

Indispensable Homes in Third World Countries: Constructing a home in Tijuana, Mexico

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This project was created to explore a way in which poverty around the world could ultimately be reduced. The way in which this project intends to demonstrate a method used to reduce poverty is by building a home for a specific family in Tijuana, Mexico. In doing so, this home will act as a model home for a manual, comprised of steps that should be taken to construct similar homes throughout any third world country. The goal of this project is to highlight the importance of poverty in the world while also creating a buildable solution in order to reduce poverty rates on a global level. In order to make an accurate and usable guide for constructing homes for third world countries, creating this manual during the building process will minimize error within the project manual. This project manual will include in depth procedures in constructing the foundation, framing, roofing, exterior and interior of the building. Along with these detailed procedures this project manual will include detailed plans, a cut list, and an estimate of costs for this project. Furthermore, the project will incorporate an in depth analysis within this paper.

Key words: Poverty, Nonprofit, Tiny House, Construction Management, Manual

Introduction

Poverty is the state of not having the appropriate amount of income or material possessions in order to live off basic needs in this world. A shelter to live under is one of the top three basic needs amongst food and clothing in regard to absolute poverty. In 1996, 61.40% of Mexican citizens lived off of less than \$5.50 per day decreasing to roughly 22% in 2018, Mexico Poverty Rate (2021). I believe poverty rates and homeownership rates have a negative correlation, as homeownership rates increase, poverty will decrease, and according to What is Poverty (2021). Homeownership single handedly has long been the primary way for families to build wealth. Not only do homes create a more stable life for families but they also create a healthier life as well as a brighter financial future. This is why, for my senior project, I have created a manual to teach organizations or individuals how they can make a difference to a family of poverty. This project will focus on helping people in poverty by not only building one family a model home but also by creating a template for success in constructing the same

project elsewhere. This project will include how it came to mind, how I got involved, as well as a manual for success in constructing this model home.

Reflection

This project came to mind as I longed for a way to make a difference. Since my first job, I was always taught that I should donate 10% of my money to a good cause. Not only does this help reduce possible greed that may form inside me as I make money, but it also helps people in need. I wanted a way I could give money while also being a part of it and gaining an experience from it. As a construction management major, I enjoy seeing projects come together and I like to build. So building homes for the poor inherently seemed like a great idea. I looked into many different organizations and found out one of my roommates at Cal Poly was involved with Homes of Hope (2021). As of today, I have had the opportunity to build four different homes in Mexico. As I helped with these projects, they were all in very rough neighborhoods where I would see hundreds of people besides the family, who was receiving a home through this organization, in very deep poverty. Often times these other families would be in a poor living situation as well. The saying, "Give a man a fish, and you feed him for a day. Teach a man to fish, and you feed him for a lifetime" commonly would run through my head. Then as my senior year approached, I knew my senior project would arise quickly so I figured this would be a perfect time to teach the ways in which a small home can be built in order to allow others outside of Homes of hope, Homes for Humanity, or any other organization to be equipped with the skills to build one of these homes.

Background

The home we built was located in Tijuana, Mexico. The family of four, before our arrival, lived in a 10' by 20' structure made of various scraps of metal as well as wood, the walls were comprised of whatever materials the family could find. It was also built on dirt with plywood acting as a roof. Having dirt as your primary floor in a home could lead to all sorts of health issues, not only this but the home looked like it could of easily been knocked down in a storm. The jobsite for this project was a fairly flat lot in a somewhat hilly area. All the streets in this area are dirt and almost every home is unfinished. The family we built this house for was carefully selected with the help of Homes of Hope (2021), which is an organization that has built thousands of homes in Mexico. The chosen family must own the land in order for Homes of Hope to agree to help build the family a home. This gives the family incentive to save up to purchase some land and gives assurance that their new home could not be taken from them.

Approach

My team, with the aid of Homes of Hope, showed up to the job site on a Saturday morning with intention of completing the project the following night. Fortunately, the foundation was already poured thanks to Homes of Hope, making this a manageable task. Assisted by Homes of Hope, we had four more experienced builders, one for each team, which is addressed in the project manual I created. The Cutting Team, Framing Team, Roofing Team, and the Painting Team were all assisted by one individual from the Homes of Hope organization. These four teams tasks will overlap creating an

efficient, time and cost effective project. The four experienced individuals did not have plans that I am aware of so we built the home simply off of chain of command through their experience. However, during the building process I was able to take notes, snap photographs, and paid close attention to the building process in order to create the most efficient manual based on the home build. Homes of Hope however did provide me with an estimate of costs for the majority of the materials. This estimate however was in Spanish so I had the opportunity to learn some Spanish construction terms in the process. The estimate also excluded doors, fixtures, windows, insulation, paint, and the foundation so I priced these items based on standard costs in the industry. This home build project was fast paced, and I had the ability to learn more about the ins and outs of hands-on construction as well as see the full scope of the project being completed in a matter of two days.

Analysis

After the completion of this home build and project manual, I realized there were many different outcomes that came as a result of the final product, both good and bad. For the better, working together as a team with the same common goal created unity and new relationships and friendships amongst people I previously barely knew or had just met. Another positive is the build created motivation for the family to do all they could to save money to buy their land. The build would not have happened if they did not own their land first. It provided a home for a family in need which was a true blessing for the family, but also a blessing for me to be a part of as well as for the other participants. From start to finish of this project, it took our group's effort, resources, and labor of only one weekend while it would have taken years for this family to do it on their own. We saved time, money and energy not reinventing the wheel but learning from those who have already built homes down there. The fact that this family now has a foundation to live on instead of living on dirt will create better overall health for them and less days missing work and school inherently aiding the family to remove themselves from the cycle of poverty. Not only the health and financial aid that comes to this family from home ownership, but the family can now pass down their home to the next generation as well. This instills more pride and a gratification in being able to provide their children with something for their futures as well.

On another note, I witnessed some problems along with this project. The home does not provide gas or water, and although we incorporated electrical in the model home, I decided it was best to leave it off the plans because often times homes in third world countries don't have access to electricity or the family can't afford to pay for it. This is actually a major problem in Mexico, however the majority of families in Mexico access electricity, but they do this illegally by running extension cords from external sources. As mentioned previously, the home does not have a water line or plumbing within it, meaning the house has no bathroom so the family needs to go outside to go the restroom and create their own hole in the ground or a different way to remove waste. However, this is from a perspective of someone who is fortunate enough to grow up with bathrooms indoors but for this family this is no new experience. Another negative I noticed, based off our team, is that when you have inexperienced people working on construction sites with few supervisors, injuries are more likely to occur. Lastly, the family will now have to pay for the upkeep of the home which is an added expense they did not have before. Although, this project had some negatives that come to mind, the project's benefits completely outweighed these issues.

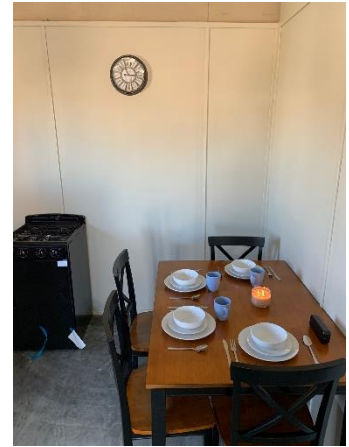
Conclusion

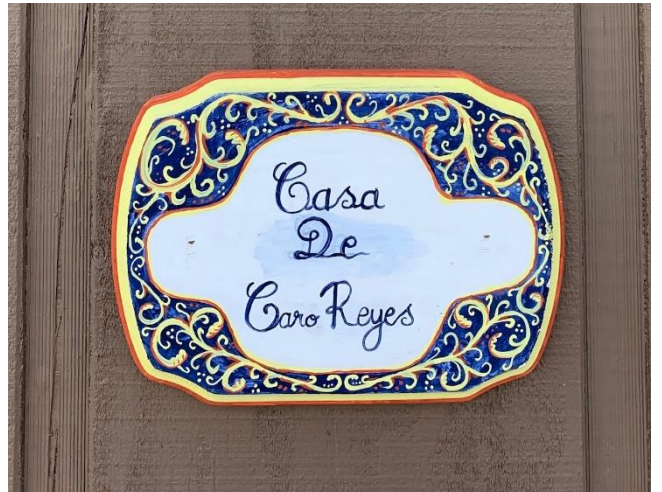
Overall, this project was created to explore a way in which poverty around the world could ultimately be reduced. This project demonstrated a way in which poverty was able to be reduced by helping one family, while also potentially helping many future families of poverty to come. This project has the capability to expand beyond helping one family because it provides in depth procedures of how to easily construct a home for a family in need. This goal to help households in third world countries was accomplished while also allowing me to gain a tremendous and priceless experience. In the end, I was able to gain valuable hands-on construction experience from witnessing the construction phase from start to finish. I was also able to gain knowledge of the overall scope of this construction project, being such a small project, I was able to see the approach we took as well as see how overlap can take place within various tasks on the schedule, time could be cut and money could be saved. Lastly, this project discovers the major issues with poverty, as well as determines elements of this project that were performed very well and issues that could potentially be altered.

Gallery









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