

Viewpoints

Interview with Richard H. Lawrence, Proyecto Mirador

Richard Lawrence, founder of Proyecto Mirador, talks to us about how he and his family set up a cookstove project in Honduras after discovering first hand some of the awful side effects of smoke inhalation. Richard explains what Proyecto Mirador has done to fund this fantastic project and what challenges they face in the future.



Tell us a little bit about yourself and how you got involved with Proyecto Mirador.

About 12-13 years ago, my family and I met with a group of doctors from Johns Hopkins in Baltimore, who were going to do some work in Honduras. There had just been a terrible hurricane in Honduras, which wiped out most of the infrastructure. My daughter and I went there as translators for the group of doctors. While translating for a doctor in a hilltop village called Atima, which is in a coffee growing region of Northwest Honduras, I would commonly notice that along the wall of the classroom, there were all these kids sucking on nebulizers (inhalers). Now, I am not a doctor but I would say 'Why have all these kids got lung problems?' I didn't know what was causing it, one thing I knew was that no one was smoking; they were too poor to smoke at that time.

One day, one of my daughter's friends took her back to one of the homes and she wandered back to the clinic afterwards and she said, 'Dad, I understand why they are all sucking on nebulizers, I've got to show you this thing.' We walked into the home and the ceiling was black from all the smoke; I mean it hurt your eyes to be in the home. The cause of it was the cookstove. It was circular and made from adobe clay with a big, wide mouth. Some of them had chimneys and some didn't; some of them had chimneys that ended below the eave of the building so the smoke circulated back in. It was pretty clear that

it was really damaging the kids and also the women.

We heard about a cookstove that was being made by the organisation, 'Trees, Water and People' in Honduras and the following year we went back there and bought 27 of these cookstoves that are called 'La Justa' cookstoves. It was very easy to see that this thing was a fantastic solution to the indoor air problem. Also, as an economist, I saw that these family members were getting a huge increase in their income through wood savings and time spent collecting the wood.

We thought this was a terrific solution. I went to a trusted Honduran friend, Doña Emilia Mendoza, who had helped to coordinate the doctors' visit previously, and asked her to help manage the building of cookstoves in these communities. I had known Emilia for three to four years and she has proven herself to be one of the most accomplished people I have ever met. So we started building cookstoves in homes in Atima. Initially there were about 500 homes in Atima but over the next two to three years, we built 2000 homes in that community. We learned a lot about the cookstove business. We started out building a cookstove in a home, doing a bit of training and just leaving it with them.

We came back a year later and realised however that this just wasn't working. These cookstoves are really strong but you have to maintain them, and if you don't, they'll eventually stop functioning and

you then have high abandonment rates, which are commonly seen across many cookstove projects all over the world. So after building cookstoves for two or three years, we realised that we needed to abandon this 'build and drop' method. We altered the business from a construction business to an education business. Then it became an issue of 'how do we grow it?'

So how did you go about solving the abandonment problem?

The efficiency of the cookstove was one problem. With one of the original La Justa cookstoves, you have a firebox surrounded by wood ash and you place the Plancha (grill) on top. The way the original La Justa cookstove was designed meant that efficient cooking relied heavily on the position of the Plancha in relation to the level of the wood ash in the firebox. When the Plancha was removed for maintenance, it became difficult for the beneficiaries to replace it in the correct place. So we invented this thing called the 'Cinco,' and this automatically helped maintain the wood ash at the correct level. The second thing we did was initiate additional return visits to the homes, continued monitoring and re-educating. We started coming back repeatedly and so today we do no less than five periods of education with the beneficiary. The first is held at a community event, the second after we have built the cookstove, then one month later, six months later and finally one year after we have built



the cookstove. It is this continued re-education, along with the Cinco, that solved the abandonment problem.

How does your project work with the beneficiaries? What deal do you strike with them?

We have a co-investment with the beneficiary, where we put up certain materials and they put up time and other materials, and then we follow up with education, monitoring and supervision. That co-investment means, when we walk out of the home after building it, the beneficiary understands that that is her cookstove; it is not Proyecto Mirador's cookstove and that is really important. We are not perceived to be donating anything to anyone.

Secondly, we follow a pattern of receiving solicitations. Solicitations come in from all across Honduras and people know that when you make a solicitation to Proyecto Mirador, you have to provide a list of the potential beneficiaries, including phone numbers, I.D. numbers, and community leaders' names. We receive these solicitations every day and they range from about 14 homes to as many as 800-900. Today these solicitations give us about a two-year backlog of people who want our cookstoves and this has come in effectively without us spending a nickel on promotion. All promotion has been done by word of mouth.

We are organised through the Programa de Ejecutores (programme of associates), which are micro-enterprises that are owned and operated by Hondurans who operate effectively in two functions: one as a construction business and the other as an education business. They

are in charge of the first two education experiences with the beneficiary. We incentivise the entrepreneurs to go out and build cookstoves that meet our specific requirements and to educate our people about those specific requirements. The Programa de Ejecutores has been very successful in allowing us to scale up our growth, so we have been growing at about 70% for the last few years.

What benefits do these cookstoves provide for the community in real terms?

There are five core benefits to the community. Number one is that you get rid of the smoke inside. In doing this, we see a reduction in days lost from employment due to bad health and a reduction in medical expenses and we also see healthy kids who are not affected by the smoke.

Number two is that we are slowing the terrible de-forestation that is going on in Honduras. The next time a hurricane comes through, the landslides will be even worse because the good trees have already been taken out of the forest. We are helping to slow that by consuming half the fuelwood that the families were using before.

The third thing is that we calculate there is a 7-8% increase in income per household when they get these cookstoves, which is significant, due to reduced fuelwood savings and from freed up time where they can do other work. We have done a lot of surveys on what they do with their free time and most of them either work or improve the lives of their households one way or the other.

Then of course we are contributing to reduced emissions, not only in Honduras

but generally to the global reduction of climate change.

The last co-benefit is interesting, because if you asked me what the most serious problem in Honduras is today, I'd tell you it is violence in the society. And what is the cause of that violence? Well, it is partly caused by the drug business that is going through Honduras but part of it is the high rate of unemployment. People aren't investing in Honduras, and this high unemployment is really leading to a lot of violence. OK, so what does Honduras need more than anything? Well, they need employment and micro-enterprise formation. So between our Programa de Ejecutores and our suppliers, we have established sixteen micro-enterprises all owned by Hondurans which are all profitable. Today we are employing 115 people through these micro-enterprises and the jobs are all paid and full-time. 75-80% of the jobs are based on incentive compensation schemes that we've put in place, so that the more they produce quality cookstoves that meet our requirements, the more they are going to earn. Very few companies in Honduras have used incentive compensation schemes successfully in my view. So we've got micro-enterprises and full time jobs well in excess of the minimum wage at rural level.

How has your project been supported financially? How has it been able to develop these products and services initially?

The way it works is that we build the cookstove today and then we can either sell it or get co-investment for it. We opt for a co-investment of time and locally



Figure 1 Mother and daughter with cookstove in home (Source: Charlotte Boulton)

Figure 2: Smokey pots on a traditional cookstove (Source: Charlotte Boulton)

Figure 3: A Supervisor carrying out a home visit in Honduras (Source: Charlotte Boulton)

available materials on the part of the beneficiary, and then the rest is funded in our case through carbon credits. The carbon credits come in over the five-year life of the cookstove. So you're out of money today and get money over five years, and that hole needs to be financed.

The way we've done it is that we've had two private foundations that have contributed what we call 'donated equity'. Since we operate as non-profit, these foundations aren't looking for a return on investment in a strict monetary sense. We have been very fortunate to have that level of support plus support from family and friends and a few other foundations. The principal support has come through a group called the Grantham Foundation for the Protection of the Environment as well as the Overlook International Foundation.

We realised early on that if you are going to solve the problems of indoor air pollution, deforestation or slow micro-enterprise development, you need capital. Although we operate as a non-profit, we run our operation as a business such that each cookstove has a positive Internal Rate of Return (IRR). This is not a business that you can run on US\$ 50,000 and so you need real capital. Without it, too many projects then tend to have to cut corners on certain things and we've been fortunate. We have capital committed to fund our projects through 2014 and there are three sources of the money: the two foundations on the one hand, and the third is the sale of Gold Standard carbon credits. For 2013, if we did not grow, if we just held our construction at 18,000 cookstoves per year, the proceeds from the carbon credits would fund our

business. Since we are growing, we need additional capital and that is where the Grantham Foundation and the Overlook International Foundation have been very generous in their support.

What are your views on Carbon Financing and what can be done to make it successful particularly with the decline in the CDM market? Have you ever considered other types of funding?

Well, first, we were lucky. When we decided to pursue carbon finance, the CDM did not have a methodology for cookstoves. That pushed us towards The Gold Standard which is a voluntary market right at the top of the pyramid in terms of credibility, toughness, transparency, monitoring, and verification: all those critical things. The Gold Standard is really tough.

For years when we were trying to get registered with The Gold Standard, it was a real challenge but over time carbon finance changes your incentives from just producing cookstoves to building a really good cookstove that is going to really be durable and supported by a system of training and verification that will reduce abandonment rates. That was really important and we are a far better project today because of The Gold Standard certification process and I think we were the fourth cookstoves project globally to get The Gold Standard certification.

So there are a couple of key things needed to make carbon finance work. Firstly there's capital. If you don't have capital: you can't invest in getting the abandonment rate down; you can't invest in making the cookstove more durable; you can't invest in some of the monitoring

and verification information that you need; and you don't have the resources to do a kitchen performance assessment every year.

Secondly, you need a range of expertise and this is certainly true from our perspective. We have a combination of people up here in California who have the technical expertise to handle the documentation and all the numerical equations. We are supported by Professor Bailis from the Yale School of Forestry. We also have Doña Emilia Mendoza and Professor Elder Mendoza (no relation) on the ground in Honduras. At times in this process, you suddenly need more survey results or you need to do another kitchen performance test and we can just call up Doña Emilia Mendoza or Professor Elder Mendoza and within a week we can get some real hard data. That combination of on-the-ground ability mixed with the international expertise in California has proved hugely successful.

As the world works, a lot of people have been very unfortunate in that they pursued CDM markets and with the collapse of the CDM market, that investment for them is very tenuous. That is just unfortunate and we've been lucky in that The Gold Standard has held up. The prices have come down but for premium projects, I think there is still plenty of demand for high quality carbon credits. I think The Gold Standard is a platform that globally people should support and enhance because it is a very useful instrument to direct capital to successful project developers like Proyecto Mirador.

We have been universally rejected by all other institutions or foundations that we approached for funding.

Everyone has turned us down except the Grantham Foundation and the Overlook International Foundation. Selling our carbon credits through a retail platform or the idea of raising money through a similar sized platform is unappealing to us. We need serious long-term capital. We are more interested in trying to raise large amounts of capital from people who understand the benefits of what we are trying to deliver.

How have you measured your successes in the production of cookstoves and dissemination of them to the community, and how have you monitored the success of the projects?

About two years ago, we realised that carbon financing was weakening and that we needed to better define ourselves for the buyers of carbon credits. At the same time, we were constantly thinking about how to meet the challenges demanded by The Gold Standard in terms of simplifying the verification process. One of the problems we were having in Honduras was that when we were going back to the villages for our third, fourth and fifth educational sessions, the villages would have grown and it was difficult for our supervisors to find the homes with our 'Dos por Tres' cookstove.

These factors came together and as a result, so did our demand for an IT system. We needed to move from a

paper system to an electronic system. The key components of this were the ability to collect very detailed surveys on the performance of the cookstove on an on-going basis. So during the educational visits, all supervisors go in with i-phones and they do the surveys directly, entering the information into the i-phone, which then goes up to the cloud.

Now when we build the cookstove in the home, we GPS mark the location of the home and we can provide high-resolution maps for the supervisors either online or on paper showing exactly where the cookstoves are located. This makes us much more efficient and able to provide much more transparent data. We have detailed, high quality and high-resolution maps giving us mapping capabilities and survey capabilities, to the extent that if you ask me to include a survey question we could enter that survey question from California and when the supervisors go out into the field this afternoon, they would just see another question that they had to ask.

We get over 1000 survey results per month, which are really robust data. We have almost 50,000 homes entered into the system and we have over 50,000 surveys with around 32,000 GPS points. Now all the Hondurans, from the lowest employee all the way up to the top, are running the business electronically.

Finally, how do you think HEDON can help your organisation?

One of my hobbies is reading material on cookstoves and I have read some of the reports and information that is online on HEDON. What you are doing is terrific; it has very sophisticated material and your publication, Boiling Point, is very valuable. I wish we knew about it eight or nine years ago when we first got into cookstoves. It would have saved me a lot of trouble in trying to figure out how to do this thing properly.

I am really happy that you wanted to interview me. I think that exposure helps other groups understand what it is we actually do. We have been so focused on our project in Honduras that we haven't spoken and promoted ourselves. We have a great website but anything like this article is certainly valuable and I hope potential partners would certainly be interested in this. The biggest challenge is securing institutional support. As I said, we haven't really gotten much institutional support beyond the Grantham and Overlook Foundations since we started. Now that we have closed the circle from A to Z, we know how to build a cookstove, get demand, do the carbon certification, sell the carbon credits and prove that we have a positive IRR on each cookstove. Now I think some larger institutions should come in and support us.

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- * A graphic representation of how the VACVINA Advanced Biogas works
- * Author's latest contact details



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