

# **The Integration of Co-op Programs into International NGO Work**

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## **ABSTRACT**

The use of international projects as Service Learning opportunities is not new. Doing cooperative education programs in foreign countries is not new. Using existing Non-Governmental Organizations (NGOs) as the catalyst and launching pad for Service Learning Projects is also not new. Putting them all together in one place, along with a contingent of students from several colleges and universities at the same time, is much less the norm. This paper describes several projects undertaken in two visits to a rural community in the rain forest of the southern Amazonas Department (state) of north central Peru. The community is Chirimoto; a small town devastated by floods in 1979 from which it is only now beginning to recover. Electric power, for example, which was destroyed in 1979, was finally restored in May of 2009, and then only marginally. Projects discussed include an Engineers Without Borders Assessment trip in January of 2008, a second EWB assessment trip in June of 2009, and an Economic Development Planning trip, combined with water and wastewater management planning and the architectural design of renovations to a community and cultural center are described in the paper. Many lessons learned that should have been more obvious, but which were revelations when encountered, are also discussed, along with the outcomes for students, faculty, the NGO and the community.

## **INTRODUCTION**

The projects described in this discussion evolved from an earlier attempt to develop a bridge construction project for Wentworth Institute of technology students in Nicaragua. For a lot of reasons that project did not develop, but it led the Author to further pursuit of the Spanish language and ultimately to a native of Chirimoto, Peru who was studying for a Doctoral degree in Spanish Literature at Boston University. This creative individual, Luis (“Lucho”) Chavez, had created the start of a Community and Cultural center in his home town, using his own money, on family property because he perceived the need and had the desire. The community had been a vibrant village of some 4000 people until a major flood on the Shocol River, which flows through the town, literally floated the village away. About 200 people stayed to rebuild the community, while the rest became scattered across Peru. Lucho had a dream to change that recruited a newly formed Boston University Chapter of Engineers Without Borders (“EWB-BU”) to assist.

In January of 2008 EWB-BU members traveled to Chirimoto to conduct an assessment trip. These students were primarily electrical and mechanical engineering students who had an idea to install a solar power system in town to restore electricity that had been destroyed in 1979. The

Town, however, requested assistance with developing a water treatment system because they believed that a chronic parasite problem was related to contaminants in the drinking water. After much research and effort, the EWB-BU team began work on the design of a slow sand filter for water treatment. The plan was to install a sand filter in an existing filter box that was already in place on the Mari Pata source, which is one of three groundwater springs that supplies water to the town. The box had been built to house a filter, but the filter was not in operation. It could be easily restored relatively easily and that restoration was the EWB-BU plan.

Due to some reporting issues and planning problems encountered in the United States, the team ultimately determined a need for a second assessment trip, to be conducted in the summer of 2009. They were encouraged by Luis Chavez to contact the Author to serve as a Mentor, since Boston University does not have a Civil Engineering or Environmental Engineering program. From June through August of 2009, the EWB-BU team made the second assessment trip during which they conducted water quality testing on all three sources, at the tap in several locations, and in several other communities for background reference. They also conducted significant land surveys of the roads in the community, where the distribution pipes were believed to be buried, and up the adjacent mountains to the various springs. Significant effort was made to find and locate each of the four distribution systems serving the community as a result of earlier efforts by various governmental and non-governmental organizations trying to “help” the Town. There were suggestions made during that trip that perhaps the service area from the Mari Pata source was not as great as expected, but nobody suggested treating any other source.

#### THE CHIRIMOTO DEVELOPMENT PROJECT, INC.

As a result of the aborted bridge project in Nicaragua, the Author determined that to assist the Town of Chirimoto, which had been decided well before being invited to serve as a Mentor to the EWB-BU team, it was going to be necessary to develop a new strategy. That strategy evolved to include the creation of a new 501 c 3 non-profit to provide educational assistance, economic development assistance, and general disaster relief assistance to Chirimoto through student Service Learning Projects and other means. That organization, called the Chirimoto Development Project, Inc., (“CDP”) was formally founded on March 30, 2009 and granted retroactive 501 c 3 status in June of that year.

It immediately became clear that credibility was needed to be able to assist the Town with economic development planning, which was the overall first objective. To do that a project was developed with the assistance of the Hester J. Hodgdon Libraries for All Foundation (“HJH”) from Loveland, CO to establish a bookmobile project in Chirimoto to take books to the children in the Shocol River Valley. HJH donated 200 books to the cause and 200 more were collected in Lima from expatriates of Chirimoto and the bookmobile program was initiated in July of 2009. That project served its purpose well and has continued to grow. The opportunity to serve as a Mentor to the EWB-BU team provided a wonderful opportunity to meld the two efforts together and to serve the community well.

At the same time, to conduct the economic development planning, the Author applied for, and was granted a Sabbatical Leave for the spring semester of 2010 to go to Chirimoto to help the community prepare an economic development. That created the opportunity to do several things.

First, it was clear that the Spanish language skills of the Author were not adequate to conduct serious economic development discussions within the community. Therefore, an interpreter was required and the idea arose to seek a co-op assignment for a Business student to accompany the Author as interpreter and translator, and to also learn a lot about international business practices along the way.

That then triggered the idea of a Civil Engineering Technology and/or Construction Management student to work with the EWB-BU team to assist with the design and construction of the sand filter and an Architecture student to design renovations to the half-done Community and Cultural Center that Luis Chavez had started. Two Civil Engineering technology students and one Architecture student accepted the co-op assignments to do that work and began working with the EWB-BU Team in late 2009. In addition, an MIT Environmental Engineering student approached the Author to see if she could assist, since she had an obligation to do a Service Learning project in January of 2010. She was assigned to determine how to manage wastewater in the community, which fit her needs well and also fit the community needs well. The Business student ended up not using the project as a co-op assignment due to scheduling issues, but did participate for the entire 6 week effort in Chirimoto.

On December 27, 2009, the new team left Boston for Chirimoto, returning on February 6, 2010.

#### INVOLVEMENT IN CHIRIMOTO

Currently, there are several CDP-related projects on-going in Chirimoto. The first is the design and installation of a sand filter project for the Lambras water source, one of three sources serving the community. The design is nearly complete at the time of this writing and is expected to be completed by the end of April, 2010.

The MIT student is preparing a Manual of Practice for community residents to use for constructing more appropriate sanitation facilities in their homes. About 50% of the homes currently use some form of outhouse, with about 10% being flush toilets connected to an exterior cesspool, and 40% being external pits. Only about ½ of the external pits are actually covered or surrounded by walls. The remainder of the population uses the nearby woods for sanitation needs. The manual will provide drawings and diagrams to allow anyone who wants to do so to build an effective flush toilet to external cesspool system at low cost.

The Bookmobile Project continues to grow and is healthy. More books are needed to properly serve the remaining elementary schools in the valley, but the book supply grows every year.

The most important project currently underway is the Economic development Planning under which the community is working to develop a marketing cooperative for coffee, sugar cane and sacha inchi oil, a banking cooperative to fund the marketing cooperative, a community involvement plan, a community recycling plan and a variety of adult education programs. The CDP is currently planning to establish a Semester Abroad Program primarily for Wentworth students, but available to others as well, as early as the summer of 2011. This program would include real-time class work by the students through a telecommunication link in Chirimoto and a station at Wentworth or the home school of the participating student. It is expected that this

link will be portable so that it can be used at the Community and Cultural Center for classes, both student and adult education, but can be moved to the clinic for consultations on medical emergencies, or to the elementary school for special web-based programs or instruction.

The final major project is the delivery of 25 laptop computers to the elementary school in Chirimoto. When the CDP team was there in January of 2010 it was noticed that a project was underway to demolish one wing of the elementary school to create a new computer center. When the question was asked as to what equipment was to be used, the answer was that there was no money left for equipment, so there would be no computers for several years.

Wentworth Institute of Technology in Boston stepped up at the request of the CDP to donate 25 used (2-year old), but fully refurbished, Lenovo IBM Thinkpads. The residents of Chirimoto provided appropriate paperwork to import the machines without paying customs fees and Lenovo donated 25 shipping boxes to transport them. The author transported the machines to Lima in April and on or about May 25 they will be transferred to Chirimoto. In July a technician will travel to Chirimoto to set the machines up and a trainer will go to teach the teachers how to use the machines most effectively.

## DEVELOPMENT OF PROJECTS

As part of the Semester Abroad Program, participants would be expected to also engage in Service Learning through implementation of specific community-based projects. These projects stem from a regional development plan prepared in 2002 and supplemented by the economic development plans of 2010. They range from civil engineering projects, through architecture projects, construction management projects, health education programs, adult education programs, and a variety of agricultural improvement projects. Each will be developed through the community leaders and implemented by students who are on a cooperative education assignment, working through the CDP, or on a semester abroad program arranged by the CDP and managed through the home institute of the student.

## KEYS TO SUCCESS AND LESSONS LEARNED

The progress made in Chirimoto has been assessed and several key elements have risen to the top as reasons for that success. The first is that the team had an excellent “Champion” in Lucho Chavez, who is a native of the community and has the respect of the community residents due to his education and due to his historic and continuing willingness to “put his money where his mouth is”.

The second reason for success is that the CDP team asked a lot of questions before embarking on its projects to ensure that the work being proposed was work that the community wanted to have done. More importantly, during the development of the projects a series of public meetings was held to garner community input to the process. The end result is an amalgam of community and CDP team ideas that the community residents have accepted.

The third reason for success is that the students who travelled with the CDP Team were, all but one, fluent in the Spanish language. One grew up on a coffee farm in El Salvador and could

discuss coffee farming easily. Coffee being the main cash crop of the region, that ability turned out to be important. The second was from the Dominican Republic and the third was a Latino of mixed Puerto Rican and Dominican Republic heritage. The MIT student was Peruvian. All spoke the language fluently.

The fourth reason for success was the effort made to create credibility in the community through the early bookmobile project. The success of that project easily transferred to a good feeling about the other projects proposed.

Finally, the CDP arranged the projects and used the auspices of this non-profit organization to create the opportunity for the cooperative education experiences the students enjoyed. The ability to meld the non-profit and the cooperative education assignment together has opened up tremendous similar opportunities for the future.

## FUTURE PLANS

As suggested above, the future plan is to finish renovations to the Community and Cultural center, then use that building as a dormitory and educational center for cooperative education, Service learning, adult education and other similar programs into the future. There is truly no end to the opportunities available when non-profits and Institutes of higher education join forces. The non-profits can cut through a lot of the red tape and bureaucracy inherent in the educational sector and provide a clean mechanism for both cooperative education and semester abroad programs.

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