



**World Concern Development Organization**

# **HAITI RELIEF AND REHABILITATION PROJECT**

**GRANT NO.: DFD-G-00-04-00159-00**

**FINAL PROGRAM REPORT**

**May 15, 2004 – January 15, 2005**

Prepared for:

United State Agency for International Development  
OFFICE OF FOREIGN DISASTER ASSISTANCE

Submitted by:

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*Haiti Relief and Rehabilitation*

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Program Title:	Haiti Relief and Rehabilitation
USAID/OFDA Grant No.:	DFD-G-00-04-00159-00
Country/Region:	Haiti/South and Northwest Departments
Types of Disaster/Hazard:	Increase livelihood security that was lost due to political upheaval

Time Period Covered by the report: May 15, 2004 – January 15, 2005

## **PROGRAM OVERVIEW AND PERFORMANCE**

**Program Goal:** To save lives and alleviate suffering by serving needs of vulnerable and underserved Haitians.

**Objective #1:** Within a six month period, increase household livelihood and food security for 6,000 farmers and their families in the south of Haiti by helping them increase crop production and seed multiplication.

**Objective #2:** Within a six-month period help 1,000 small farmers in the South and Northwest departments most affected by the crisis to rebuild their livelihood capital base and build on it.

**Number/Type of Beneficiaries Targeted:** 6,000 direct beneficiary farmer families, and up to 42,000 people receiving benefits from the project. Community-based selection of beneficiaries will be: households headed by women and households with livelihood reduction shock (with little to no income-producing assets).

<b>Objective/Activity</b>	<b>Goal</b>	<b>Actual</b>
Objective #1: Improve household livelihood and food security for 6,000 farmers and their families in the south of Haiti by helping them increase food crop production	6,000 farmers	5,700 (95%)
Objective #2: Help 1,000 small farmers in the South and Northwest Departments most affected by the crisis to rebuild their livelihood capital base.	1,000 farmers (700 in the South, 300 in NW)	1,000 (700 in the South, 300 in NW) (100%)

### **ACTIVITIES ACCOMPLISHED**

#### ***Activity I: Distribute agricultural inputs and tools to the project beneficiaries (Objective #1)***

During the project duration (May 15, 2004 to January 15, 2005), 93.41 MT of black bean seeds, 8.25 MT of sorghum seeds, 6.7 MT of chicken corn seeds and 0.7 MT of Yellow Hybrid corn seeds have been distributed to 5,700 project beneficiaries. In addition, 299.29 lbs. of vegetables seeds have been distributed to 793 project beneficiaries. The vegetable seeds include 1.68 lbs. of eggplant seeds, 2.60 lbs. of watermelon, 140.23 lbs. of tomato, 61 lbs. of leek, 60 lbs. of onion, 23.45 lbs. of beet, 7.05 lbs. of leek and 1.2 lbs. of pepper seeds.

Also, 1,079 bags of fertilizers (531 bags of urea and 548 bags of complete fertilizer) were distributed to 329 individual farmers in eight localities, namely Oshiel, Massé, Torbeck, Charlette, Arniquet, Mersant, St-louis and Houck. Most of the fertilizers were distributed to rice farmers.

During the project duration, 7,626 tools were distributed to 7,396 beneficiaries, representing more than 123% of the project objective. The farmers that received iron sticks or backpack sprayers have received another tool in addition. Also, five oxen-driven plows and five pairs of oxen were distributed as loans to project beneficiaries in three localities. Two of them were given at Mersan, two at Ducis, and one at Cavaillon. This was possible owing to the contributions of the beneficiaries on the purchase prices of tools and fruit tree seedlings. Additionally, 14 iron sticks and six backpack sprayers were distributed after the end of the project. The hand tools distributed during the project are listed in Table 1 below.

Table 1. Distribution of tools during the life of the project

<b>Tools Distributed</b>	<b>June to September</b>	<b>October to January</b>	<b>Total</b>
Hoes	125	1656	1781
Shovels	277	679	956
Iron sticks	-	86	86
Machetes	177	2390	2567
Picks	291	1762	2053
Rake	34	5	39
Backpack sprayers	-	144	144
<b>Total</b>	<b>904</b>	<b>6722</b>	<b>7626</b>

**Activity 2: Distribute fruit tree seedlings to the beneficiaries (Objective #1)**

Of a total of 7,300 fruit tree seedlings purchased and delivered in the field, 5,938 were distributed to 1,717 project beneficiaries during the project. The remaining 1,362 seedlings could not be distributed because of the drought that is still occurring in the south of Haiti since Hurricane Ivan. Table 1 is a listing of the fruit species distributed.

Table 2. Distribution of fruit tree seedlings during the project life

<b>Fruit Species</b>	<b>June to September</b>	<b>October to January</b>	<b>Total</b>
Avocado	187	151	338
Mango	802	1055	1857
Lime	600	175	775
Grapefruit	916	616	1532
Oranges	635	611	1246
Coconut	-	50	50
Star apple	-	140	140
<b>Total</b>	<b>3140</b>	<b>2798</b>	<b>5938</b>

When the proposal was originally submitted to OFDA, we had targeted 6,000 farmers and their families to receive and plant five fruit tree seedlings each, for a total of 30,000 seedlings. NOTE: It was learned that we needed to revise the original budget down to a total closer to \$500,000. The budget was then reduced to provide only 6,000 tree seedlings instead of the original 30,000. The proposal narrative was not changed to reflect the reduced budget, although the revised budget was accepted and agreed upon. So we used the figure of 6,000 seedlings as the goal to reach for this objective.

**Activity 3: Establish banana and papaya demonstration plots (Objective #1)**

A field experiment was established at Mersan to evaluate five varieties of Papaya for their tolerance to Papaya Ring Spot Virus (PRSV). The experimental design consisted of a randomized complete block of three replications of the varieties CA 1103-1, CA 1103-2, UNDH 0204, BH 0803, and Red Lady. The experimental unit consists of a row of six

plants with a spacing of 2.5 m between and within the row. Each plant received an application of well-decomposed compost at planting followed by two applications of complete fertilizers. One-quarter pound of 12-24-24 NPK was applied on July 23, while ¼ lb of a mixture of Urea (46-0-0) and 12-24-24 in the ratio of 1 to 3, thus the equivalent of a 20-18-18 NPK was applied on September 14. Another application of Urea was realized in January 2005 at the rate of 1/8 lb. per papaya tree. The highest incidence of Papaya Ringspot Virus was observed in the variety CA 1103-1. The variety Red Lady gave the earliest crop, followed by 'UNDH 0204' and 'CA1103-2', while 'CA 1103-2', 'UNDH 0204' and 'Red Lady' show the highest tolerance to disease. Seven harvestings have been realized to date, with the highest partial yield recorded for 'CA 1103-2' (5.4 t/ha), followed by 'UNDH 0204' (5.5 t/ha) and 'Red Lady' (3.8t/ha). The partial yields for 'CA 1103-1' and 'BH 0803' were respectively 1.5 and 0.1 t/ha. The relatively low partial yield of 'BH 0803' is an expression of its tardiness, the trees bearing large quantities of immature fruits, while at least 50% of the fruits have already been harvested for the other varieties. Although 'CA1103-2', 'UNDH 0204' and 'Red Lady' could be considered the three most promissory varieties for their yield potentials and their relative tolerance to PRSV, 'UNDH 0204' produces fruits of the lowest quality among the three. 'CA1103-2' produces fruits of the biggest sizes (up to 6 lbs.), while 'Red Lady' gives the sweetest fruits.

Also, demonstration plots were established in the localities of Mersan, Bercy, Ducis, Charlette and Arniquet, in order to evaluate five varieties of banana (FHIA 17, FHIA 18, FHIA 23, FHIA 01, FHIA 25) and two varieties of plantain (FHIA 21, CRBP 39) for their tolerance to the Sigatoka disease. The experimental unit consisted of a row of five plants, with a plant spacing of three meters within and between rows. Thus, the area of the experimental unit was 45 m<sup>2</sup>. A local plantain variety and a local banana were used as control. Well-decomposed bagass was mixed with the soil in the planting hole just before planting. Also, a fertilizer mix of Urea (46-0-0) and the complete fertilizer grade 12-12-20 in the ratio of 1 to 3 was applied in each of the banana trials formerly established at Charlette, Bercy, and Ducis. The application rate used was ¼ lb. per plant. Six-month growth and severity of Black Sigatoka were evaluated at Ducis, Charlette and Bercy. Data were collected and analysis of variance performed for number of leaves per plant, plant height, pseudostem diameter, third leaf area, and disease level. No significant difference was found between the banana cultivars for the number of leaves, stem diameter, and the susceptibility to Black Sigatoka. The cultivars FHIA 25, with a six-month height of 1.6 m had the fastest height growth. 'FHIA 25' also had the largest leaf size, with a third leaf area of 0.4 m<sup>2</sup>. Overall, the banana plants had an average of 8.8 leaves, a height of 1.1 m, a pseudostem diameter of 7.4 cm, and a leaf area of 0.2 m<sup>2</sup>. The level of susceptibility to Black Sigatoka was low for all the banana cultivars under study. The banana cultivar FHIA 25 has shown the fastest initial growth of all the materials under evaluation. Slower plant growth was observed at Charlette, while there was not a significant difference between the localities of Ducis and Bercy. This can be explained by the unavailability of water for irrigation at Charlette.

Besides the formal demonstration plots, 55 additional plantain/banana plantlets were distributed to six liaison agents selected as banana multipliers for later distribution to local farmers (Table3).

Table 3. Distribution of plantain/banana planting materials

<b>Date</b>	<b>Liaison agent</b>	<b>Locality</b>	<b>Variety</b>	<b>No of Materials</b>
August 27, 04	Gerome Lyron	Cavaillon	FHIA 21	10
August 29, 04	Emalhomme Noel	Le Pretre	FHIA 25	10
September 3, 04	Emalhomme Noel	Le Pretre	FHIA 21	10
September 3, 04	Sanois Sanon	Maniche	FHIA 18	10
September 3, 04	Moise Pierre Michel	Chantal	FHIA 21	10
September 4, 04	Lebien Laurenceau	Milord	CRBP 39	3
September 18, 04	Enel Luma	Boval	CRBP 39	2
<b>Total</b>				<b>55</b>

***Activity 4: Organize seminars for trainers, liaison agents, and the beneficiaries (Objective #1)***

During the project life, six training sessions were realized for 22 trainers on the following topics: Principles of adult learning, rice production under irrigation, weed control, insect pest management, vegetable production, black bean production, and principles of goat and sheep raising. All these topics have been taught to the direct beneficiaries by the trainers.



Also a two-day seminar was organized for the liaison agents on agro-forestry principles and practices, emphasizing agro-sylvo-pastoral systems. Also, a five-day seminar was organized to teach the liaison agents the principles and practices of tree nursery management and grafting techniques. During both seminars, the liaison agents had the opportunity to have hands-on practical experience while they were exposed to different techniques. At the end of the seminar each of them was encouraged to organize a small group in their community to transfer the acquired knowledge through the establishment of a tree nursery. They were also encouraged to teach the practices of agro-forestry in their localities, through organized farmer associations.



During the project, two-day seminars were held on the above topics for a total of 7,212 farmers, of which 2,884 were women and 4,328 were men, from 60 farmer associations. The purpose of these training sessions was to improve the beneficiaries' knowledge and behavior in different cultural practices that are considered as their main activities. Particular emphasis was placed on soil fertility management, water management, and pest and disease management. Problems associated with seed quality and land preparation were also discussed. Assessments of the level of satisfaction of the beneficiaries regarding the training seminars suggest that 'Weed Management' was the topic most valued by the beneficiaries. The topic on insect pest management was also much appreciated. Each of the project beneficiaries participated in at least two seminars during the life of the project.

#### ***Activity 5: Distribute goats/sheep to the project beneficiaries (Objective #2)***

To help the small farmers rebuild their livelihood capital base, the project has distributed 1,400 females of small ruminants (goats and sheep) to 700 project beneficiaries in the South department and 600 female goats to 300 project beneficiaries in Northwest department. In total, 2,000 goats have been distributed to 1,000 project beneficiaries (100% of project objective). Each of the animals distributed received two preventive treatments for internal parasites. When necessary, they also received shots of vitamins and/or antibiotics.

In order to promote the production of improved forage grasses by the project beneficiaries, 16 truckloads of Napier grass (*Pennisetum purpureum*) were distributed to 16 farmer associations during the project. The choice of this grass species was based on its adaptability in most of the project localities as well as its quick reproductive ability. This forage crop also has a high biomass production. More than 75% of the beneficiaries have planted grass on their own lands. However most of the forage gardens have not been established well due to the severe drought period this year.

#### **Project output relative to objectives**

##### ***Objective 1:***

Improve household livelihood and food security for 6,000 farmers and their families in the south of Haiti by helping them increase food crop production.

- Give 6,000 farmers access to agricultural inputs and tools as well as technical assistance in order to keep producing their crops and optimizing their cash returns.

- Mobilize 6,000 farmers and their families to plant at least 30,000 (6,000 in budget) fruit trees.

**a) Indicators**

- 80 – 90% of the farmers will have at least a quarter hectare planted.
- 70 – 80% of the farmers have adequate knowledge and information on the appropriate methods to solve the major soil fertility and pest problems limiting crop productivity in their area.
- 70 – 80% of the project beneficiaries plant trees on their own lands.
- 50 – 60% of the seedlings planted by the farmers will survive.

**b) Project output**

During the project life, 5,700 beneficiaries, representing 95% of the target beneficiaries, have received grain seeds (corn, sorghum and black beans) to plant. 793 farmers (13.2% of the total number of beneficiaries targeted) also received vegetable seeds. If only the grain seeds distributed are considered, each farmer has planted an average of 0.4 ha. This is 60% over the project expectation of 0.25 ha per beneficiary. Each of the vegetable farmers has also planted at least ¼ ha. Furthermore, 329 beneficiaries received a total of 1,079 bags of fertilizers (50 kg per bag). 311 of the farmers planted rice with the fertilizers they received from the project. The others planted common beans and vegetables. When all seed types and fertilizers are taken together, the total number of beneficiaries that received agricultural inputs is over the targeted 6,000. The total number of beneficiaries that received tools from the project is 7,396.

Training sessions were provided to the project beneficiaries in the following topics: rice production under irrigation, weed control, insect pest management, vegetable production, and common bean production. Each farmer participated in at least two training sessions of two days each. The selection of the topics offered was based on the specific needs identified in each locality.

In total, 1,717 farmers received 5,938 fruit tree seedlings during the project life of a total of 7,300 seedlings purchased. 1,362 seedlings delivered in the field could not be distributed before the end of the project due to a long dry season. While the project text targeted 30,000 fruit tree seedlings, the budget made provision for 6,000 seedlings, and the narrative text was not adjusted to match the approved budget. Also, field observations suggest that the survival rate of fruit tree seedlings will be less than 50% as a result of severe droughts for the last three months in most of the project areas. In the area of Aquin, for instance, it has not rained since Hurricane Ivan. This adverse weather

condition and the budget constraint caused the low rate of accomplishment for fruit tree planting.

**Objective 2:**

Within a six-month period help 1,000 small farmers in the South and Northwest departments most affected by the crisis to rebuild their livelihood capital base.

**Indicators**

- 1,000 families will receive a pair of goats/sheep to start rebuilding their capital base
- 2,000 goats/sheep will be treated for internal and external parasites and will be healthy animals.
- 75% of the beneficiaries will plant forage grasses on their own land to feed their animals.

**Project output**

In total 1,000 small farmers already received two female goats or sheep in the South and the North West department to help them rebuild their livestock capital base. This number of beneficiaries represents 100% of the project objective. Each of the 2,000 small animals distributed have been treated for internal and external parasites at least twice since the distribution date.

All the localities have received some improved grass plants to be distributed to the farmers. At least 75% of them have planted forage on their own land to feed their animals. Unfortunately, very poor success was obtained with this effort as a result of the drought. This leads to a severe scarcity of fodder and water to ensure an adequate feeding of the goats and sheep distributed.

All the beneficiaries that received goats and sheep from the project have received two days of training in basic principles of small ruminant husbandry. Particular emphasis was placed in herding systems, small ruminant feeding and nutrition, forage management, goat breeding management, and preventive health care. Each of them also participated in two days of training in agro-sylvo-pastoral systems.

At the end of the project, 292 goats/sheep reportedly gave birth to 413 offspring. This translates to a kidding rate of 141.4%. If this tendency is maintained, a total of 2,829 goats and sheep will have been born by the end of April 2005. The offspring sex ratio was approximately one female to one male. This number is expected to double by December 2005.

**Problems encountered, lessons learned and challenges**

The long and severe droughts that have occurred in the south peninsula of Haiti for the last three to four months of the project constitute a serious threat, not only to the positive outcome of this agricultural rehabilitation project, but also and more importantly, to food security in this region of the country. Many of the crops planted between October and December will not give a good crop, unless the farmers have access to irrigation. This situation can aggravate the vulnerability of rural families, who far too often are forced to sell out valued assets, like livestock in order to buy agricultural inputs after severe environmental disasters that result in crop failures. The long drought period also causes negative effects on the availability of forage resources and water for the proper feeding of livestock.

Taking this situation into account, the project management staff has made arrangements with the management committees in order to get the moneys reimbursed by the beneficiaries on seeds returned immediately to them. Each time a group is ready to pay back on seeds, the committee is asked to come to the regional office with the money for which a receipt of payment is issued after proof of deposit at World Concern's bank account. The project manager has a contract made with the management committee to buy new seeds for the beneficiaries who paid back their loans. Just like it is done for the goats and sheep, the management committees are charged the responsibility to buy the seeds from a local farmer who has experience in producing grain seeds for his area. Once the seeds are purchased, the project staff makes plans to assist the committee on the day of the distribution.

While crop yields were low for the dryer areas, satisfactory yields were obtained in the irrigated zones. For instance, common bean yield varied between 300 and 700 kg/ha in the non-irrigated area depending on planting date, while the yield was over 1,000 kg/ha under irrigation. This indicates that irrigation can make a significant difference in sustaining food security efforts in southern Haiti, considering the fact that most of the water resources that could be used for irrigation remain unexploited. Farm productivity could also be significantly improved by giving the farmers access to better farm implements. Easy access to oxen or motorized tractors, for instance, can prevent them from losing a crop season. Timely preparation of the land allows the farmers to take advantage of the first raindrops to plant. Far too many farmers mention the lack of equipment for land preparation and access to irrigation water as the two most important factors limiting farm productivity in their localities.

The biggest challenge is to ensure long-term impacts of the project investments on food security and the livelihood of the beneficiaries. The liaison agents made the following recommendations both during the monthly planning meeting in December 2004 and at the final evaluation of the project:

1. World Concern Haiti should continue to accompany the management committees, by providing training and technical assistance to ensure a sound management of the project investments in the south.
2. World Concern Haiti should help each community to establish its own farm input store, managed by the farmer associations. They think that such structure would facilitate ready access to basic farm inputs and equipment at affordable prices.
3. World Concern Haiti should continue to promote tree planting and agro-forestry practices, particularly in localities that are ecologically vulnerable, as a result of deforestation and land degradation.
4. The management committees should have a better implication in the purchase of grain seeds in future projects. World Concern Haiti should identify farmer associations that have the technical capacity to produce seeds of good quality for distribution to the project beneficiaries.

The participating liaison agents as well as the beneficiaries also made the following recommendations regarding future projects during the final evaluation of the project:

1. Establishment of farm input stores in the irrigated zones.
2. Establishment of community nurseries to promote tree planting.
3. Construction of new irrigation systems and rehabilitation of existing ones.
4. Livestock intensification project.
5. Environmental protection project in the zones of high ecological risks.
6. Food processing and marketing of agricultural produce.
7. Provide loans for oxen and plow, or motor cultivators (rice producers).

### **Final Evaluation**

A final evaluation has been completed by an outside evaluator. The report has been completed in French, and is currently being translated into English. We expect to receive the translated report within the next few days and will send it on to OFDA immediately.

### Success Stories

**Mr. Thomas Pierre** lives at Chantilly, an irrigated area being developed through World Concern programs. He is the father of four children; two of them are attending high school, and the others are in primary school. Mr. Thomas is one of the beneficiaries who received a complete plow and two oxen with which he has been working since January 2005. This farmer has signed a contract with World Concern to pay his plow and oxen back within a period of nine months.



Mr. Thomas says that the plow was his greatest need as a farmer. This tool helps him to prepare and organize his lands quicker and better. The other farmers in the area benefit also from the services of his plow.

Mr. Thomas explains how his plow is also useful to other farmers: “It is not only useful, but also advantageous to them because now they can prepare their plot in fewer days. My plow also gives me the opportunity to create jobs for other people. The driver of the plow gets a daily salary of 150 gourds a day, which means 3,900 gourds per month.” He can also use the plow for his own garden.

Mr. Thomas was asked if he thinks that by using the plow he gets more productive gardens, to which he answered: “The difference is really clear. Since the land is prepared well and I apply fertilizer on time, I am sure I will get a better harvest.” He considers his plow as a spring of income. In spite of the drought, he has no doubt that he will be able to pay back his debt to World Concern.

Mr. Thomas explained how this new piece of equipment affects his life in the following terms: “My family and I have a lot of hope for the future. Having such important equipment makes me understand this intervention is not only for my family but also for the other members of the community.” He suggests that World Concern just keep up the good work, try to enlarge the structures and deliver more equipment, because that will make it easier for the farmers to make their lands productive.

**LIVESTOCK BENEFICIARY:**

**Mr. Prismack Losanguèse**, age 50 and the father of five children, lives in the locality of Masseillant, in the commune of Aquin. He received a female goat and a sheep from the Haiti Relief and Rehabilitation project. Now, the goat has given birth to two kids, while the sheep is in gestation. Mr. Losanguèse earns his living from agriculture and livestock farming. He says that he received the goats in the time he had the greatest need, because he was totally impoverished following the multidimensional crisis that

the country has been facing for many years. He had to sell his livestock to provide food for his children.

Because of the project, Mr. Losanguèse has hope that after returning an offspring to World Concern, he will quickly restore his herd. He is also proud that by taking good care of his gifts, he will be able to help other farmers benefit also, since World Concern will transfer the offspring he returns to another farmer in his community. He expects that he can soon have enough goat offspring to buy a heifer. With the profit from his herd he is sure he will be able to pay school fees, and purchase shoes and uniforms to send his children to school.