN
NAN “LEKÒL” LA?**

**TRAVAY MEZI SA A, A KI SA LI
SÈVI ?**

**POUKISA TOUT MOUN DWE
DAKÒ DAVANS SOU KONTNI
PWOGRAM LA ANSANM AK
FASON POU APRANTISAY LA
FÈT NAN LEKÒL LA ?**

**NAN KI MOMAN PLANTÈ YO
REPONN KEKSYON KI POU
MEZIRE KONESANS YO SOU SA
YO APRANN NAN PWOGRAM
“LEKÒL NAN JADEN” AN ?**

**SI YO VLE POU PWOGRAM
“LEKÒL NAN JADEN” AN BAY
BONJAN REZILTA, AK KONBEN**

**PLANTÈ KONSA POU PI PITI
POU LI TA FÈT ?**

**LÈ Y'AP FÒME GWOUP POU FÈ
EGZÈSIS SOU TEREN YO,
KONBEN MOUN YO METE NAN
CHAK EKIP ?**

JOU 3

**AK KI ZOUTI YO SÈVI NAN
PWOGRAM "LEKÒL NAN
JADÈN" AN POU FÈ
DYANOSTIK ?**

**LÈ YO FIN FÈ FÒMASYON AK
PLANTÈ A, POUKISA YO
SÈTOBLIJE POZE L' KEKSYON**

**SOU SA LI APRANN NAN LEKÒL
LA ?**

**ESPLIKE SA YO RELE ANALIZ
AGWOSISTÈM, E KI SA LI SÈVI
?**

**POUKISA NAN PWOGRAM
“LEKÒL NAN JADEN AN” GEN
YON SERI MOUVMAN AK
EGZÈSIS YO FÈ AK PLANTÈ A ?**

LÈ YO DI KONKIRANS ANT ESPÈS,
SA SA VLE DI ?

**1. Nan yon sesyon fòmasyon LNJP,
ki ròl fasilite a ?**

**2. Poukisa antan fòmasyon an ap
fèt, gen yon seri mouvman ak
egzèsis fasilite a fè ak gwoup la
?**

3. Ki sa ki yon “sesyon fòmasyon Lekòl nan jaden” ? ki sa li gen ladan ?

4. Nan Lekòl la, lè fòmasyon a mande pou gwoup la fè yon prezantasyon sou yon sijè, ki objektif l’ap rapouswiv ?

5. KEKSYON TEKNIK

6. KEKSYON TEKNIK

**¿ Lè fòmàtè a ap poze yon seri
keksyon teknik sou sa y'ap aprann
nan lekòl la, ki objektif l'ap
rapouswiv ?**