



Hope for Haiti Foundation: Motorcycle Transportation

Problem Statement:

Haiti's rural areas are in great need of medical assistance. Due to their remote location, rough, mountainous terrain and lack of infrastructure such as roads or bridges, lack of transportation is one of the greatest barriers to accessing medical care in Haiti's rural communities. A 2008 study conducted by Hope for Haiti Foundation found that transportation was an equal if not greater barrier to accessing medical care than finances or lack of medical facilities.

This is the case in Bainet, Haiti. The nearest hospital is located 35 miles away in the middle of the state, along the coast, making it highly inaccessible to those living in the mountains. There are no roads or public transportation for people traveling from the eastern or western part of the state. While the government supports an ambulance service from the city of Bainet (still 10 miles away for some), the cost is \$100, while the average Haitian earns only \$50 per month. Data from 2004 indicates a crude mortality rate of 8.4 per 1,000 population in Bainet, and 2.8% of children under five in Bainet are acutely malnourished (PAHO/WHO, 2004). There are only 0.3 physicians per 10,000 population in the Sud-Est Department, and according to a recent PAHO report, there is 1 hospital (Jacmel), 8 health centers, and 28 dispensaries in the region, figures that are among the lowest in the country (PAHO, 2007).

While HFHF is currently addressing this need by providing low-cost primary care clinics, supporting community health workers, and training of medical professionals, transportation remains a huge barrier. Of the 5,000 – 8,000 people that visit HFHF's clinic each year, some are traveling up to 10 miles on foot, fighting off malaria, labor pains, or suffering from a bleeding wound. On top of their discomfort, they must also sacrifice a day or two of work, which means lost wages, which are needed to purchase food for their families.

Those in need of emergency care are worse off still. A woman who is having difficulty in childbirth has no immediate access to a doctor. Instead, men from the community are gathered to create a stretcher and carry the woman by hand, sometimes up to 30 miles to a medical facility. By this time, few have survived the journey. Most choose to stay at home, preferring to die in the comfort of their bed surrounded by family than on such a grueling journey. Several studies have shown that distance is a significant factor in a woman's ability to receive emergency care. One specific study in Guinea-Bissau found that a distance of greater than 5 km was one of the strongest predictors of maternal death.

Project Objective:

To provide access to life-saving medical care and education to rural communities in Bainet by removing the transportation barrier. The project goals are two-fold:

1. Over the next two years, to procure 10 motorcycles to be used for transportation for nurses, community health workers, and schoolteachers throughout Bainet.
2. Over the next 3 - 5 years, to procure 9 motorcycle ambulances to provide the 100,000 people in Bainet access to emergency medical care which is currently out of reach.

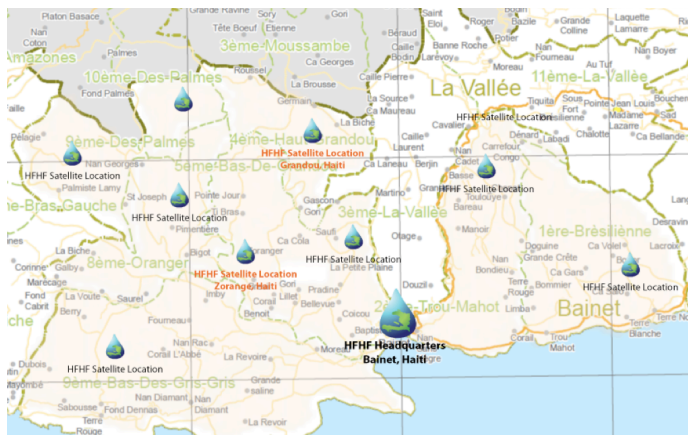


Population Served:

Over 100,000 men, women, and children in the nine communities of Bainet, Haiti

	Total	Urban	Rural	People/Area (Km ²)
1982	73056	2033	71023	253
1998	78537	2857	75680	272
2000	79133	2971	76162	274
2004	80529	3217	77132	279

	District Name	Total Population	Male	Female
Bainet	City of Bainet		1362	1552
District 1	La Bresilienne	10256	4885	5375
District 2	Troup Bahot	7325	3537	3788
District 3	NO DATA	NO DATA	NO DATA	NO DATA
District 4	Haut Grandou	10283	5036	5274
District 5	Bas de Grandou	11555	5611	5944
District 6	Bras de la Croix	4465	2171	2294
District 7	Bras de Gauche	6044	2908	3136
District 8	Orangers (Zorangé)	9108	4527	4581
District 9	Bas de Gris Gris	16903	7959	8944



Project Scope & Timeline:

1. Motorcycle procurement:

- 2012 – Procure 5 motorcycles and 2 motorcycle ambulances. Send at least 3 motorcycles to Haiti by the end of 2012.
- 2013 – Procure 5 additional motorcycles and 2 motorcycle ambulances.
- 2014 - 2015 – Procure 5 additional motorcycle ambulances

2. Motorcycle training on safety & maintenance

- 2012 – Take 1 – 3 trips to Haiti to train 5 – 10 Haitian staff members on bike assembly and bike maintenance; train 5 – 10 Haitians as drivers
- 2012 – 2013 – Create online video tutorials, translated into Creole, that provide additional instruction on bike assembly, maintenance, and safety



3. Empowerment of community through training & access to care
 - 2013 – Utilize and “train the trainer” approach where the 5 – 10 Haitians trained in part II become the trainers and instructors for the community as a whole
 - 2013 – Assemble community leaders, Haitian staff members, and government officials to map out a plan for fair and effective use of motorbike ambulances, including an Emergency Medical Response System (EMRS), definition of emergency cases, instructions for utilizing the system, and community ownership
 - 2013 – Utilize community health workers and community leaders to disseminate information on availability and use of motorbike ambulances
4. Operational support for motorcycle maintenance as needed

Work Plan:

1. Motorcycle Procurement

Motorcycles

HFHF will work with its partners to procure bikes that are 1) equipped to handle the terrain for the long term, and 2) cost effective. Initial research indicates that the most cost effective method would be to purchase used or deeply discounted bikes in the U.S. and bring them to Haiti on person by disassembling the bikes. Motorcycles in Haiti can run twice as expensive or more, and the discounts available to us in the U.S. would not apply.

The following models are being considered: Honda CRF 230, Yamaha TTR 250, or LIFAN LF150HY – 5 (Haiti)

Once the bikes have been procured, they would be disassembled and packed into suitcases and sent with travelers via airplane. An initial assessment shows that one motorcycle can be disassembled into 8 bags, with each bag weighing less than 50 lbs. 4 travelers checking 2 bags each can bring 1 motorcycle. It is unclear what amount of customs fees may apply to each motorcycle at this time. Based on HFHF’s current schedule of trips, it is reasonable to assume that at least 3 motorcycles could be carried to Haiti in one year’s time at a minimum.

The 10 motorcycles would be distributed as follows:

- 1 – travel between HFHF clinic in Zorange and Gandou, or to the Bainet clinic
- 1 – travel for nurse who lives 5+ miles from the Zorange clinic
- 3 – travel for 3 community health workers with the largest catchment area
- 2 – travel for 2 school teachers, one living 30+ miles from the school, one traveling to Bereca school
- 3 – to be shared amongst HFHF’s 60+ staff working at the school, clinic, and church as needed

Motorcycle ambulances:

HFHF is not currently aware of any organization or company producing motorcycle ambulances in Haiti. Options include designing something in the U.S. and deconstructing it to send to Haiti as with the motorcycles themselves, or procuring parts to construct something in Haiti. Design options are plentiful, and again ideal design will be sustainable for long-term use while remaining cost-effective.

The motorbike ambulances would be distributed as follows:

- 1 – Zorange clinic
- 1 – Gandou clinic



- 7 – one in each of the 7 additional sections of Bainet at a central location determined by community leaders and CHWs for the area (a clinic, church, or school)

2. Motorcycle Training

Once motorcycles have been procured, HFHF will conduct a trip to train team Haiti on how to 1) assemble the motorcycles 2) maintain the motorcycles 3) ride the motorcycles. As part of the training, a video will be created and translated into Creole for use at future trainings. Additional trips will be conducted as needed. Training will be conducted on both the motorcycles and motorcycle ambulances.

3. Empowerment of community through training and access to care

In order to align with HFHF's mission of helping Haitians help themselves, a "train the trainer" approach will be used in which those trained during the initial trips will become the future trainers of the community. One leader from the group will be identified to be in charge of the motorcycle fleet, overseeing the maintenance and use of the vehicles.

With regards to motorcycle ambulances, meeting will be held with community leaders from each of the 9 communities. Along with HFHF's staff, these leaders will decide on a plan to fairly and effectively use the motorcycle ambulances for emergencies within the community. In these meetings, the communities will be responsible for deciding a central location for the motorcycle ambulance, a driver for the ambulance, and a system and rules for its use (when someone has an emergency, how do they contact the driver? What constitutes an emergency?). In addition, the government health workers should be consulted in an effort to collaborate with the government's efforts in the area. The Emergency Medical Response System (EMRS) will then be communicated to the community at large through HFHF's community health workers.

The medical team in Haiti will also create a priority list for which communities will receive the ambulances first, based on need, distance, remoteness, etc.

4. Operational support for the project

Operational support will be provided for vehicle parts that need to be replaced, and for salaries of Haitian drivers, and a mechanic.

Project Impact:

By providing motorcycle transportation and motorcycle ambulances in Bainet, lives will be saved, and communities changed. Over 100,000 people will be impacted through this project. Hundreds of pregnant women who have complications in labor can deliver safe and healthy babies at medical facilities. Patients suffering from malaria, cholera, diarrheal disease, and malnutrition can receive the timely care that they need to survive. A potentially lost limb can be saved. Our community health workers and nurses will be able to provide care to more patients because those people are no longer out of reach. Our schoolteachers can provide education to hundreds more school children, equipping them with the tools that they need to create a better future for Haiti.



Project Budget:

One Time	Quantity	Amount	Total	Description
Motorcycles	10	\$2,500.00	\$25,000.00	estimate
Motorcycle Ambulances	9	\$4,000.00	\$36,000.00	estimate
Customs Fees	19	\$100.00	\$1,900.00	estimate
Training Trips	3	\$1,300.00	\$3,900.00	per person
Video Trainings	1	\$300.00	\$300.00	
Community Training Meetings	2	\$150.00	\$300.00	for food
		One-time total:	\$67,400.00	over 3 - 5 years
Operational/Ongoing				
Driver	5	\$1,500.00	\$7,500.00	\$150 per month
Mechanic	1	\$2,400.00	\$2,400.00	\$200 per month
Maintenance & parts	1	\$3,000.00	\$3,000.00	per year
Fuel	19	\$600.00	\$11,400.00	19 bikes, \$50 per month
		Annual total:	\$24,300.00	
Operational Cost per Bike				
Maintenance & parts	1	\$160.00	\$160.00	per year
Fuel	1	\$600.00	\$600.00	\$50 per month
		Annual total:	\$760.00	

Notes: Fuel is calculated at 11 mpg; \$7.00 per gallon

Potential Partners:

Biker Church of TN
 Perry Prichard
 Riders for Health

Additional Information:

Video of terrain: <http://vimeo.com/29671742>
 Current motorcycle available in Haiti: LIFAN LF150HY-5

