

Project: Espwa Orphanage

Operation Plan Report



10 December 2010

Abstract

Even with a myriad of Government and NGO aid groups working to help post quake Haiti, the damage and suffering persists. Pwoje Espwa or Project Hope is a local orphanage in Haiti, which has been operating since 1998; providing shelter, food, education and vocational training for orphaned children in the Southern Region of Haiti.

This operation plan is a recommendation from DFTW to MODDHA (both US based NGO's) and Pwoje Espwa to proceed with a long term development plan for expanding Espwa's services through the first phase of development in a sustainable community, and immediately accommodate more children at a time of overwhelming need.

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Table of Contents

Executive Summary.....	3
Current State of Affairs - Haiti.....	4
Planned Reconstructive Aid from the International Community.....	5
Village Espwa.....	6
Background.....	6
Espwa Today.....	7
MODDHA.....	8
Partner with Espwa.....	8
Partner with DFTW.....	9
Domes for the World.....	10
Statement of Participation.....	10
SWOT Analysis for Project Development.....	11
Strengths.....	11
Weaknesses.....	12
Opportunities.....	12
Threats.....	12
Basic Technology.....	13
EcoShells.....	13
Workforce.....	14
Materials.....	15
Equipment.....	15
Funding.....	16
Conclusion.....	16
Project Concept.....	17
Location Maps.....	18
Project Schematics.....	20
MEMORANDUM OF UNDERSTANDING	22

Executive Summary

Following the devastating earthquake of January 12, 2010, Haiti's infrastructure has continued to crumble. Deaths in the hundreds of thousands, wounded numbering about the same, and over 3,000,000 people affected in total. In truth, the collapse of an already unstable government really affected the whole country. Even with billions of dollars in recovery money pledged, Haiti is making little progress. The poorest country in the western hemisphere before the quake has now become likely the most devastated of the world.

Project Hope (or Pwoje Espwa in Creole) is an orphanage that started in 1998 to serve the suffering orphans and poor children of Haiti. It has since grown and become the largest in the country; providing shelter, education, and food to thousands of children. Under natural pressure of humanity, the organization wishes to expand and serve more.

MODDHA International Foundation has partnered with Espwa to offer an avenue of doubling current physical facilities with the design and construction of Monolithic EcoShells. DFTW has agreed to support the project as it is funded; providing equipment, materials, technical designs, and training. Yet, the global financial crisis has stifled MODDHA's funding sources for the time.

DFTW proposes to raise and allocate funds to the project, enough to construct the first phase (11 structures) for the project and provide some much needed room to accommodate more of the destitute population of orphaned and struggling children. Through an initial contribution of \$60,000 for material expenses and local labor, it is suggested that all three organizations plan for construction operations to begin in early 2011. DFTW will lead the project delivery, MODDHA will assist in coordination, and Espwa will offer the opportunity to make an actual immediate impact for good.

This report provides background on the current state of affairs, the organizations involved, technology to be employed, and other germane elements of the project.



Current State of Affairs – Haiti



The aftermath of the earthquake has affected the entire country. Apart from the 230,000¹ estimated deaths, and 300,000 wounded, the Capital city was devastated which disrupted critical infrastructure and leadership. Governance of the country prior to the earthquake was largely inefficient, mainly due to corruption, which when compounded by the disaster lead to greater chaos.

Power, fresh water, and waste stream management are the most apparent disruptions. While these services are operating, they are well below the countries needs. Food and other consumable goods are being shipped in from the land border of the Dominican Republic at a seemingly inordinate premium to the Haitian people. Many areas do have some clean fresh water, and the UN continues to distribute purified water. Other NGO's are assisting as well.



The temporary shelters donated and erected are in clusters of a few dozens to tens of thousands. Hundreds of these “tent cities” still exist, and while they do keep some level of the elements off their occupants, they also create extremely hot spaces during the daylight hours which is a particular problem for infants and small children. It is estimated that over one million people are still living in a state of emergency.²

In the outlying areas life hasn't changed that much. Living in the poorest country of the Western Hemisphere – they had little to begin with and the earthquake has done little to change that. Subsistence farming and rudimentary micro retailing fill the day's activities.



The UN is present in large numbers, but their efforts are little more than peace keeping. The small NGOs (non-governmental organizations) are the agencies that are really making a difference. Each working with autonomy and addressing needs where they are found based on that NGO's specialties.

So while the earthquake was disastrous to the country, the people are simply living their lives amid the rubble and failing infrastructure. Small NGO's are helping out while the rest of

1 USAID, March 2010, <http://www.usaid.gov/helphaiti/documents/03.02.10-USAID-DCHAHaitiEarthquakeFact%20Sheet41.pdf>

2 *Report: Haiti recovery 'paralysed'* - Americas - Al Jazeera English, 08 October, 2010

the larger international community is hopefully assisting the government get back on their feet – and preparing to help the countries infrastructure be better than it was before the earthquake. As of July, 98% of the rubble remained.³

Planned Reconstructive Aid from the International Community



As mentioned the small NGO's are on the ground and working in-spite of many challenges and the lack of significant local government support. This is expected to continue much as it has even prior to the earthquake. The Government sponsored Interim Haiti Reconstruction Commission (IHRC) continues to review project proposals to ensure initiatives are in alignment with national goals, but only 25% of the raised funds have been allocated. Programs are intended to focus on the following areas⁴:

- Infrastructure
- Productive Sector
- Cross-cutting Sector
- Governance
- Regional Development
- Environment – disaster risk management
- Social Sectors (over 50%)



Yet, to the people of Haiti, immediate needs are still paramount. It will easily be 20 years to help heal Haiti from this damage, with the hope that the results will be stronger than they otherwise would have been had the earthquake never occurred. For a country whose people live on less than \$2 a day, it is a long climb out of poverty.

3 Katz, Jonathan (12 July 2010). "[Fights over land stall Haiti quake recovery](#)". Burlington, Vermont: Burlington Free Press. pp. 4A.

4 IRHC, Post Disaster Needs Assessment Report, <http://www.cirh.ht/sites/ihrc/en/haiti%20recovery%20plan/Pages/default.aspx>

Village Espwa

Background

Village Espwa began in 1998 after Father Marc Boisvert sold his possessions and moved to Haiti. Here is a part of his story.



“I started a soup kitchen, a small shelter, and a school. In October we transformed an abandoned building into a home for 15 kids. It was those first kids who coined the name Pwoje Espwa, Creole for Project Hope. That place filled up quickly with homeless children and we began to search for a larger home.

The local bishop offered us the abandoned former seminary, a rat-infested structure with a caved-in roof called LaMadonne. The chapel was solid and we moved in. There we grew to about 60 children and a staff of five. In the spring we received help putting a sturdy roof on the building, and then a second floor. We had decent housing for the first time. Children kept coming and soon LaMadonne was out of space. Meanwhile, back in the states, the non-profit organization Theo's Work, Inc. was busy with various local fundraising activities to help fund our progress in Haiti. My brother-in-law, Jack H. Reynolds, was at the helm. He was working with various local organizations such as The Rotary Club and the Knights of Columbus to raise money. Back in Haiti, the boys were attending various local schools. This was not necessarily a good thing because of the harsh corporal punishment practiced by teachers. One day a boy returned to the orphanage after school with a blood soaked shirt. He had been whipped with a cowhide switch for not paying attention. It was then that the staff and I decided to open our own school. We could provide a safer environment, a better education and do it for much less money than the schools charged. In September of 2000 we opened the doors to Ekol Espwa. In due time we had two schools, an orphanage and a soup kitchen. There were 125 boys in our care and another 250 children in our schools.



Our dream was to have some place out of the city where the air is fresh and the colors vibrant. That dream came to reality in 2002 when certain benefactors made it possible to purchase 125 acres of fertile land, about 20 minutes from the city of Les Cayes. We immediately began shaping and developing what would become Villaj Espwa.

Over the past 9 years we have made significant progress. At Hope Village we have planted a farm, built dormitories and schools and begun vocational training to teach the children viable trades to secure their future. We have over 750 children living at Hope Village and over a thousand more coming to our schools each day from poor neighboring communities.⁵

Espwa Today

Today Espwa is sponsored by FreeTheKids.org, a 501(c)(3) from NJ, in support of their mission to help Haiti's children fight poverty. "The children are the solution. They are pitching in to help built their own dormitories and schools. They are learning trades such as masonry, carpentry, farming, and agriculture. They are becoming self-sufficient so that as adults, they will be able to care for themselves. And one day, they will be able to care for their own children. Something their own parents were unable to do for them."



5 <http://www.freethekids.org/about-us/> - Who We Are and What We Do., December 2010



Services

- Shelter and Care for over 700 Children
- Academic and vocational training for 2500 children
- 3,500 meals prepared and served daily

Located on the southern shores of Haiti, the village of Les Cayes is estimated to have a population of 55,000 – 70,000. Since the earthquake however, hundreds of thousands have moved away from the devastation at Haiti's urban center, and moved to rural areas like Les Cayes. This increase has put extreme pressure on Espwa's facilities and they desperately need to expand in order to serve more children.

MODDHA

MODDHA International Foundation is a global humanitarian effort delivering God-centered sustainable communities to meet the needs of the parentless children and widows of our planet (regardless of their religion, race, or ethnicity). These mixed-generation sustainable communities are called "MODDHA Villages."

Partner with Espwa

After identifying Espwa as a prime partner, during the month of December 2009, MODDHA met with to discuss strategies "To bring permanent and lasting change to the people of Haiti." An area near the port of Les Cayes in the western end of the country was identified. By the New Year, it was decided that the first full MODDHA Village would be built in Haiti near Les Cayes with Espwa.

The sudden and monumental tragedy of January 12, 2010 became cause to consider moving our efforts directly to Port Au Prince. After careful consideration MODDHA decided to remain in the Les Cayes area as originally planned. MODDHA's commitment to Haiti is long term. The new village in Les Cayes will not only be a "permanent and lasting" community, but will serve as a model and educational center instrumental in teaching Haitian workers how to build domes and necessary infrastructure that they will be able to replicate many times over in and around the country's capital city for years to come. In the Les Cayes area, sustainable farming techniques can be taught and utilized immediately as well.⁶

Partner with DFTW

In 2009, MODDHA and DFTW (Domes for the World) began discussing the opportunities to work together on MODDHA Villages. In the MODDHA village layout, there are several different types of domes in each community. Domes are built in pods of 11 domes. Nine Habitat domes are provided for people's private homes with two communal domes in the center of each pod.



The communal domes in the center of each pod include: a sanitation/washing facility structure where those living in the pod can shower, bathe, use the toilet and clean clothes. A second separate dome for cooking, and dining is also located in the center of the pod. The sanitation system is designed to take waste from the sanitation dome and feed it into a biomass system, ultimately supplying energy to the village through organic waste to energy conversion.

Given the global economic downturn, MODDHA has been delayed in project funding and is still working out financing issues. In the meantime, DFTW undertook its own initiative to raise funds for the first phase of MODDHA's village in an effort to help Espwa with their ability to serve more of Haiti's orphaned children. This document outlines additional elements of the project operation plan for that first phase.

⁶ MODDHA Exec Summary Oct 2010.pdf

Domes for the World

Domes For the World was organized in 2005 as an NGO to use Monolithic domes and EcoShells in communities to serve people world wide. It has participated directly in projects and has been the “backbone” resource in project development and delivery for other NGOs in worldwide projects. DFTW provides design services, local training in construction means and methods, project management, material/equipment sourcing, and general administrative support. DFTW was founded and is supported by industry professionals, and has operated on a non-profit contract basis. Pwoje Espwa is a deviation from its standard modus operandi, as it is raising and allocating funds of its own for this project.



Example: sustainable community in Indonesia, includes 81 dome structures.

Statement of Participation

DFTW wishes to participate in Pwoje Espwa as it fits our core values of Service, Shelter, Safety, Sanitation, and Sustainability. A history of positive international delivery experience exemplifies our ability to assist. Having dealt with somewhat similar conditions in many parts of the world we have garnered a knowledge base of operational methods as well as effective channels of logistical support and project management.



Dave Constant

We propose a two-pronged approach to community involvement. First, the use of local people to learn and do the work. Our methodologies are simple to learn and easy to apply – thus allowing the Haitian people to actually do the work of recovery, which creates job potential and a stronger sense of ownership in the project.

Secondly, we search out local vendors and “spread the business around” when it comes to core material supply. Utilizing local vendors helps the micro economies and ensures greater participation in the recovery process providing a mental and emotional lift to the people. The coordination of material supply and local labor pools is done by a specialized team – but the actual delivery keeps funds in the local economy.

SWOT Analysis for Project Development

The following SWOT analysis is meant to give a basis and review of the MODDHA – Espwa development with DFTW.

Strengths

- Location is relatively close to the US with some established transport and shipping options
- Established transport avenues from the Dominican Republic
- Large available labor pool
- Seemingly low government regulations or barriers for foreign technology
- Local contacts with US military who can transport specialized construction materials for project
- Established project scope that is “shovel ready”
- Ground is owned, with clear title
- Established organization (Espwa) who is currently meeting needs effectively – this project does not create dependency or additional overhead for Espwa
- Potential to expand beyond phase one is available – meaning this project can be used as a springboard for other meaningful construction and facility assistance

Weaknesses

- Volunteer technicians will need to be scheduled within timelines of their employers projects
- Mechanical application of concrete vs. hand application is a difficult decision, there is no clear “best practice” for this situation
- Like other development programs, a fixed schedule will be hard to adhere to, given the multitude of unforeseen issues that could arise during operations

Opportunities

- Undelivered services and unsatisfied needs may make working in Haiti on a long term basis viable. Having a project completed, and the bugs worked out, DFTW should look for additional opportunities to serve once the project is under construction.
- Exporting products (low-tech products or agricultural commodities) may be an option – with proper review of resources that are locally available. This could likely be done effectively only at a small scale.
- Working alongside the right governmental leaders, there could be room for public/private partnerships to introduce additional waste treatment services, alternative power, water supply, infrastructure projects (roads, bridges, docks), etc.

Threats

- The fact that Haiti is on the global radar, and there is a large influx of NGO groups from all over the world, there is a risk of recreating what others have done, or being viewed as “just another NGO.” Care should be taken that results are clear and there is no appearance of negative business dealings.
- Established transport infrastructure (full service ports, local transport) is only basic at this point. Any specialty materials requiring transport will drive project timeline start date as volunteer shipping and and site delivery durations are unknown
- While there is currently little governmental discouragement for outside development, there is also little support for such initiatives, and there is a risk of arbitrary regulation changes that could disrupt any significant development direction, though it is unlikely for phase one



Kerline Olcime

Basic Technology

EcoShells

EcoShells Used In:

- Sudan
- Bolivia
- Kenya
- India
- Maritius
- Haiti
- Mongolia
- Costa Rica
- Mexico
- Sri Lanka
- Indonesia

EcoShells are the proposed solution for Espwa, and are a perfect solution for structures in equatorial and coastal regions generally. The compound curvature of the EcoShell makes it one of the strongest structures available. An EcoShell can be built with few materials and can be completed in as little as four days. The raw material resources needed to build EcoShells are also typically found in any locale.

EcoShells are also virtually disaster proof. A dome's shape and composition provides resistance to high-winds up to category 5 hurricanes. Likewise, the shape provides a stiff building with virtually no moment connections ensuring that seismic events do not damage the structures.

EcoShells are environmentally friendly. They use 50% less concrete and reinforcing materials than traditional homes, making them cost efficient. Their concrete construction is clean – no potential for insect infestation etc. - and they offer the highest durability to long term weathering.





Workforce

All labor will be performed by a local unskilled workforce. In Haiti the labor pool generally has a rudimentary knowledge of concrete which is sufficient. Workers will be trained in the simple steps of the building process on the job and begin work immediately. Basic hand tools and equipment are locally obtainable, and currently used in the fashion that the workforce will easily apply to EcoShell construction.

The production team will be made up of the following individuals:

- 1 - local translator / coordinator
- 30 - local laborers
- 3 - specialized technicians (supplied from U.S.)
- 1 - field engineer may need to be supplied

Management and office staff will spend approximately 140 person/hrs of pre-construction coordination and planning, as well as operations support. There will be 20 hours of professional services performed prior to, and during construction (engineering, legal, etc.).

Post production data processing and reporting will require an additional 80 person/hours following the construction operation.

Materials

Sand, Cement, and Reinforcing steel are the major components of the EcoShell, all of which are locally available. As previously stated, purchasing from a variety of small vendors builds the micro economy of the entire community. Great care will be taken to ensure that as many individuals who can legitimately contribute through their trade are given the chance to do so on the project.

It is estimated that the following quantities of local raw materials will need to be sourced for phase one.

- 1000 – 94# bags of cement
- 193 – Tons of Sand
- 7145 – Gallons of water
- 7 – Tons of Reinforcing Steel
- 131 – Gallons of Interior Paint



Other supplies will be incorporated as needed to finish the project scope. These may include:

- Windows
- Doors
- Block-outs
- Vent covers
- Etc.

It is further anticipated that the following materials may need to be shipped from the U.S. or D.R.

- 164 – Gallons of Exterior Coating

Equipment

Equipment needs to construct the EcoShells for Espwa are simple and few:

- Airforms and inflator (supplied from U.S.)
- Concrete Mixer (obtained locally)
- Simple generator and fuel (obtained locally)
- Basic Scaffold (obtained locally)

Funding

As is typically the case, there is never enough funds to do all that needs to be done. However, thanks to those who have donated, we have received and can allocate approximately \$60,000 to the project. We can continue to raise money and look for more opportunities to help. It is anticipated that MODDHA will be able to secure project financing for the remaining phases of this sustainable community in the first half of 2011, and DFTW will be in place to proceed with the project.

Conclusion

In support of MODDHA's plan for the sustainable community, and Espwa's actions to serve the orphans and impoverished children of Haiti, DFTW offers the assistance as outlined above. Attached is supporting documentation on the project's location, schematic designs, and a recommended MOU for all parties to sign. It is anticipated that work should begin as soon as it is possible to ship necessary specialty items to Haiti.

Prudence also suggests that elements affecting health and life safety of foreigners be monitored. With political unrest and disease as current factors, care should be taken to mitigate these risks by working with Espwa's on site resources for evaluating acceptable timing.

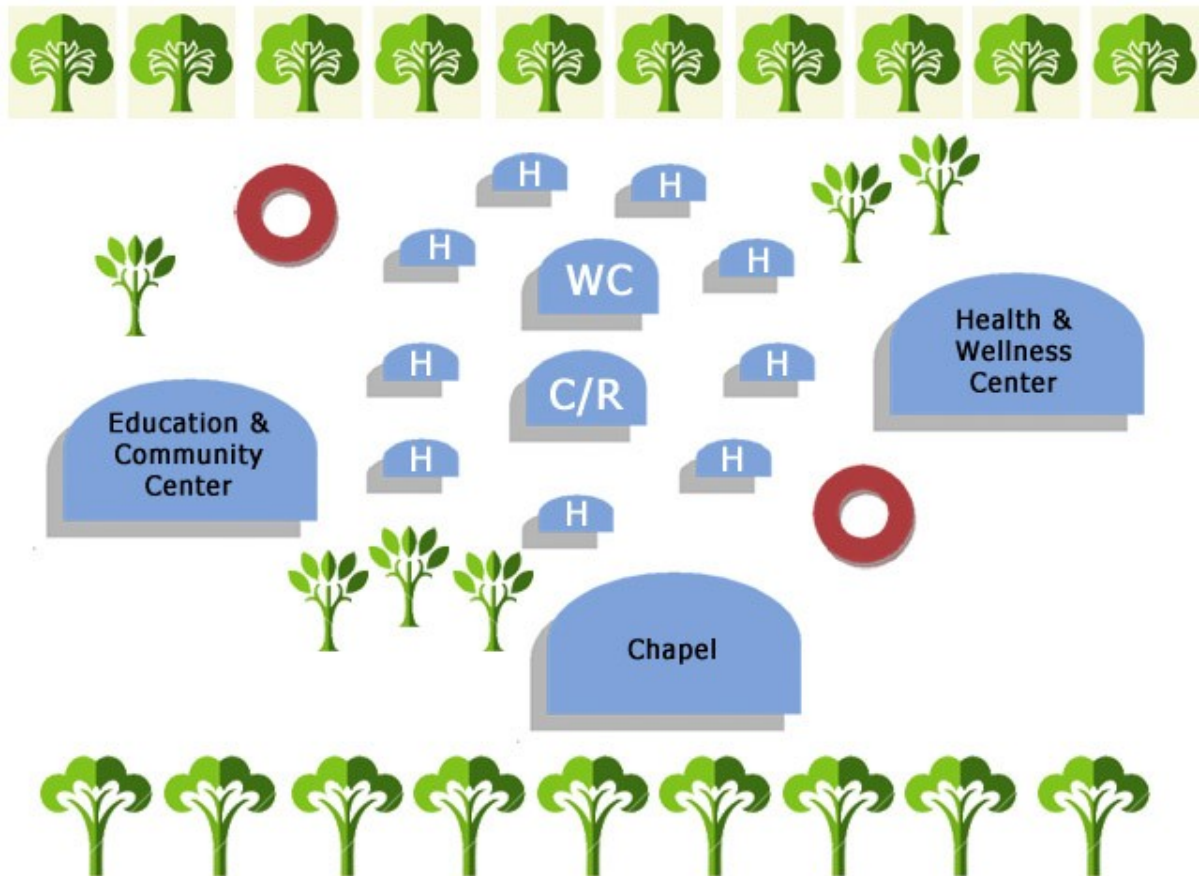


Mikerlange St-Louis



Sam Cherisme

Project Concept



VILLAGE KEY

- | | | | |
|---|--|---|---|
|  | Sanitation Dome for Toilets, Bathing & Washing Clothes |  | Nine Individual Habitat Domes for private Homes |
|  | Dome for Cooking and Refrigeration |  | Joy Pumps (Merry Go Rounds that pump clean water) |

Location Maps

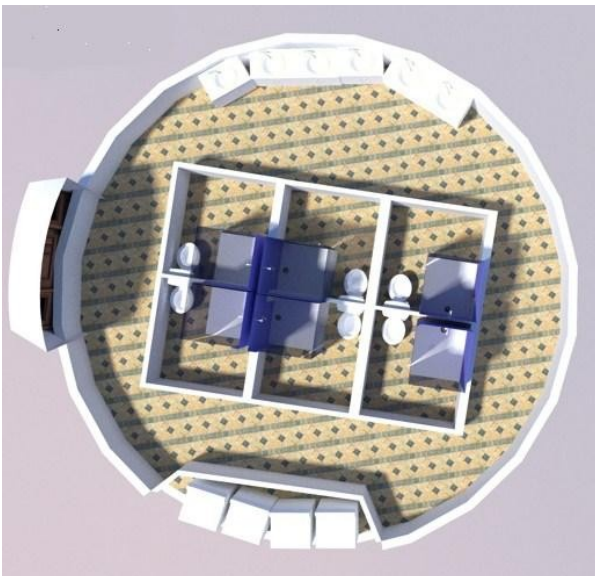




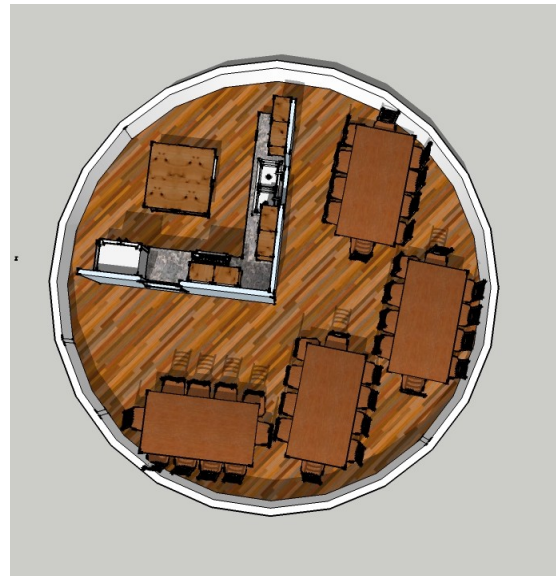
Project Schematics



Schematic of project layout



Schematic of community w/c and wash area



Schematic of dining facility



Schematic of sample residence layout



Exterior 3D perspective of structure