



**Haiti**  
**Emergency Solid Waste Collection, Landfill Rehabilitation and Jobs Creation Program**  
**(SWM)**  
**Cooperative Agreement # 521-A-00-04-00028-00**

**FINAL REPORT**  
**July 28, 2004 – April 30 2005**



August 16, 2005

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# 1. Introduction

## 1.1. Overview

This is the final report submitted by CHF International to USAID for the Haiti Emergency Solid Waste Collection, Landfill Rehabilitation and Jobs Creation Program (hereafter referred to as SWM) that took place in the metropolitan region of Port au Prince, Cooperative Agreement No. 521-A-00-04-00028-00. It covers the entire program implementation period from July 28, 2004 until April 30, 2005, a period of 9 months. SWM was funded by USAID for \$3,040,769.

The SWM program was a highly participatory employment generation program designed to alleviate, on an emergency basis, the severe health and environmental hazards caused by the visible and urgent solid waste management crisis faced by the residents of the Port-au-Prince metropolitan area, and to inject much needed income into the hands of poor Haitian workers. The SWM program quickly achieved a level of intensity wherein it outperformed the collection efforts of the local municipal and regional authorities, and contributed significantly to the improvement of civic cleanliness and public health in the metropolitan area. Even with the SWM program operating at full capacity, however, the combined efforts of SWM and local authorities managed to collect only approximately 40% of the daily production of solid waste in the metropolitan area (approximately 600 tonnes/day, or 74,000 m<sup>3</sup>, collected of an estimated 1,600 tonnes/day, or 197,000 m<sup>3</sup>, produced).

## 1.2. Summary of Vital Award Statistics

Start Date:	July 28, 2004
End Date:	April 30, 2005
Total Program Value	US \$3,040,769
Total USAID Contribution (project investments & administrative costs):	US \$3,040,769
CHF's administrative costs	US \$163,986
Principal deliverables:	
Target person/days of employment to be created	195,000
Target cubic meters of solid waste to be collected	275,000

## 1.3. Key Results

CHF surpassed the key deliverable in the project, employment creation, by a substantial margin, and achieved 91% on the second key deliverable, solid waste collection during the original term of the program.

Deliverable	Unit	Target	Actual (April 30, 2005)	% of target
Employment Creation	Person Days	195,000	267,514	137%
Solid Waste Collection	Cubic Meters	275,000	249,184	91%

**These major deliverables were reached during the original nine month period of the cooperative agreement while expending only 82% of the original award amount of \$3,040,769.**

The decision by USAID not to provide CHF with a no-cost extension to the program meant that delays encountered during the program implementation and desired modifications to the agreement to reflect conditions on the ground could not be implemented. This negatively

impacted the full potential of the program to surpass by even a greater degree the key targets established at the outset of the program, and to fulfill a number of secondary program objectives.

## **2. Key Problems Addressed by SWM Program**

### **2.1. Significant unemployment and economic hardship**

Haiti is the poorest country in the western hemisphere, and ranks consistently among the poorest of African countries on the UNDP's human development indicators (in 2004 it ranked 153 of 177 countries on the UNDP human development index). Underemployment, unemployment and economic hardship are endemic to over two-thirds of the population of the country and much of the population of the metropolitan area of Port-au-Prince. Per capita GDP is US\$415 and declining (all data from UNDP Human Development Report, 2004). After the political troubles and ouster of President Jean Bertrand Aristide in 2004, the habitually unstable economic situation became even worse.

The USAID program implemented by CHF sought to counter this hardship by creating much needed employment opportunities for the numerous working poor of the metropolitan area. The program aimed to create 195,000 person days of work during the nine month duration of the program. This is the equivalent of employing approximately 834 low skilled laborers at the minimum wage each working day for nine months. CHF managed to surpass this goal substantially creating 267,514 person days, or employing an average of 1,144 people each working day for the duration of the project. The methodology employed by CHF also increased the reach of the program by limiting the term of employment by any single worker to 60 days thus allowing significantly more families to benefit from the program.

### **2.2. Public health hazard of solid waste piling up in the streets**

The solid waste management situation in the metropolitan area of Port au Prince is chronically poor. The regional authority mandated to manage the system, the SMCRS, is significantly under-capacity and suffers from insufficient capital investment, ineffective maintenance of equipment, inadequate operating revenues, and inconsistent management. Local municipal government efforts are inadequate to offset this shortcoming. The collection and disposal of solid waste lags far behind the production. The long-term negative consequences are that large quantities of solid waste is left to rot in the streets and serves as breeding ground for any number of harmful disease vectors, that rampant dumping in drainage canals occurs greatly increasing the risk of flood during the rainy season, that quantities of hazardous waste are left in the open, and that illegal dumping and burning is commonplace.



Popular Market – Carrefour (Downtown Port au Prince)

After the political unrest of early 2004 the situation was greatly exacerbated as many public services effectively stopped functioning, including solid waste collection and disposal. By the start of the program the public health risk from accumulated waste was extreme, with meters high piles of trash accumulating along entire stretches of major and minor roads throughout the region and particularly around market areas. The metropolitan region is estimated to produce approximately between 1,400-1,600 metric tons of solid waste every day, or approximately 0.5-0.6 kilograms per resident, with 80% coming from households, 10% from markets, and 10% from industry. An estimated 75% of this waste is organic matter (food cast-offs). The SWM program effectively doubled the capacity of local authorities to collect and dispose of waste and to make a significant impact on the amount of accumulated waste along the streets of the region. Even with the SWM program operating at full capacity, however, the combined efforts of SWM and local authorities managed to collect only approximately 40% of the daily production of solid waste in the metropolitan area.





Typical view of the streets of Port au Prince

To facilitate the collection process and consolidate the temporary storage of trash along the streets, one of the first activities undertaken by the SWM program was a “poubel fatra” program. Large PVC cisterns were converted into solid waste collection bins and placed in strategic locations throughout the metropolitan area with instructions written on them in Creole. This system had some operational problems (such as cracking of the containers), and were seen by some to be an additional eye-sore, but it was effective in concentrating waste disposal in and around the containers, instead of having it dumped randomly along streets and drainage courses. By providing a series of collection points throughout the region **the container system facilitated the collection process significantly.**



Garbage Container

### 2.3. Non-functioning regional solid waste disposal facility

In the period following the change in the Haitian government in 2004, and leading up to the start of the SWM program, the sole regional solid waste disposal facility, Truitier, was effectively closed. The absence of any controlled disposal site for solid waste in a region of 2.8 million inhabitants, posed a significant public health risk, and greatly exacerbated the build-up in the piles of rotting garbage that lined the streets in the fall of 2004. There was also a significant increase in uncontrolled dumping and burning of all types of solid waste in ravines and drainage canals, vacant lots and other convenient locations.



Drainage Canal – Downtown

One of the first activities of CHF's SWM program was to work with the regional solid waste authority (SMCRS) to staff the Truitier site and repair the heavy equipment present (bulldozer and loader), in order to provide a minimal level of operational capacity. This was a required precursor to beginning large scale collection and disposal activities at the heart of the SWM program.



Trutier Main Office Before



Trutier Main Office After



### 3. Program Achievements

#### 3.1. Targeted versus Actual Achievements

Output Description	Forecast in Award	Achieved by Program End
Employment generation	195,000 person days	267,514 person days
Solid waste collection	275,000 cubic meters	249,184 cubic meters
Rehabilitation of landfill access	Rehabilitation of access road leading to Truitier landfill	Partial completion
Enhancement of capacity of SMCRS		Support to SMCRS provided
Completion of 3 studies	Landfill closure study, recycling study, economic sustainability study	Partial completion: landfill study complete, intention to reprogram funds and activities intended to support other two studies negated by lack of no-cost program extension

#### 3.2. Beneficiaries of Program

The program operated in all of the municipalities of the metropolitan area and had significant success cleaning up major transportation arterials and public spaces. This brought about a noticeable improvement to the quality of life of all of the approximately 2.5 million inhabitants of the region. Direct beneficiaries included an average of 1,144 workers and their dependents (conservatively estimated to be 5,720 individuals at 5 dependents per household). With new employees hired every 60 days, the program directly touched approximately 10,289 households. Since the salaries were paid to largely subsistence level people, the money generated by the program circulated through the local economy further enhancing the indirect economic benefit to the community.

#### 3.3. Total Matching Contribution

Source of the cost share	Amount	Absolute %	Relative %
Private Sector	\$6,690	0,22%	0,27%*

\* The relative percentage is base on the amount executed.

### 4. Program Implementation

#### 4.1. Program Methodology

The SWM management program was based on a methodology utilized previously to great effect by CHF International in a similar program in Port au Prince in the 1990s, modified to meet the current local circumstances. The program maximized local community participation to create the work teams that collected the solid waste, relied on private sector contractors to transport the collected solid waste, and partnered with government authorities at the landfill for the disposal of the waste.

### **Building on CHF's past solid waste and job creation experience in Haiti**

The SWM program of 2004-2005 replicated the successful methodology employed by CHF in Port-au-Prince in the mid-1990s. During this period, CHF International was one of the principal solid waste management and job creation actors in Haiti. From 1993 to 1995, CHF helped collect over 342,000 cubic meters of solid waste and provided employment to 3,274 Haitian workers with funding from USAID. CHF closed the temporary La Saline landfill, built and opened the Truitier landfill and increased the private sector's involvement in the solid waste collection process. In the neighborhoods of Solino and Carrefour, CHF organized community groups on pre-collection activities while educating the community about the hazards of disposing waste near their homes. From 1995 to 2000, CHF also worked on very large infrastructure rehabilitation and clean up activities in Port-au-Prince and in most major Haitian cities, with funding from the Inter-American Development Bank, the Fonds d'Assistance Economique et Sociale (FAES) and the Unité Centrale de Gestion (UCG).

Under SWM, the basic collection/transportation/disposal methodology was to pair one collection vehicle, usually a 5 ton dump truck or similar non-specialized construction hauling vehicle, with a team of approximately 20 waste collection workers and one supervisor. Each of these teams worked in a predetermined area to collect the trash around a series of waste collection sites (the "poubel fatra" mentioned above) and loaded it into the trucks. For quality control purposes, after collection, but before transportation, CHF engineering staff measured the amount of trash collected in each vehicle. This amount was then compared that to the amount delivered by the truck to the landfill facility. Waste haulers were only paid for waste delivered to the landfill facility. At the peak of the program CHF had dozens of such teams spread throughout the metropolitan area each day.

CHF also cooperated with local authorities to undertake specific targeted cleanup activities around market places, and along a stretch of the national highway where considerable illegal dumping occurred.

## **4.2. Management & Staffing**

Position	Name of employee	Period of assignment
<b>SWM Program Management</b>		
Program Director	Alix Lamarre	10 months
Chief Technical Director	Lionel Enriquez	5 months
<b>Community Participation</b>		
Senior Social Promoter	Emanuel Azemar	9 months
<b>Engineering</b>		
Senior Engineer	Moguerre Guercin	10 months
<b>Administrative Staff</b>		
Finance Director	Ralph Theano (07/05-11/05)	9 months (4 months in administrative leave)
	Alberto Wilde (02/05-04/05)	3 months
Cost Sharing Administrator & Accountant	Gerald Deslouches	5 months
	Paulin Bonhomme	6 months
Office Administrator	Michaele Berrouet	6 months

### **4.3. Monitoring and Reporting**

#### **4.3.1. Financial Management**

CHF recognizes that, while programmatic execution was successful, there were difficulties in financial management from the very start of the program, which led to an external audit by PAGS. Audit results identified two weaknesses: the bidding process and insufficient application of internal policies. These difficulties were resolved in coordination with USAID.

CHF takes proper bidding processes and strict application of internal policies very seriously. Swift actions are taken by headquarter management when staff members do not follow CHF's rules and regulations. As such, CHF's upper management at headquarters staff took firm measures as soon as headquarter program officers were informed of anomalies and our internal auditor, Mark Miller, was sent to Haiti for an analysis. The Finance department was instructed to make solving CHF's Haiti financial management problem its absolute priority. CHF took the following three actions:

(1) Analyzed the situation to fully understand how the financial management problem had started in the first place. One realization was that our focus on a rapid program operation start-up led to insufficient emphasis on the establishment of internal controls and financial procedures, contrary to our standard worldwide.

(2) Replaced personnel responsible for financial mismanagement.

(3) Transferred our Finance Director from Bolivia, Alberto Wilde, to Haiti, to put the "house back in order" and institute adequate internal controls, record keeping and financial operations. One of his responsibilities has been to document all transactions funded by USAID under SWM.

#### **4.3.2. Reporting on Status of Project Implementation**

**Monthly Status reports:** On a monthly basis, CHF generated status reports that documented the status of work for all projects under implementation for the period. In addition, Alix Lamarre was in regular communication with USAID staff relating to program implementation progress.

**Quarterly reports:** Three narrative quarterly reports and three financial quarterly reports were submitted to USAID describing project implementation status, issues, results, beneficiaries, employment and community contributions in detail.

### **4.4. Implementation Partners**

The program was implemented in concert with partners spanning a broad cross section Haitian society. CHF worked closely with local community groups who provided access to the thousands of laborers who collected the solid waste. In certain instances a close relationship with key community leaders allowed the program to work in some of the more notorious neighborhoods of the metropolitan area (including Cité Soleil) which would normally be off-limits to government or international NGO activity.

Active collaboration was also achieved with the public sector. A working relationship was developed with all 8 of the municipal governments in the metropolitan area in terms of coordinating efforts and collection points throughout the region. Collaboration was achieved with

the SMCRS, the regional waste hauling authority that also operates the Truitier disposal facility. This collaboration included the assigning collection resources to different parts of town in a coordinated fashion, the provision by CHF of material assistance to the SMCRS for the maintenance of their vehicle fleet, and cooperation on a number of specific cleanup activities. A working relationship was also established with the Ministry of Public Works (TPTC), in terms of setting parameters for the collection of waste and the rehabilitation of the Truitier facility. The private sector played a key role in the implementation of the SWM program. Private contractors undertook all of the transportation of collected waste from across the metropolitan area.

#### **4.5. Community Participation Methodology**

One of the great successes of the SWM program was the productive working relationship CHF International established with local communities in the hiring of employees and coordination of collection activities, even in some of the roughest and most dangerous areas in Port au Prince. Because of this close cooperation, the SWM program was active in areas that local authorities were reluctant to tread. CHF had a small cadre of social promoters who coordinated the activities of the program with local neighborhood organizations and key local leaders. The recruiting of temporary employees to collect the solid waste focused on hiring local people to collect solid waste in their own neighborhoods, and having them directly supervised by recognized community leaders, who were also recruited where possible. These leaders, in turn, were supervised by CHF staff.

#### **4.6. Coordination with Municipalities**

The SWM program operated in cooperation with each of the 8 municipal governments in the metropolitan area. Cooperation was important in order to place the large trash collection containers "poubel fatra" at strategic locations throughout the region, to facilitate the recruiting of staff, and to coordinate collection activities, establish collection routes and determine collection priorities (keeping in mind that even at its peak, the program was only able to collect a portion of the waste produced each day in the region).

#### **4.7. Difficulties Encountered**

##### **4.7.1. Security**

The program took place during a period of significant political and social instability in the Port au Prince metropolitan area and in the country as a whole. Safety and security was a constant problem throughout the course of the program, for CHF Haiti staff, participating waste hauling contractors and local workers participating in the clean up effort. This insecurity led to numerous delays and unproductive work days. Contractors were forced to temporarily suspend operations on numerous occasions due to road closures, political protests and widespread criminality, particularly intense in the central areas of the Port au Prince and in the area surrounding the landfill. Access to the landfill site at Truitier was sporadic throughout the program, restricting progress on road repair, landfill operations support and disposal activities.

Examples of the type of problems encountered include the kidnapping of the president of one of the major contractors at the height of the bid process for waste collection contracts, shots fired at waste hauling trucks along the approach road to the landfill, the 'ransoming' of waste hauling trucks appropriated by armed groups, the torching of three trucks belonging to waste hauling contractors by bandits near the landfill, as well as closures of entire sections of town due to violence and unrest too numerous to detail.

##### **4.7.2. Cooperation with Local Authorities**

While the overall environment of cooperation with public authorities including the Ministry of Public Works (TPTC) and the metropolitan waste hauling authority (SMCRS) was productive and

positive, the operational capacity of these organizations is limited and inconsistent, and differences in opinion over the type and amount of assistance provided to local authorities by the program were encountered.

#### **4.7.3. Payroll for Job Creation**

The original program design called for the private sector contractors to manage and implement the hiring and payroll for the local community members employed to do the collection of the waste in the streets and markets of the metropolitan area. However, it became clear early on that the contractors were not prepared or equipped to manage this scale of cash-for-work employment. As a result, CHF Haiti needed to reconfigure the employment creation portion of the program and directly manage the payroll for anywhere from 500 - 1,500 workers participating in the program at any one time. The responsibility for a substantial weekly payroll added considerably to the administrative burden of the program for CHF staff, without any additional Overhead funds to cover to the work. In addition, the need for CHF employees to distribute substantial weekly cash payments to workers all around the metropolitan area increased substantially security concerns and precautions.

#### **4.7.4. Bidding Solid Waste Hauling Contracts**

The bidding process for the major waste hauling contracts (a significant component of the overall program) was greatly hampered by the significant unrest occurring during this time in the metropolitan area. Simply getting all the bidders and selection committee members to attend a bidders' conference and selection meeting was not possible given the dangers of traveling through the metropolitan area in the evening. During the selection process, the invited members of USAID were unable to attend to the selection meeting due to travel restrictions. Following the bidders conference, one of the major contractors was kidnapped and held for a number of days.

#### **4.7.5. Rehabilitation of Truitier Circulation Roads**

One of the major deliverables of the SWM project was to undertake a significant physical rehabilitation of the access and circulation roads of the Truitier facility, above the minimal reopening activities referred to in section 2 above. A public bidding process was undertaken to find a private contractor able to undertake the work but, upon review, none of the bids received conformed to the available budget for the project - even after further review and refinement of the deliverables. In response, CHF negotiated with the SMCRS to undertake the work. A number of delays were encountered, ranging from regular work stoppages for security reasons to the lack of operational capacity of local authorities. By the end of the original program term, only approximately half of the work had been completed.

#### **4.7.6. CHF Internal Controls**

CHF International's Haiti office experienced problems in implementing its globally standard practices and policies related to internal financial controls. Difficult operational circumstances on the ground, volatility in the staffing of the Finance Officer position, and a management team focused too intently on expedience in implementation over policy and procedure were all contributing factors to a situation wherein the internal financial controls in place did not reflect the high standards demanded by CHF International or USAID. Subsequent investigation by both CHF International and USAID has clearly indicated that there was no substantive misuse or abuse of funds but that certain policies and procedures were not adequately implemented throughout the course of the program. CHF took all the necessary corrective measures to prevent this from happening in the future.



## 5. Lessons Learned

### 5.1. Recommendations for program replication

The Emergency Solid Waste Collection, Landfill Rehabilitation and Jobs Creation (SWM) Program was very successful in that it created a substantial amount of employment for a needy sector of the population, and distributed the benefits of this employment widely. In doing so it also contributed to safeguarding public health by significantly reducing the amount of solid waste collecting in the streets of the capital city, and increasing the capacity of local authorities to operate the regional landfill at Truitier. It was, as its name suggests, intended to be an emergency program and did not - with the hopeful exception of the reopening of the landfill - fundamentally alter the extremely serious shortcomings of the solid waste management system in Port au Prince. The program did illustrate that a labor intensive model relying on a combination of community participation, a substantial role for the private sector, and public sector coordination and operation of the landfill is significantly more cost effective and operationally efficient than the current system in place.

We are aware and acknowledge that, while opening the applications during the bidding process, we had to postpone the process because USAID representatives were absent.

Private Sector Contribution – Although the Haitian private sector has been greatly affected by the current crisis, private firms demonstrated strong interest and willingness to provide donations in an effort to counteract the crisis.

Haitian citizens have also demonstrated strong enthusiasm for the SWM program, in spite of high levels of insecurity they have had to face on a daily basis in areas such as Cité Soleil, Belair, Carrefour, Cité Militaire and even Truitier. Clearly, beneficiaries were well aware of the program's income generation impact for families in their communities.

By injecting capital into local firms, CHF also generated indirect employment. Unfortunately these numbers are not reflected in this report. Many of the firms that participated and contributed to waste collection were construction firms. The income they earned from their participation was particularly appreciated in such difficult times.

Although the waste collection containers (water tanks converted into garbage cans) were not particularly esthetic or practical, they did enable CHF and its partners to centralize waste and to affect behavior positively: citizens began taking garbage to the garbage cans, rather than disposing of waste in the streets as they had done before the program began. This greatly facilitated waste collection.

One contributing factor to the program's success was involving local authorities such as TPTC, SMCRS, FHE, eight municipalities from Port au Prince and local associations.

Finally, CHF's activities with the media had a great impact on the population's behavior. Television and radio spots sensitized Port au Prince inhabitants about the negative impacts of improper waste collection and disposal on health and on the environment.

We feel confident that the programmatic results achieved by the SWM team and its partners are commendable, and that the methodology selected was effective. Under normal socio-political circumstances, we think our achievements would have been even greater.