

# Centre of Hope

India / Tiruchirappalli, Tamil Nadu

10.7905, 78.7047

**Client Name:** Hope Foundation

**Project website:** <http://hundredhands.com/hundredhands/hope.html>

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## Project Description

The Centre of Hope in Tiruchirappalli is a mixed use facility housing a public dispensary, a community hall, a large dining hall, vocational training classrooms, an orphanage and a small old age home. The hot/humid conditions inform many of the decisions made with regards to the plan arrangement and choice of materials and finishes. Cost was also a huge constraint (at Rs.500/sft). All the main living areas were oriented north-south. Restrooms and deep verandahs were located along the western edge of the building. The region has very good quality bricks and a sophisticated tradition of brick masonry construction. Using the available skills most of the building roofs were made using brick vaults covered with broken ceramic. This roofing system serves as a good insulator and helps reduce costs substantially.

## Building Details

### Type of Building

Community Hall + Vocational Training + Dispensary + Orphanage

### Type of project

New building project / public facility

### Site Area

4047 m<sup>2</sup>

### Number of Floors

2

### Gross floor area

2780 m<sup>2</sup>

### Net floor area

2200 m<sup>2</sup>

### Non Air-conditioned area

2200 m<sup>2</sup>

### Total Cost

USD 230000

### Cost per m<sup>2</sup>

USD 83

### Year of completion

2005

### Year of occupancy

2005

## Project Team

### Organisation

Hundredhands

### Website

#### General contractor

Joseph Louis & Co. (Er. M. Manimaran)

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#### Structural Engineer

Design Cell (Sridhar)

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#### Architech

Bijoy Ramachandran

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#### Architect's profile

Partner, Hundredhands

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#### Architech

Sunitha Kondur

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#### Architect's profile

Partner, Hundredhands

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#### Architech

Sreedevi Gopinathan

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#### Architect's profile

Project Architect

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#### Architech

Nayantara Karnik

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#### Architect's profile

Project Architect

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#### Other (Please specify)

Er. S. Rajendran Construction Coordination

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## Climate Analysis

#### Describe the local climate

Tiruchirapalli (Trichy) has a warm temperate climate with dry winters and hot summers. Over the course of a year, the temperature typically varies from 21°C to 38°C and is rarely below 19°C or above 40°C. The warm season lasts from March 23 to July 15 with an average daily high temperature above 36°C. The hottest day of the year is May 15, with an average high of 38°C and low of 27°C. The relative humidity typically ranges from 37% (comfortable) to 96% (very humid) over the course of the year, rarely dropping below 28% (dry) and reaching as high as 100% (very humid). (Source: <https://weatherspark.com>)

## Design Approach

#### Concept

This mixed use facility has a set of public functions (open access for the community) - dispensary, vocational training and community hall & dining and a set of private functions (restricted access) - the orphanage and the old age home. The two program groups are clustered around two courtyards. Using a linear plan form (reflecting the spans possible using a segmental brick vault) all the main living areas are completely cross-ventilated with opening along the north and south walls - catching the prevailing breezes from the South west and north east. Stacked onto the western edges of these linear forms are restrooms and deep verandahs. The vaults serve as another shield from the heat given that they are in brick and covered with ceramic (broken china).

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#### Site integration

The site is in a sparsely populated area and is relatively flat with no existing vegetation. All public uses within have direct access from the road. The water tank at the south east corner serves as a marker when seen from this access road.

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#### Building design

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## Special Feature

### Natural Lighting

Timber screens (using waste teak wood from one of our other projects) help shade the windows and facades.

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### Passive heating/cooling

There is no air-conditioning in the building. Passive strategies include: deep, recessed opening shaded by timber screens, slender plan forms helping cross ventilation, appropriately located back of house areas (restrooms, stores) and verandahs to shield from the western sun and brick used in the roofing (in vaults) covered with broken china (ceramic) serving as an insulator against the heat.

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### Cost effective features

Use of recycled material (using waste teak wood from one of our other projects for timber screens), locally available materials (cudappah, attangudi tiles, brick), jungle wood door/window joinery

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## Energy systems

### Interior Lighting

CFLs & Tube lights (couldn't afford LEDs in 2005!)

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### Exterior Lighting

Tube lights (couldn't afford LEDs in 2005!)

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### Ceiling Fans

We used ceiling fans but not sure of the efficiency.

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### Air-conditioning

No

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### Lift

No

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