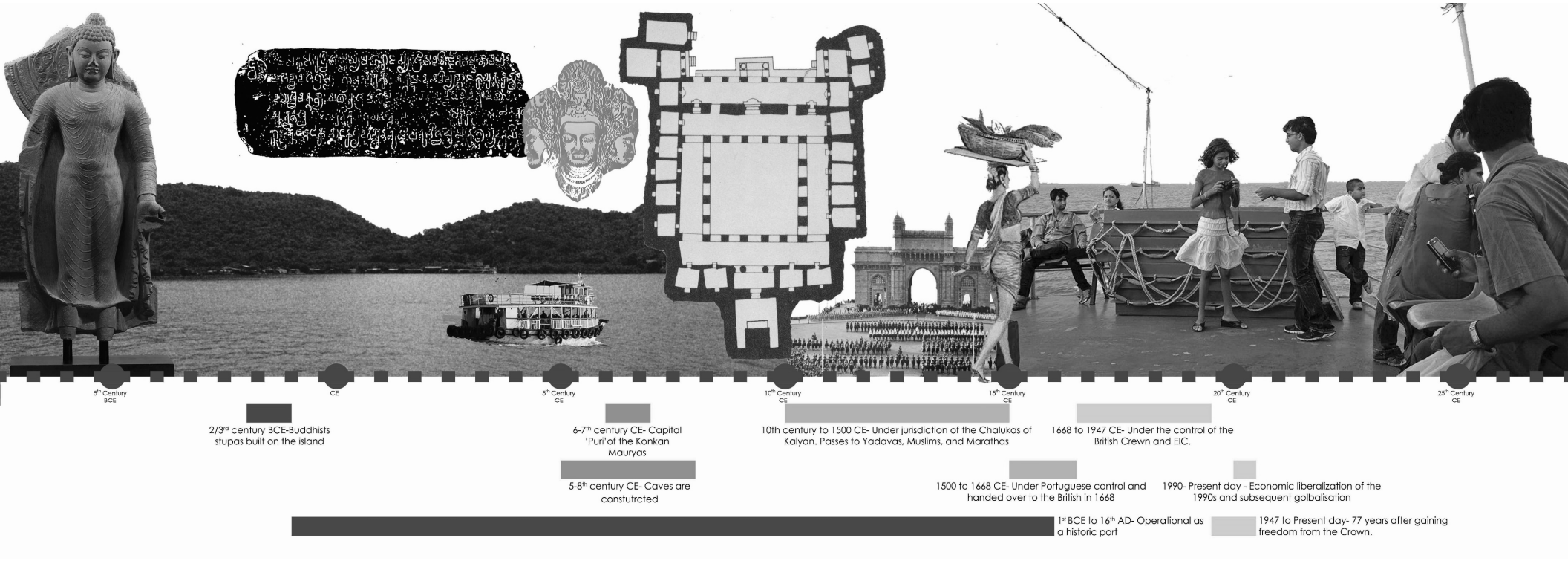
P5

Vihaan Shah - Explore Lab

Contemporary Pilgrimage-
The Case of Elephanta Island

A long multilayered history

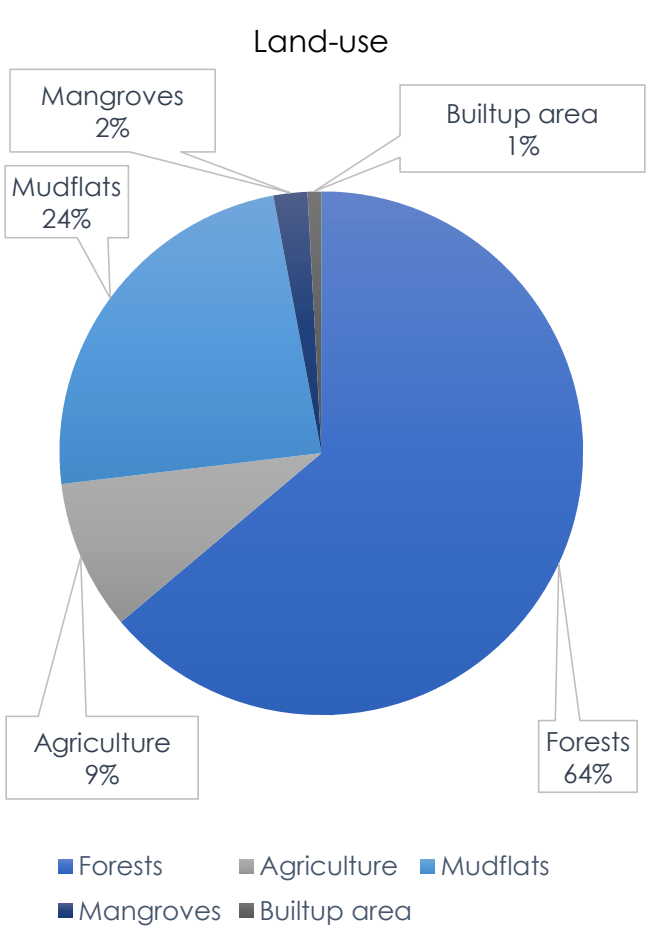


Timeline

The Trimurti. (Source- Raghu Rai/ Magnum Photos)

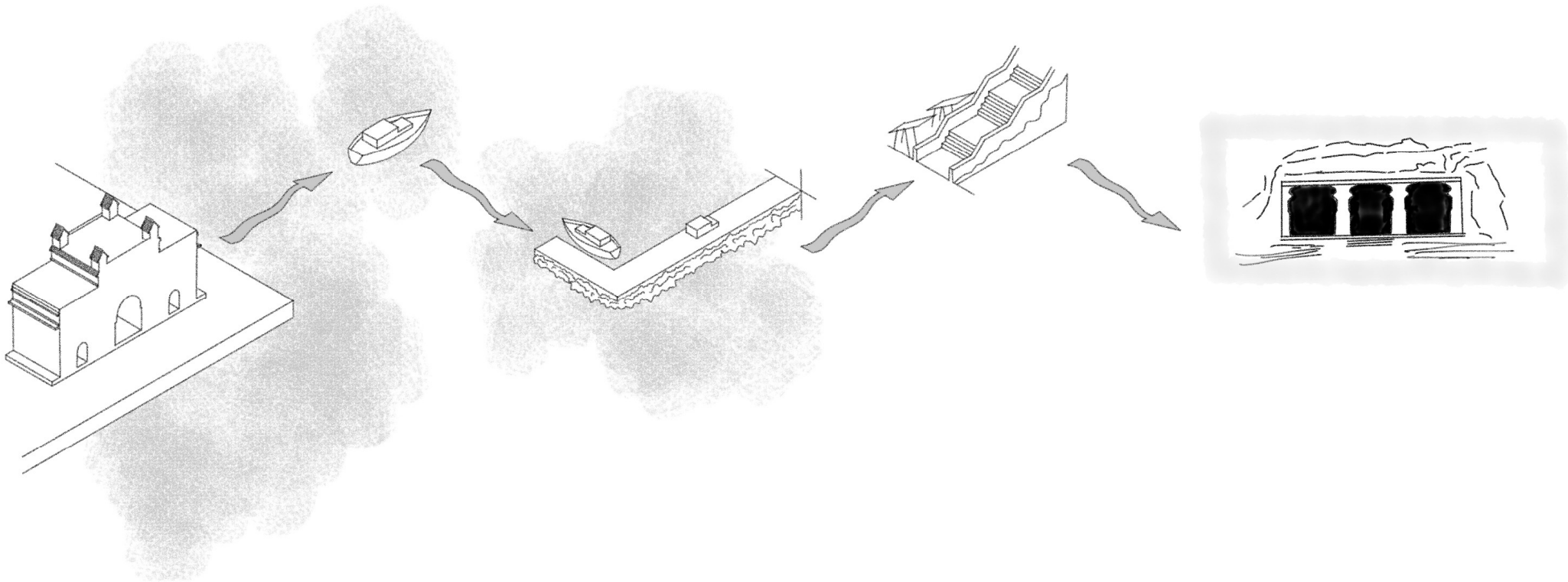
Site

Context



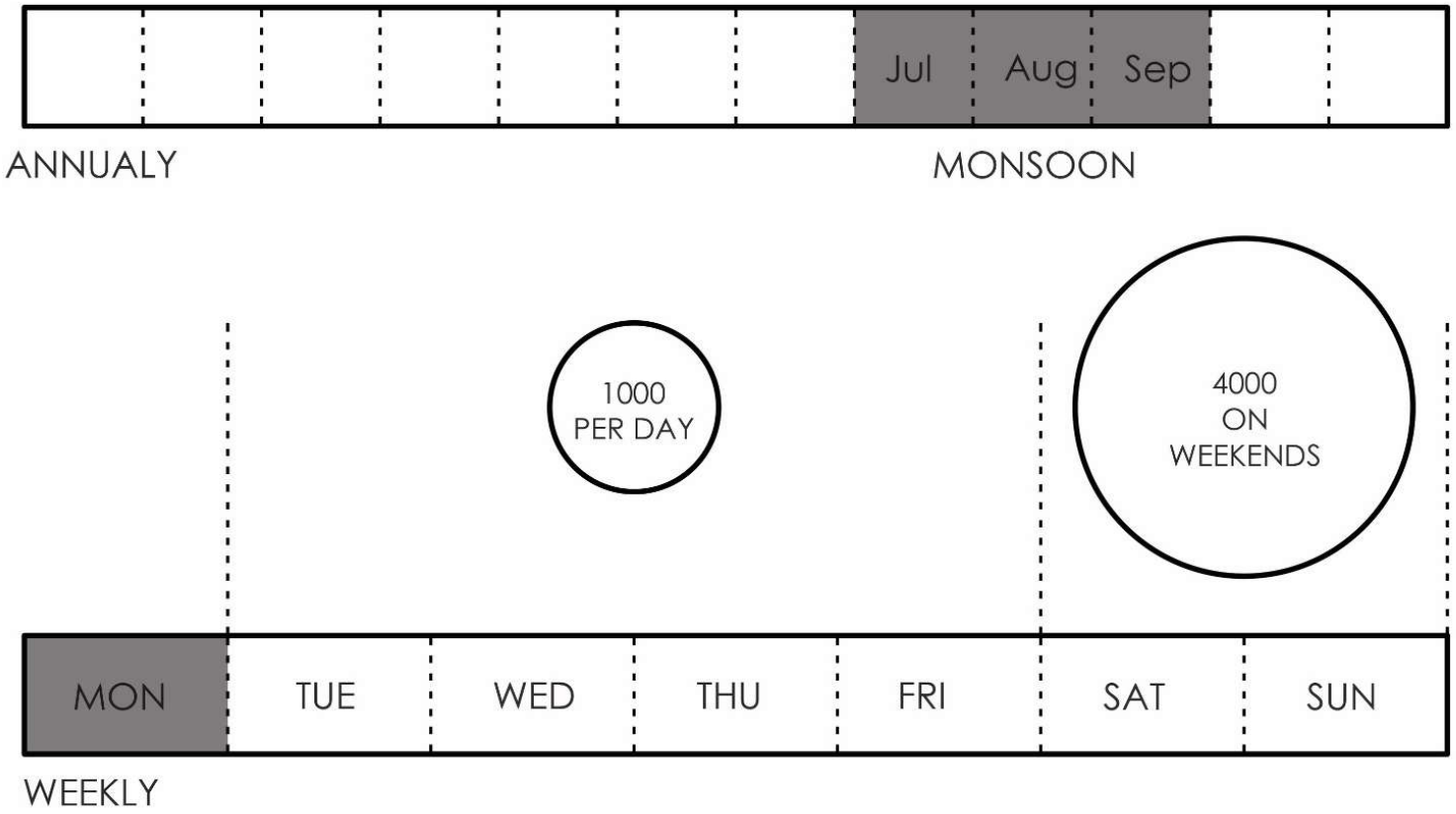
Source-Chakravarty, I. (2001)

Elephanta Island

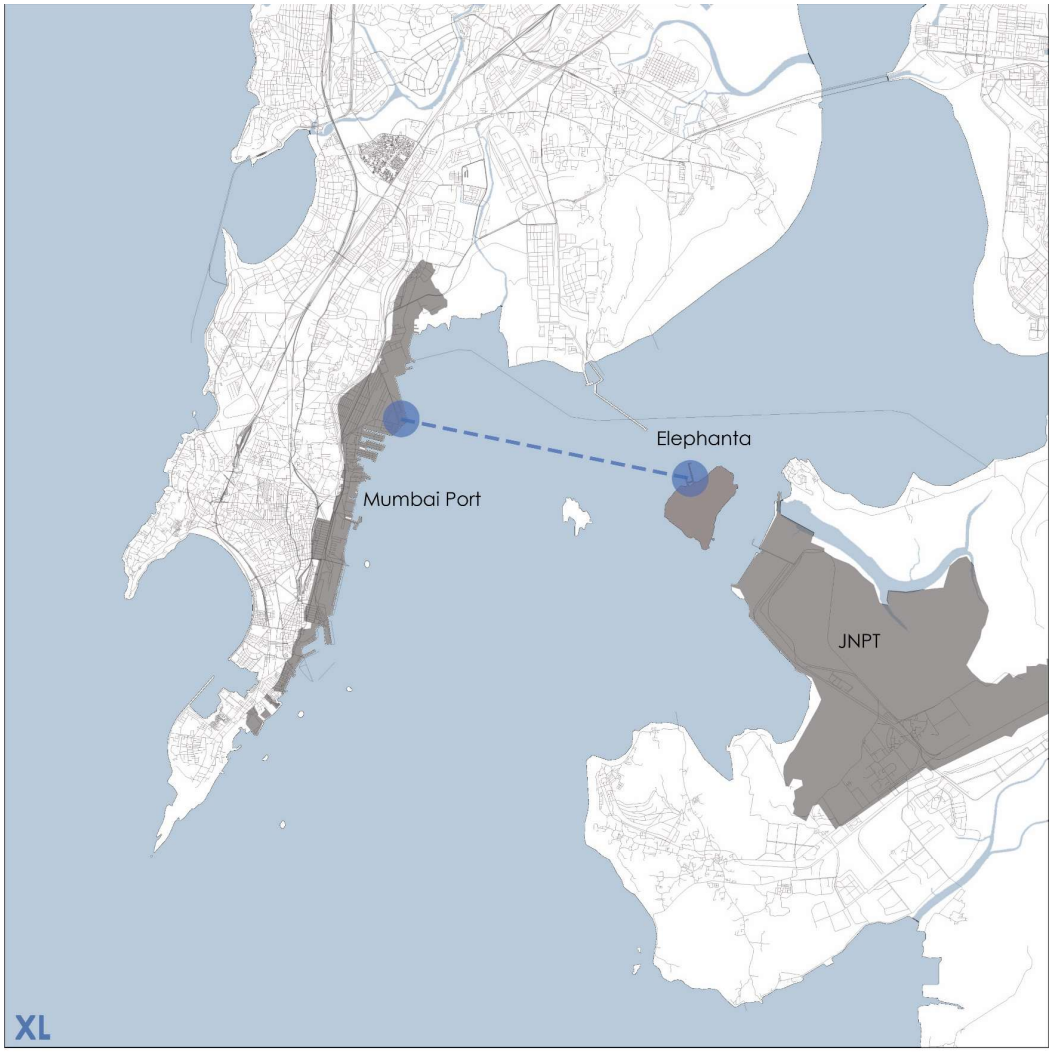


Gateway of India → By ferry → Elephanta pier → Heritage steps → Caves

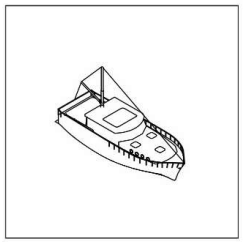
Journey

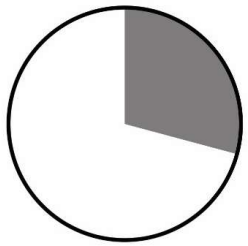


Visitor flows

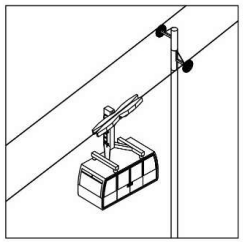


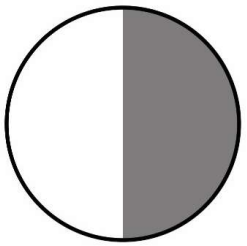
Upcoming ropeway





60-65 PER FERRY (7HR WINDOW)





20-30 PER CABIN (12HR WINDOW)

WEEKDAY

150
PER HR

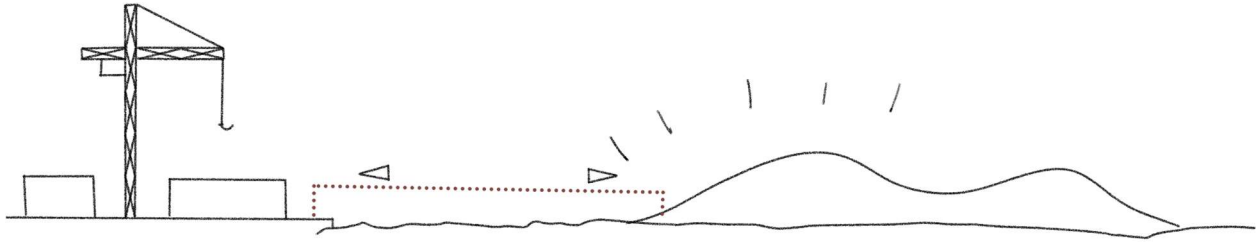
WEEKEND

600
PER HR

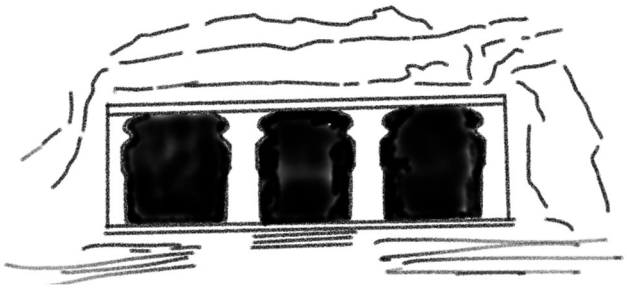
ASSUMED
700
PER HR

PROPOSED MAX-
1700 PER HR

Large influx

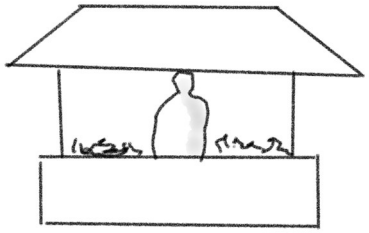


- Lack of infrastructure for this influx of visitors



- Protection of the site at risk

- Locals rely on the informal tourist economy

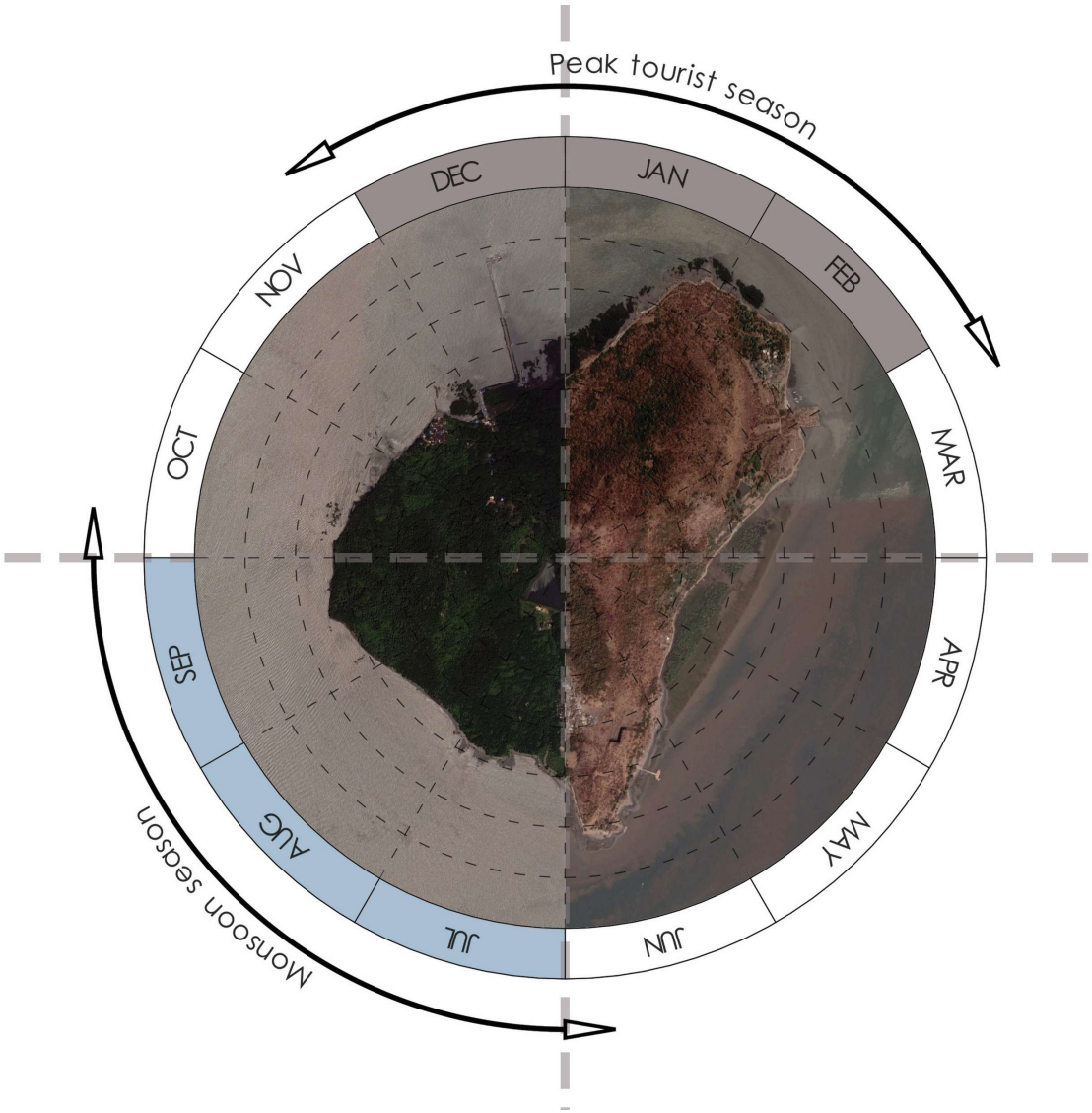


Problem statement

Lack of enough **drinking water**

No capacity for **septic waste management**

Invasive alien terrestrial **species**



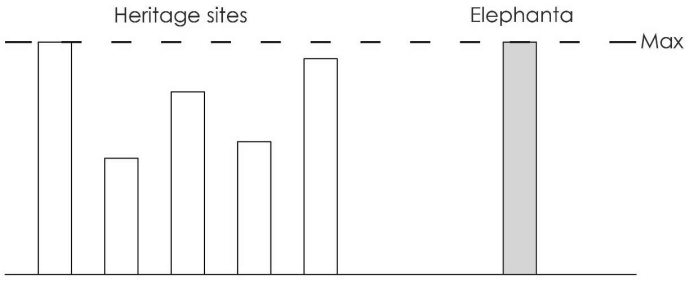
The need for Ecological Resilience

Informal economy **dependent** on tourism

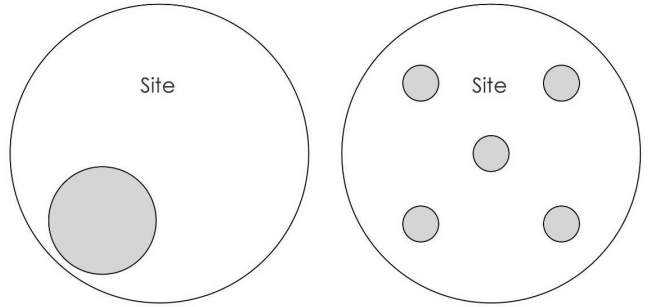
A souvenir shop at Elephanta Caves. (Source- Raghu Rai/ Magnum Photos)

Residents

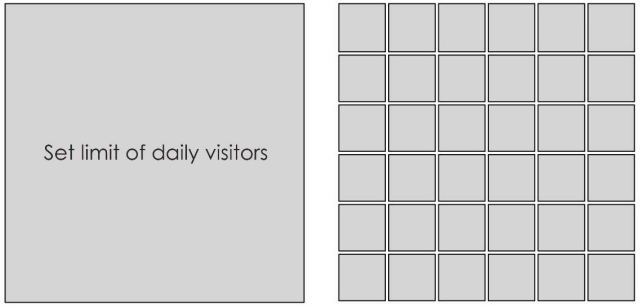
Strategy + Design



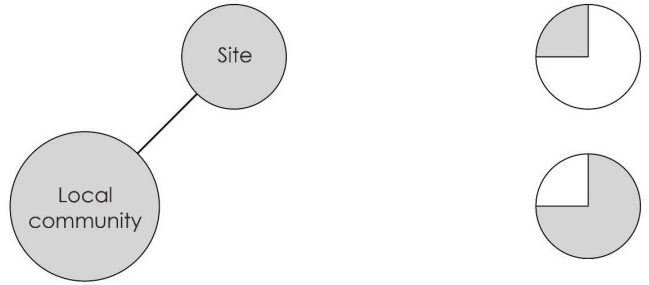
Setting a maximum limit



Spreading visitor groups evenly around the site



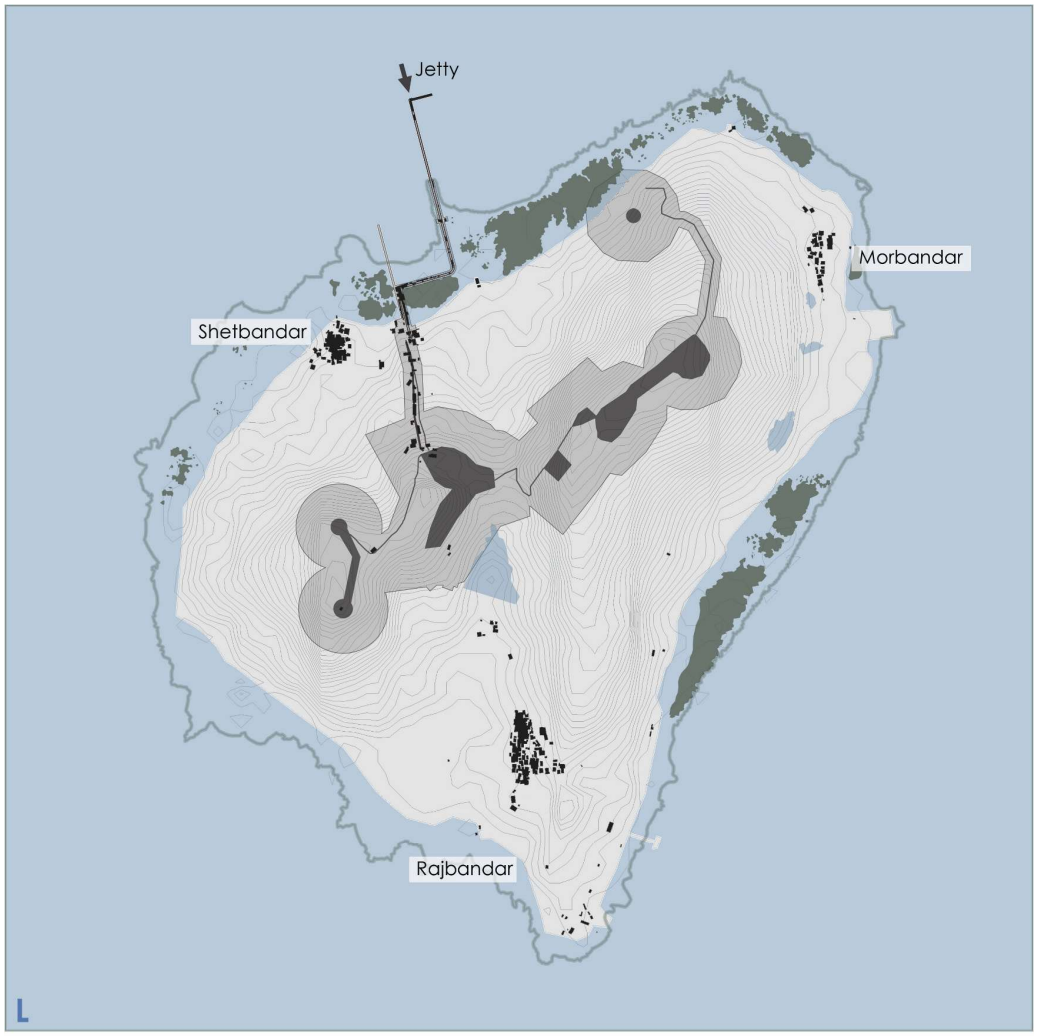
Breaking up visitors into smaller manageable groups



Increasing dwell time to positively impact local business

Methods of management

Managing visitor flows on the Island

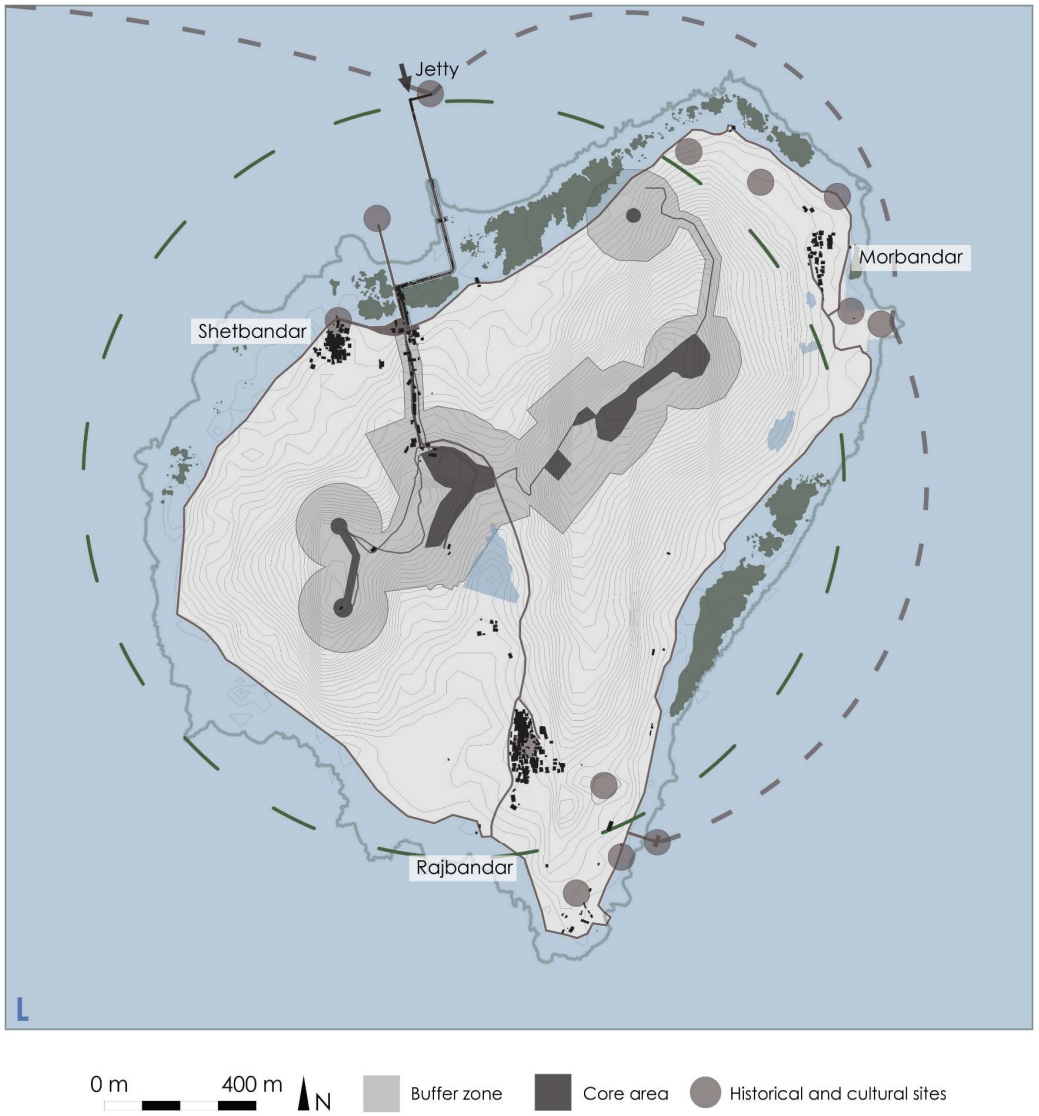


Proposal for the Island

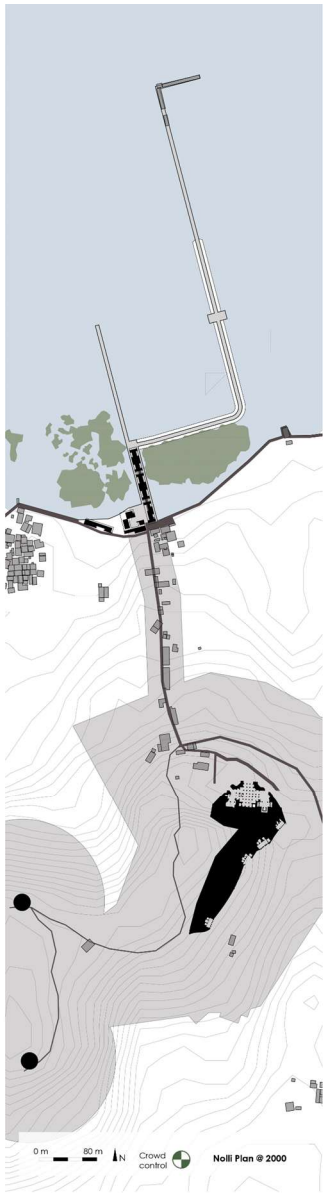
Spreading visitors around the island

Strengthening existing routes to other sites

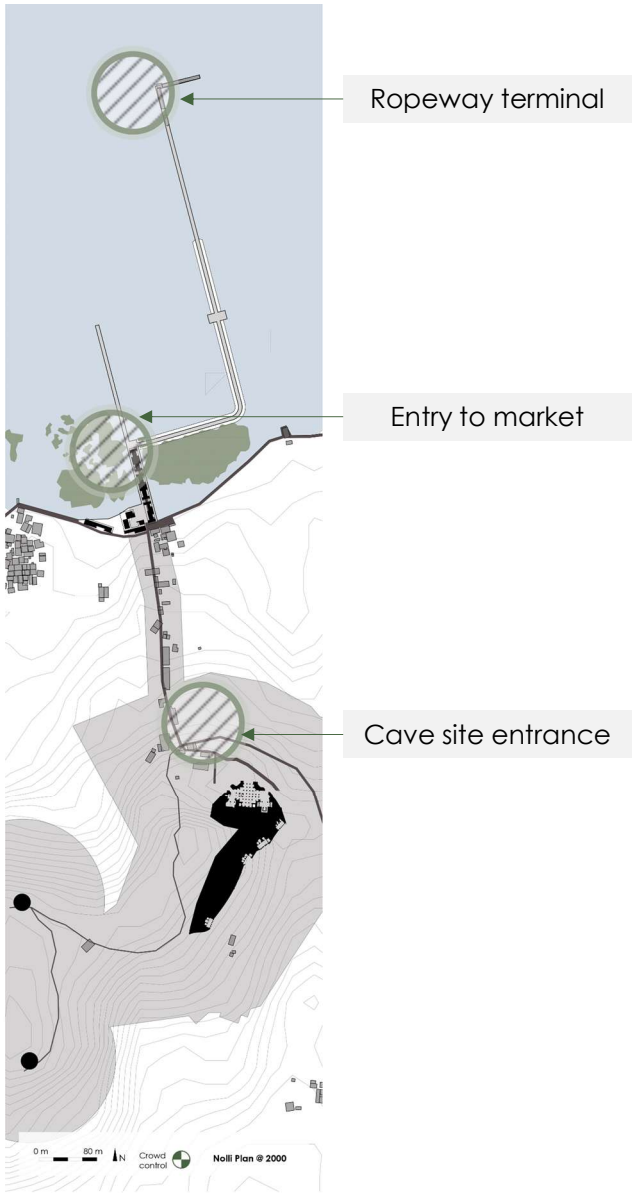
Proposal for the Island



Proposal for the route



Determining crowd control points within the journey



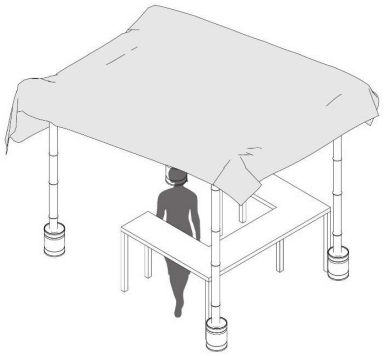
Proposal for the route

The Pier

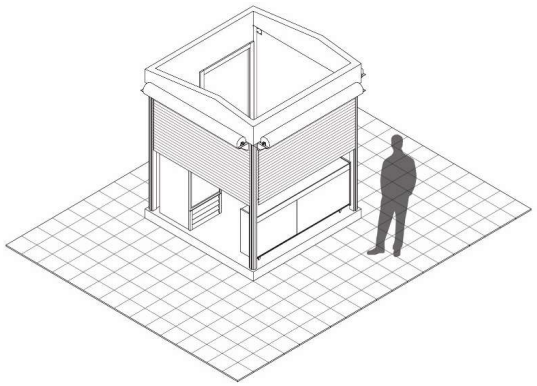
Existing

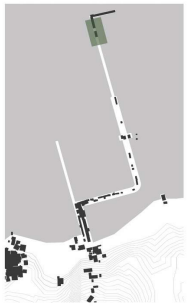
Studying the Pier

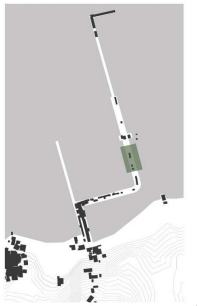
Informal units

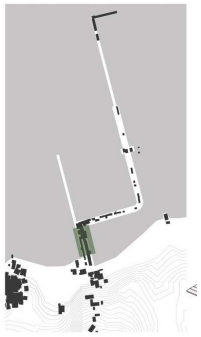


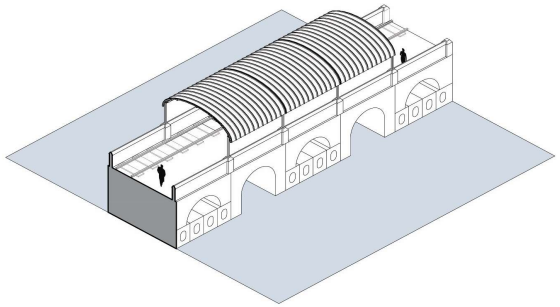
Formalised units

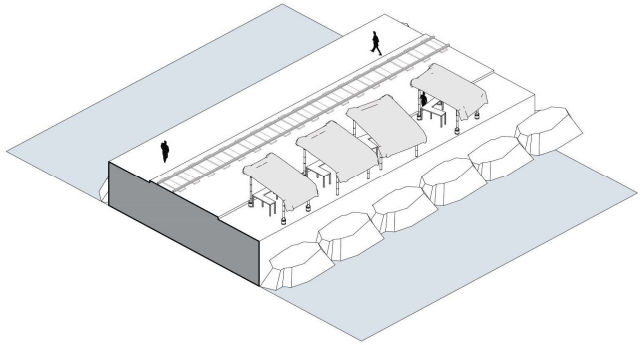


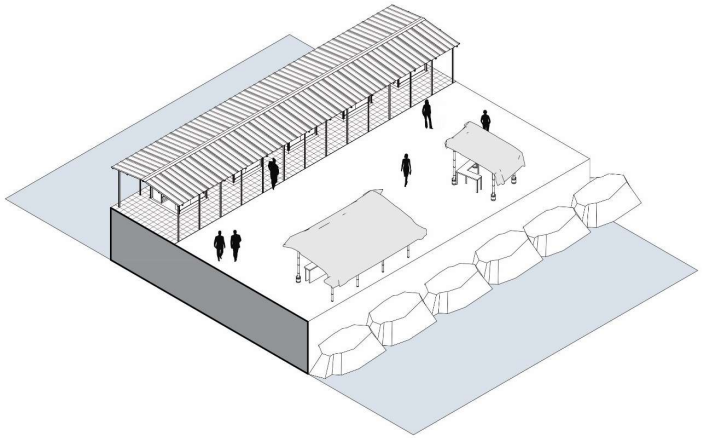




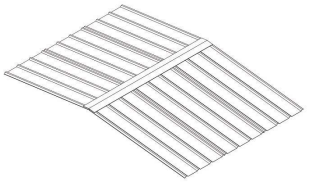






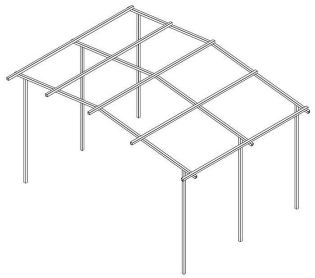


Mapping current conditions



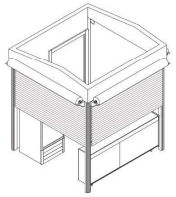
Steel roof sheets

Typical widths- 1050 to 1200 mm

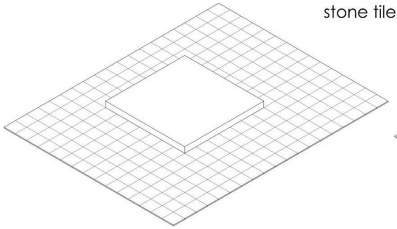


Steel sections forming frame

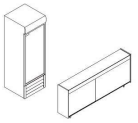
Typical sizes- 50 to 75 mm



Formalised shops on raised plinths

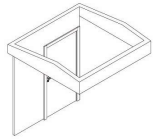


Platform covered in stone tiles

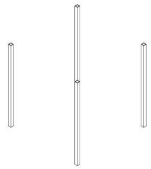


Fridges and display cabinets

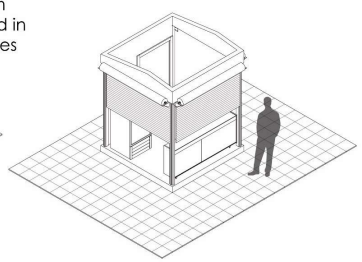
Rolling steel shutters

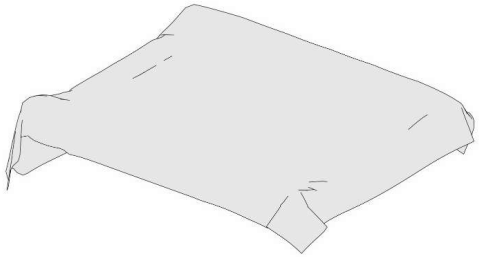


Cement sheets to form shell

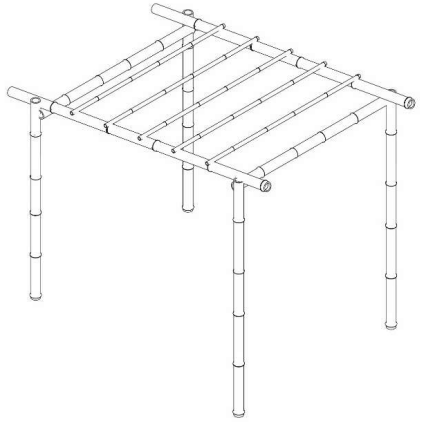


Steel sections forming frame





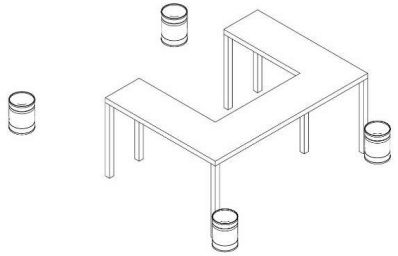
Tarapulin sheets



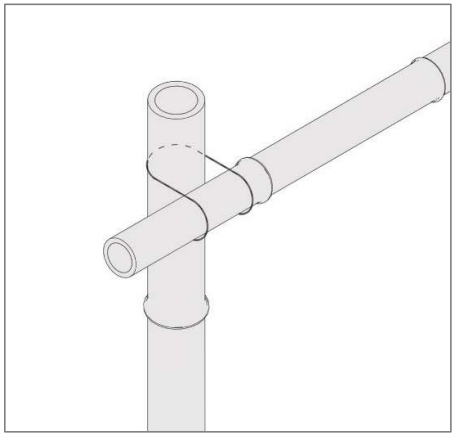
Bamboo frame

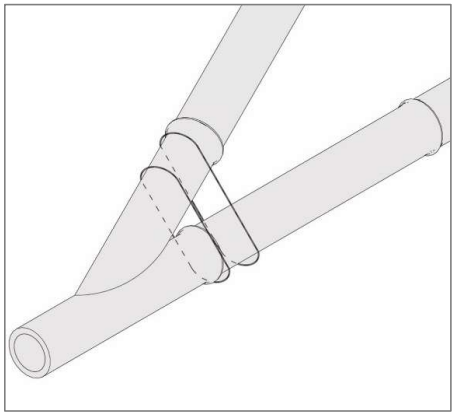
Cans filled with stone to support bamboos

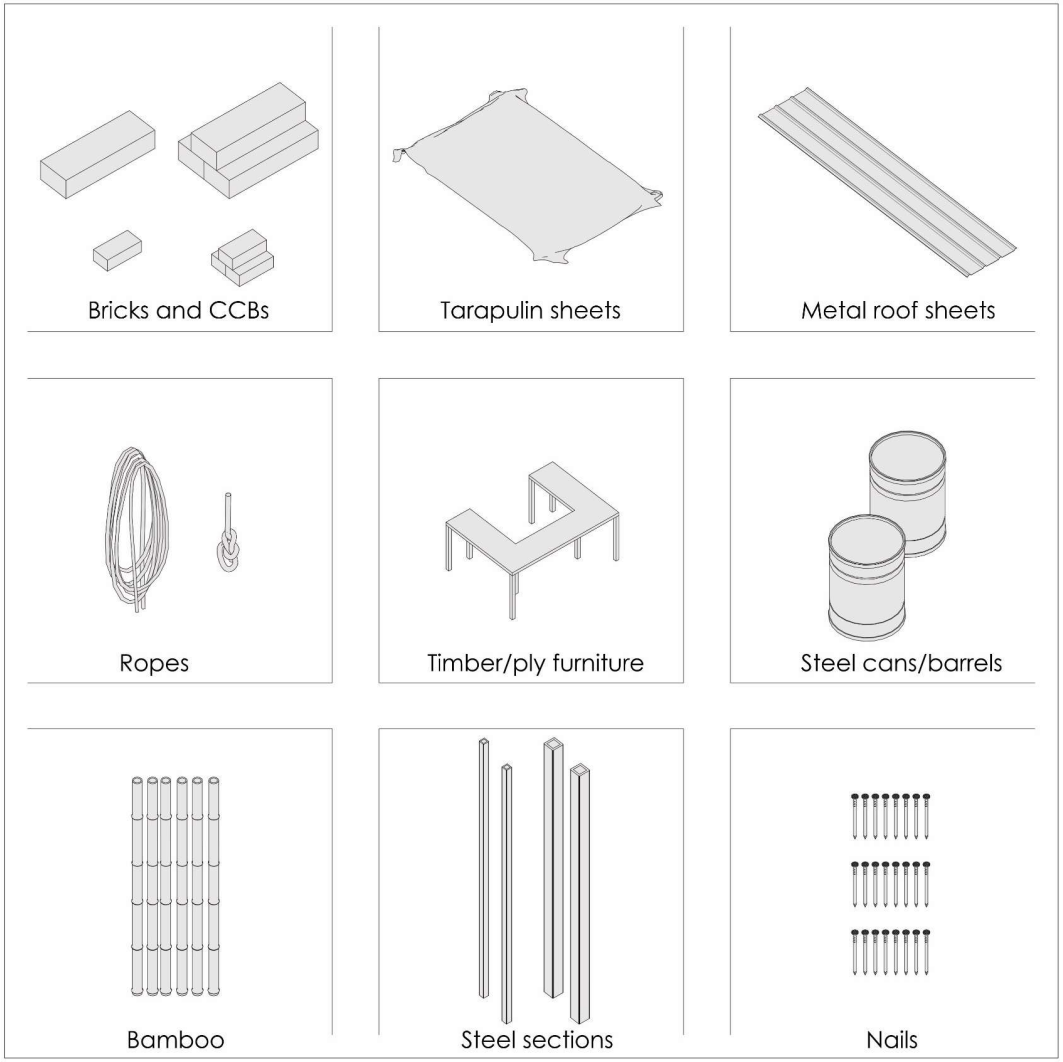
Platform for dispaly



Disassemble and repurpose

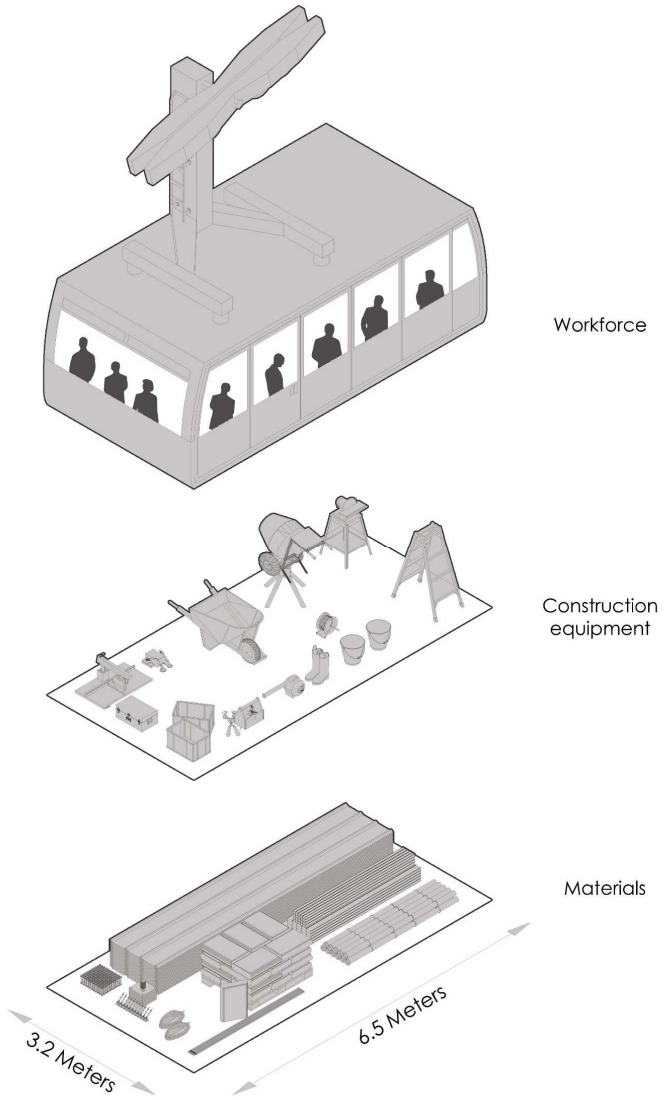






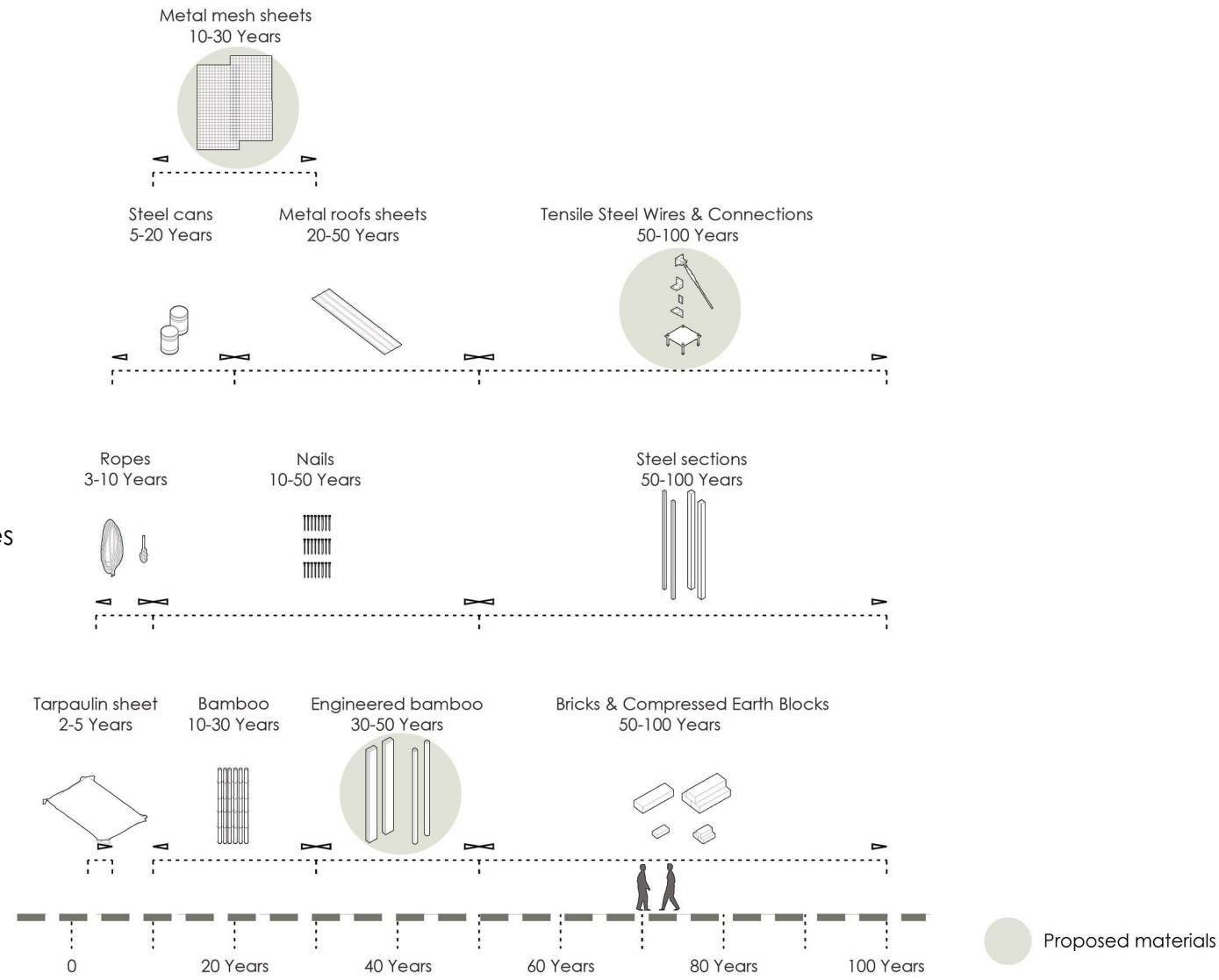
Documenting materials and joints

Logistical challenges

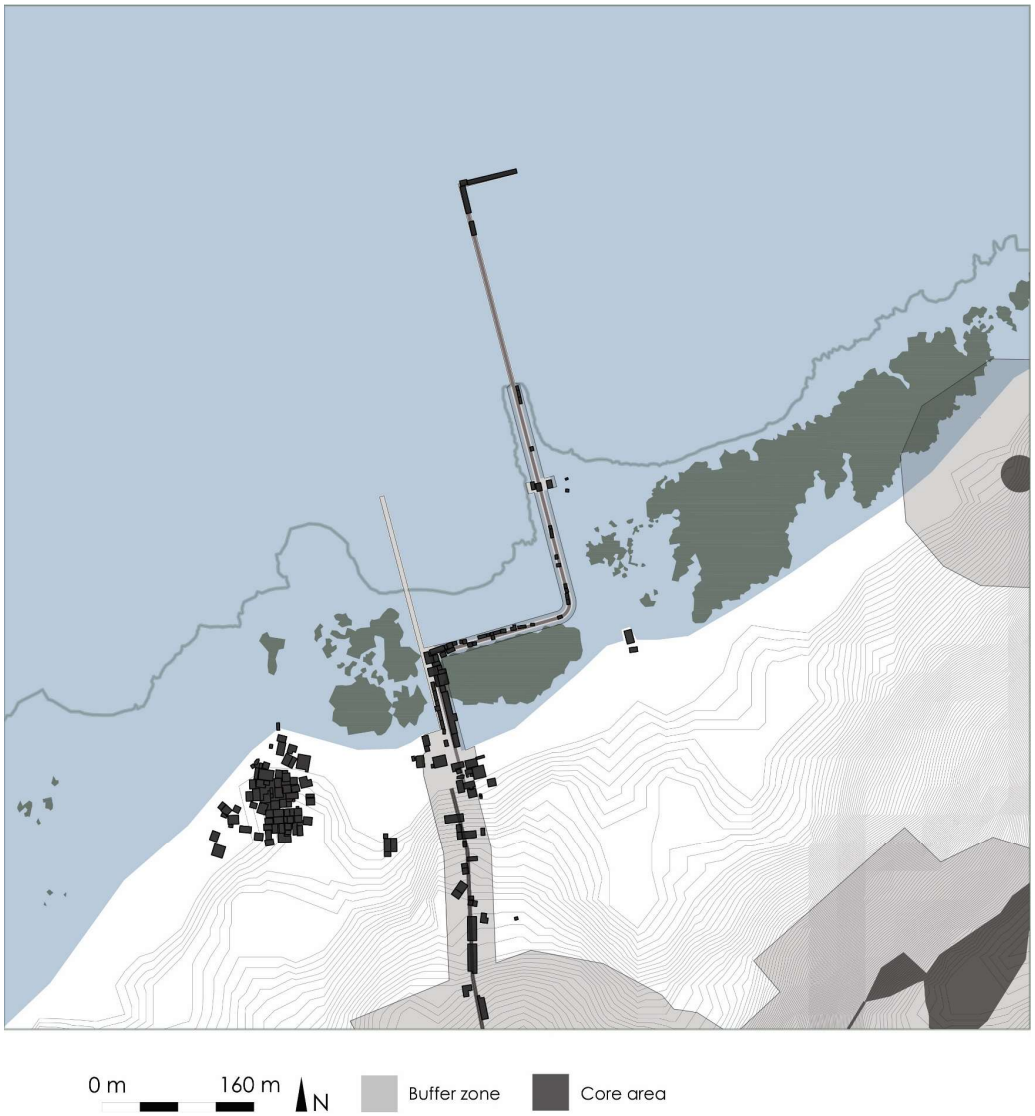


Material selection

Proposed materials aim to **bridge the gap** between the formal and informal typologies

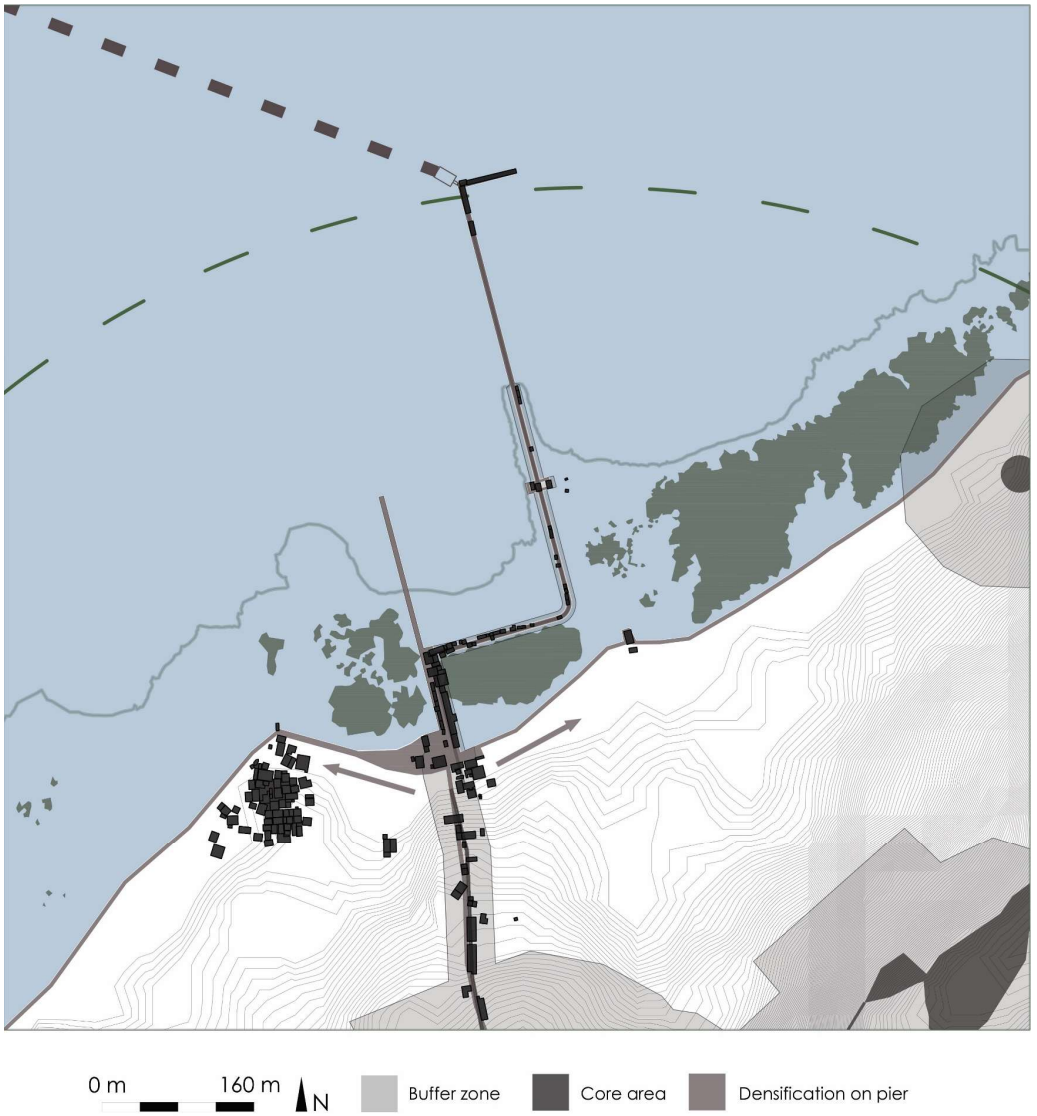


Focusing on the **primary route** to the caves



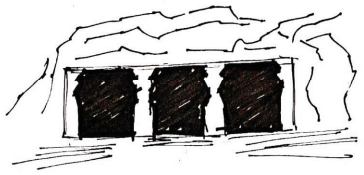
Proposal for the Pier

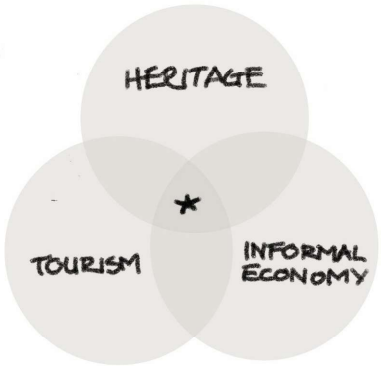
Densification of the pier to **increase the dwell time** of visitors.



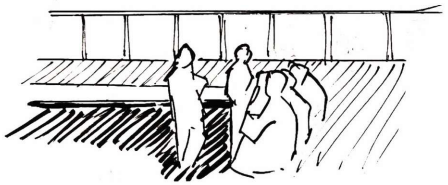
Proposal for the Pier

TRANSMIT

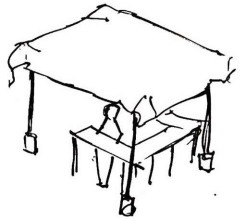




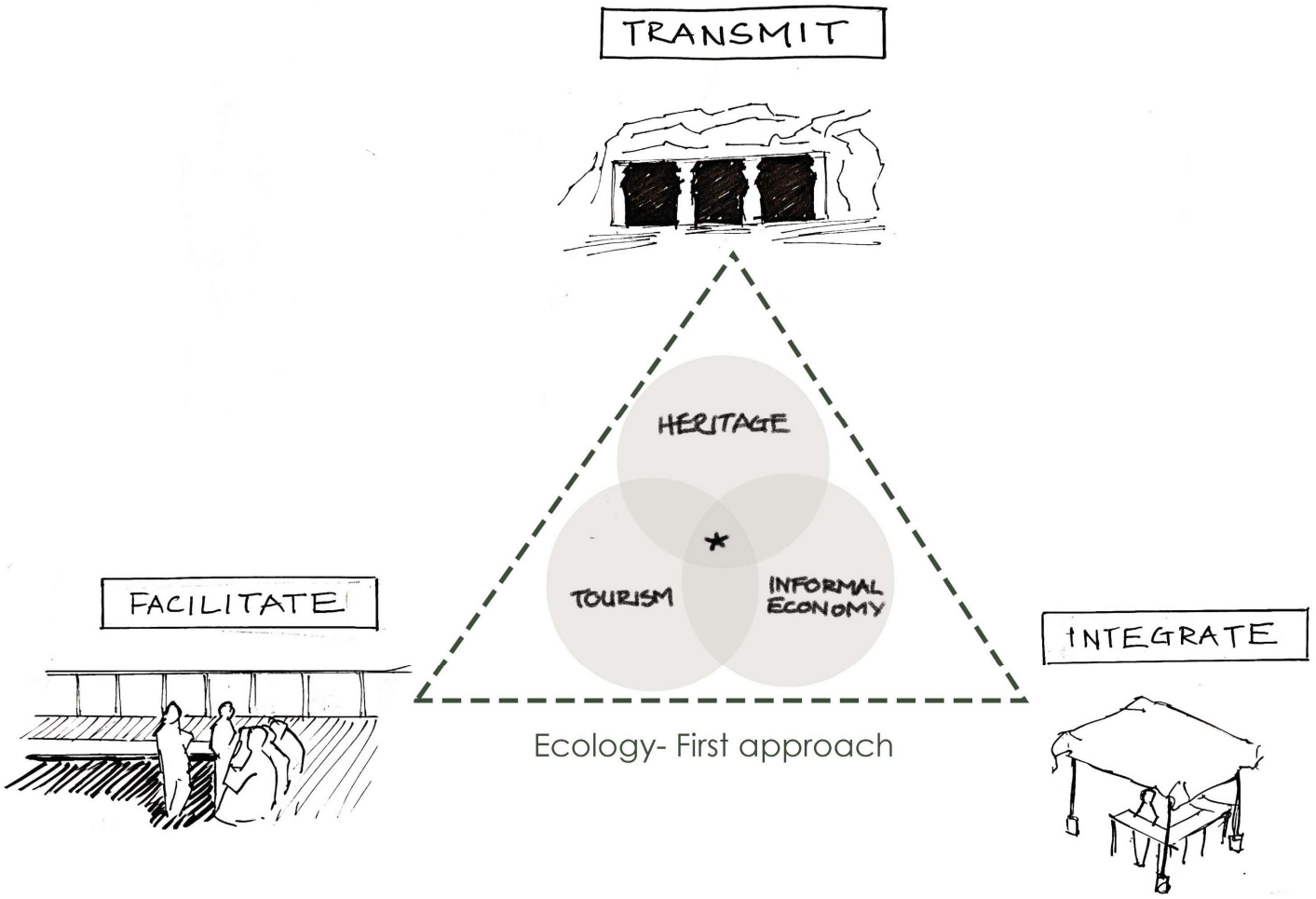
FACILITATE



INTEGRATE



Aims of the proposal

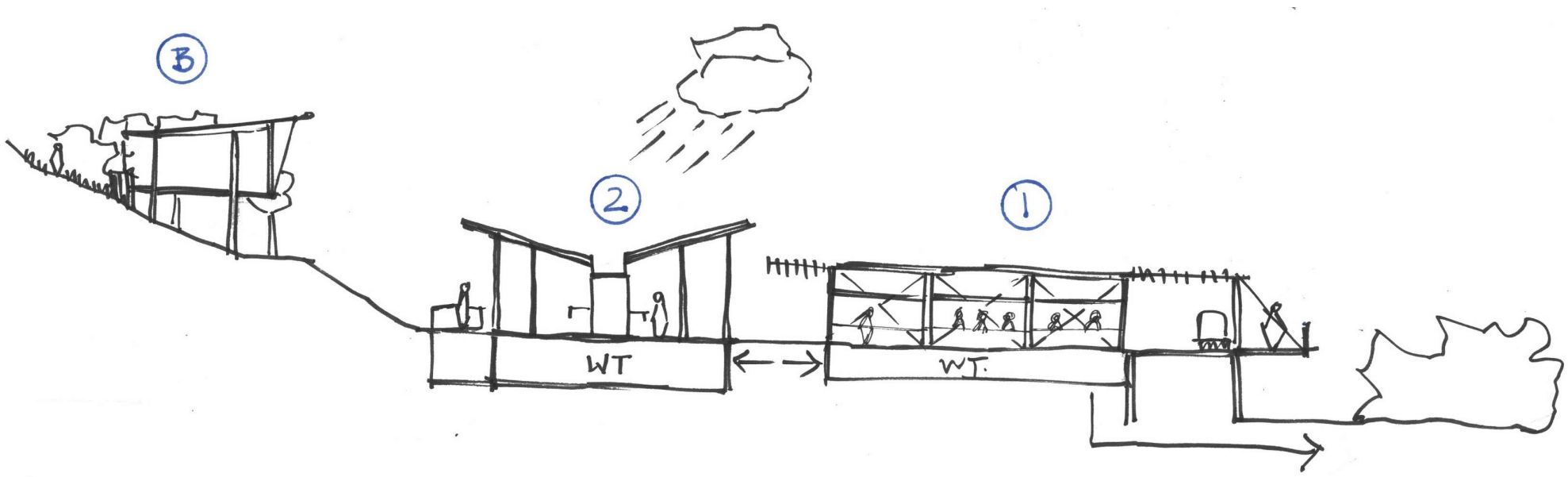


Tying the themes with an ecology-first approach

A series of **small-scale** infrastructural changes

Restore the **ecological balance** of the site

Slow down visitors along their journey



A beginning

Rain

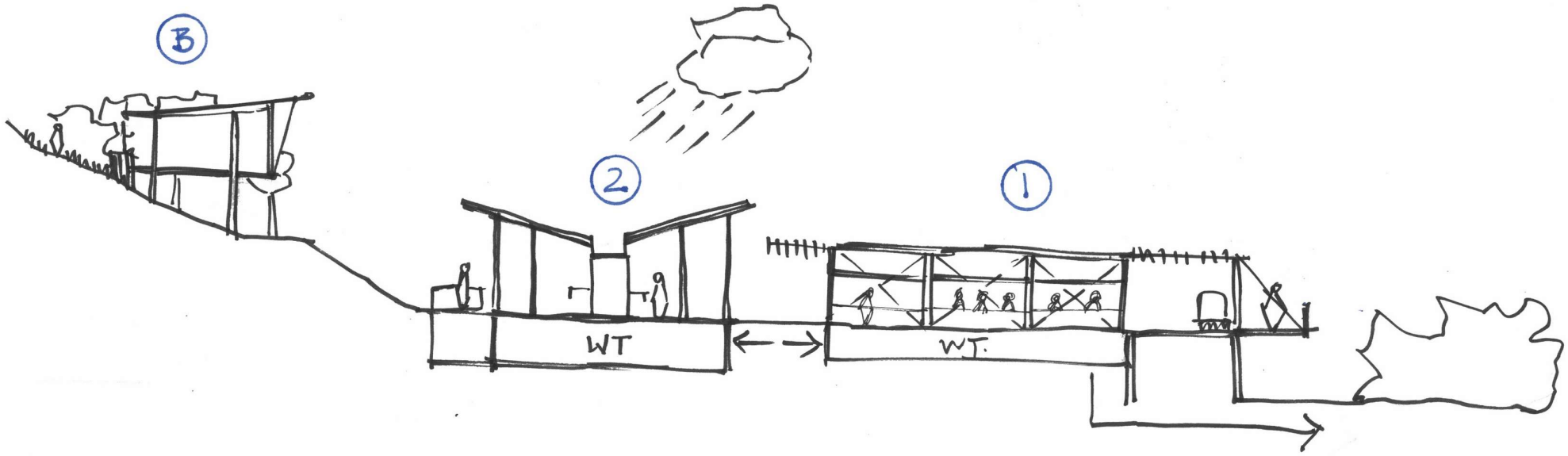
Storage
Drinking
Washing

Waste water

Plant filtration
Bioswales

Food Waste

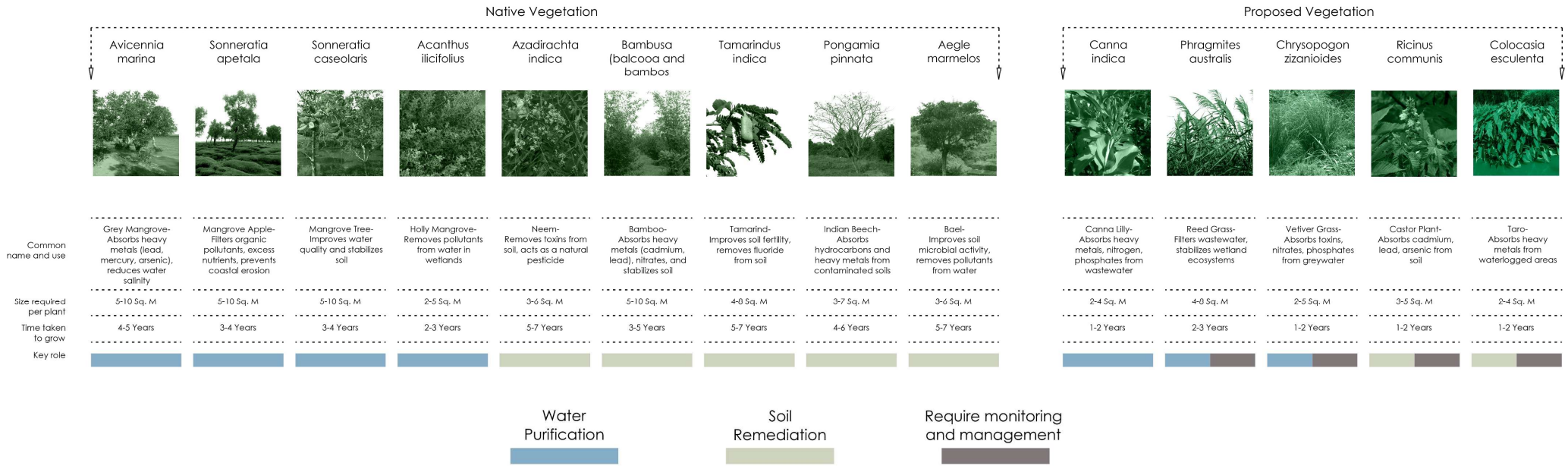
Natural composting
Biogas generation



Waste-Water-Energy loop

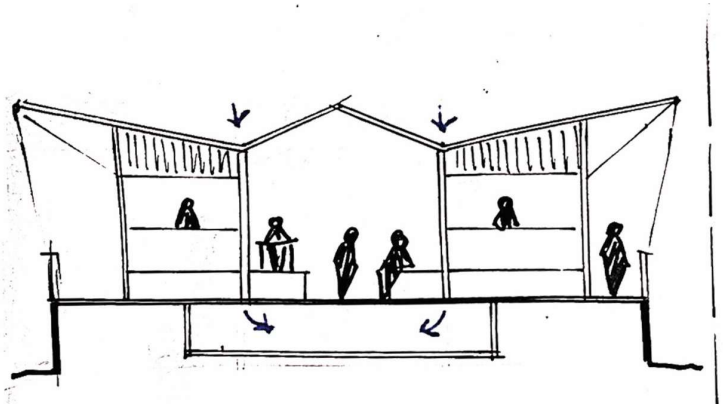
Using a selection of **native and regional species** each with their own function

Bamboo farming is also emphasized for its use in construction



Strategic phytoremediation

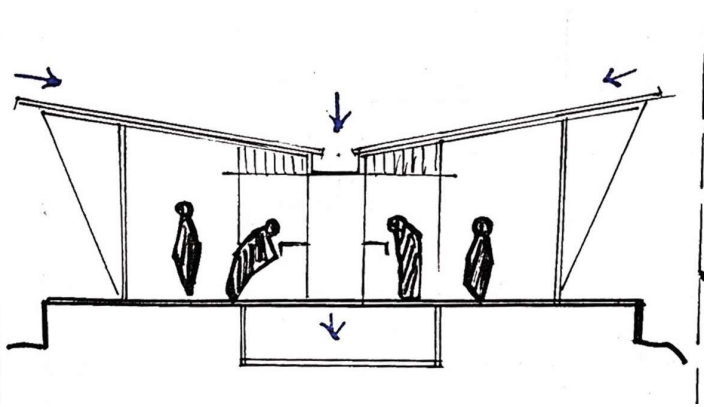
The Catalyzer



Reorganizing and densifying the market

Integrated seating and viewing points

The Collector



Public toilets and water taps

Public programmed space

Workshop areas

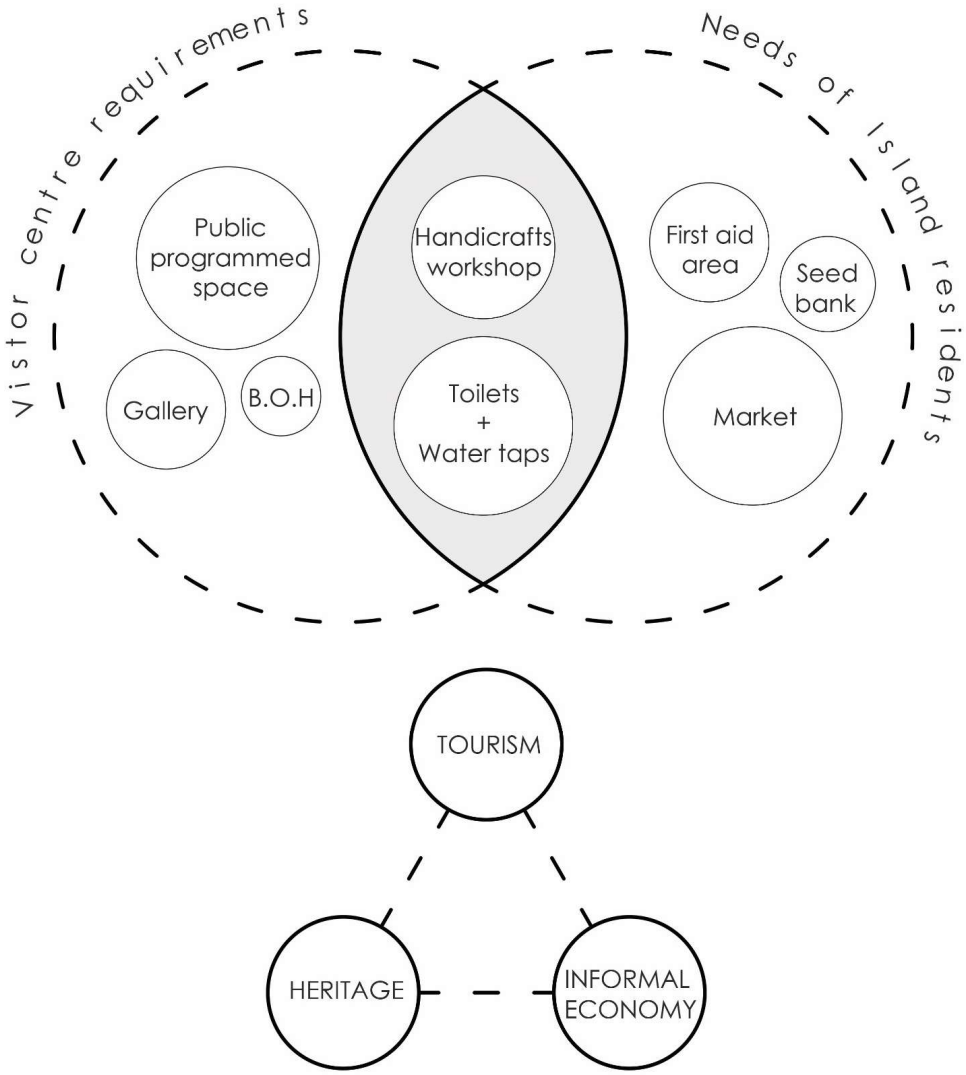
Amphitheatre

Office

Supporting infrastructure

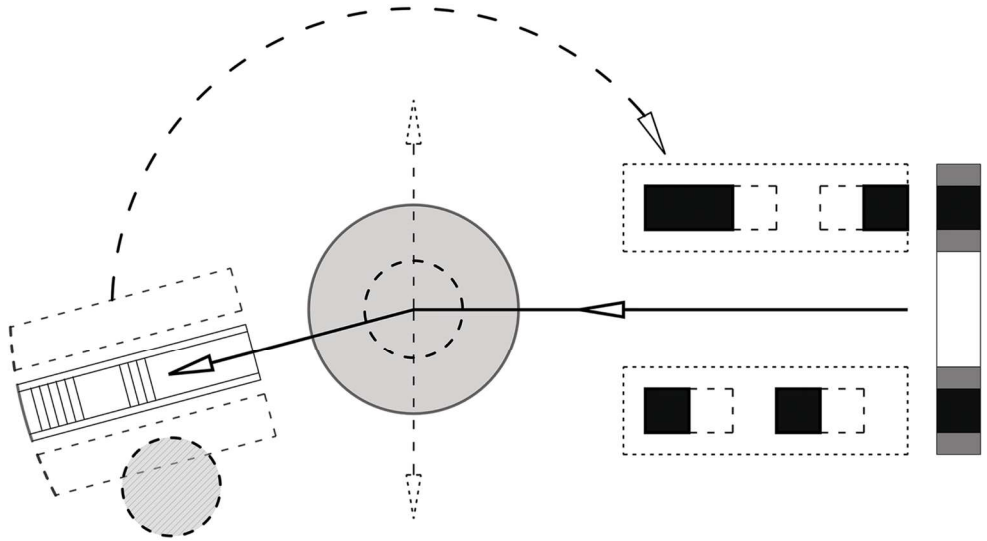
Integrating formal and informal **Infrastructure**

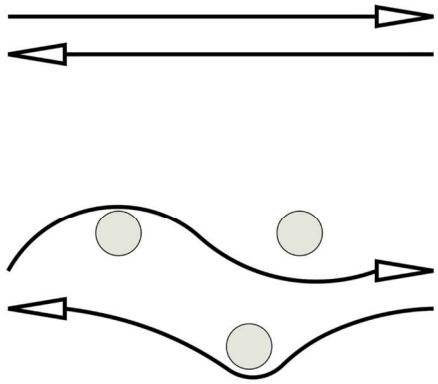
Address the needs of residents as well as visitors.



Programmatic overlay

Adding programs along the existing route





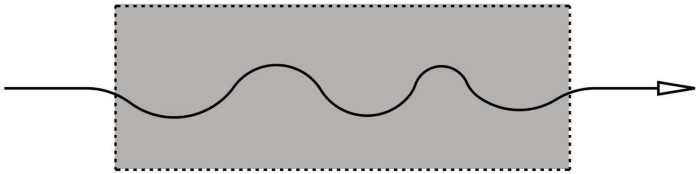
Shops + Terrace farming module

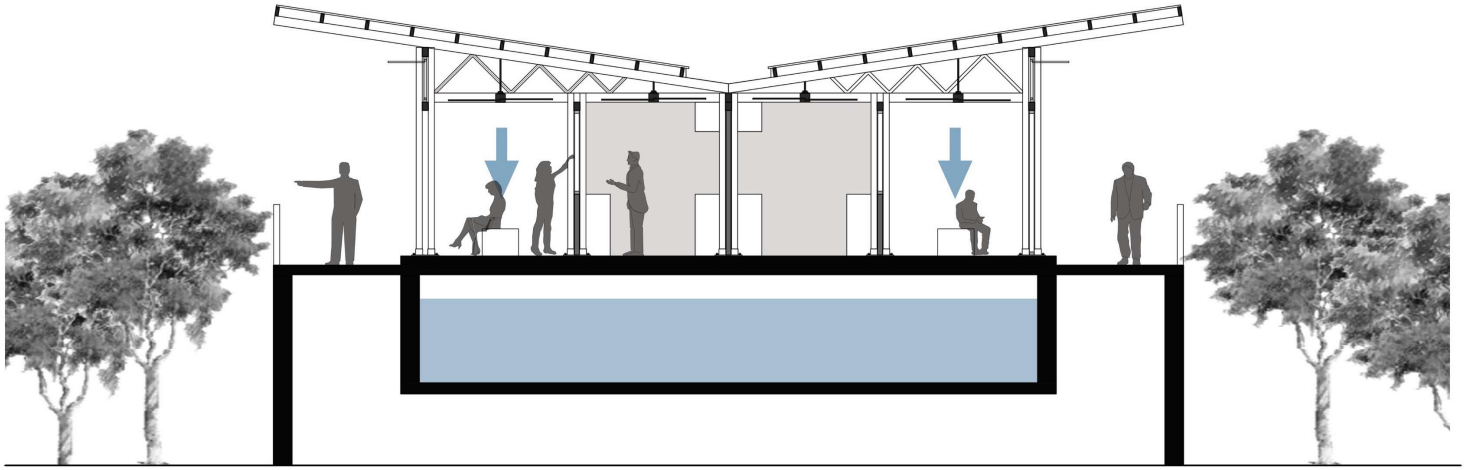
Densifying market

Programmatic overlay

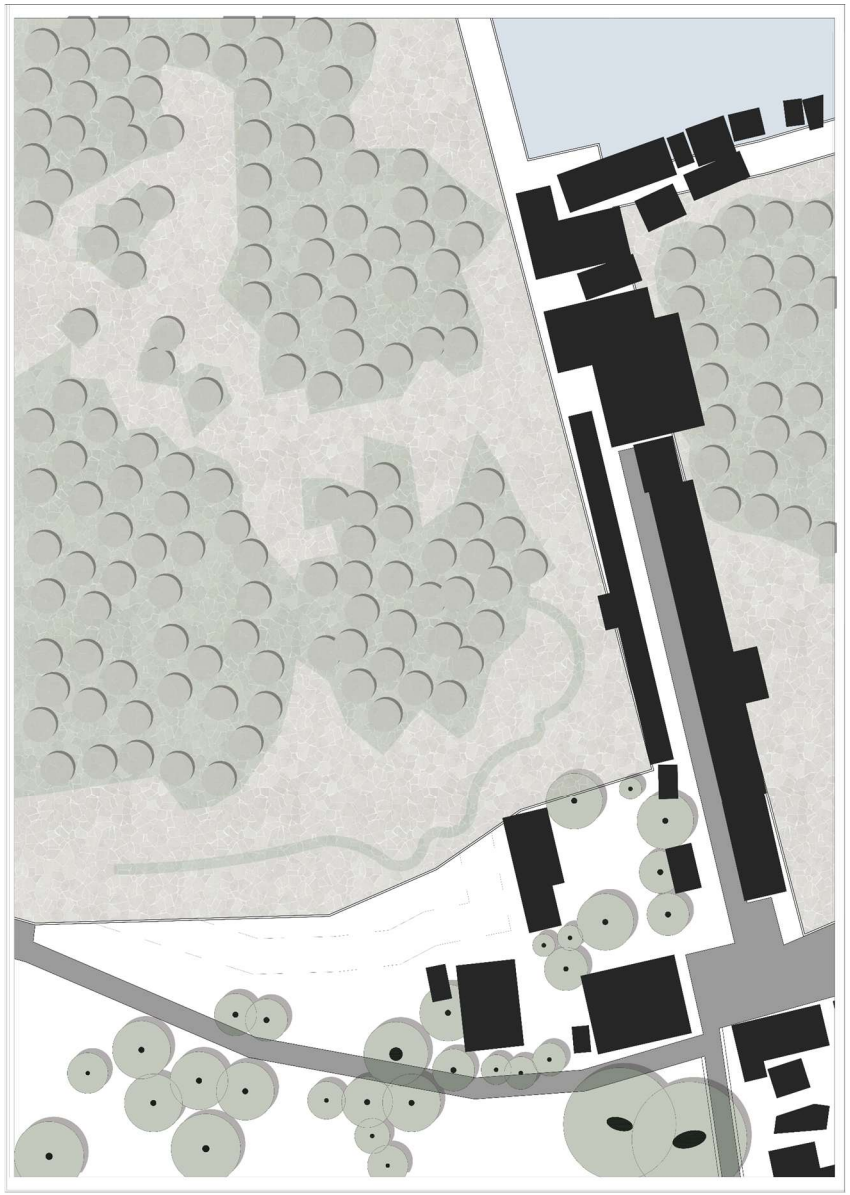
Concrete pier excavated to **store rainwater**

Solar-powered **slow-moving fans** and shade from an **exaggerated roof**

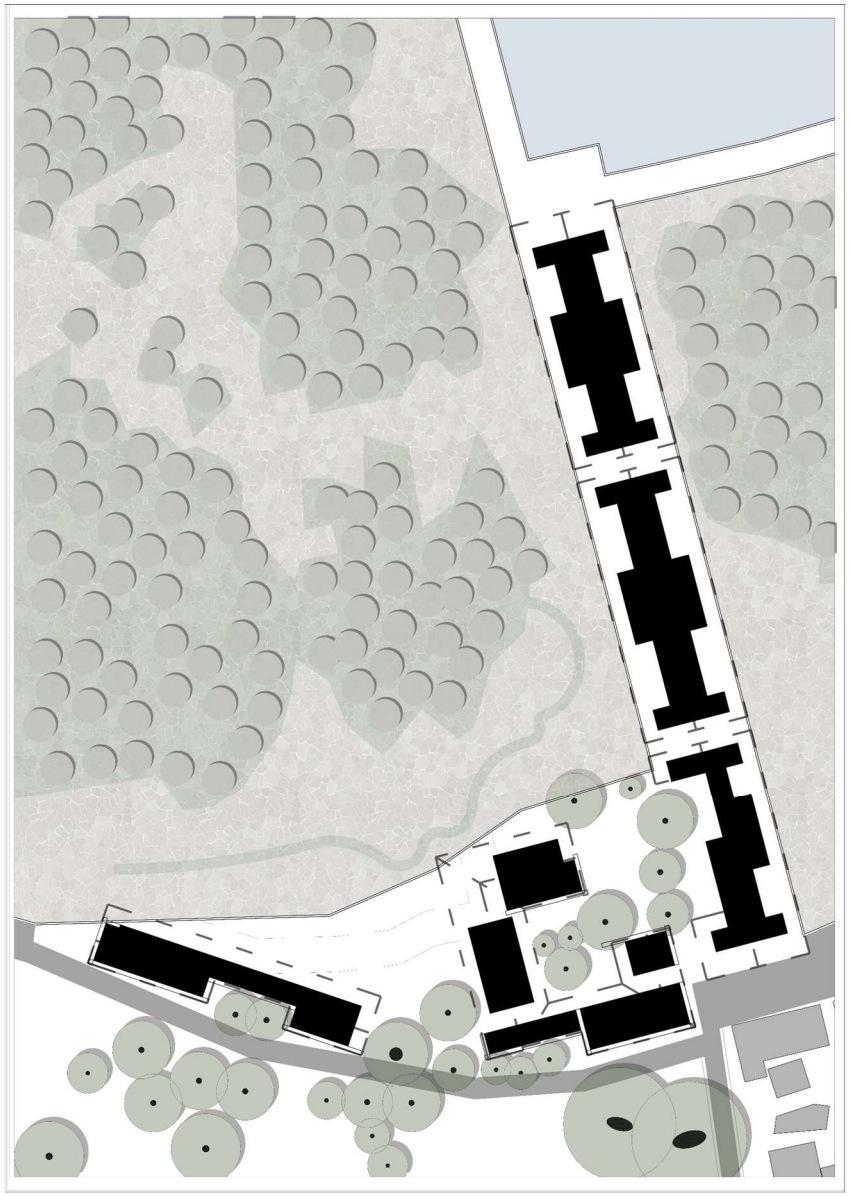




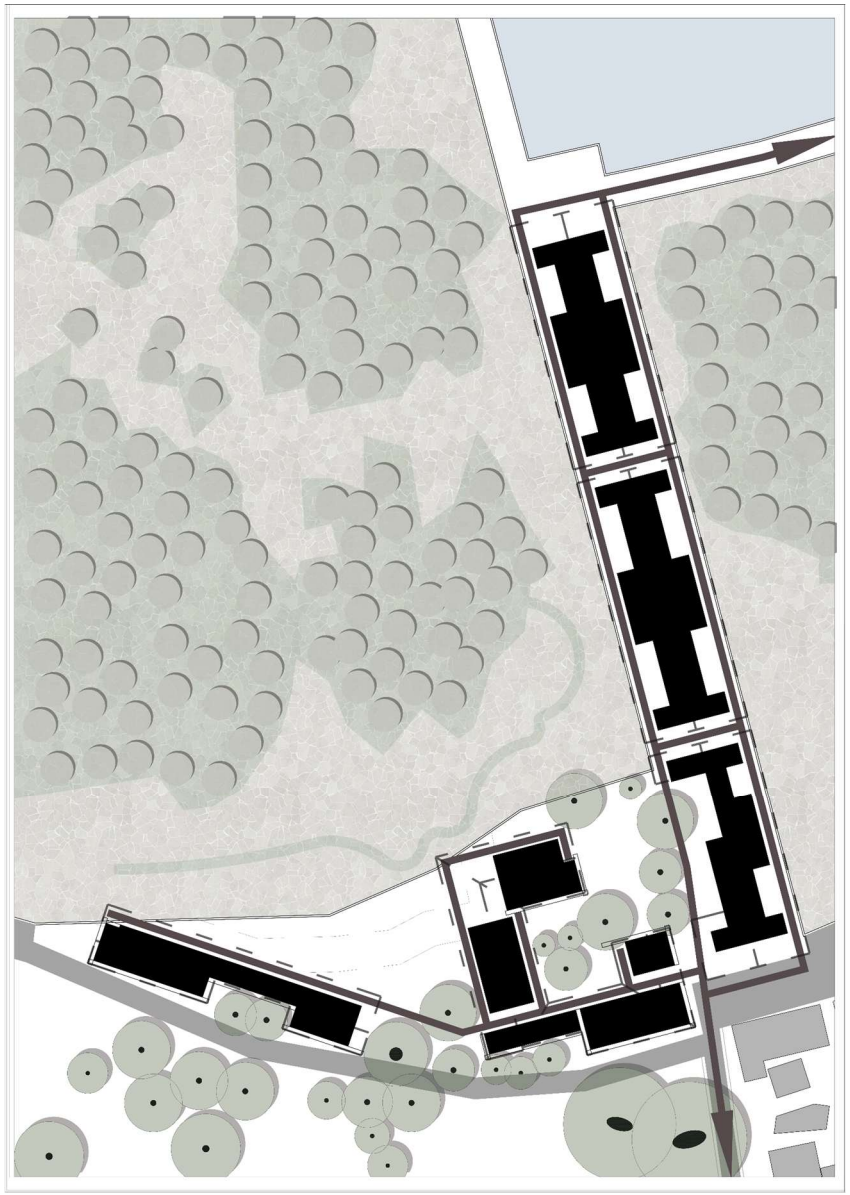
Slowing down visitors



Existing



Proposed

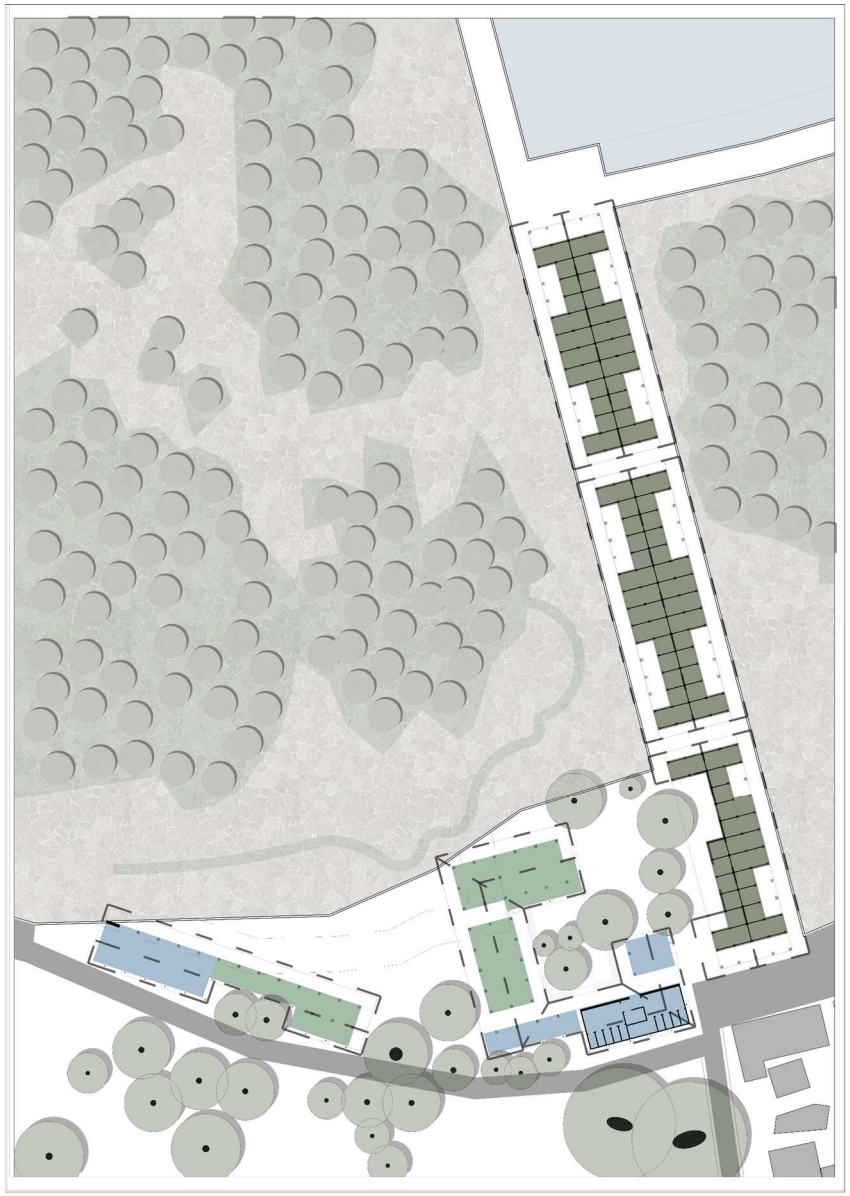


N

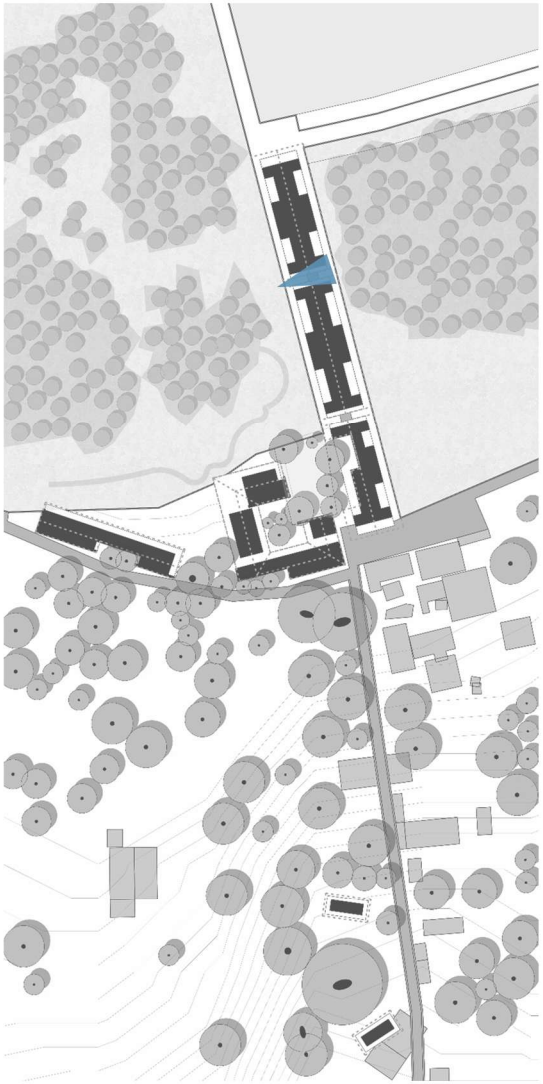
Proposed

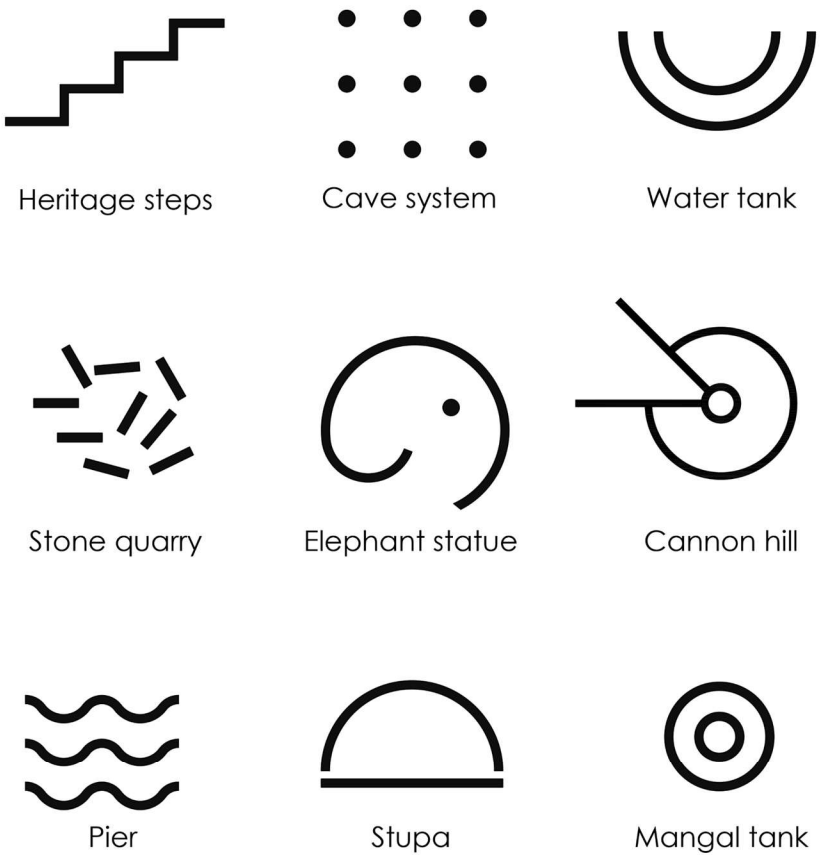
Pause points with panoramic **views**

Integrated seating + Amphitheatre to increase the dwell time

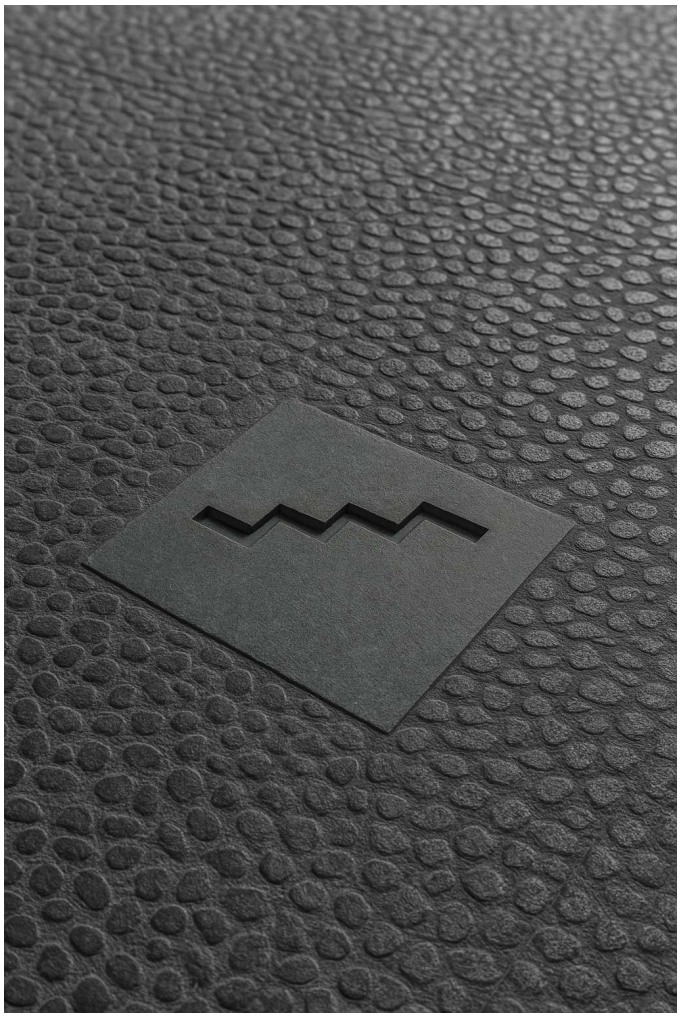


Proposed

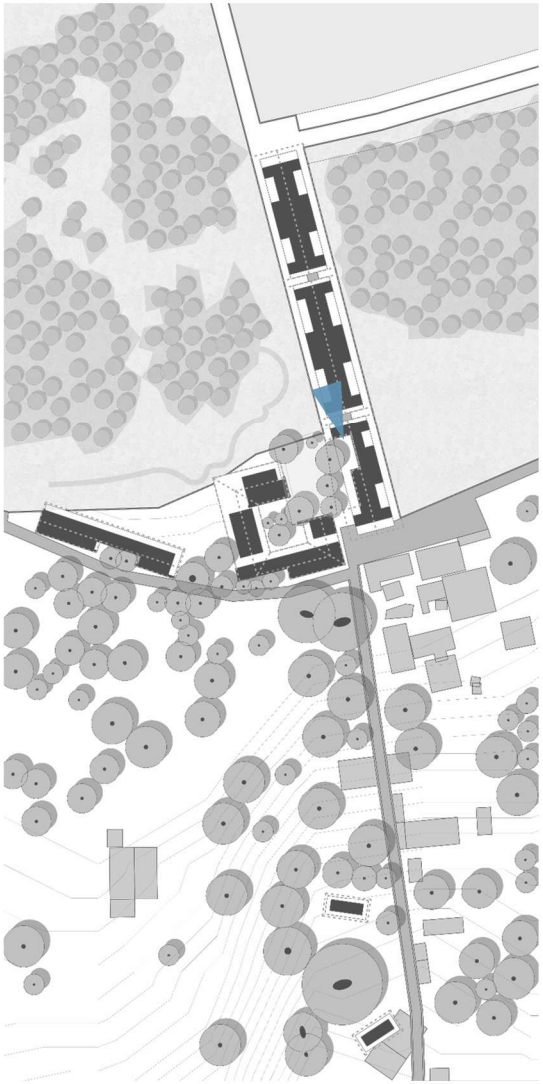




Narrative layer



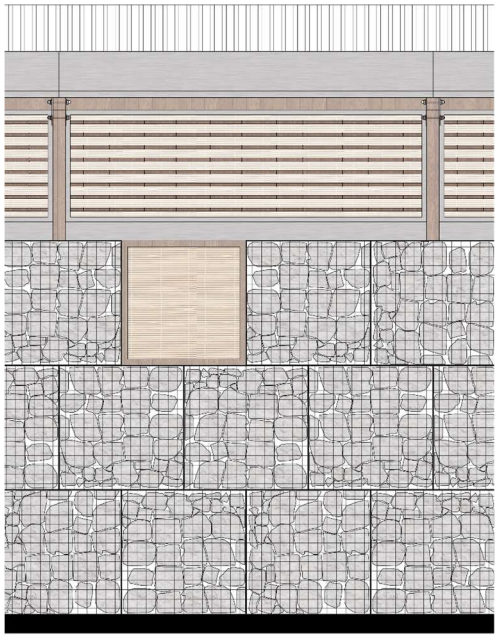
Wayfinding and Signage

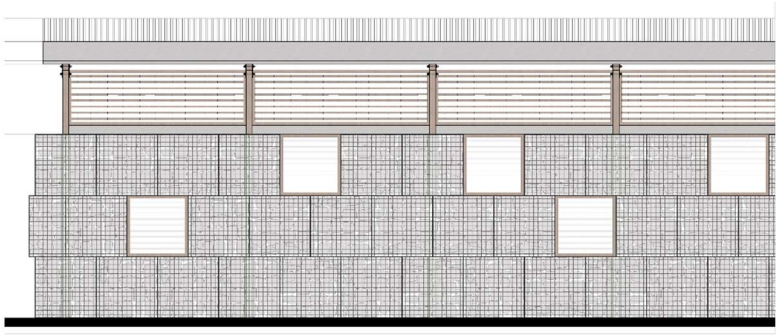


Resource sensitive –
Employs basalt rocks available on site

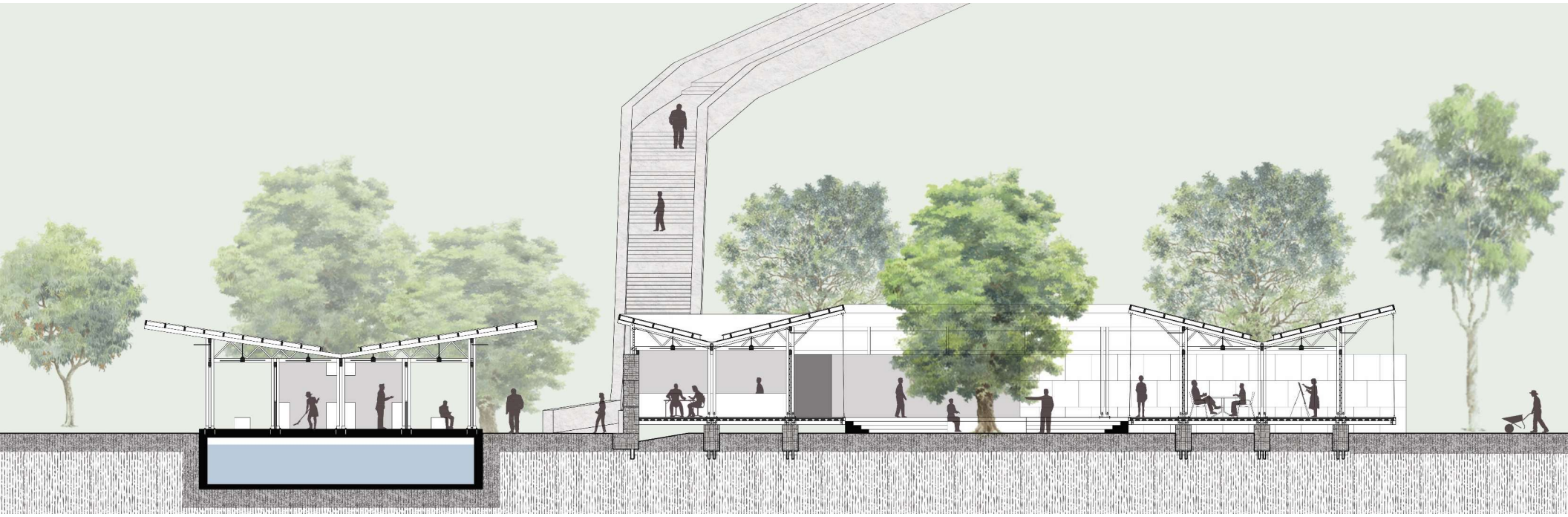
Treated bamboo deployed as **shading** elements

Raised roof to promote cross ventilation

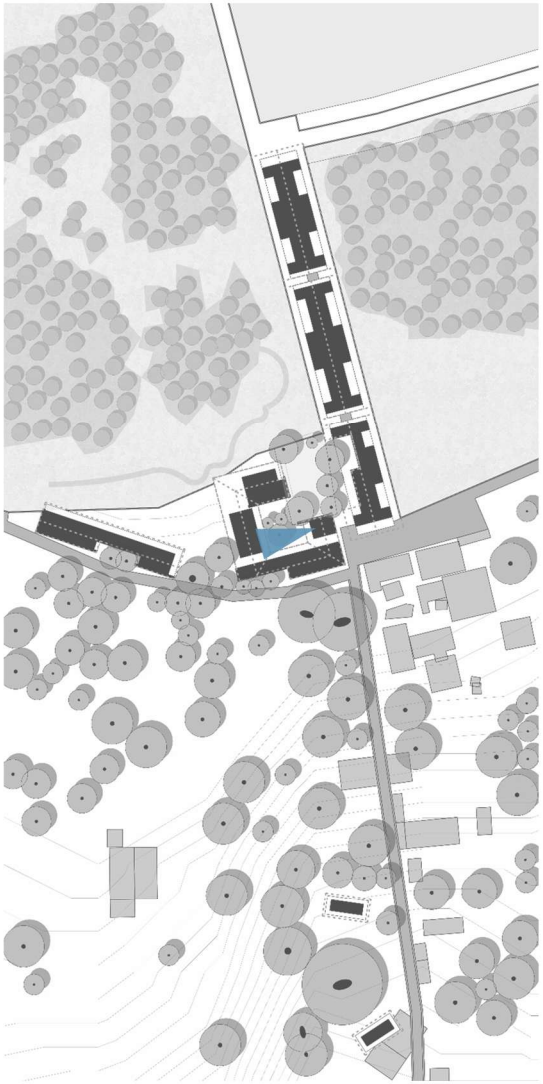




Gabion wall

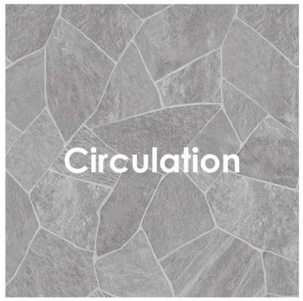


Section through proposal



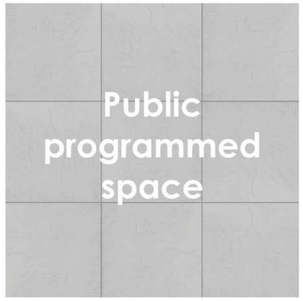
Using **locally available** Kota stone in different finishes

Basalt stone **available on the site** is used for circulation spaces

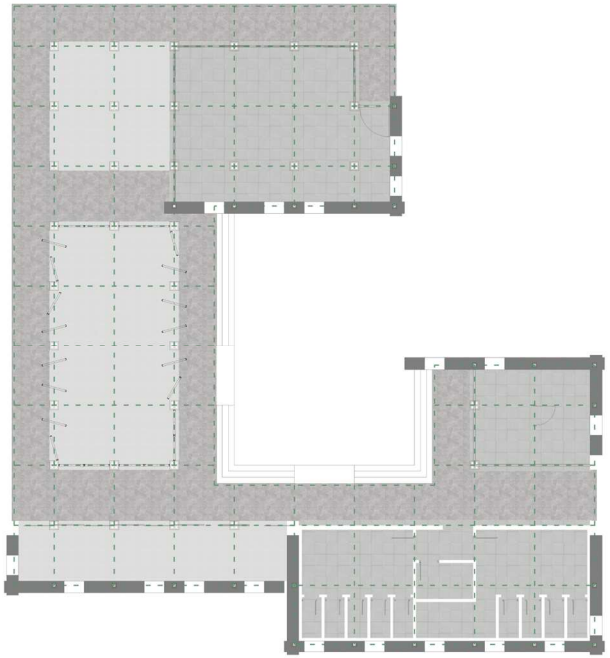


Random basalt polished floor

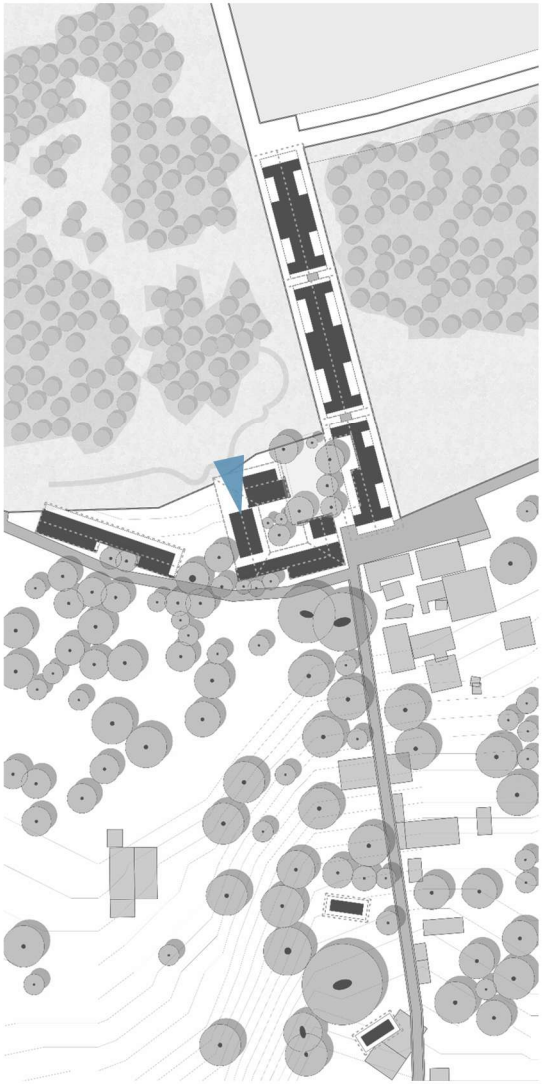
Grey-green Kota stone tile

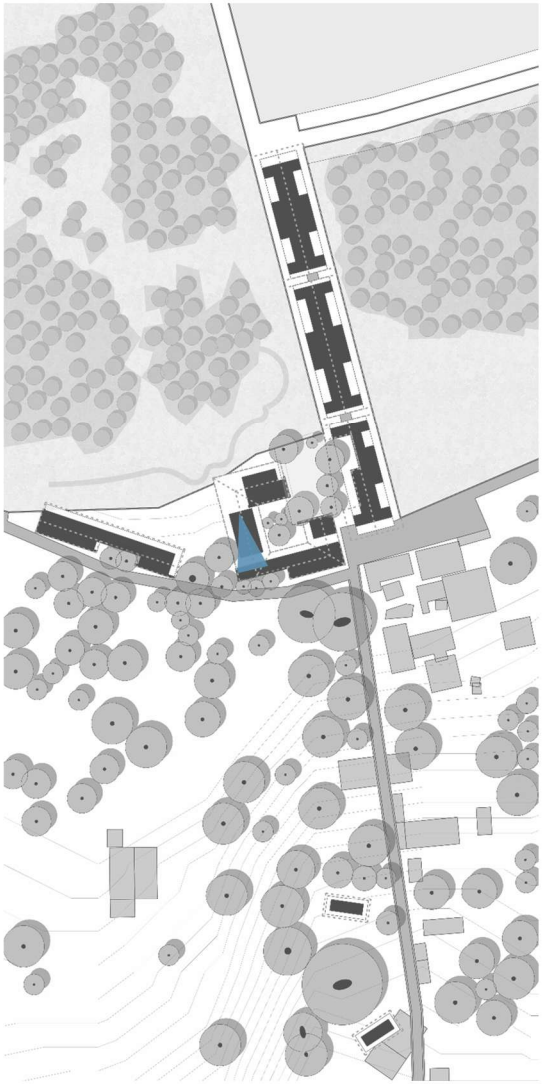


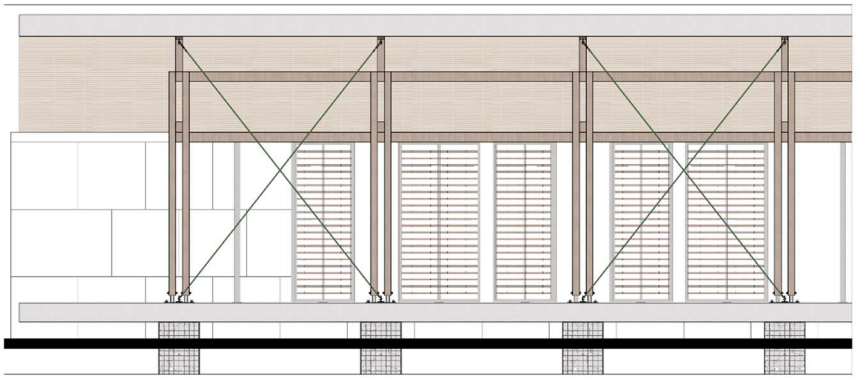
Grey-Kota stone tile- Falmed finish



Delineating spaces



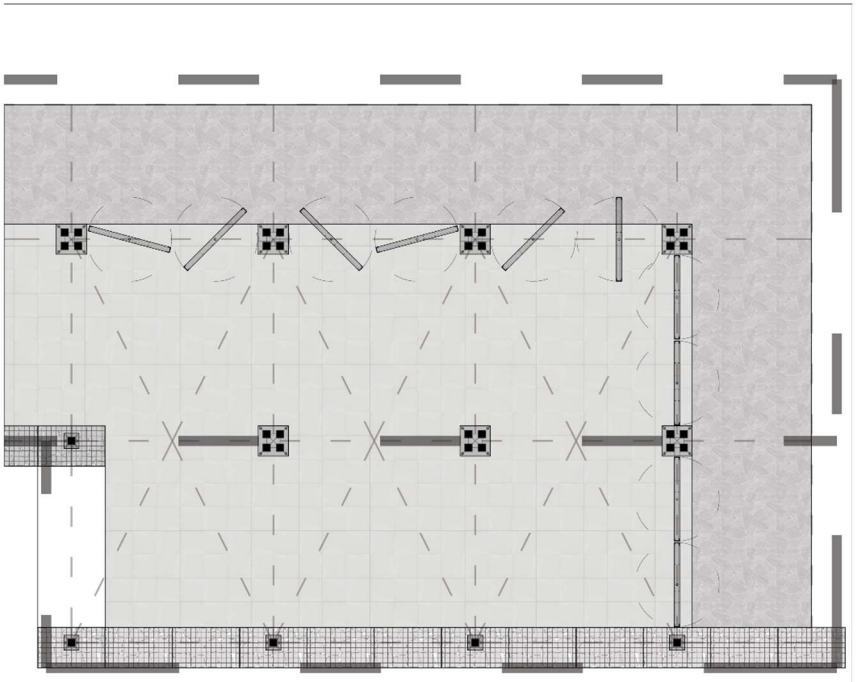




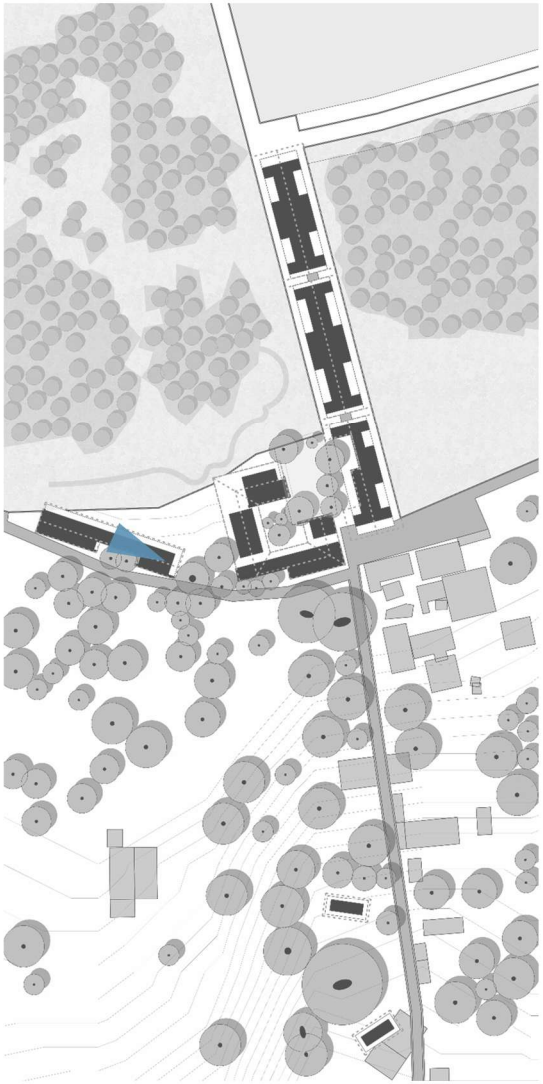
Rotating panels to modulate light

Panels use **treated bamboo** and **repurposed** steel sections

Tensile steel bracing elements



West and East facades



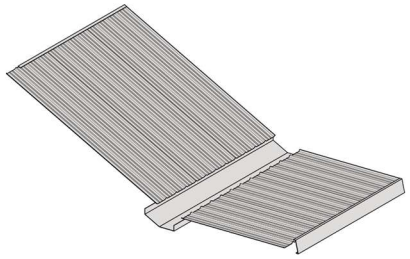
Roof system

Reusing metal roof sheets

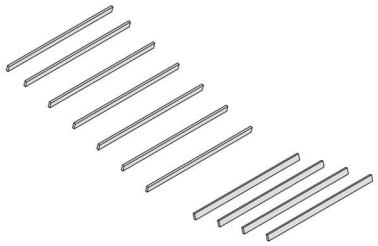
Engineered bamboo **frame**

Treated bamboo under decking for **insulation**

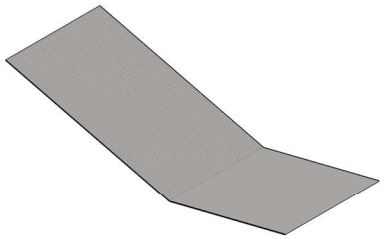
Corrugated metal roof and bent steel gutter



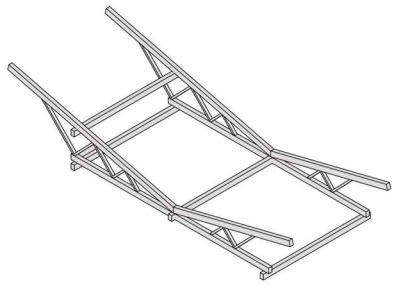
Engineered bamboo purlins

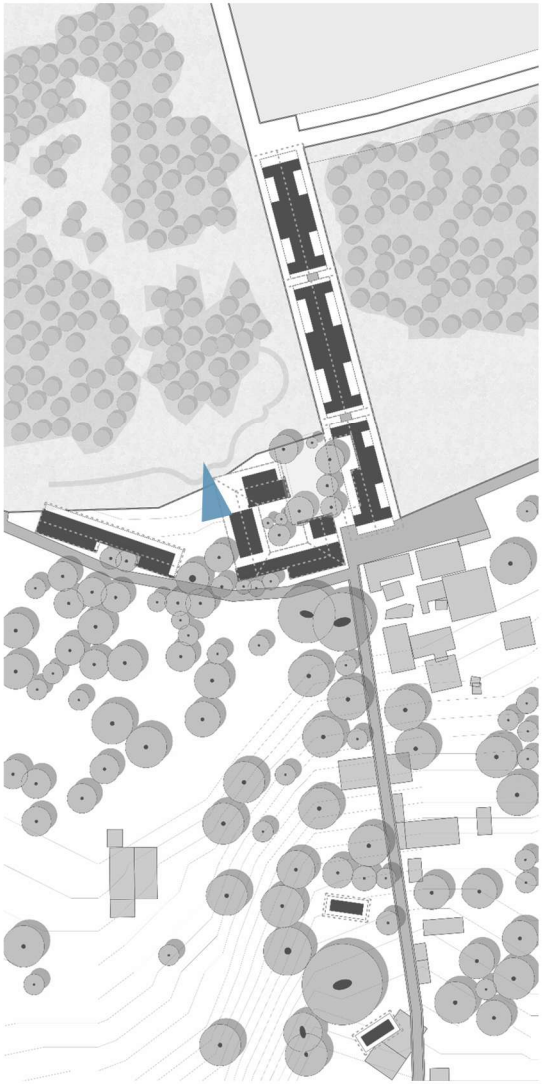


Treated bamboo decking



Engineered bamboo rafter and beam frame



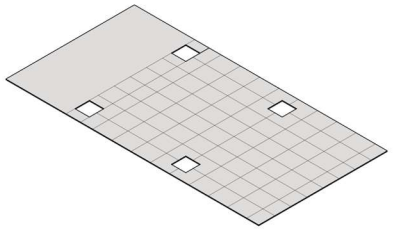


A hybrid structural system
consisting of steel and engineered bamboo

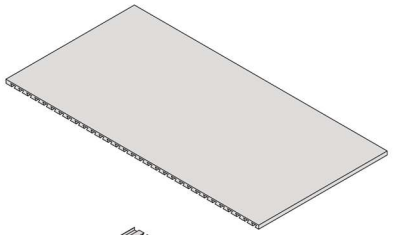
Gabion walls **stabilize** columns

Raised composite plinth

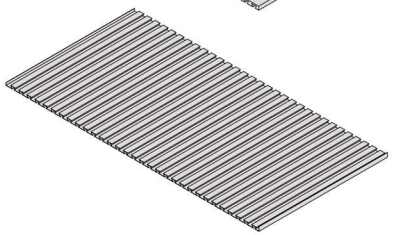
Kota and polished basalt flooring



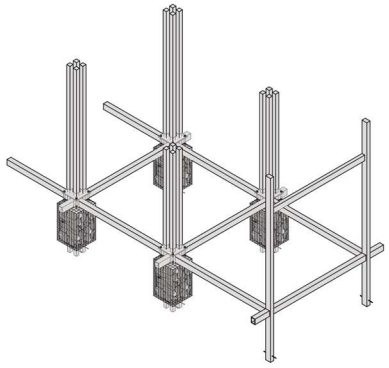
In-situ concrete



Steel decking sheet



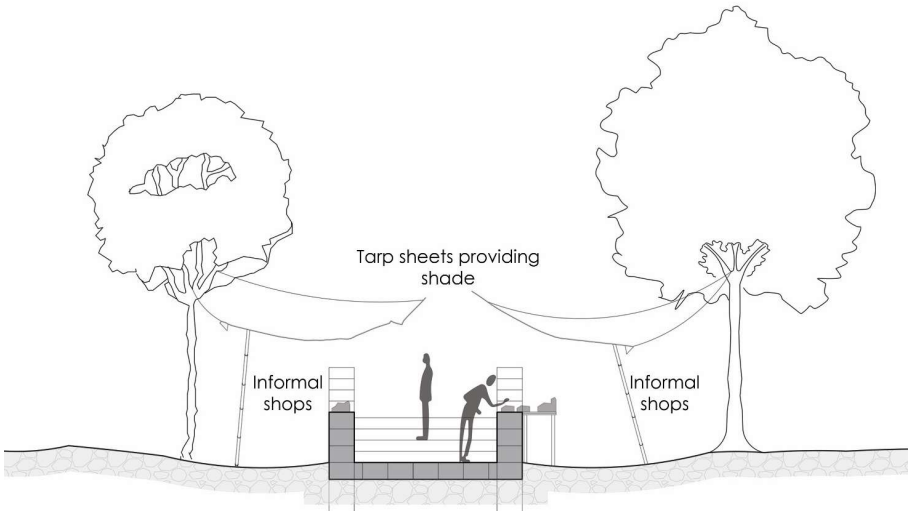
Engineered bamboo and steel frame

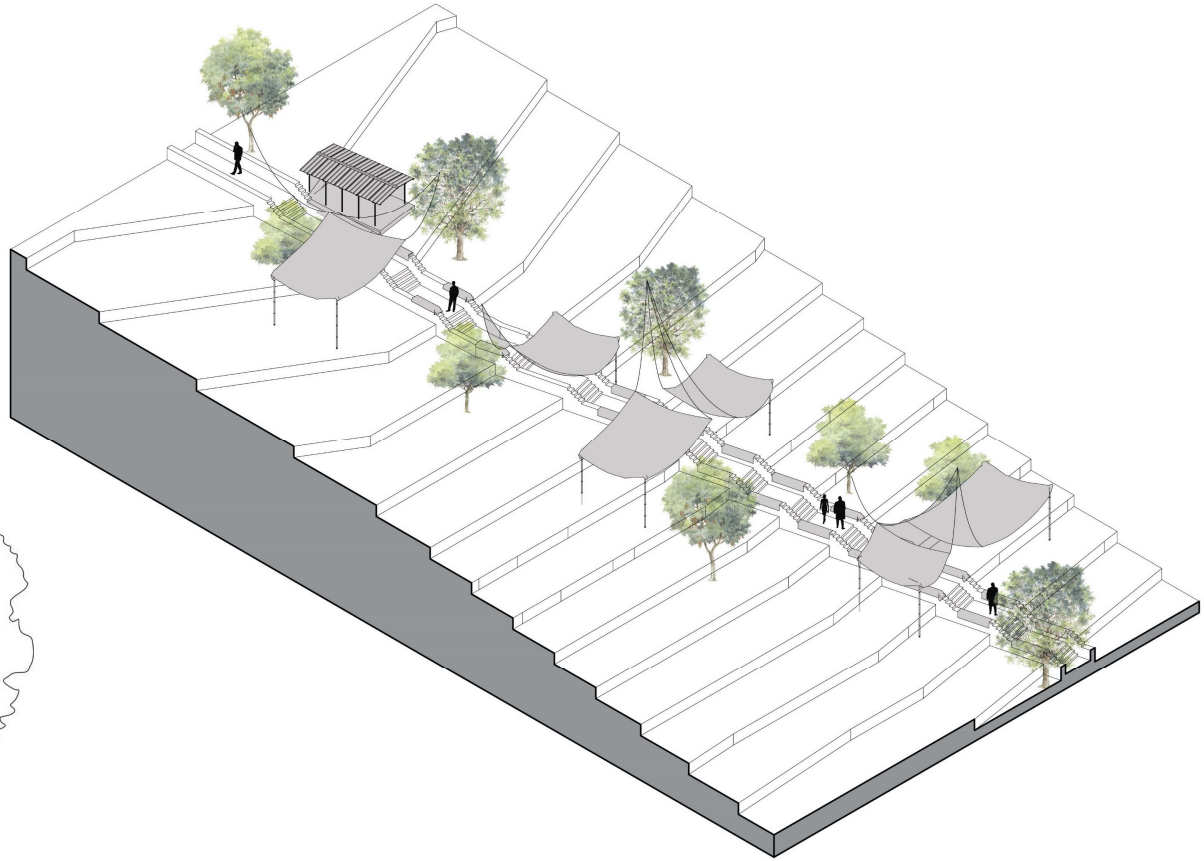


Foundation

Heritage steps

Existing





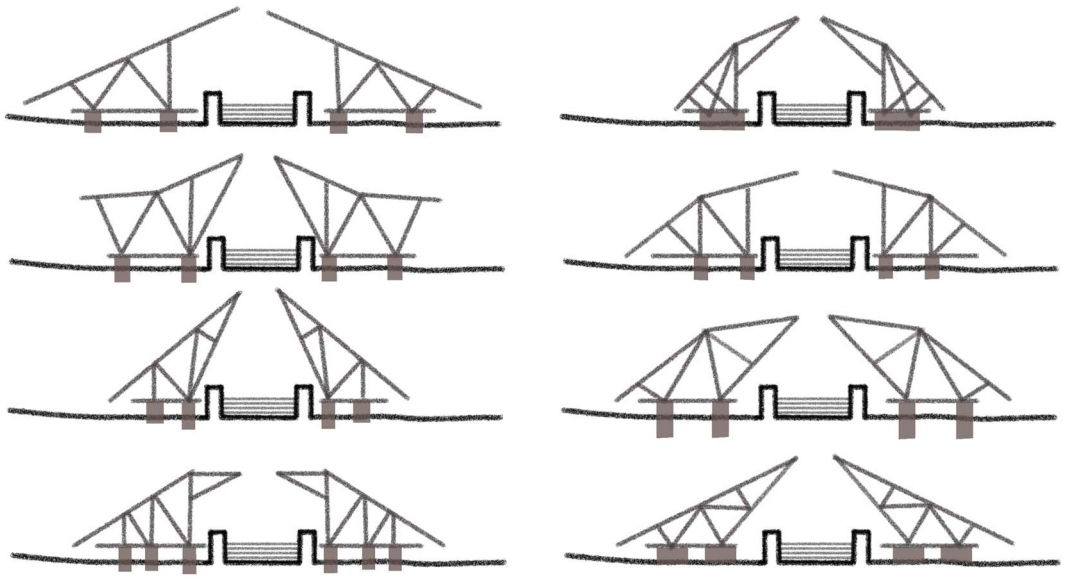
Informal market thriving at the steps

Providing locals with a **kit** and **methods** of construction

Kit of parts

Variations based on choice

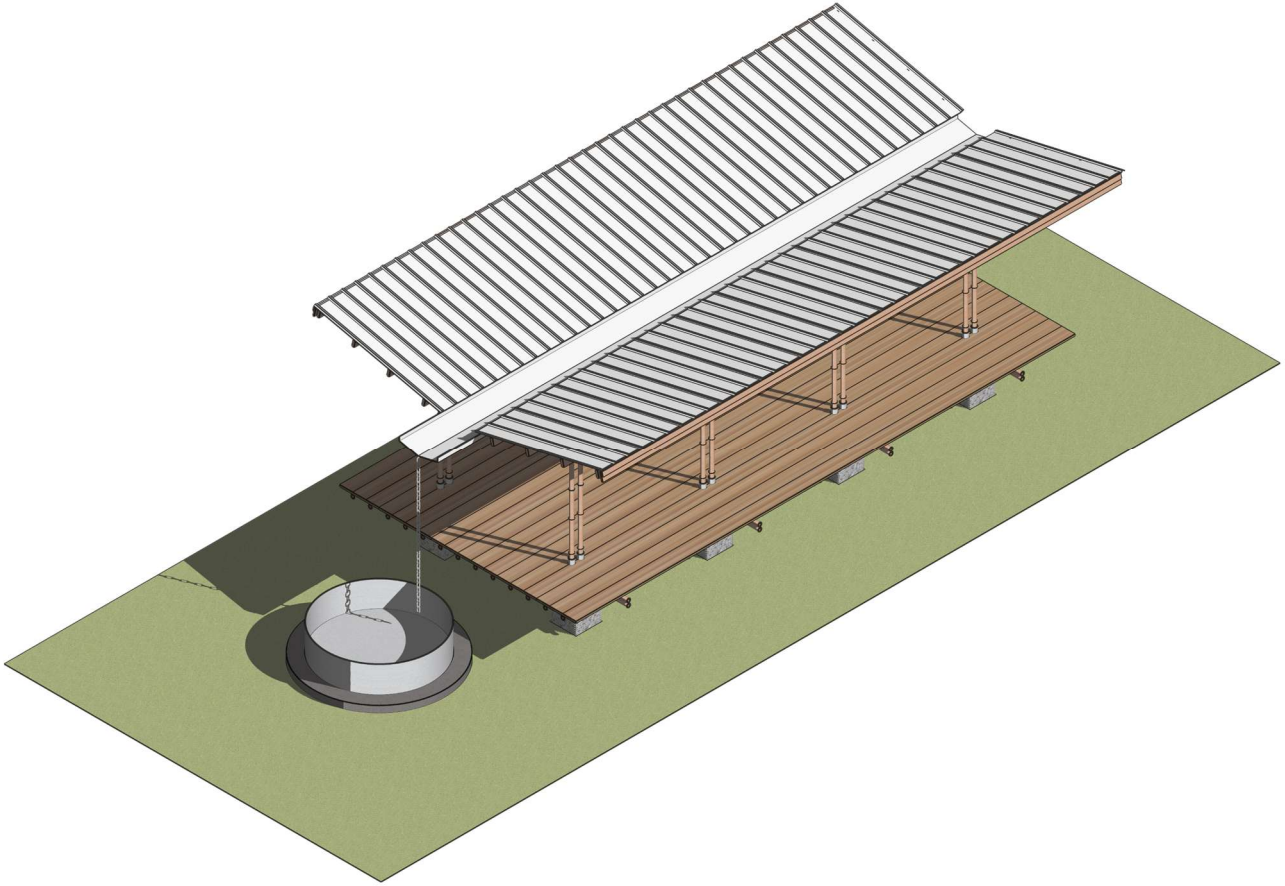
Exaggerated overhang providing shade



Shopping module

Terrace **farming module**

Off-grid water collection



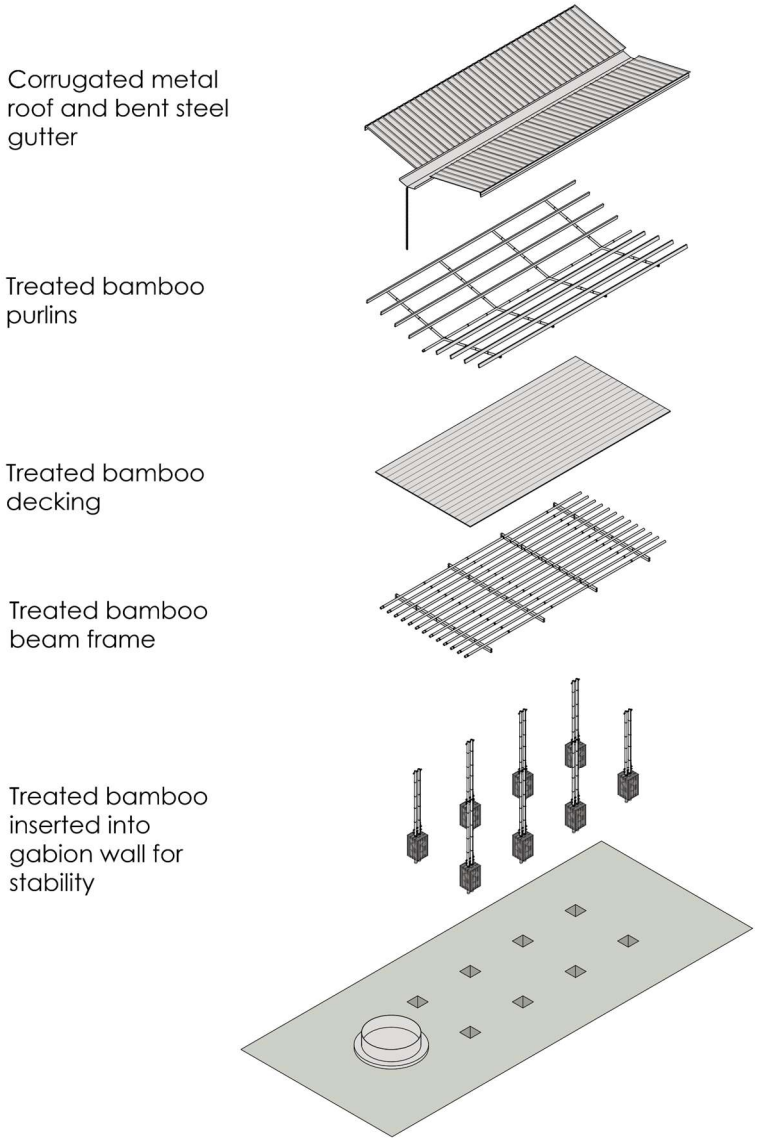
Future phase- Cultivator module

Gabion walls to negotiate the terrain

Treated bamboo as the primary material

Deployed for **2-3 monsoons**

Parts can be **disassembled** and **repurposed**



Light structure

Thank you