

When I was first asked to help design a low cost house for Haiti Works!, so that survivors of the earthquake could move from tents to permanent homes, I was eager to help. But I explained to Paul Hirsch of P&H construction that until I got to Haiti and saw what was there, how people lived, the terrain, and what resources and skills were prevalent, it would be an academic exercise. So when the opportunity to travel with a fact finding team to Haiti was organized, I knew I wanted to go.

I knew what most Americans knew about Haiti – it shared the island of Hispaniola with the Dominican Republic, immigrants in the USA were hard working; the country was very poor; and it was devastated in the earthquake in January of 2010. I had been to “third-world” countries before, so I had an inkling on what to expect. I also knew that I was taking a first look but for many others Haiti has long been a cause. Many hearts and minds, many individuals and organizations had already been working for years on solving Haiti’s problem. I did not presume that I could change the situation overnight alone.

That is why the Haiti Works! team caught my attention. The President of the organization called the Mayor of Petion-ville and asked what he could do to help. She said that they were tired of relief. They really needed to change how things are done in Haiti.

Paul and I discussed some ideas for a village we could build quickly of single room pre-cut wood structures. The house would be earthquake resistant, survive in a tropical environment and be passively cooled. It would have a water collection system, a composting toilet and a low-voltage solar electrical systems for a light and charging a cell phone. We envisioned them in a village on fresh land organized around a village industry: assembling other villages, aquaculture, etc. The creole word would be “lakou.”



*A prototype for a house in a newly organized lakou.*

When our flight touched down in Port-Au-Prince I was not shocked by the bustle and noise of people offering to help carry my luggage. There was trash in the gutters, people selling all kinds of things, there was music and chatter. As we left the airport and drove to the house where we would be staying, and around the city of Petion-ville after that I got to see more of Haiti. That first day was just for absorbing the magnitude of the issues.



*A tents city - one of many in fields, city parks, alongs highways.*

In many ways the situation in Haiti is worse than and better than what impressions we would get from American news.

What seems worse to me is the earthquake is just another thing the Haitian people deal with. They have had centuries of civic neglect and rulers who for their own enrichment oppressed the people. What is a major earthquake to them? It was more people dead by natural causes this time instead of by their fellow Haitians. Six months later, Haitians on their way to work or school

simply walk around or over the building rubble. Some have created a cottage industry salvaging materials with simple hand tools. The people in tents are not morosely idle even if they appear to be a casually accepting that this is their new situation. The saddest part is there never was an infrastructure to be destroyed by the earthquake and then rebuilt.

What is wonderfully better than what I expected is the Haitian people themselves. They are all clean and neatly dressed, even those living in tents. (My kids going to school should be so good.) There is a thriving economy – people are selling things on the streets: mangos, cell phones, clothes, sugar cane, tires, money-exchanging, etc.

It is an economy organized around the fact that government provides no services. There is no public transportation so industrious Haitians convert 2-ton pickups to mini-vans called “taptaps.” The bed cap is elevated on welded rebar and seats are set along the side. There is no city trash collection so it is thrown into alleys and big gullies. Goats and pigs roam around converting that trash into food. (Plastic bottles are not edible but if you could place a bounty on them, Haitians would collect them and clean those up.) A grandmother can buy 2 dozen mangoes from the market in the morning and walk three miles to sell them as a convenience to others.



*A father escorts a child to school after riding a taptap.*

It is an economy fed by relief and money sent by the Haitian Diaspora from around the world. Clothes move quickly through the market onto the backs of the Haitians and when old are discarded into the gullies. All goods coming into Haiti, even relief, are taxed at 30% which drives people to pay officials a smaller bribe to avoid the tax.



*Rubble next to a house being repaired.*

I am not saying that we Americans would like working in an economy set up like this or that we would accept this standard of living. I am saying there has been a natural evolution. Hardworking people have created an existence devoid of any civic help. (I am a minimal government kind of guy but there is a difference between minimal and no government.) This economy appears to be delicately balanced, so I think any “improvements” we might make could send ripples throughout the economy.



*My sketch of a tent city next to a tent church.*

For example a young man makes a living using a ball-peen hammer making big rocks into little rocks to sell as concrete aggregate to a contractor. He has no formal claim on this particular pile of rocks. Do you leave him alone? Do you buy him a better hammer and triple his output? Do you buy him seven hammers and have him hire employees? Or would too many hammers flood the market for the aggregate or worse attract attention to his thriving business so he gets killed for the hammers. Or do you train him to operate a backhoe and rock crusher?

After meeting with the Mayors of Petion-ville and Port-Au-Prince we changed our approach from a country solution to an urban solution. They are tired of relief services bringing tents and water and not getting assistance to really change things. Haiti Works! focused on some immediate projects: a means to convert the earthquake rubble to roadbeds; helping Petion-ville develop a master plan so they can get international financing for major projects; and building new homes right away in the cities.

I made sketches in Haiti as we spoke as it would change the whole concept. Urban houses would need to be closer together and introducing wood would mean great risk of devastating fires in cities that have no Fire Department and even if there was one there is no public water supply. I learned that there was a substantial concrete block industry. But concrete and reinforcing steel bars (rebar) are far below USA standards – which contributed to the number of building collapses. The houses would have to be designed with fireblocks and be flexible enough to be built alone, and in attached groups on straight sites and curved.

Here then is the design for the Lakay Model A. (“Lakay” is Creole for “house”.) It has two block walls that support each other in case of an earthquake. We would bring horizontal steel reinforcement from the American and infill the holes with mortar and rebar every four feet. There would also be an elevated block base to allow cool air below, animals to seek shade and access to the tank of the composting toilet. Above that would be the pre-cut wood panels from America, assembled in Haiti. The wood is painted on the exterior but unfinished on the interior so moisture transpire out the wood framing to prevent rot. High and low windows vent hot air out. They have screens, storm shutters and security grilles but no glass. Each house would have a barrel for collecting rain water for washing. (Haitians are used to buying their potable water from Culligan.) The sink would drain into a drywell. Haitians would prefer more small rooms so the interior is divided. On top of each house are solar panels for charging a 12-volt battery to operate a 12-volt light (like boat systems) and charge a cell phone. The house therefore is independent of any utility hook-up. While it might look small to us for a family of six, it certainly is an improvement over a tent. And as far as it being temporary, that is up the occupants.



The next steps are for us to value engineer this house to cost below \$10,000 each including materials, shipping, tariffs, local labor, etc. The Mayors will tell us where to build them and who goes into them. Haiti Works! and associated contractors would own nothing. If we can get the price down, we would launch a campaign to encourage individuals and groups to buy a Haitian house to get a family out of tent. I can write more but I hope this helps explain our intentions and helps launch our efforts.