

## C2P Case Grant Competition 2016

### **The Synergy House**

The biggest challenge in the construction industry is the non-utilization of the waste produced. An average construction site houses nearly 50 worker families, which typically stay there for 2-3 years. After the duration, the entire site is abandoned and the shelters for the families are either demolished or left as they were. This creates a big issue for the reusability of the materials for both, the builder (who is the stakeholder meant to supply the money) and the environment. There are nearly 4 million construction workers in India; Delhi itself has 400 construction projects running parallel.

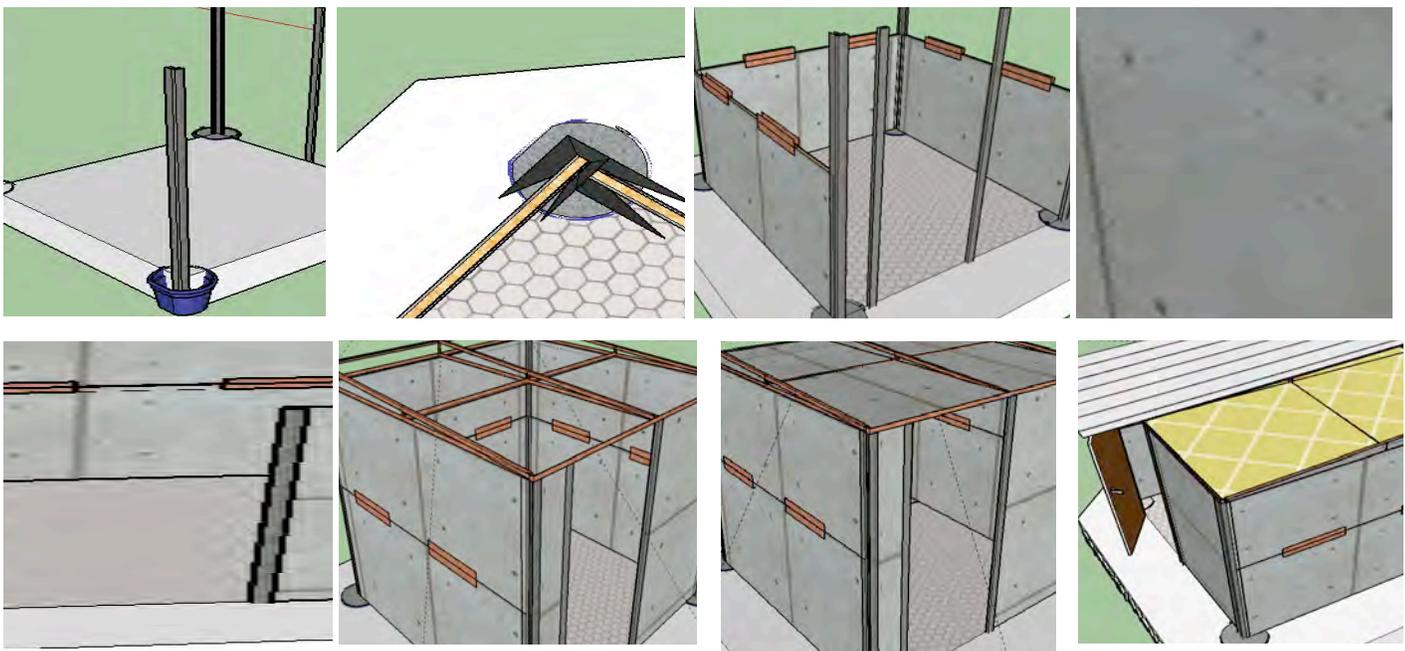
We focused our attention to the above mentioned problem: change the reusability index from 25% to something which was economical, environmental friendly. The group designed the Synergy House after a thorough field research which included extensive surveys on various sites:

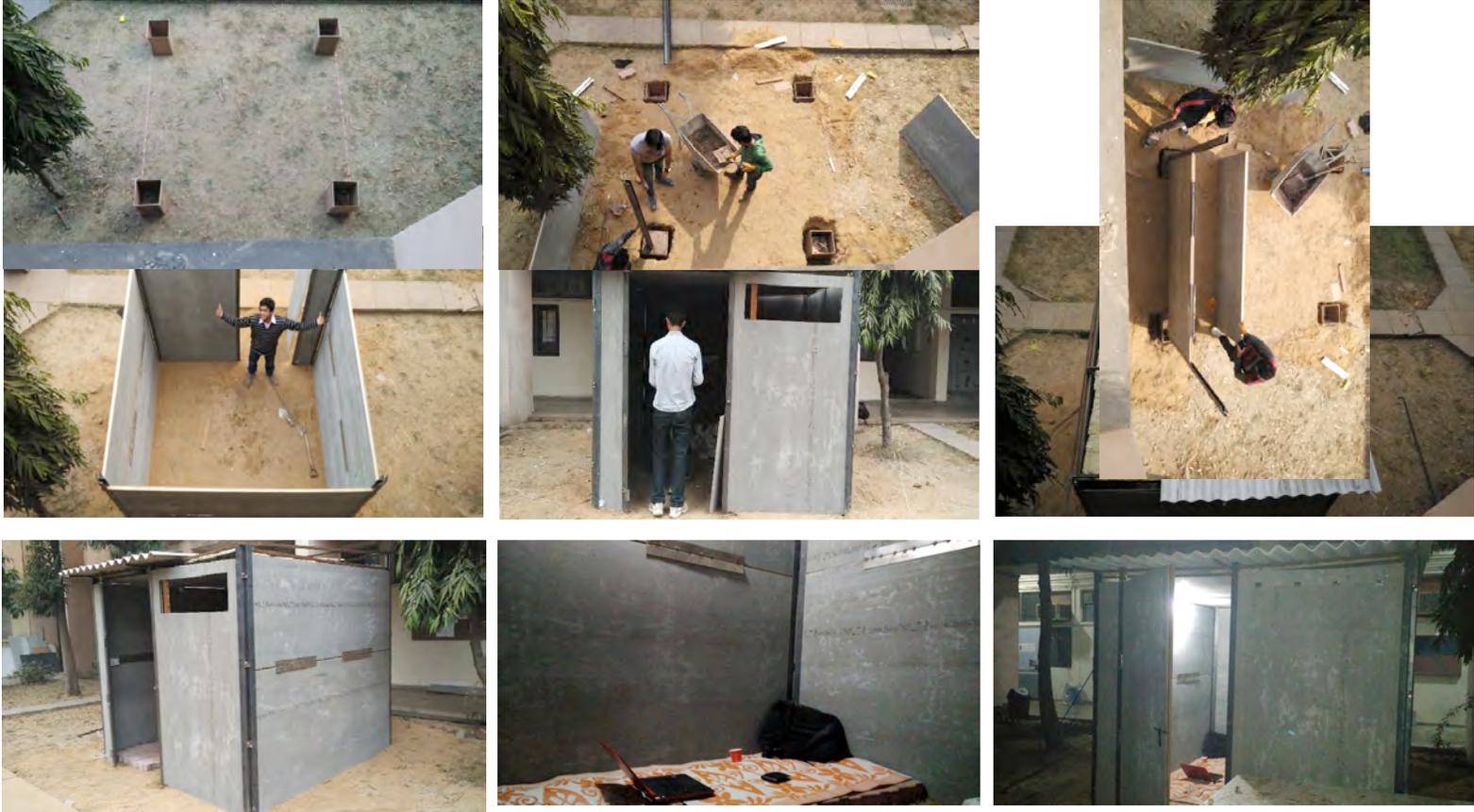
1. Amrapali Group (Centurion Park) - NOIDA
2. PWD Workers (Road Maintenance) – In front of IIT
3. DMRC Construction Workers Housing – Gautam Nagar
4. NIFT Hostel – Green Park



After the research, we were able to exactly cater the problem at hand: Make the house more “livable” and reusable and economical at the same time.

The group came up with different designs, out of which the Frame and Panel structure suited all the needs in the best way.





The Synergy house can be used in place of the traditional brick and mortar house which are being used as the current housing facility at construction sites. The Synergy house has an installation time of 6 hours and used Frames and Panels. The materials used is heat resistant, water resistant and insect resistant. Thus it can provide good thermal insulation during the winter seasons and also good protection against rains. Also, the problem of open electrical circuits has been talked in the house. The wires are placed inside the sandwiched panels which conceal them.

The Synergy House has a reusability of 92% and has a life of 50 years. So even if the house is used for 10 years, comparing the house with the traditional housing, this solution can save the builder from creating the brick and mortar house for each family by about 4-5 times.

## C2P Classroom Principals and Learning

This event helped us in realizing the problems while taking the product to the market. The various challenges and the main challenge: The business model.

Before the competition we were clueless about the marketing strategy and how the product should be given to the builder. The program helped us to come with new strategies for product marketing and deployment. We came up two strategies: **Rent and Buy** and **Buy back** strategy.

### Fund Utilization

The funds allotted will be utilized mainly in three ways:

1. **Renting the warehouse/ storage facility:** The material and products need to be stored before deployment
2. **Creating the consumer base:** The initial shipment and travel expenses for the product (since we would be focusing in Delhi initially)
3. **Material procurement**

Expense Type	Rough Estimate
Renting	Rs. 20,000 – 24,000
Shipment/ Travel	Rs. 6000 – 8,000
Material procurement	Rs. 10,000 – 12,000