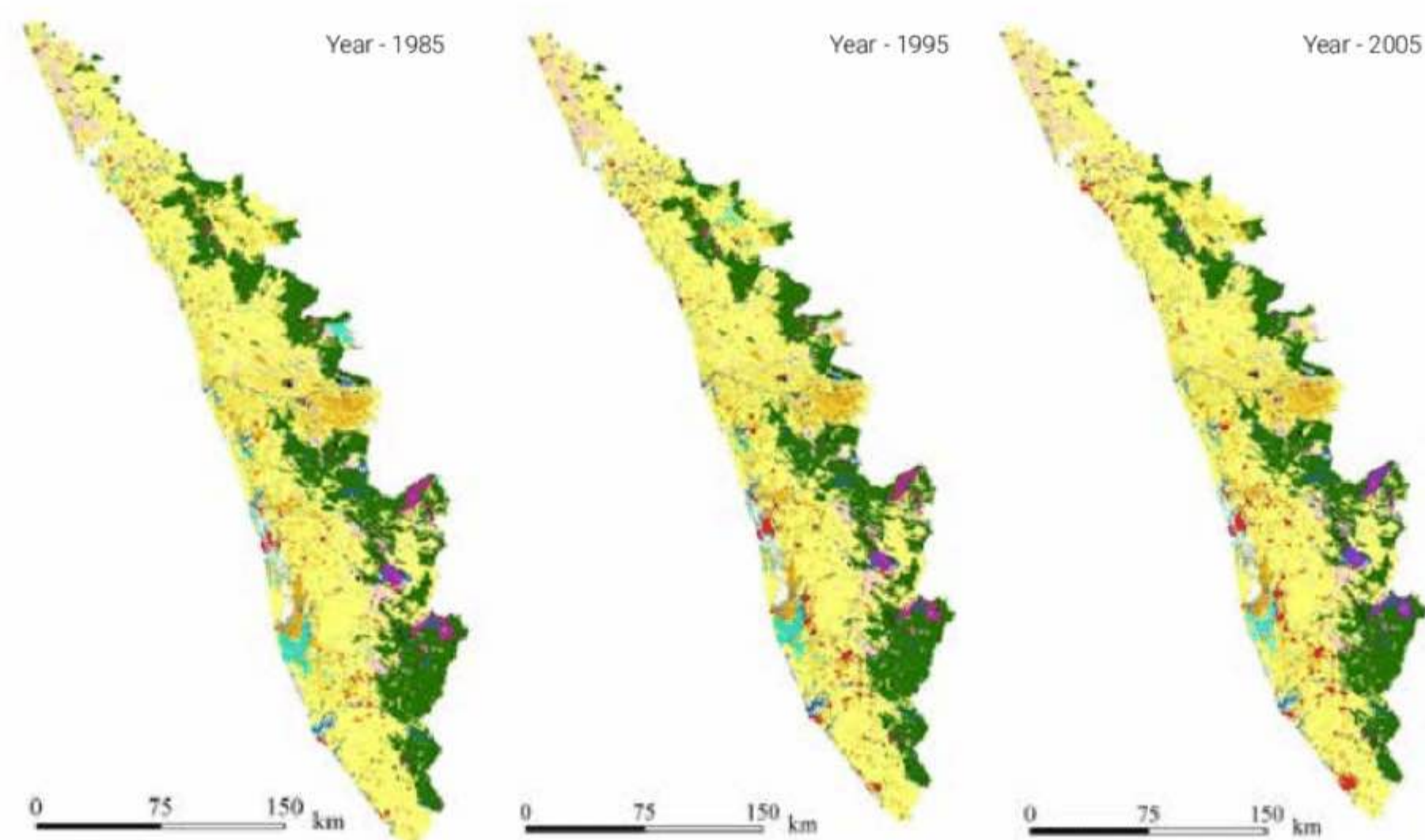
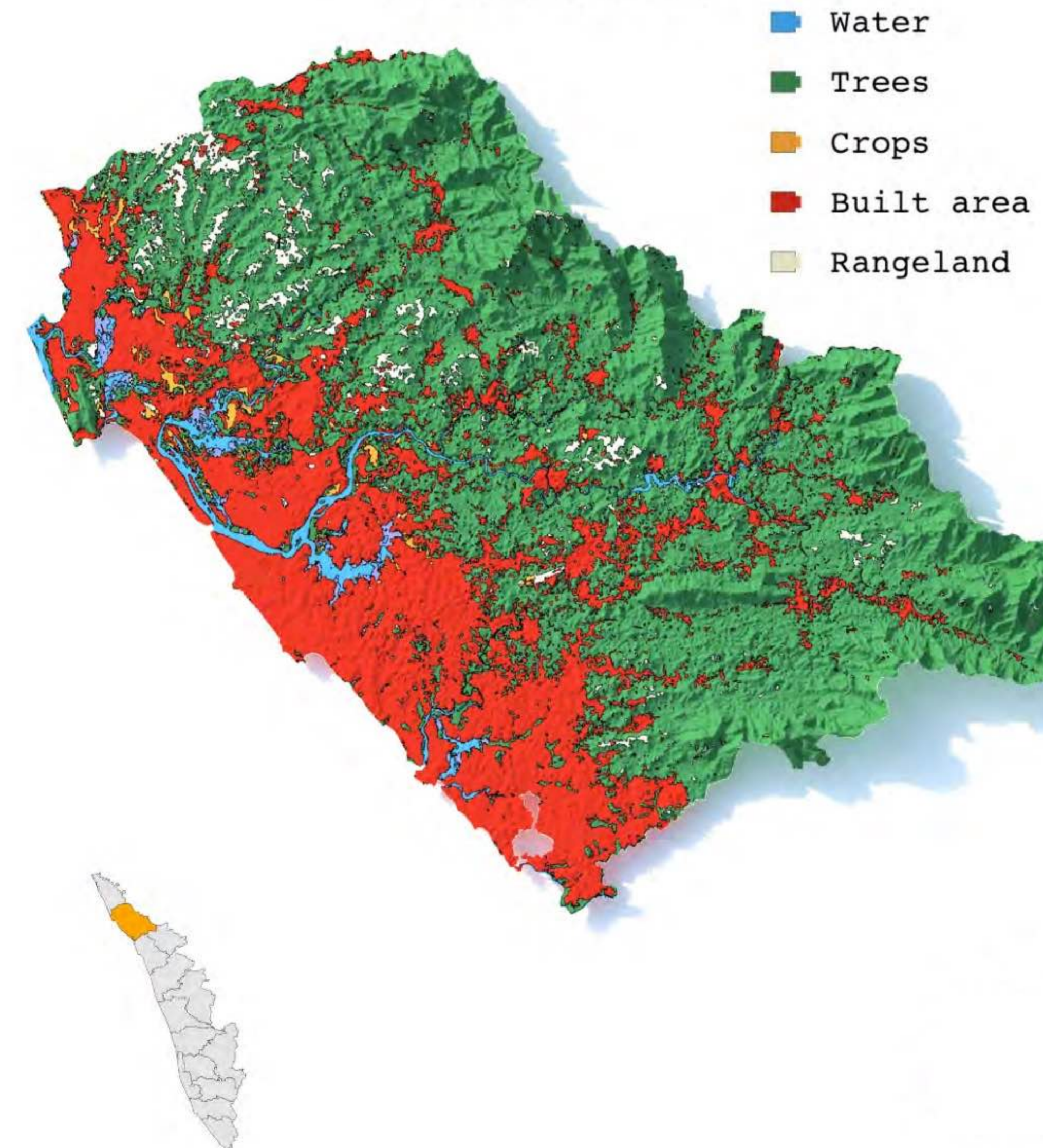


Kerala Land Cover (2023)



Kannur Land Cover



CAUSES OF FOREST COVER CHANGE

Plantations (monocultures): Large tracts planted with acacia, eucalyptus, and other fast-growing exotics which do not support full forest ecology. These are easier to manage / commercially useful but offer less ecological value.

Encroachment & land diversion: Non-forestry uses like agriculture, real estate, roads, urban expansion have led to forest being diverted. Sometimes illegal.

Mangrove destruction: Particularly in coastal zones (such as in Kannur) for shrimp farming or paddy (Kaipad) cultivation. Mangroves are legally protected but nonetheless under pressure.

Invasive species: Species like *Senna spectabilis* cover large patches and degrade habitats; plantations of exotics degrade soil or hydrology. Removal of such invasives is underway but challenging.

Climate change effects: Changing rainfall, more intense monsoons, unpredictable dry spells; worsening droughts and floods which interact with deforestation/forest degradation. Also, landslide vulnerability increases.

TABLE 11.14.4 District-wise Forest Cover in Kerala (in sq km)

District	Geographical Area (GA)	2019 Assessment				% of GA	Change wrt 2017 assessment	Scrub
		Very Dense Forest	Mod. Dense Forest	Open Forest	Total			
Alappuzha	1,415	0.00	27.00	52.90	79.90	5.65	11.90	0.00
Ernakulam™	3,063	167.01	615.03	583.67	1,365.71	44.59	92.71	0.00
Idukki™	4,356	348.36	1,795.63	1,006.66	3,150.65	72.33	11.65	0.93
Kannur™	2,961	58.00	485.88	1,110.09	1,653.97	55.86	92.97	0.00
Kasaragod™	1,989	1.90	294.31	670.27	966.48	48.59	19.48	0.00
Kollam™	2,483	104.00	657.25	561.26	1,322.51	53.26	-33.49	0.00
Kottayam	2,206	12.00	531.95	560.34	1,104.29	50.06	137.29	0.00
Kozhikode ^h	2,345	70.81	409.89	956.27	1,436.97	61.28	-47.03	0.00
Malappuram™	3,554	142.59	424.08	1,414.66	1,981.33	55.75	170.33	0.50
Palakkad™	4,482	403.36	636.72	1,043.51	2,083.59	46.49	257.59	11.69
Pathanamthitta	2,652	161.95	1,235.81	557.76	1,955.52	73.74	125.52	0.00
Thiruvananthapuram™	2,189	57.00	697.88	549.05	1,303.93	59.57	-23.07	0.00
Thrissur	3,027	218.86	475.81	464.55	1,159.22	38.30	7.22	0.25
Wayanad™	2,130	188.99	1,221.00	170.23	1,580.22	74.19	0.22	0.00
Grand Total	38,852	1,934.83	9,508.24	9,701.22	21,144.29	54.42	823.29	13.37

KERALA GOVERNMENT SURVEY ON SACRED LANDSCAPES

Based on the interpretation of IRS Resourcesat-2 LISS III satellite data of the period Dec 2017 to March 2018, the Forest Cover in the State is 21,144.29 sq km which is 54.42% of the State's geographical area. In terms of forest canopy density classes, the State has 1,934.83 sq km under Very Dense Forest (VDF), 9,508.24 sq km under Moderately Dense Forest (MDF) and 9,701.22 sq km under Open Forest (OF). Forest Cover in the State has increased by 823.29sq km as compared to the previous assessment reported in ISFR 2017.

TABLE 11.14.2 Forest Cover of Kerala (in sq. km)

Class	Area	% of GA
VDF	1,934.83	4.98
MDF	9,508.24	24.47
OF	9,701.22	24.97
Total	21,144.29	54.42
Scrub	13.37	0.03

FIGURE 11.14.1 Forest Cover of Kerala

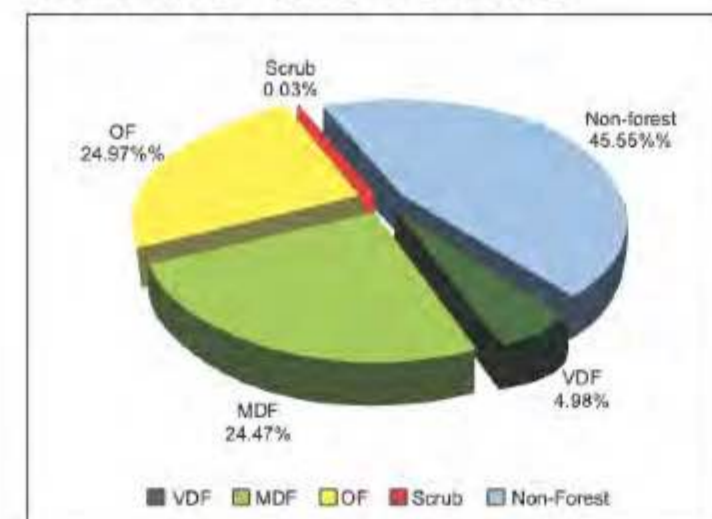


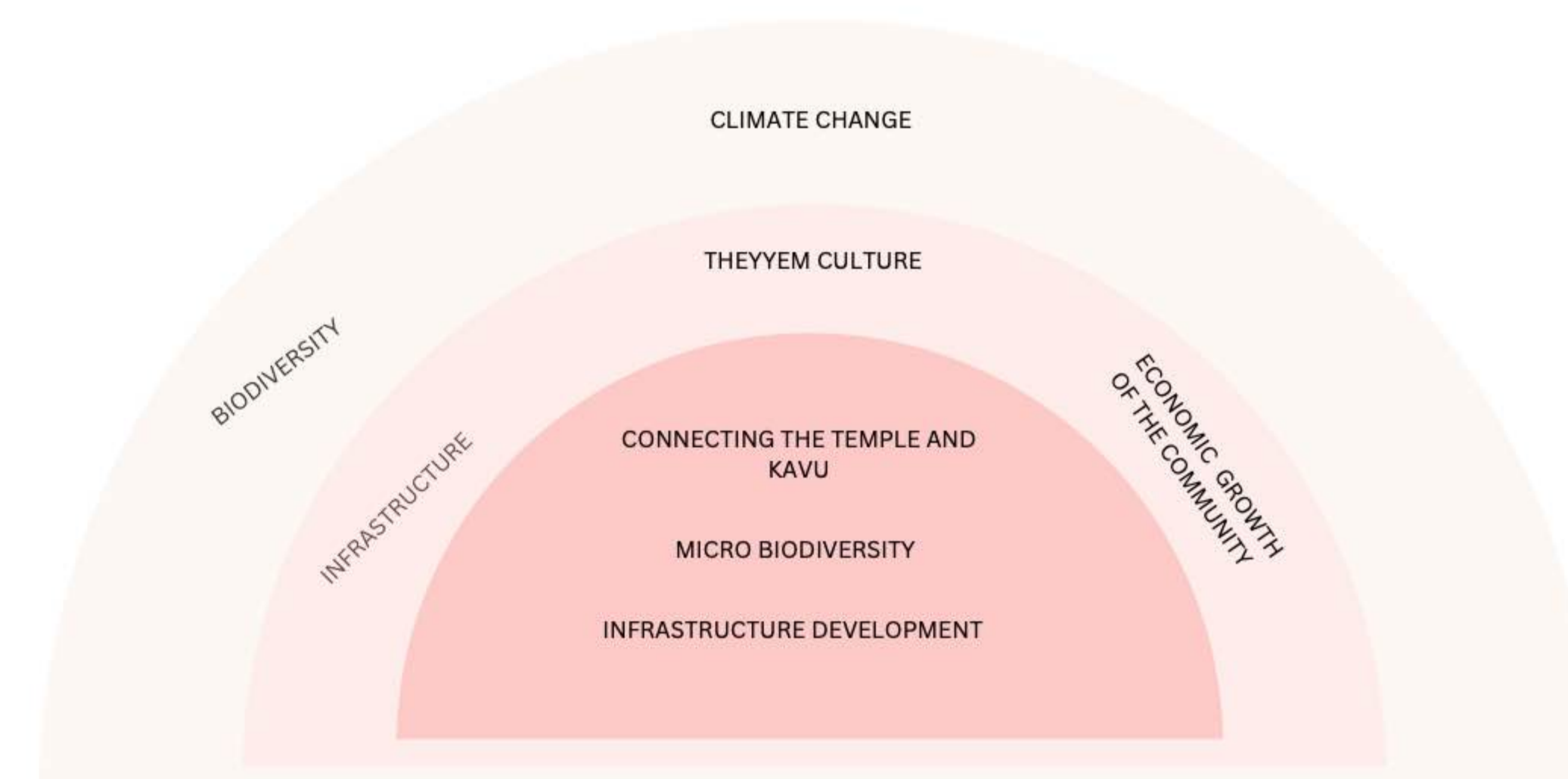
TABLE 11.14.1 Land Use Pattern

Land Use Types	Area (in 000 ^l ha)	Percentage
Geographical Area	3,886	
Reporting area for land utilization	3,886	100.00
Forests	1,081	27.83
Not available for land cultivation	538	13.85
Permanent pastures and other grazing lands	0.01	0.00
Land under misc. tree crops and groves	2.65	0.07
Culturable wasteland	101	2.59
Fallow land other than current fallows	55	1.41
Current fallows	65	1.68
Net area sown	2,043	52.57

Source: Land Use Statistics, Ministry of Agriculture, GOI, (2014-15)



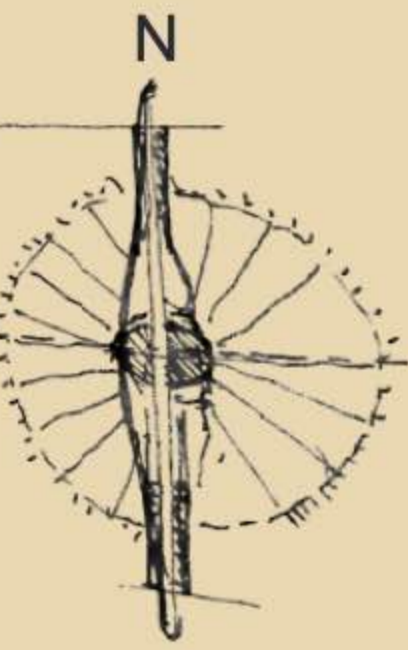
CONCERNS DIAGRAMS



The Scales of Concerns diagram maps the project's focus across multiple layers from the intimate ecological systems within the kavu to the wider cultural and community dynamics surrounding it. At the smallest scale, it considers biodiversity, micro-habitats, and seasonal changes within the sacred grove. At the intermediate scale, it examines movement patterns, ritual spaces, and daily interactions between people and the landscape. At the largest scale, it addresses regional context, cultural networks, and environmental pressures affecting the site. Together, these scales help frame a holistic design approach that respects ecology, supports community rituals, and strengthens the sacred character of the landscape.



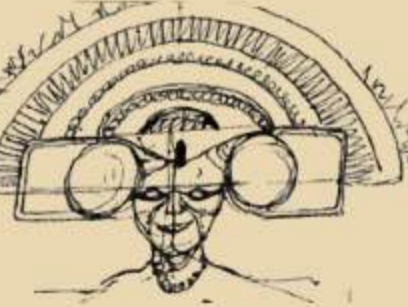
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ON SITE ANALYSIS

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MUCHILOTTU BHAGAVATHI TEMPLE

PERUMAL TEMPLE KANNUR

The local folklore relates a more earthly tale, trap set for a young village girl who acquired knowledge by the learned men. She learnt vedas and no one could defeat her. To trap her the scholars asked her "which is the most enjoyable pleasure?" which is the most intense pain?

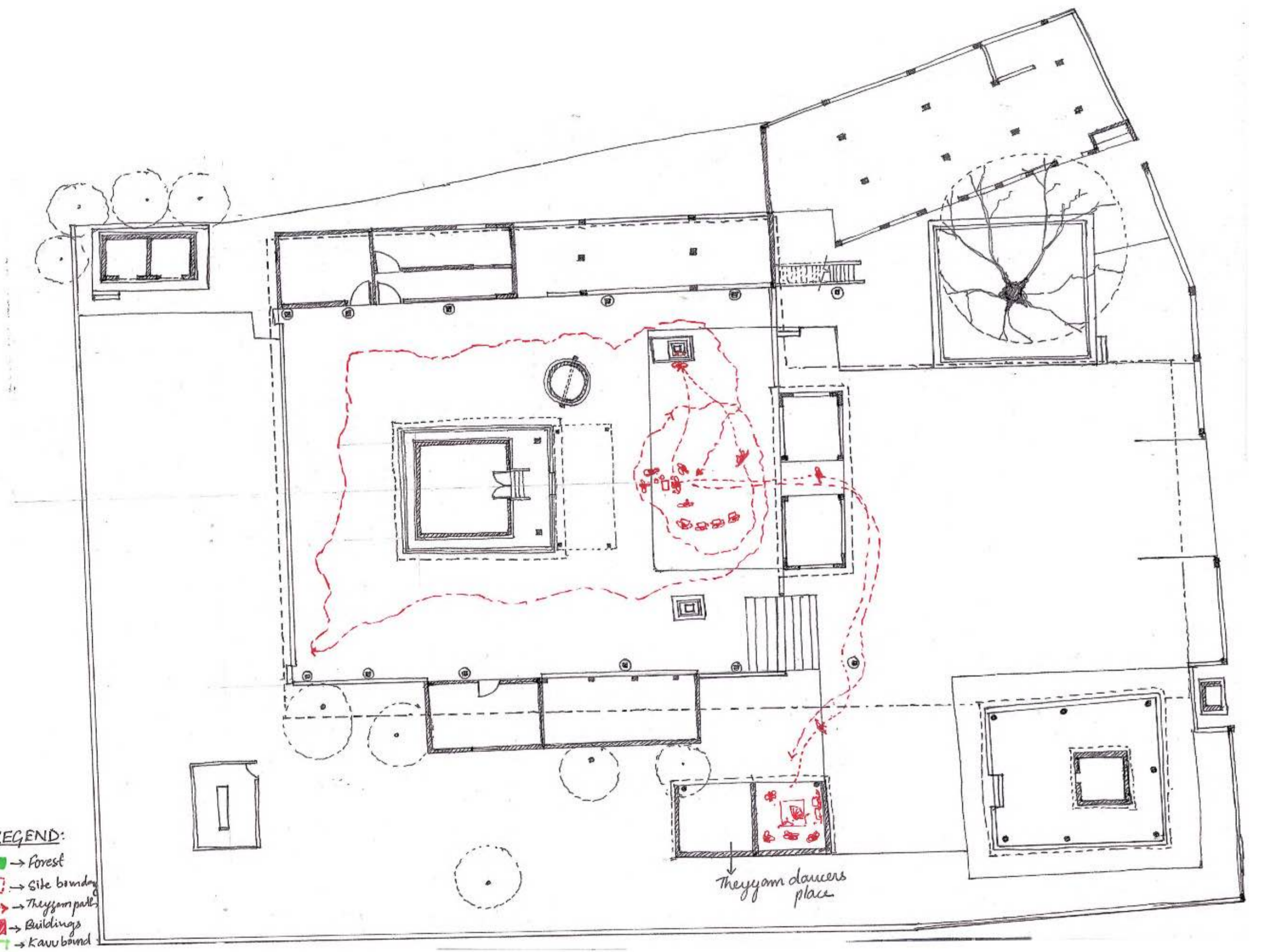
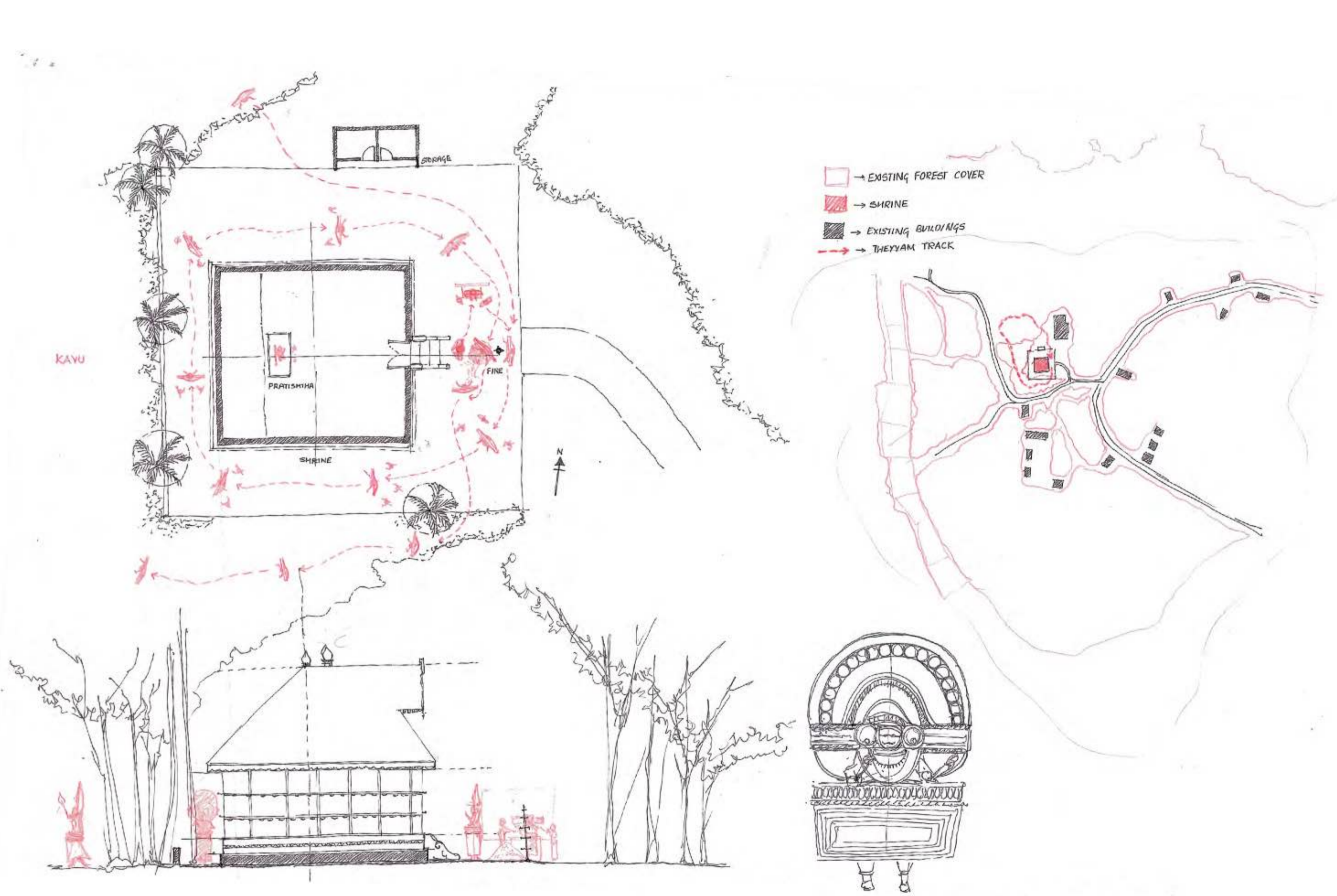
She answered "its love making that gives ultimate pleasure", while labour pain is the most intense suffering. because of this answer she was expelled from the community and thrown out. She prepared for immolating herself and wished for some oil to help the fire burn



NARIKODE PUTHIYABHAGAVATHY TEMPLE

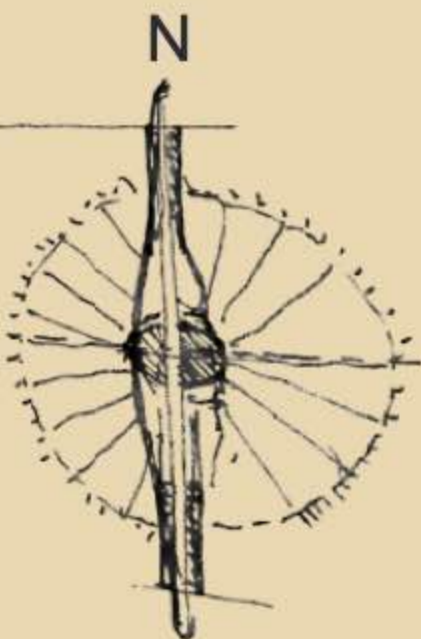
NARIKODE KANNUR KERALA

This is new plan of the temple which was reconstrued and just completed at May 9th 2025. The Temple has a history of several 100 years old. The temple complex is called 'kavu', there is no forest associated with it.





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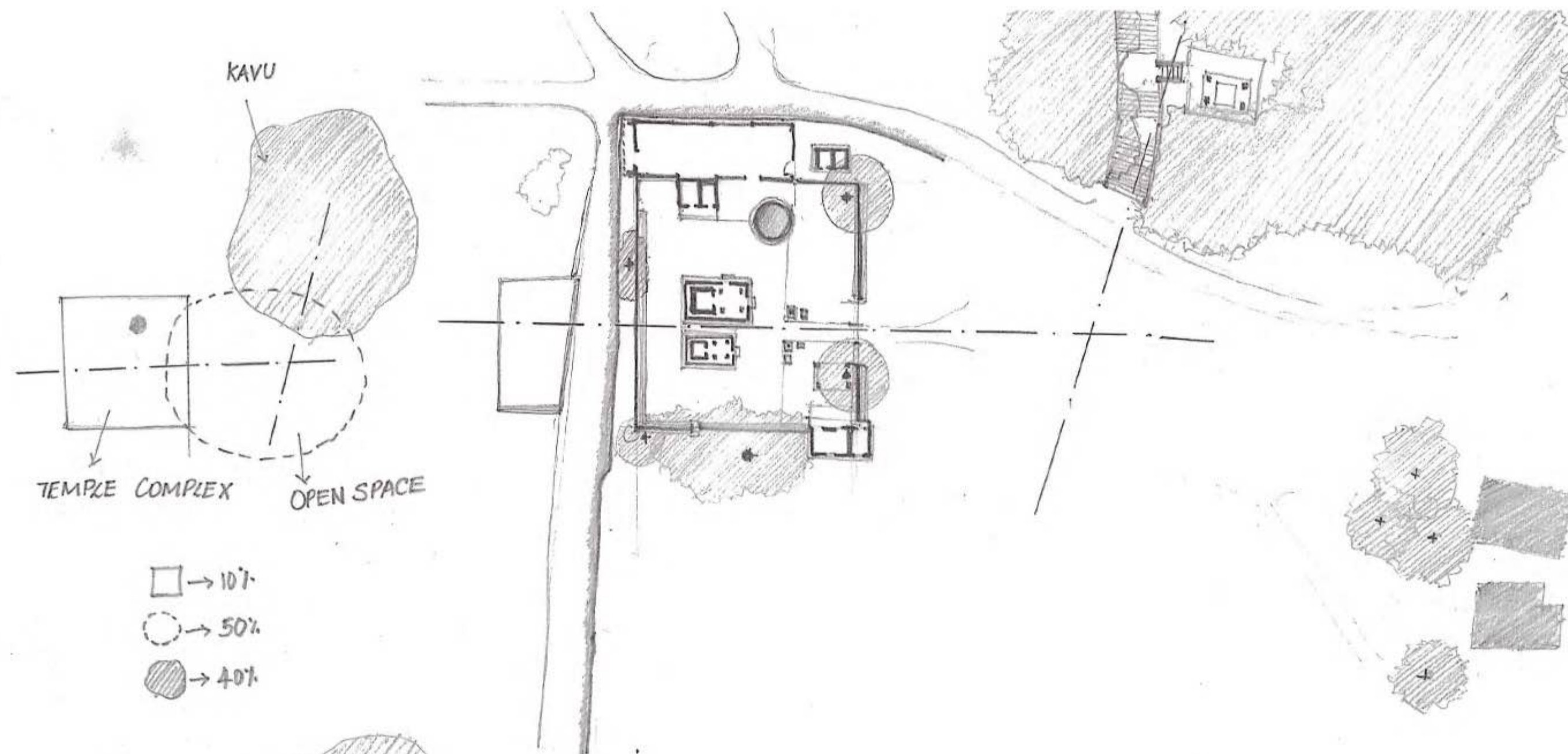
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ANALYSIS

VARAM SREE KOORUMBA KSHETHRAM

MALABAR REGION

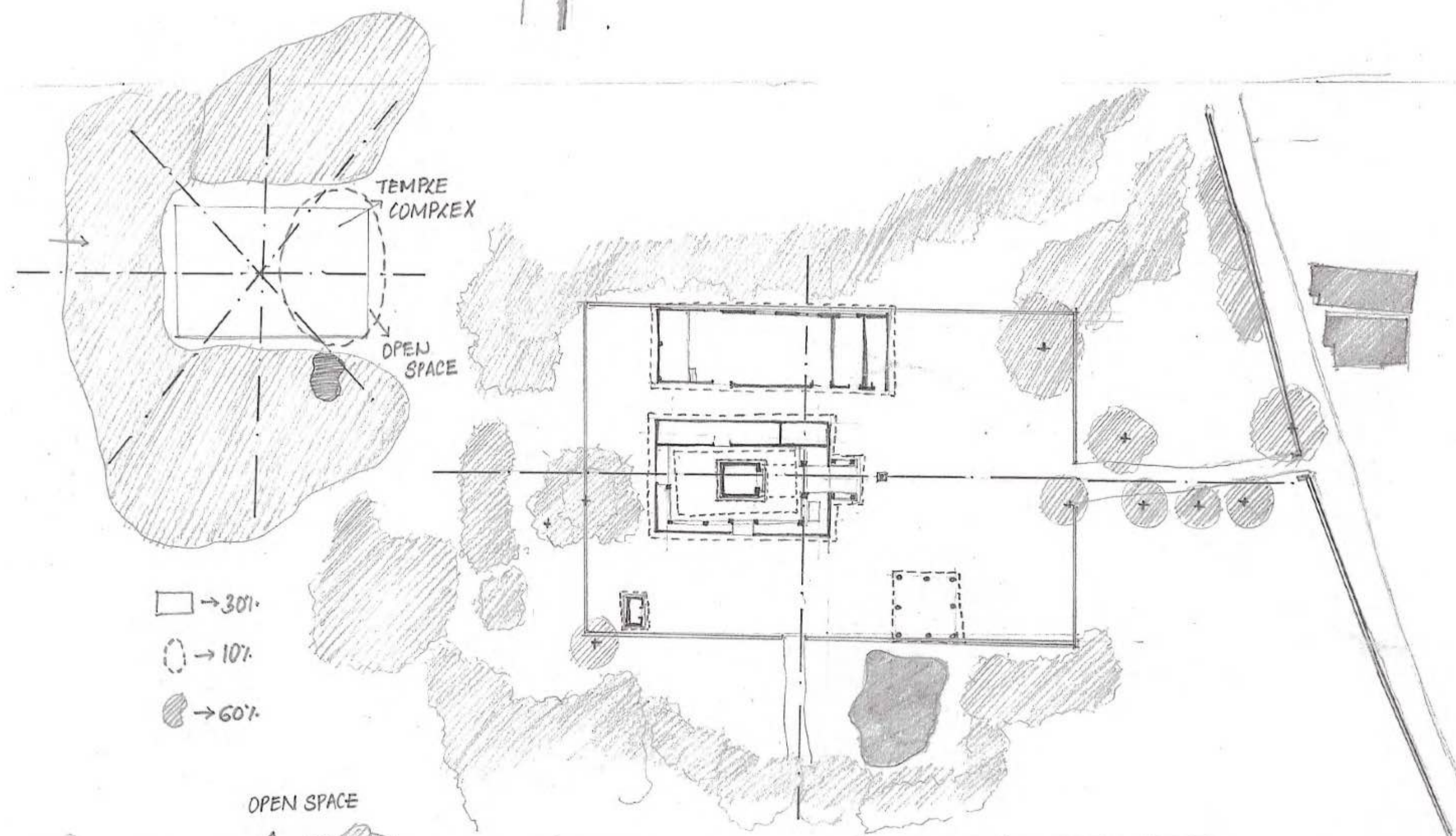
- Open - plan Temples integrated with kavus besides it.
- Open on hillocks or slopes near rivers or forest edges.
- Well drained lands
- Laterite stone for plinths , timber for super structure , clay tiles roofing
- In kavus has ellams (house of the temple owners)
- Kavus mainly for the Devis (Bhagavathy)
- Informal open spaces within Groves.



PONAKUDAM TEMPLE

COCHIN REGION

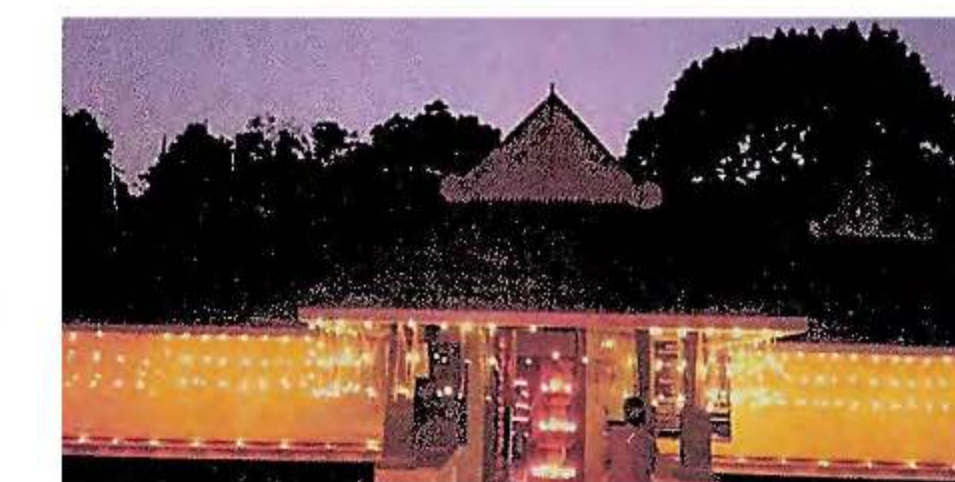
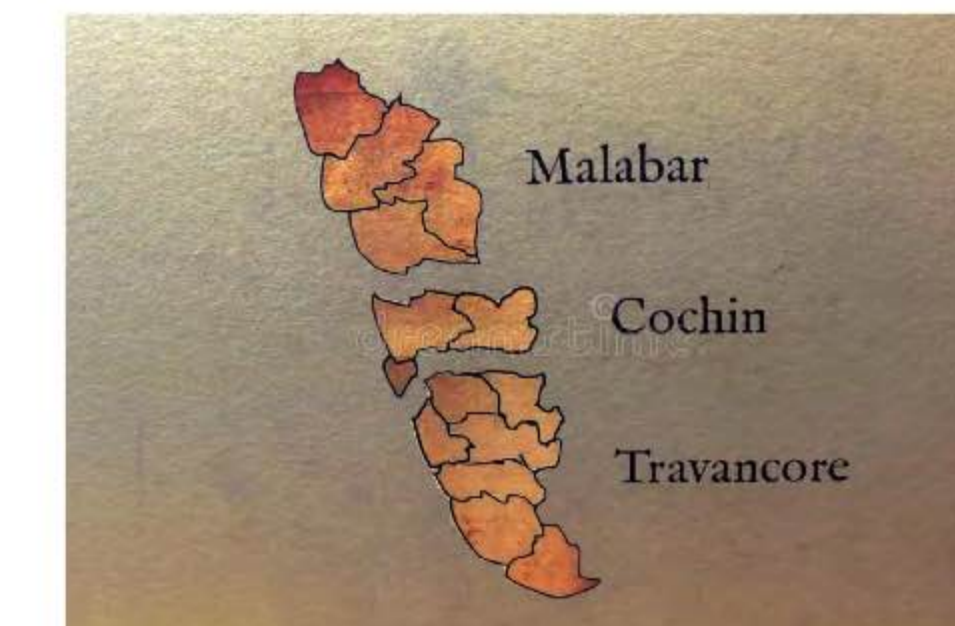
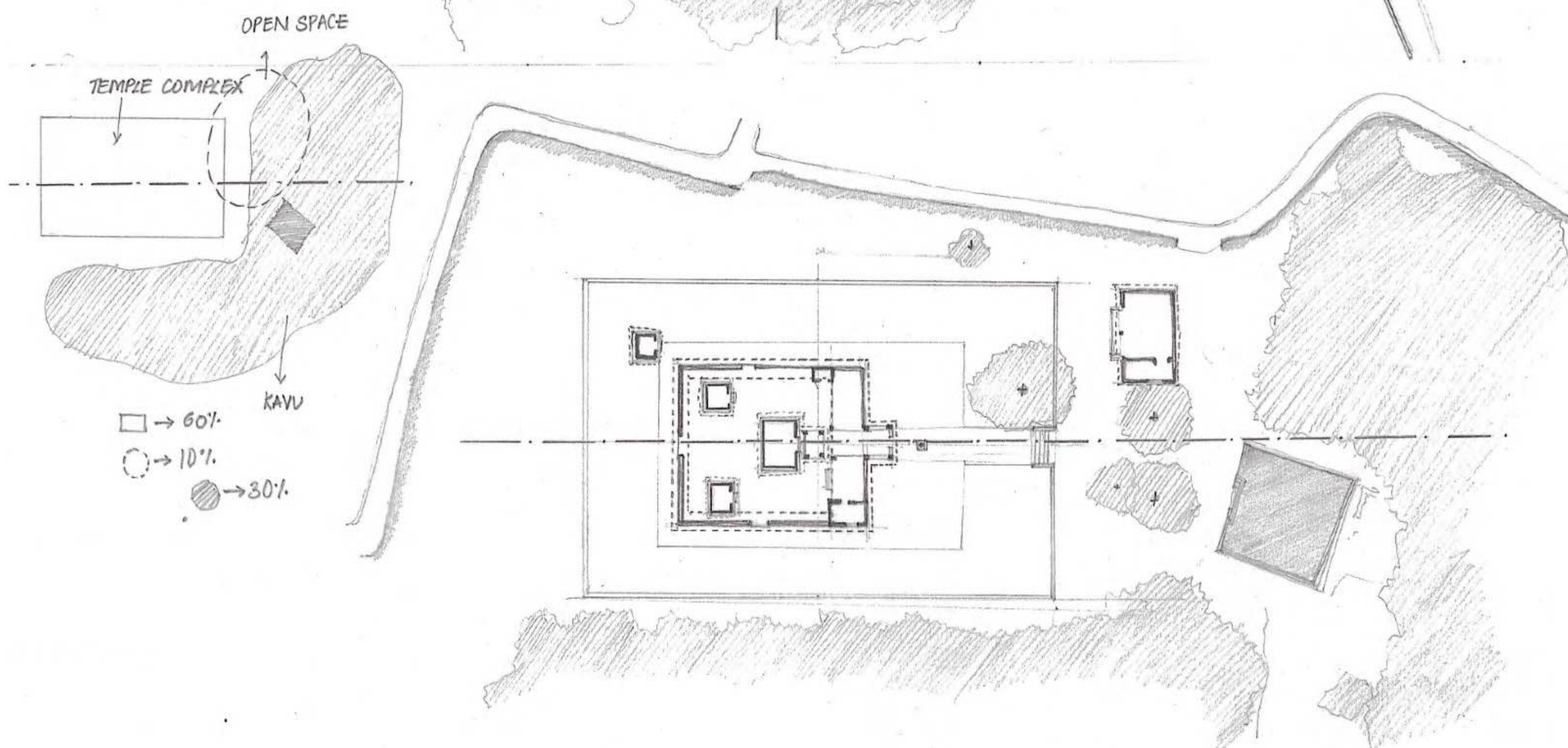
- Moderate - Sized temples with Nalambalam with large Kavus around the temple itself.
- In Lowlands plains , adjacent to wetlands or Agricultural lands.
- Kavus serve as forest islands with flat topograpgh . Ground water access.
- Mix of Gratinte , Laterite , and timber. temples have tiles roofs and open platforms.
- Kavus with minimal shrines of stone or wood . Kavus mainly for " AYYAPPAN".
- Mix of structured open spaces and natural zones.



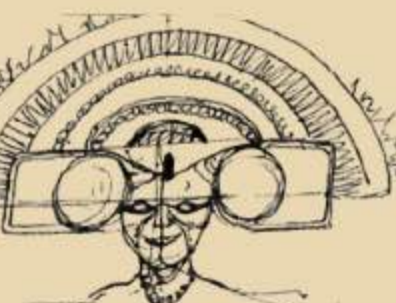
VALIYA VEETIL BHAGAVATHI TEMPLE

TRAVANCORE REGION

- Larger , more formalised with Dravidan architectural elements, tall walls with Moderate sized kavus beside temple complexes.
- Found in urbanized or valley regions
- Temples are placed on flatter lands within cities or scare enclosures.
- Heavy use of granite , lime plaster , and brick masonry .
- Roofs with cooper - plated.
- Kavus mainly for the "Sankes" hence called " sarpa kavus"
- Clearly defined paved courtyards



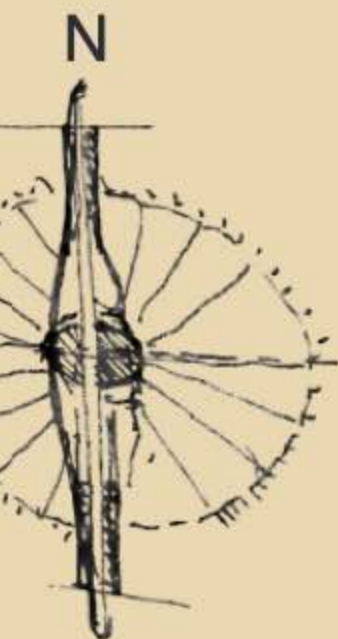
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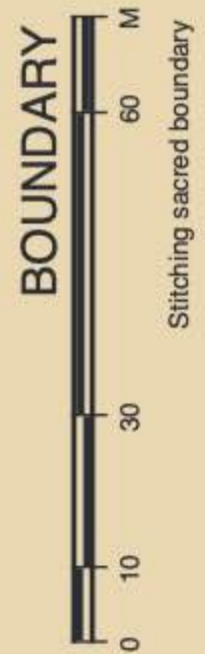
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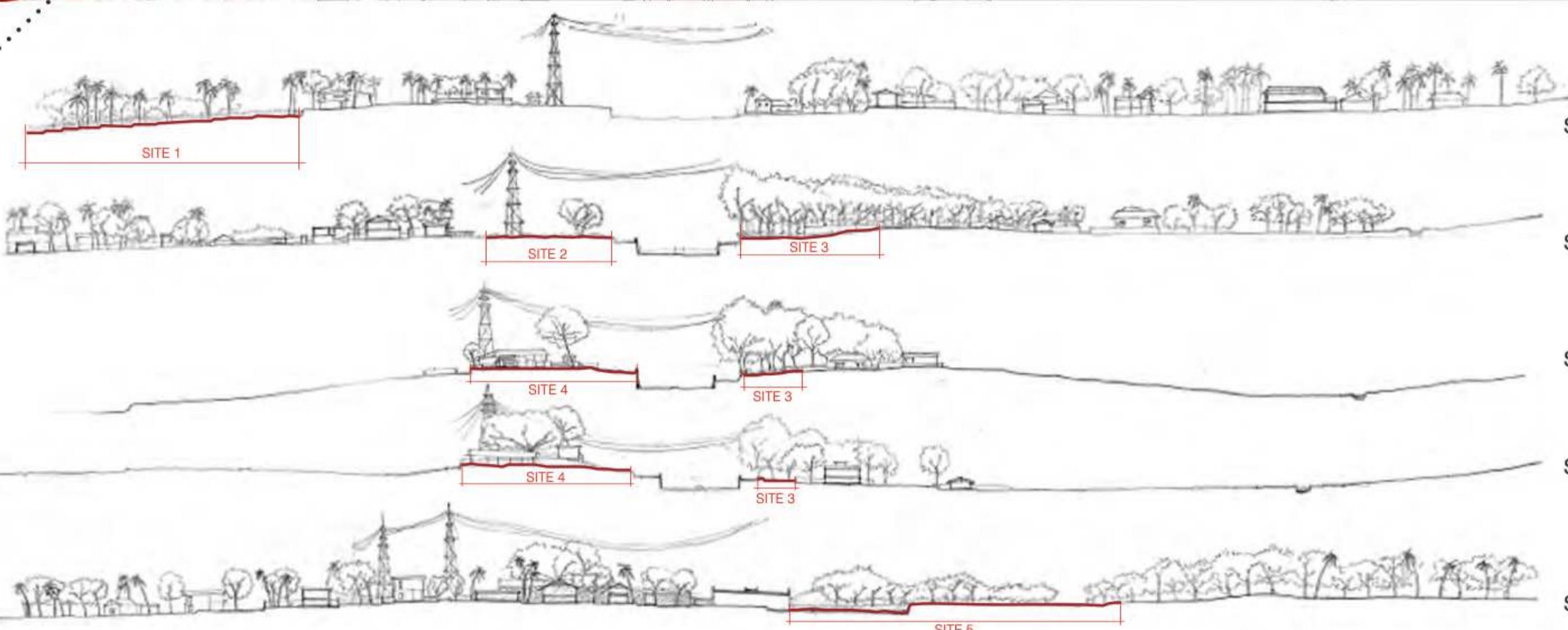
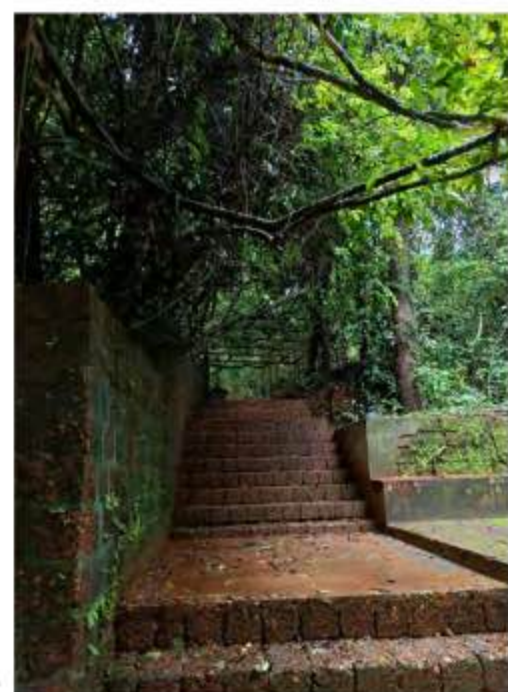
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SITE DOCUMENTATION

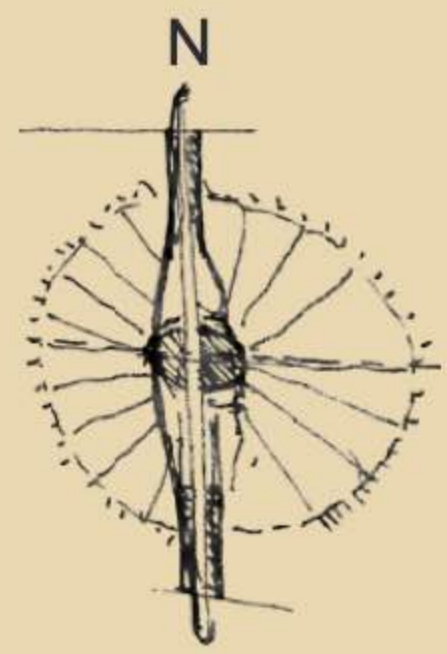


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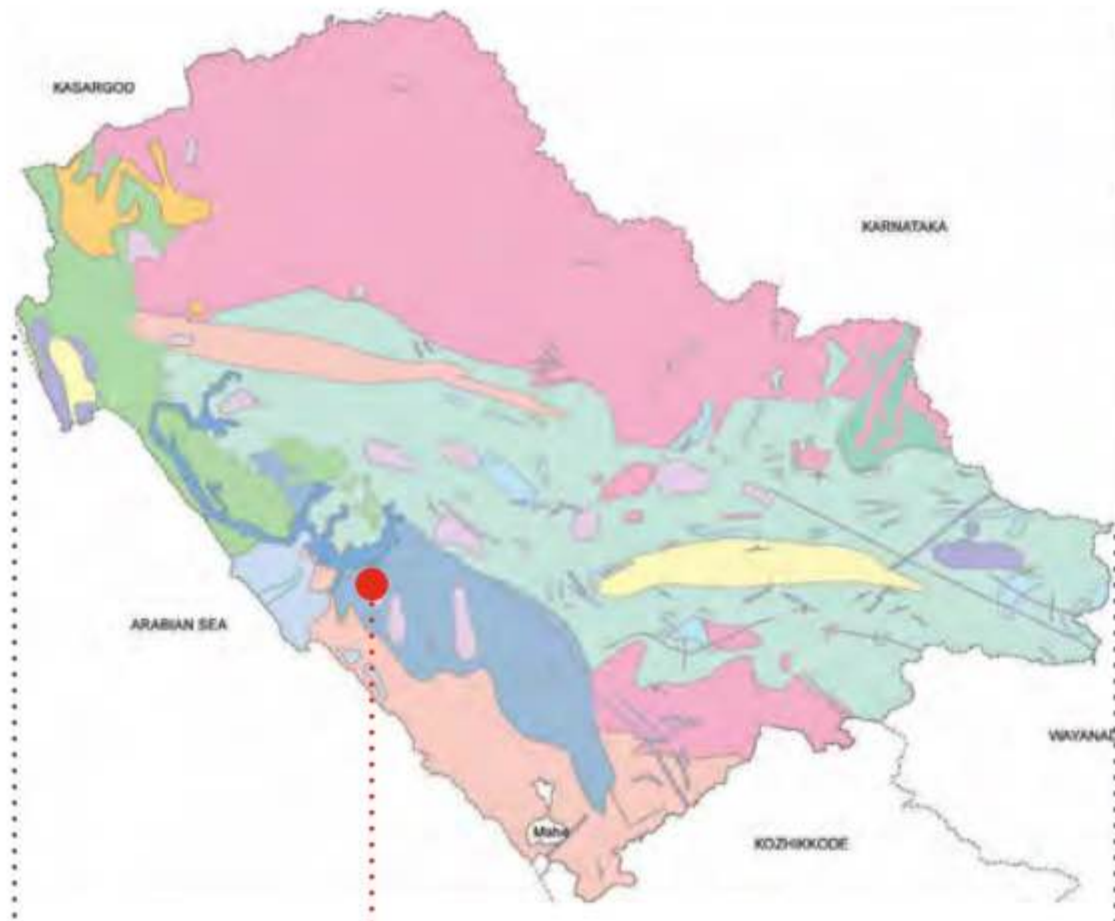


ATHIRU
BOUNDARY
Stitching sacred boundary

SITE DOCUMENTATION

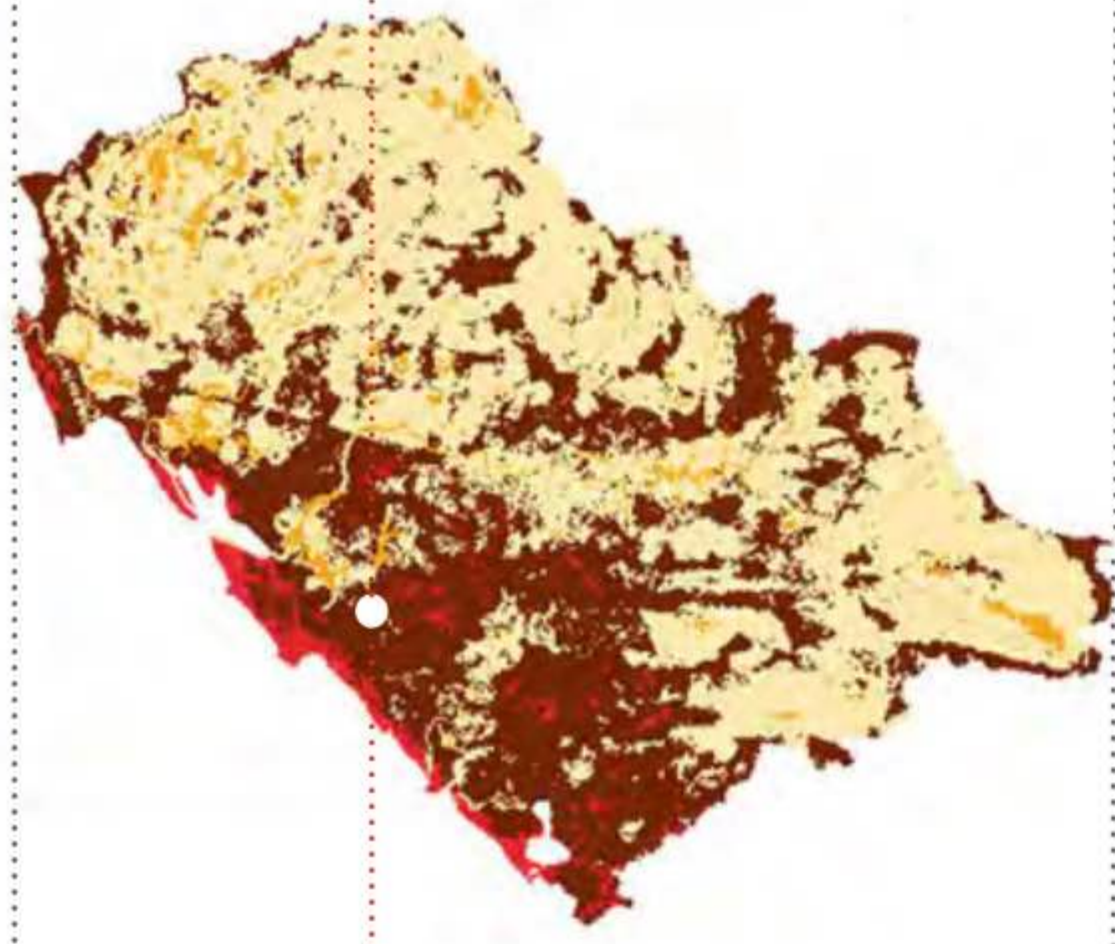


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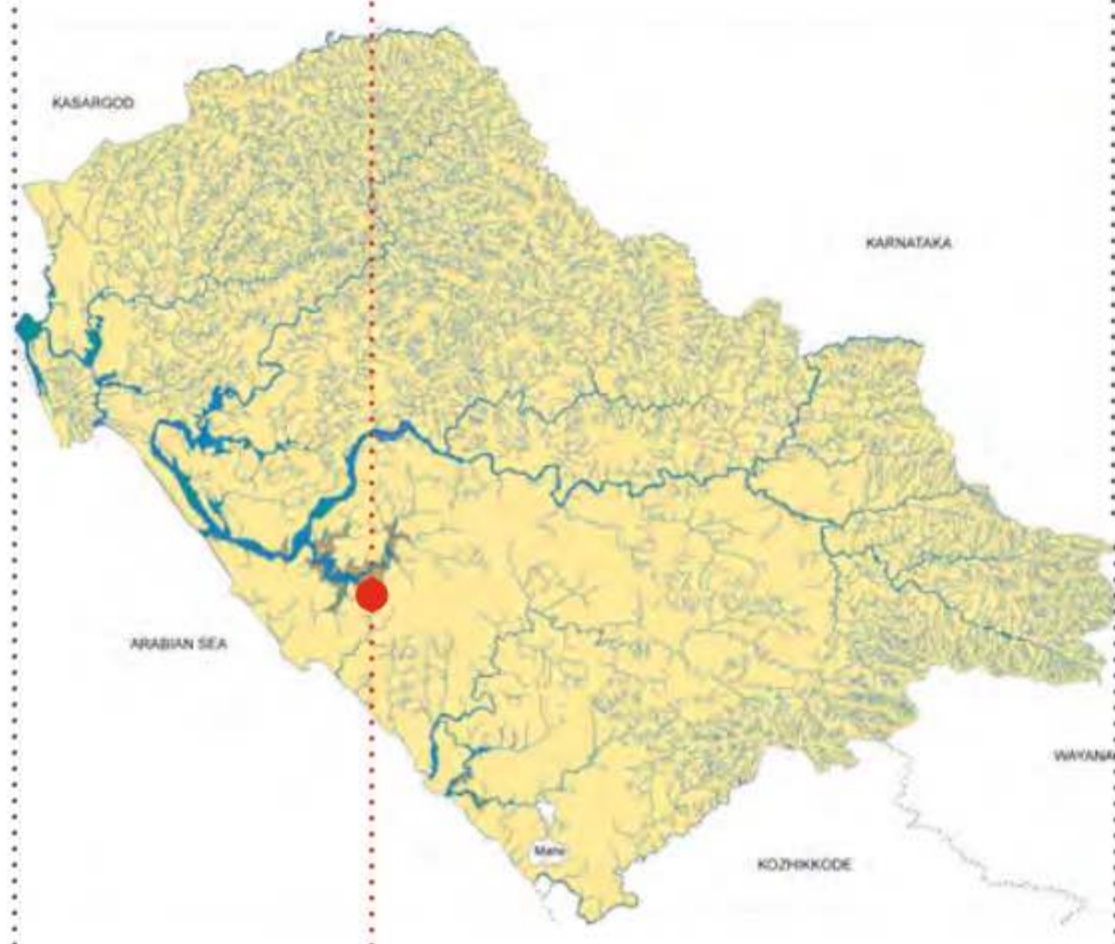
GEOLOGY KANNUR DISTRICT

- Geology**
- Acidic rocks
 - Basic Rocks
 - Chenokilla group of rocks
 - High grade metasedimentary rocks
 - Khondalite Group of rocks
 - Laterite
 - Low grade metasedimentary rocks
 - Metabasic and Ultra basic rocks
 - Migmatite Complex
 - Penitular Gneissic Complex
 - Sand and Silt
 - Sandstone and clay with lignite inter
 - Ultrabasic rocks
 - Tank/Waterbody/River



DROUGHT MAPPING

- Drought intensity**
- No drought
 - Slight drought
 - Moderate drought
 - Severe drought



WATER RESOURCE KANNUR DISTRICT

- WATER RESOURCE**
- DRAINAGE
 - OPEN AREA
 - RIVER ISLAND
 - RIVER ROCK
 - RIVER SAND
 - WATER LOGGED AREA
 - WATERBODY WET
 - RIVER



GEOMORPHOLOGY KANNUR DISTRICT

- Geomorphology Level 1**
- Coastal Plain
 - Denudational Hills
 - Denudational Structural Hills
 - Flood Plain
 - Marshy
 - Pedplain
 - Piedmont Zone
 - Plateau
 - Residual Hill
 - Rock Exposure
 - Water Body



SOILS - KANNUR DISTRICT

- Legend**
- Major places
 - Road
 - Railway
 - Waterbodies
 - K20
 - K21
 - K22
 - K23
 - K24
 - K25
 - K26
 - K27
 - K28



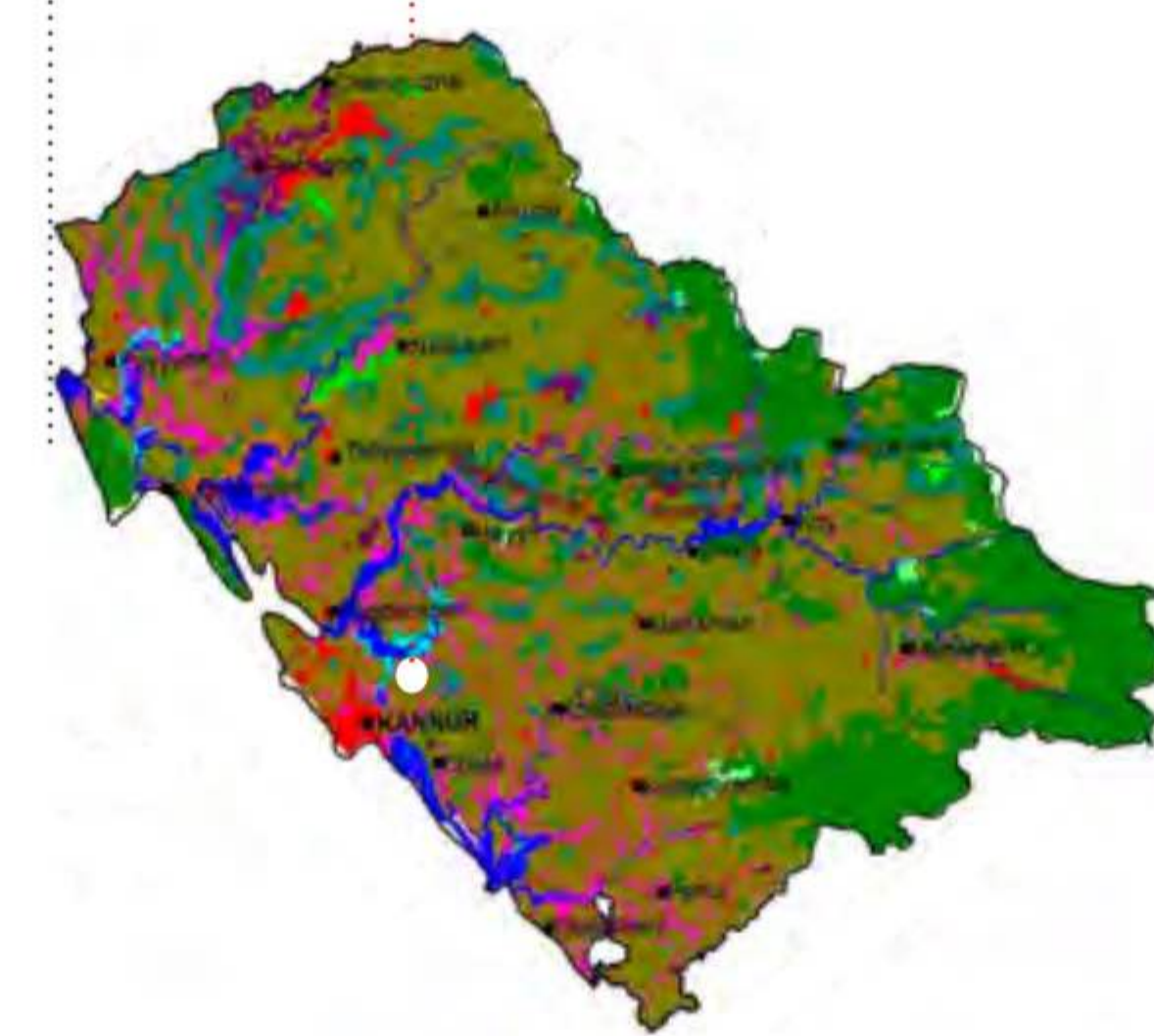
WETLAND KANNUR DISTRICT

- WETLAND**
- Paddy
 - Paddy converted to agriculture land
 - Paddy converted to cultivable wasteland
 - Mangrove swamp
 - Marshy land
 - Mud
 - Other landuses
 - Swampy lands
 - wetland
 - Water Body



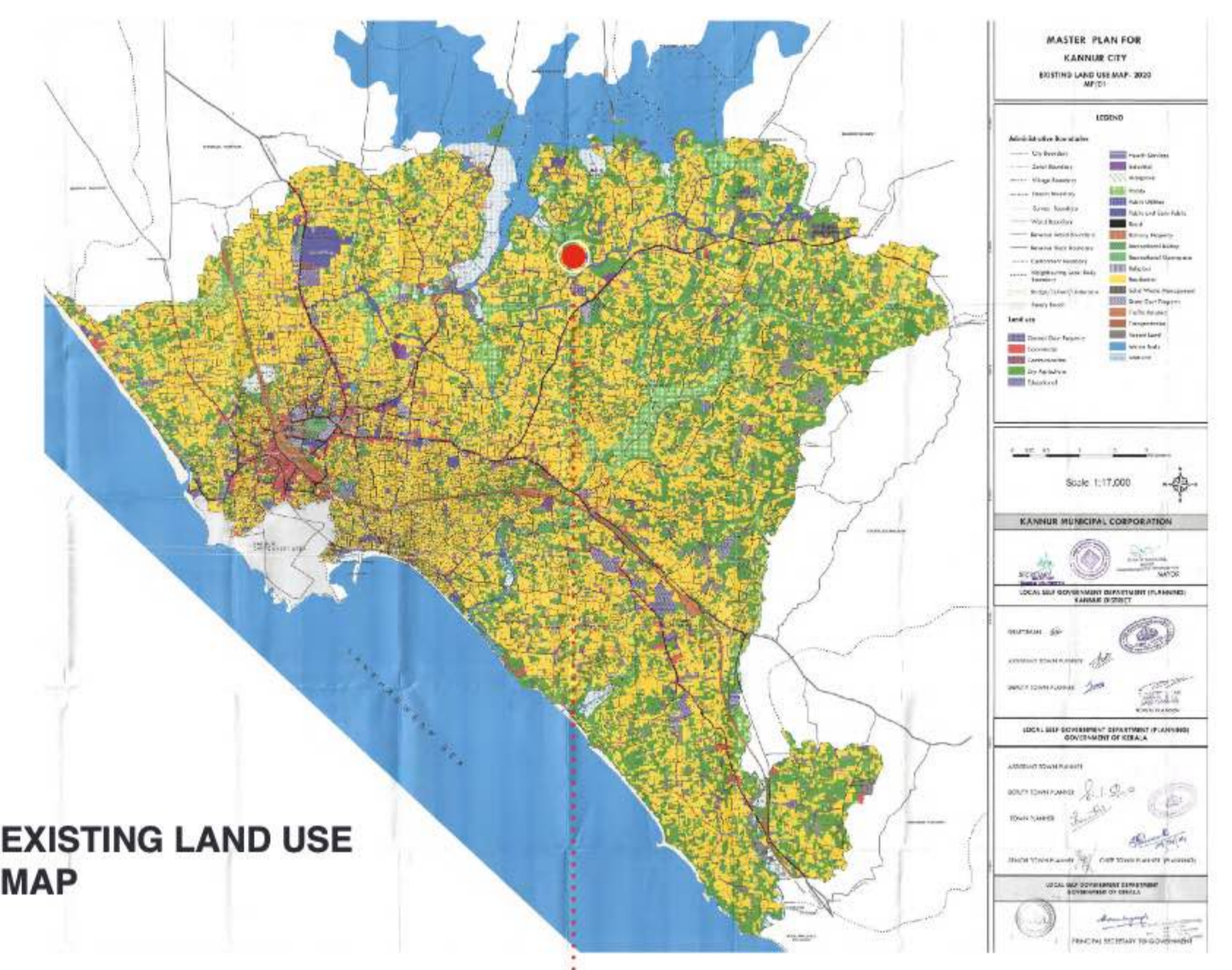
TRANSPORT NETWORK KANNUR DISTRICT

- Road Type**
- OTHER ROADS
 - DISTRICT ROAD
 - STATE HIGHWAY
 - NATIONAL HIGHWAY
 - RAILWAY



LAND USE MAP

- LEGEND**
- Built-up (Cities/Town)
 - Doublecrop(Kharif+Rabi)
 - Cropland(Kharif)
 - Land with scrub
 - Land without scrub
 - Fallow Land
 - Agricultureplantation
 - Forest deciduous
 - Forest Evergreen
 - Forest Plantations
 - Grass land
 - Barrenrock/Stonywast/Sh
 - Marshy/Swampy
 - Mining/industrial waste
 - Sandy area
 - Wetlands
 - River/Water bodies
 - Locality



EXISTING LAND USE MAP

MASTER PLAN FOR KANNUR CITY
PROPOSED LAND USE MAP 2041

URBAN

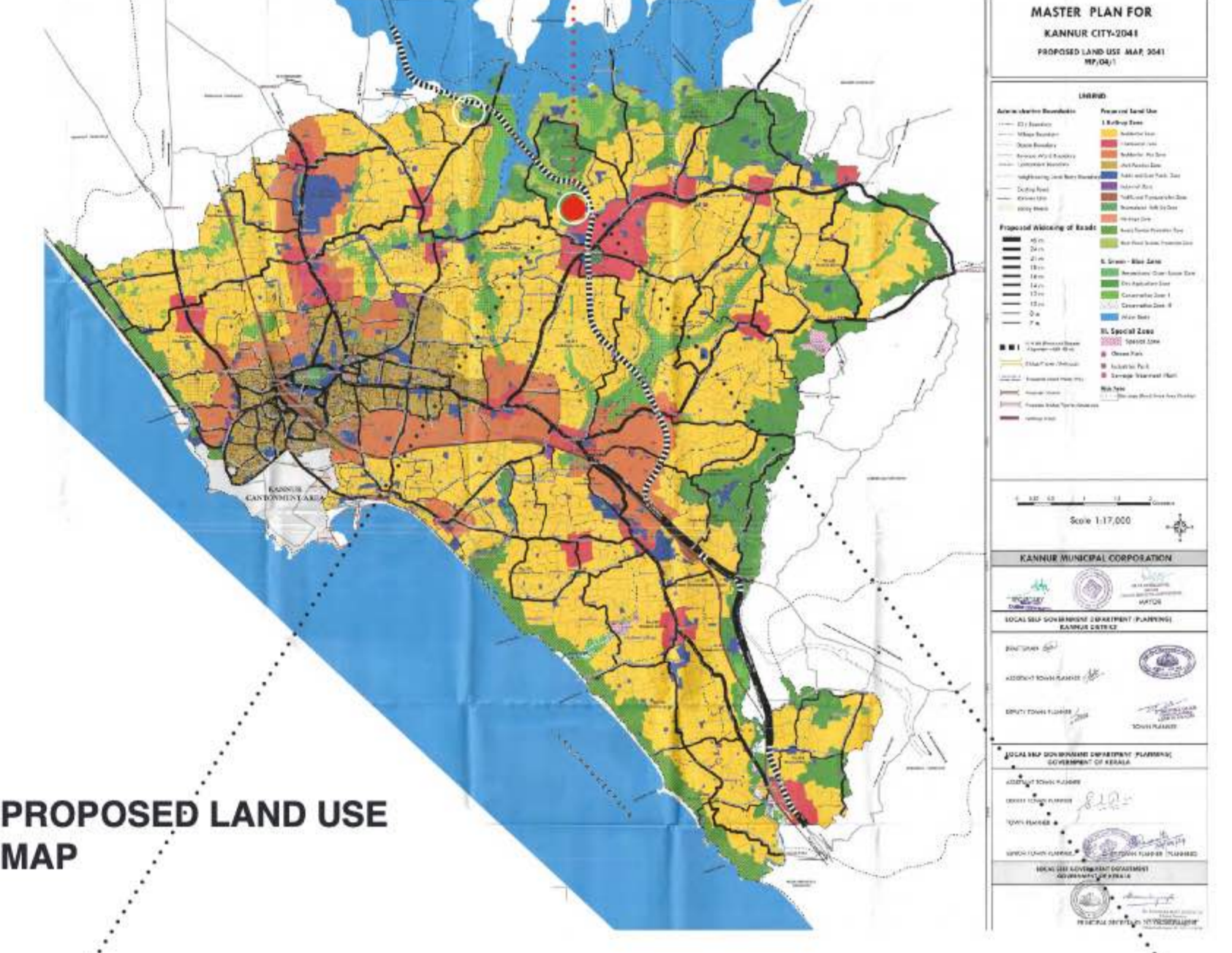
- High Density Residential
- Medium Density Residential
- Low Density Residential
- Commercial
- Industrial
- Public Use
- Green Space
- Water Body

Scale: 1:17,000

KANNUR MUNICIPAL CORPORATION

APPROVED

Scale: 1:17,000



PROPOSED LAND USE MAP

MASTER PLAN FOR KANNUR CITY
PROPOSED LAND USE MAP 2041

URBAN

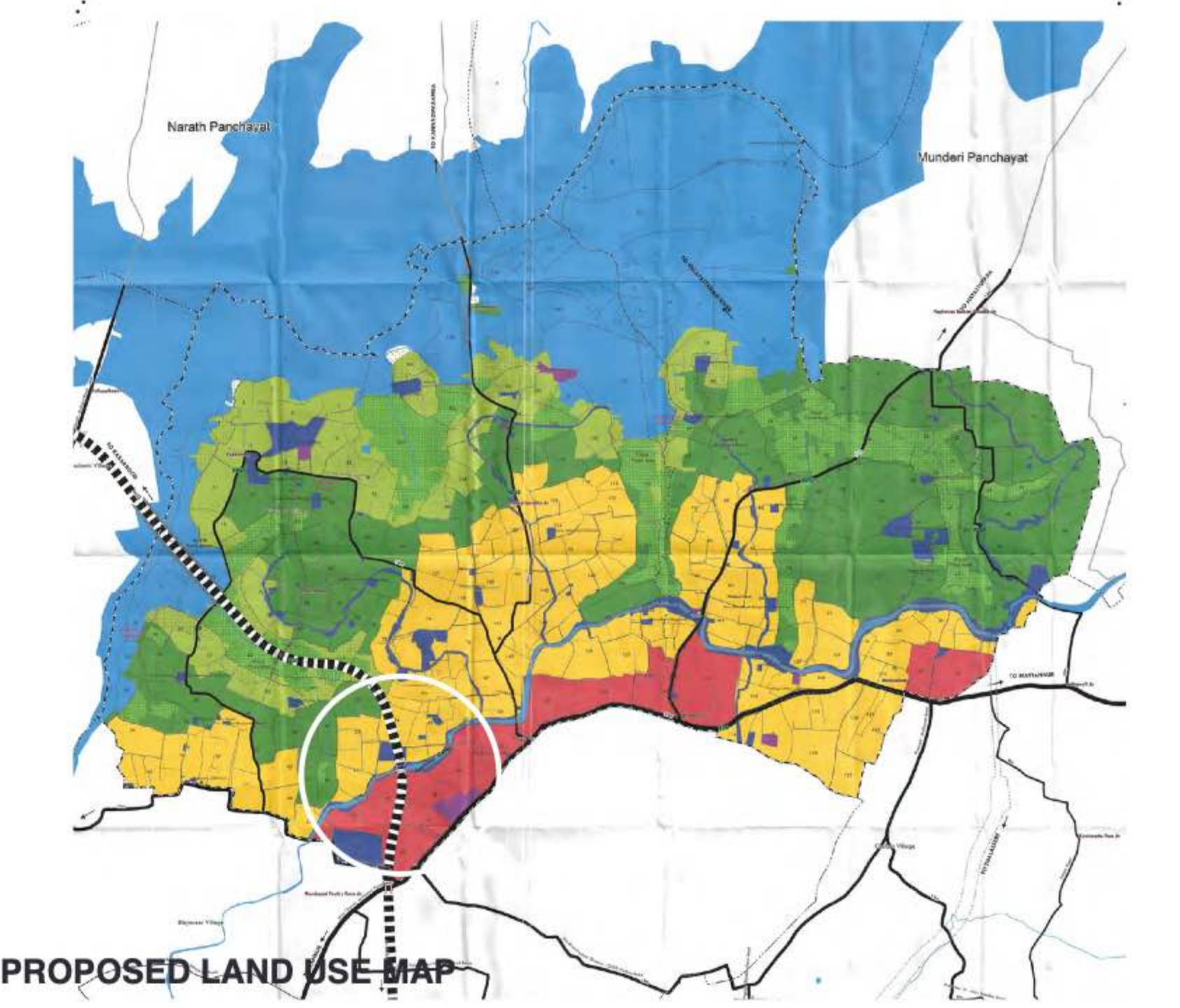
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APPROVED

Scale: 1:17,000



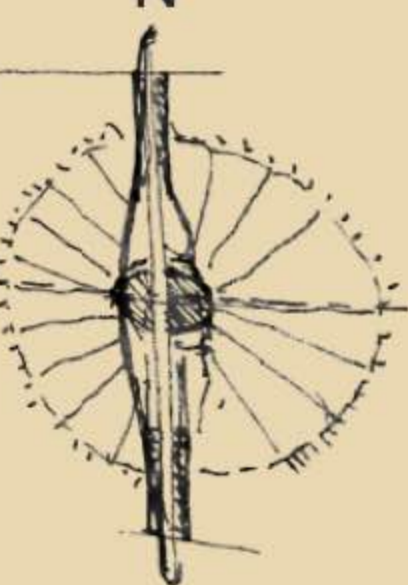
PROPOSED LAND USE MAP

Source: Maps - Kerala Land Cover Department - https://kslub.kerala.gov.in/wp-content/uploads/2024/02/13_Kannur.pdf



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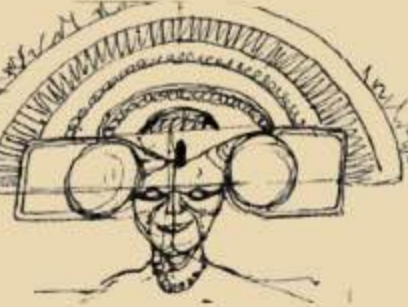
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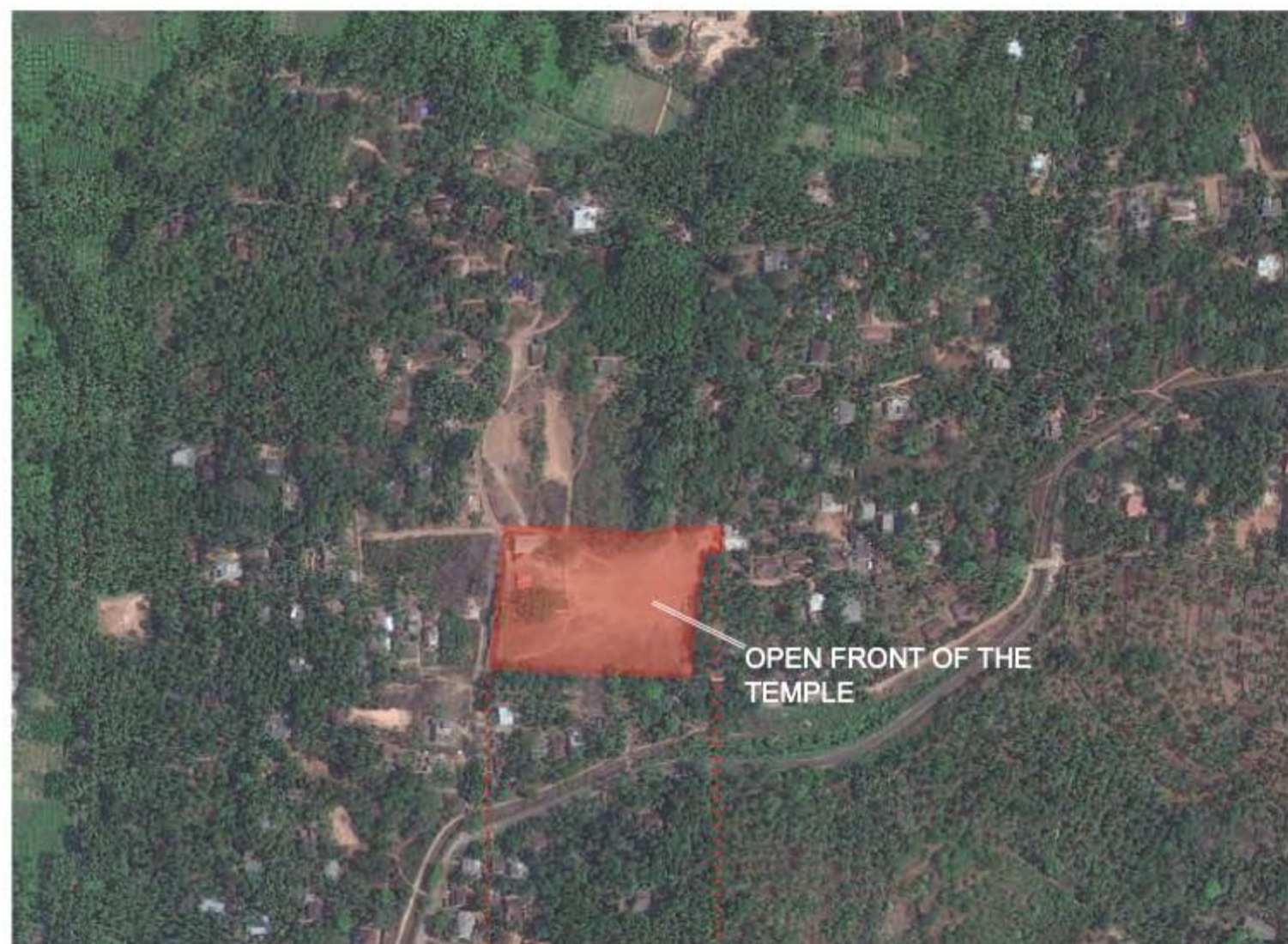
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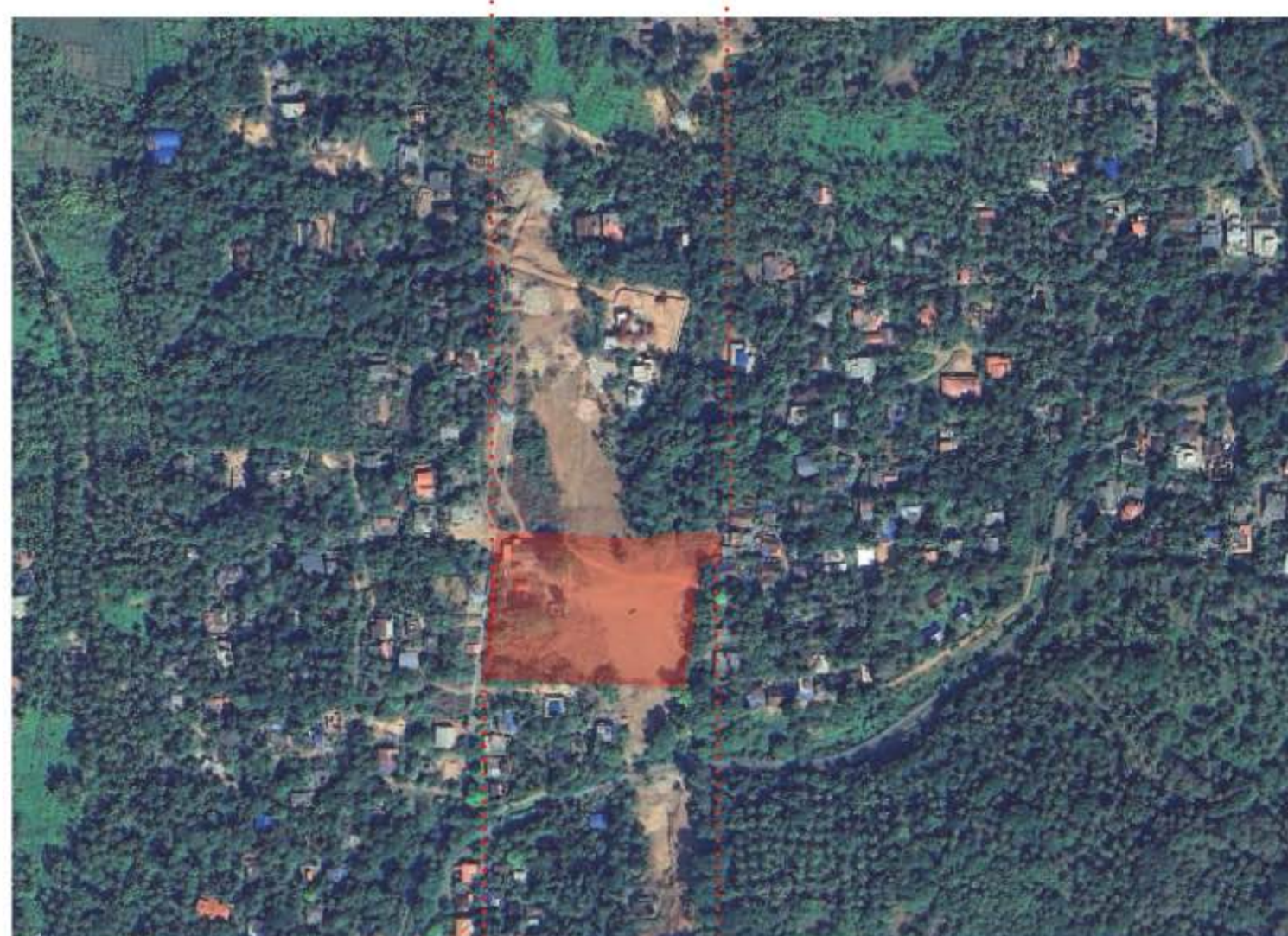
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EVOLUTION OF THE LAND



2011

The open space in front of the temple, which makes the identity of the temple



2021

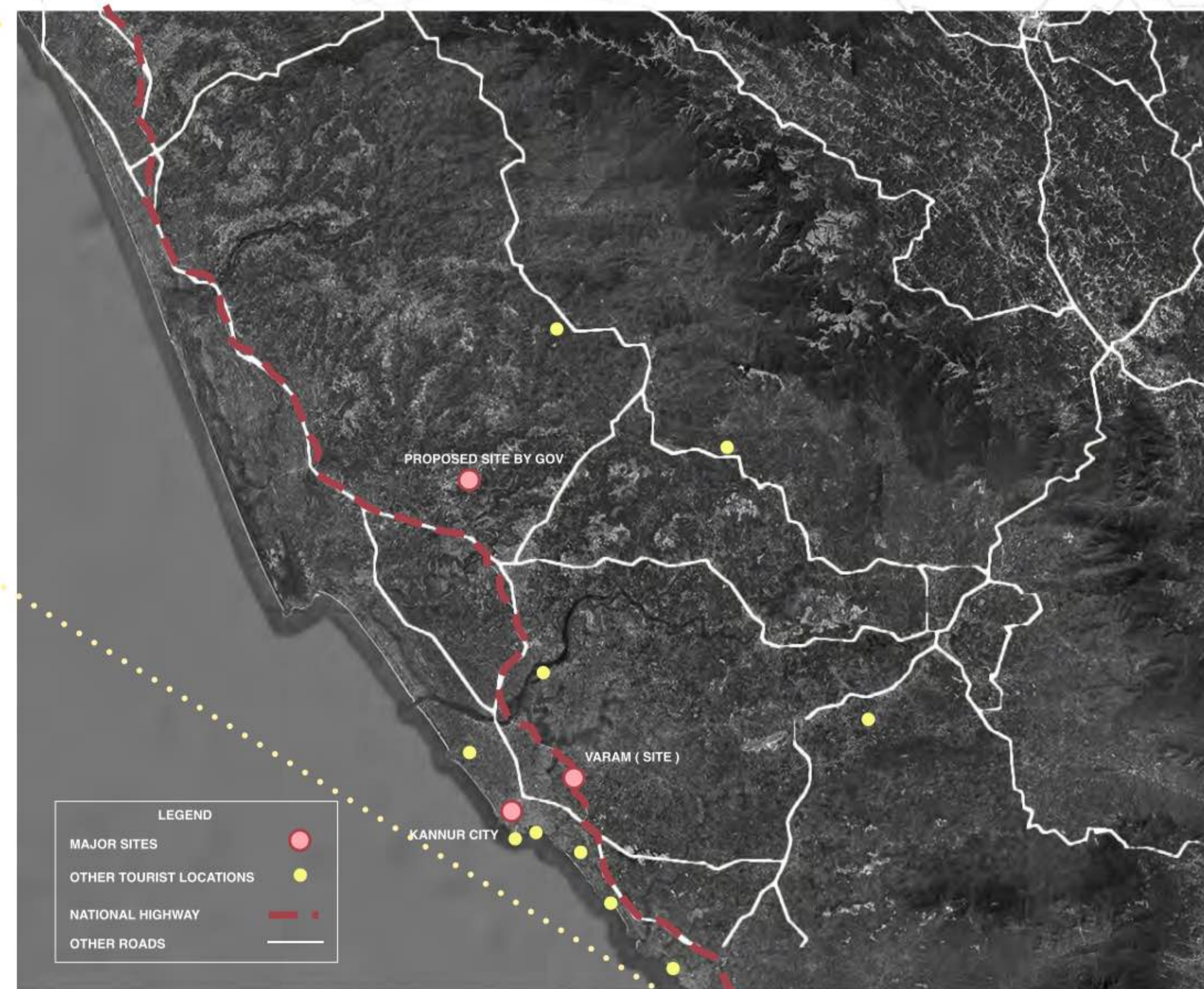
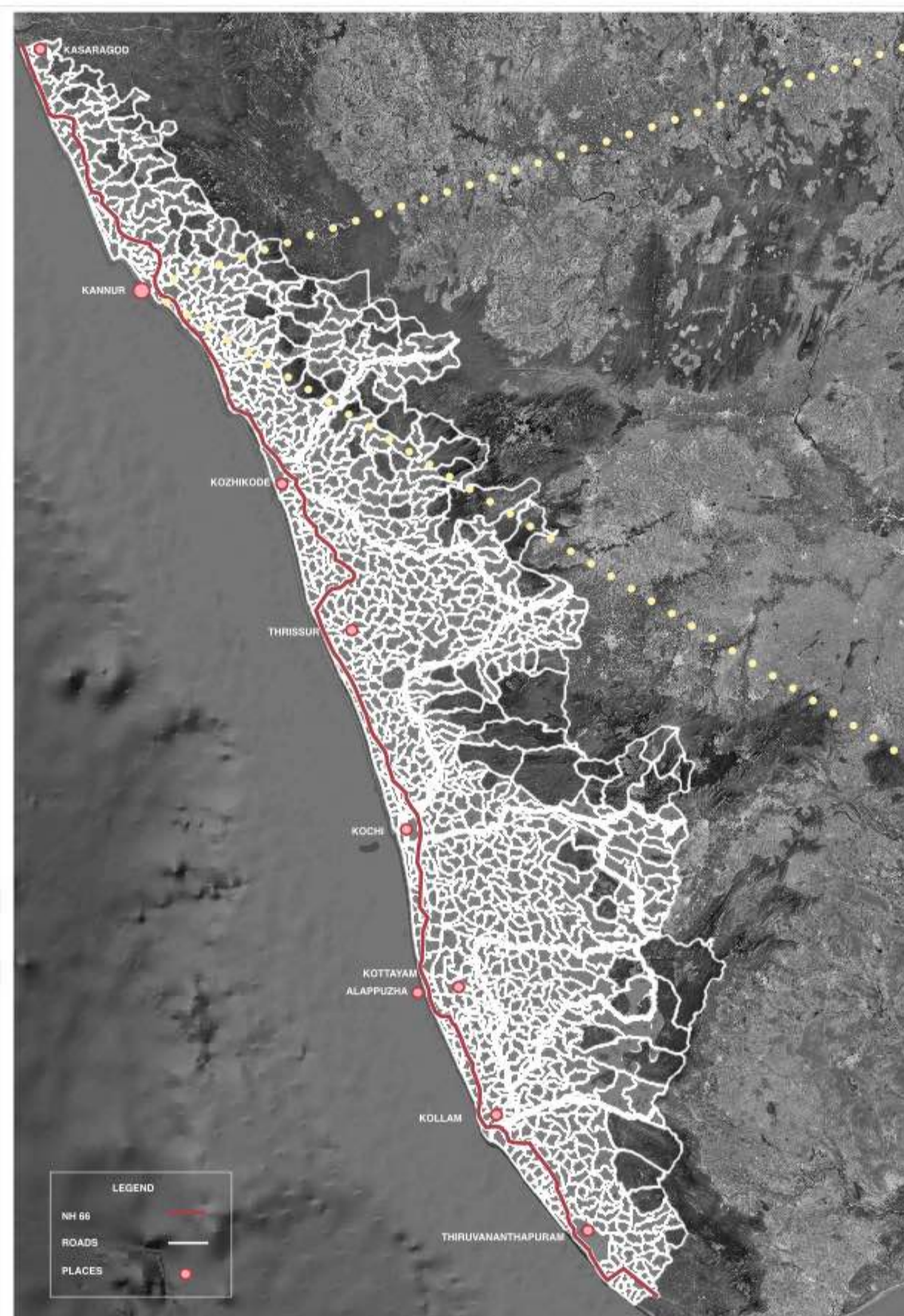
When the Construction of the road started the land in front of the temple and house along the road being removed



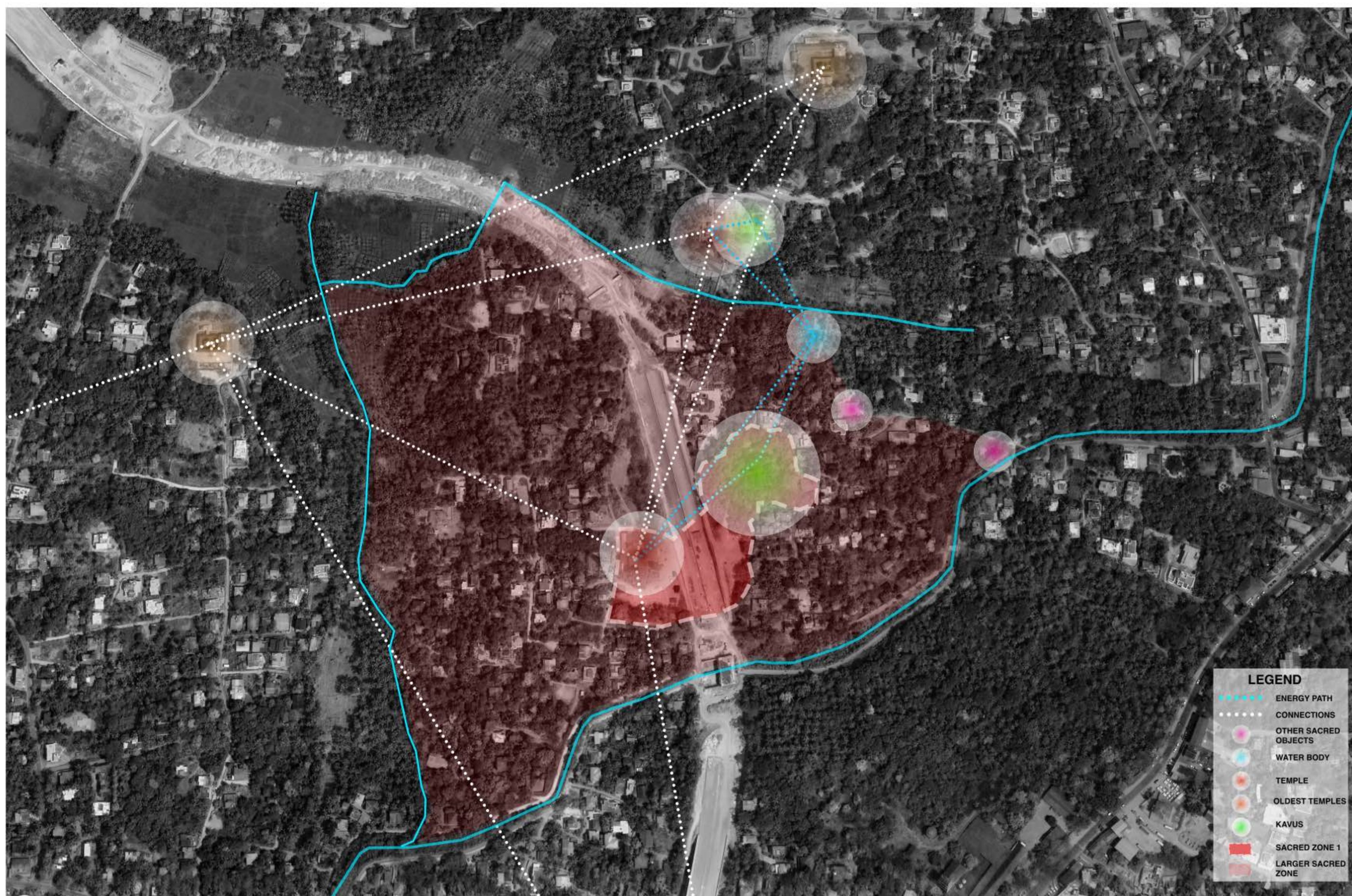
2025

Present situation of the temple front . which is completely removing its connect with its kavu

THE NATIONAL HIGHWAY PROJECT



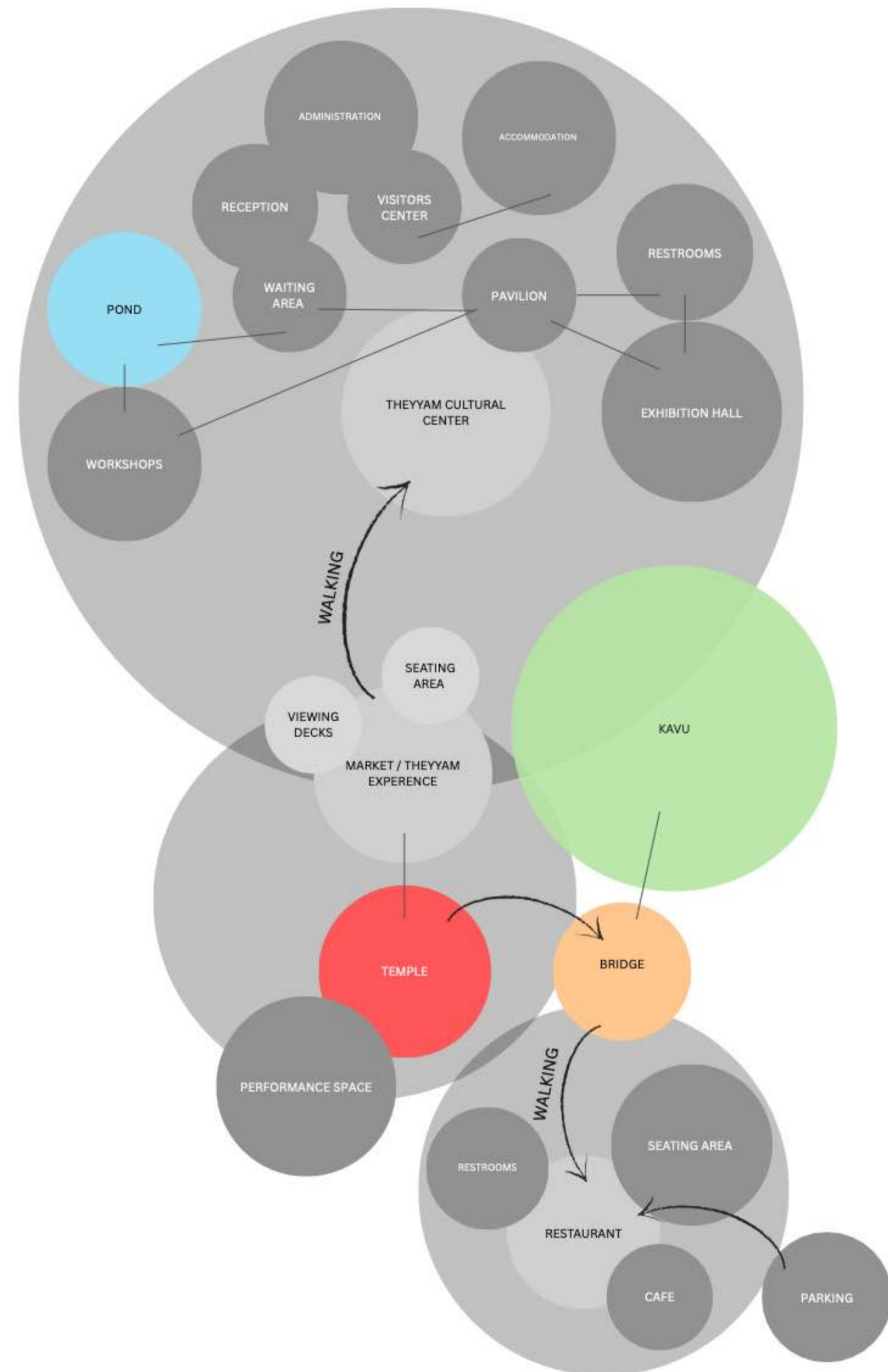
THE ENERGY PATH DIAGRAM



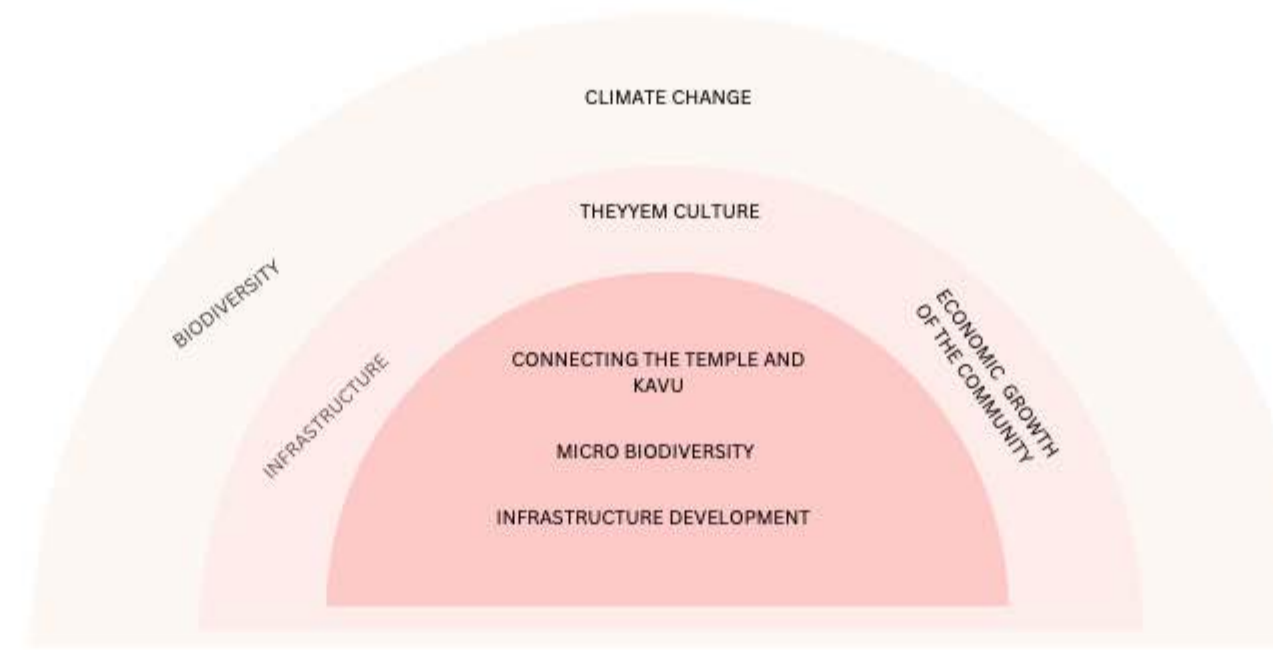
PROGRAM LIST

EDGE	USERS	PROGRAM	AREA	LOCKED/OPEN
ROAD EDGE	LOCAL COMMUNITY	MARKET / THEYYAM EXPERIENCE	1500	O
		SEATING SPACE	80	O
		VIEWING DECK	200	O
		PERFORMANCE SPACE	600	O
		BRIDGE	225	O
FOREST	BIODIVERSITY	FOREST	2300	
WATER	TOURIST / LOCAL COMMUNITY	RESTURANT	300	L
EDGE		CAFÉ	50	L
		SEATING SPACE	300	O
		PARKING	600	O
		RESTROOMS	100	L
FOR ST	BIODIVERSITY	FOREST	3000	
FARM	TOURIST	THEYYAM CULTURAL CENTER		
EDGE		WAITING AREA	25	L
		RECEPTION	50	L
		PAVILION	400	O
		VISITORS CENTER	200	L
		ADMINISTRATION	100	L
		EXHIBITION HALL	450	L
		RESTROOMS	75	L
		WORKSHOPS	375	L
		ACCOMMODATION	150	L
		POND	650	O
FOREST	BIODIVERSITY	FOREST	5000	
EXISTING	COMMUNITY	TEMPLE	1260	L
		ELLAM HOUSE	130	L
		POOJARIS HOUSE	100	L
FOREST	BIODIVERSITY	FOREST	5000	
		TOTAL BUILT UP	5180	19.02%
		TOTAL BUILT INCLUDING EXISTING	6670	24.49%
		TOTAL FOREST AREA	15300	56.19%
		TOTAL SITE AREA	27230.77	

ADJACENCY DIAGRAM



SCALES OF CONCERNS



IRINGOLE KAVU FACES THREAT FROM INDUSTRIES

THIS STORY IS FROM FEBRUARY 26, 2017

Iringle Kavu, one of the five biodiversity heritage sites in Kerala identified by the State Biodiversity Board has been facing threat to its existence.

The series of terrain and vegetation maps of Kannur reveal a gradual but distinct transformation of the district's natural landscape over time, highlighting the intertwined influence of geology, hydrology, and human activity.

Terrain context:

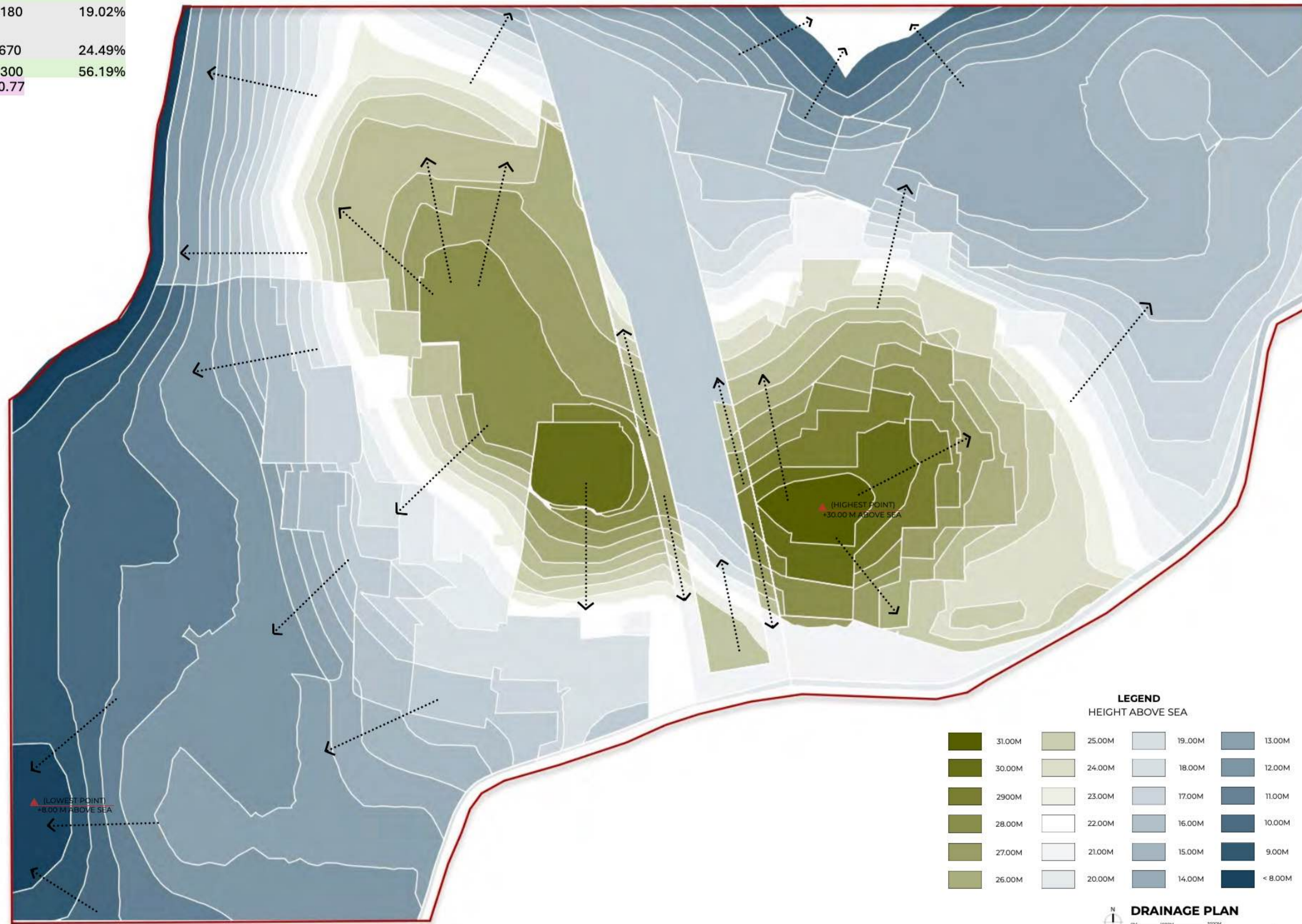
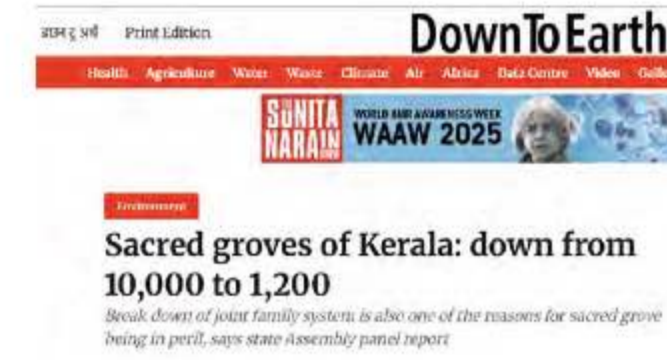
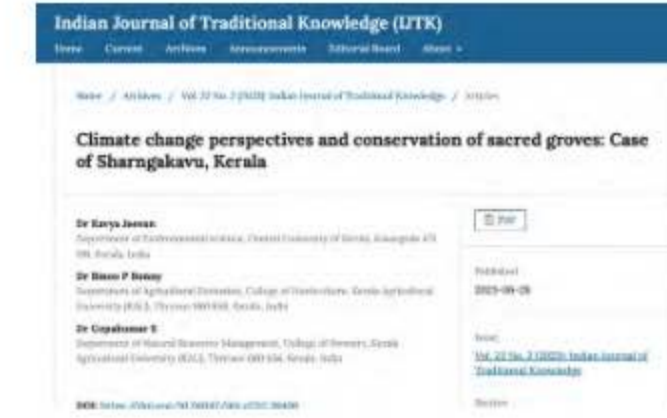
The terrain maps show Kannur's unique topography, with the Western Ghats foothills gradually sloping down to the laterite midlands and the coastal plains. The eastern region exhibits higher elevations and steep slopes, while the western zone is predominantly low-lying and flat, drained by rivers like the Alapattanam, Kuppam, and Anjarakandy. This natural gradient historically supported dense evergreen forests on the uplands, mixed deciduous forests on the midlands, and mangroves along the estuaries.

Vegetation patterns over time:

Early vegetation maps (1960s-80s) depict continuous green cover across the uplands and large sacred groves (kavu) embedded within agrarian mosaics. Later maps (2000s onward) show increasing fragmentation, with patches of natural forest giving way to plantations (rubber, acacia, teak) and built-up areas. The coastal belt shows sharp declines in mangrove vegetation, especially around estuaries and backwaters, mainly due to land reclamation and shrimp farming.

Present-day mosaic:

Current maps depict a highly fragmented ecological mosaic—isolated sacred groves and remnant forest patches surrounded by agricultural fields, plantations, and expanding urban fabric. There is clear encroachment into once-contiguous groves, and vegetation density is lower along planned infrastructure corridors, especially the NH-66 expansion route. This has created ecological discontinuities, severing wildlife movement corridors and disrupting the cultural continuity of ritual landscapes like the Theyyam shrines.

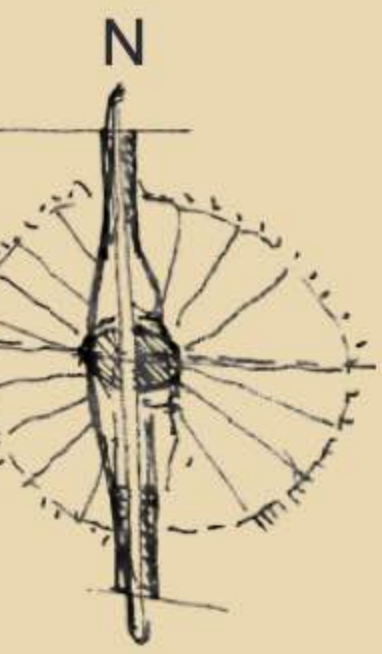


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 Stitching sacred boundary
 PROGRAM AND SCALES OF CONCERNS
 21ARC91 ARCHITECTURE DESIGN PROJECT
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Source: News - <https://www.mathrubhumi.com>



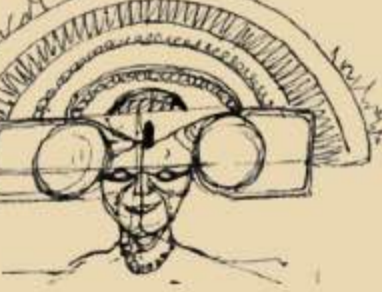
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BOUNDARY
Stitching sacred boundary

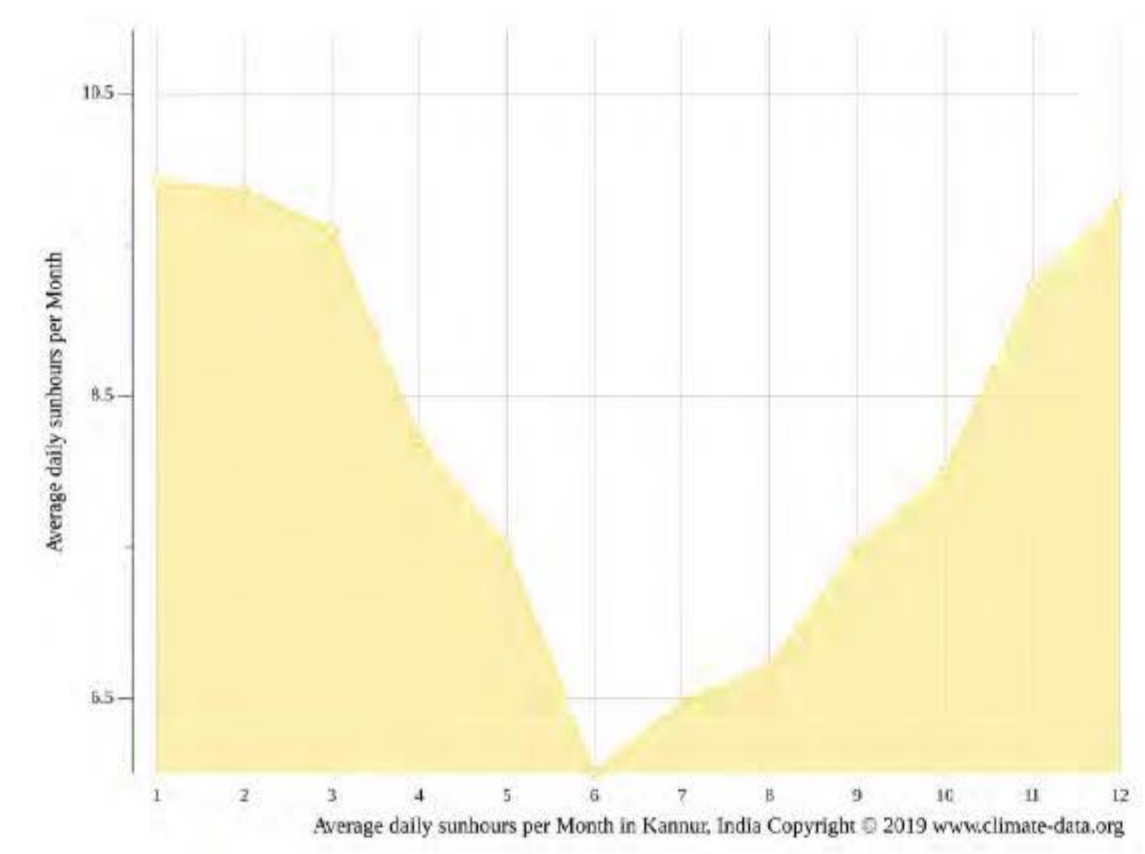
COMMUNITY ANALYSIS

21ARC91
ARCHITECTURE
DESIGN PROJECT

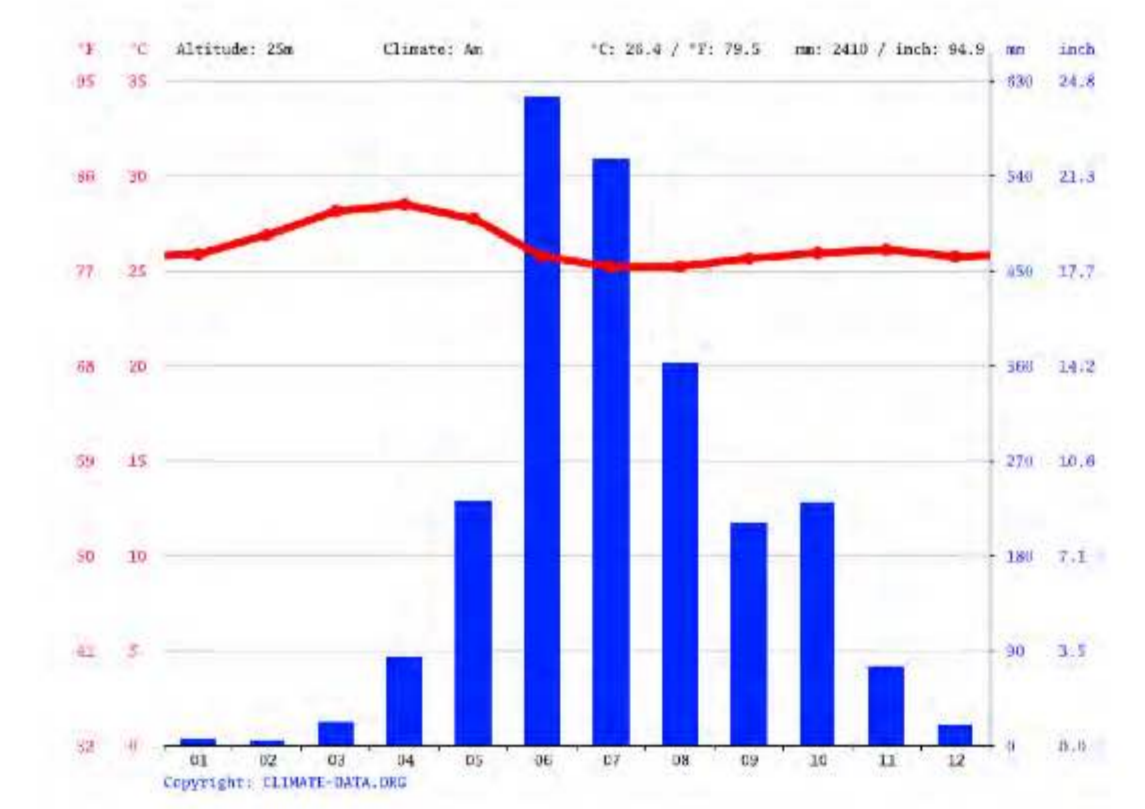


ABAY ARUN
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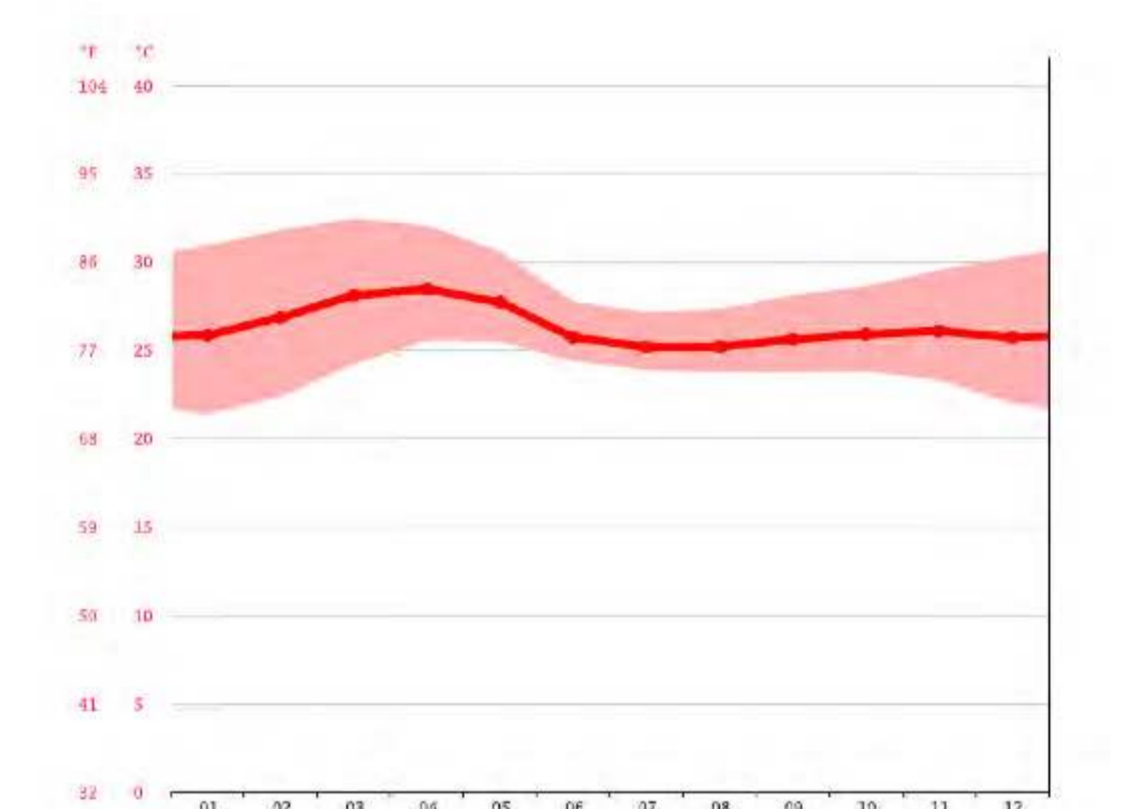
CLIMATE ANALYSIS



SUN LIGHT ANALYSIS



RAINFALL ANALYSIS



TEMPERATURE ANALYSIS

General Information	Information
District Area	2,965 km²
District Population	25.23 lakhs
Climate	Humid climate
Rain-fall	3438 mm(Annual)
Mean Max temperature	35° Celsius
Mean Min Temperature	20° Celsius

Rainfall & Hydrology

Heavy monsoon rain creates strong water flow and seasonal flooding, so the design must follow natural drainage patterns.

Humidity & Temperature

High humidity throughout the year requires strong cross-ventilation and breathable building materials.

Vegetation & Microclimate

Dense vegetation cools the site naturally, so preserving existing tree clusters is essential.

Sun Path & Orientation

Orienting built forms to avoid harsh east-west heat and using shaded openings improves thermal comfort.

Wind Flow

Light breezes can be used for natural cooling, so built masses should not block wind movement.

Source: Images - Kerala Tourism Department - <https://www.keralatourism.org/theyyamcalendar/temple.php?id=32>

COMMUNITES OF VARAM IN KANNUR

Geography & Settlement

Varam (also called Varamkunnu) lies on the outskirts of Kannur city in northern Kerala. Terrain is undulating laterite hills with red earth, interspersed with low lying paddy fields, coconut groves, and patches of dense sacred forest (kavu). Traditional settlement patterns are lineage-based tharavadu clusters ancestral homesteads often centred around a family shrine or sacred grove

Demography & Communities

- Dominant communities:
- Thiyya/Ezhava – historically agrarian and toddy-tapping, now highly educated and engaged in varied professions.
 - Nambiar/Nair – historically landholders and ritual patrons.
 - Pulaya and other Scheduled Caste groups – traditionally involved in agriculture.
 - Muslim and Christian minorities live alongside Hindu communities, especially in mixed market areas.

Socio-cultural Structure

Extended family systems still influence land use and housing patterns. Communal activities and festivals are deeply tied to local temples and kavus, which act as cultural nodes. Matrilineal heritage (Marumakkathayam) influences property inheritance and ceremonial roles among many Thiyya and Nair families.

Livelihoods

Historically agrarian; paddy, coconut, areca nut, and cashew. Today: a mix of agriculture, small-scale businesses, Gulf migration income, and public sector jobs.

Total population (2011): 17,008 people.
 Males: 7,661. Females: 9,347. Sex ratio = 1,220 females / 1000 males (very high)
 Children (0–6 yrs): 1,944 (1,019 boys; 925 girls). Child sex ratio ≈ 908.
 Literacy (total): 94.45% — Male literacy 97.02%, Female literacy 92.42%.
 Religious composition: Hindus 9,191 (54.0%), Muslims 7,542 (44.3%), Christians 246 (1.45%).
 Caste: Scheduled Caste ≈ 1,480 (8.7%), Scheduled Tribe ≈ 93 (0.5%).

Total workers (all): 4,904 people engaged in work activities.
 Main workers (≥6 months): 4,193
 Male main workers: 3,254
 Female main workers: 939
 Marginal workers (<6 months): 711 (410 male; 301 female).
 Non-workers (not engaged in work): 12,104 (3,997 male; 8,107 female).
 large number of women listed as non-workers (see interpretation below)
 Cultivators (owner/co-owner): 22 (18 male; 4 female).
 Agricultural labourers: 81 (62 male; 19 female).
 Household industries: 56 (35 male; 21 female).
 Other workers (all remaining categories — services, trade, manufacturing, construction, transport, professions): 4,034 (3,139 male; 895 female)

The Mason community of varam



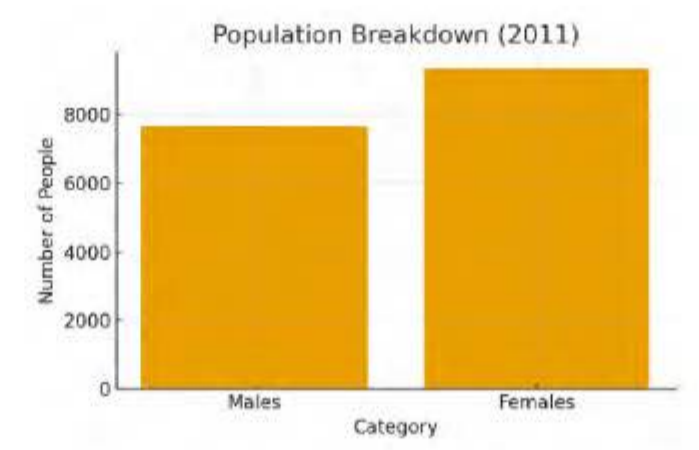
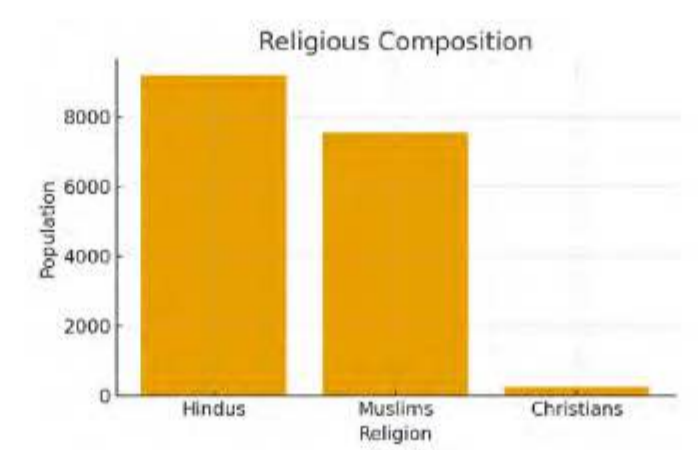
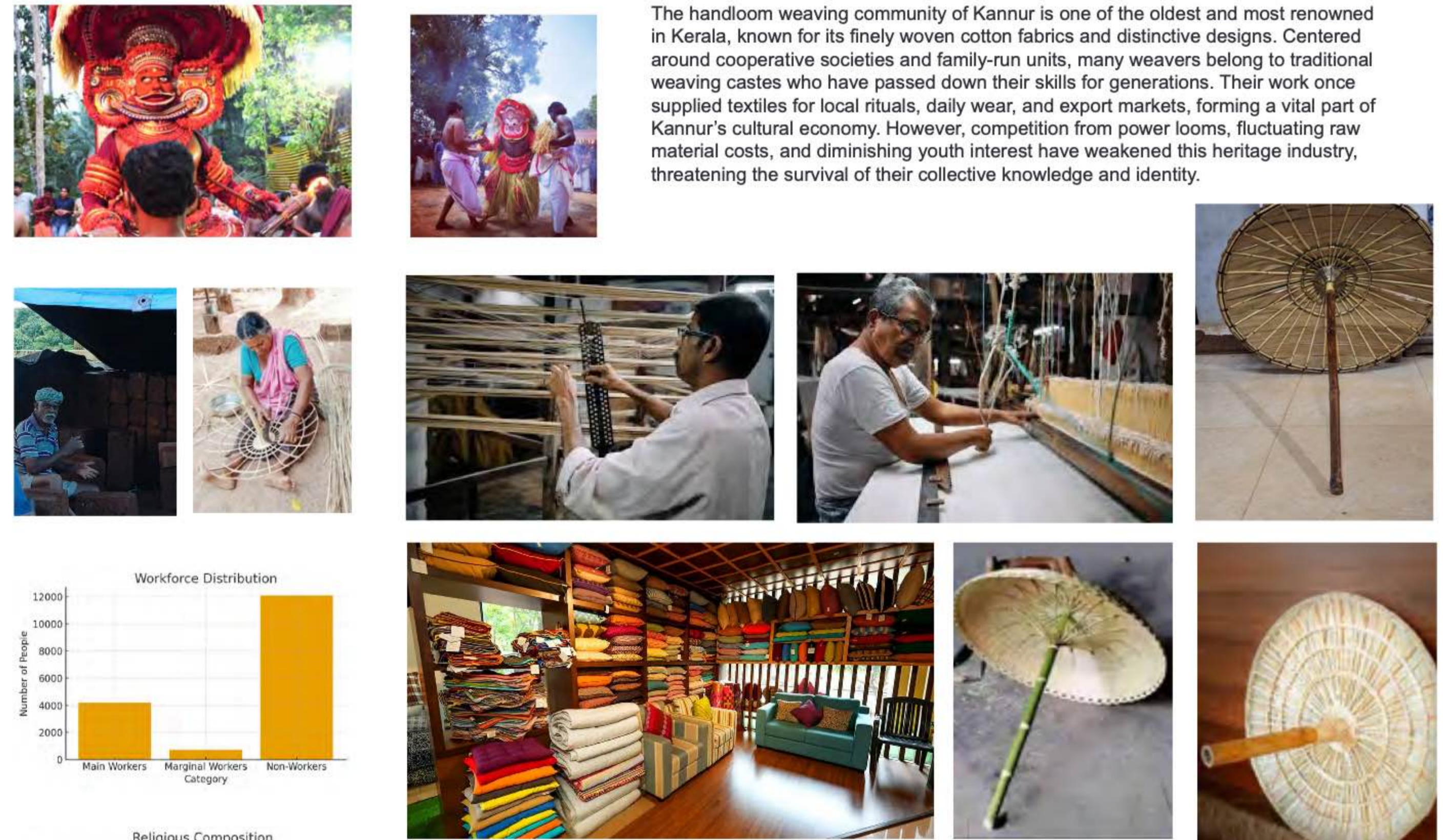
In Kannur, laterite stone carving is a long-practiced craft, especially in areas with rich lateritic soil. Artisanal quarry workers manually cut and shape blocks using basic tools, supplying temples and traditional houses that give the region its red-toned character. But with mechanization and falling demand, the number of skilled workers is declining, putting this craft and its cultural identity at risk.

Process of carving and making the laterite stone for temple construction



The Handloom weaving community of varam

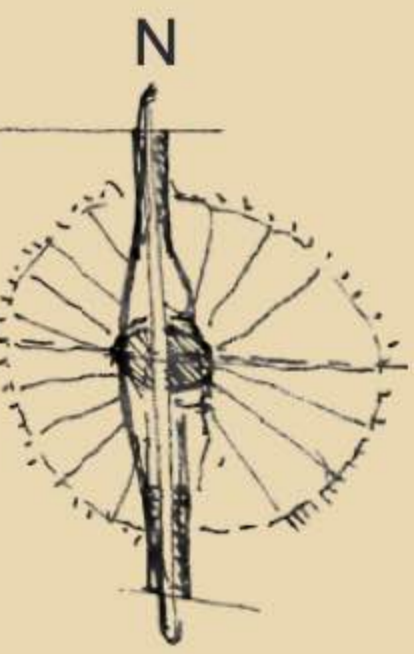
The handloom weaving community of Kannur is one of the oldest and most renowned in Kerala, known for its finely woven cotton fabrics and distinctive designs. Centered around cooperative societies and family-run units, many weavers belong to traditional weaving castes who have passed down their skills for generations. Their work once supplied textiles for local rituals, daily wear, and export markets, forming a vital part of Kannur's cultural economy. However, competition from power looms, fluctuating raw material costs, and diminishing youth interest have weakened this heritage industry, threatening the survival of their collective knowledge and identity.



The wood carving community of varam

Kannur has a long-standing tradition of intricate wood carving, especially tied to temple architecture and ritual arts like Theyyam. Skilled artisans often from hereditary carpenter (Vishwakarma) families—create elaborately carved wooden beams, brackets, chariots, and deity figures using locally sourced teak, jackfruit, and rosewood. Their craft blends structural precision with symbolic storytelling, preserving myths and local iconography in wood. However, the rise of machine-made alternatives, dwindling patronage, and migration of younger generations to other professions have put this community at risk, endangering a vital layer of Kannur's cultural heritage





ATHIRU BOUNDARY
Stitching sacred boundary

COMMUNITY ANALYSIS

THE FUNA OF VARAM KAVU KANNUR

Sacred groves act as mini-refugia for fauna excluded from open agricultural or urban habitat: forest birds, nocturnal mammals, reptiles (especially snakes), amphibians that rely on ponds, and rich butterfly assemblages drawn by nectar and host plants. Several surveys in northern Kerala groves report dozens to hundreds of species across.

Birds (typical examples & roles):
Asian koel (fruit disperser), Indian peafowl (edge species), Greater racket-tailed drongo (forest insectivore), various flycatchers, bulbuls, and small forest warblers. Studies recorded 100+ bird species in clusters of northern Kerala groves.

Mammals:
Small/medium mammals: Indian giant squirrel (*Ratufa indica*), palm civet, small Indian civet, mongoose species, and rodents. Many groves also record bat roosts which are important pollinators/seed dispersers.

Reptiles (notably serpents):
Sacred groves often preserve habitats for snakes (chelonian and serpentine fauna): common krait, rat snake, various non-venomous colubrids and cultural "Naga" species (local reverence protects them). Reptiles find refuge in leaf-litter and rock crevices.

Amphibians:
Frogs and toads that breed in grove ponds; amphibian presence is an indicator of hydrological health. Some groves host regionally rare amphibians.

Butterflies & pollinators
Surveys report 30-40+ butterfly species in selected groves (Nymphalidae dominant), including many host-plant specialists. Sacred groves are significant reservoirs of pollinator diversity.

Other invertebrates & soil fauna:
Rich detritivore communities (isopods, beetles), arachnids, ants, endemic molluscs — important for decomposition and soil formation.



KAVU AND ITS FLORA AND FUNA

A kavu (sacred grove) is both a cultural institution and an ecological island a relic patch of native vegetation that maintains a disproportionately high share of local biodiversity. Compared to the surrounding agricultural or urban matrix, a kavu preserves old-growth canopy trees, rich understory communities, pond microhabitats, specialist fungi and a high diversity of animals (birds, reptiles, amphibians, small mammals, butterflies and soil invertebrates). These biological elements are tightly entangled with ritual practices: the grove's species form the material culture (ritual plants, sacred trees, dyes, medicines), provide habitat for ritual animals (serpents, owls) and create the sensory setting (cool shade, rustle of leaves, frogs in the pond) that makes the grove a lived sacred place.



Canopy (mature trees): dense emergent and canopy species that resemble relic evergreen/semi-evergreen forest (often multi-storied). Typical trees form the grove's spine.

Sub-canopy & shrubs: shade-tolerant shrubs and young trees that regenerate under canopy.

Understorey herbs & ferns: shade-adapted herbs, medicinal plants and ferns.

Climbers & lianas: woody climbers connecting canopy and understorey.

Epiphytes & bryophytes: mosses, liverworts and some orchids on trunks and branches.

Ponds & riparian margins: seasonal or perennial waterbodies with aquatic vegetation and emergent reeds.



Canopy & large trees
Artocarpus hirsutus — Wild Jack / Nadapalam — valuable timber & shade.
Mesua ferrea — Ironwood / Nageswaram — sacred tree, dense canopy.
Vateria indica — White dammar — large evergreen, part of ancient forest relics.
Hopea parviflora — Kambakam — characteristic eastern Ghats species.
Ficus religiosa — Peepal — often a focal sacred tree in groves. Forest Department Kerala

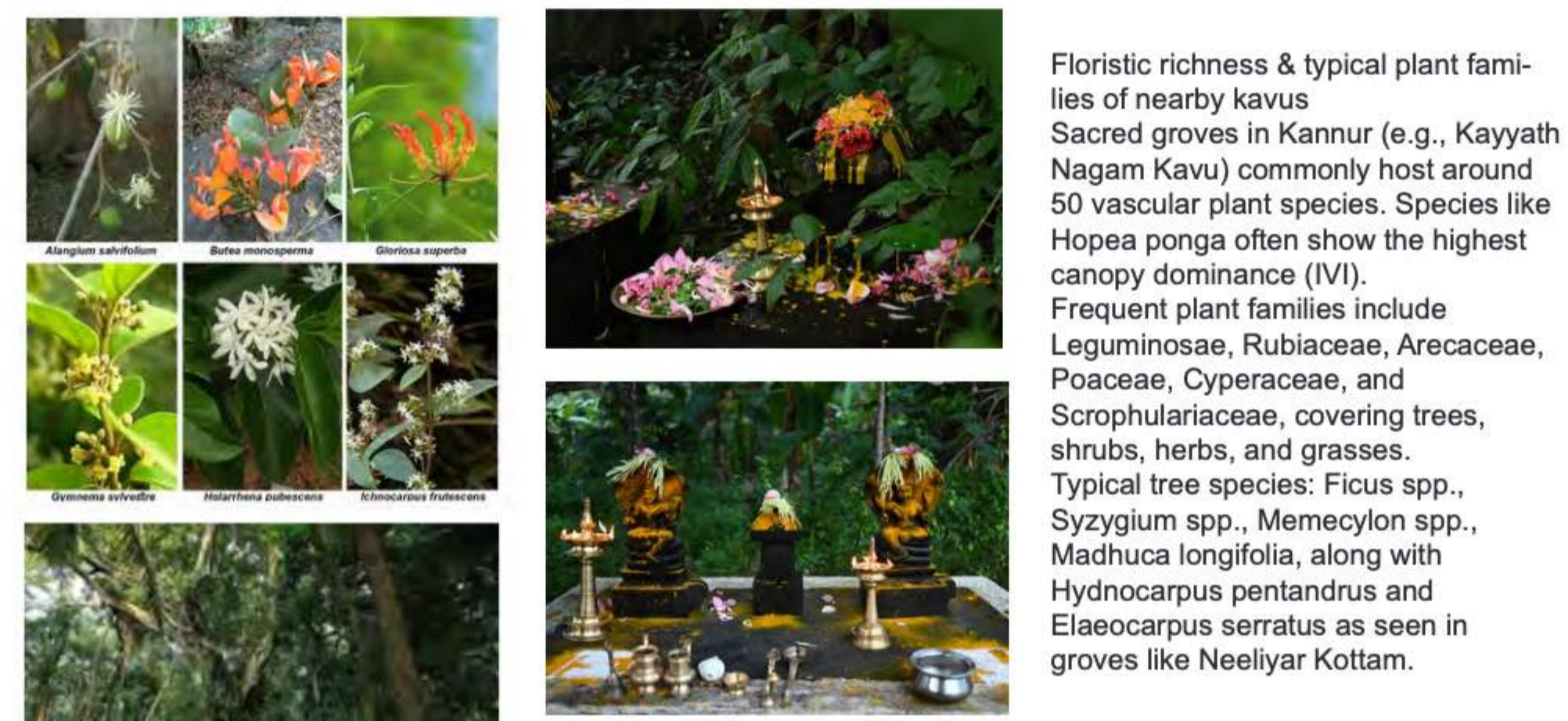
Understorey & shrubs
Cinnamomum verum — True cinnamon — aromatic shrub/tree.
Calamus spp. — rattans/flag-climbers

Medicinal herbs (local uses): Costus speciosus, Alpinia galanga.

Climbers & epiphytes
Lianas (various Derris, Ficus hemiepiphytes), orchids and ferns; bryophyte mats on shaded trunks. PMC

Aquatic & riparian
Reed/marsh plants around kavu ponds, emergent sedges and native aquatic plants that aid recharge and filter water.

Fungi & soil microbiota
Rich fungal communities; metagenomics studies show unique fungal diversity in sacred-grove soils (higher richness and distinct communities compared with adjacent lands). Fungi play a key role in nutrient cycling and tree health.



MAKING OF THEYYAM

In the quiet courtyards of Varam's sacred groves, the making of a Theyyam performer begins long before dawn breaks. The headgear, known as mudi, rises like a towering crown of woven bamboo, tender coconut fronds, layers of cloth, and delicate ornaments, each piece tied with ritual precision by skilled artisans who have inherited this craft through generations. Beside them, another group of elders mixes natural pigments red from laterite soil, white from rice powder, black from charred coconut shells and with slow, deliberate strokes they paint the performer's face, transforming flesh into a living deity. As the intricate patterns emerge, the performer is no longer just a man; he becomes the vessel of the divine, carrying centuries of faith, myth, and ancestral memory upon his painted skin and crowned head.



WHAT IS THEYYAM ?

Theyyam is a living ritual tradition of North Malabar where performers, in elaborate costumes and painted faces, embody local deities and enact mythic stories. Held mainly in kavus and temple courtyards between December and May, it includes preparatory rites, oral recitations (thottam), and a final dance or trance in which the deity interacts closely with devotees. Its rich material culture headaddresses, breastplates, and ritual spaces like the kavu and pond shapes the performance. Though adaptive and evolving, Theyyam now faces pressures from declining patronage, shifting caste roles, tourism, and the loss of its traditional sacred settings.

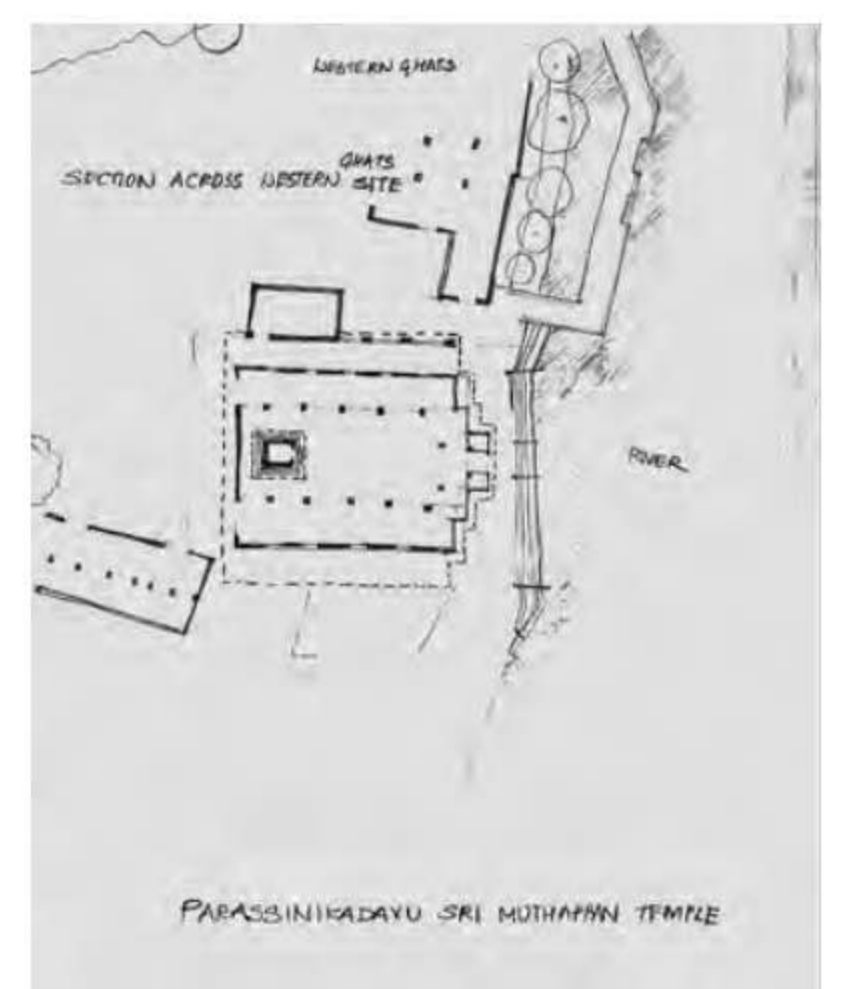
Some of the Famous Theyyam of Kannur

1) Sree Muthappan (Muthappan Theyyam)

What & origin:
Sree Muthappan is one of the best-known, year-round deities of North Malabar (origin stories locate him at Parassinikkadavu and Eruvessy). Muthappan blends aspects of Shiva and Vishnu and is worshipped through a unique Theyyam ritual in which the performer (or two forms): Thiruvappana and Vellattom) becomes an oracular presence. Muthappan worship is distinctive for accepting offerings like toddy and fish, which are uncommon in many temple forms. Where performed: Parassinikkadavu (near Kannur), many Muthappan temples and kavus across Kannur district; performances happen year-round.

Key ritual features: vivid face-painting, exuberant headdress (mUdi), direct interaction with devotees, offerings (including meat/fish and toddy), oracular pronouncements and blessing rituals. Muthappan Theyyam often functions as a social mediator and healer.

Cultural role: One of the most socially inclusive cults in North Malabar — transcends caste boundaries, widely visited by people across communities.



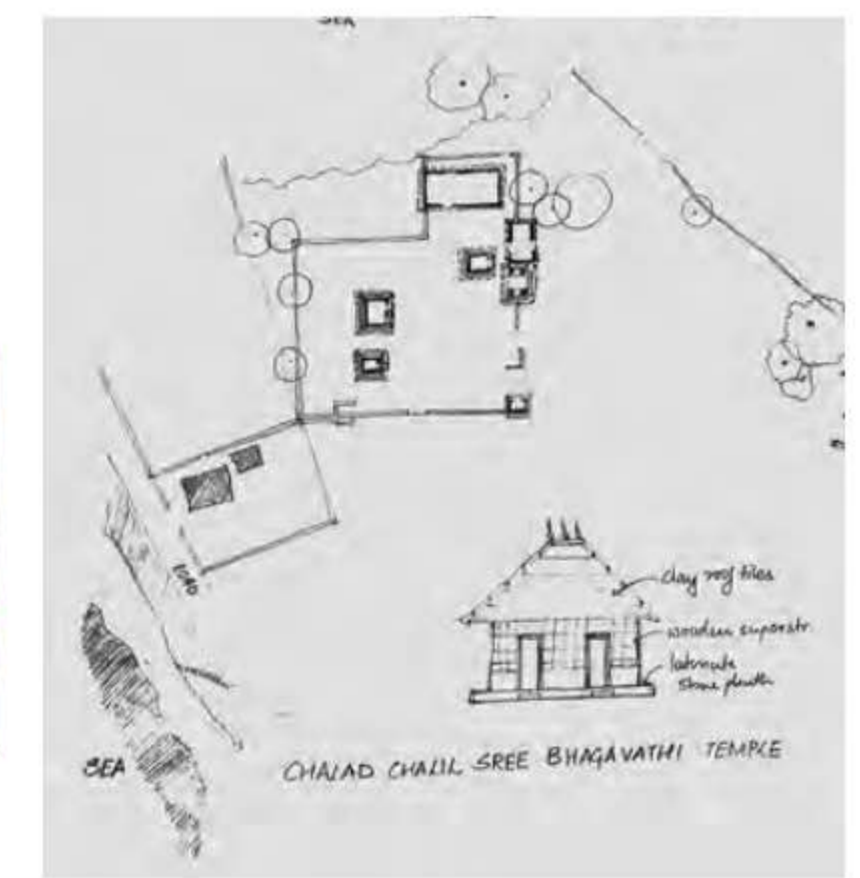
2) Pottan Theyyam

What & origin:
Pottan Theyyam is a powerful and popular Theyyam across Kannur. The name "Pottan" (roughly "fool/idiot" in Malayalam) belies the deity's function: Pottan is often portrayed as an earthy, satirical, socially critical spirit who champions the oppressed. His stories foreground social justice and protection of lower-caste communities.

Where performed: Many kavus and temple shrines across Kannur and northern Kerala; particularly popular in rural sacred groves.

Key ritual features: strong "thottam" ballads (oral song of the deity), direct engagement with devotees, sometimes theatrical satire that calls out social wrongs, vibrant costume and face painting.

Cultural role: A protective, people-centered deity — Pottan functions as a community advocate, memory keeper and moral judge. Great for thesis boards because it links ritual to social function.



3) Kathivanoor Veeran

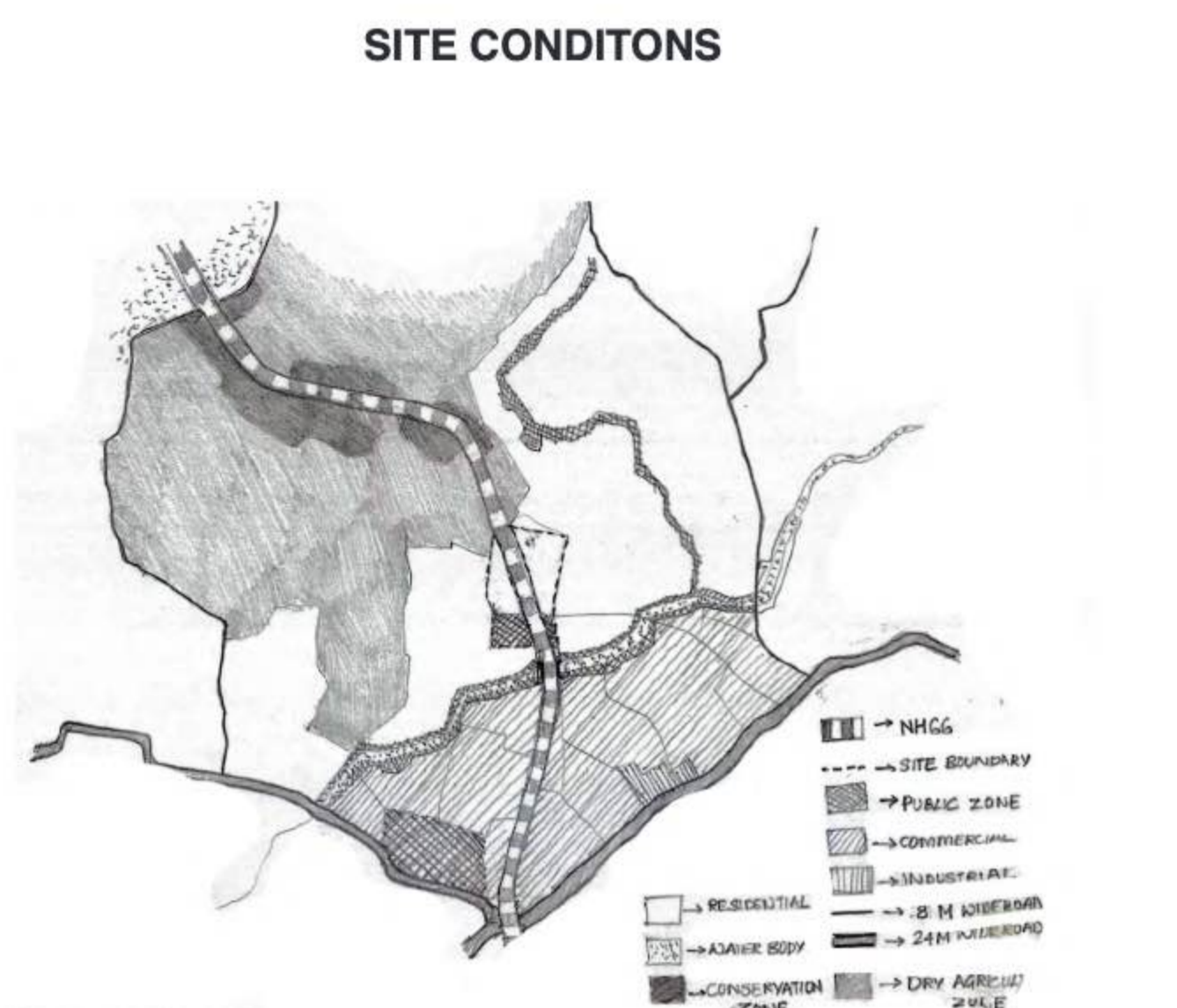
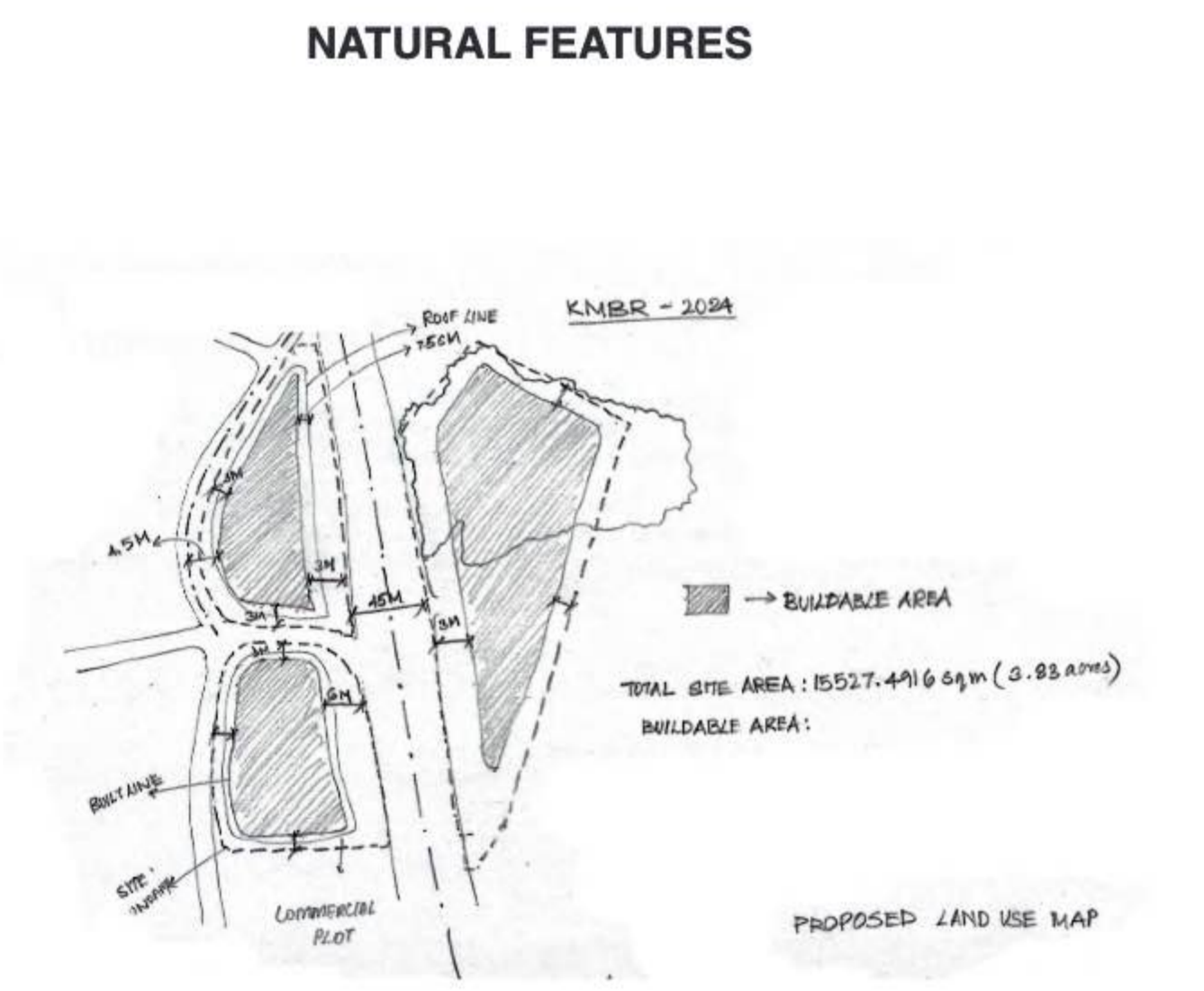
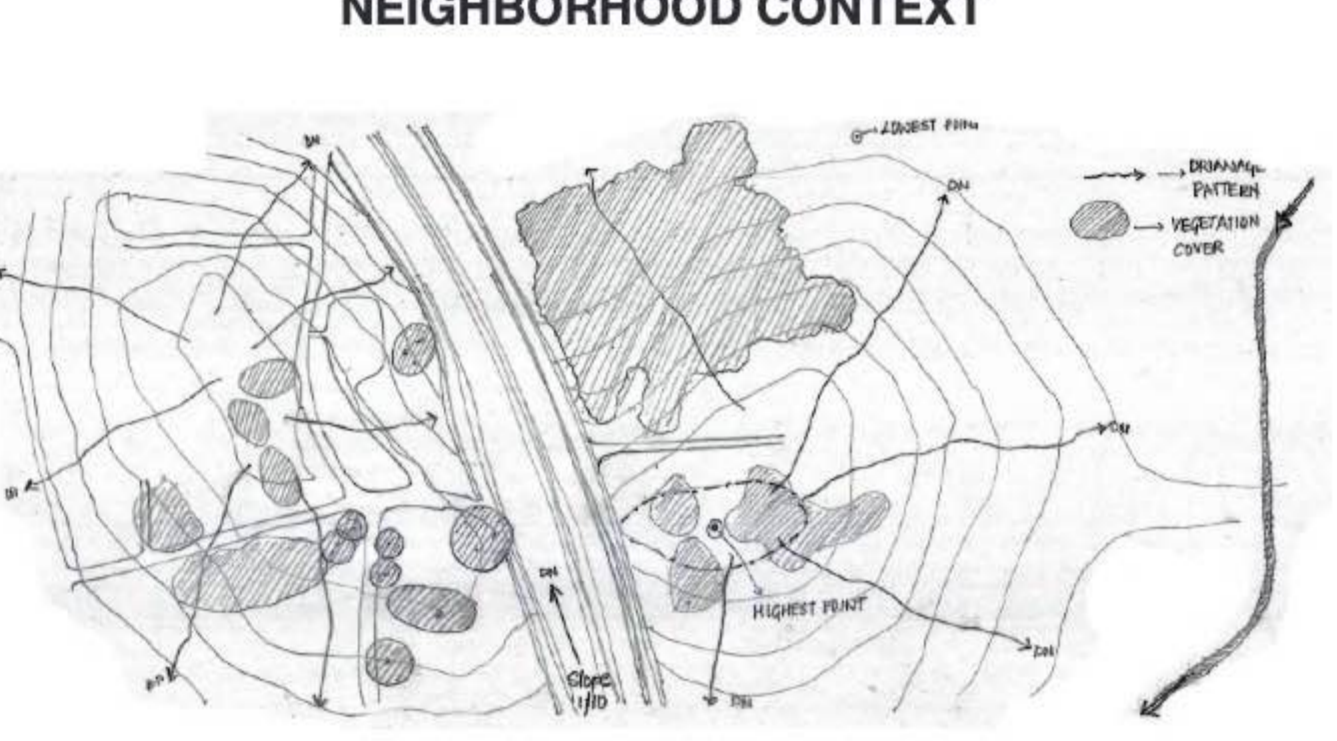
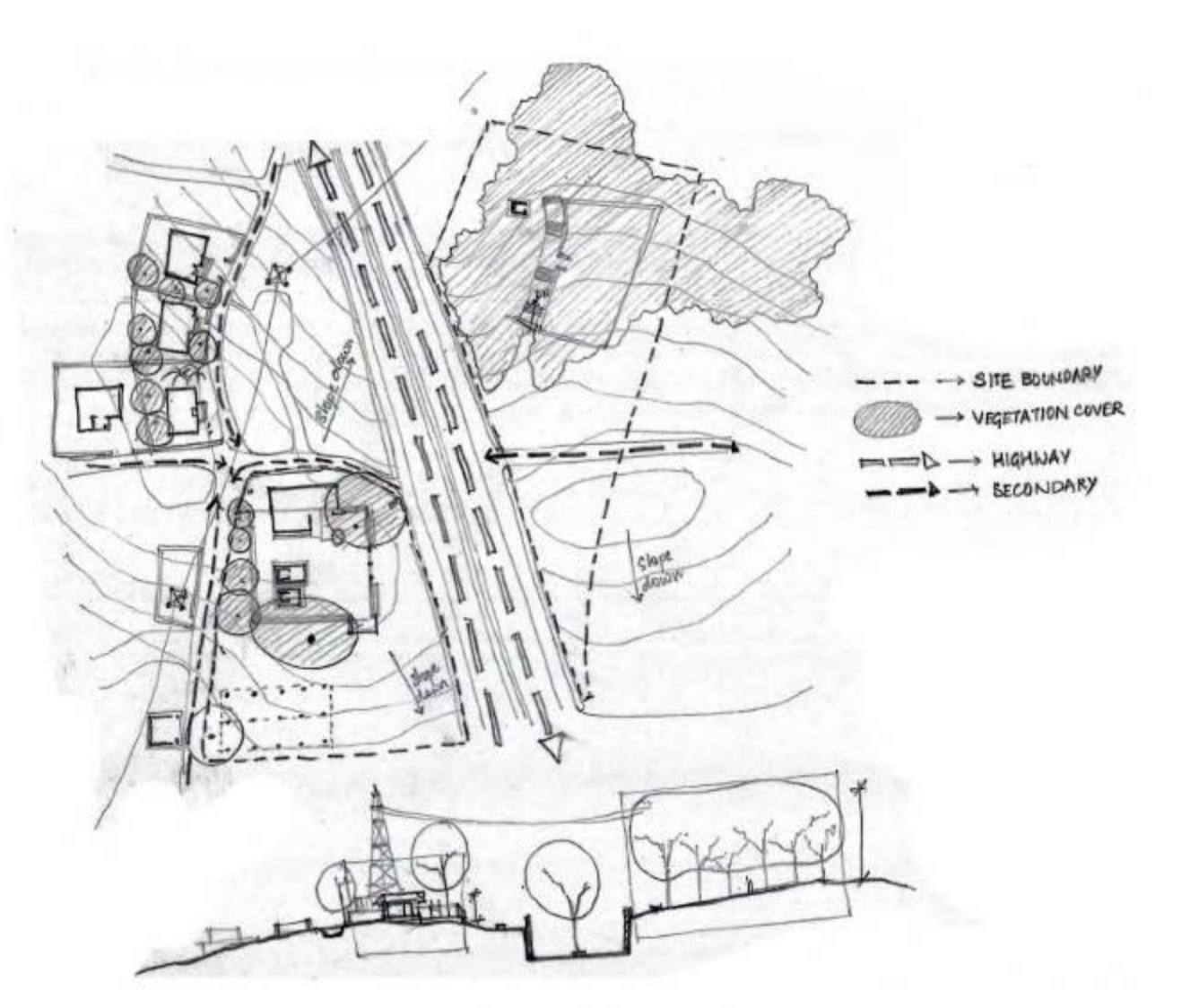
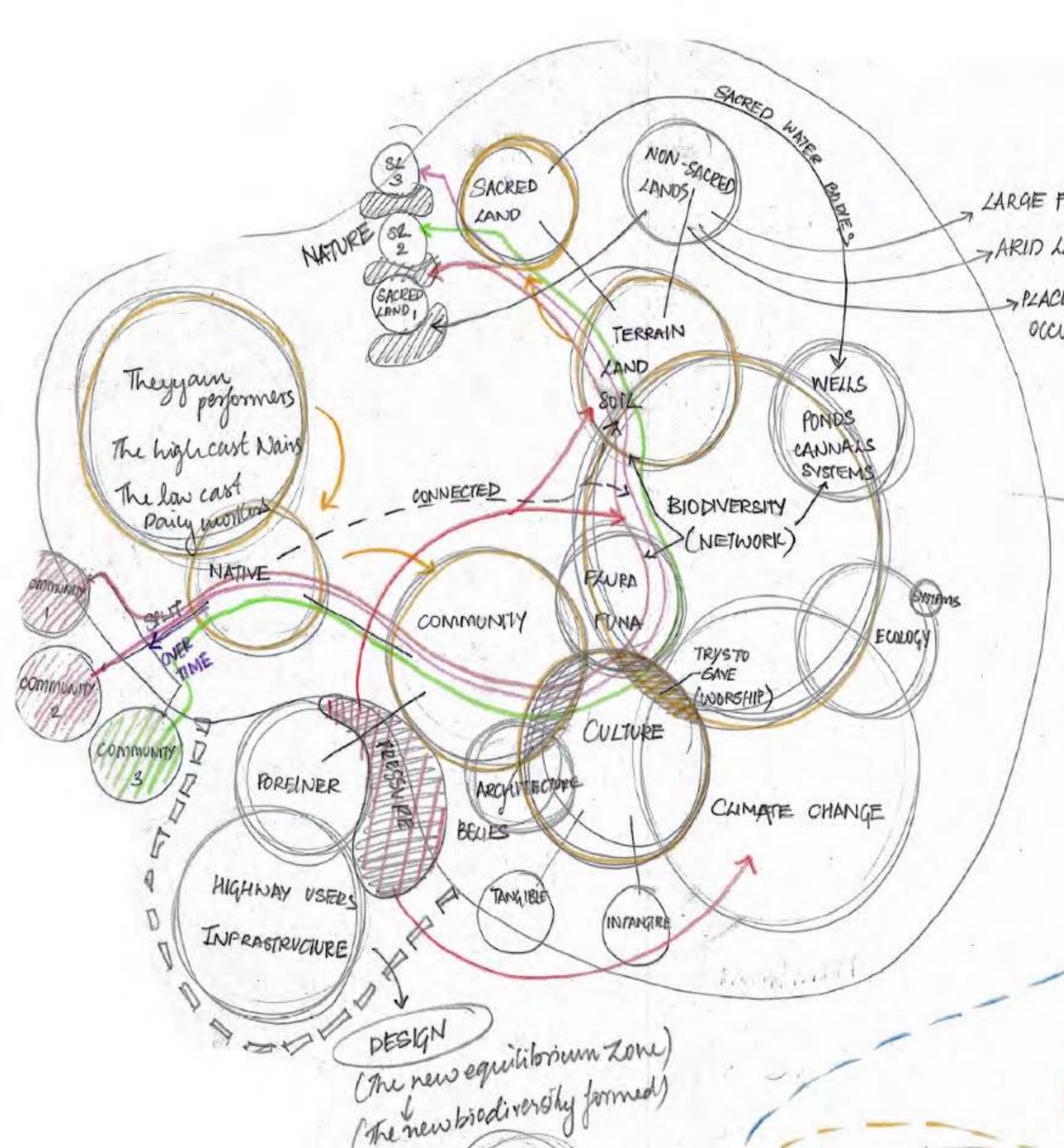
What & origin:
Kathivanoor Veeran is a celebrated "hero" theyyam (a deified warrior). He is identified with Mandappan Chekavar and his legend—heroism, betrayal and posthumous apotheosis—has deep roots in North Malabar folklore. The Theyyam is dramatic and physically demanding, often performed at night.

Where performed: Kathivanoor and surrounding regions of Kannur/Kasaragod; one of the marquee theyyams attracting visitors.

Key ritual features: acrobatic and vigorous movement, pyric elements (fire), special staging (Chemmarathy thara) symbolizing the deity's consort, characteristic face art and costume that reference the warrior myth. The performance answers devotees' questions and is believed to give correct judgments.

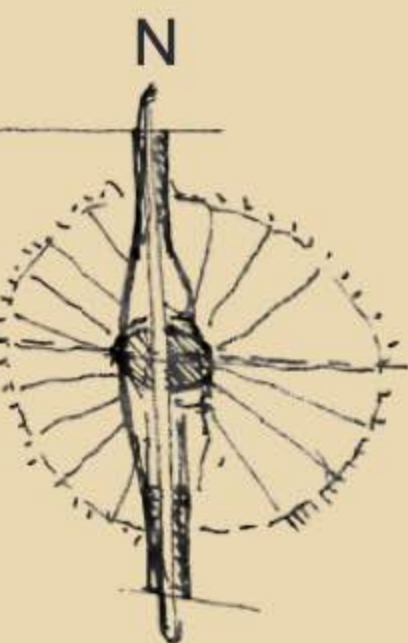
Cultural role: Kathivanoor Veeran is strongly associated with local identity and is especially important in rites concerning marriage and protection.





STAGES OF CONCERNS

LAND USE PLAN



BEFORE THE THEYYAM SEASON

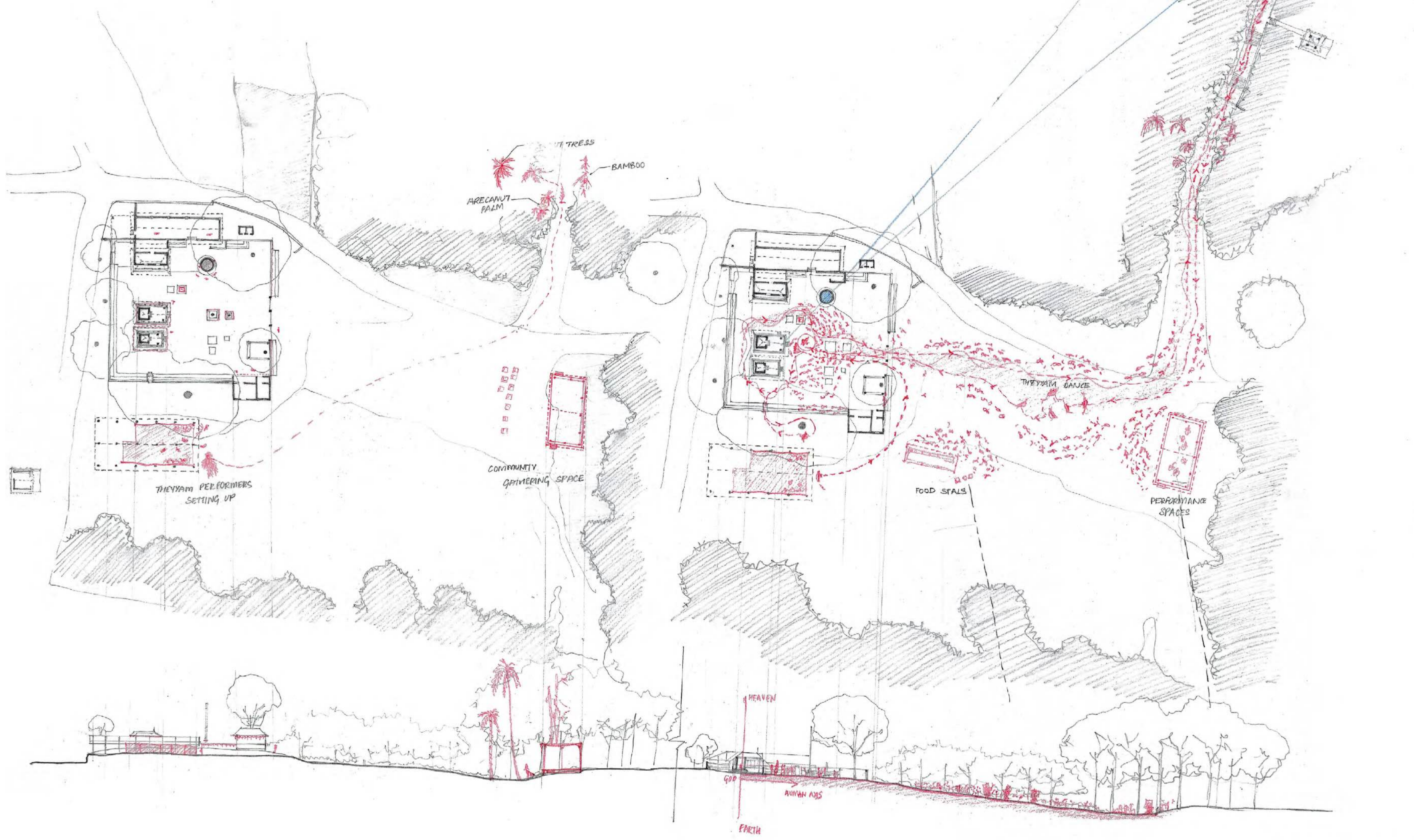
- The site remains quiet, minimally disturbed, with very low footfall.
- Vegetation is dense and undisturbed, especially inside the sacred grove; micro-habitats stay intact.
- Water bodies/ponds maintain natural levels, with little contamination or activity around them.
- Access paths are narrow and organic, used only by local residents or ritual caretakers.
- Noise levels are low, dominated by natural sounds—birds, insects, and wind.
- The overall atmosphere is intimate, sacred, and ecologically balanced, reflecting the grove's protected character.

DURING THE THEYYAM SEASON

- The site experiences a sharp increase in visitors, leading to higher activity and movement.
- Temporary stalls, lights, and ceremonial structures are set up near the entrance and along pathways.
- Traffic and parking expand around the outer edges, causing more noise and surface disturbance.
- Sacred ponds and open grounds become ritual activity zones, leading to temporary crowding and higher waste generation.
- Cultural performances, processions, and offerings create a vibrant but intense environment.
- The grove interior remains mostly protected, but edges face stress due to increased usage.

INFERENCES

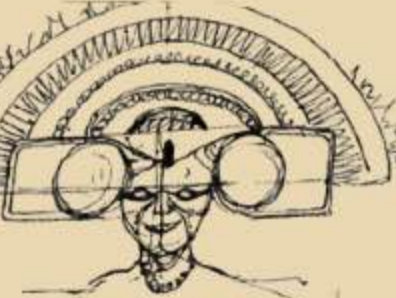
- The site shifts from a slow, ecological rhythm to a high-energy cultural landscape during the festival.
- The challenge is maintaining ecological sensitivity while accommodating community rituals.
- This duality guides the design—to support festival functions without disturbing the grove's core biodiversity.

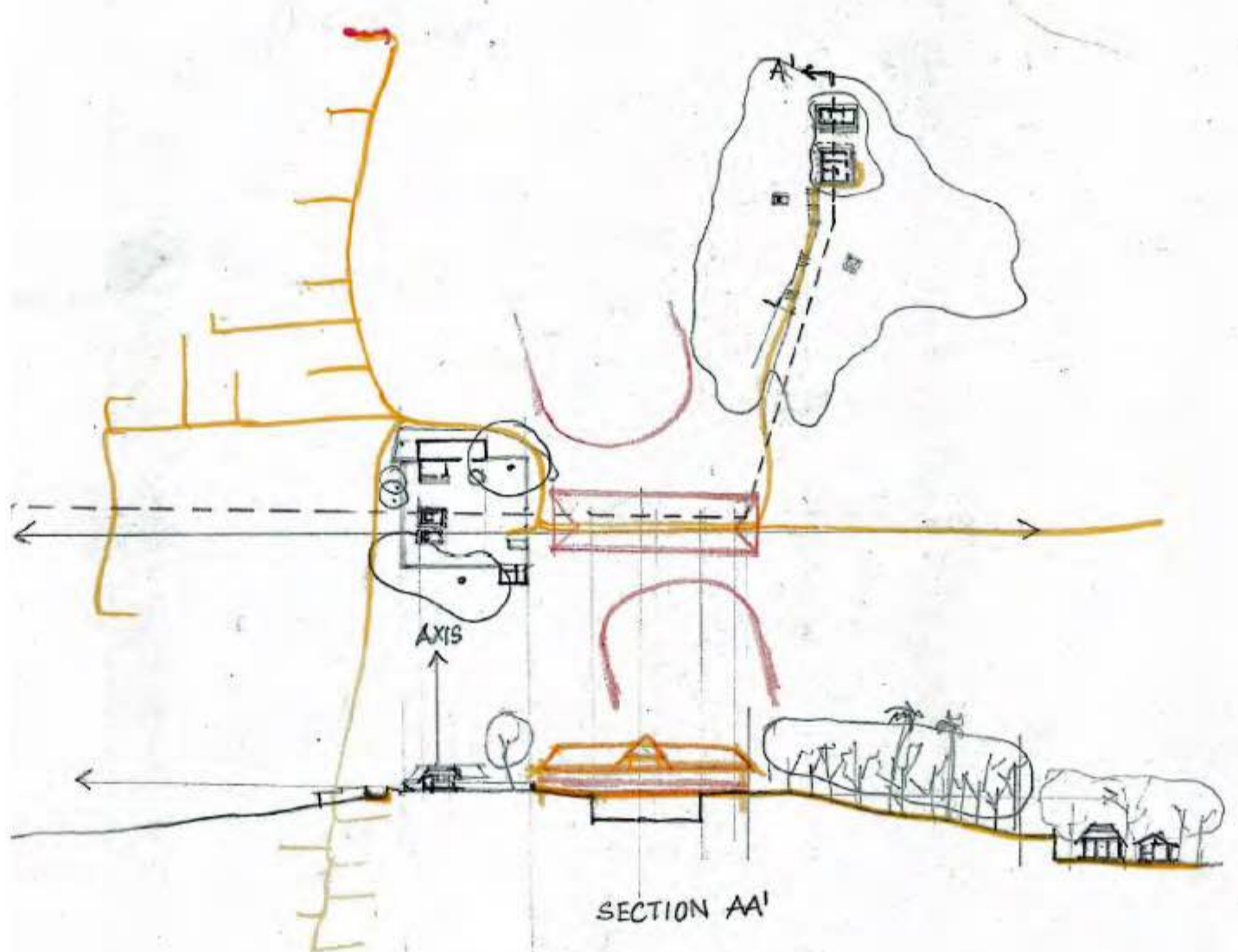
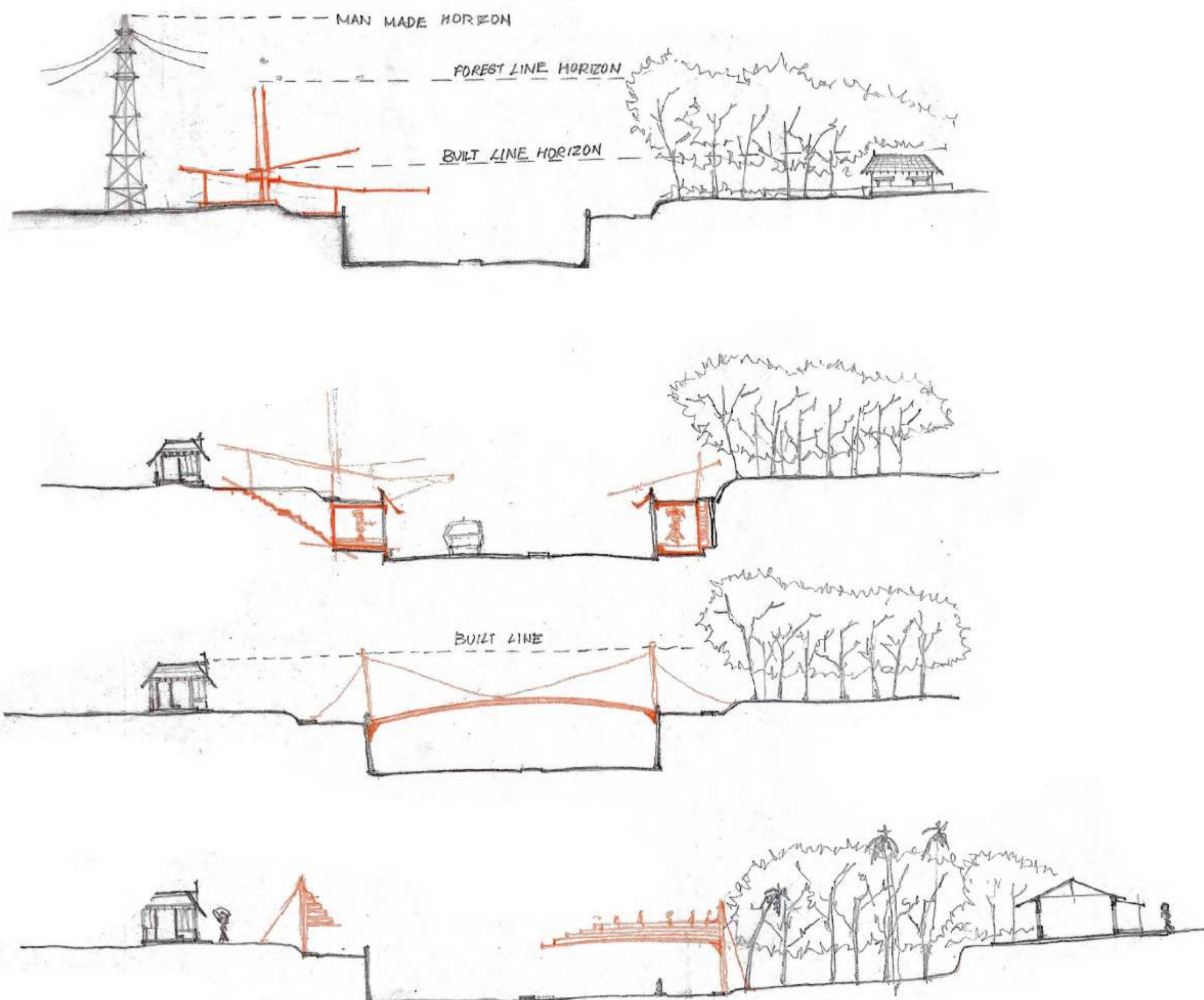
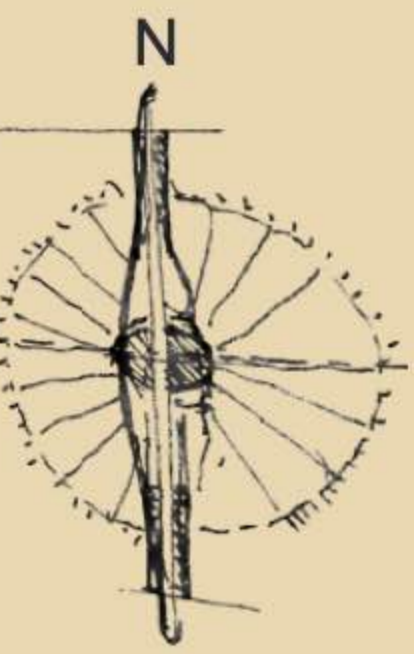


BEFORE THE THEYYAM SEASON

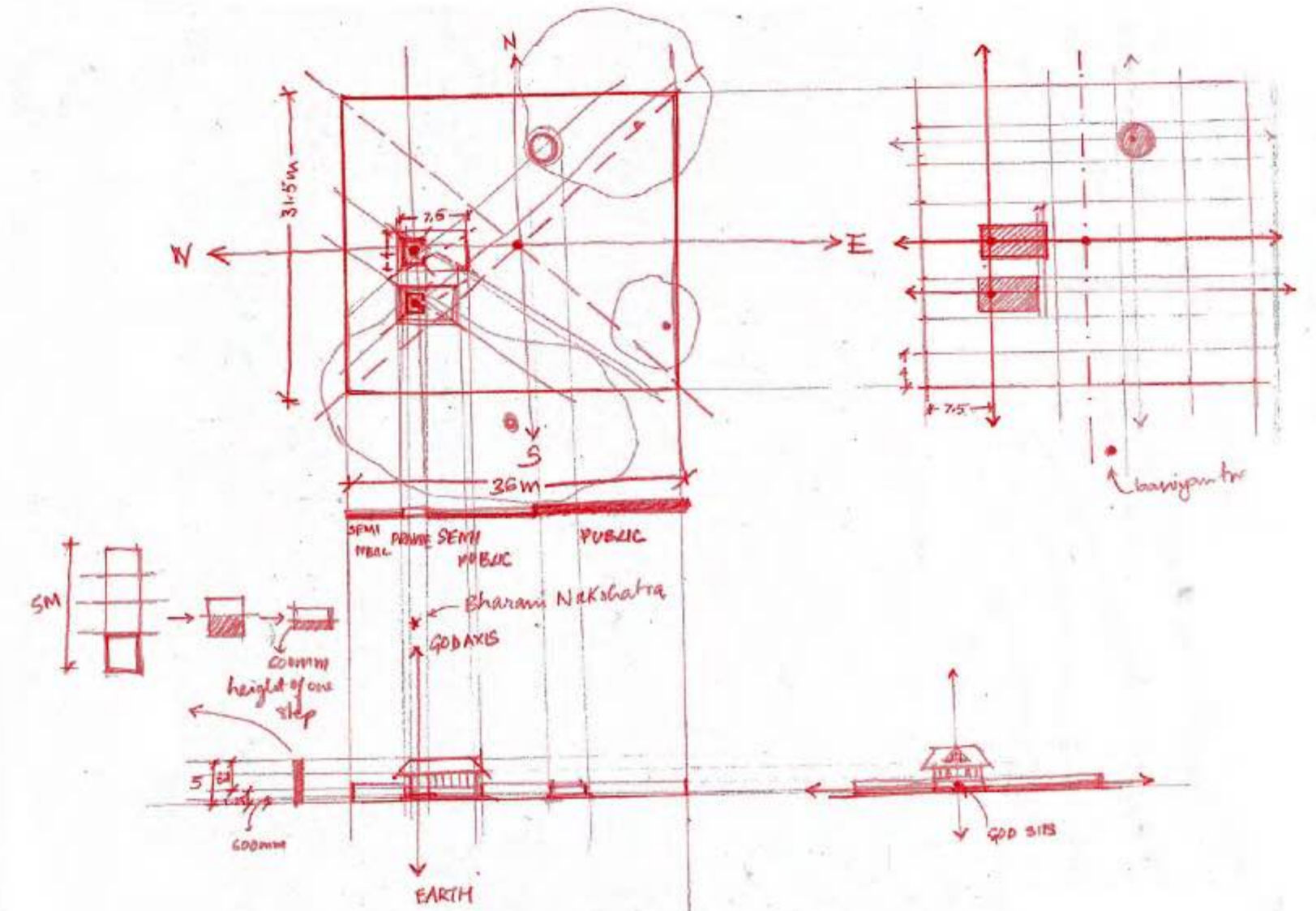
DURING THE THEYYAM SEASON

ENERGY PATH
NATURE ENERGY PATH

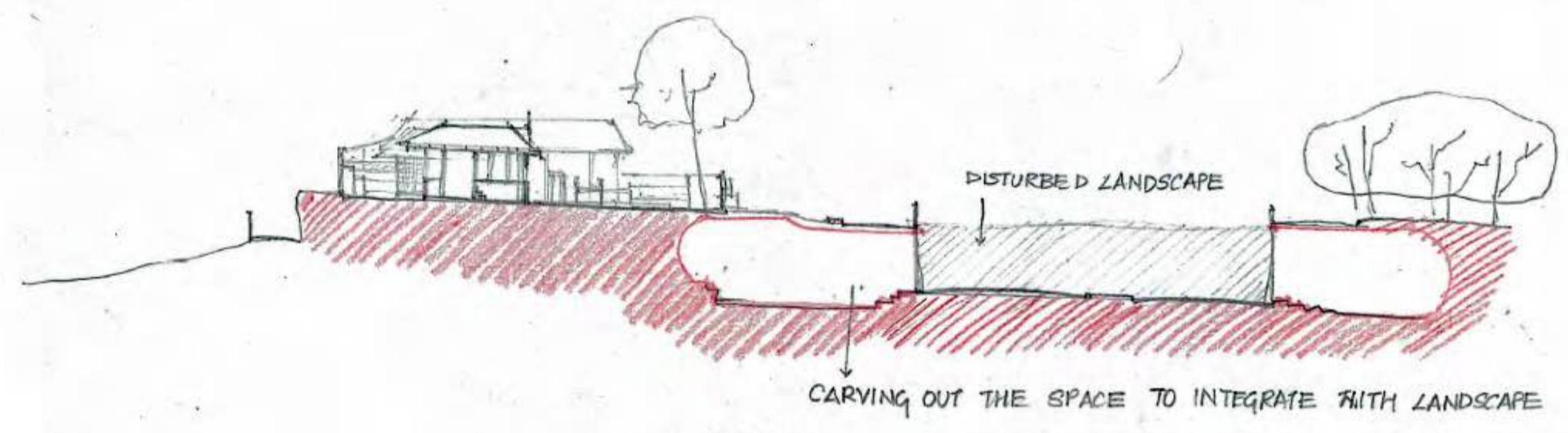




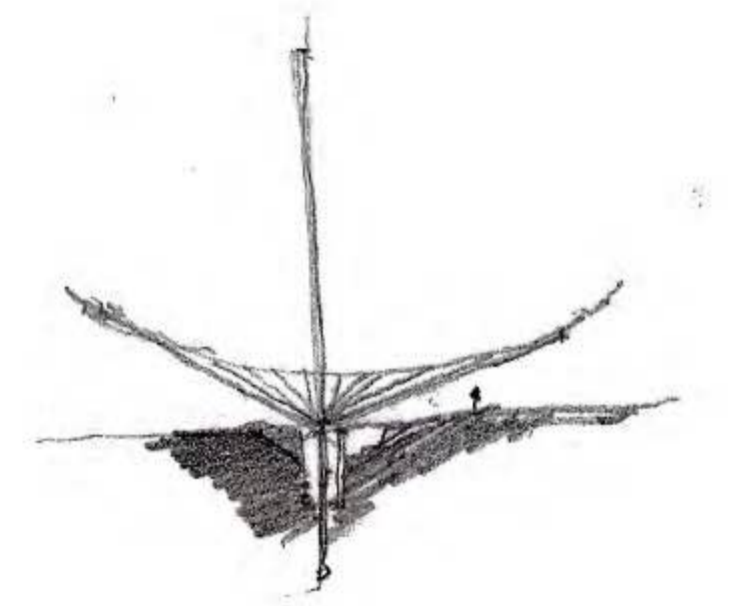
BUILDING A BRIDGE TO ESTABLISH A CONNECTION



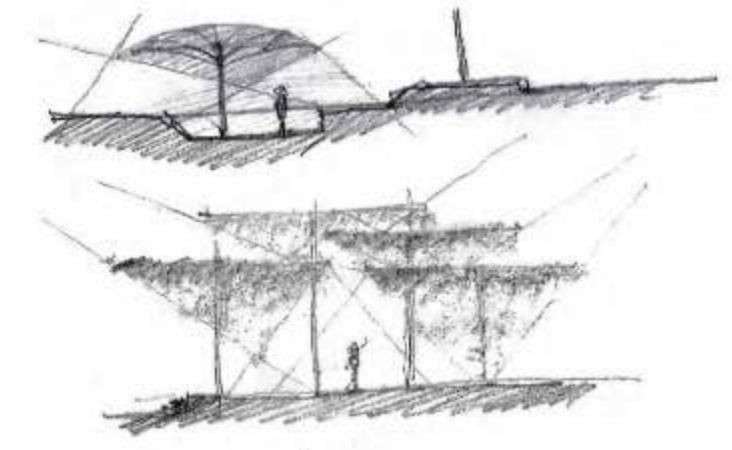
UNDERSTANDING THE PROPOSITIONS OF THE TEMPLE TO APPLY IN DESIGN



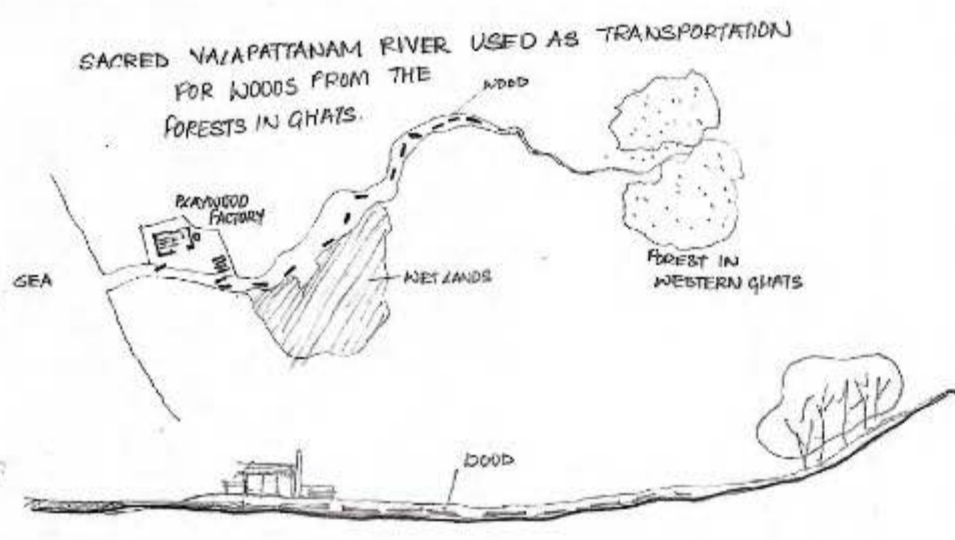
CARVING OUT THE SPACE TO INTEGRATE WITH LANDSCAPE



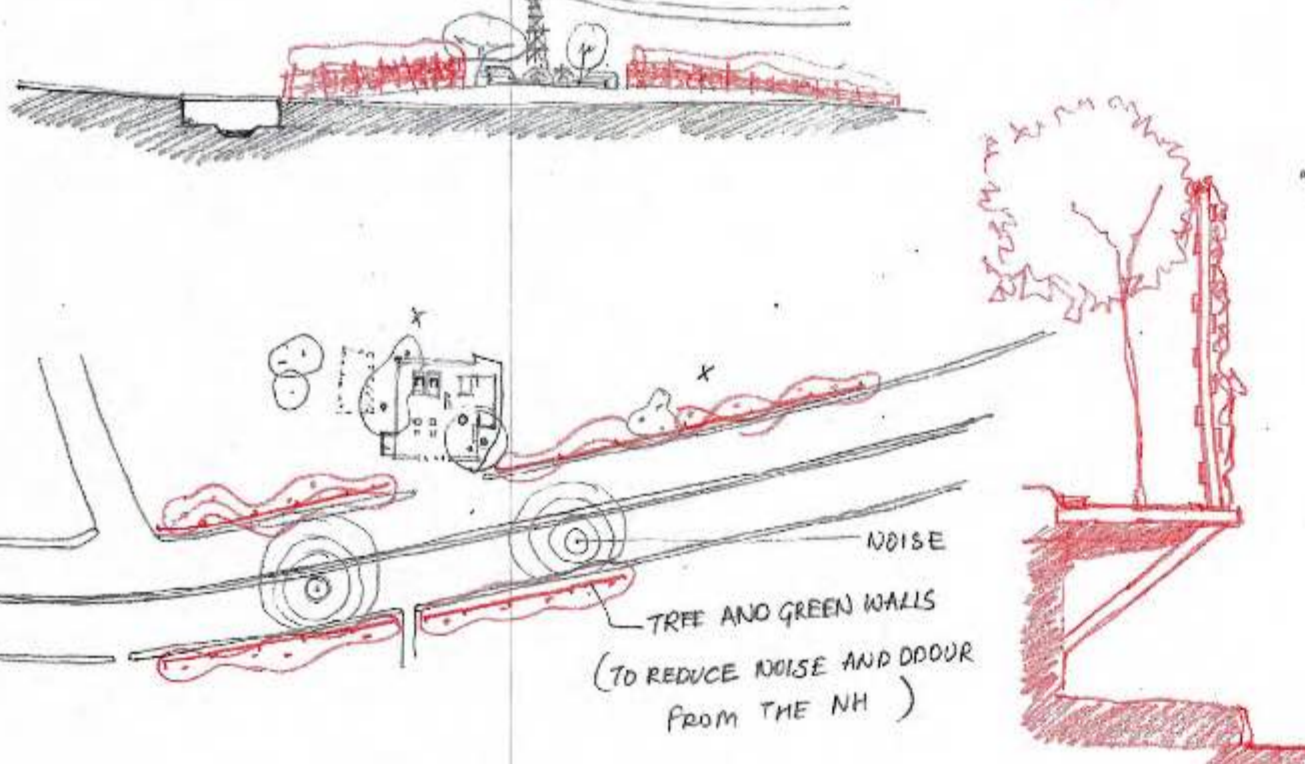
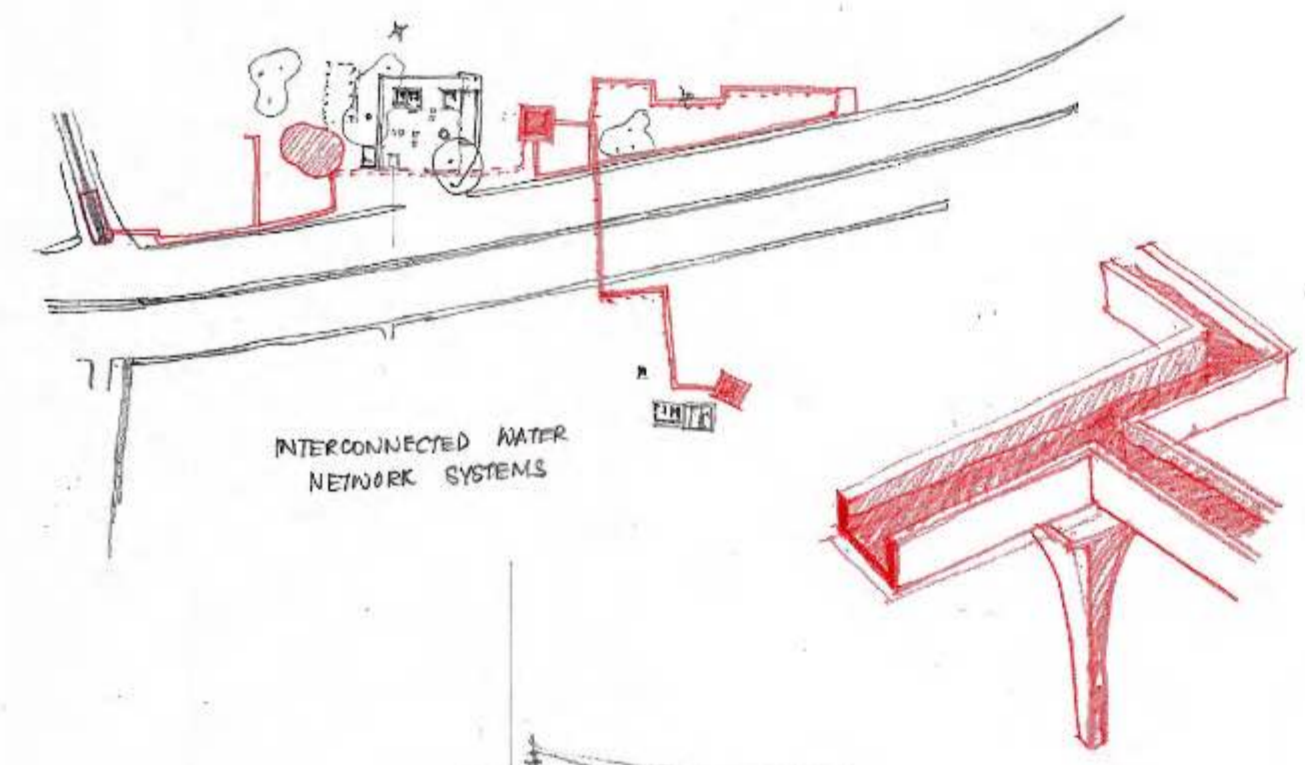
USING THE UMBRELLA AS A DESIGN ELEMENT



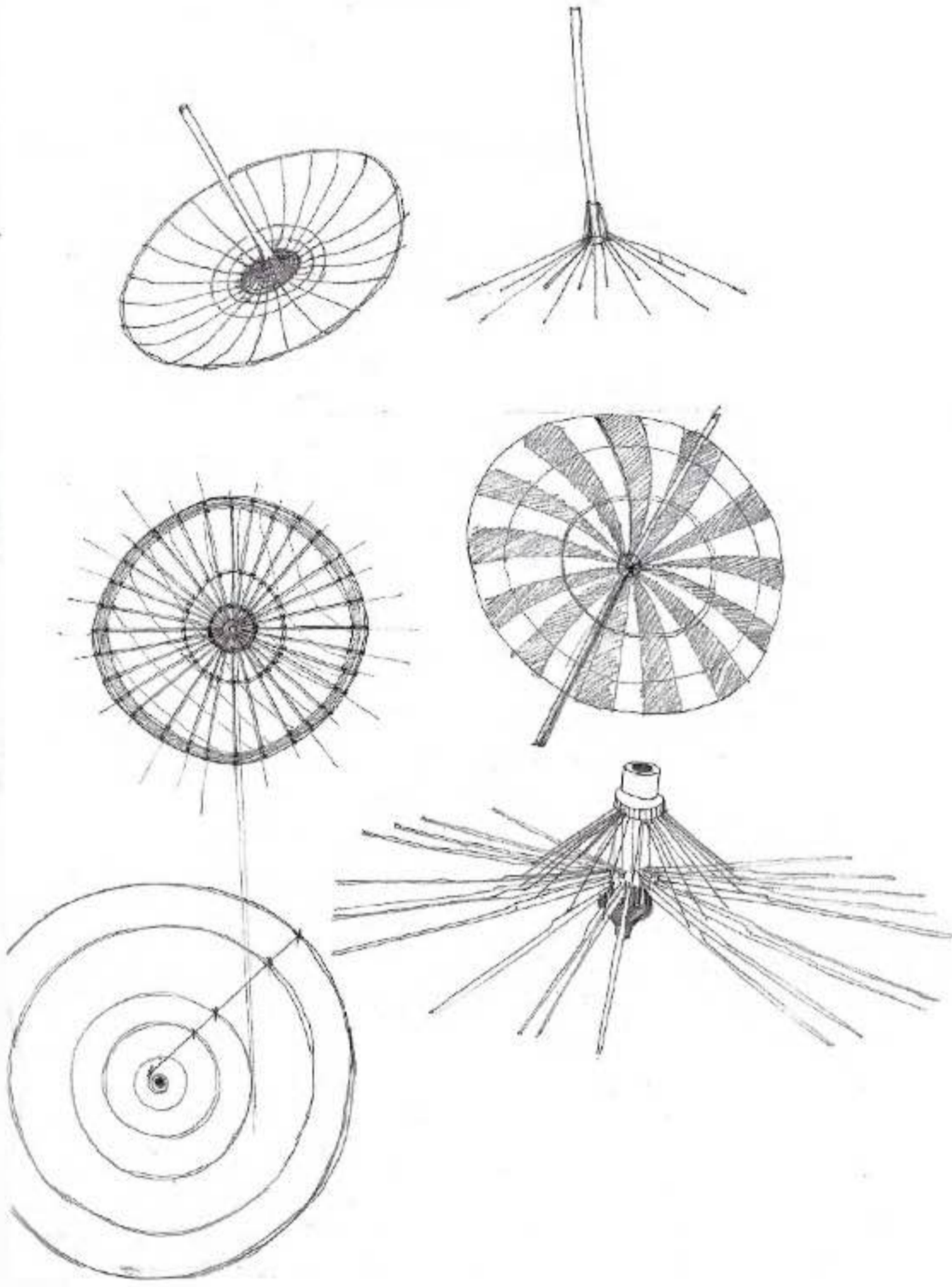
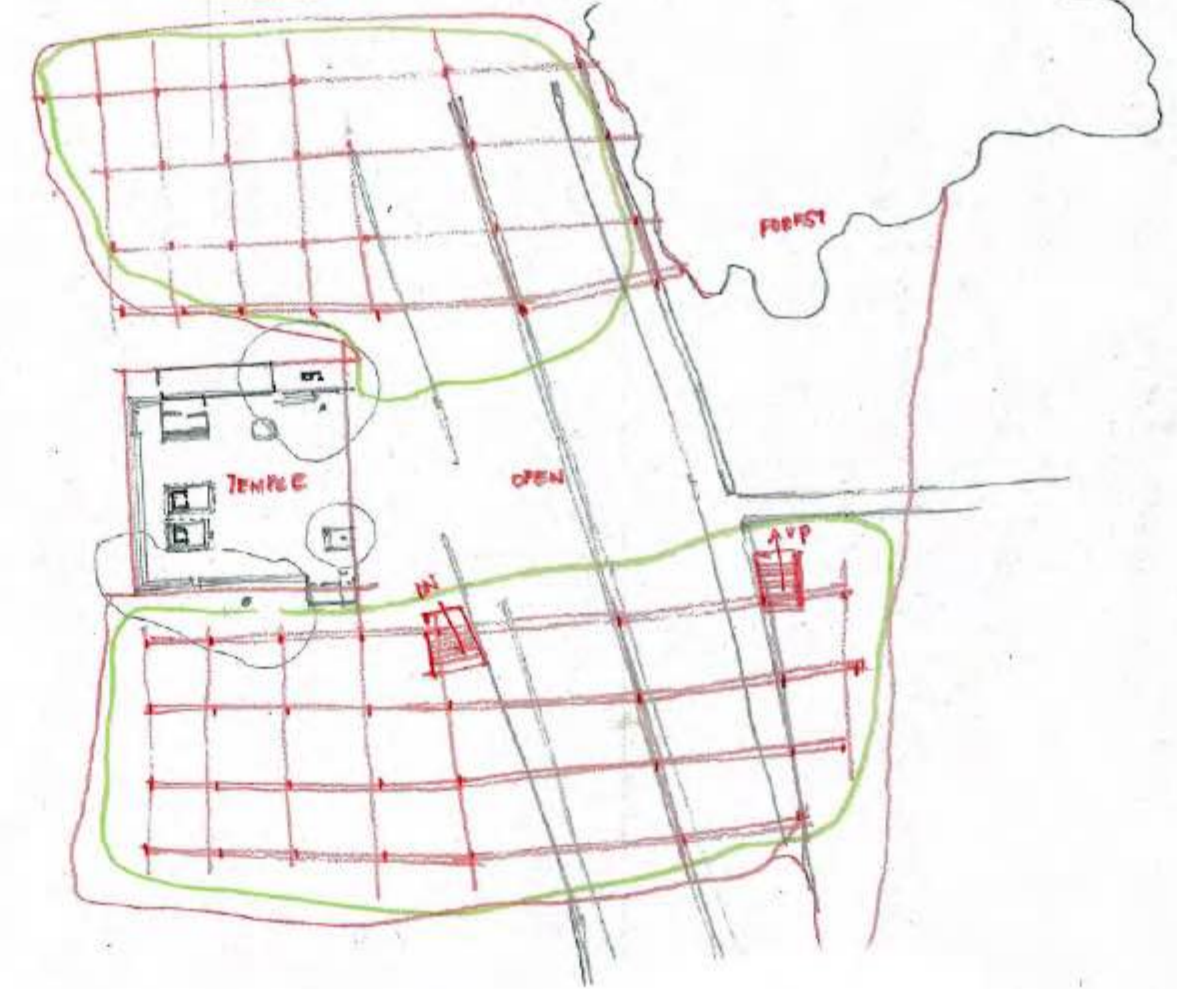
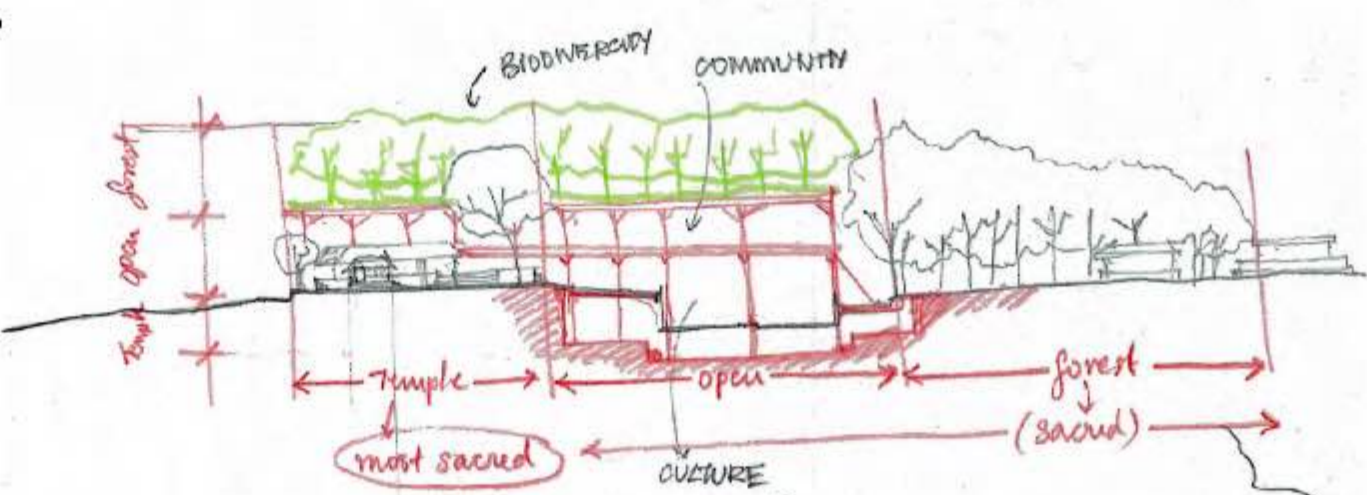
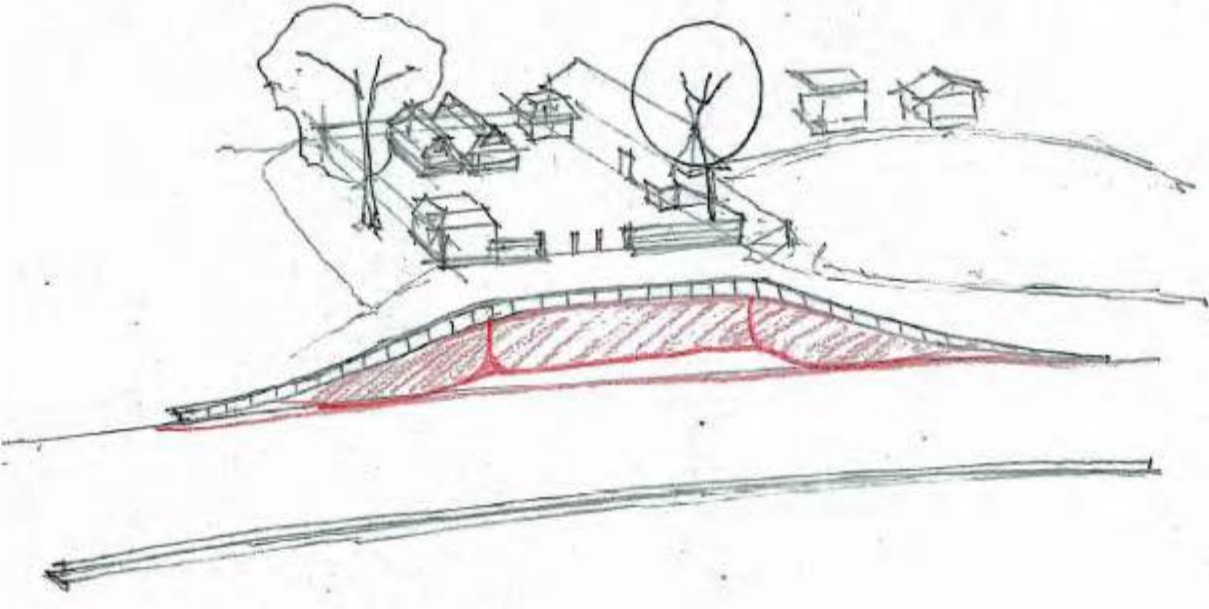
UNDERSTNDING THE PROPOSITIONS OF THE UMBRELLA



using water channels to transport materials from top to the bottom.

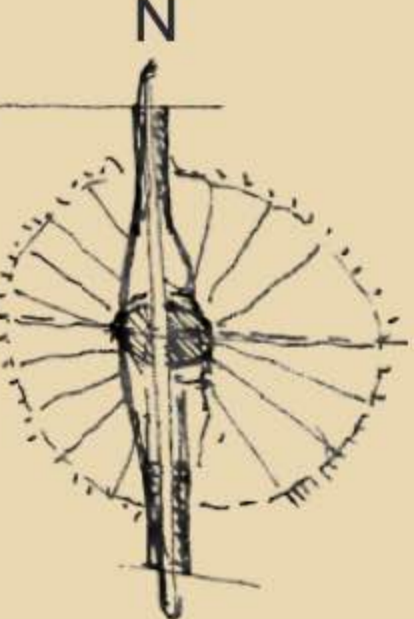


<p>ARCHITECTURE / NATURE</p> <p>USONG LOCALLY AVAILABLE MATERIALS LIKE BAMBOO AND LATERITE STONE, AND USING THE LOCAL SKILLS OF CARFTSMANSHIP</p>	<p>NATURE</p> <p>MAKING A FOREST COVER ZONE IN TWO STAGES</p>	<p>NATURE / COMMUNITY</p> <p>GREEN SPACES TO RELAX, BRINING BACK THE OLD PAYGROUND WHICH WAS LOST</p>
<p>ARCHITECTURE</p> <p>LIGHT WEIGHT ARCHITECTURE DESIGN USING CONTEXT UNDERSTANDING AND SLOPE ROOF</p>	<p>PARTI</p> <p>A SUBTLE LIGHT WEIGHT ARCHITECTURE WHICH MERGES WITH THE EXISTING SACRED LANDSCAPE</p>	<p>COMMUNITY</p> <p>REMAKING THE CONNECTION OF KAVU AND THE TEMPLE</p>
<p>CULTURE / ARCHITECTURE</p> <p>UNDERSTANDING THE DIMMISSIONS OF THEYAM AND DESIGNN BASED ON THE STRUCTURE OF THE HEAD GEAR</p>	<p>CULTURE</p> <p>SPACES FOR THEYAM PERFORMANCE AND SPACE THAT GIVES THE EXPERENCE OF THEYAM WHEN ITS NOT HAPPENING</p>	<p>COMMUNITY / CULTURE</p> <p>REMAKING THE CONNECTION OF KAVU AND THE TEMPLE</p>





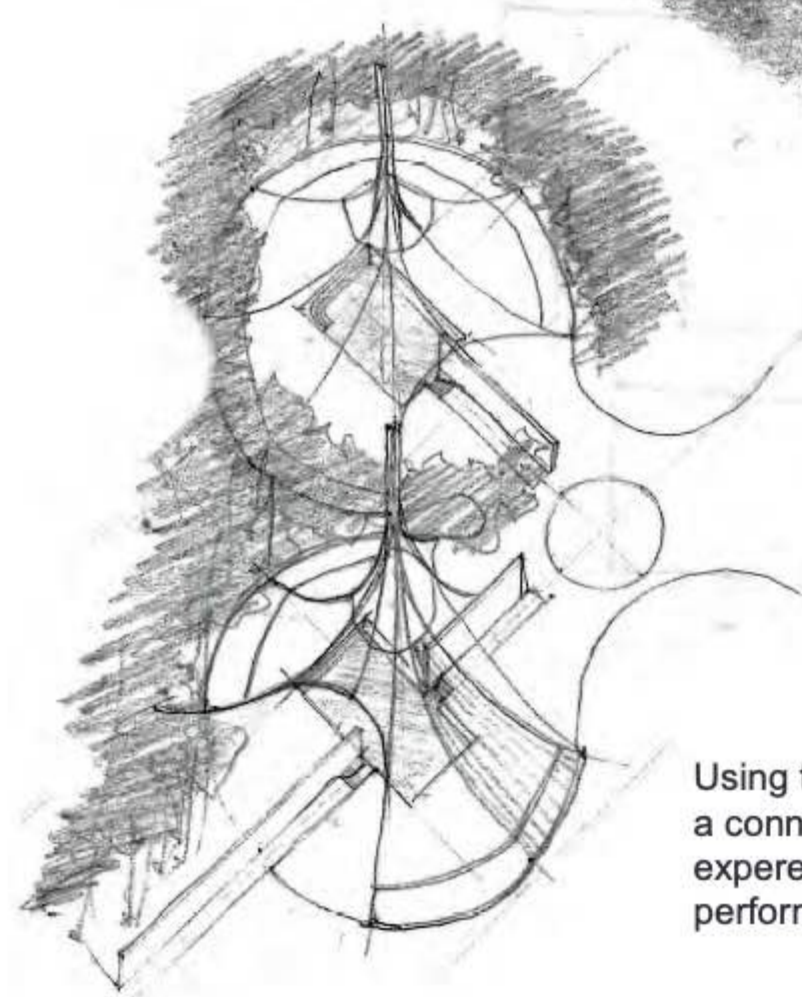
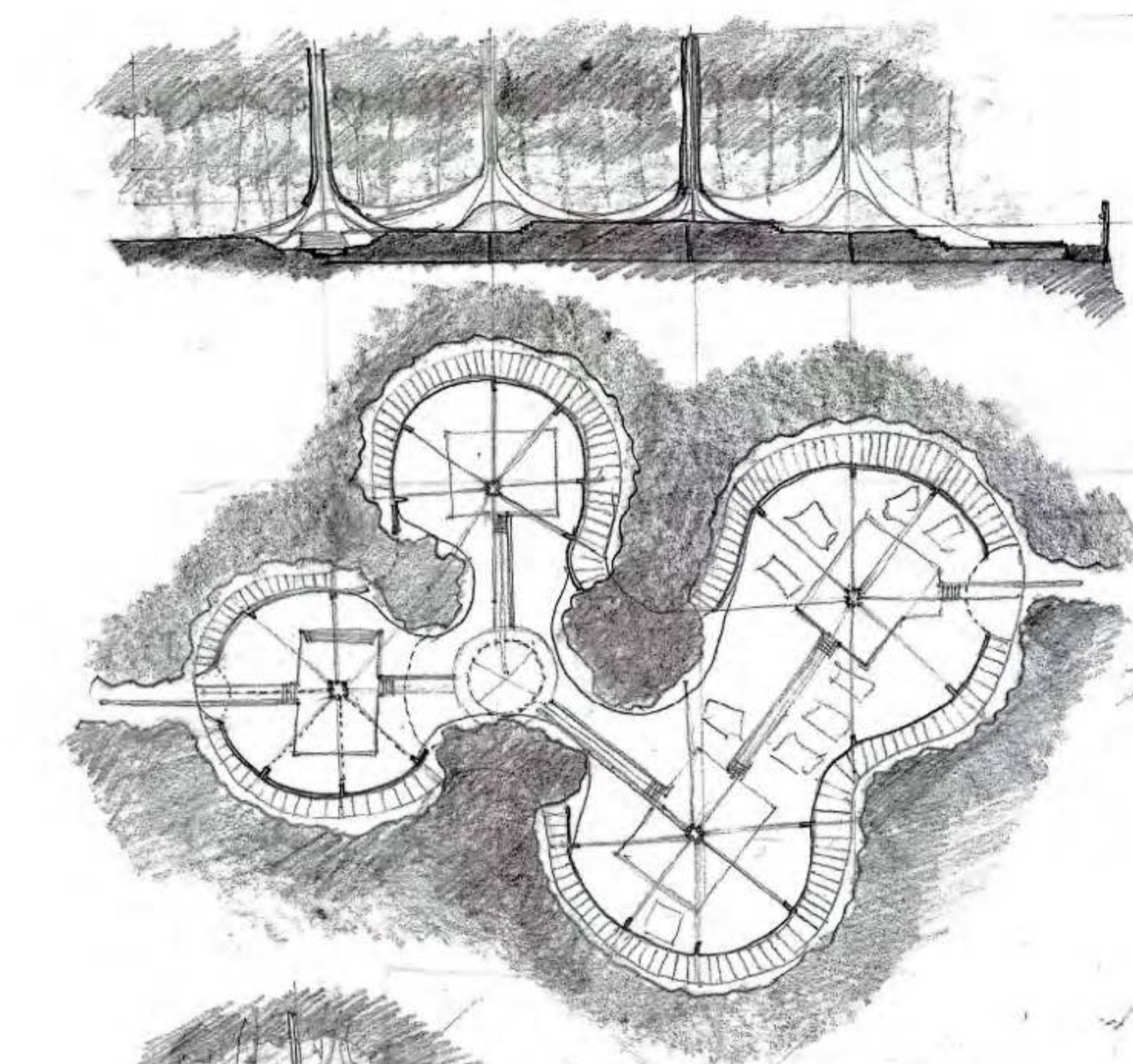
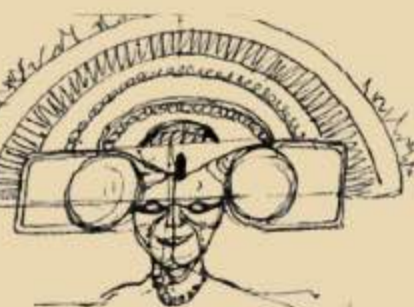
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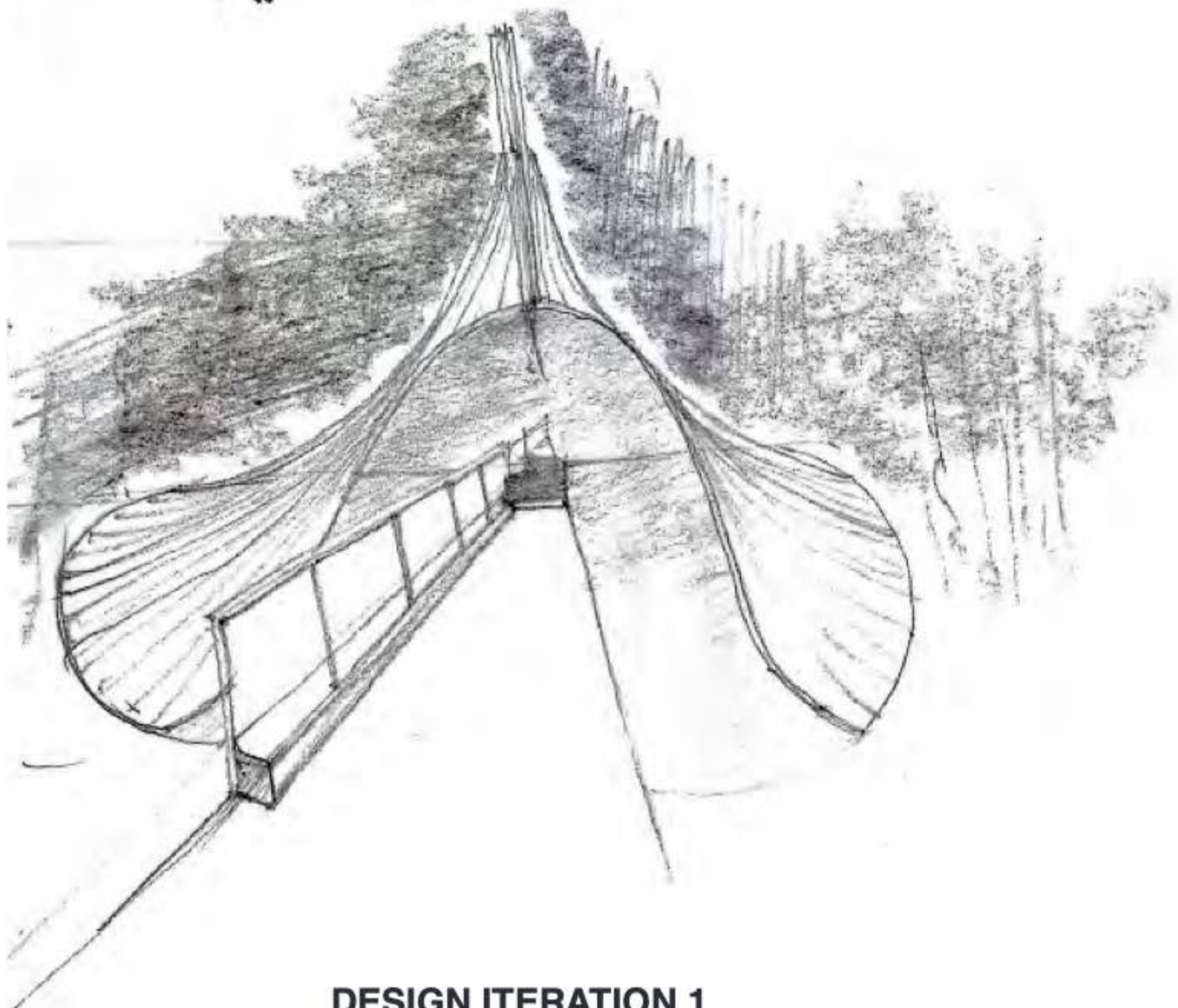
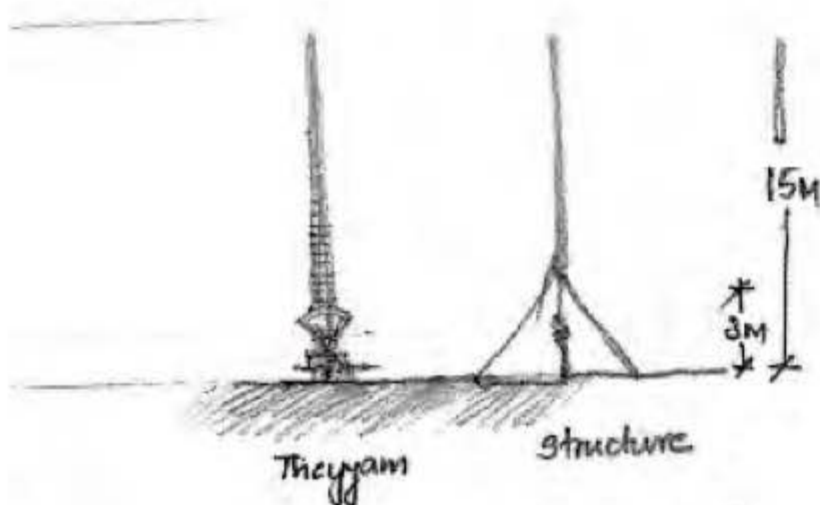
ATHIRU
BOUNDARY

Slitching sacred boundary

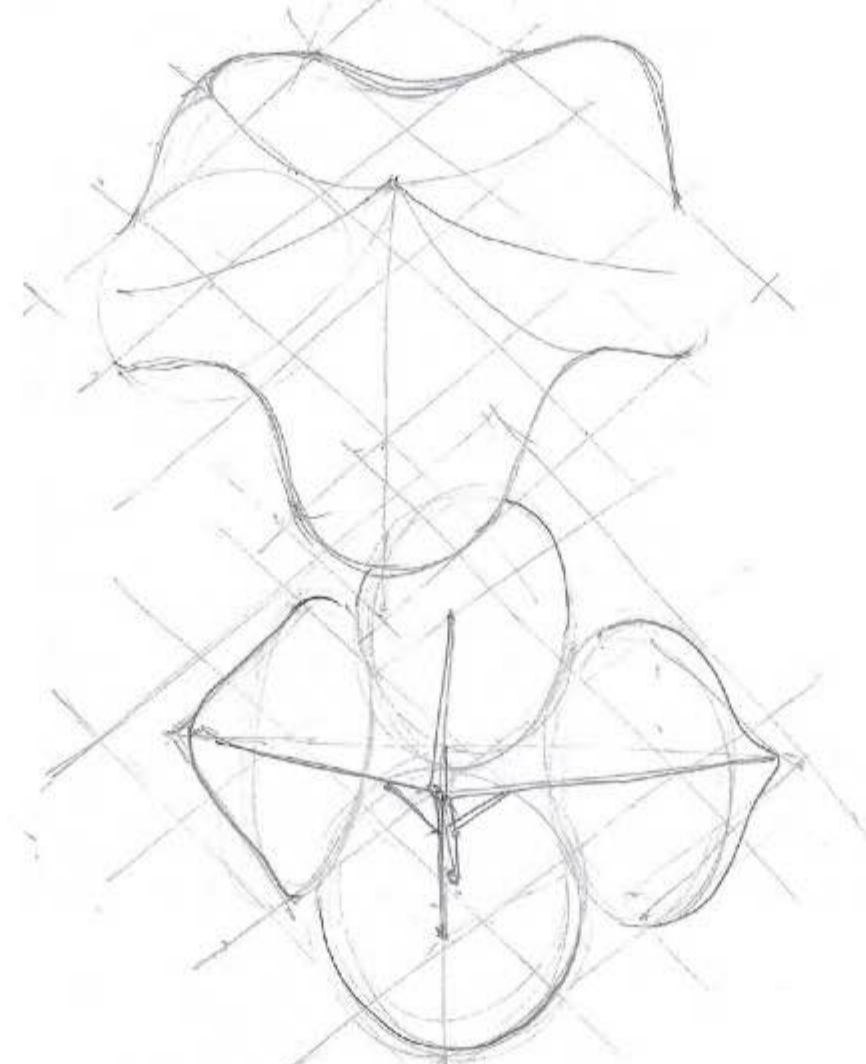
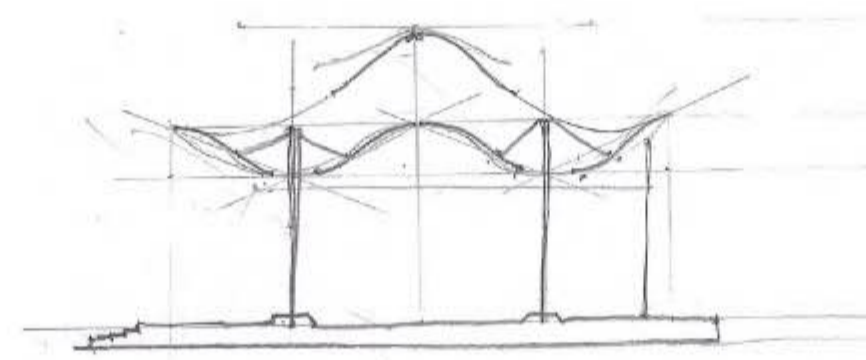
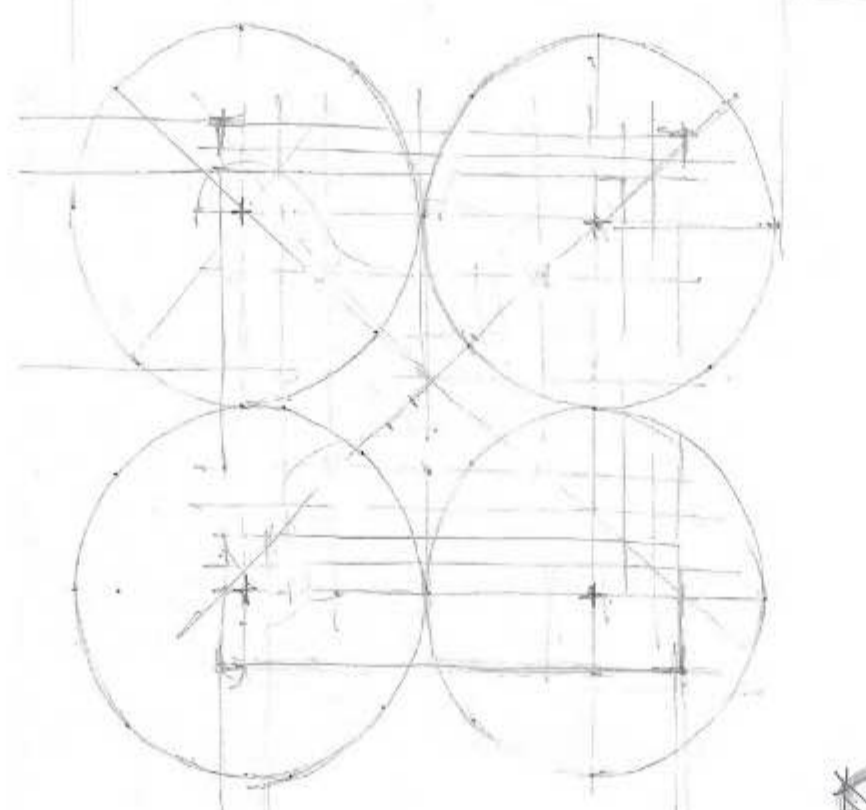
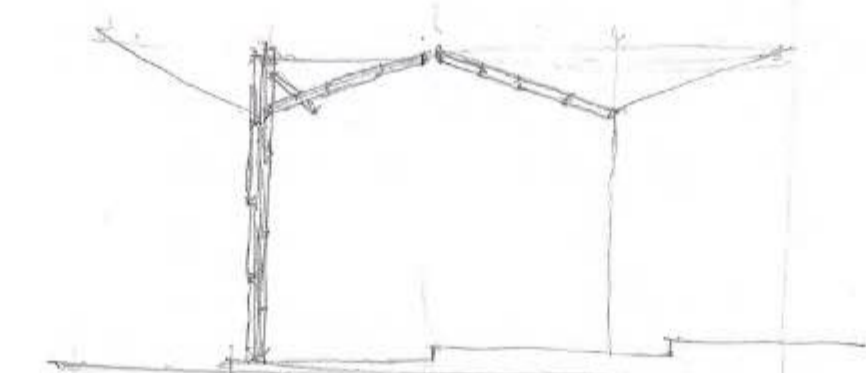
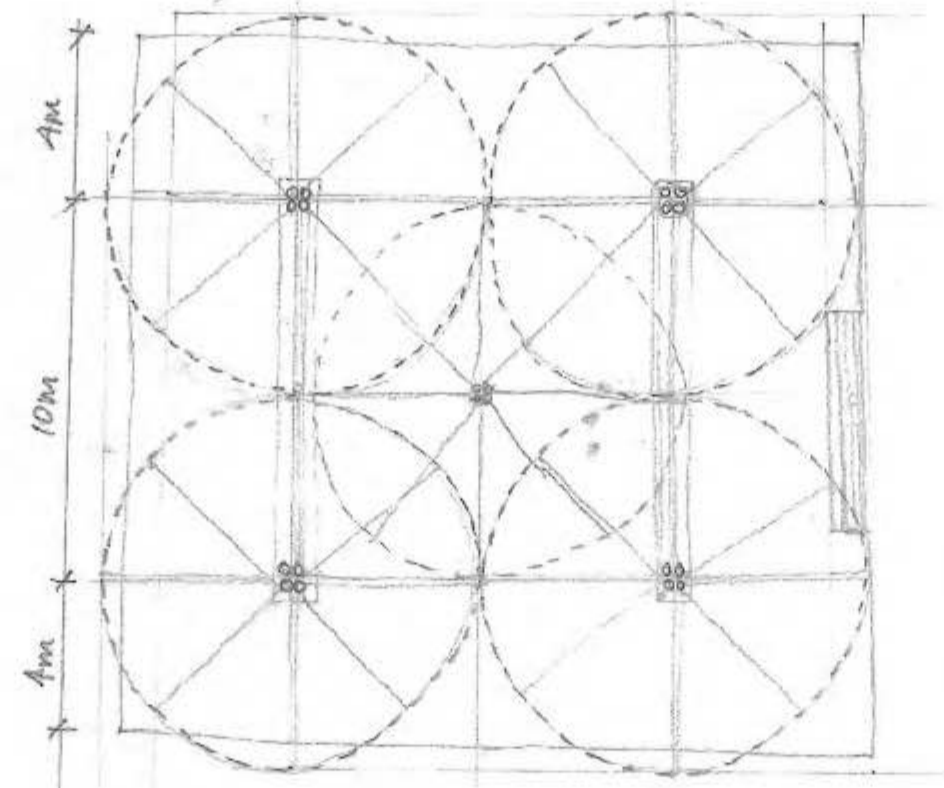
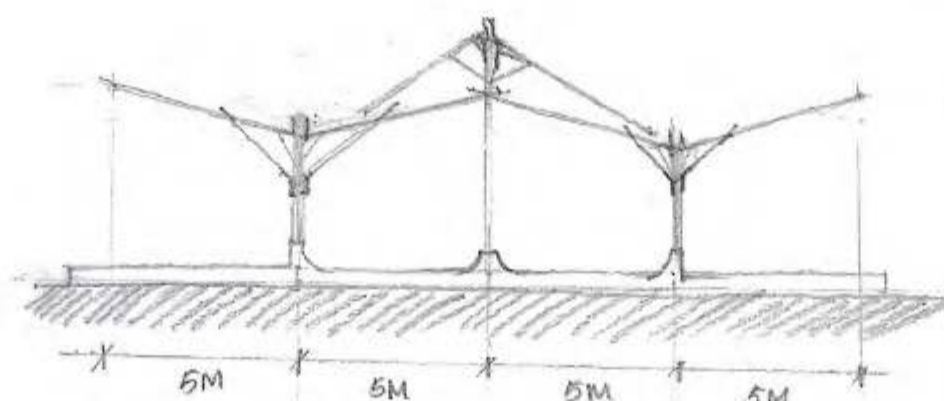
ITERATIONS



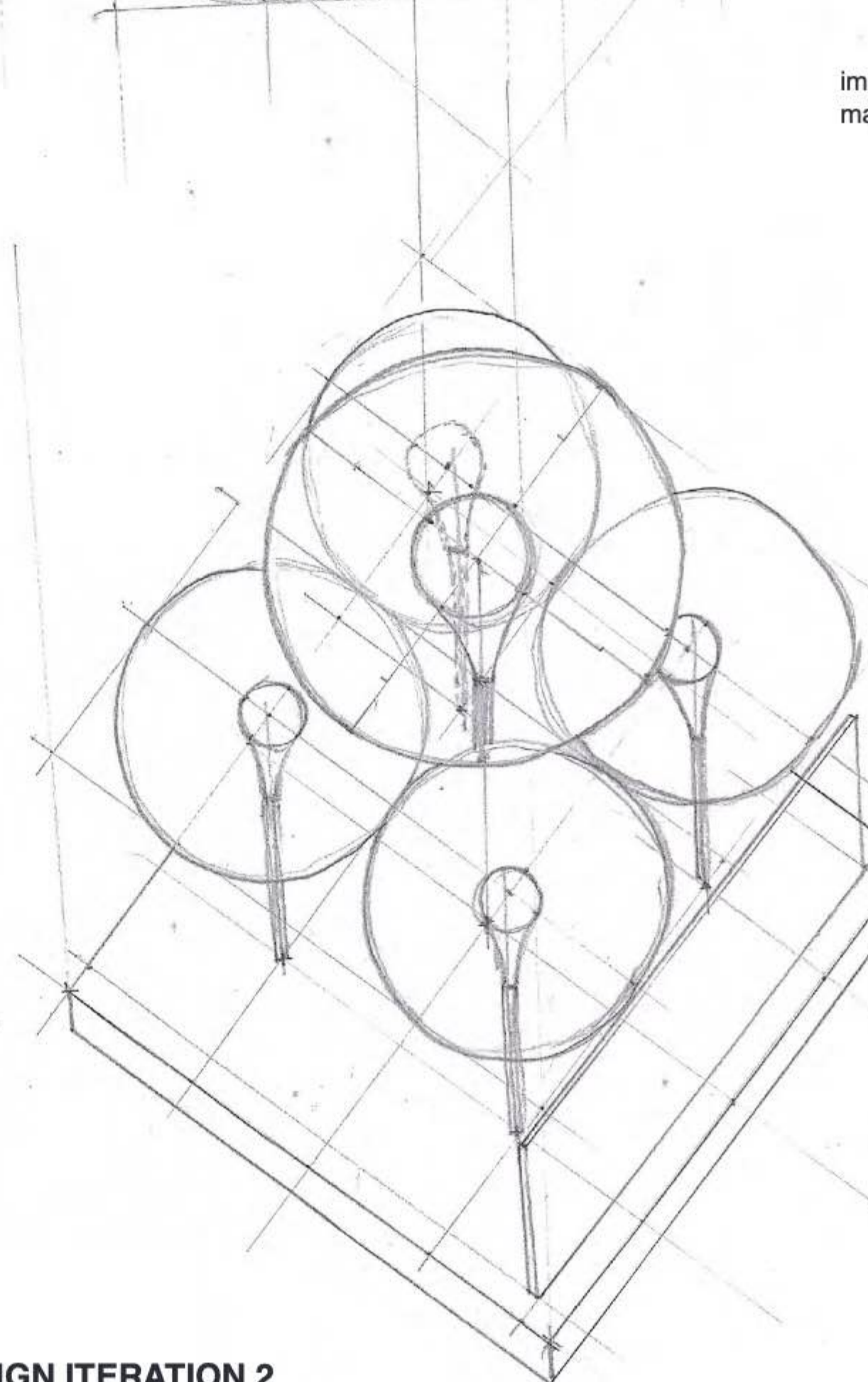
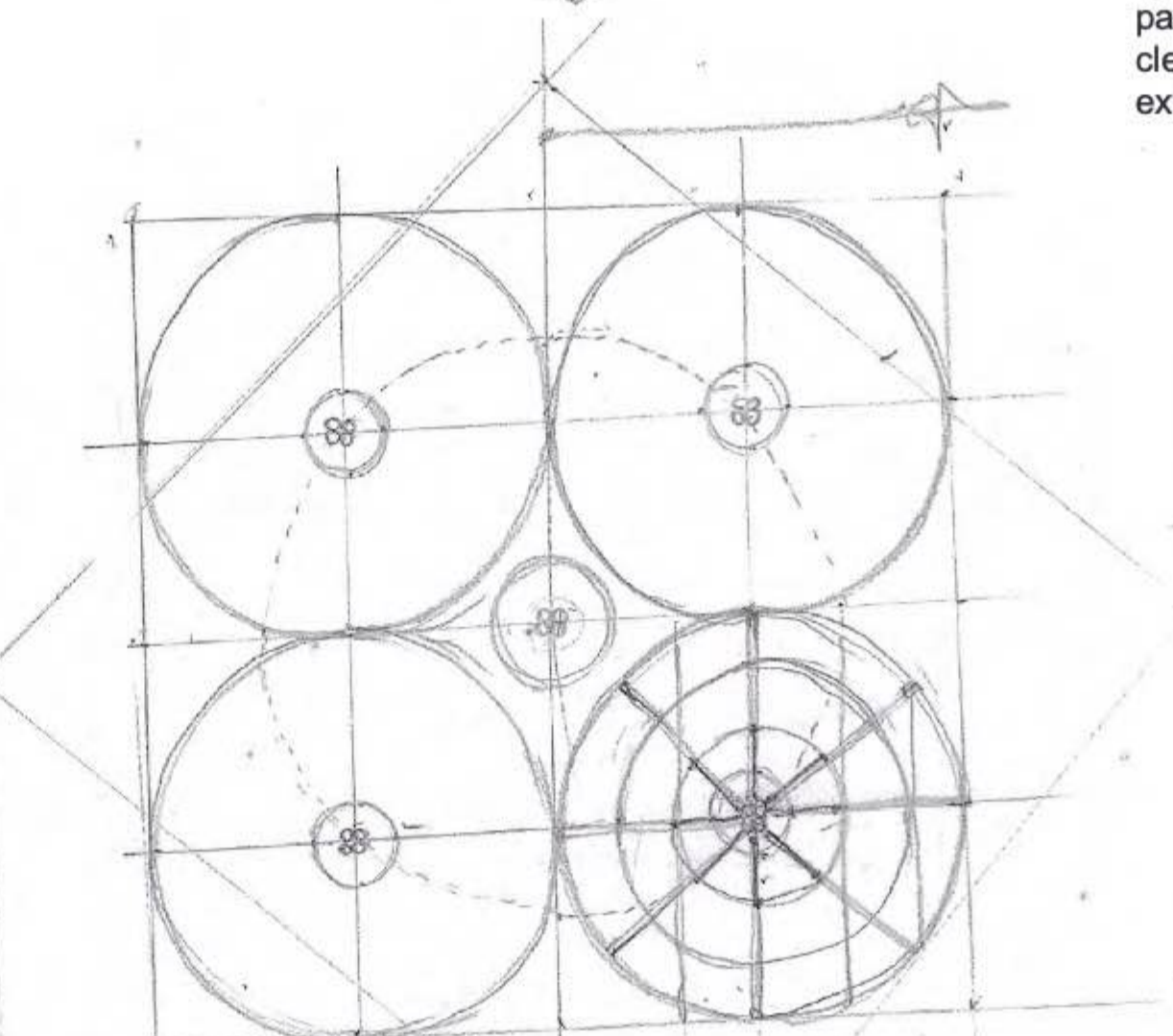
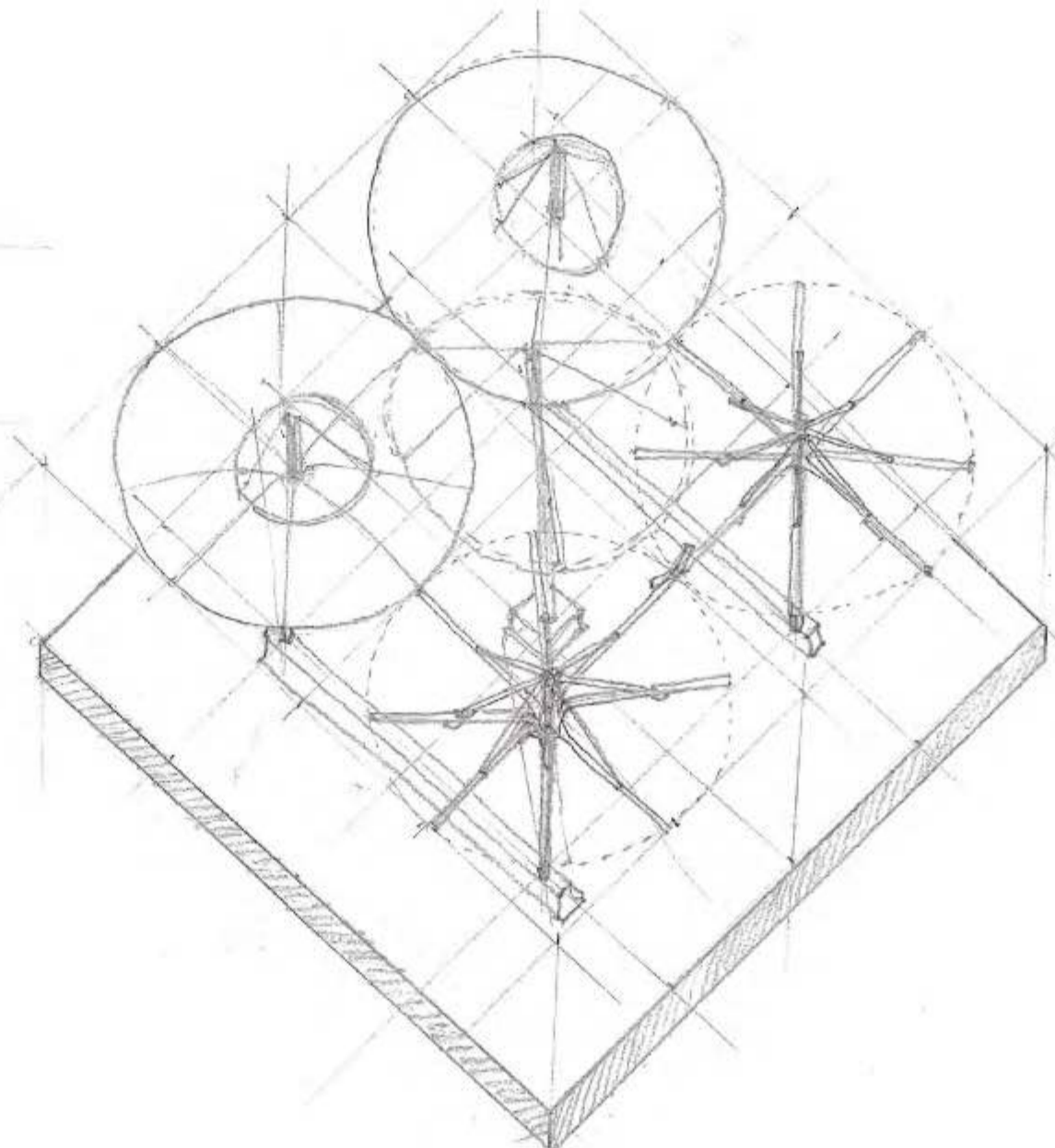
Using the idea of the inverted umbrella , to create a connected space for the market and also have a experience like theyyam inside it without the actual performance



DESIGN ITERATION 1

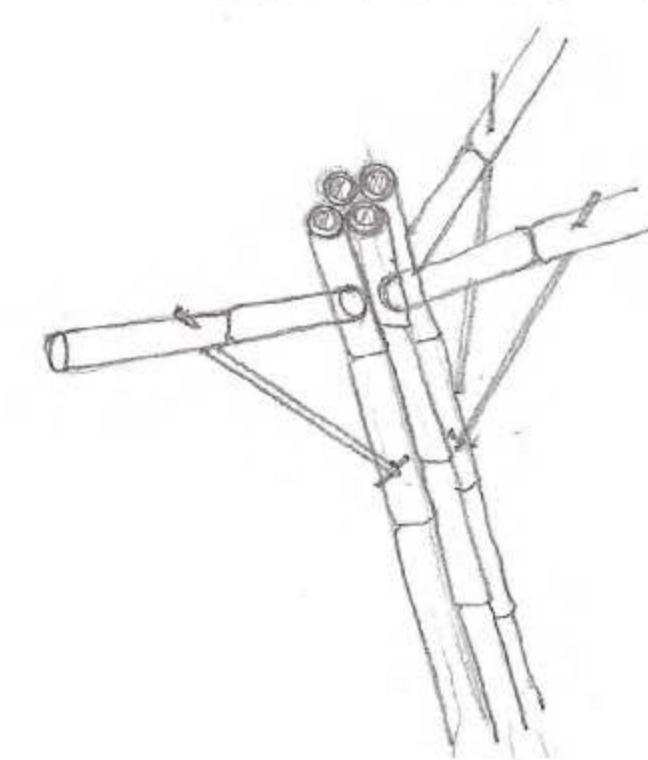
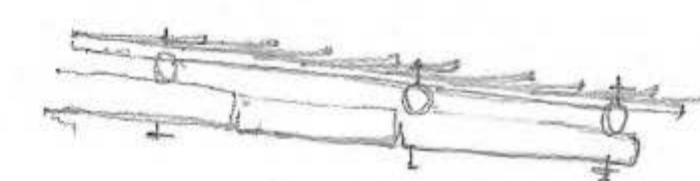
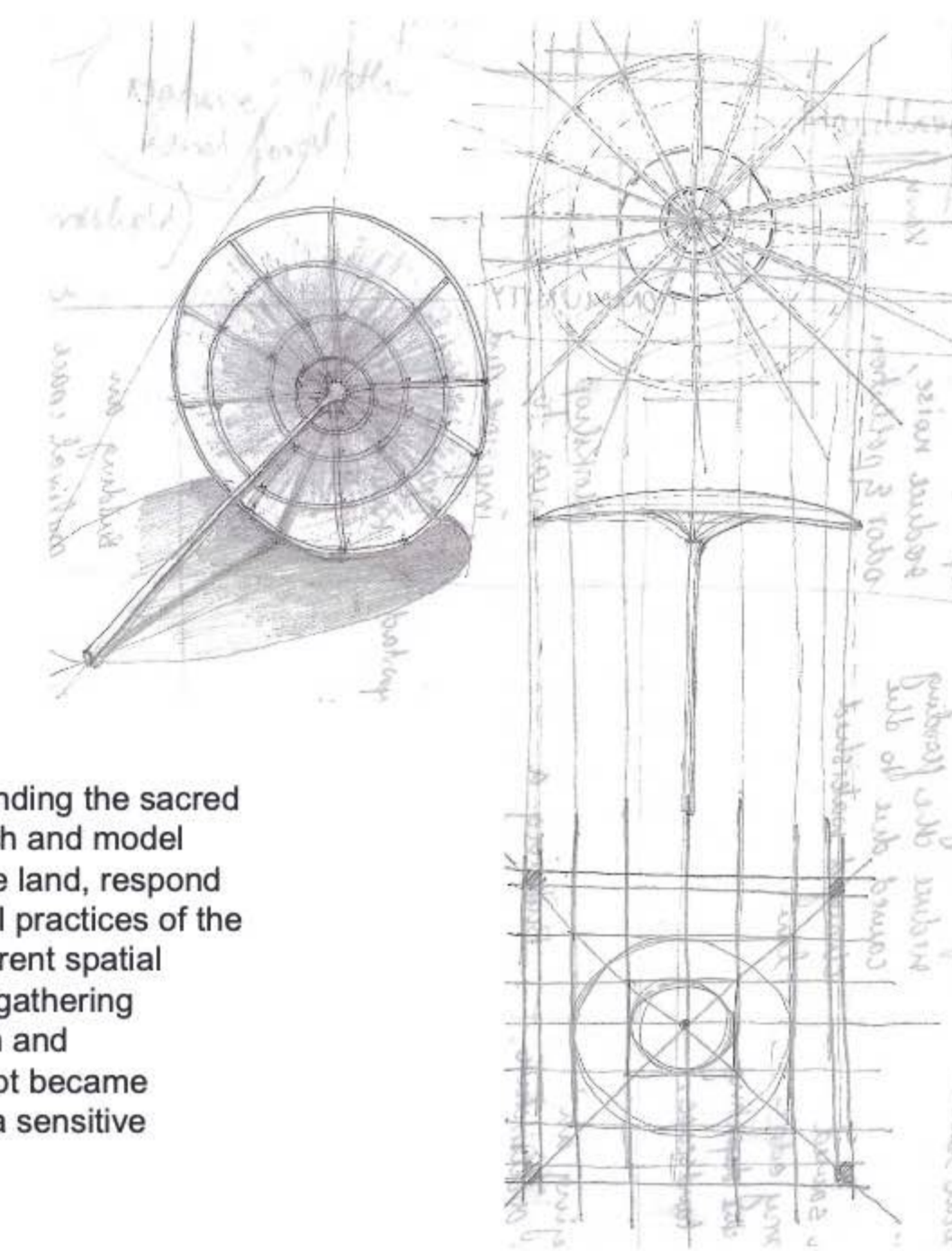


DESIGN ITERATION 2

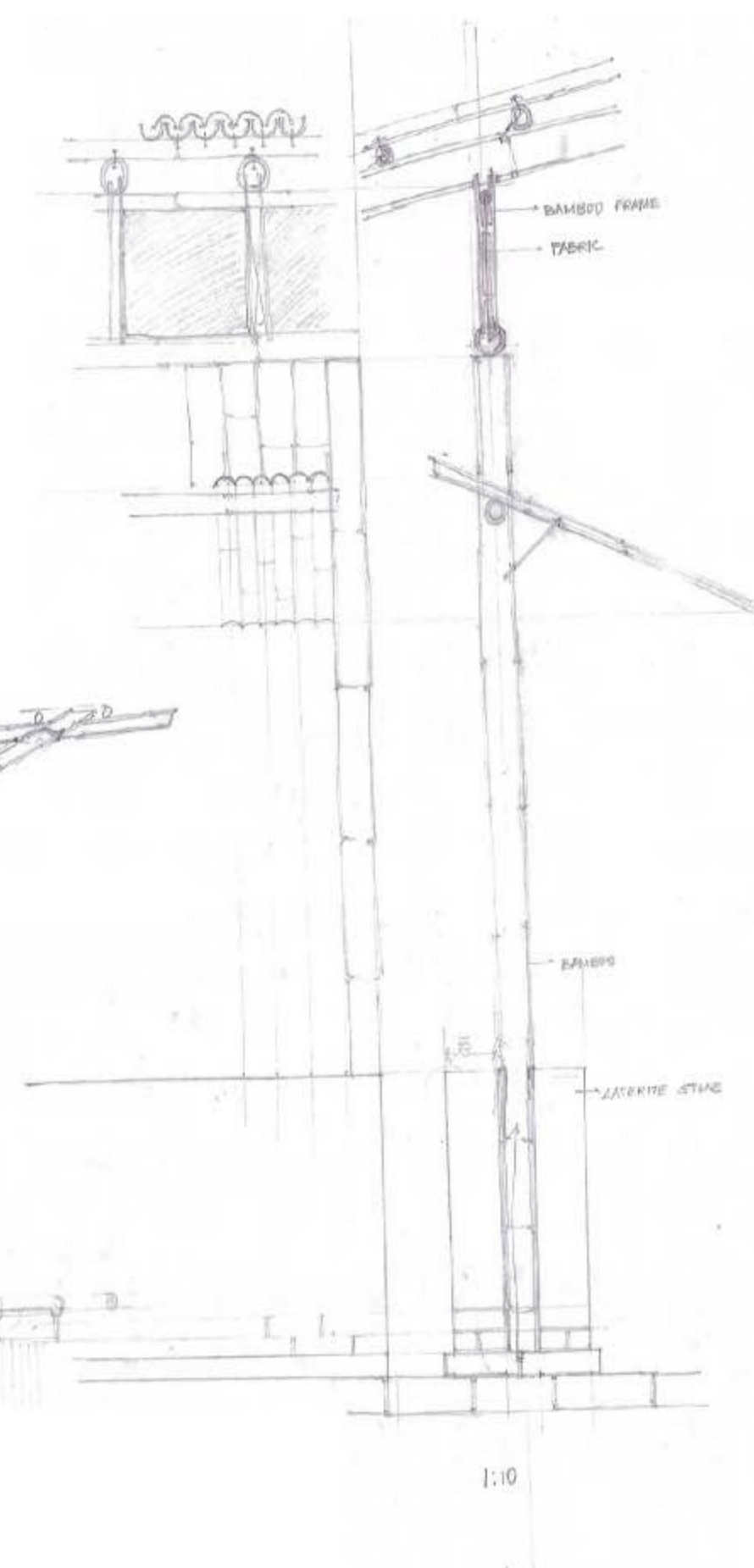


HOW THE DESIGN STARTED

I started my design iterations by first understanding the sacred landscape and its natural rhythms. Each sketch and model explored how built forms could sit lightly on the land, respond to the grove's ecology, and respect the cultural practices of the community. The iterations helped me test different spatial strategies movement, edges, thresholds, and gathering spaces so the design could balance protection and participation. Through this process, the concept became clearer: architecture here is not an object but a sensitive extension of the sacred environment.



improving on the series if umbrella concept and making a module to work with

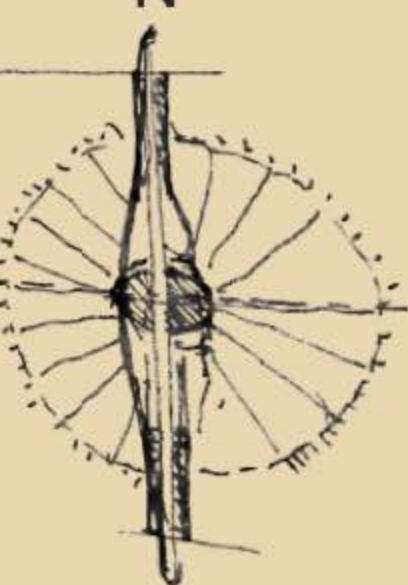


MATERIAL EXPLORATION



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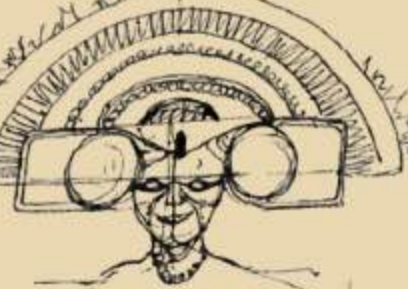


ATHIRU
BOUNDARY

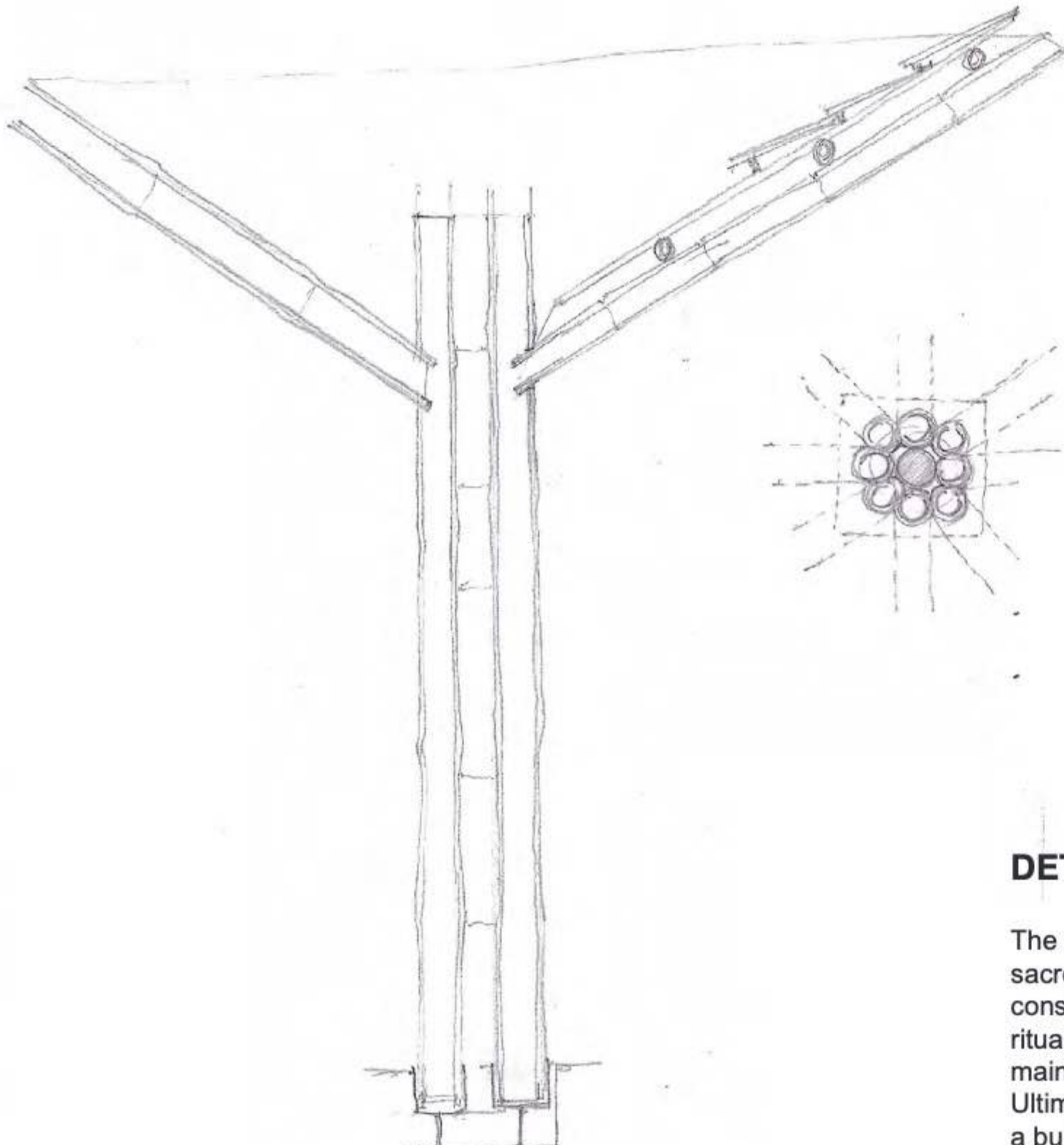
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ITERATIONS

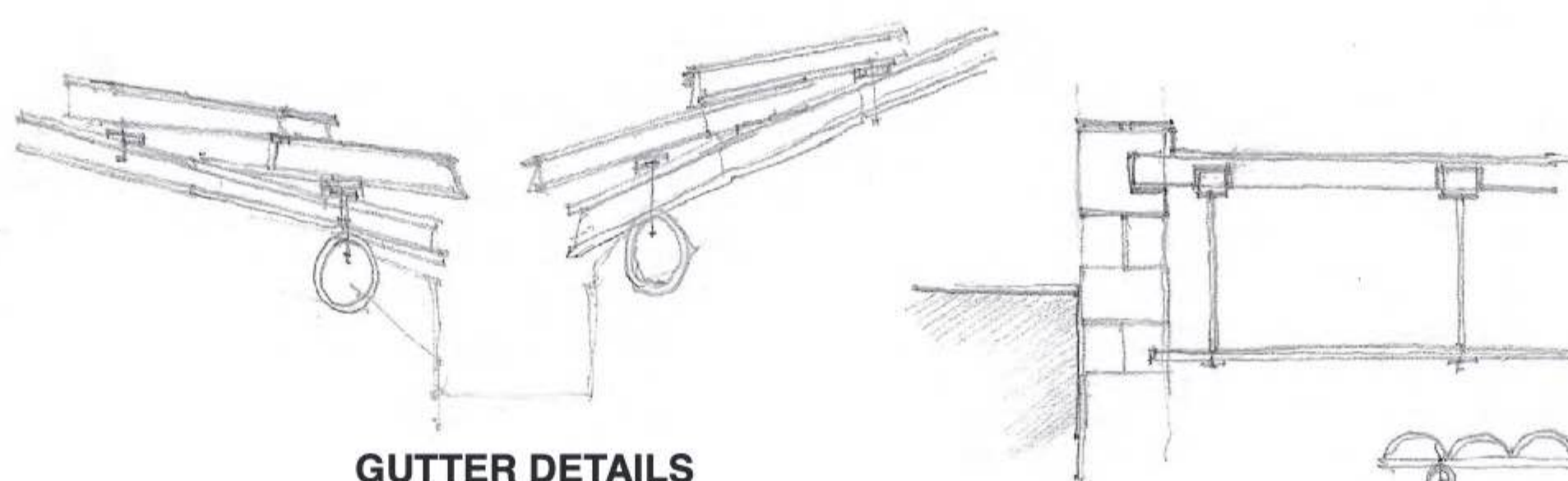
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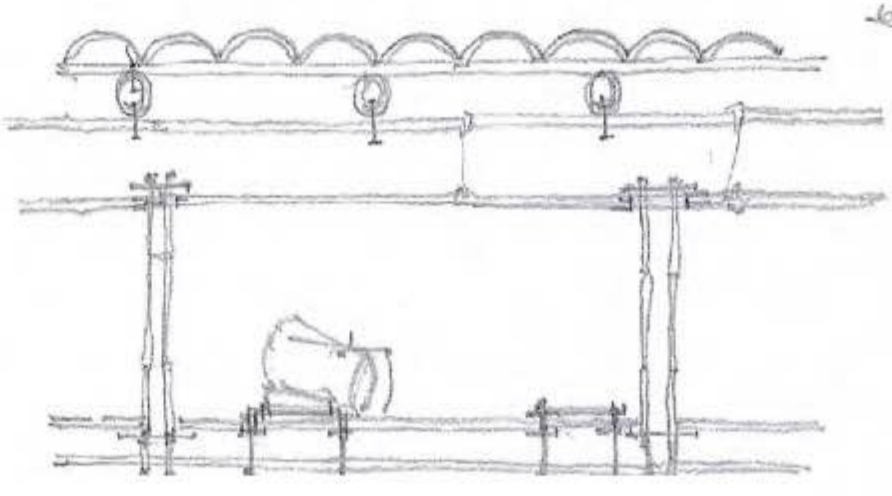
COLUMN DETAIL EXPLORATION



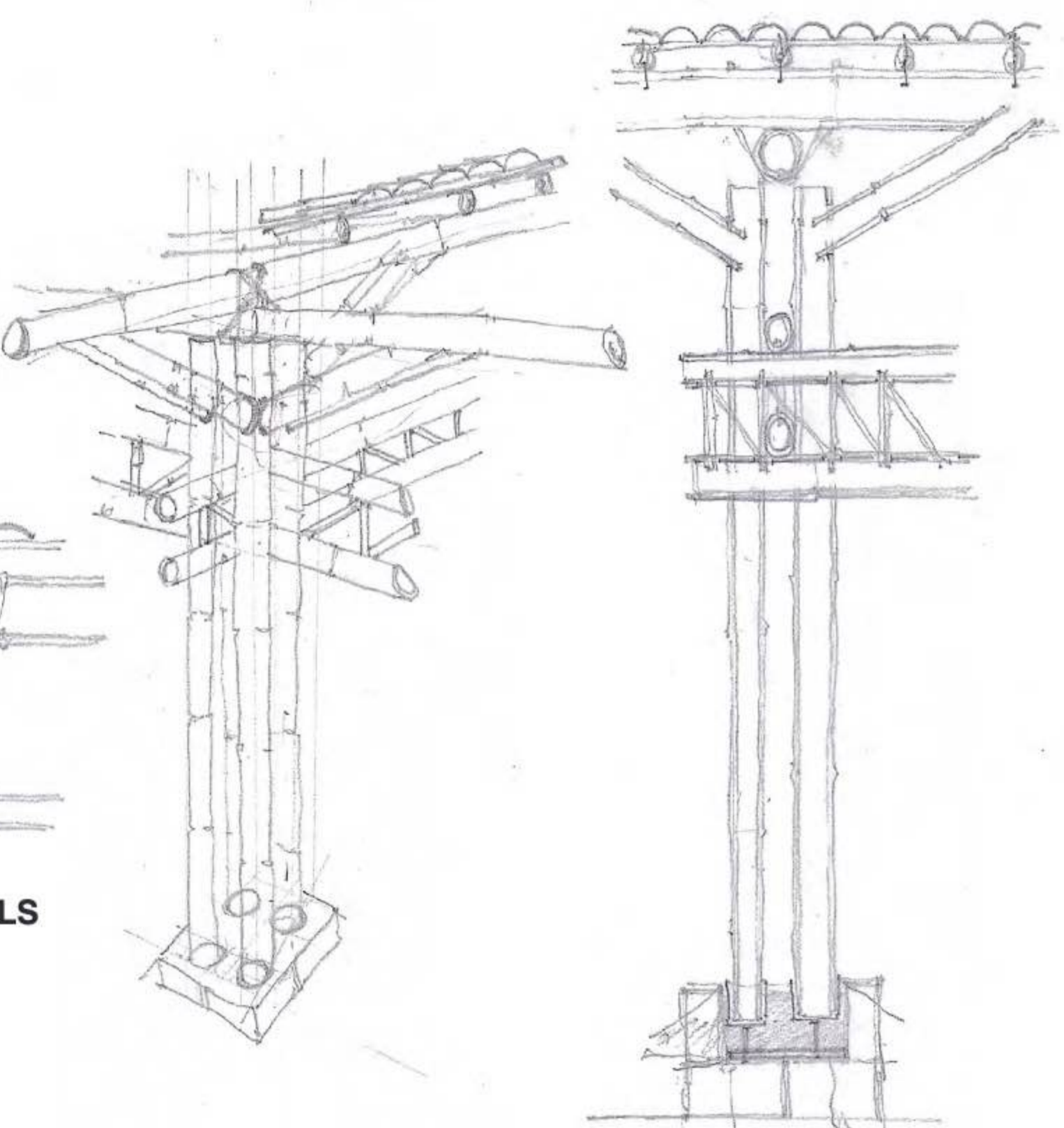
GUTTER DETAILS

DETAIL DESIGN STRATEGIES

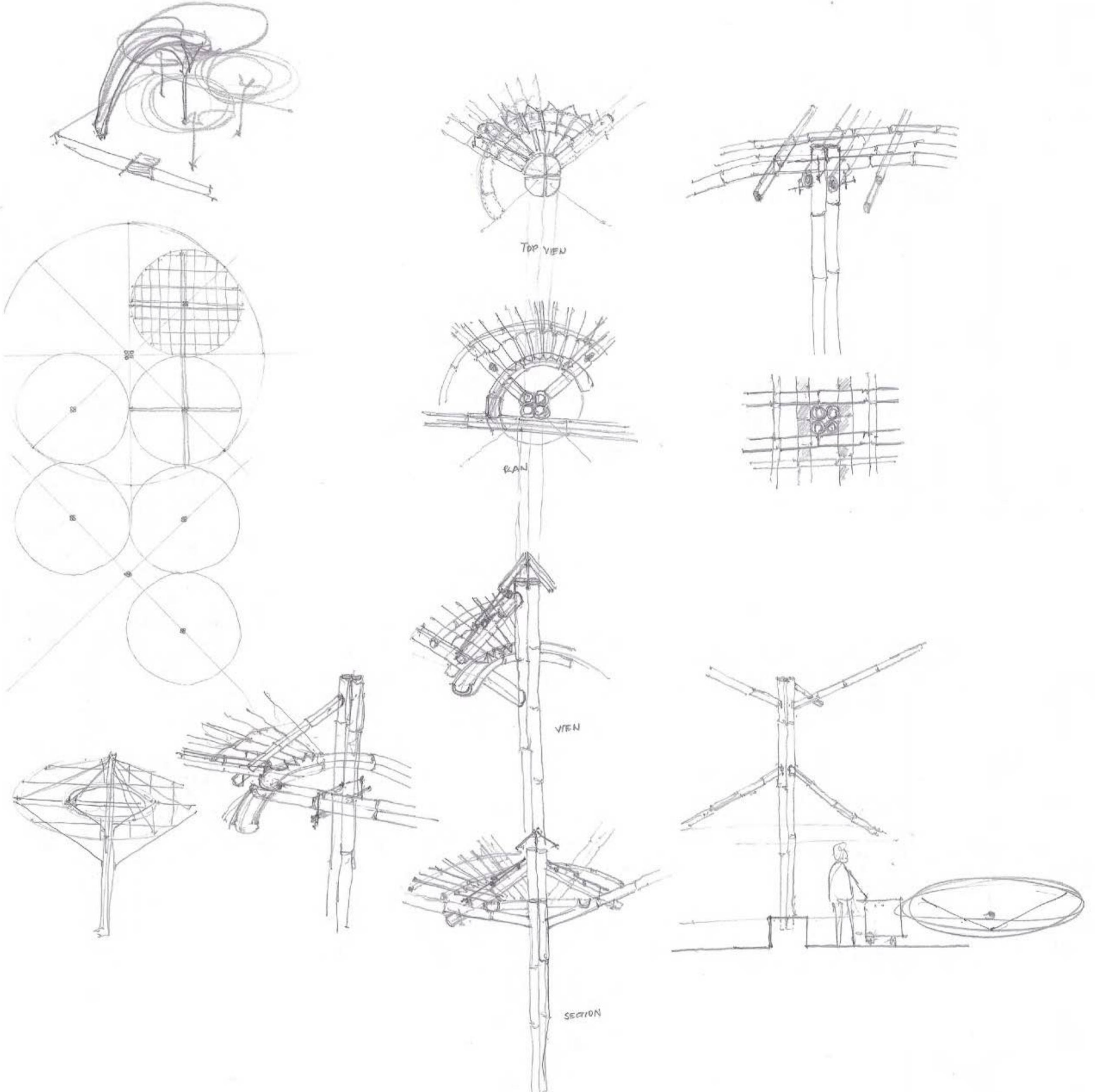
The design strategies and material choices come together to create an architecture that strengthens the sacred landscape rather than competing with it. By using natural, locally sourced materials and low-impact construction methods, the proposal respects the ecological fragility of the grove while supporting cultural rituals and daily use. Every spatial decision from pathways and thresholds to gathering areas was shaped to maintain the site's biodiversity, enhance community engagement, and preserve its spiritual atmosphere. Ultimately, the design demonstrates how thoughtful architecture can coexist with tradition and ecology, creating a built environment that is sustainable, meaningful, and deeply rooted in its place.



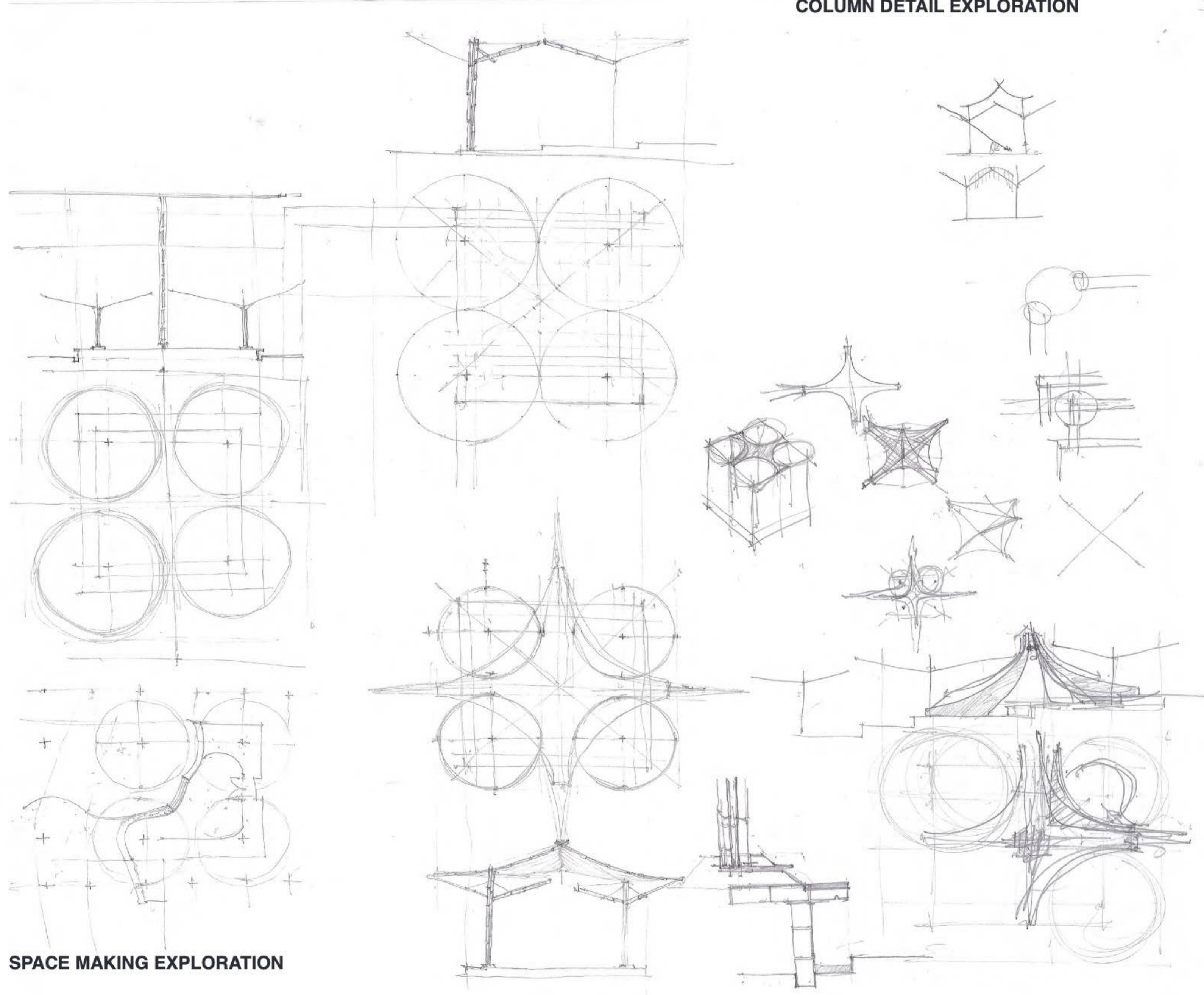
PERFORMANCE STAGE DETAILS



COLUMN DETAIL EXPLORATION



DETAILS AND JOINERY EXPLORATION IN BAMBOO

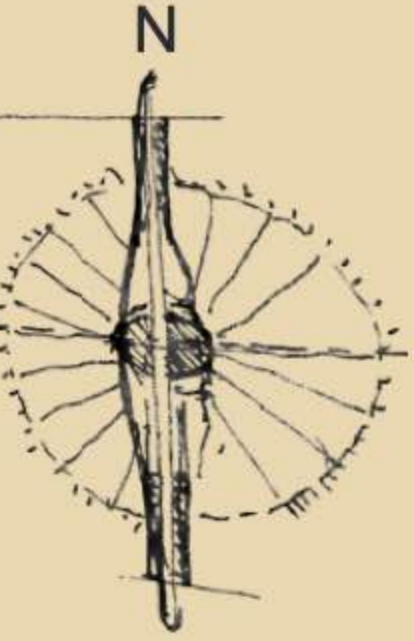


SPACE MAKING EXPLORATION



EXPERIENCE DIAGRAMS

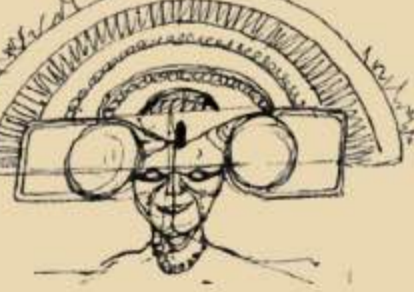
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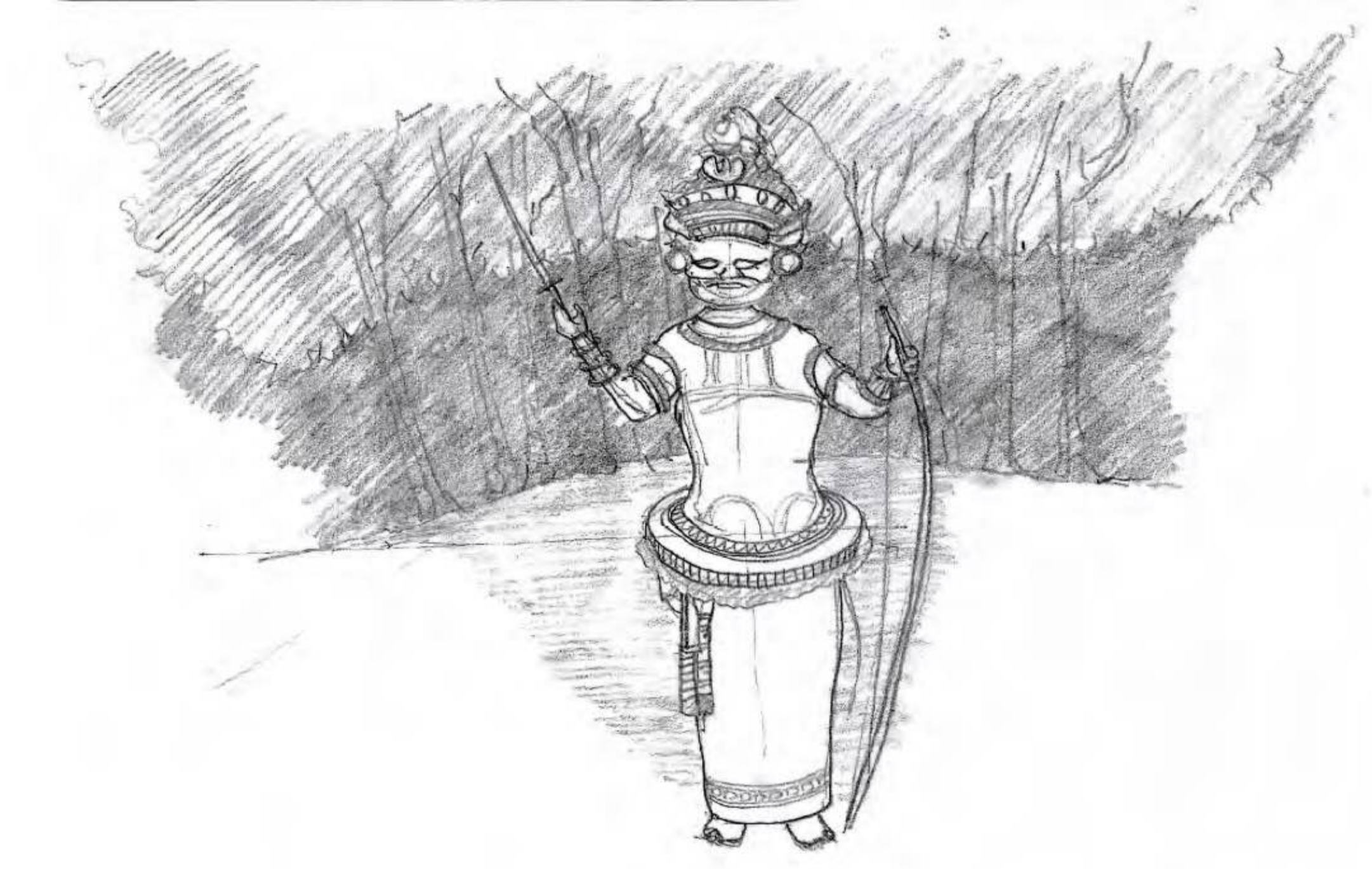
ATHIRU
BOUNDARY
Stitching sacred boundary

EXPRESSION DIAGRAMS

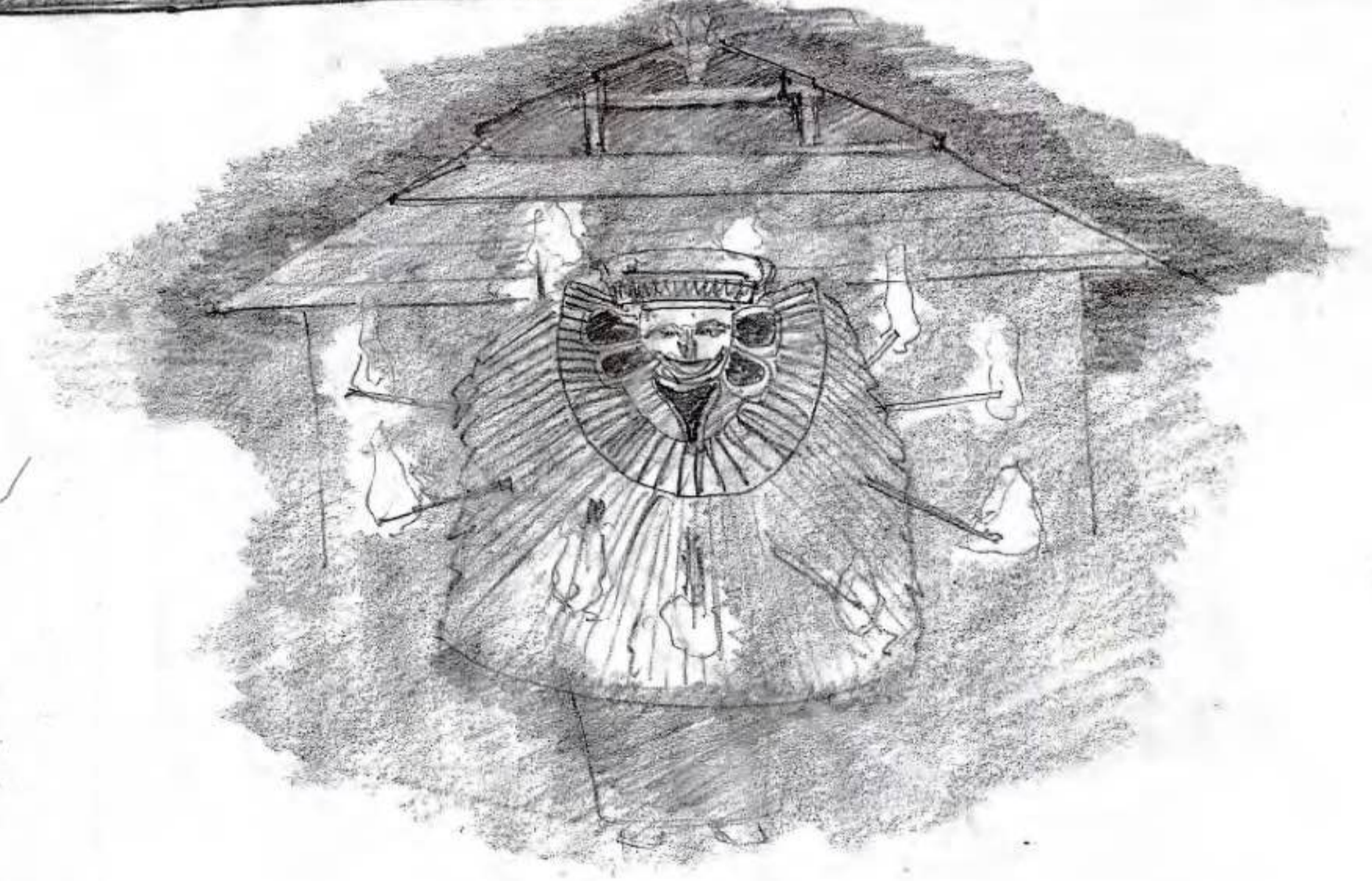
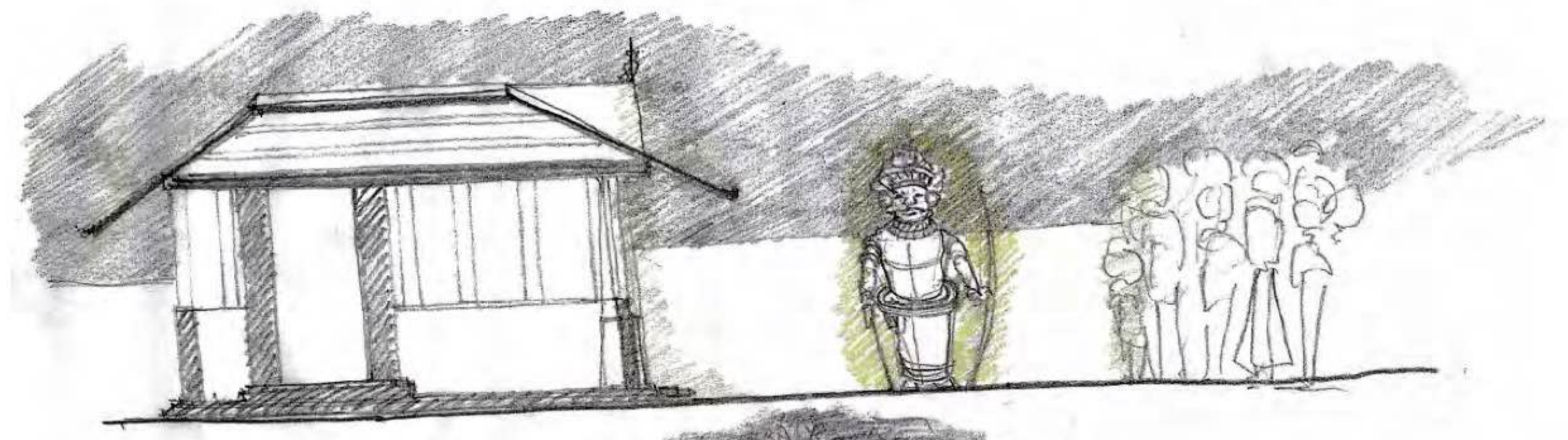
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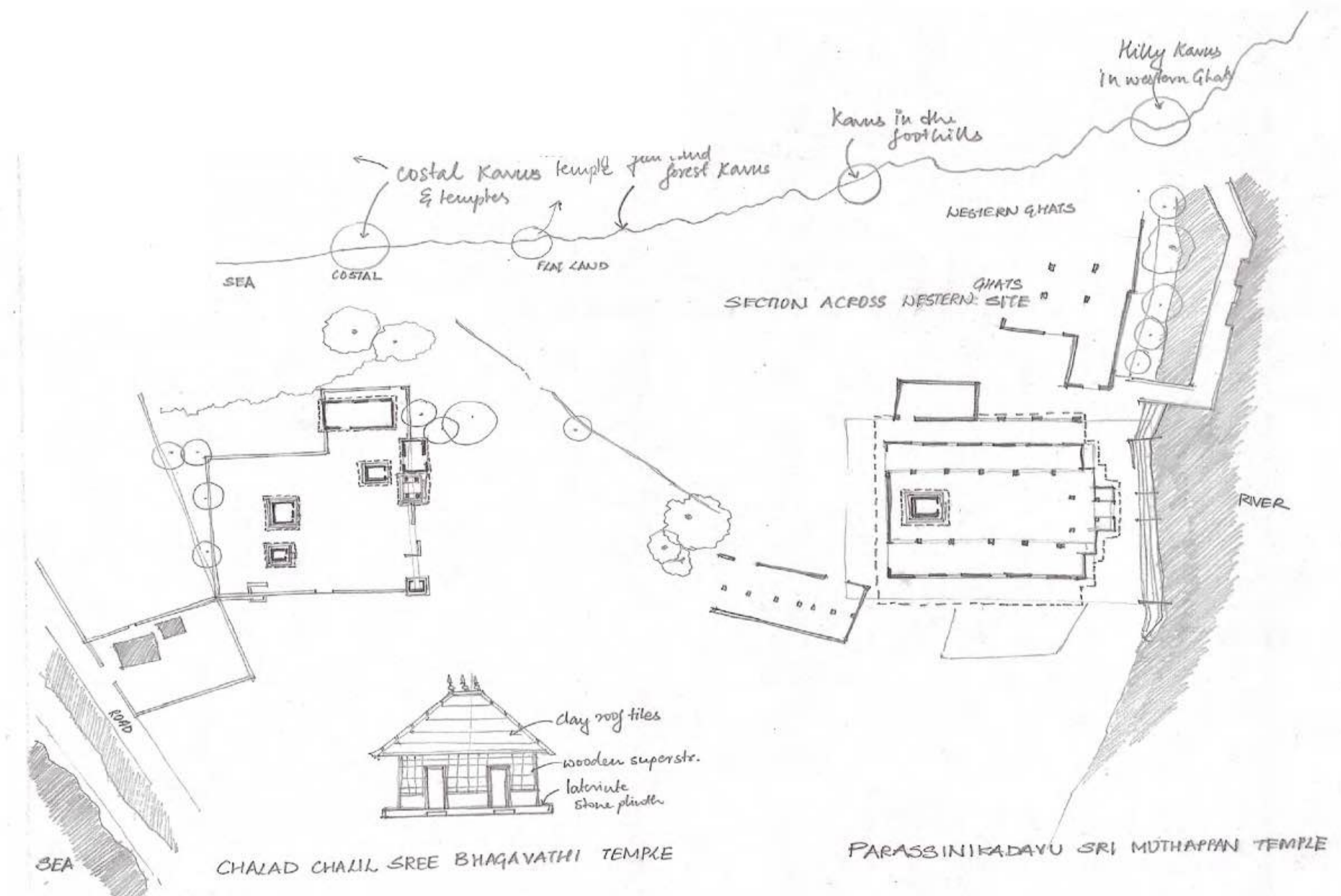
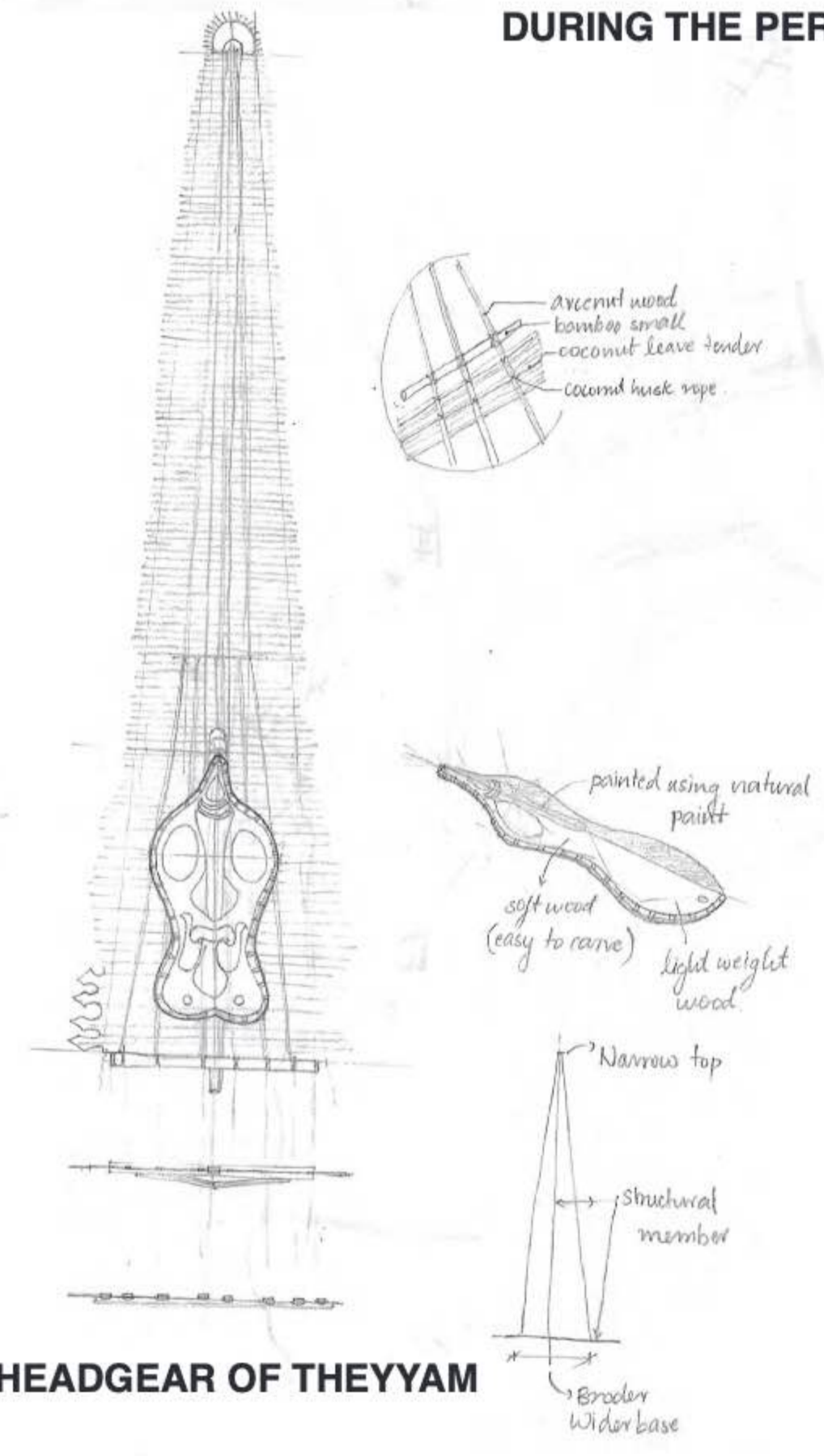


SREE MUTHAPPAN THEYYAM



PERFORMANCE EXPERIENCE

DURING THE PERFORMANCE THE NIGHT EXPERIENCE

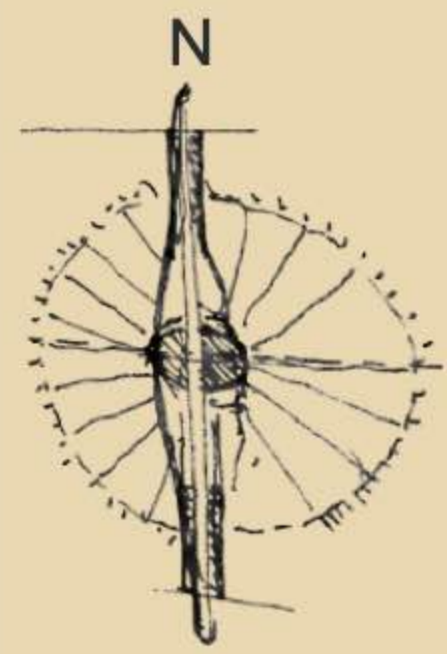


OTHER TEHYAM SHRINES FAMOUS IN KANNUR





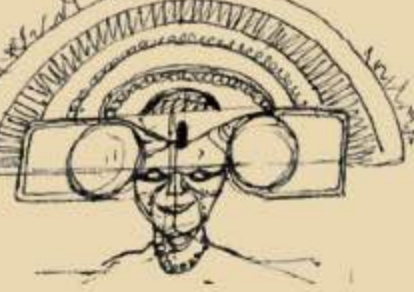
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ATHIRU BOUNDARY

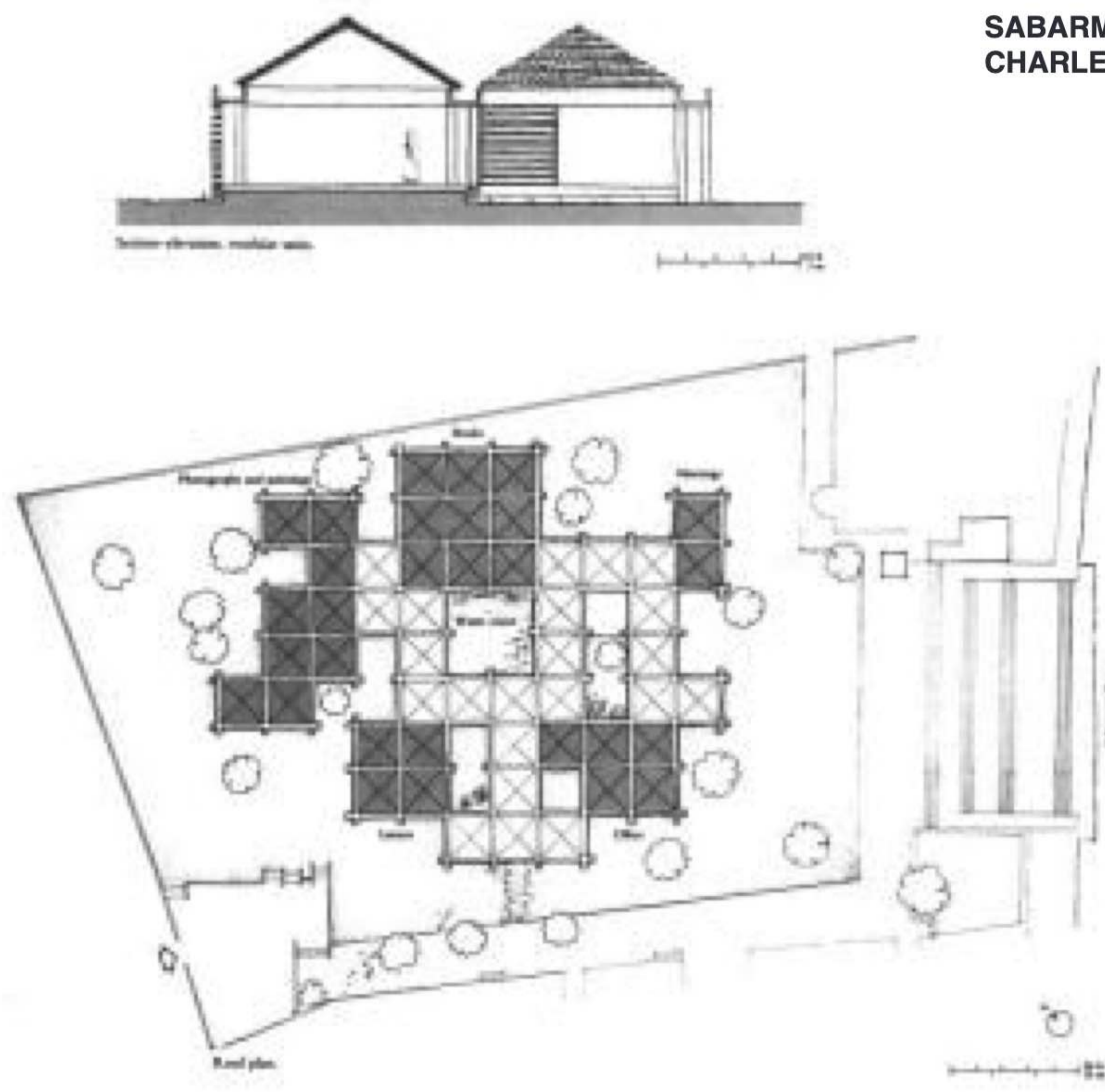
CASE STUDY

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SABARMATI ASHRAM, AHMEDABAD BY CHARLES CORREA



KEY INFERENCES FOR THIS THESIS PROJECT

- Use simple, local materials and construction to reflect honesty and groundedness
- Create open, breathable spaces that allow culture and nature to flow freely.
- Use pathways that guide movement slowly and connect people to the central sacred space.
- Plan buildings as smaller volumes around open courtyards instead of one big structure.
- Allow movement across open spaces so the user constantly experiences nature and the sacred landscape.
- Follow the idea of centrality (like the water courtyard) to keep the design rooted in a strong
- Maintain a balance of tradition + modern needs, just like Correa did.

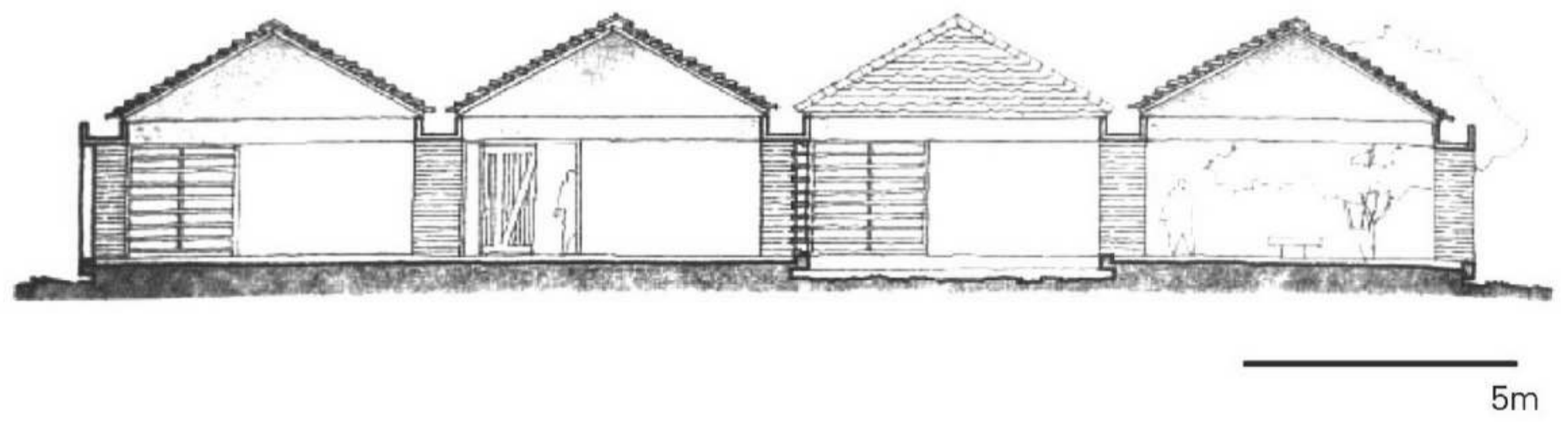


SITE PLANING



MODULE VIEWS

BLOOMING BAMBOO HOUSE BY H&P ARCHITECTS



KEY ARCHITECTURAL INFERENCES FOR THIS THESIS PROJECT

- Use natural, fast-renewable materials (like bamboo or local alternatives) that support the ecological goals of my sacred landscape.
- Look at lightweight structures that do not disturb the ground or the natural ecosystem of the kavu.
- Explore modular planning that can adapt to rituals, seasonal changes, or different community needs.
- Raise or lighten structures so they work well with water-based landscapes, especially in areas with sensitive hydrology.
- Use simple joinery and construction techniques that local communities can engage with or maintain easily.
- Allow spaces to open and close, responding to weather, rituals, or ecological conditions.
- Focus on climate-responsive design that uses natural ventilation, shading, and breathable materials.



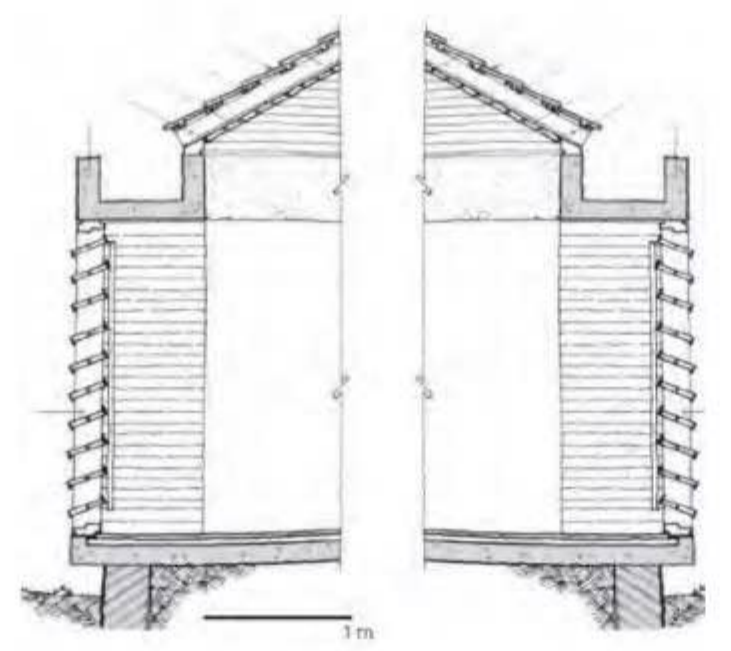
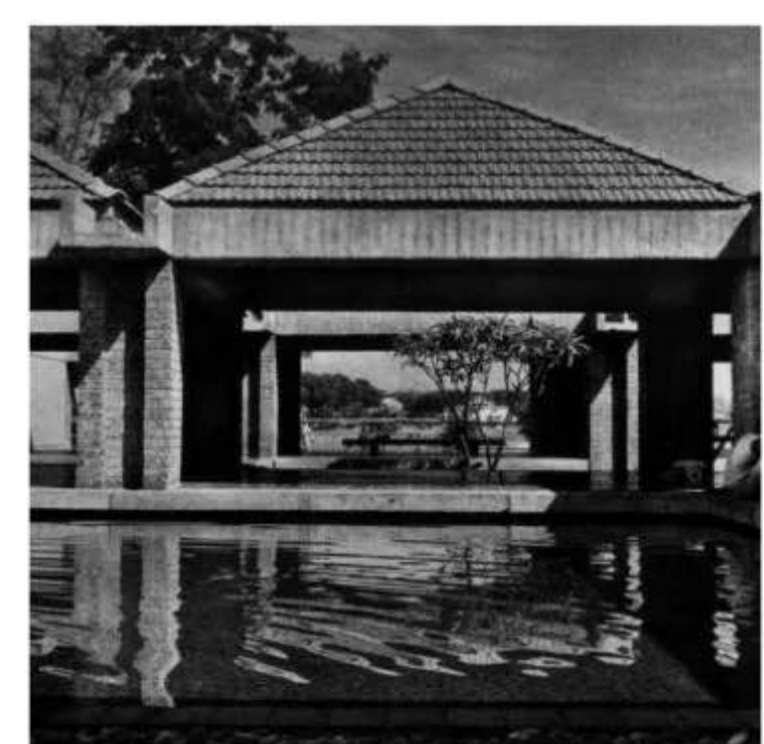
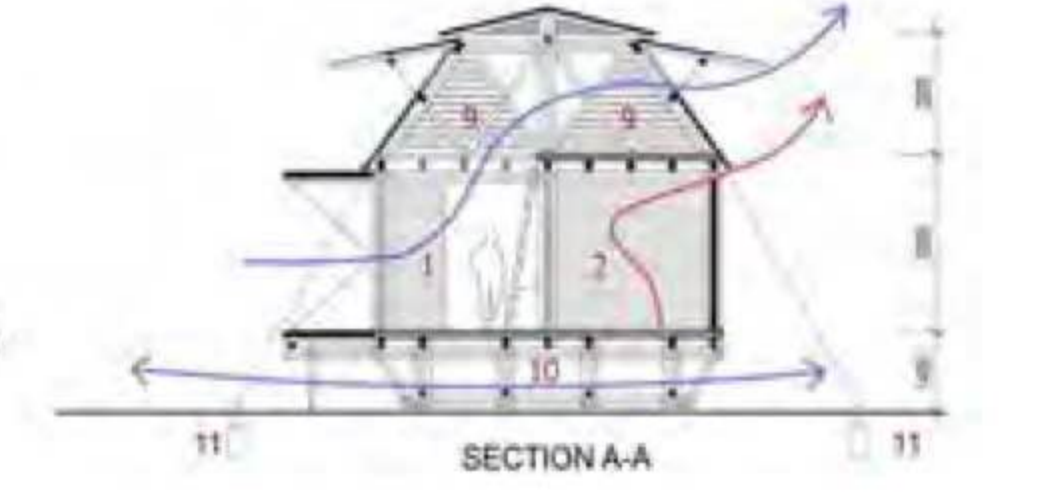
INTERIOR VIEWS



ROOF PROFILES



- 1. Living room
- 2. Bedroom
- 3. WC
- 4. Bathroom
- 5. Kitchen
- 6. Stair
- 7. Laundry + Drying
- 8. Outdoor terrace
- 9. Indoor terrace (sleeping + learning + worship)
- 10. area breed animal / plant
- 11. Anchor steel
- 12. Rain water tank
- 13. Clean water tank (filtered)
- 14. Waste water tank
- 15. Water for gardening
- 16. Discharged to (after treated)
- 17. Filter tank for rain water
- 18. Rain water cleaned and returned to the environment (underground reloading)

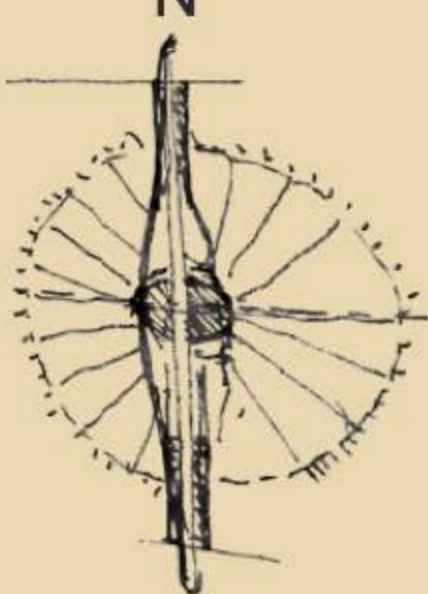


Source: <https://www.gandhiashramsabarmati.org/en/> , <https://www.dezeen.com/2013/09/25/blooming-bamboo-house-by-h-and-p-architects/>



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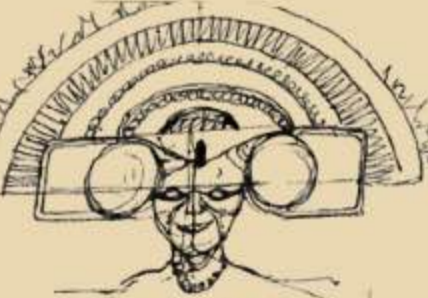
BOUNDARY



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LANDSCAPE MASTER PLAN STRAGIES

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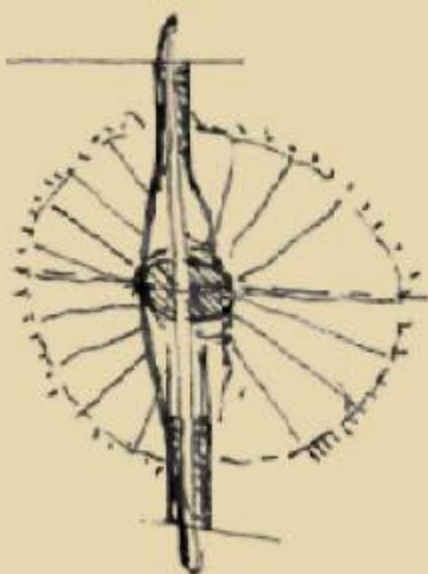




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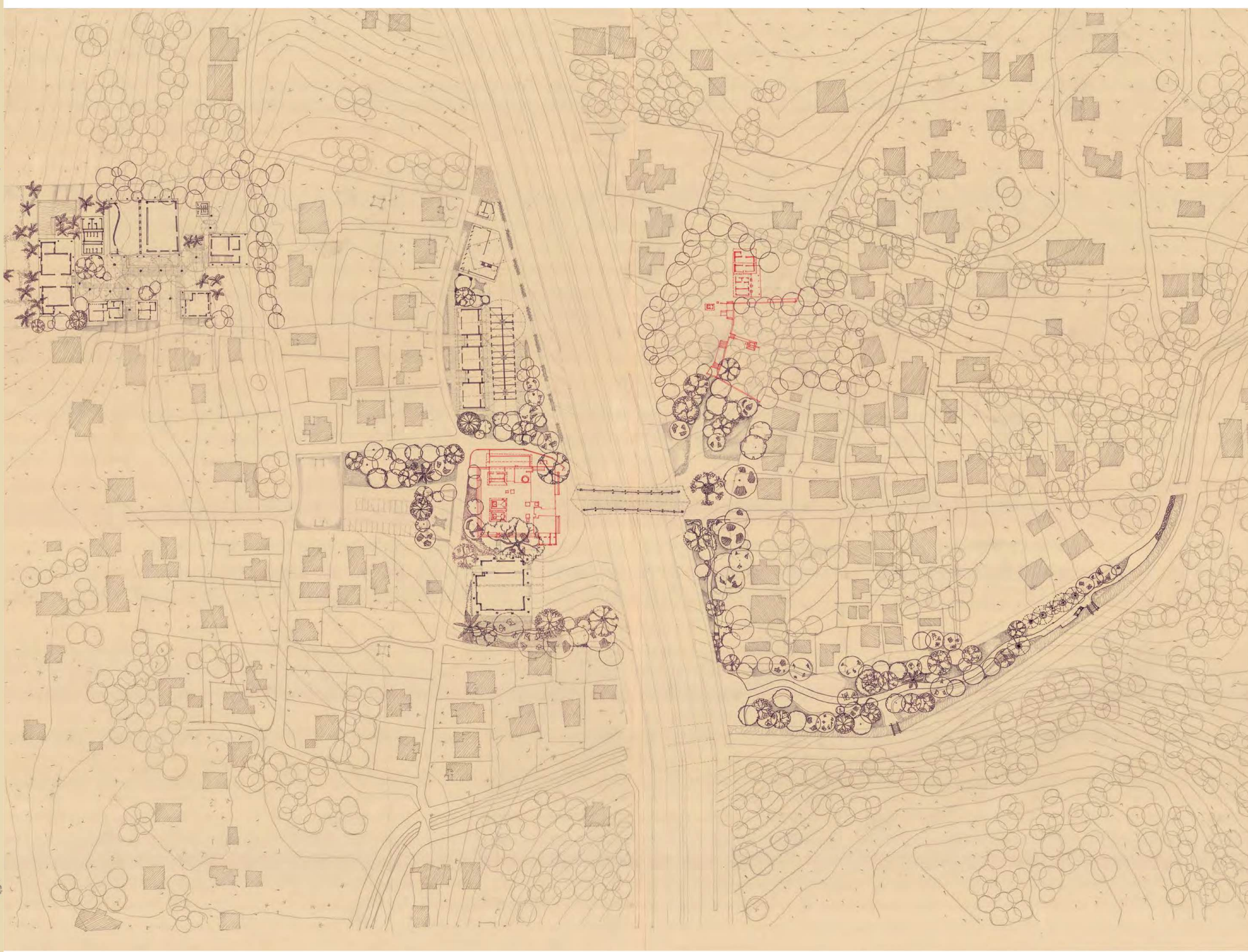


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BOUNDARY

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MASTER PLAN



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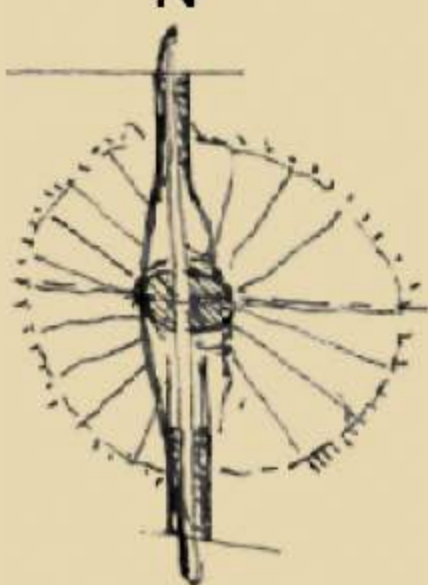


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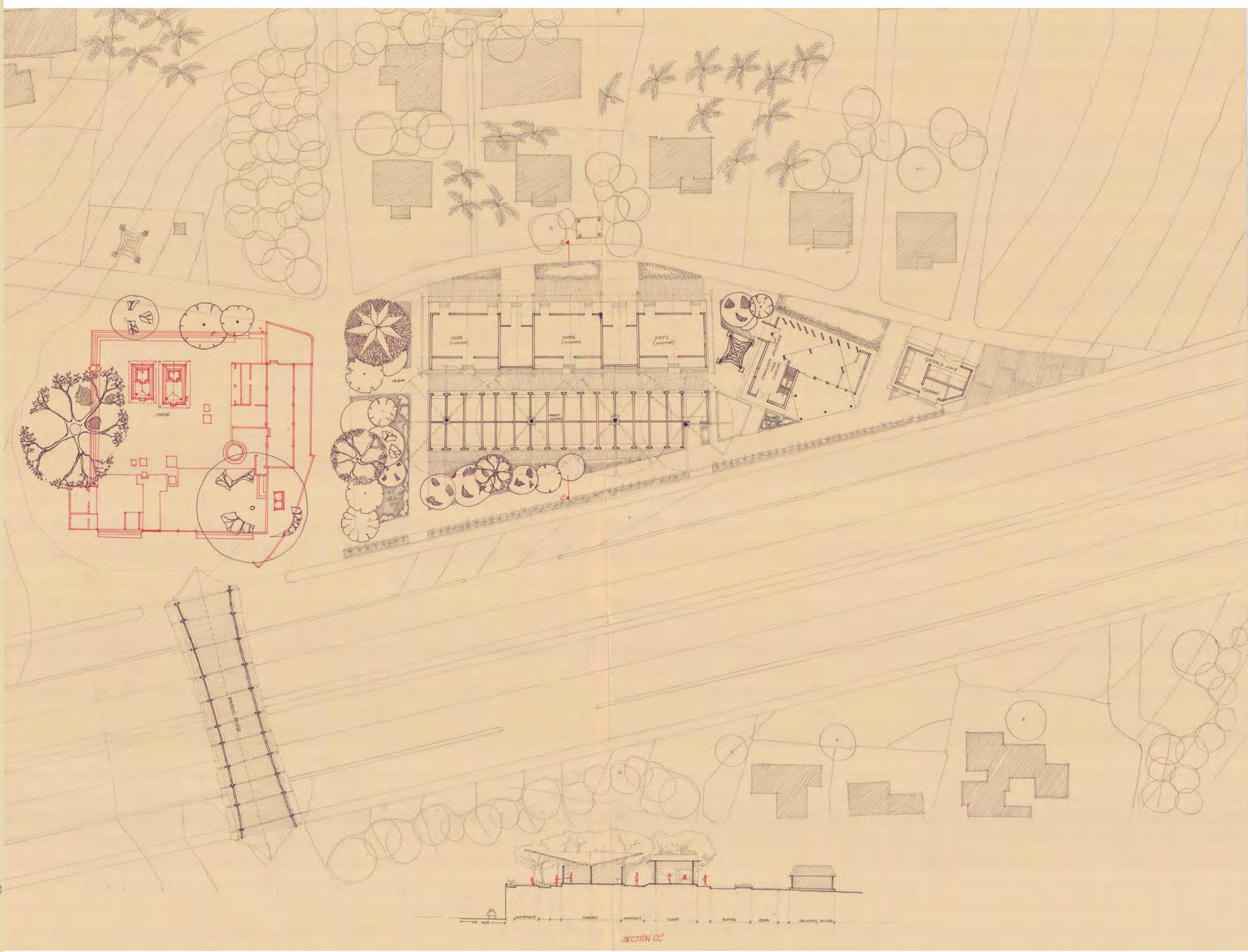


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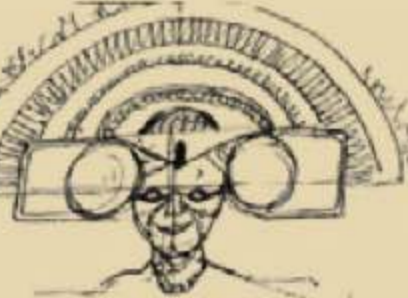
BOUNDARY

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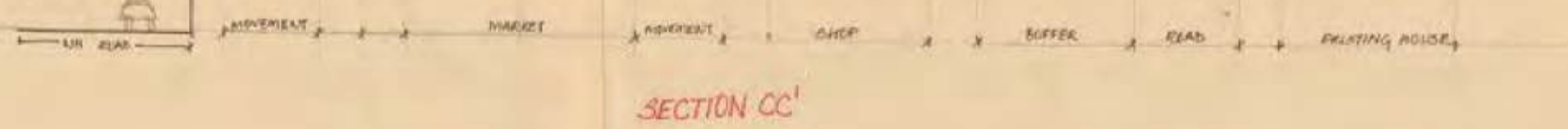
MARKET SITE PLAN



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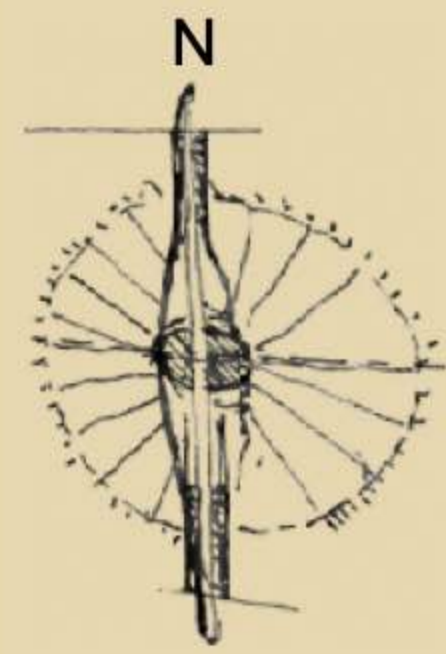
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SECTION CC1



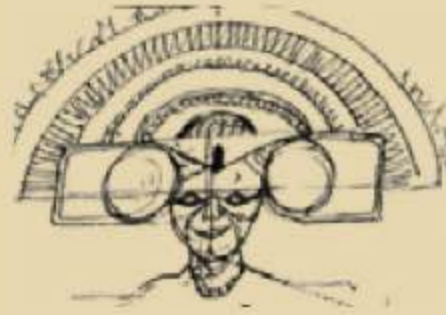
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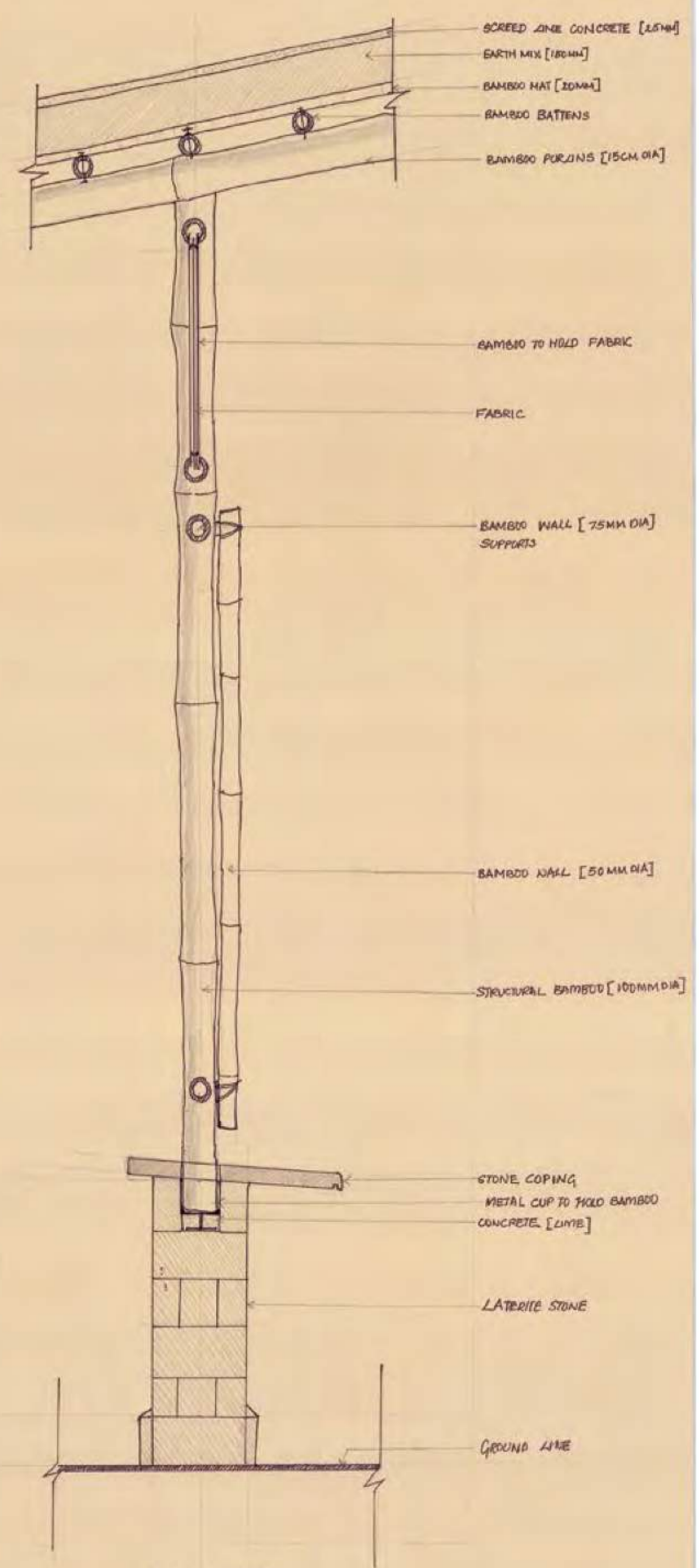
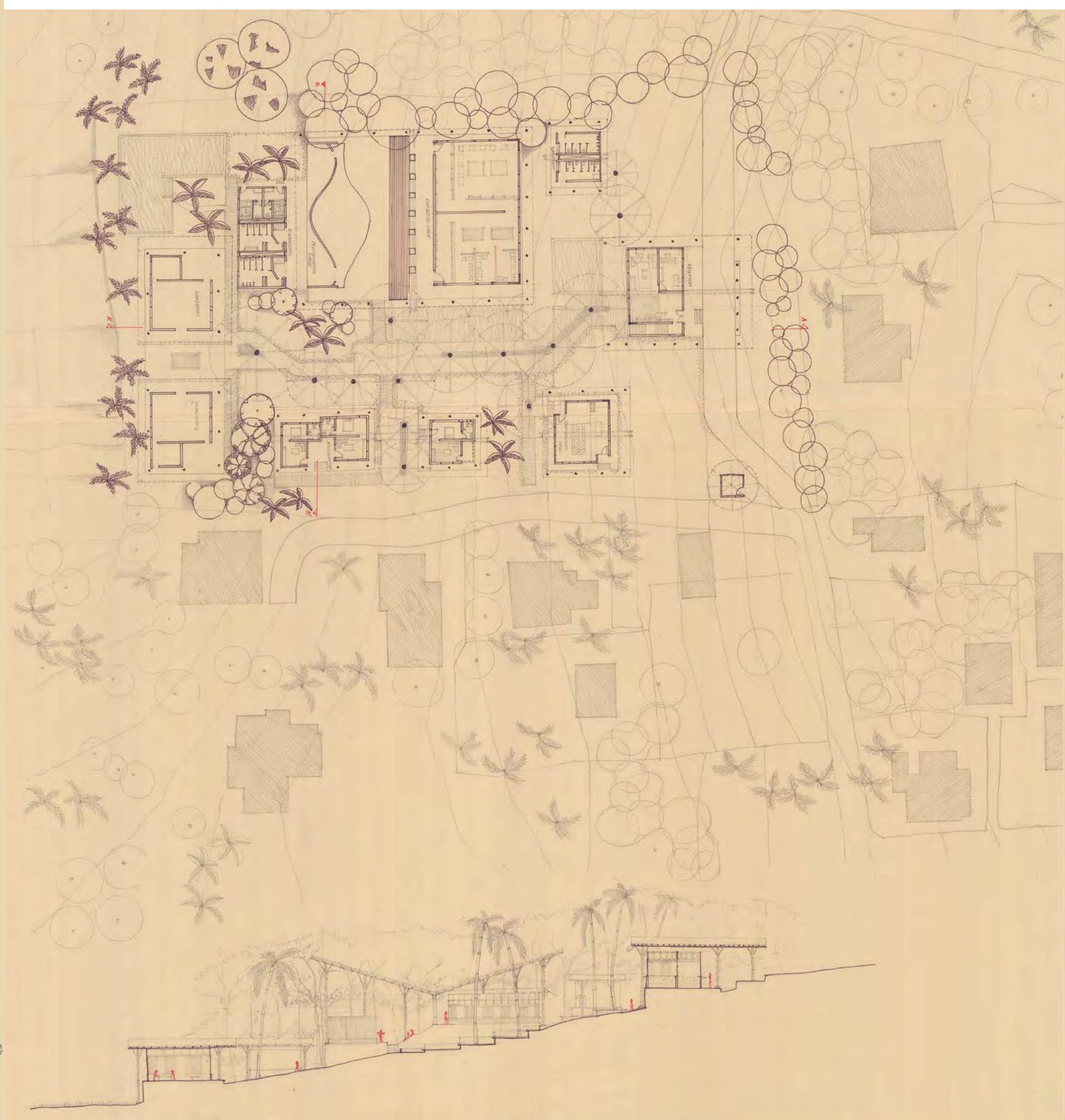
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CULTURAL HUB SITE PLAN

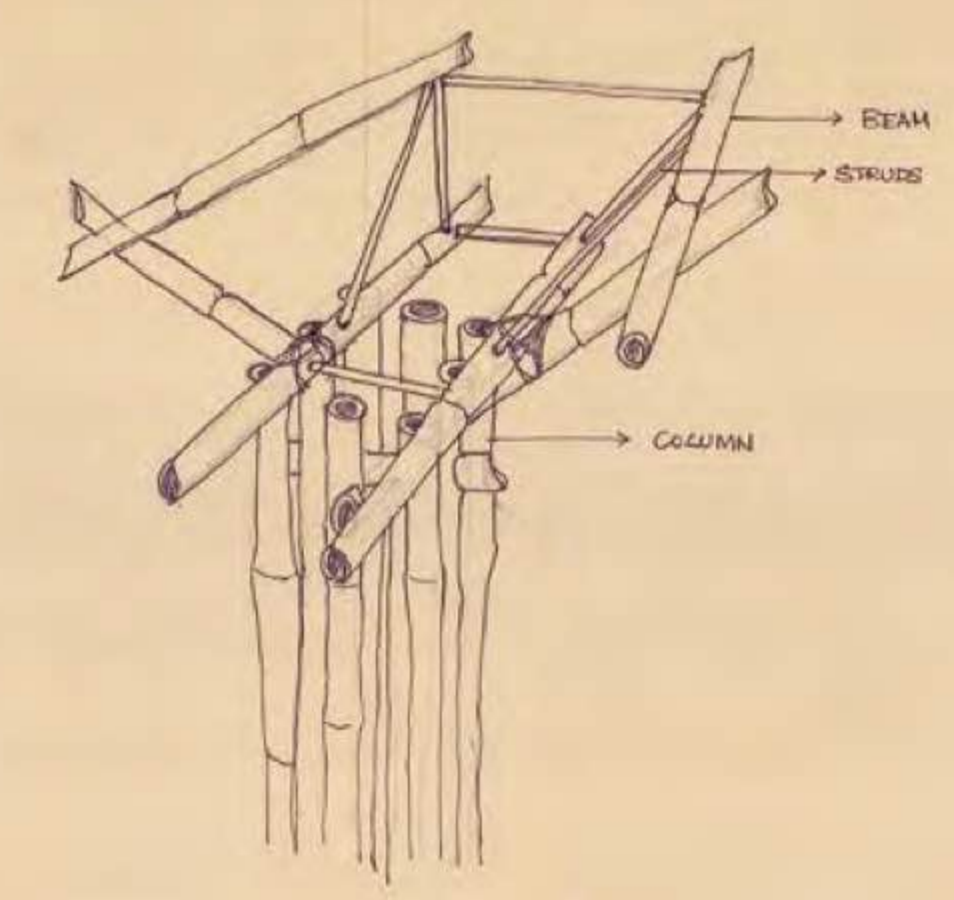
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WALL SECTION
1:10



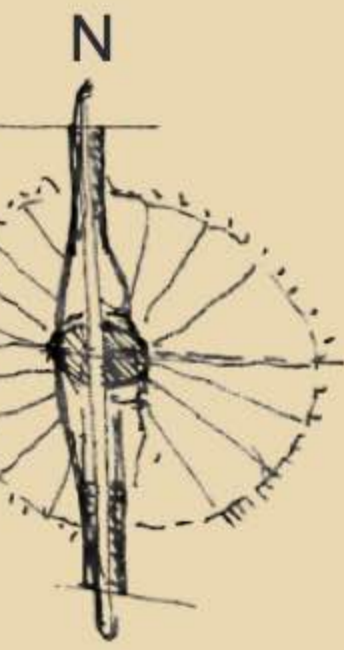
BEAM TO COLUMN JOINERY DETAIL
1:20

- SORED ZONE CONCRETE [15CM]
- EARTH MIX [15CM]
- BAMBOO MAT [10MM]
- BAMBOO BATTENS
- BAMBOO PURLINS [15CM DIA]
- BAMBOO TO HOLD FABRIC
- FABRIC
- BAMBOO WALL [75MM DIA] SUPPORTS
- BAMBOO WALL [50MM DIA]
- STRUCTURAL BAMBOO [100MM DIA]
- STONE COPING
METAL CUP TO HOLD BAMBOO
CONCRETE [1CM]
- LATERITE STONE
- GROUND LINE

- BEAM
- STRUDE
- COLUMN



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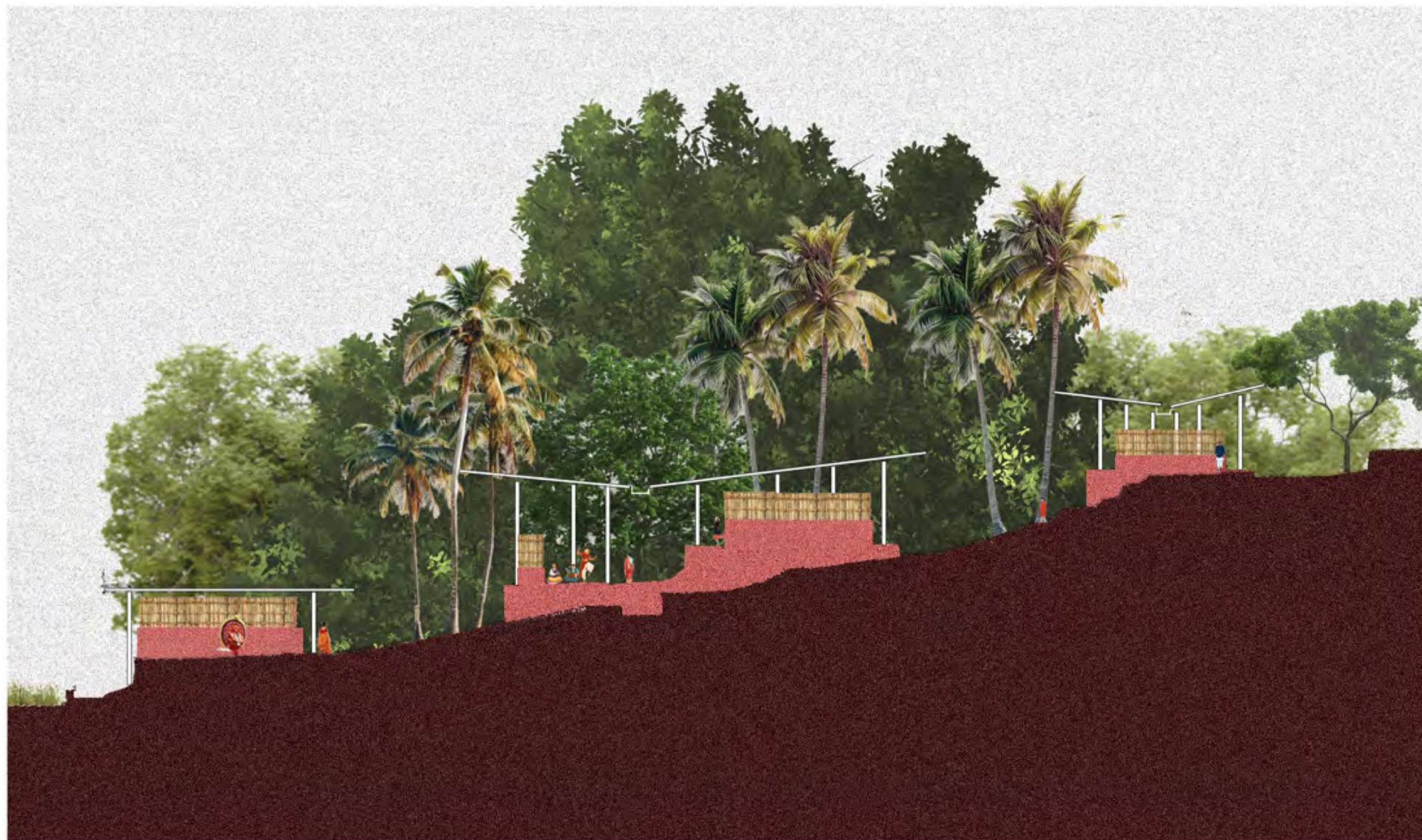


ATHIRU

BOUNDARY

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VISUALIZATION



VISUALIZATION SECTION



OUTSIDE THE ENTRANCE LOBBY



STAGE AREA FOR PERFORMANCES



PERFORMANCE AREA



WORKSHOP AREA



INSIDE THE SITE



OUTSIDE WORKING AREA

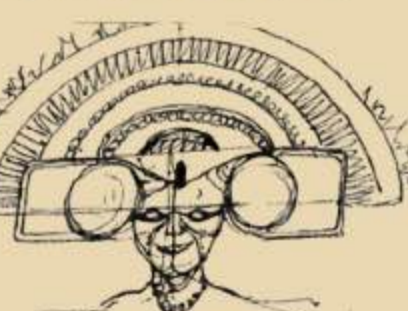


THE ENTRANCE LOBBY

THE MODEL RENDERS AND VISUALIZATION

This visualization sheet brings together all the key material palettes, textures, and rendered views to communicate the design intent clearly and cohesively. Each visual element highlights how the chosen materials interact with light, landscape, and built form, helping to convey the atmosphere and experience of the proposed spaces. The rendered perspectives illustrate spatial quality, scale, and user movement, while the material board anchors the design with a tangible sense of colour, texture, and finish. Together, these visuals present a complete and immersive understanding of how the project will look, feel, and function.

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