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Materiales Didácticos para Toro Toro Foundation for Sustainable Development: CEDESOL Cochabamba, Bolivia (2016 Case Study)

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INTRODUCTION
Background on Cochabamba, Bolivia

Surrounded by mountains, Cochabamba is located in central Bolivia and is its fourth largest city with a population of 630,587 people. The origin of the name comes from a compound

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-11-

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of the Quechua words qucha meaning “lake” and pampa meaning “open plain”\(^1\). The two most common languages spoken are Spanish and Quechua. With a strong plurinational identity, Cochabamba is among Bolivia’s most economically and socially progressive city. Similar to other larger cities in South America, Cochabamba is a city of contrasts with its northern and southern regions differing greatly in socioeconomic status and education levels. Its central commercial districts on the northern side of the city boast modern amenities while neighborhoods remotely located on the southern side of the city are visibly impoverished and lack resources for education, health and safety.

B. Background on FSD

Foundation for Sustainable Development (FSD) is a great partner for GESI and CEDESOL as an organization because all three partners follow an Asset Based Community Development model in order to achieve community-driven goals. The vision of FSD is a world where all people have the opportunity and capacity to direct economic, social and environmental resources towards sustainable outcomes that improve lives and communities. Through our partnership with GESI, Caroline and Wendy were paired with CEDESOL, an FSD-affiliated organization for our entire two months in country. We worked in the CEDESOL office during our tenure there to accomplish one project. Financially, we relied on our FSD seed grant to finance most of our trip to Toro Toro in order to conduct our field studies. FSD provided us with in-country support through Ellen, Mauricio and Juan P. who not only helped welcome us into Cochabamba but also ensured we were being successful as interns within CEDESOL and our work environment by providing us with professional support.

C. Background on CEDESOL- Center for Development with Solar Energy

CEDESOL, Center for Development with Solar Energy, our partner in Cochabamba, is an organization that makes solar powered ecological stoves complemented with educational and leadership programs for women in rural areas. The three key concepts CEDESOL creates their programs around are: Alternative Education, Renewable Energy and Social Justice.

Founded in 2003, CEDESOL aims to enrich communities by equipping them with the tools necessary to direct their own destiny. Specifically, their work is directly related to the

indoor air pollution caused by the traditional way of cooking using wood-burning stoves in rural communities. This method leads to health problems with the lungs, throat, and eyes and directly affects women and children in the household. Secondary reasons for their work include the educational and environmental factors found in remote communities surrounding Cochabamba.²

Traditionally wood-burning stoves known as conchas are the primary method of cooking for women in rural communities. These conchas are time consuming and high-maintenance. They often require children to take time off from school to collect firewood, since their mothers have to tend to the cooking. Young girls get pulled out of school the most to help with these duties, creating a cycle of generations of women without education. Additionally, the widespread use of these stoves leads to deforestation in rural communities, and with less wood, it is less likely that families will use that wood to boil water, leading to even more health problems.

![Picture 1: A typical indoor concha](image)

A major contributing factor to the health and environmental problems caused by the use of conchas is a lack of education and resources. Women in rural communities have scarce other resources or options for cooking. Additionally, they do not realize the causes of health issues, as their priority is to put food on the table and the majority of their time is spent getting access to food and cooking resources. They also have little spending money to consider other options for cooking. More importantly, cooking traditions run strongly throughout many communities, and

changing what has been done for years is not an idea that many families have the time to understand and assess the issues that many members of rural communities face and that CEDESOL hopes to help tackle.

![Causal map from team field notes](image)

Figure 1: Causal map from team field notes

D. Background on Toro Toro, Cochabamba

Toro Toro is the rural community that we worked with during our time at CEDESOL. Predominantly Quechua speaking, Toro Toro is about 150 miles south of Cochabamba with a population of about 10,000. The main income is tourism, as Toro Toro is a national park site. It is a tight-knit community that maintains traditional cooking methods pertaining to the goals of CEDESOL’s work.

Toro Toro lies at an altitude of approximately 2,600 meters and can only be reached by gravel roads from the nearest major city. Due to the remote geographical nature of many of these rural communities, education is not a privilege that many women of Toro Toro have access to. Surrounded by trees and mountains, deforestation is a major problem rural communities are...
facing as their water is becoming less clean and filter while trees continue to be cut down without consideration to the effect on the environment.³

TEAM DYNAMICS
Each member had a team of seven members, each offering their own strengths, which contributed to our choice of project, as mapped out in the chart below.

<table>
<thead>
<tr>
<th>NAME</th>
<th>ASSETS</th>
</tr>
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</table>
| Wendy  | ● Mechanical Engineer  
                  ● organized  
                  ● speaks Spanish very well  
                  ● friendly and sociable |
| Caroline | ● Journalist  
                  ● creative  
                  ● good with multimedia |
| David  | ● Founder of CEDESOL  
                  ● has seen the organization evolve  
                  ● sociologically minded |
| Paula  | ● 3rd year at CEDESOL  
                  ● writes grants and organizes all documents in excel  
                  ● familiar with all of the information |
| Lupe   | ● Speaks Quechua  
                  ● translates during field visits  
                  ● familiar with the campo and the culture  
                  ● in most direct communication with the clients, strong personal relationships |
| Pierre | ● Mechanical Engineer  
                  ● understands the stove design  
                  ● knows about the intern experience and had been here slightly longer than we have  
                  ● European perspective |
| Victor | ● Civil Engineer |

Cohesive team dynamics were vital to our successes and shortcomings as a group. In the beginning of our project, we faced tension between David and another member of our group, which significantly impacted our team dynamics and strengths. This third member ended up leaving the program two weeks into our time in Cochabamba. This rough start to our project and the work environment we were trying to get acclimated was difficult to navigate as our team was in the process of establishing group norms. However, addressing this sensitive situation, allowed for us to become closer as a duo while better understanding what our values and work style was like. Unfortunately, this was our first team setback and cut our project timeline back about two weeks due to the multiple meetings we had to attend with our supervisor, the CEDESOL team and the GESI team back home. Although it was disappointing to lose a member of our group, it provided an opportunity to start fresh and to reconsider the role of each team member. As tensions lessened after the member left, we were better equipped with the lessons we learned from addressing this situation and we were able to speak more freely with our supervisors.

The team of people actually traveling to Toro Toro consisted of Lupe, Victor, Wendy, Caroline, and Pierre. David acted as our boss and overseer from afar while we were in Toro Toro. He continued to have control over the finances. Lupe acted as the main CEDESOL representative and communicated with the schools we visited. Lupe was a vital member of our team, having established community relationships prior to our arrival and speaking the local language. Victor was our local tour guide and driver. Both Lupe and Victor played very important translating roles and worked to introduce us to the community. Wendy, Caroline and Pierre worked as interns whose main role was to learn about the community by conducting the surveys. The Toro Toro community provided us with a rich learning experience, not only at the schools we visited but as well as during the festival that we attended for the first two days. The festival was important for understanding the culture of the community and what the community’s
priorities and values are. It also was a good opportunity to introduce ourselves to members of the community and gain respect before jumping into field research.

![Picture 2 and 3: Photos from the Fiesta de Tata Santiago in Toro Toro](image)

**PROJECT**

**A. Mission of CEDESOL**

Over four million women and children die each year from indoor air pollution. As stated earlier, CEDESOL works to combat this issue through building and implementing ecological cookers, as well as through educational training and leadership programs for the clients. However, in recent years, CEDESOL has begun implementing ecological cookers in schools as well as homes.

The direct steps taken to determine our project started with a discussion on what our capabilities were as interns and the fiscal needs of CEDESOL. Initially, we noted that CEDESOL needed immediate financial resources in order to better serve the communities it strives to help by delivering stoves. Creating a fundraiser to help pay for the fixed costs associated with traveling to the rural communities was a potential project idea which we felt also addressed the need to engage the Cochabamba community. This idea was set aside after the opportunity arose to travel to Toro Toro and help CEDESOL with their new initiative to engage students in tandem with a new collaboration between the schools and their cooking methods.

Our project worked to build the beginnings of an education and training program for these students. We divided our project into three stages: Pre-Toro Toro, Toro Toro, and Post-Toro Toro.

**B. Pre-Toro Toro**

Before traveling to Toro Toro, we planned our surveys by reading as much as we could about the...
area. We created student and teacher surveys to understand from both perspectives some of the issues the students and teachers face in staying in school and learning about personal and environmental health, as well as what ways the students are motivated most and what their hopes and aspirations are. Lupe had to work on organizing what schools we would go to and getting approval from the community. Some of the main challenges we had were wifi outages in the office and time limitations. We didn’t get to spend as much time on research because we were working on organizing the excel sheet of all of the stoves that had been given out. This was a vital role, though not part of our direct project. Without corrected information files, CEDESOL would not have been able to apply for more funding. We chose to spend time on this administrative task because the office was so overwhelmed with work that it was an ideal job for interns while we worked to get acclimated with the work environment and get a better grasp on what we wanted our project to be.

C. Toro Toro

In Toro Toro, our main goals were to learn about the community and to conduct the official surveys in 10 schools to better inform the curriculum CEDESOL was in the process of building for the schools where new stoves were going to be delivered. However, we faced many challenges once we arrived. The language barrier was the first issue we encountered. Wendy and Caroline do not speak Quechua, so trying to gain insight from the students was difficult. It provided an opportunity for us to think creatively and use other methods besides speech to gain trust. We ended up playing various games with the students and this helped them open up to us more and speak through Lupe and Victor more freely. The financial issues proved to be the most difficult to overcome. The car broke down multiple times and David had no money to send us to get it fixed. This barred us from visiting all intended 10 schools. We spent a lot of time in the broken down car with not much we were able to do. Health concerns also made Wendy and Caroline leave earlier than expected.

Ultimately, we were able to formally interview about 20 students across five schools. We were also able to formally interview five teachers and school administrators during our time. Most importantly, through informal conversations over dinner and just engaging in their everyday activities we learned about the communities needs for new educational materials due to the lack of funding from the state.
Pictures 4 and 5: Students in Toro Toro and Caroline conducting field surveys

Picture 6: School member in Toro Toro cooking dinner for the students on a concha

Pictures 7 and 8: Students in Toro Toro and Wendy conducting field surveys

D. Post-Toro Toro

After our trip to Toro Toro our goals were to record the survey results in an organized way to be used by CEDESOL, analyze them, and collect educational materials and resources based on our findings. Nearing the end of our time in Bolivia, this was a lot to accomplish in a short time, but
it provided us with the opportunity to use our time really thoughtfully and come up with results that would be most useful and applicable for many contexts. Instead of creating complete educational plans, like we originally planned to do, we ended up spending more time collecting a wide variety of resources and crafting activities that could be used on a wide range of student ages and educational levels.

RESULT

Overall, our project was left with positive and negative results. Unfortunately, we’ve had incomplete follow up conversations, as well as in incomplete booklet of educational materials, as originally planned. However, our positive results included completing more surveys at each school than expected and a wide range of materials for CEDESOL to use. The completed organization of the excel spreadsheet has also hopefully allowed CEDESOL to be considered for more funding.

In the future we hope that our work is sustainable. Throughout the entire project we critically analyzed our roles as volunteer interns. We never wanted to be working for the community, but with the community as partners and hopefully this means that if we did our job, the materials and outcomes of our project will be useful and live on past our time in Bolivia. We also hope to continue communication with CEDESOL and check in regularly to assess the success of our project.

CONCLUSION

If our time in Bolivia taught us anything, it is “todo es posible, pero nada es seguro” which roughly translates to everything is possible, but nothing is certain. Throughout our work in Bolivia it was important to not get bogged down in the limitations of what we can do. We had to remind ourselves that though nothing is certain, we have the opportunity to make many things possible. This is a mindset that both Wendy and Caroline have brought back to their lives in the United States and hope to carry with them in wherever life takes them in the future. Asset Based Community Development is not about seeing what is wrong or missing from a community, it is about seeing what is possible with the assets already there. It is a mindset that allows for growth and hope and pushes people and communities to move forward and expect better. It is about partnership, not service. It is about seeing that though nothing may ever be certain, it is always possible.

If we could recommend anything to future groups, it would be to remember that everything is possible, though nothing is sure. Keeping that mindset will allow future participants creating sustainable projects in collaboration with communities around the world to remain hopeful that progress will happen, while being open to new ideas and new routes of
getting to your end goal. This mindset allowed us to take time to really listen to our community partners and combine our outside perspective with theirs to come up with solutions that we would never have found before.

![Picture 9 and 10: CEDESOL Professional Staff and CEDESOL Intern Staff](image)

**Works Cited**


**Resources**

1. GESI field notes and journal entries
2. GESI essays
3. FSD reports
4. Field surveys
5. CEDESOL Staff members and their experience (Paola, Lupe, David)
6. Other interns’ projects and materials (Pierre)
7. Teachers and students from the Toro Toro community

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