Eco-Stove for Communities in Rural Honduras

Honduras

Amy Rogers

**Organization type:**
nonprofit/ngo/citizen sector
**Budget:**
$10,000 - $50,000
**Website:**
http://www.shouldertosoulder.org

Project Summary

**Elevator Pitch**

Concise Summary: Help us pitch this solution! Provide an explanation within 3-4 short sentences.

It is estimated that smoke from cooking fuels accounts for 2 million deaths annually (WHO and UNDP 2009), more than the deaths from malaria, AIDS or tuberculosis. In Honduras, smoke is a significant threat to health. Respiratory related illnesses are one of the leading causes of hospital deaths and acute respiratory infections account for 23% of the deaths in children under five. Improved wood burning stoves commonly referred to as eco-stoves have proven to be a simple and cost-effective solution. These stove are ventilated and highly efficient, which greatly improves health outcomes and a variety of other social issues such as deforestation. My project proposes to implement eco-stoves in conjunction with other public health interventions in an innovative and synergistic preventive effort.

**About Project**

**Solution: What is the proposed solution? Please be specific!**

This project is addressing two important social issues. These are indoor air pollution and deforestation which can both provide a clear link to health. The approach taken with this project is simple but innovative because it involves only a small change which will impact health on a variety of levels and through numerous factors. For example, eco-stoves have been proven to decrease the prevalence of respiratory illnesses by removing smoke from homes. Some eco-stove models have also been proven to be 70% more efficient than traditional stoves. In our communities, eco-stoves will provide an necessary solution to preventing further deforestation. The issue of deforestation in our area has begun to change the landscape drastically enough to effect the springs providing water to the community. This has lead to serious water shortages, which are detrimental to the health of those effected through the use of unclean water sources, general dehydration, and numerous other problems related to poor sanitation. In our region very few groups have been working to resolve this issue and improve the conditions. In Honduras, I have worked with another NGO named Global Brigades which has implemented an eco-stove construction program. This project will be using some of the methods for education and distribution which have been successful for Global Brigades while combining a new effort of constructing eco-stoves in in addition to distributing water filters. Through approaching public health from several different angles, we hope to have a synergistic effect in making large scale improvements.

**Impact: How does it Work**

**Example: Walk us through a specific example(s) of how this solution makes a difference; include its primary activities.**

The primary activities of this project are education, construction, and raising local talent. The education component will consist of multiple efforts to increase community engagement. Shoulder to Shoulder has already established a relationships with communities in Intibuca, Honduras. Shoulder to Shoulder has begun public health efforts by providing water filters and education about water sanitation. The eco-stoves project would join this public health program with an effort to increase awareness about indoor air pollution and the benefits of effective ventilation in rural homes. The activity of constructing the improved stoves with better chimneys and more efficient wood burning chambers will accompany this effort. The final activity will be a form of empowerment. Through placing this project under the supervision of a Honduran director, training local masons to construct these stoves and working with Honduran health promoters to provide education, this project can be integrated effectively and in a culturally
proper manner into the community. Being staffed mainly by community members will also ensure that the long-term survival and stability of this project after volunteers on the project return to the States while also increasing the local awareness about public health issues.

About You

Organization:
Shoulder to Shoulder

First Name
Amy

Last Name
Rogers

Twitter
Facebook Profile

About Your Organization

Organization Name
Shoulder to Shoulder

Organization Phone
513-721-2221 ext 10

Organization Address
2123 Auburn Ave.

Organization Country
IN

How long has your organization been operating?
More than 5 years

Is the project that you are enterin related to this organization?
Yes

The information you provide here will be used to fill in any parts of your profile that have been left blank, such as interests, organization information, and website. No contact information will be made public. Please uncheck here if you do not want this to happen.

Innovation

What stage is your project in?
Idea phase

Tell us about the community that you engage? eg. economic conditions, political structures, norms and values, demographic trends, history, and experience with engagement efforts.

Shoulder to Shoulder, the NGO which I am partnered with to conduct this project has been building a relationship with the communities in the area for over twenty years with the majority of employees being Honduran. This established relationship will provide a significant advantage to engaging the community and contacting community leaders so that project will be a product of successful collaboration. The communities that have been selected for the initial phases of this project are ones that are between 30-60 minutes on foot from the Shoulder to Shoulder operated clinic where I live and where most of the employees are based. These communities are far enough away from the center that they face issues of access in terms of receiving health care services. These communities will be beneficial selections for this project because data about these communities has been tracked for an extended period of time in the extensive Shoulder to Shoulder database of electronic patient records. By examining previous data, tracking, and comparing future data, the progress and impact of the eco-stoves can be clearly tracked.

The four communities selected for this project are in the mountains of rural Honduras near the border of El Salvador. The all contain between 20-60 homes and are within the district of Santa Lucia. Overall, there are about 6,445 people living in the district of Santa Lucia. Of these people, 59% have no water purification system and only 13% use water filters. This is significant to this project because Shoulder to Shoulder will be working to distribute water filters in conjunction with eco-stove construction. In terms of education, 28% of the population have no education and only 1% of people have graduated from a university.

The region of the Frontera where Shoulder to Shoulder is working is one of the poorest regions of Honduras which is already one of the poorest regions in the Western Hemisphere. Shoulder to Shoulder has tried to help alleviate the poverty in this area by increasing access to health care and education efforts. Shoulder to Shoulder has successfully engaged the community in several programs such as women's empowerment, a nutrition study, a dental education program, and cervical cancer screenings.

Share the story of the founder and what inspired the founder to start this project

I began forming this project after performing a research project for Global Brigades, another NGO in Honduras. My research was an investigation of the effects and efficiency of installing eco-stoves in rural communities in Honduras. After witnessing the tremendous potential of eco-stoves to improve the quality of life and health in a community, I became empowered to continue this initiative in other places and recruit other people to join the effort. During the remainder of my time at the University of Virginia, I began sharing the results of research at various venues and won a pan-university poster competition after presenting the results of the research which recommended further implementation of this project. To read further about my research, here is a link to the poster created for the event: www.virginia.edu/inauguration/posters/4.130.Social.Hennigan.pdf

After my significant exposure to eco-stove construction in Honduras, I also founded a student organization to raise money and awareness about
eco-stoves and similar public health projects and lead a trip of students to Honduras with Global Brigade to continue eco-stove construction and work with other public health efforts.

This year, I am full-time volunteer for Shoulder to Shoulder, a medical NGO in Honduras. Shoulder to Shoulder has the resources and the desire to start this project, and I believe that I have the skills to help begin the pilot program. With the necessary funding, I hope to develop a model for eco-stove implementation in this region of Honduras in collaboration with Shoulder to Shoulder.

**Social Impact**

**Please describe how your project has been successful and how that success is measured**

Through previously working in communities in rural communities in Honduras, I can attest to the success that eco-stoves have had in being successfully integrated into a community. However, I am also aware of the challenges that a public health intervention program will face, especially when care is not taken to properly evaluated and track progress. Progress for the project will be measured through surveys performed before construction, a follow up shortly after implementation and then two surveys six and twelve months after construction. I would like to measure success based on health indicators such as decreased respiratory illness which will be tracked on the surveys as well as in the Shoulder to Shoulder database. I would also like to take quantitative measurements of customer satisfaction and efficiency of wood use. Through a survey I will also track qualitative responses on how the project has affected community dynamic and suggestions of how education and distribution efforts can be improved when this project is expanded to surrounding communities in the region.

**How many people have been impacted by your project?**

**How many people could be impacted by your project in the next three years?**

More than 10,000

**Winning entries present a strong plan for how they will achieve growth. Identify your six-month milestone for growing your impact**

At six months, two of the four communities in this project will have met with health promoters and received eco-stoves and water filters.

**Task 1**

Send Shoulder to Shoulder health promoters to speak with community leaders and arrange a meeting to discuss project. Hold a second community meeting to register willing families to receive eco-stoves.

**Task 2**

Local health promoters will be trained to give a public health presentation about eco-stoves and water filters. Attendance is required for those receiving interventions. Initial surveys performed.

**Task 3**

Train local masons to construct eco-stoves and begin implementation. A follow up visit performed two weeks after construction to access satisfaction, appropriate use, and provide continued education.

**Identify your 12-month impact milestone**

At this point, eco-stoves and water filters should be constructed in all four communities in the homes of those families that chose to participate.

**Task 1**

The distribution protocol used during the first 6 months will be revised and the changes will be implemented as education, construction, and distribution efforts continue.

**Task 2**

During this phase of the project, brigades will begin to participate in this public health initiative. This will involve brigade members assisting health promoters and masons.

**Task 3**

The 6 and 12 month follow up surveys will completed by health promoters in homes that received stoves. These evaluations will be compiled for revision and improvement of the distribution protocol.

**How will your project evolve over the next three years?**

I envision this project expanding exponentially over the next three years. Shoulder to Shoulder serves over 25,000 people and my vision is to develop a model so that within ten years any family desiring an eco-stove and willing to make the basic investment in education and resources will have been an eco-stove constructed in their home. This project will also have evolved into a a successful means of cultural exchange by providing an opportunity for members of brigades to visit homes while working in rural Honduras and provide an outlet for meaningful interaction between the two groups. Through bridging this gap, I hope stronger relationships can develop between those traveling on brigades and community members while inspiring brigades to continue funding the project.

**Sustainability**

**What barriers might hinder the success of your project and how do you plan to overcome them?**

Securing long term funding will be a constant focus of this project. Every step of implementation will need to be executed in a manner which can be documented and evaluated with this goal in mind. With Shoulder to Shoulder's established and thorough database, documenting the project and tracking the health benefits through the medical records in the region should be easily facilitated. In addition to this form of documentation, surveys will be performed. These surveys will focus on notable improvements in respiratory health as well as satisfaction with and efficiency of eco-stoves received. Through compiling this information, the success of this project in this area can be demonstrate to when applying for further funding. Besides receiving more grants after a successful pilot of this program, I hope to continue funding the project through brigade participation. This will be the more challenging aspect of the project, which I will believe will have the highest yield if done correctly. Shoulder to Shoulder already receives a large amount of funding from brigade fees, which come from groups volunteering from the United States to travel to Honduras and work on various projects. These fees have previously been used to supplement other programs such water filter distribution after brigades became interested in this program. My current position with Shoulder to Shoulder involves helping to coordinate the brigade program and working with brigades when they are
in-country. Shoulder to Shoulder is excited about the prospect of my effort to link an eco-stove project with my current work and to allow brigade members to participate in the distribution program through assisting the local staff with education or construction. Through exposing brigades to a functional model of an eco-stove distribution, I hope to begin developing an additional funding source for this project. I have previously worked with Global Brigades which is an NGO which has used this model effectively to fund eco-stove construction. With this component, however, comes the additional challenge of integrating brigade members into this project in manner which will spur beneficial cultural exchange. This entails creating an environment where families receiving stoves are not uncomfortable with a small group of Americans entering their home and one in which brigade members are encouraged to reflect on and participate in conversations which engage them in the project.

Tell us about your partnerships

Numerous partnerships will be necessary to make this project a success. The first partnership will be with Shoulder to Shoulder. I have already established a strong partnership with this organization through working as a long-term volunteer and coordinating the brigade program over the past three months. Through my current position, I have been provided housing in a clinic in Honduras and will remain in Honduras for over a year. By living and working in the communities where this project will take place, I have also been able to begin building the necessary relationships to successfully begin this project. By partnering with Shoulder to Shoulder I will also have access their numerous strong partnerships. Shoulder to Shoulder has a contract with the Honduran government which subsidizes their programs in the region. Shoulder to Shoulder also partnerships with over twenty academic institutions and medical centers who frequently travel to work on brigades. Through working closely with the Honduran staff and government in combination with our affiliates in the States to launch this program, I hope to continue the NGO's mission of combining the best of both cultures and working Shoulder to Shoulder.

Outside of Shoulder to Shoulder, it will be important to continue building strong partnerships with the community. Since the goal of this project is only to subsidize the construction of eco-stoves, a relationship must be established with communities so that recipients of the eco-stoves feel confident in investing their resources and time in constructing these stoves.

Explain your selections

In model where part of this project will be subsidized by brigade fees, individuals will begin to play a large role in funding this project. After establishing a protocol and training the health promoters and masons during the first six months, I hope to be including brigade members in the construction process. Through allowing brigades members participating this process, brigade fees can begin to used to fund supplies for the construction of more eco-stoves. Additionally, with the funding to begin this program and demonstrating a successful implementation, I plan on applying for other grants and to other foundations for the further funding. In addition, Shoulder to Shoulder will continue to assist with funding these projects as well as providing the man power, in-country resources, and insight necessary for the project. Through working with Shoulder to Shoulder, I will access to transportation necessary to carry supplies and travel to the communities. I will also have access to the database and health promoters needed for implementation. The construction of eco-stoves will also require recipients to invest in the project. A review of similar models demonstrates that requiring this participant investment is necessary to ensure that families receiving the stoves maintain their stoves. Through requiring able to families to contribute to a portion of the costs, less funding will be needed to sustain the project. A protocol will be in place for families unable to pay the minimal investment fee which will create a system for fairly assessing if their fee is waived.

How do you plan to strengthen your project in the next three years?

The initial funding I hope to receive for this program will be primarily for the purpose of creating a strong program by performing a small scale and controlled implementation of this combined public health effort. Through working with a similar project in rural Honduras, I understand the importance of constant revision and the numerous problems that will occur due to unforeseen complications. Through selecting four diverse communities in Shoulder to Shoulder's service region, I hope to use this funding to develop the protocol for this project and trouble shoot on small scale before attempting a large scale implementation. Through constant revision, and data collection and by creating a vest interested in brigades and community members, I hope to develop this project so that the numbers eco-stoves constructed over the next three years can increase exponentially.

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Challenges

Which barriers to health and well-being does your innovation address?

Please select up to three in order of relevancy to your project.

PRIMARY

Limited access to preventative tools or resources

SECONDARY

Lack of access to targeted health information and education

TERTIARY

Health behavior change

Please describe how your innovation specifically tackles the barriers listed above.

The region where this project will operate is arguably the poorest in all of Honduras, which is already one of the poorest countries in the Western Hemisphere. The lack of resources in these communities has resulted in the variety of poorly constructed and unventilated stoves in these communities. By providing the funding and education, improved stoves can be constructed and recipients will become more informed about the dangers to respiratory health related to smoke and indoor air pollution.

How are you growing the impact of your organization or initiative?

Please select up to three potential pathways in order of relevancy to you.

PRIMARY

Enhanced existing impact through addition of complementary services

SECONDARY

Leveraged technology

TERTIARY

Repurposed your model for other sectors/development needs
Please describe which of your growth activities are current or planned for the immediate future.

Shoulder to Shoulder's main focus is reducing poverty through health promotion and disease prevention. Although the organization is taking a variety of interdisciplinary approaches to improving health, there is not currently an eco-stove program in place. Through initiating the project, Shoulder to Shoulder can begin to address major problems in the surrounding communities such as poor respiratory health which is considered one of the leading causes of death in these communities and deforestation. In combination with other public health projects, Shoulder to Shoulder can also continue to approach health care issues from a variety of angles and use small efforts in a synergistic manner to work towards the improving health outcomes.

Do you collaborate with any of the following: (Check all that apply)

Government, Technology providers, NGOs/Nonprofits, For profit companies, Academia/universities.

If yes, how have these collaborations helped your innovation to succeed?

Collaborating to use resources as well as using the knowledge of those with experience in the field of public health and health care will be a key to success of this project. Through working with local vendors, I will be able to get all of the supplies for eco-stove construction. This project will also be working with other technology providers and nonprofits such as Potters for Peace to distribute stoves in conjunction to water filters. Collaborating with Shoulder to Shoulder's affiliates at academic institutions will also be essential for building the most effective model for this program. Through working with physicians and MPH graduates with experience in global health, there will constantly be an influx of innovative and feasible ideas for continued improvement and success.

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