

## CATEGORY

# BUILDING SYSTEMS



## PRODUCT / TECHNOLOGY



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Technology Detail

## COST-EFFECTIVE CONSTRUCTION TECHNOLOGIES USING STABILIZED MUD BLOCKS, RAT-TRAP BOND, FILLER SLAB & BAMBOO PRODUCTS

*Various Alternatives to conventional walling & roofing system*



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Video

## CONTACT DETAILS

### Habitat Technology Group

Contact Person: Shri Gopal Shankar

Address: Grandhasala Rd, Near Sree Saraswathi Temple, Poojapura,  
Thiruvananthapuram, Kerala 695012

Email: habitat.technology@gmail.com

Mob: 9847061414



## BRIEF

Established in 1987 in Kerala, Habitat Technology Group is one of the largest Non Government Organizations (NGOs) in the building sector operating in the Country, which is committed to the concept of green and humane architecture. It has been recognized as a nodal agency to carry out developmental works under the decentralization process in Kerala. The main activity of Habitat group includes Customized Shelter Solutions suiting to the client's requirements and budget, and Community Living employing environment-friendly sustainable technologies to create townships and community living centers. The technologies primarily employed are;

- Mud Architecture (COB, Rammed Earth, Wattle and Daub, Adobe, Stabilized mud blocks), primarily using soil stabilized with binder, wood, straw etc.
- Rat-Trap Bond (Creating a cavity (hollow space) within the wall)
- Filler Slab (Replacing the concrete in the bottom half of slab with cheaper locally available filler material)
- Bamboo based components (Joinery, Walls, Column, Roof) : Bamboo is a very fast growing natural building material with very good engineering properties



Other important activities include;

- Responding Centers: Have responding centers at most places in Kerala, few outside and selected places abroad.
- Disaster Interventions: Habitat's effort to help & reorganize the people & families affected by disasters.
- School Of Housing & Training: Capacity building for workers and professionals in the shelter sector using extensive training programs
- Research And Development: Research and development in appropriate technologies and materials
- Information & Dissemination: Information dissemination on cost effective shelter solutions.

## SALIENT FEATURES

- One of the largest NGO's in building sector in India
- Have 32 responding centers spread in 10 states.
- More than 300 professional architects & engineers.
- 30,000 trained habitat workers.
- Pioneers in promoting sustainable & ecofriendly building technologies in India,
- The technologies employed have lower embodied & operational energy, lower emissions, reduce the requirement of energy intensive materials as cement & steel, & brings economy through resource efficiency & use of local materials
- Have designed and built more than 20,000 buildings including residences, theaters, commercial complexes, institutional campuses etc.
- First township using cost-effective technologies at Sirumugai near Coimbatore

## ECONOMIC ASPECTS

- The products/ technologies are based on local & natural materials ( fast growing bamboo) which are cheaper & reduce the consumption of cement & steel, thereby reducing the cost of construction
- Machineries/ techniques used are generally simple, therefore any person can be trained with little efforts for the construction job, thus providing local employment.



### SUSTAINABILITY ASPECT

- Replacement of cement & steel with locally available resources reduces the energy consumption.
- Avoids the use of burnt clay bricks, thus reduces the Green House gas emissions due to burning of fossil fuels & preserving the top fertile soil for agricultural purpose

### SUITABILITY AND AVAILABILITY

- The products/ technologies are environment friendly & suitable for all climatic conditions. Services available primarily in Kerala and selected places in India and abroad.

### LIMITATIONS (IF ANY)

- Mostly available in Kerala.

### MARKET LINKAGES

- Services available in Kerala and selected places in India and abroad.



## MAJOR PROJECTS

- Science City, Kottayam ,Kerala
- K R Narayan National Institute of Visual Science and Arts, Kottayam, Govt. of Kerala
- Kerala State Literary Mission Head Office, Petta, Trivandrum.
- Mahan Tribal Rehabilitation Singrauli, Madhya Pradesh
- Headquarters for CCDB, Bangladesh, The largest mud building in Asia
- Disaster Relief Project Puthumala, Kerala
- Haristhali, Sector 32, Naya Raipur, Chhattisgarh
- Siddhartha, Thruivananthapuram, Kerala
- Bamboo School and Hostel, Trivandrum.
- Director General's home at NIRD, Hyderabad.

## CERTIFICATION/INDIAN STANDARD/ENDORSEMENT

- National Award for slum rehabilitation works instituted by the Ministry of Poverty Alleviation Govt. of India, SLUM REHABILITATION VELI – KERALA - 2001
- First Laurie Baker Award constituted by Govt. of Kerala for outstanding contribution to low cost housing technologies- 2008
- Padma Shri , Government of India in 2011
- National Award for best Eco – city Design by Govt. of India
- National award for green building SIDDHARTHA, DG Residence for NIRD- 2017-18
- National award for disaster resilient housing ASTER HOMES, KERALA – 2019
- National award for Cost Effective Urban Housing DGP's Residence- Kerala – 2020
- National award for green building BODHI, KERALA - 2020

