

The Forest of Many Souls

Discovering the hidden wisdom of the Baiga tribe and building community relations through a health cum learning center in Kanha Tiger reserve, Madhya Pradesh.

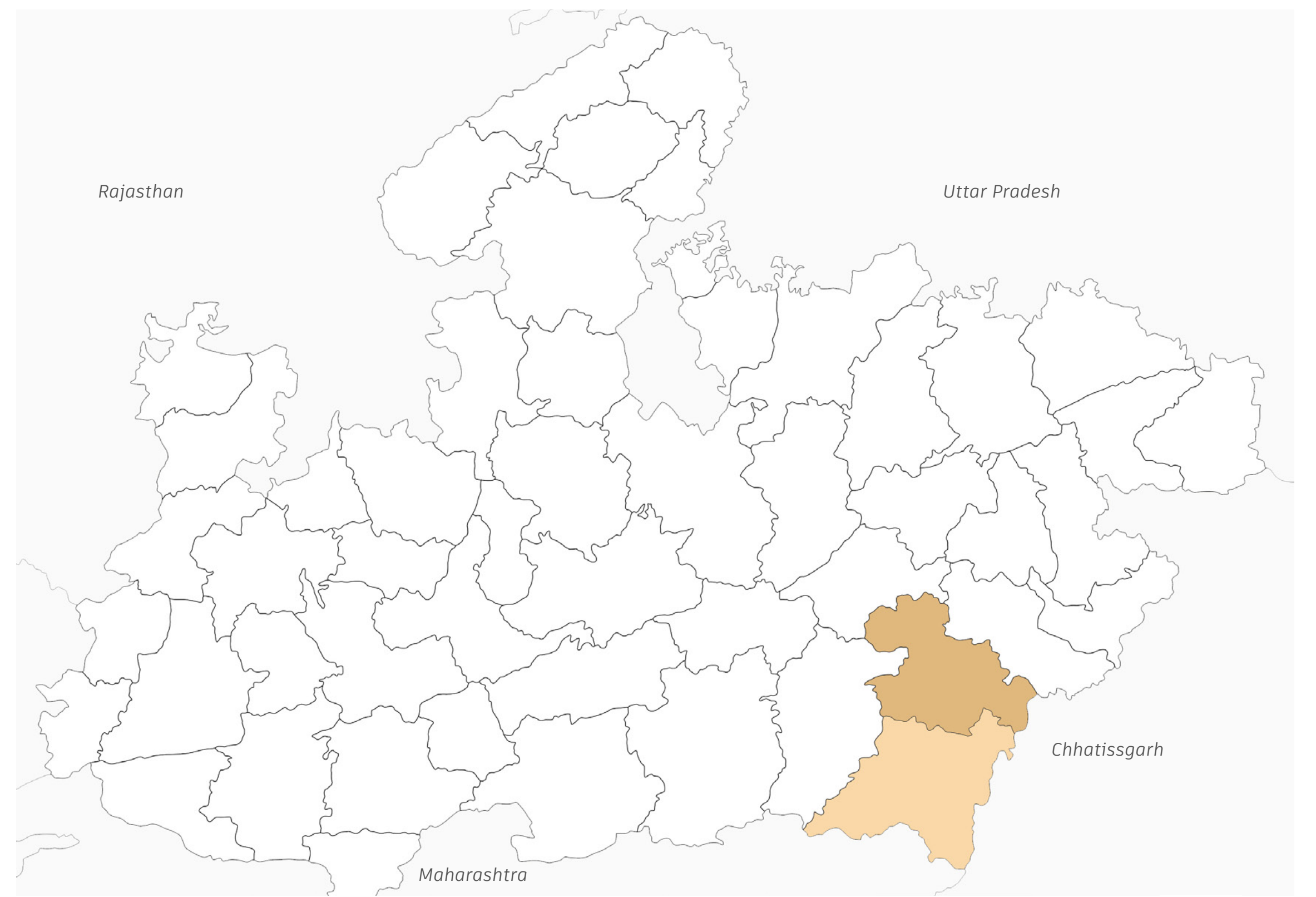




MAP : INDIA

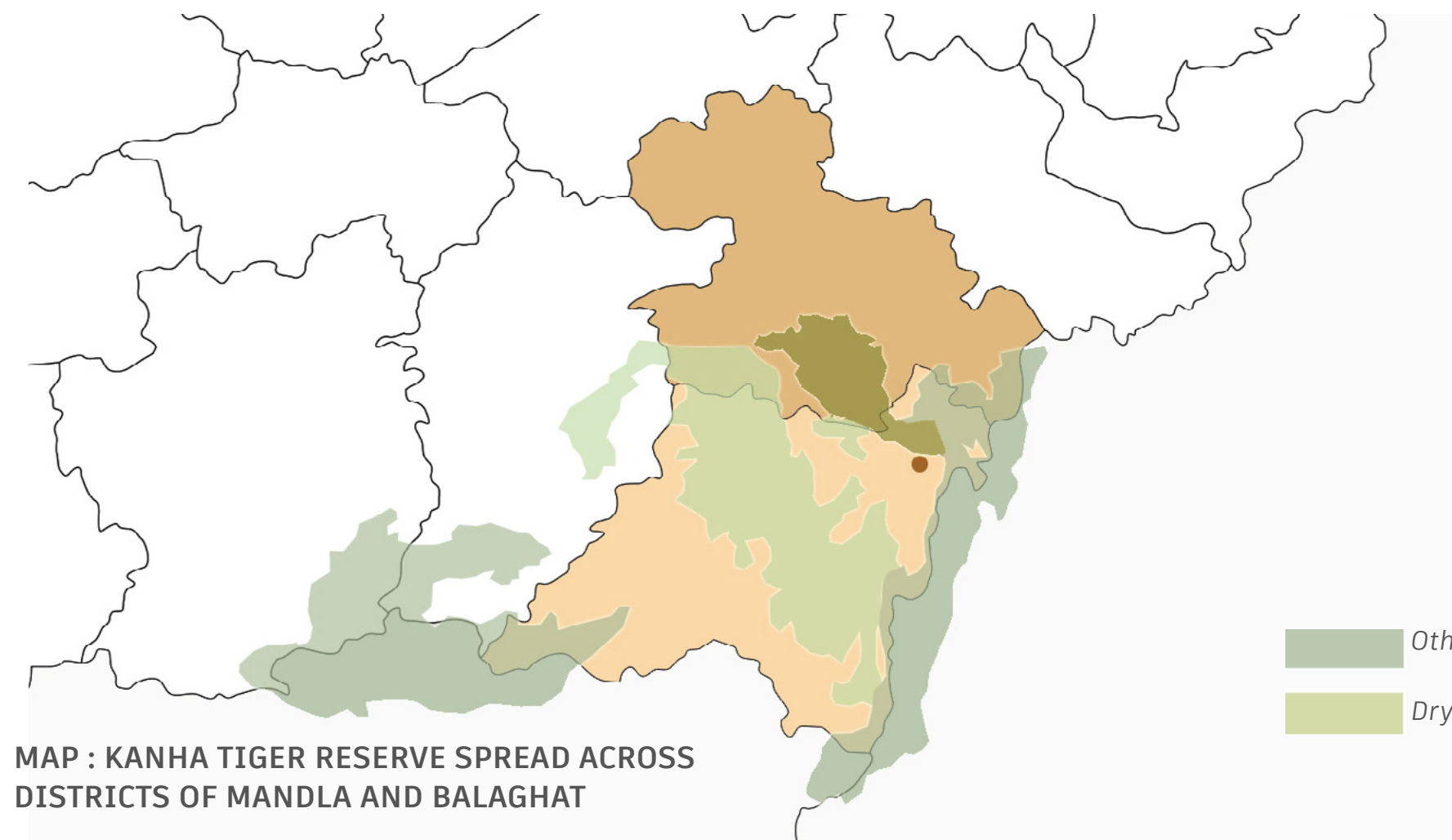
The **Baiga tribe** is known to be the earliest forest-dwelling tribes from the central parts of India. As of today, the Baiga community is majorly found in the districts of Balaghat and Mandla in Madhya Pradesh, India. **The research and design proposal** addresses the forceful evictions of the Baiga community from Kanha Tiger reserve in Madhya Pradesh, India. The intention is to question their identity that is at stake due to forceful evictions from the tiger reserve and at the same time study their traditional practices and build stronger community relations through a health cum learning center.

The state of Madhya Pradesh is located right in the middle of India with a population of 73.34 million and a geographical area extending up to nearly 308,245 sq. kms. Madhya Pradesh has a subtropical climate with hot and dry summers (April–June), followed by monsoons (July–September). Winters here are cold and relatively dry followed by warm springs from March onwards. The average rainfall here is about 1,194 mm. The state has a total of 52 districts, of which Balaghat and Mandla are in the south-east sharing its boundaries with the state of Chhattisgarh.



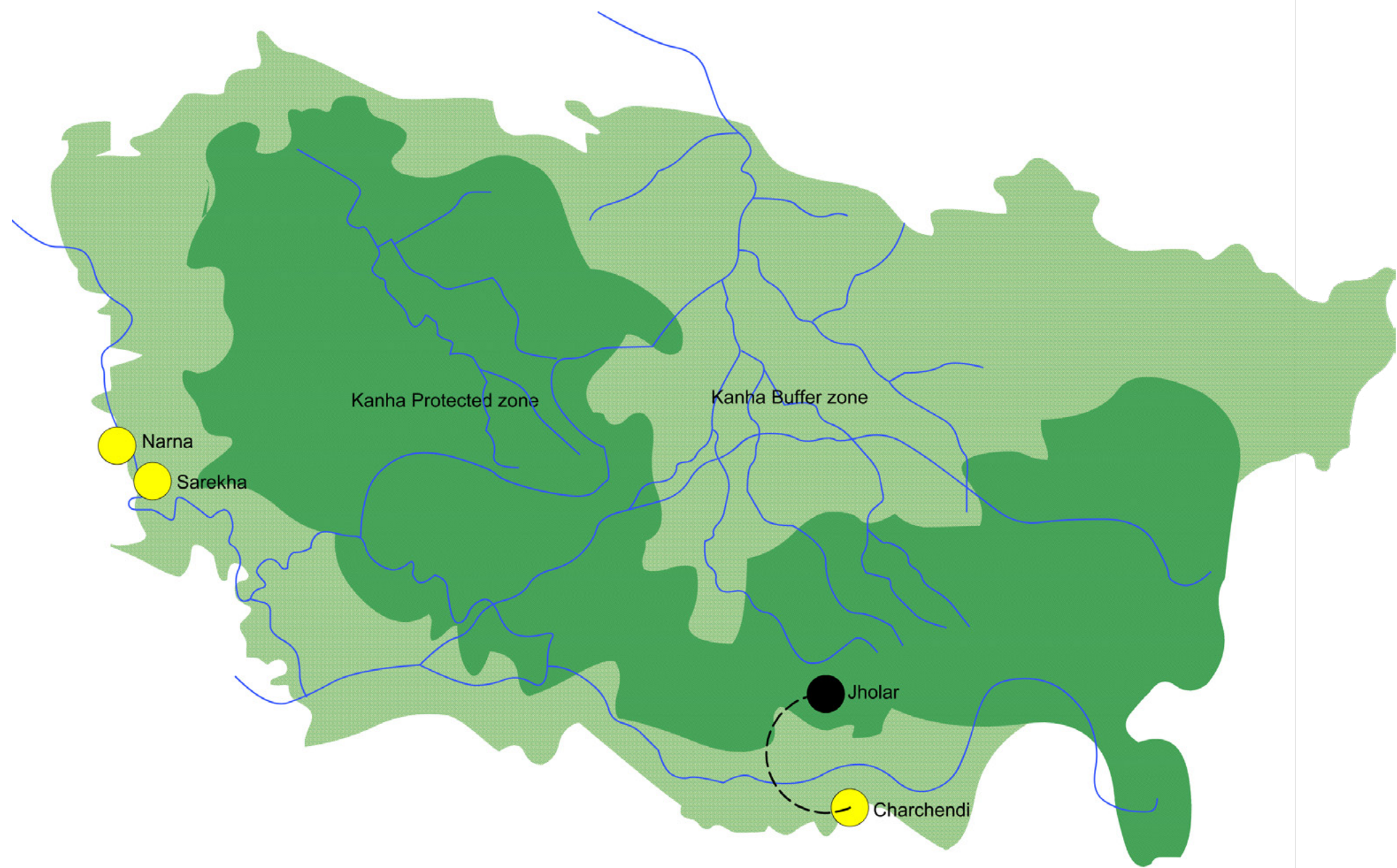
MAP : MADHYA PRADESH WITH 52 DISTRICTS(CENTRAL STATE IN INDIA)

Mandla Balaghat



MAP : KANHA TIGER RESERVE SPREAD ACROSS DISTRICTS OF MANDLA AND BALAGHAT

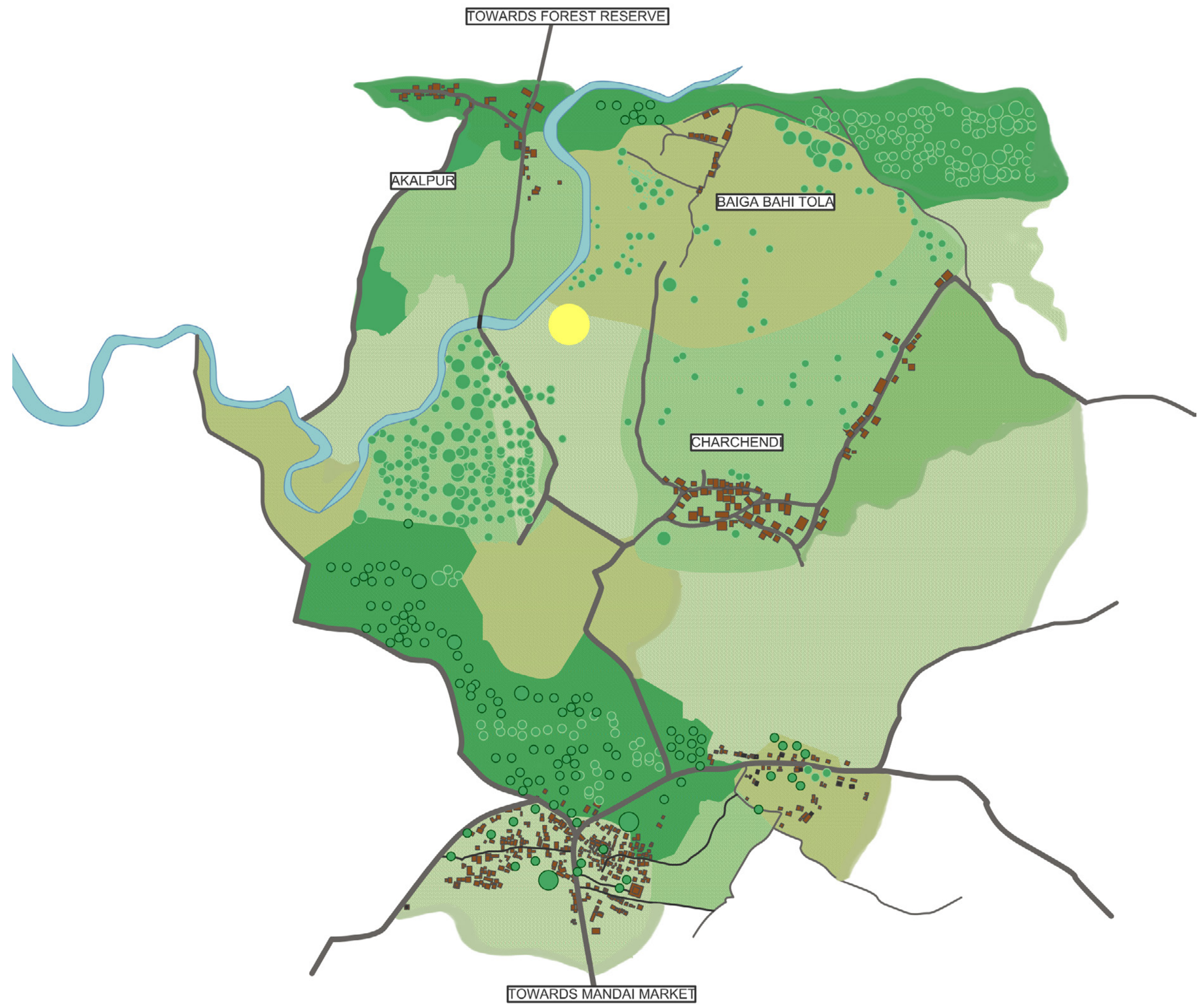
Other reserve forests Kanha tiger reserve
 Dry deciduous forests Charchendi



MAP : KANHA TIGER RESERVE

The tiger reserve with an area of 2074 sq. km consists of two main divisions – national park (critical tiger habitat) and the buffer zone (multiple use). This core-buffer strategy was adopted by the state government of Madhya Pradesh and the forest department in order to conserve the endangered population of the tigers.

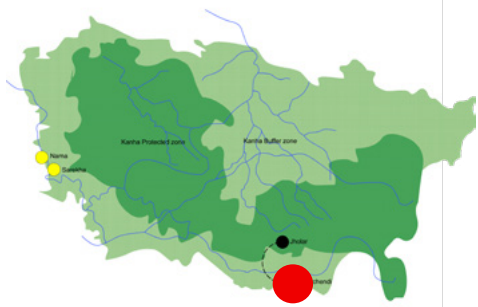
In addition to the core-buffer strategy, the government also had to consider relocation of entire villages from within the core areas in order to safeguard the efficiency of the conservation program. For centuries, Kanha national park had been home to many tribes and early settlers. Almost 80% of the population in and around the national park is considered to be of tribal origin belonging to the Gond and Baiga communities.



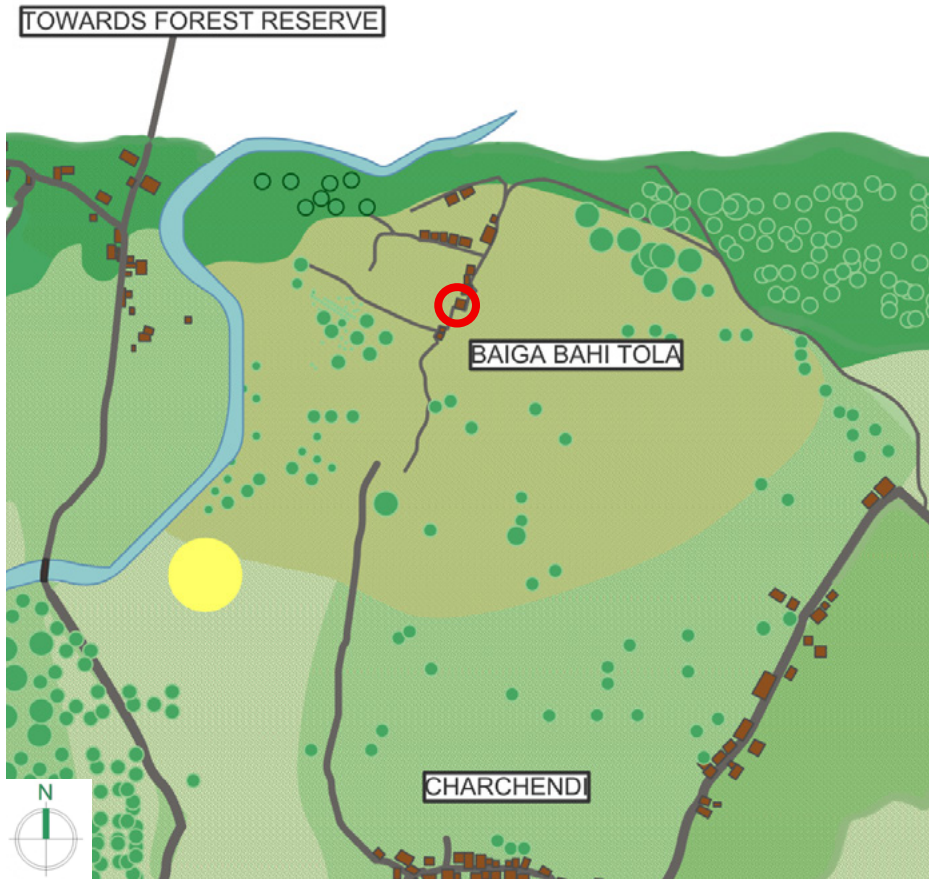
MAP : CHARCHENDI VILLAGE

SITE: CHARCHENDI ●

1. Typology of the houses in Charchendi village



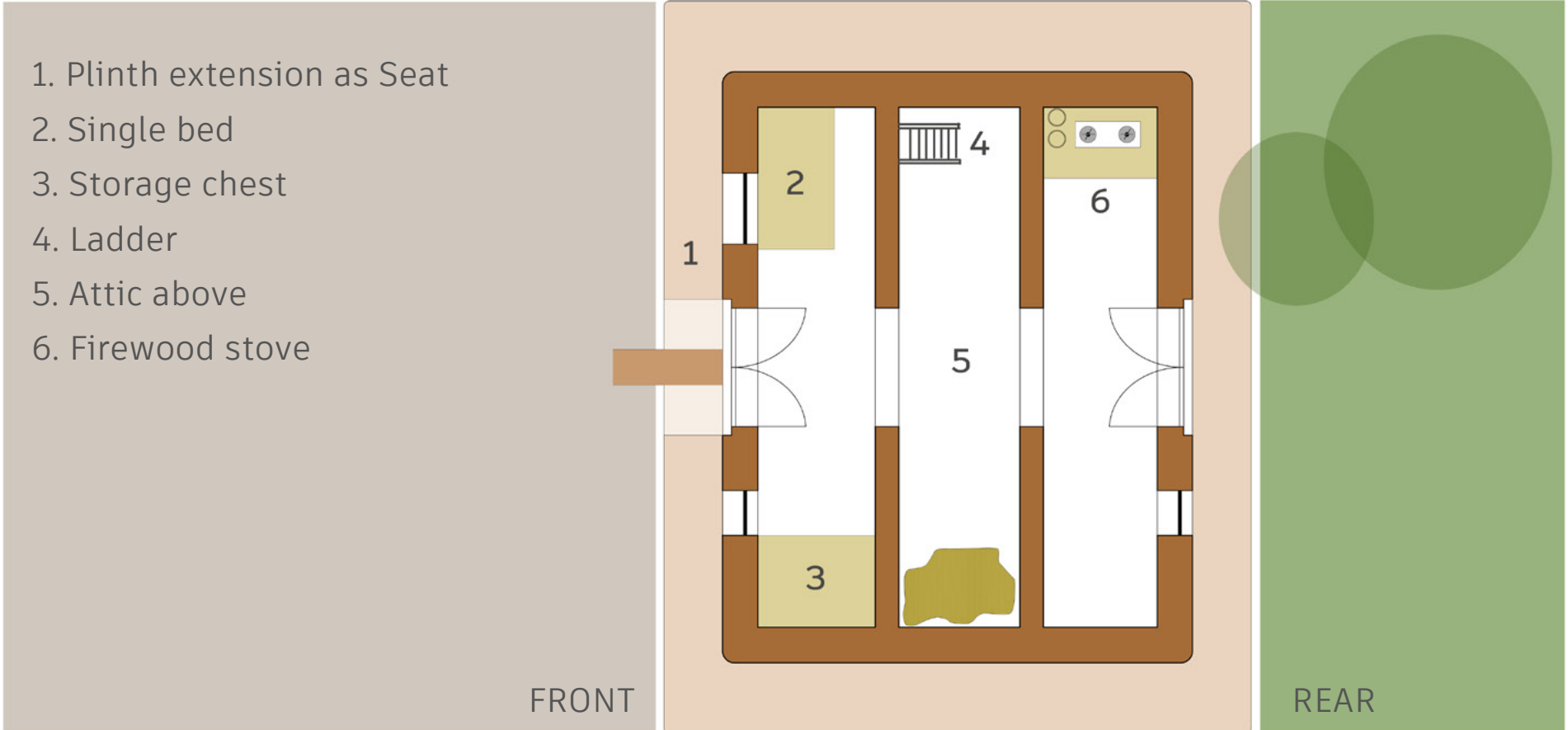
KEY MAP



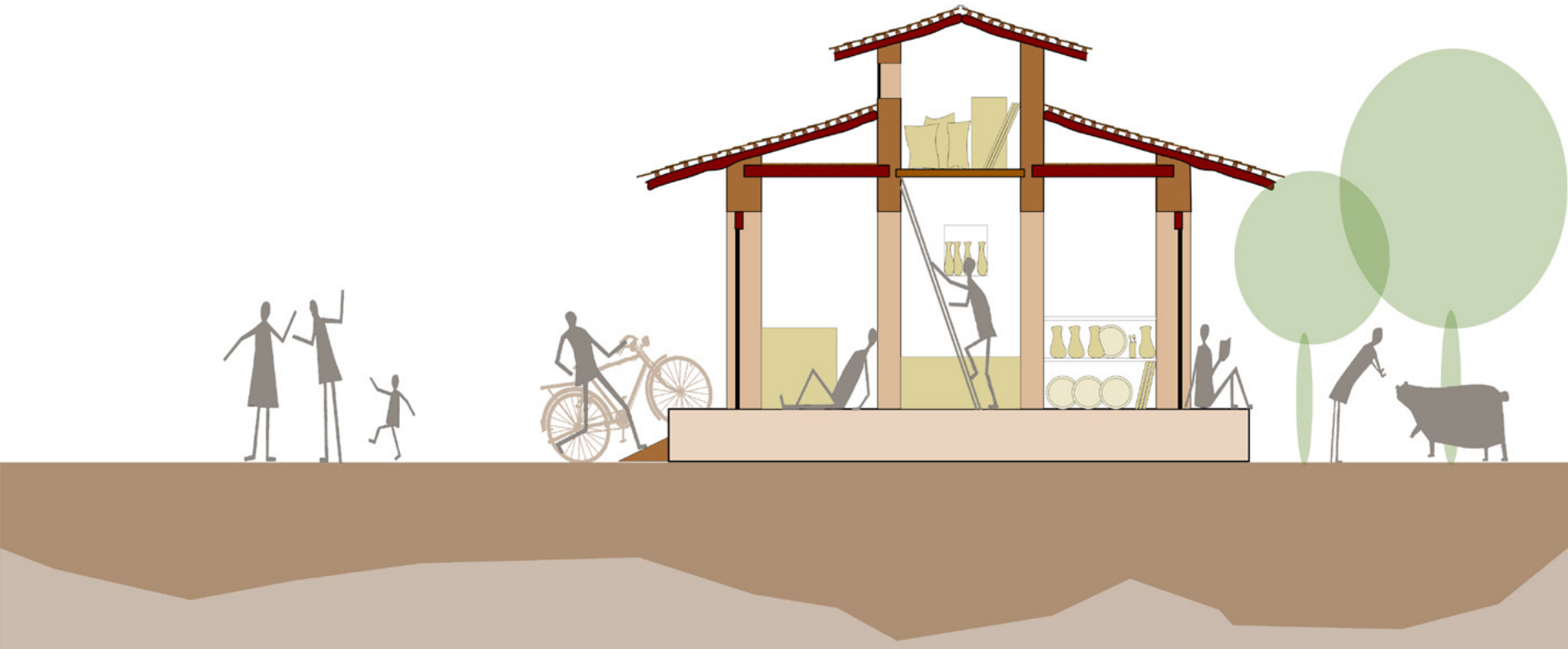
MAP : BAIGA HAMLET, CHARCHENDI VILLAGE

To portray the dynamics and the diversity that these villages can exhibit, the current study presents a comparative analysis of TYPOLOGY OF THE HOUSES in two of these villages, namely, Sarekha and Charchendi.

While the main village of Charchendi comprises of around 120 residences developed alongside two intersecting roads, the Bahi tola (Baiga hamlet) which is about a kilometer to the north has only about 20-25 houses in total. Most Baigas utilize natural materials for building their homes; those that can be easily obtained from the forest, be it mud, wooden pillars, thatch, bamboo, white earth or some longer timber poles. According to the residents, given all of these are available, it takes just around 2 to 3 months for them to build a house of about 50-80 square meters.



Typical Plan of a House



Typical Section of a House



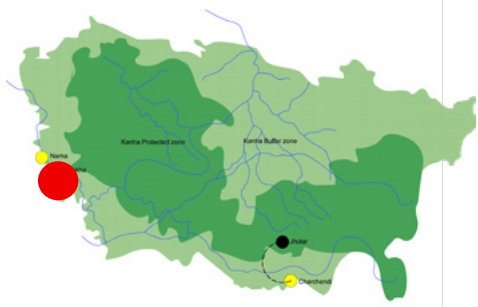
Typical House in Charchendi

① Public Street

② Verandah
Verandahs are used to dry grains and seeds to avoid onsect infestation

③ Cattle shed
Cattle sheds in Charchendi village are built out of split bamboo weaved together with timber posts. Thr oof is cveed with hay.

2. Typology of the houses in Sarekha village



KEY MAP



MAP : SAREKHA VILLAGE

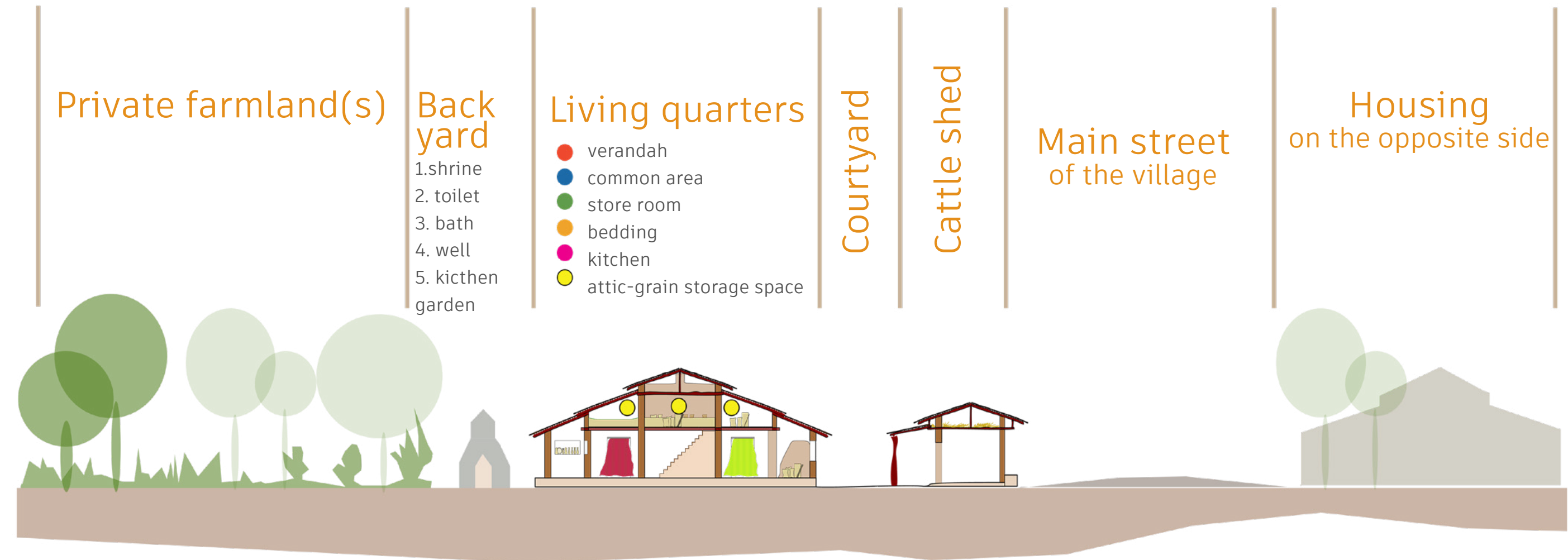
To portray the dynamics and the diversity that these villages can exhibit, the current study presents a comparative analysis of TYPOLOGY OF THE HOUSES in two of these villages, namely, Sarekha and Charchendi.

The village of Sarekha is located between the Banjar river and the forest boundary to the west of the Kanha Tiger Reserve. This village, with a geographical area of 7.5 square kilometers and a population of nearly two thousand falls among the relatively advanced ones in the region. It is home to people from varying economic backgrounds. From relatively wealthy merchants to poverty-stricken families, all of them can be found living in the same neighborhood.

Many of the larger residences in the main stretch of the village are joint-households. Such houses display a nearly identical typology. The portion facing the road referred to as the *dehal* is essentially a cattle shed with its own attic above. Inbuilt platforms towards the road serve as seats for passersby to rest and become gathering spaces for everyone to watch processions in the village on days of auspicious occasions. This structure then opens up into a large courtyard. The main house is beyond this opening, beginning with a semi open verandah. The interior or the *aangan* is split into linear rows, most often ending with the kitchen to the rear most side. A fairly large *paatan*, the attic space, serves not just as a storage space but also acts as a thermal barrier to the lower living spaces. The rear side again opens up to a kitchen garden, where one can also spot a small freestanding structure, a temple, known as *mandir*.



Typical Plan of a House



Typical Section of a House

Private farmland(s)

Back yard

- 1. shrine
- 2. toilet
- 3. bath
- 4. well
- 5. kitchen garden

Living quarters

- verandah
- common area
- store room
- bedding
- kitchen
- attic-grain storage space

Courtyard

Cattle shed

Main street of the village

Housing on the opposite side

The art of Space making in Indian villages

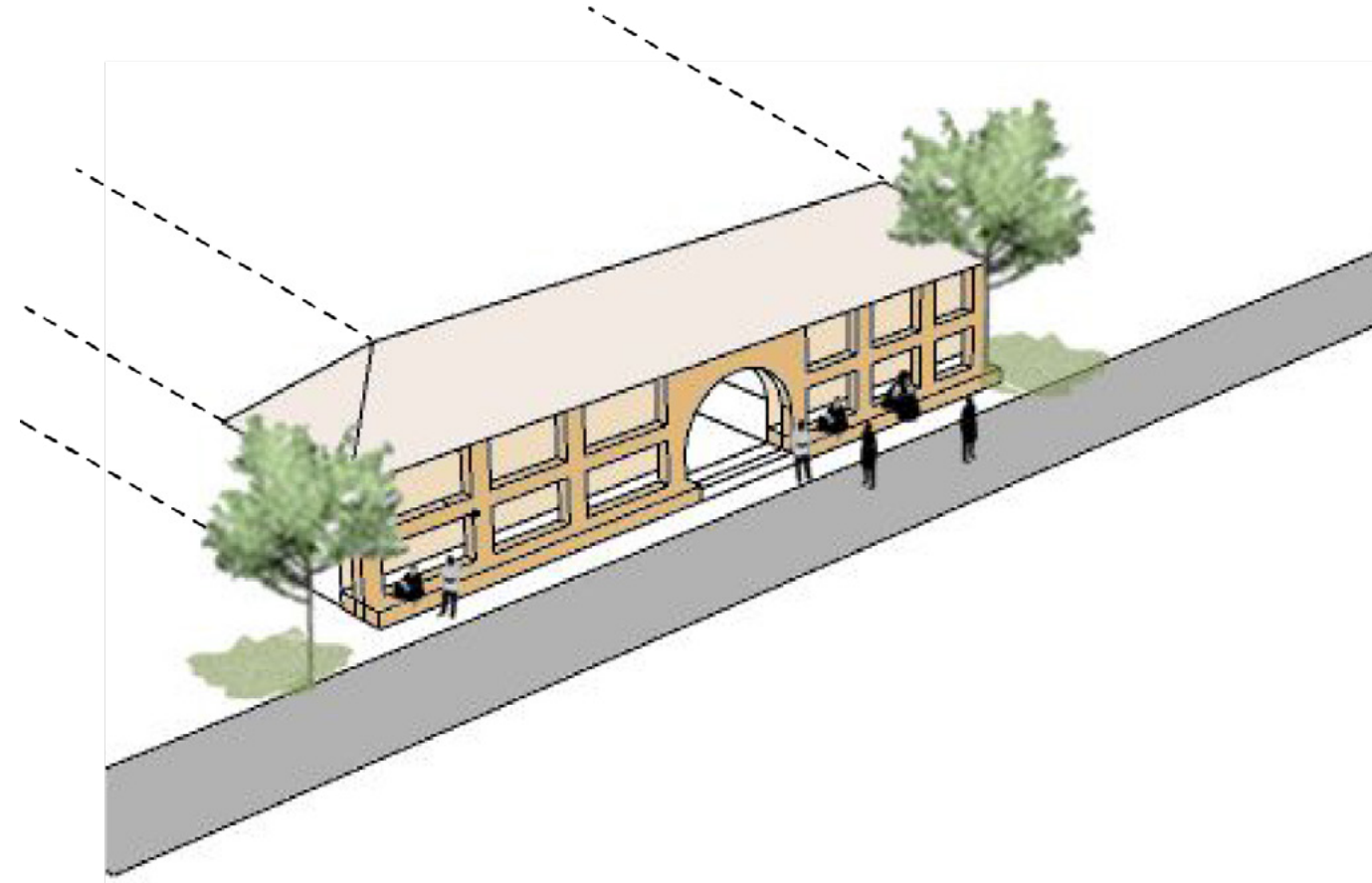


KEY MAP

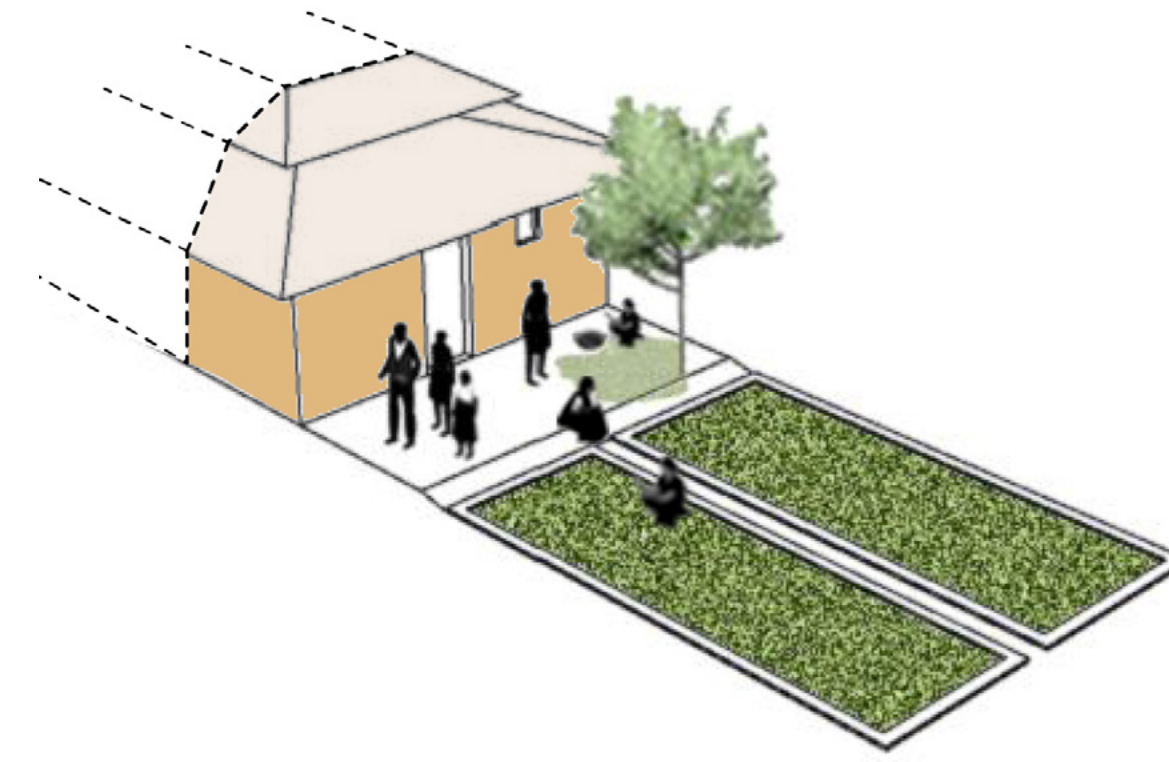
It was essential to study several factors influencing the organization of internal and external spaces that trigger the constant interplay between various daily chores, recreational activities and work life. Each ethnic community comes with its own lineage, shaping its environment in its own distinct way. The way grains are stored in a Gond's house may very well be different from that of a Baiga's household. Very little attention is often paid to this dimension of space utilization, which offer a lot of cues in understanding the way of living and occupying of built spaces. As important is the whole skeletal frame of a built form, so are these little details which add much more value to the project by establishing that sense of relatability with its users.

This analysis brought to the consideration some important building elements observed in most housing typologies in the region that were taken into account for the new design proposal. These elements are mentioned as follows:

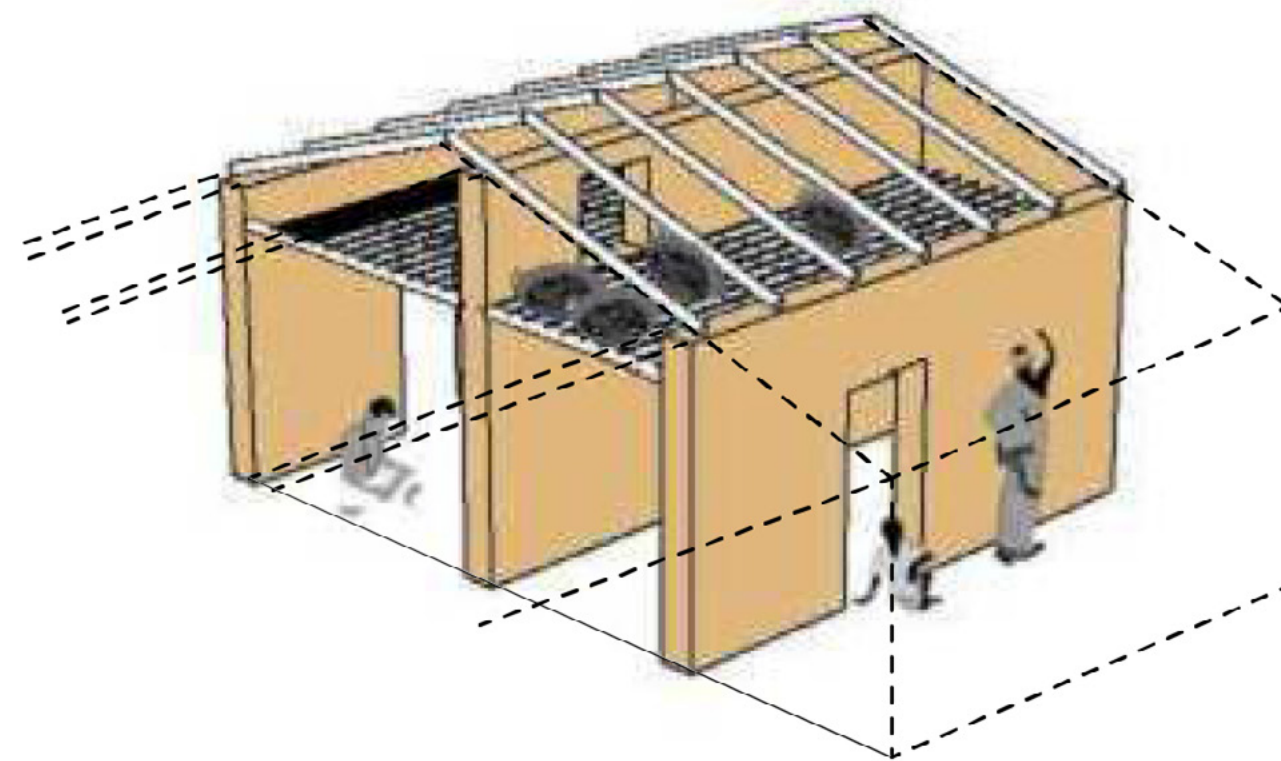
1. Otla – an inbuilt seat for the public
2. Dehal - entrance shed & gateway
3. Courtyard
4. Chappar - veranda
5. Paatan - attic
6. Rear sit-out
7. Kitchen-garden



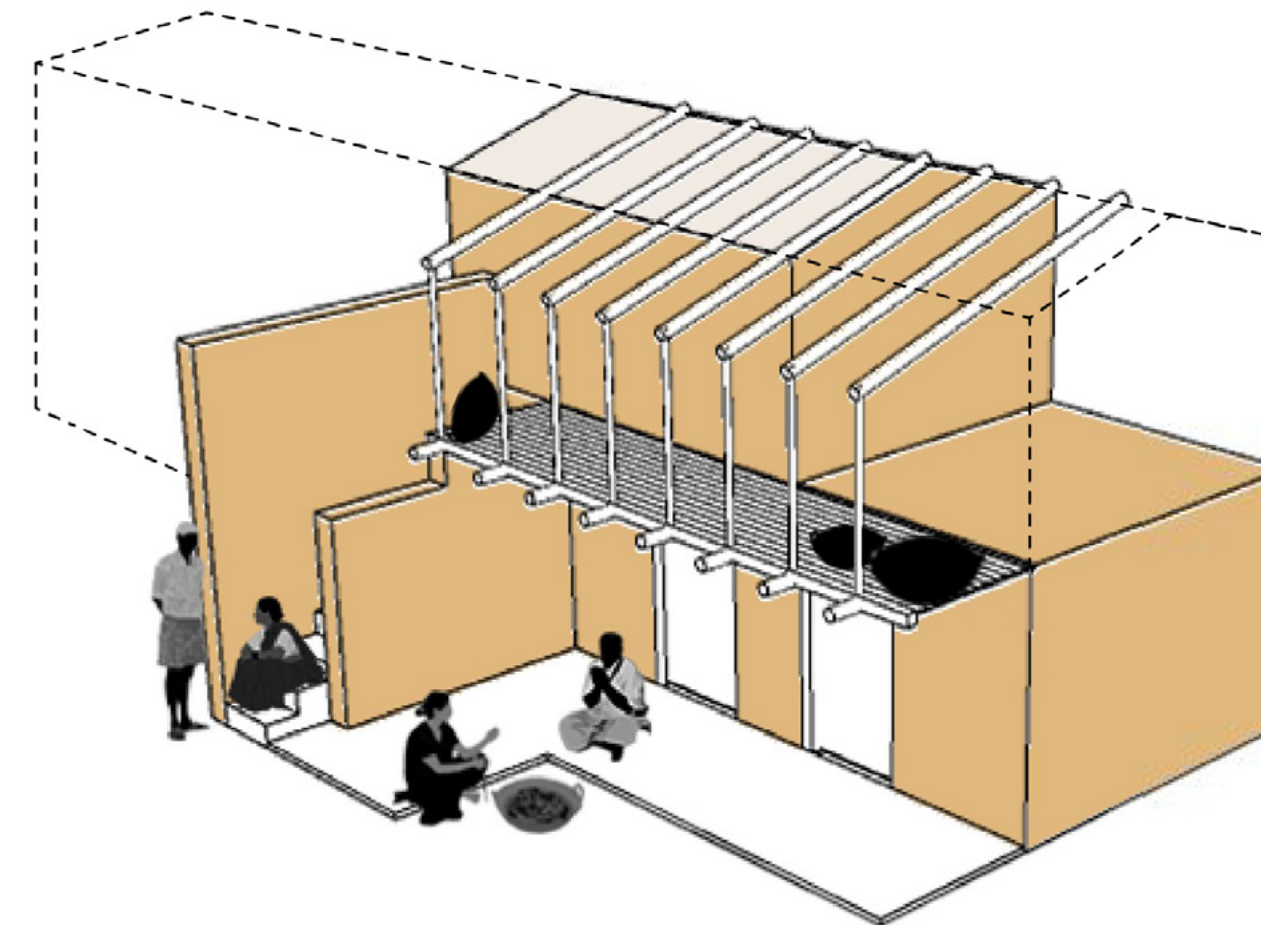
*Thakre house in Sarekha
Verandah at the entrance used as a comfortable shade for passersby to take a shelter in summer afternoons.*



*Chainlal's house in Sarekha
The rear side of house used as a meeting space/ guest are invited over to have meals here in the open during summer months*

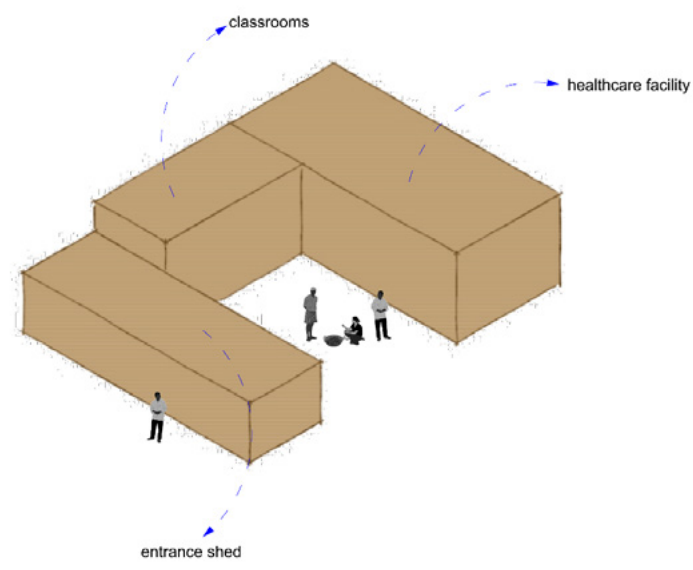


*Naren's house in Sarekha
The attic is used to store pulses, grains and seeds.*



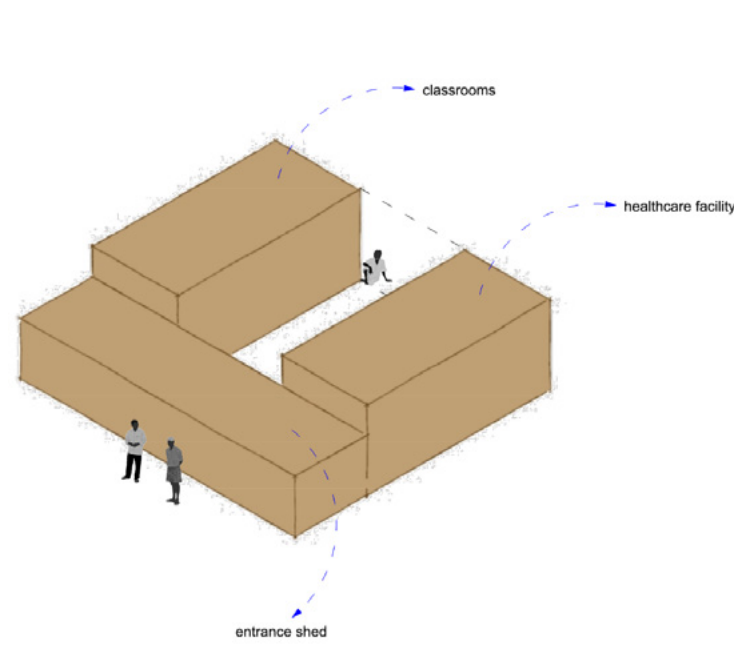
*House in Sarekha
Staircase opens up in the courtyard forming an interesting social space.*

Massing diagrams



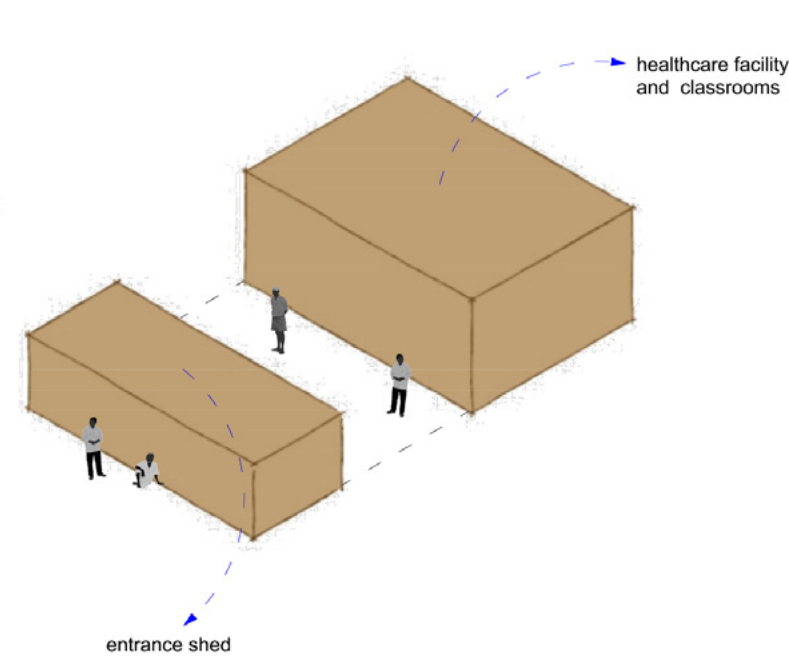
OPTION 1:

1. Classroom as the bridging space between healthcare and entrance.



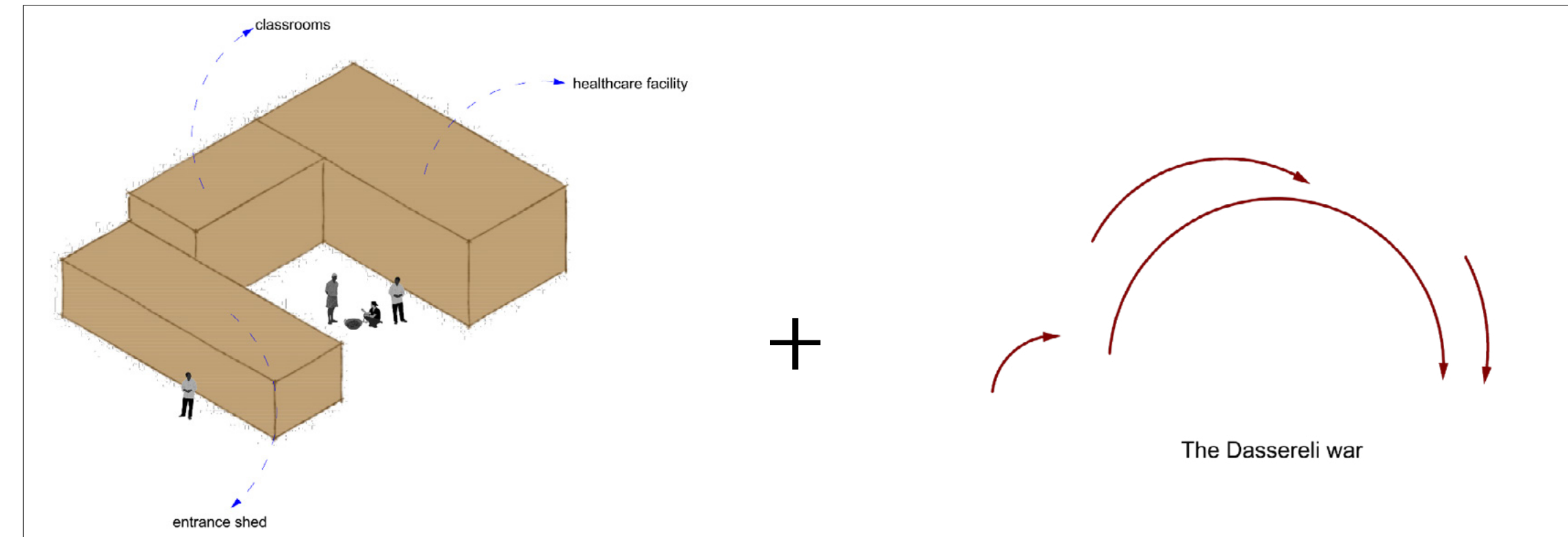
OPTION 2:

2. Healthcare and classrooms as two distinct spaces.



OPTION 3:

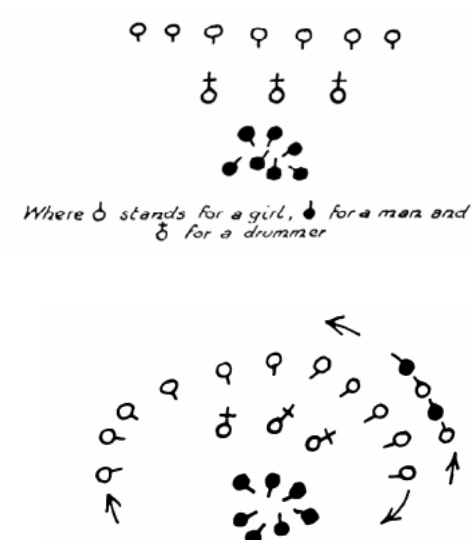
3. Healthcare and classroom as a collective space under one roof.



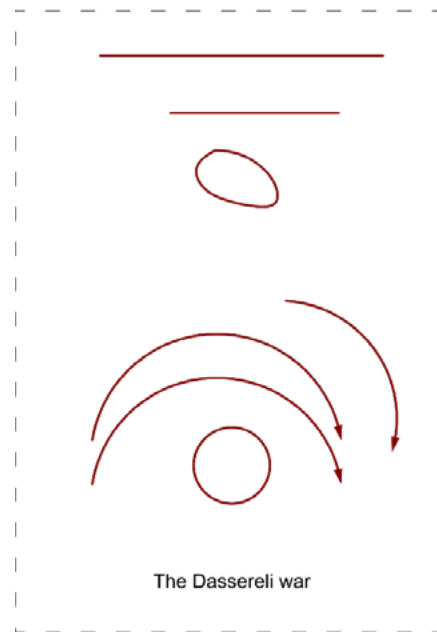
FINAL DESIGN PROPOSAL - MASSING DIAGRAM

Final design proposal is a combination of the above two different forms, one inspired by the existing typology while the other form inspired by the dance formation of the baiga folkdance.

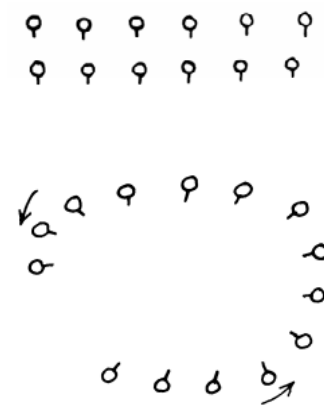
Replication of dance formations of the Baiga community



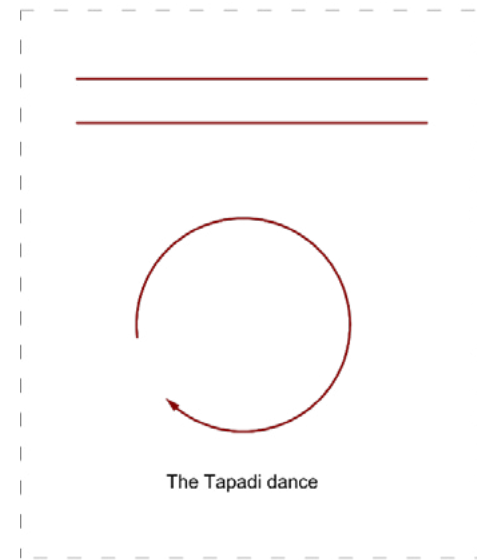
1. The Dassereli war dance



Abstracted form



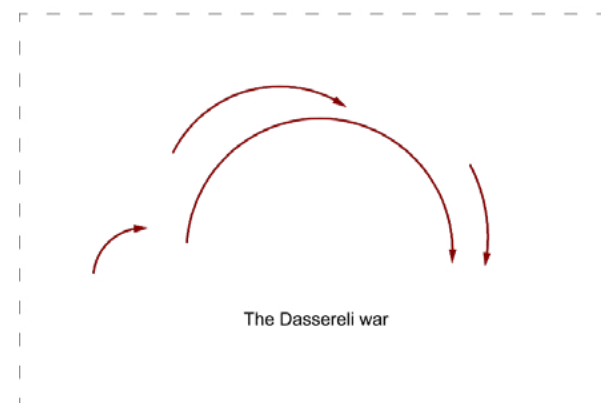
2. The Tapadi dance



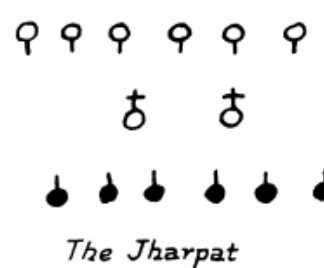
Abstracted form



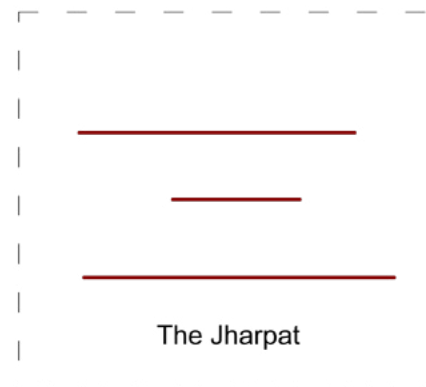
3. The Dassereli war dance



Abstracted form



4. The Jharpat dance



Abstracted form

♀ women
♂ men

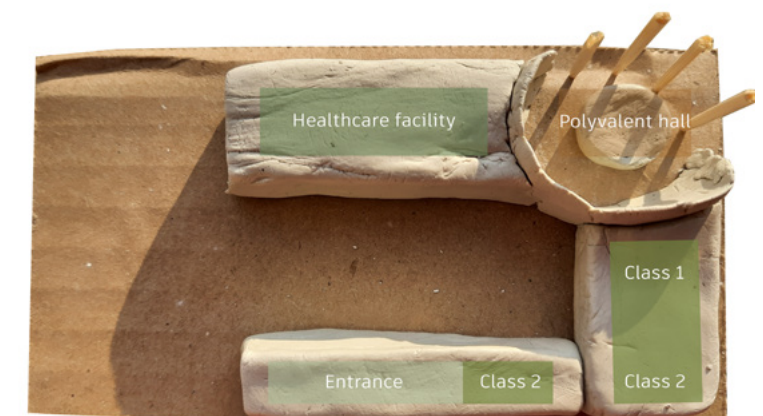
Massing models to determine the organization of functions



OPTION 1:



OPTION 2:



OPTION 3:

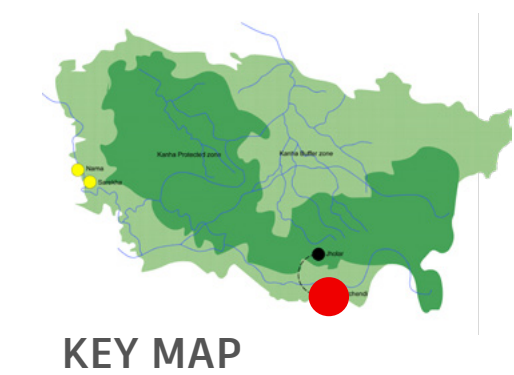
SITE - CHARCHENDI VILLAGE

An artistic illustration of the site to understand the context of Charchendi village

MAP : CHARCHENDI VILLAGE

The baiga village expresses the friendly, open-hearted, honest and communistic nature of the tribe." Although all the houses in Bahi tola have similar aesthetics, each is disjoint and separated from the other by a narrow passage. The cattle shed or sar, as they call it here, is a part of the household and built within the same boundary. This boundary is defined by using split bamboo strips weaved together or using cactus hedges. The front yard also has sufficient space to dry out grains. The rear side of the house, known as bari, is normally used to grow tobacco or even some vegetables and rhizomes. Every house has the necessary equipment to brew mahua like a few earthen pots, bamboo and few glass bottles. Cooking is still carried out in chulhas, which are simple firewood stoves made by hand.

The inherent typology is thus not all too different from the houses in Sarekha. The only clear difference is the size and scale of the individual units. Most Baigas utilize natural materials for building their homes; those that can be easily obtained from the forest, be it mud, wooden pillars, thatch, bamboo, white earth or some longer timber poles. According to the residents, given all of these are available, it takes just around 2 to 3 months for them to build a house of about 50-80 square meters. Nowadays however, it has become hard for them to fetch these raw materials from the forest due to strict surveillance by the forest guards. This also means the maintenance of these natural structures has become tricky.



A NEW LEARNING CENTER
View from the classroom :
A small outdoor space for children to have story telling sessions



A NEW LEARNING CENTER

View from the classroom :

A small outdoor space for children to have story telling sessions

MAP : GROUND FLOOR PLAN

The vision of this proposed centre is summarized below:

- to help the Baiga of Charchendi achieve a good mental, physical and social health.

- to create a learning environment for all that aids in the growth and development of local traditions and cultures, while also preparing them for new career paths.

- to embellish the social status of the Baigas and encouraging communal participation in activities that are aimed at future welfare of the community.

- to strengthen community relations through an exchange of skills and develop mutual respect.

- to create an atmosphere that deeply lies in line with the beliefs, spirits and customs of the Baigas.

- to reinforce the dignity of every Baiga, winning back their individual identity.

The inferences from the extensive research all pointed to the need for an informal educational setup, an improved medical facility and an indispensable demand to establish community relations between the Baigas and their immediate neighbors. The building proposal hence, is imagined to cater to all these three major functions under one roof, in the shape of a primary healthcare facility, two school classrooms that cater to two broadly divided age groups and a public communal space. Clubbing all of these necessities together was a way to retain a sense of belonging and identity for the community as a whole. The other major intention was to enable the building to serve distinct functions at different times of the day or week. For example, apart from the healthcare rooms, each of the other spaces can become open up to public, all connecting with the central courtyard, to host public events and including the weekend market. The school activities always end by the afternoon, but other activities like workshops or religious meets can take centre stage in the evenings. The polyvalent hall which is well away from the classroom block can function at any point in time. In this manner, opening the building to all sections of the social web is to create a shared sense of ownership, also resulting in efficient maintenance of the entire complex.



A NEW LEARNING CENTER

Sections through the building

MAP : SECTIONS

The vision of this proposed centre is summarized below:

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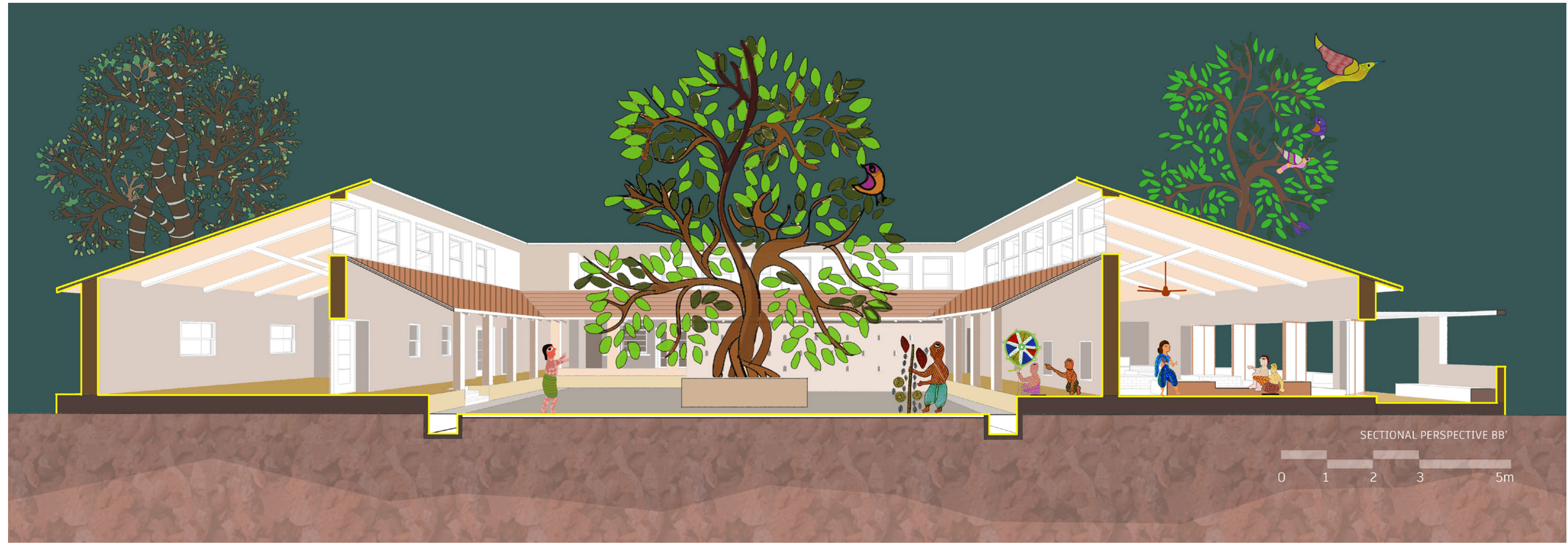
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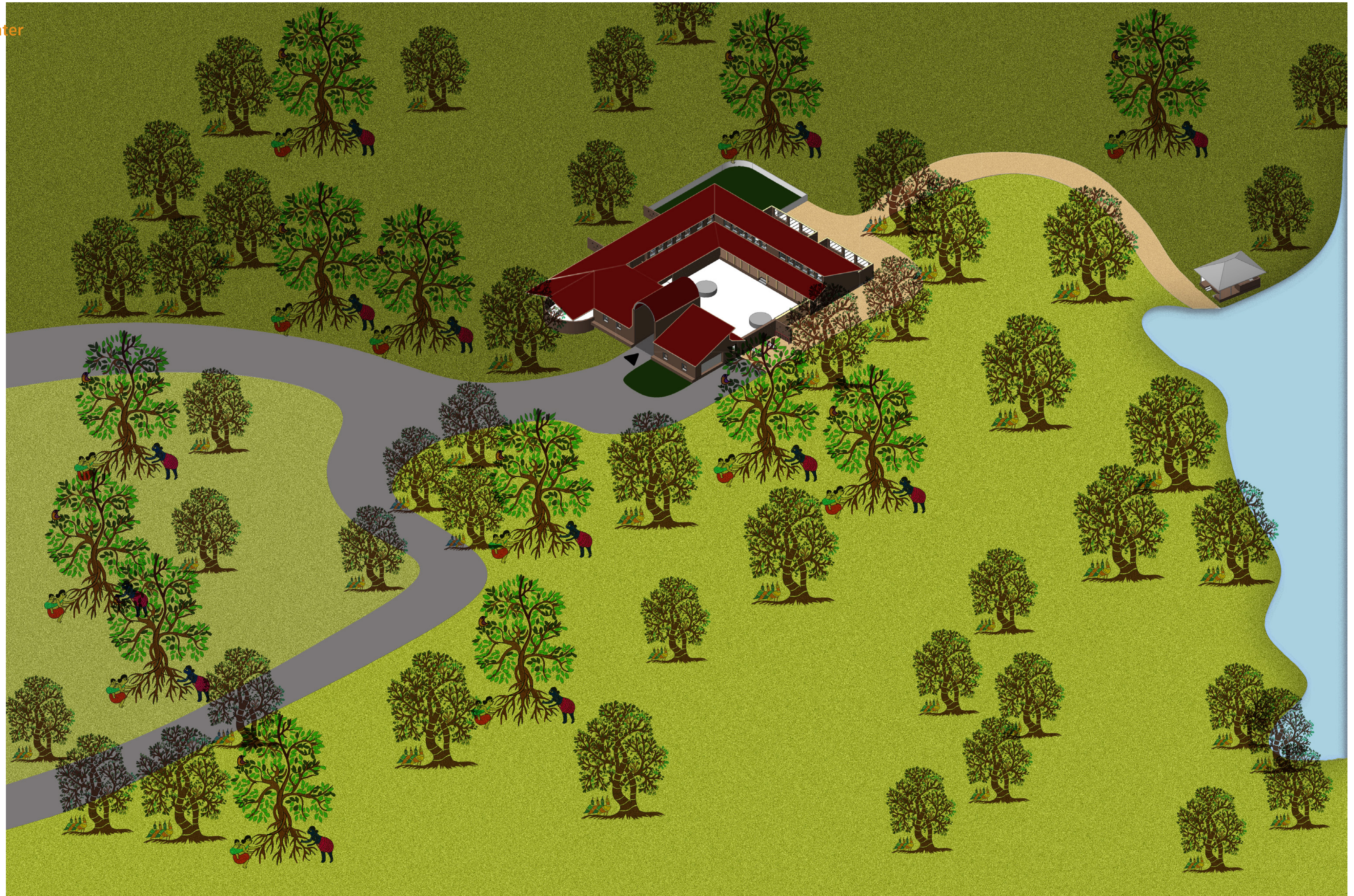
A NEW LEARNING CENTER
Detailed section through the classroom



A NEW LEARNING CENTER
View of the healthcare facility



A NEW LEARNING CENTER
Isometric View of the learning center



A NEW LEARNING CENTER
View of the shed close to the river
Monsoon season



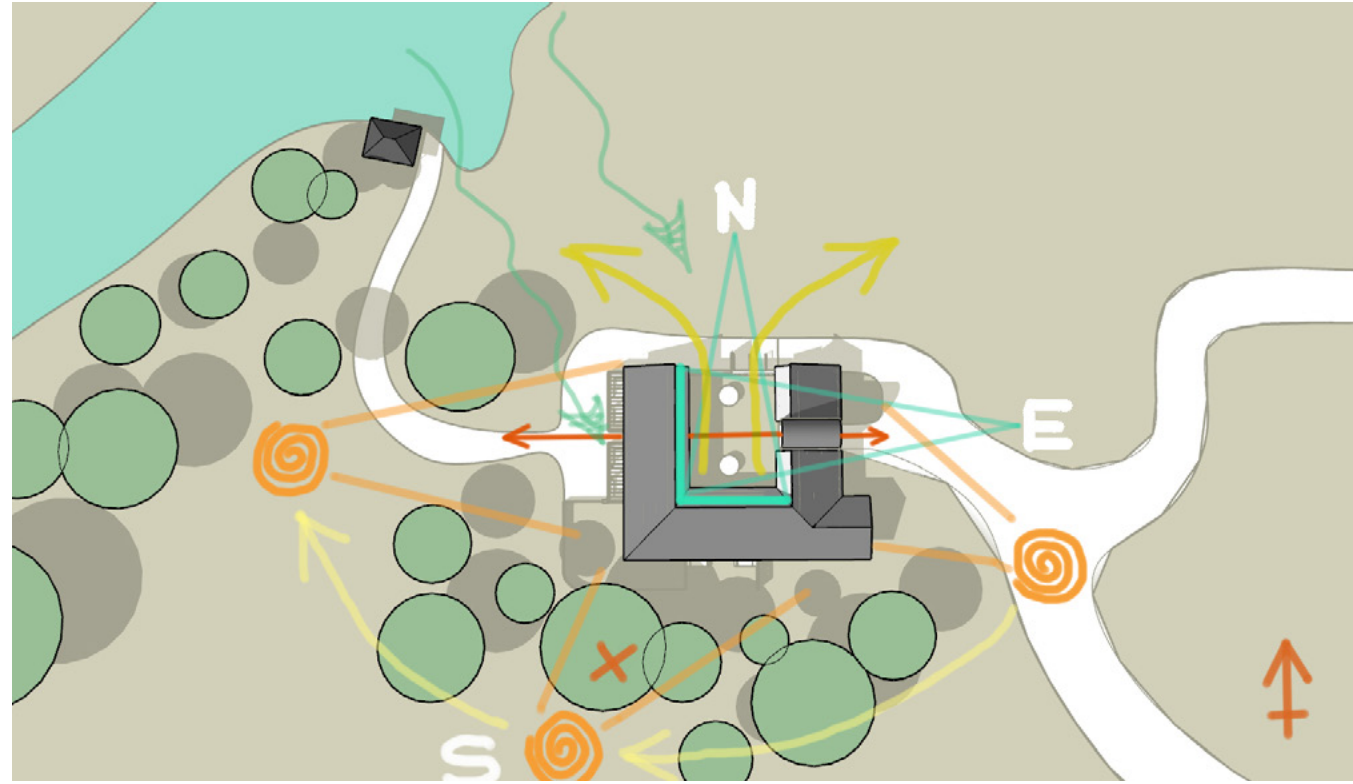
A NEW LEARNING CENTER
Night View of the entrance to the learning center.



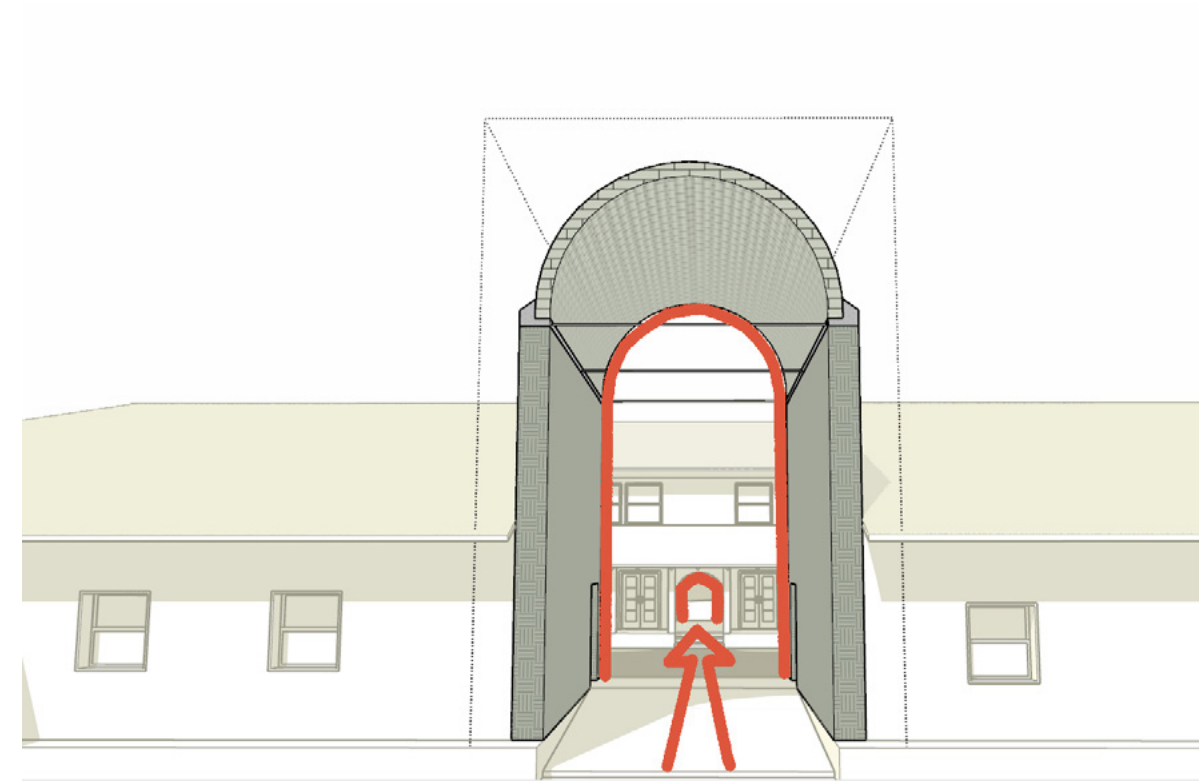
A NEW LEARNING CENTER
Night View of the courtyard during weekly market



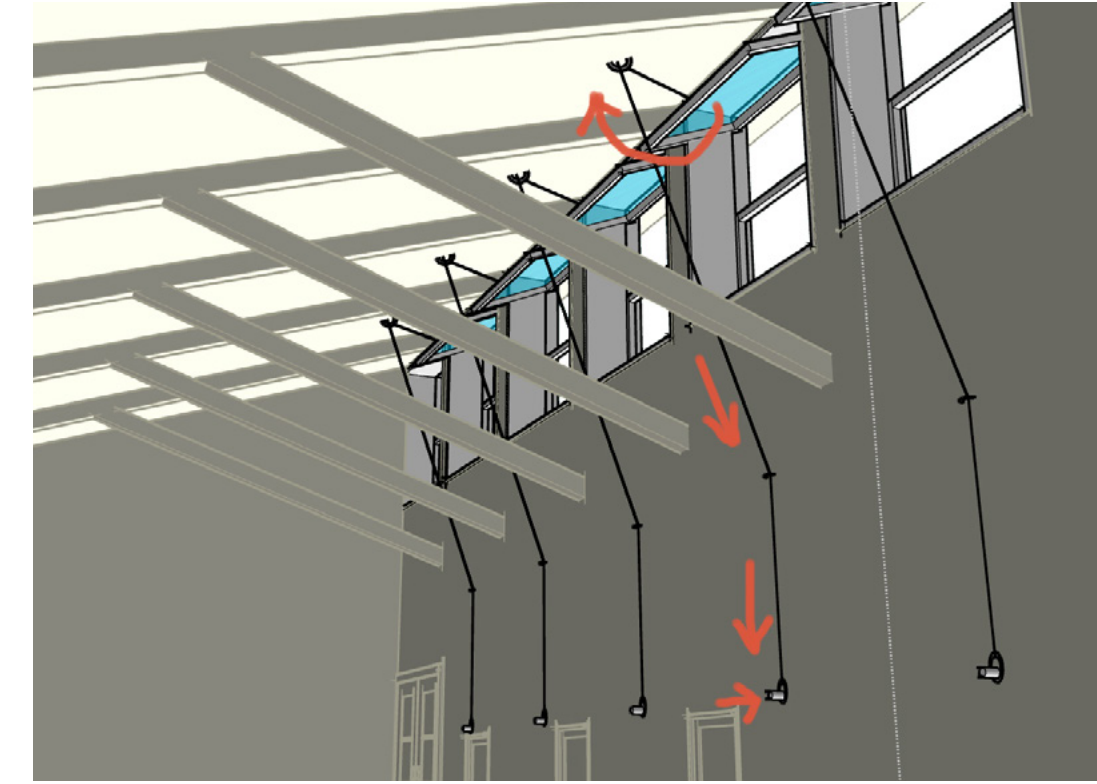
Details of the building



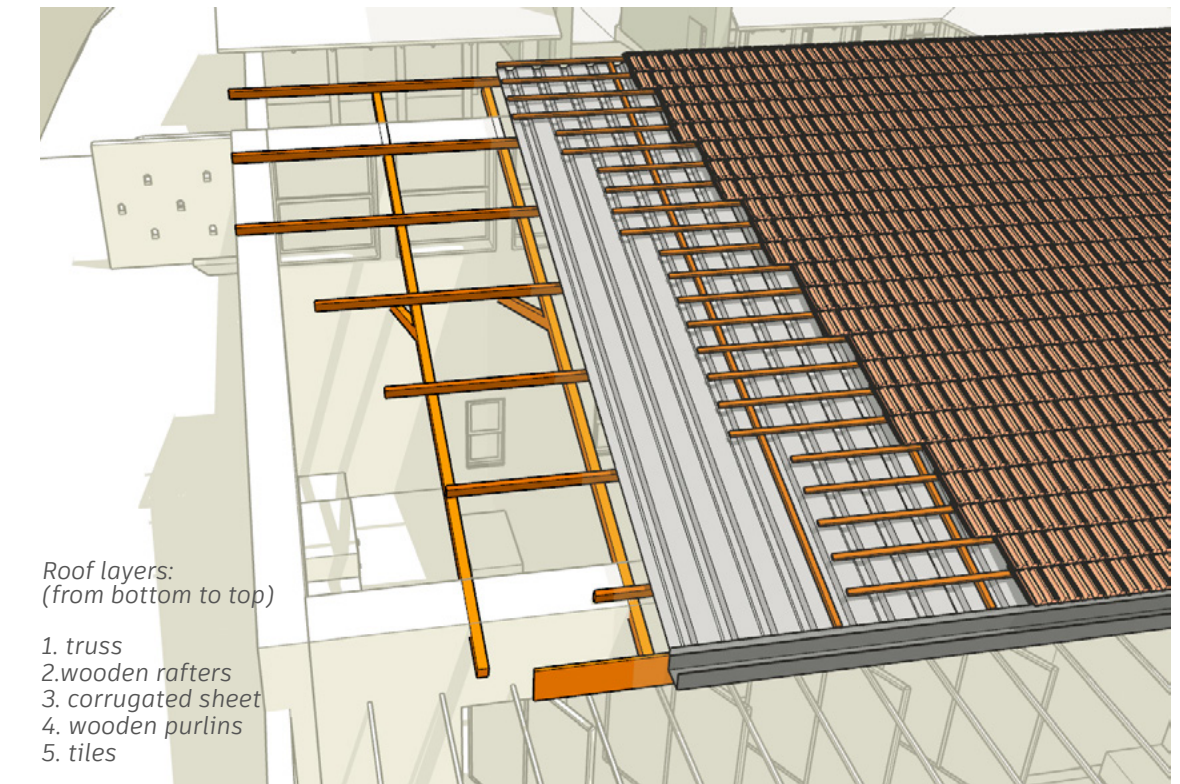
- i. Orientation of the building has been planned in a way to receive the best daylight in all the rooms.
- ii. Building has been placed close to the trees in order to shade the south facade.
- iii. South-west winds flow over the Banjar river to bring in moisture during dry summer months.



An arch is a very common building feature used in many houses in Villages of Sarekha and Narna. However, the vault here, symbolises a tall pole. Traditionally, Baigas used to erect a tall pole and an earthen platform to keep the tigers away, indirectly conveying the presence of human civilization.

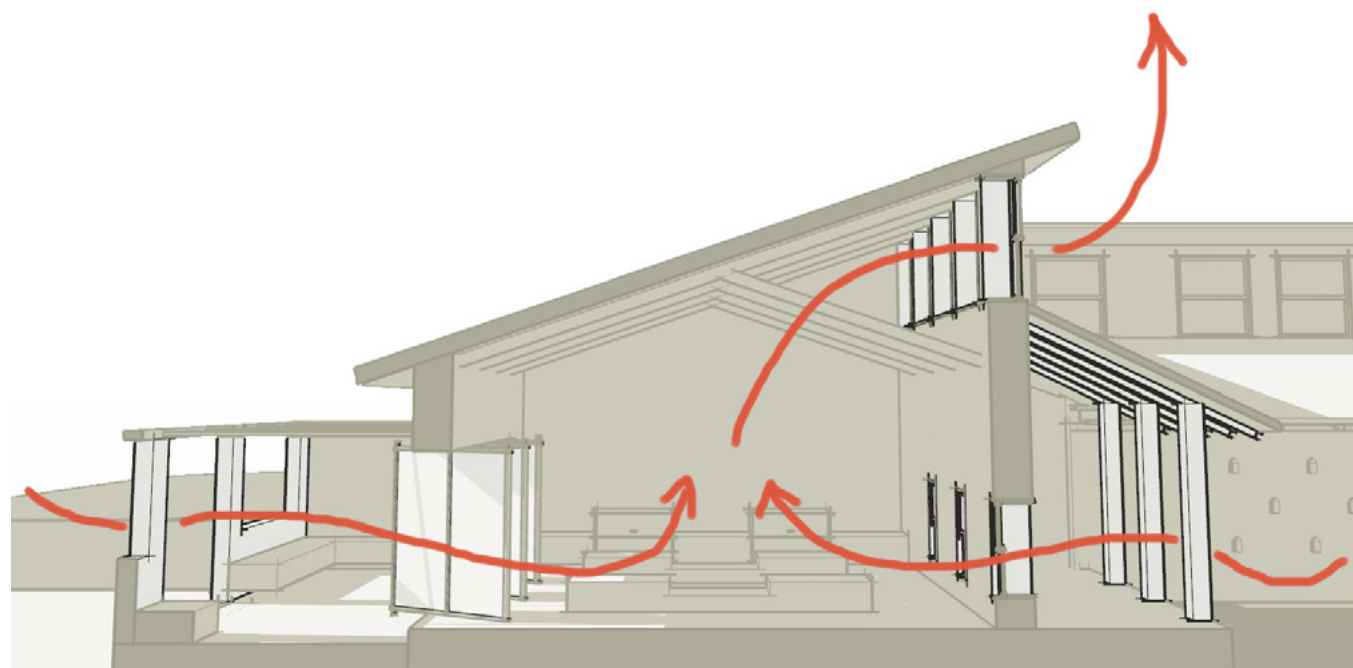


Ventilator window can be opened towards the inside for good cross ventilation. This can be opened with the help of a rope that will be hooked on to the wooden piece attached to the wall.

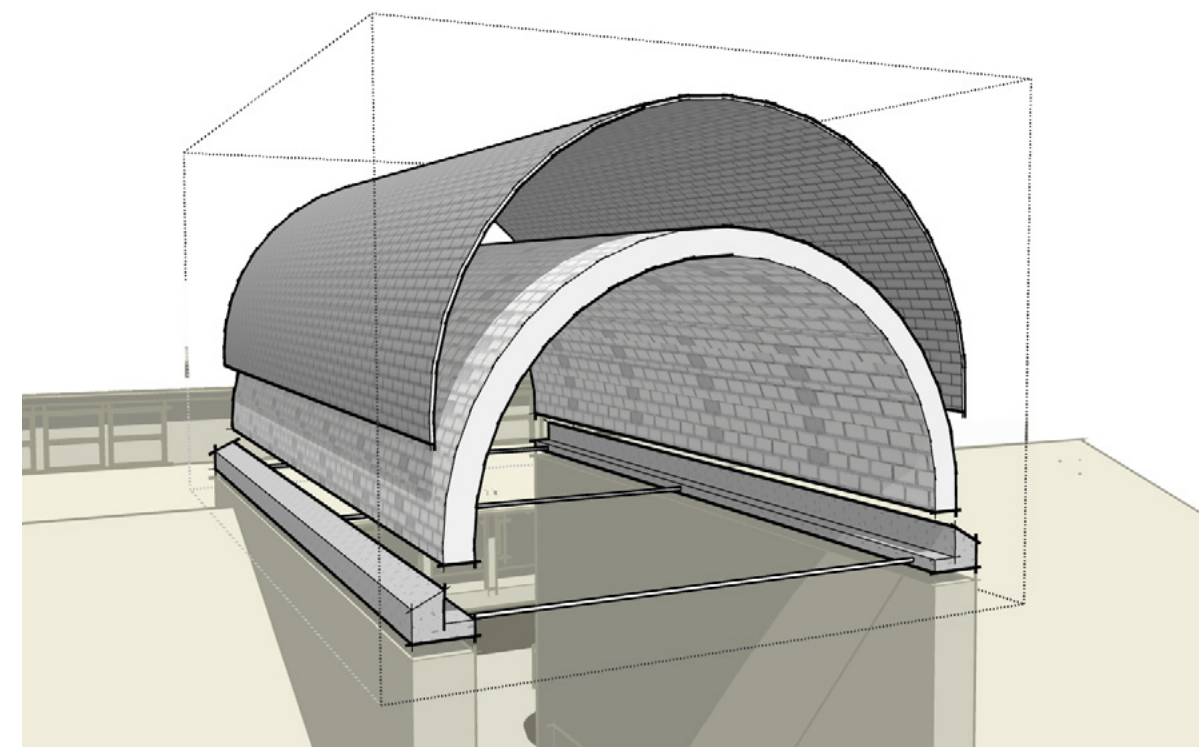


- Roof layers:
(from bottom to top)
1. truss
 2. wooden rafters
 3. corrugated sheet
 4. wooden purlins
 5. tiles

Corrugated sheet has been added to achieve a low angle of the roof. However, it could get very noisy with the sheet roof during monsoons. Hence, a tiled roof provides sound insulation in this case.



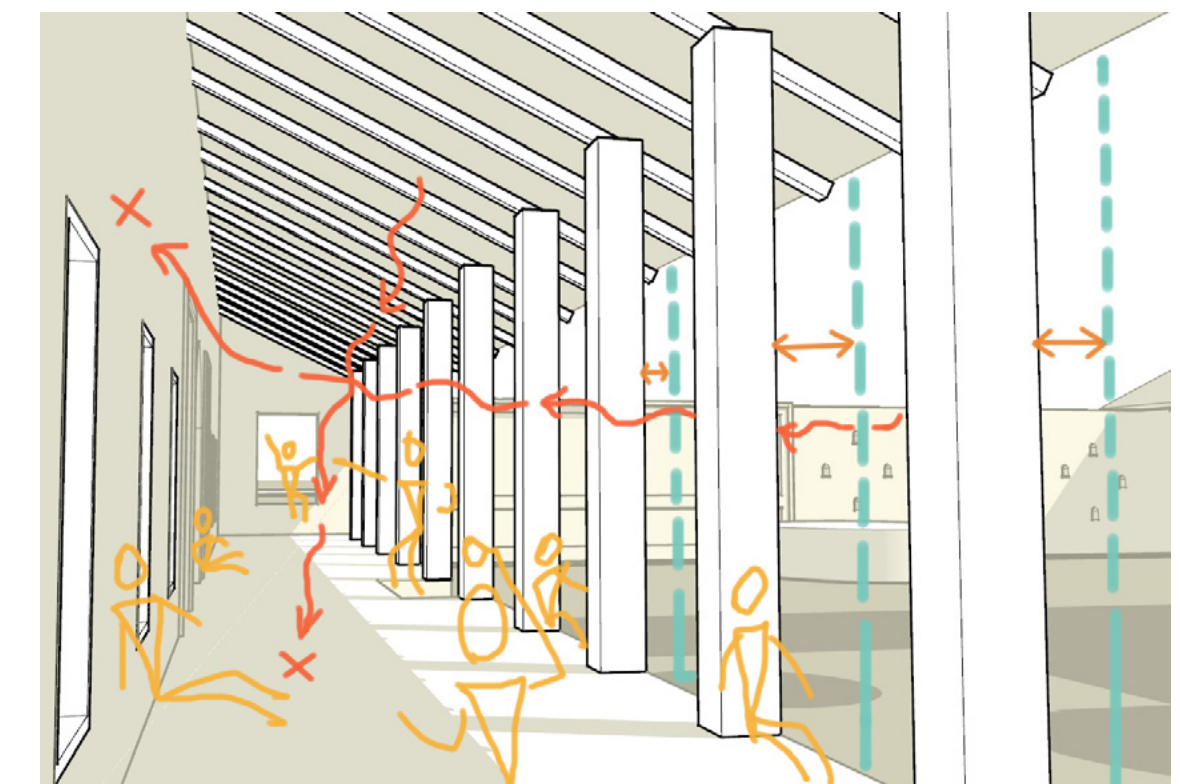
- i. Warm air rises and escapes from the ventilator windows bringing in cool air from the courtyard.
- ii. These openings allow constant cross-ventilation.



The vault is constructed from burnt bricks which are very easily available in the vicinity. Clay tiles are used for waterproofing, this also blends in the colour of the clay tiles with the tiled roof.

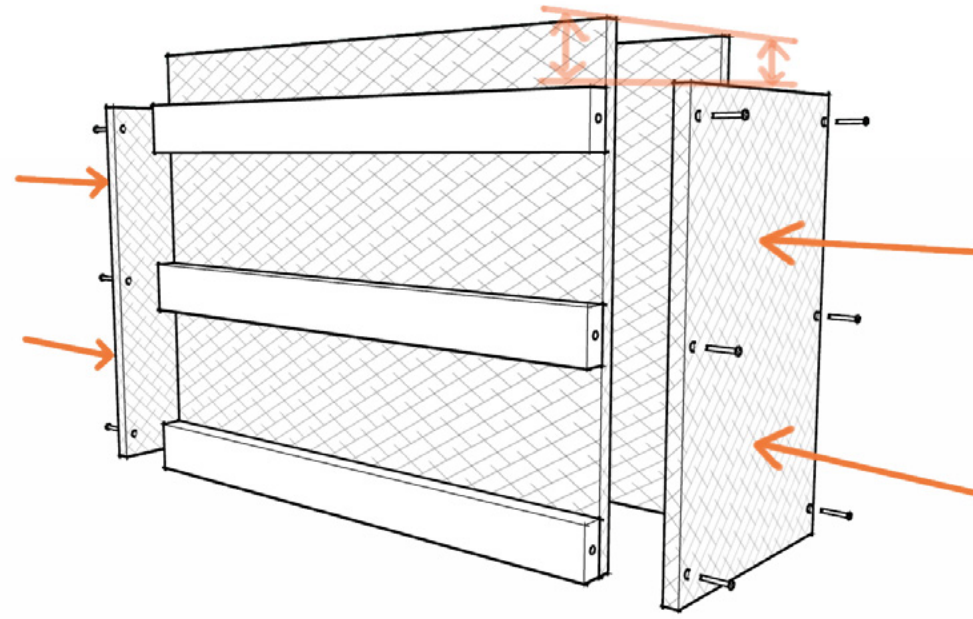


The classroom receives a diffused east light in the morning due to the roof inclination and the truss design.

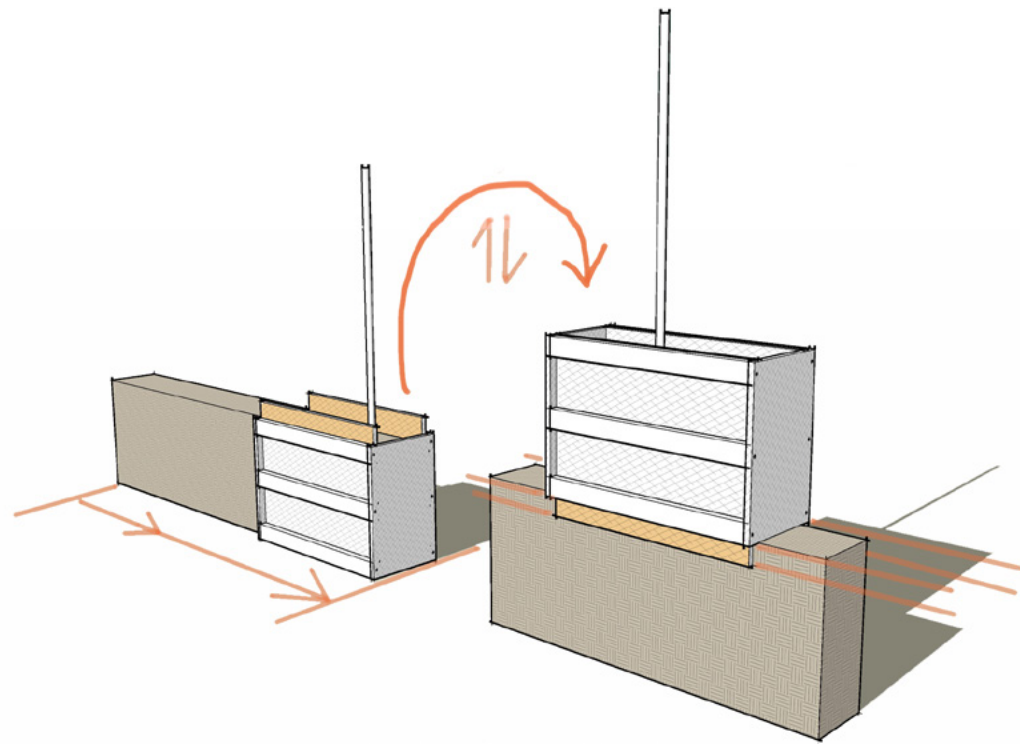


- i. The overhang of 600mm helps to keep the rain away from timber posts and mud walls.
- ii. Low roof of corridor eliminated the excess heat and makes the shaded space usable.

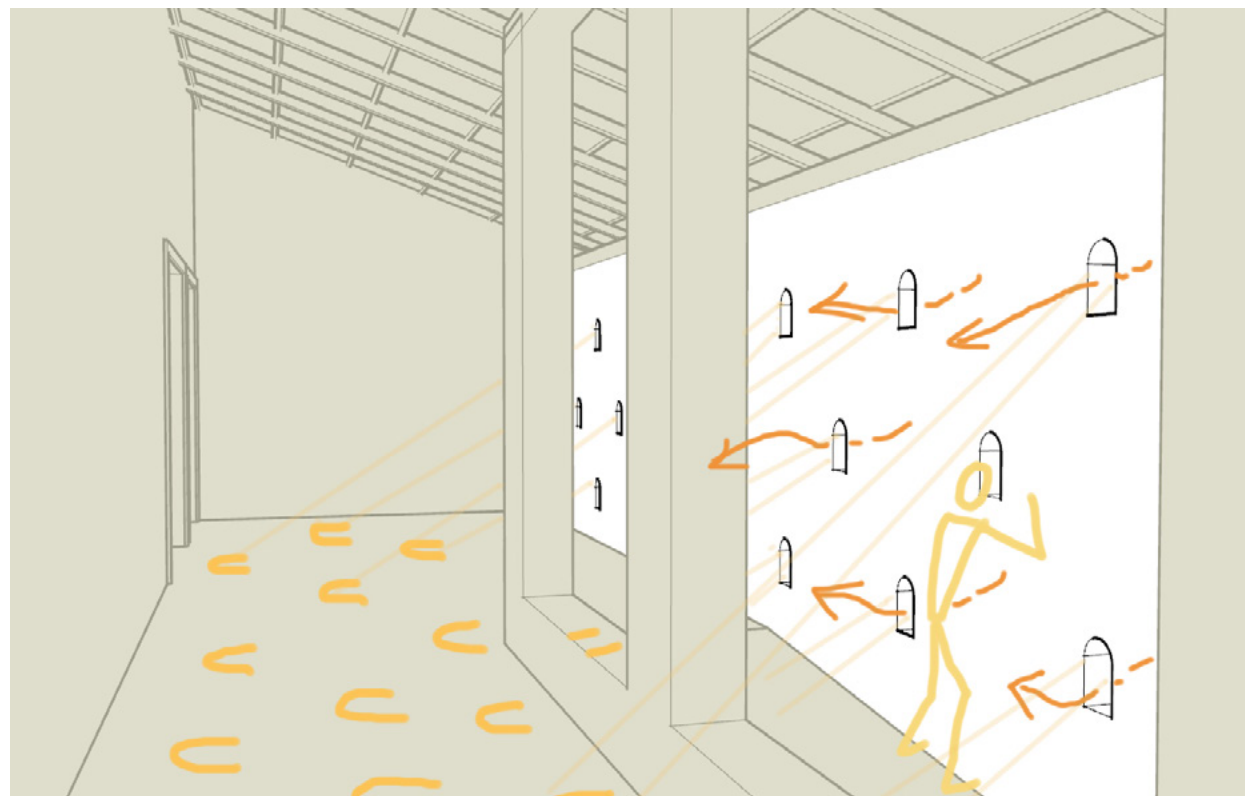
Details of the building



The shuttering for stabilised cob is made from recycled timber.



The stabilised cob wall is built in parts. The shuttering is inverted for constructing mud wall on the next level.



The perforated mud walls provide allow interesting shadow patterns while also connecting the users to the exteriors.

Available Material Palette

Using locally available materials and construction techniques ensures an economical construction system and avoiding excess transportation of materials for one place to another.

Using local materials also brings a sense of belonging and connection to the users. It also gives the community independence to create their own designs and explore different ways of building in the present times.

Some of the materials available in the vicinity of the site are shown in the following images



Clay from the site



Brick kiln located in the vicinity.



Stone quarry in the locality.



Brick kiln located in the vicinity.