INCREMENTAL HOUSING IN GUJARAT, INDIA

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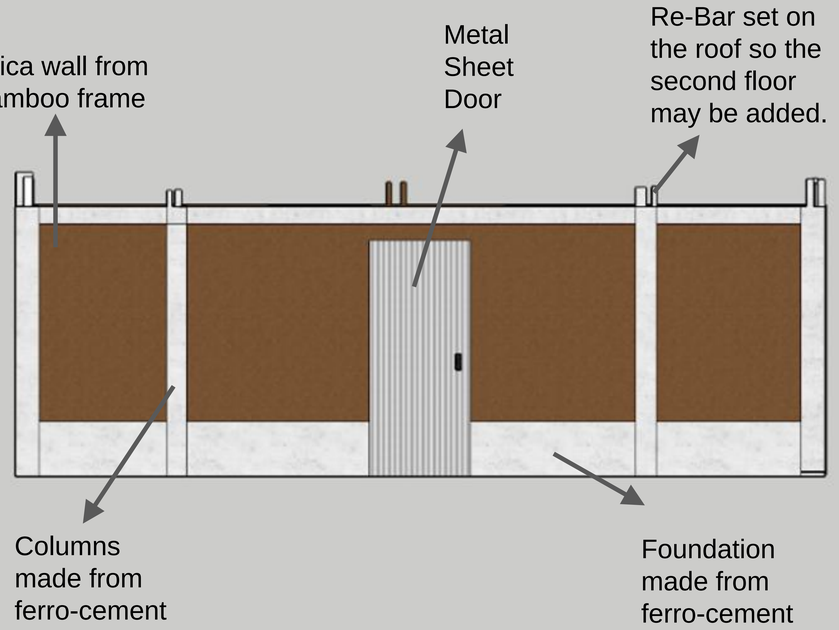


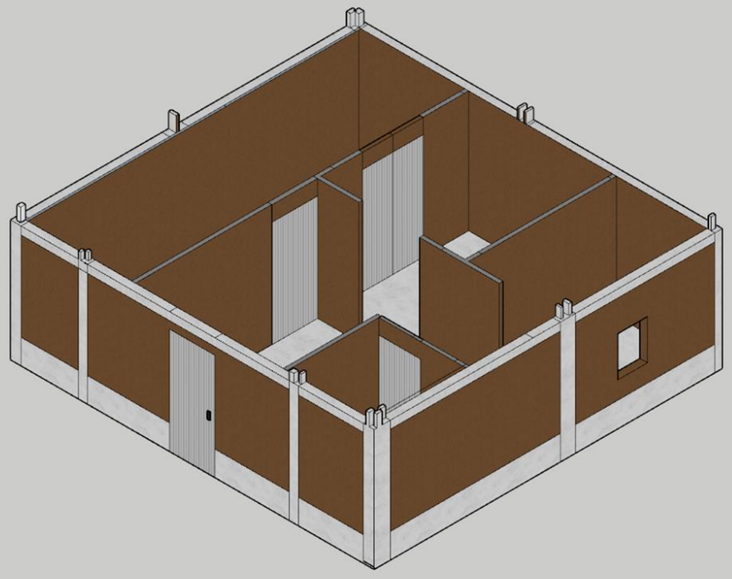
Front View of House

Abstract

We are proposing a long term housing solution which the method of incremental housing will be applied because it will be cost effective and uses minimal land.

Background

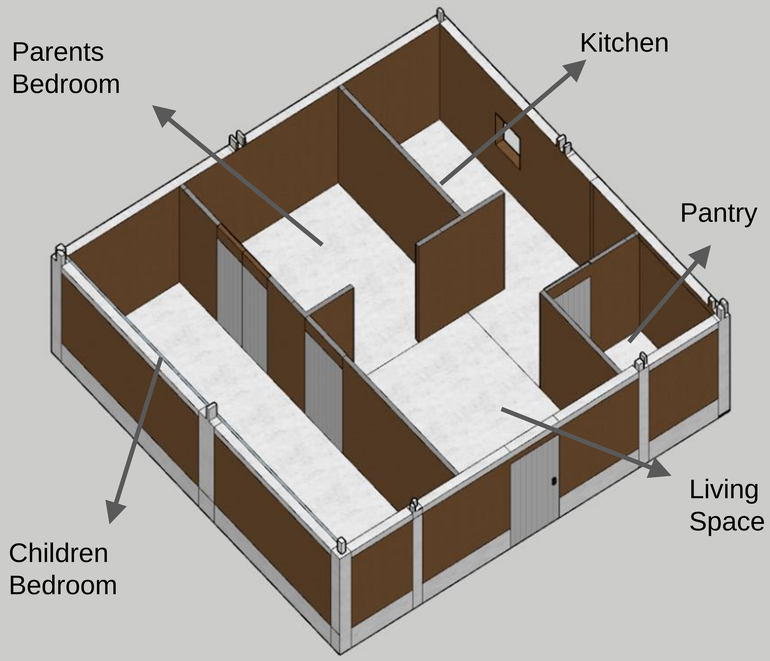
- Gujarat, India was hit with a 7.7 M_w in January 2001 causing massive displacement among its citizens due to the destruction of many homes
- The housing crumbled due to materials that could not handle the stress of the tremors and vibrations of the earthquake.
- Hundreds of thousands of people were displaced, especially those in the urban areas of Gujarat State.



Side Elevated View of House

Incremental Housing

- Low-cost and efficient way for low income families to create shelter for themselves with government help.
- Starting with one floor, built with the help of hired local construction and NGO aid.
- Due to lack of space and available land in the cities of India the houses must be limited to a total of three floors.
- The floors above the first floor are recommended but optional to the homeowner, but will be slightly subsidized by the Indian government.



Top View of House

Gujarat Design

- We have decided to use Bamboo as our structure for the frame due to it's flexibility and strength to face future tremors.
- Another material we are using is silica made from rice husk for the covering over the frame, it is low cost and abundant to the region.
- We are using ferro cement as the foundation, and vertical columns to support building more floors while keeping the whole of the building structurally stable.
- On top of the four corners of the roof we are putting rebar to support another floor that may or may not be built above it
- This allows for the homeowner to build incrementally while keeping the entire housing structure stable and flexible during further tremors.