High Thought – Low Tech

Samuel Luiken Bouck
sbouck@utk.edu

Forrest Jackson Reynolds
University of Tennessee - Knoxville, freynol1@utk.edu

Follow this and additional works at: https://trace.tennessee.edu/utk_chanhonoproj
Part of the Other Architecture Commons

Recommended Citation
https://trace.tennessee.edu/utk_chanhonoproj/1648

This Dissertation/Thesis is brought to you for free and open access by the University of Tennessee Honors Program at Trace: Tennessee Research and Creative Exchange. It has been accepted for inclusion in University of Tennessee Honors Thesis Projects by an authorized administrator of Trace: Tennessee Research and Creative Exchange. For more information, please contact trace@utk.edu.
Vision
Constructing prosperity through integrated community in rural India

Intention
To preserve contextual form and instil innovative function

Project Initiatives
Opportunity for contentment
Embrace traditional culture
Provide adaptable variations
Graft project into site context
Incremental Phasing

Phase 02

Collaboration with India
Phase Objectives
Research and establish form and performance guidelines
Research and establish material and system frameworks
Establish a concept design
Establish a site design

To preserve contextual form and instil innovative function

Traditional Solutions
Innovative Design Solutions

Regional Resources
Intentional Design
Flexible Materials

Traditional Materials
Local Craftsmen
Climatic Strategies
Family Patterns
Seismic Design
Building Methods
Life Cycles

Masonry
Bamboo
Rammed Clay

Mexico site
USA site

concept site plan
concept site diagrams

Vision
Constructing prosperity through integrated community in rural India

Intention
To preserve contextual form and instil innovative function

Project Initiatives
Opportunity for contentment
Embrace traditional culture
Provide adaptable variations
Graft project into site context
Incremental Phasing

Phase 02

Collaboration with India
Phase Objectives
Research and establish form and performance guidelines
Research and establish material and system frameworks
Establish a concept design
Establish a site design

To preserve contextual form and instil innovative function

Traditional Solutions
Innovative Design Solutions

Regional Resources
Intentional Design
Flexible Materials

Traditional Materials
Local Craftsmen
Climatic Strategies
Family Patterns
Seismic Design
Building Methods
Life Cycles

Masonry
Bamboo
Rammed Clay

Mexico site
USA site

concept site plan
concept site diagrams
Strategies
Design strategies focus on the geographical context of West India, the economy of the region, and the local culture in Wagnagar. The strategies focus on ease of construction, materials, community and climate.

- Raised floor slab
- Double roof system
- Rainwater collection
- Common gathering space

Life-cycles
- Construction methods
- Seismic design
- Family patterns

- Phasing 01: build-out construction phasing
- Maximum Density elevation

- Phasing 02: building house phasing
- Bread crust and double allowing for sludge and expansion

- Intermediate windows
- Plan separation by gathering space

- Section
- Connection by gathering space

- Deep overhang
- Knock-out block allows for future wall expansion

- Stable roof system
- Plan separation by gathering space

- Raised floor slab
- Rat-trap brick bonding

- Second floor expansion
- Independent roofing system allows for future vertical expansion

- Nuclear family
- Reinforced corner connection

- Family patterns
- Seismic design
- Construction methods

- Mid-day climate zone
- Passage proximity
- Kitchen-storage

- Night climate zone
- Loose boundaries
- Stacked wet program

- Master bedroom
- Private courtyard

- Sleep facing north

- Mid-day climate zone
- Right climate zone

- Extreme climate zone
- Right climate zone

- Migration patterns
- a.m. climate zone
- Courtyard proximity

- Footprint
- Building limits

- p.m. climate zone
- Tight boundaries
- Kitchen-courtyard

- Building limits
- Program area

- Phasing 02: building house phasing
- Holding house phasing

- Independent roofing system
- Allows for future vertical expansion

- Second floor expansion
- Intermediate buttresses

- Heavy / light construction
- Rat-trap brick bonding
Site Planning

The tradition and culture of Wagnagar demands preservation, yet balanced with site planning and design. The site is located in the center of the Wagnagar. The site location provides opportunities for the project to anchor itself into the context and traditional vernacular.

Site context
Grafting new site design into existing density and massing to match context.

Site massing
New density and massing sculpted equivalent to the existing site condition.

Public space
The public courtyards are carved from the mass to serve as cluster courtyards.

Building area
Each individual site is shown with approximate maximum building footprint based on program.
High Thought – Low Tech

A comprehensive study of housing in rural India
Sam Bouck + Forrest Reynolds
Professor Mark DeKay – Spring 2013

Vision
Construct Prosperity through integrated community for the other half.

Intention
Preserve form and instill function

Site Context

Site Context

Site Context

Phase One Built Out in Context

Site Section Through Plans 01 + 02

Site Section Through Plans 01 + 02

Site Section Through Plans 01 + 02
Climatic Strategies Bundle for Design

In the hot and humid climate of South Western India, there are several design strategies to consider for creating more comfortable buildings. Through the design of this project, this series of strategies were considered.

Photographs courtesy of students at the College of Architecture, Sardar Patel Institute of Technology, Vasad, India.

Bundle Illustration Diagrams courtesy of Mark DeKay.