

Design of Ecological resorts.

Case studies of Biome's projects.....



IMPACTS DURING CONSTRUCTION AND OPERATION,

- *ECONOMIC*
- *ENVIRONMENTAL*
- *SOCIAL*



Material/ Resource/Construction Technique/Design



Component	On site material	Local material	Non-Local material	Skill	Implication on site planning
Foundation	Stone, Fly Ash Bricks, local bricks, rammed earth	Stone, Fly Ash Bricks, local burnt bricks	Concrete	available, train, innovate	Quarries on site to be located and use of pits to be designed, Volume???
Walls	Cob, Adobe, S.M.B, Stone,Fly Ash Bricks	Soil, Bricks	Concrete,	needed, Local knowledge exists for adobe and cob	Quarries on site to be located and use of pits to be designed Volume???
Lintels /Arches		Concrete, stone, SMB,bricks,wood		needed,	None,
Reinforcements			Steel	needed,	None,storage space



Finishes component	On site material	Local material	Non-local material	Skill	Implication on site planning
Walls	Mud plaster, pointing	Mud plaster, pointing	Cement plaster, Claddings etc	needed	Quarries on site to be located and use of pits to be designed Volume??? For mud finishes
Wood	Cashew oil		Cashew oil, Paints etc	Available,	None
Floor finish	Rammed earth floor	Terracota tile, Stone floors,	Oxides???? Ceramic, Wood, Cement	Available, technique dependent	????



OUR NATIVE VILLAGE, HESSARGHATTA. BANGALORE.

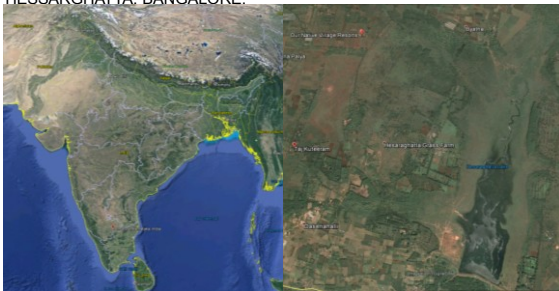
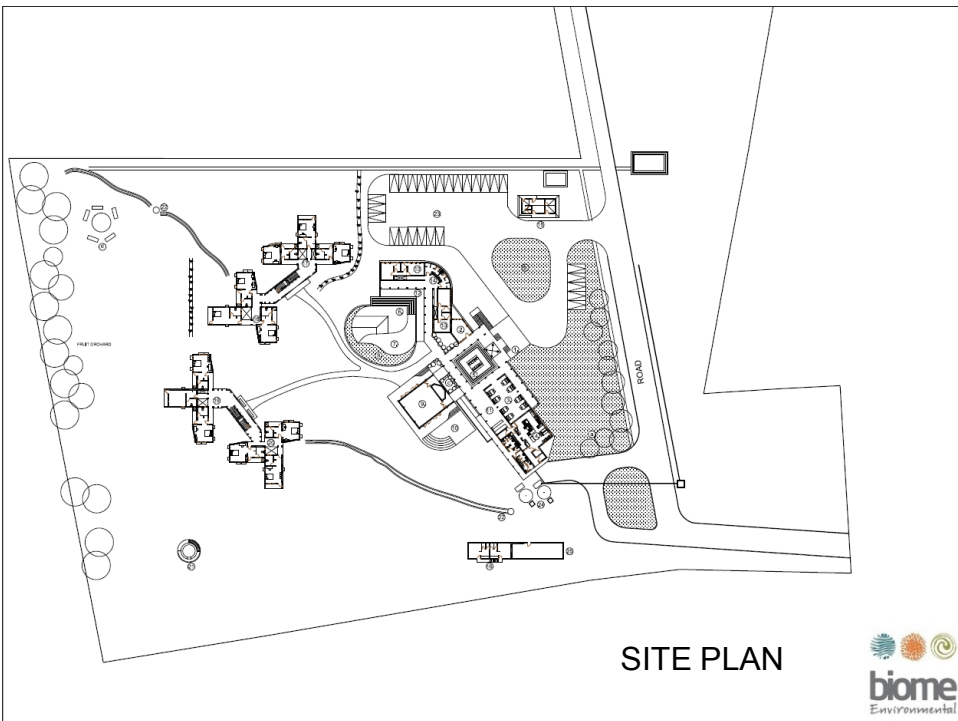




Image courtesy- Chinch Gymnoid

Hessarghatta lake



SITE PLAN





RED SOIL AND HORIZON



SECTION





BIO-POOL DURING CONSTRUCTION





COMPLETED BIO-POOL AND THE BUILDINGS AROUND



BIO-POOL AND OTHER FACILITIES





ENCOURAGING THE HANDICRAFTS



ALTERNATIVE ENERGY-SOLAR





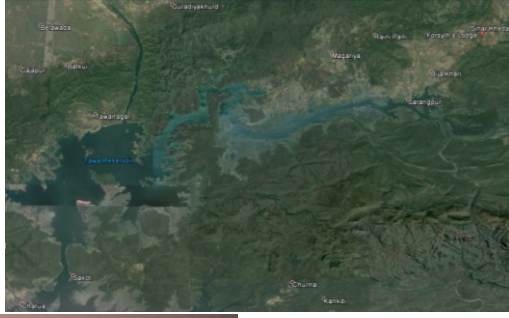
ALTERNATIVE ENERGY-WIND



ALTERNATIVE ENERGY-SMOKELESS CHULHA, BIOMASS HEATER,
AND BIO GAS.....



FORSYTH LODGE, SATPUDA, MADHYA PRADESH.



SITE PLAN





An open well, gives us both water and soil



Cob And Rammed Earth walls, using/developing using local skills





LOCAL SKILLS AND LOCAL CRAFTS—EMPLOYMENT IN THE RESORT FOR MAINTANENCE...



WITH ARCHITECTURAL INTERPRETATIONS.....





LOCAL SOILS FOR COLOURING THE EXTERNAL WALLS...



POLISHING POND BECOMES THE REFUGE FOR SMALL ANIMALS AND BIRDS.....





CELEBRATING THE GRASSLANDS TO THE ADVANTAGE....



INTERIOR – LOUNGE AND FIREPLACE...





INTERIOR- DINING AREAS.....



INTERIOR- LOUNGE AND BAR FIRST FLOOR.....





COTTAGES IN THE UNDISTURBED LANDSCAPE.....



INTERIORS- COTTAGE.....MUD RENDERED WALLS AND MURALS...





THE SWIMMING POOL



THE OPEN TO SKY TERRACE.....

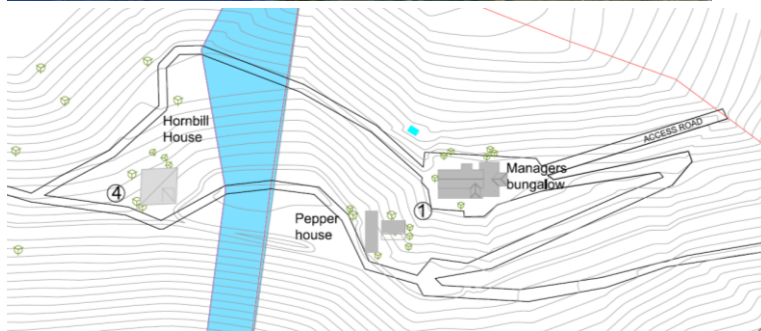
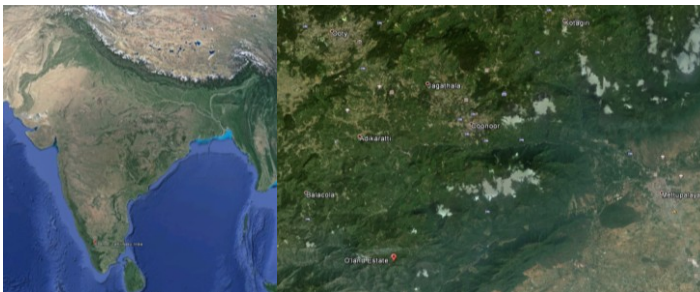


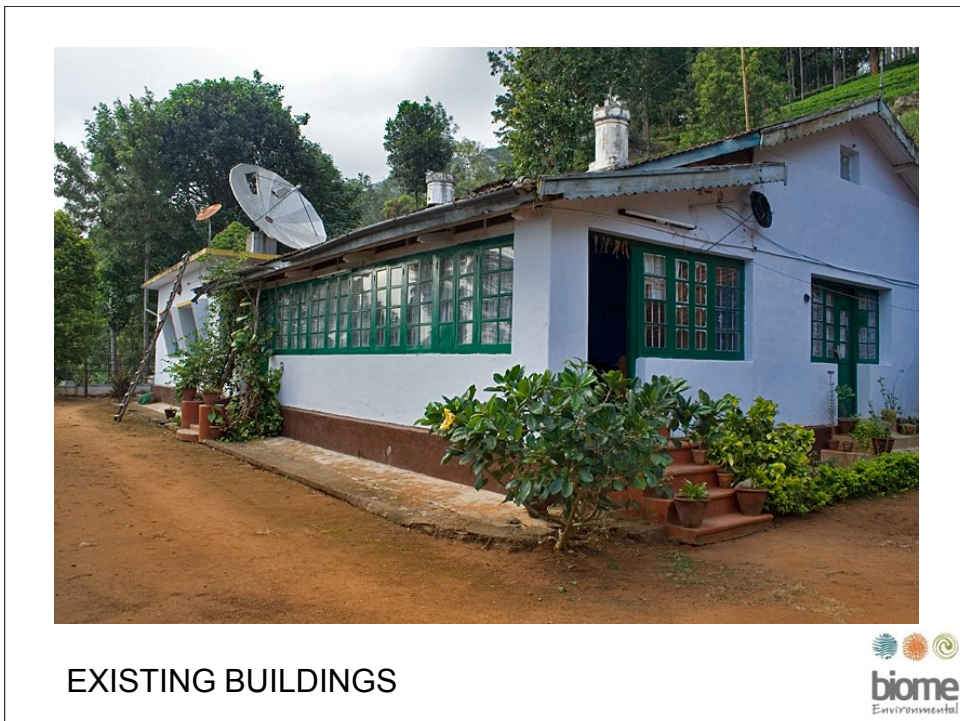
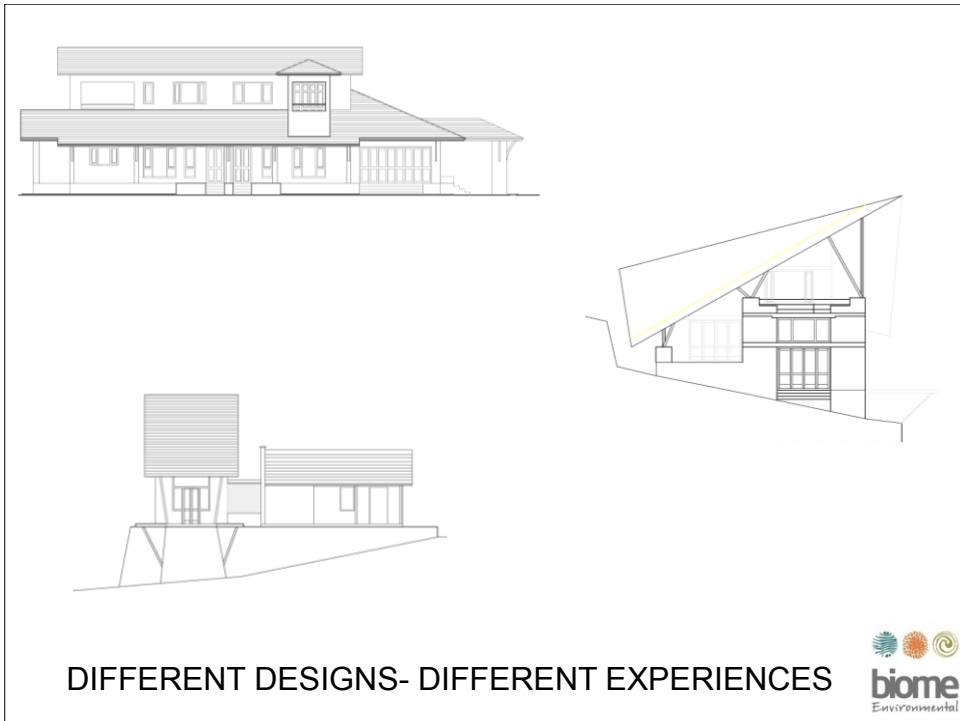


THE CLUSTERS IN THE JUNGLE.....



**OLAND ESTATE,
KULAKUMBAI, THE NILGIRIS.**







EXISTING BUILDINGS



EXISTING BUILDINGS





SOURCING MATERIAL FROM DEMOLITION



A ZERO DEBRIS- ZERO WASTE PROJECT





WASTE TILES- DOUBLE ROOFS



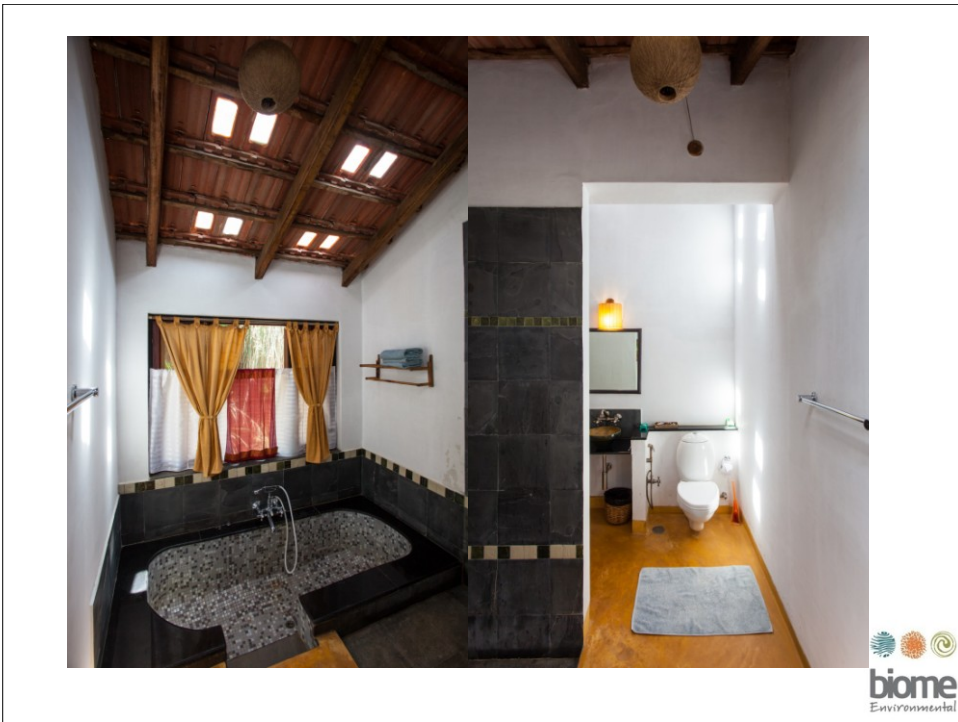
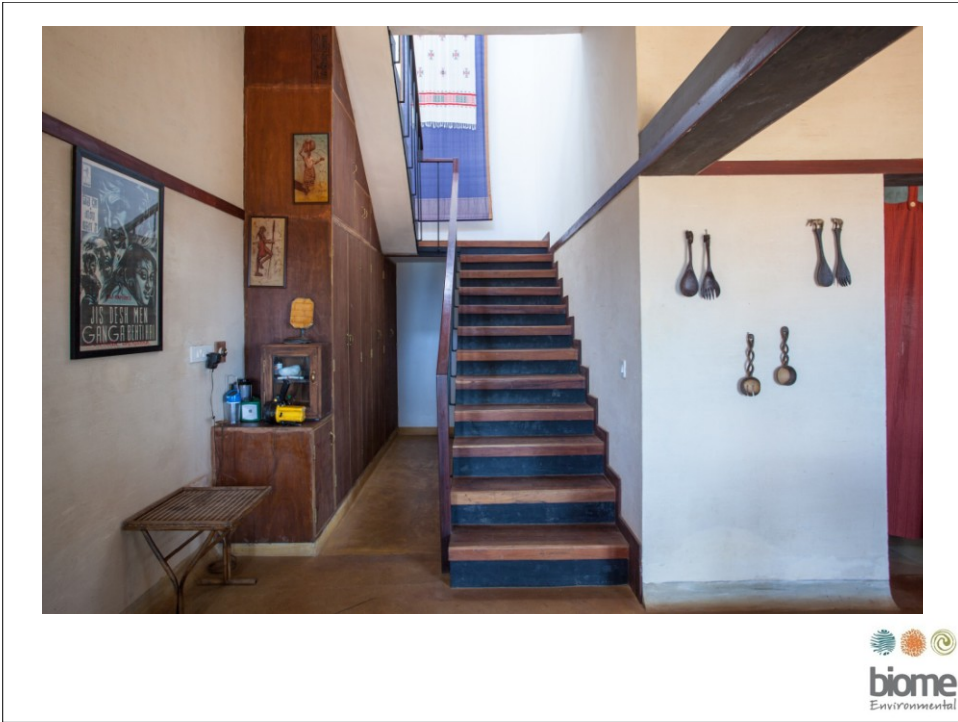


MANAGER'S BUNGALOW.....



INTERIOR -MANAGER'S BUNGALOW..BRICK VAULT CEILINGS







RECYCLED WOOD AND FURNITURES.....















GOVARDHAN ASHRAM,
GALTERE, THANE DISTRICT, MAHARASTRA.



FARMER'S COTTAGE MADE BY DEVOTEES,
TRAINING ON RAMMED EARTH

GOVARDHAN ECO VILLAGE MANIFESTO



□ **Minimize –**

-resource consumption

-waste generation

-overall ecological impact



- By Five R philosophy -
- Refuse
- Reduce
- Reuse
- Recycle
- Reinvent



- **Preserve existing Vegetation/or plant as per Griha**
- **Proper timing of Construction w.r.t. rains**
 - **Confine Const. Activity**
- **Erosion and sedimentation control**
 - **Preserve topsoil**





FOUNDATION:

- PCC WITH STABILIZED **MUD**
- STONE MASONRY WITH STABILIZED **MUD**
- CONCRETE SHORT POLES (AS BOND STONE)

WALL: STABILIZED MUD BLOCKS

- **MUD**
- QUARRY DUST
- LIME
- CEMENT

DOOR & WINDOWS:

RECYCLED WOOD

POINTING:

- STABILIZED **MUD** MORTAR.

PLASTER:

- IN TOILETS- CEMENT PLASTER.
- **MUD** PLASTER.

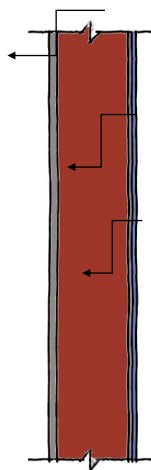
ROOF:

- ARCH PANEL WITH **MUD** TILES.
- STEEL.
- MANGALORE TILES (BURNT **CLAY** **TILES**).

FOUNDATION: STONE MASONRY WITH STABILIZED MUD MORTAR & CONCRETE SHORT POLES (AS BOND STONE)



Walls

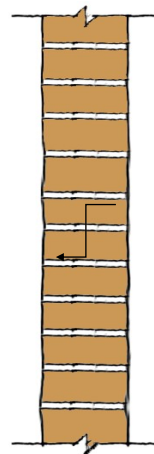


Brick wall

Bricks EE 3(MJ/Kg)
Concrete block
EE 0.87(MJ/Kg)

Plaster EE1.8(MJ/Kg)

Paint EE67.5(MJ/Kg)



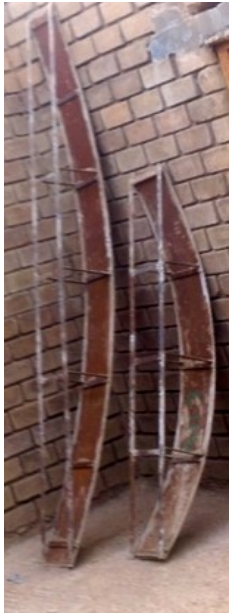
Mud wall.

CSEB EE 0.275(MJ/Kg)



- Labour brought from Bangalore, training for local labour

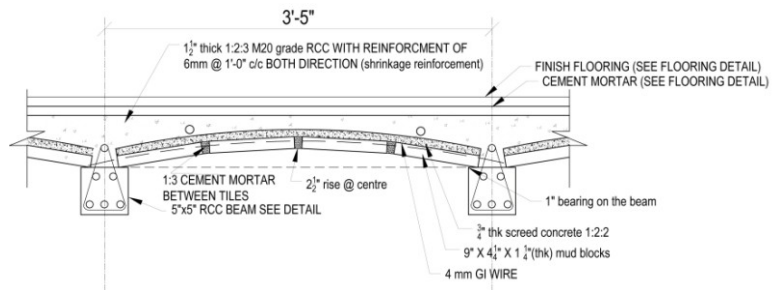




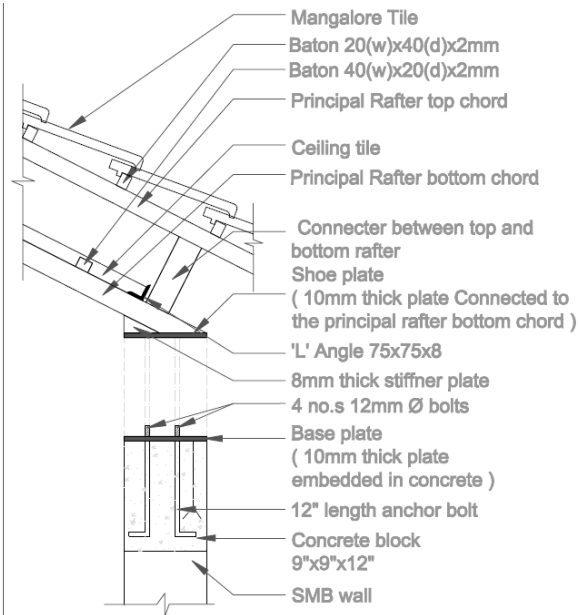
MODULES FOR DIFFERENT SIZES OF ARCHES



- Arch panel roof...Why?

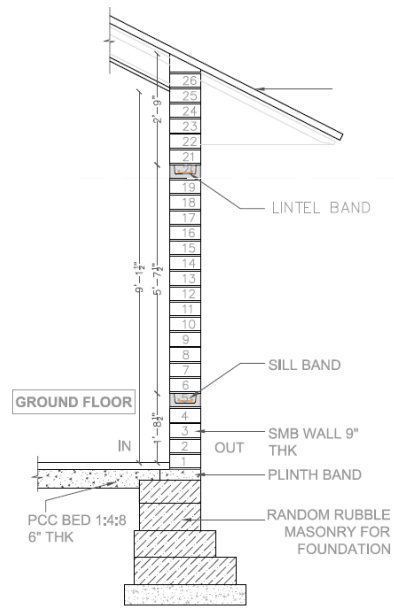


ROOFS- Sloped roof



BED BLOCKS CONNECTED WITH ROOF BAND





- Site selection and Planning

- Building Planning and Construction

- Building Operation and Maintenance

- Innovation



ZONING







