

Creating a Sustainable House for Klong Toey

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Introduction

This capstone is on creating a sustainable house for a slum named Klong Toey in Bangkok. The people that currently live there face health problems, water and power shortages, and live in homes made of materials found nearby.

Methodologies

This capstone looked at two different case studies done on similar projects. The first one was in Mexico and the other was created for a competition. I looked at any possible improvements and what they performed well to incorporate into my project. I also did a cost benefit analysis on whether it would be better to do a completely sustainable house or include a few sustainable attributes.

Data

Case Study 1: Mexico



EcoDomum

The final proposal used the recycled plastic panels that came from this case study for the walls and roof.

Case Study 2: Competition



Inhabitat.com

The proposed building took the cross breeze ventilation designs from this case study, but instead of using the whole wall it just uses

Old Vs. Proposed



Linden Road Academy



Accent Magazine

Current Housing



Proposed: Simple Design

Current Housing



Proposed: with Sustainable add-ons

Results

Simple Design

The proposed design for the simple house is built out of 4 materials and is low-cost. It uses bamboo, recycled plastic panels, corrugated metal, and paint. The total cost of the materials for this house is \$538.

Sustainable Add-ons

There were 4 sustainable features that were looked at: solar panels, wind turbine, rainwater harvesting system, and corked floors. The total cost of the simple design with the sustainable add-ons is \$1,393.49

Conclusion

The end result is that only the simple design should be made because the add-ons cost are too high. This design helps Klong Toey in 2 ways by giving them new sustainable houses and by reducing there plastic waste.