Steps in the journey



Jetty at the gateweay of India is the currvent terminal of exit from the mainland



The ferries ply between the mainland and the Island between 9 AM and 4PM



The ferry terminal at Elephanta Island is the primary entry point for tourists



The pier leading to the site has a small train and a walking path adjacent to it.



A small market area has formed at the junction of the pier and heritage steps.



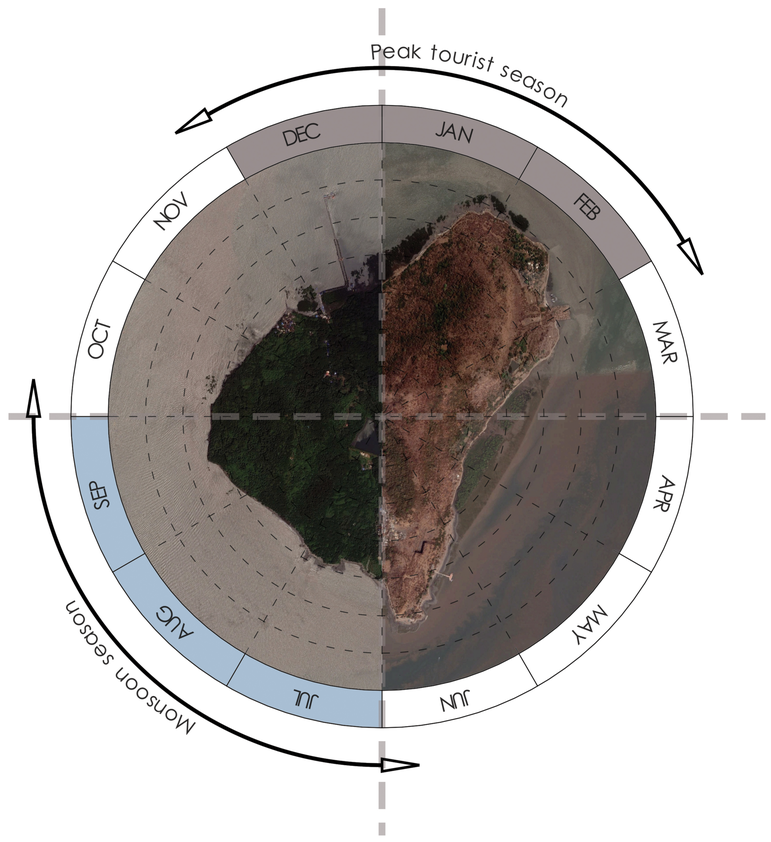
Small shops continue along the heritage steps leading to the caves



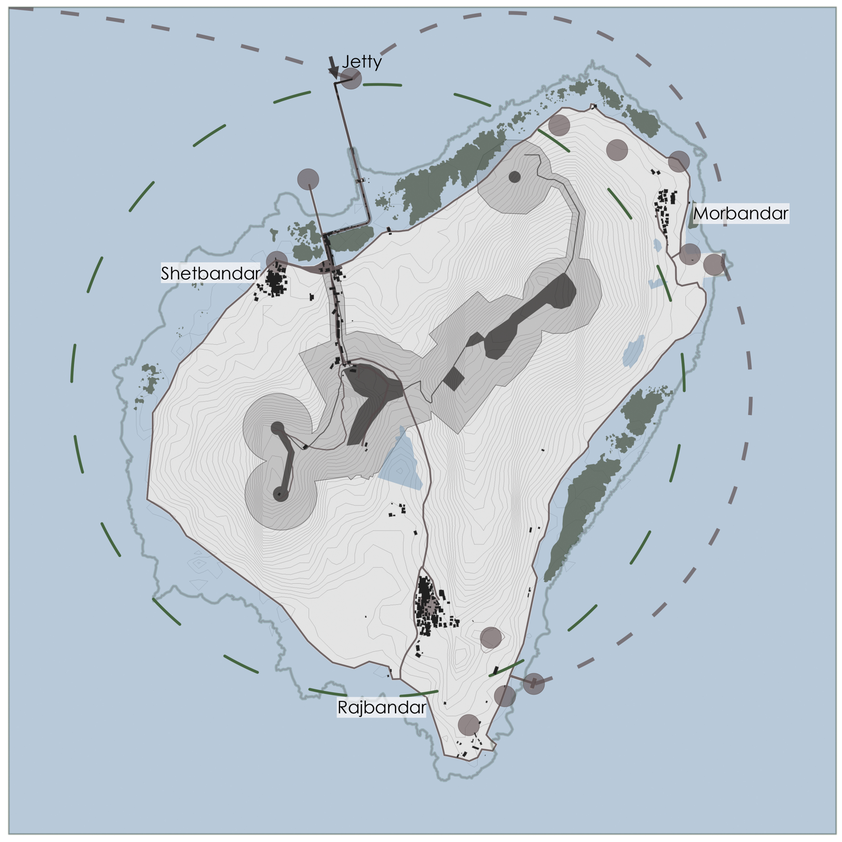
Finally a gate that marks the entry into the UNESCO World Heritage Site.



Elephanta Island mapped within the Bay of Mumbai



Mapping seasonality- Monsoon and peak tourist periods



Elephanta Island Plan



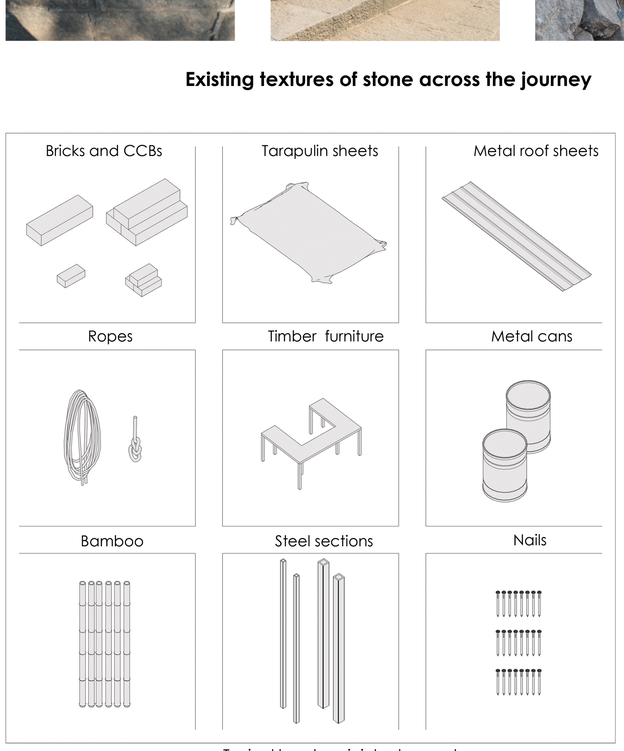
Existing textures of stone across the journey



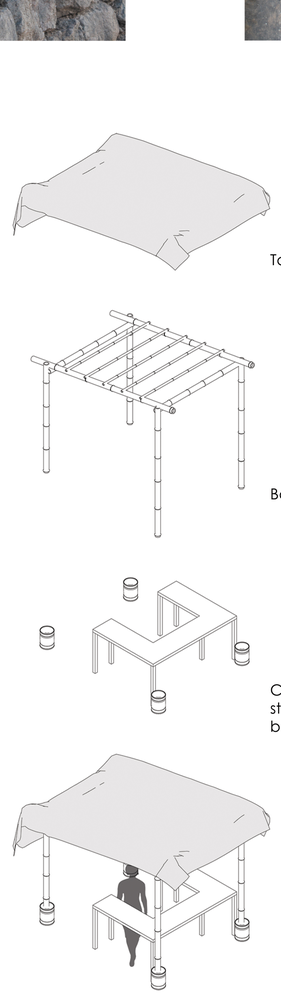
Flooring patterns at different parts of the route

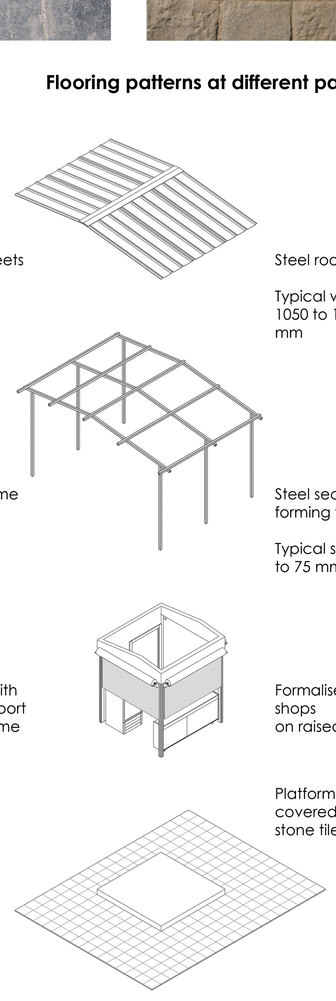


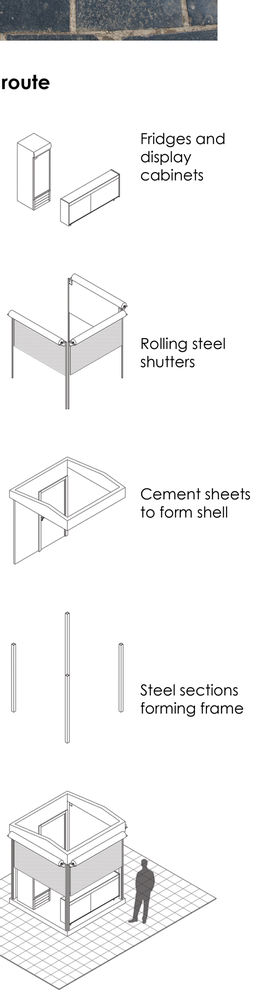
Edge conditions of the pier



Typical informal shop unit

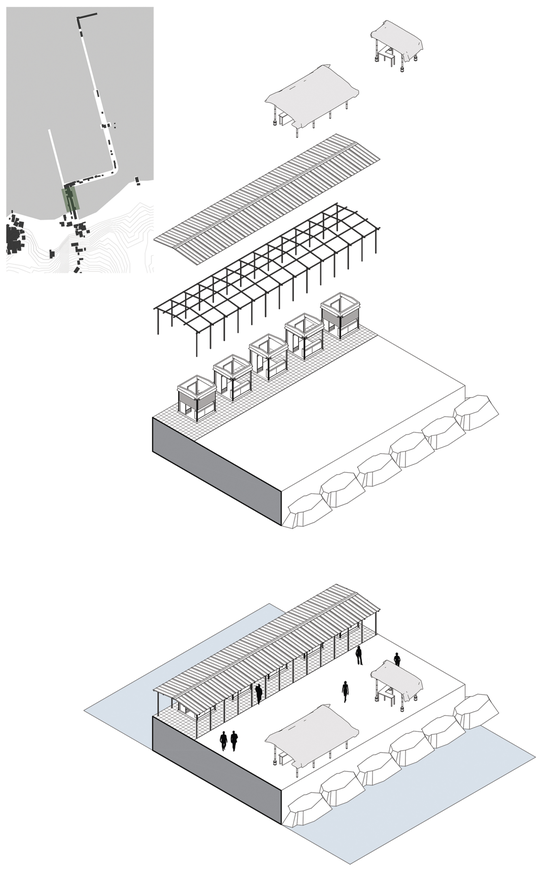






Typical formal shop unit and material breakup

Documentation of the most commonly used materials



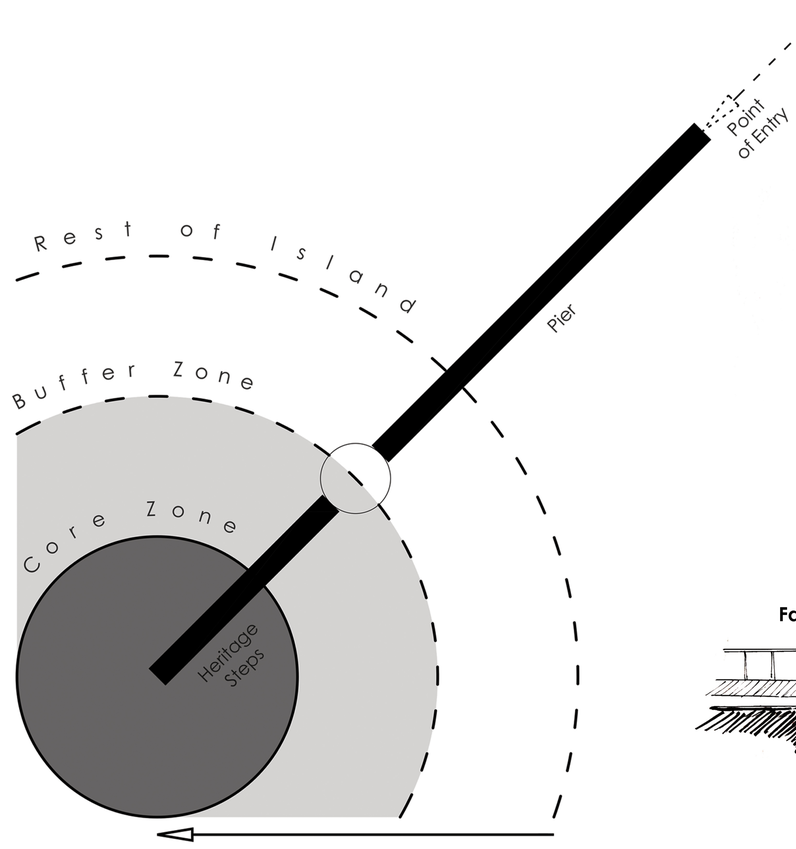
Isometric of the existing market area

Timeline

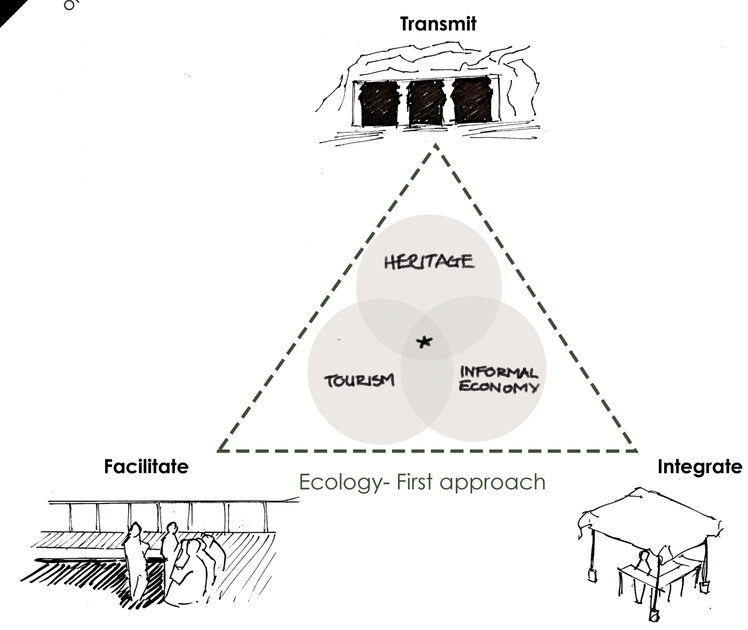


0 m 20 m N

Site Plan of the interventions along the route



Determining the points of intervention between the zones of the Island



Major themes of research and the broad aims of the proposal

Rainwater

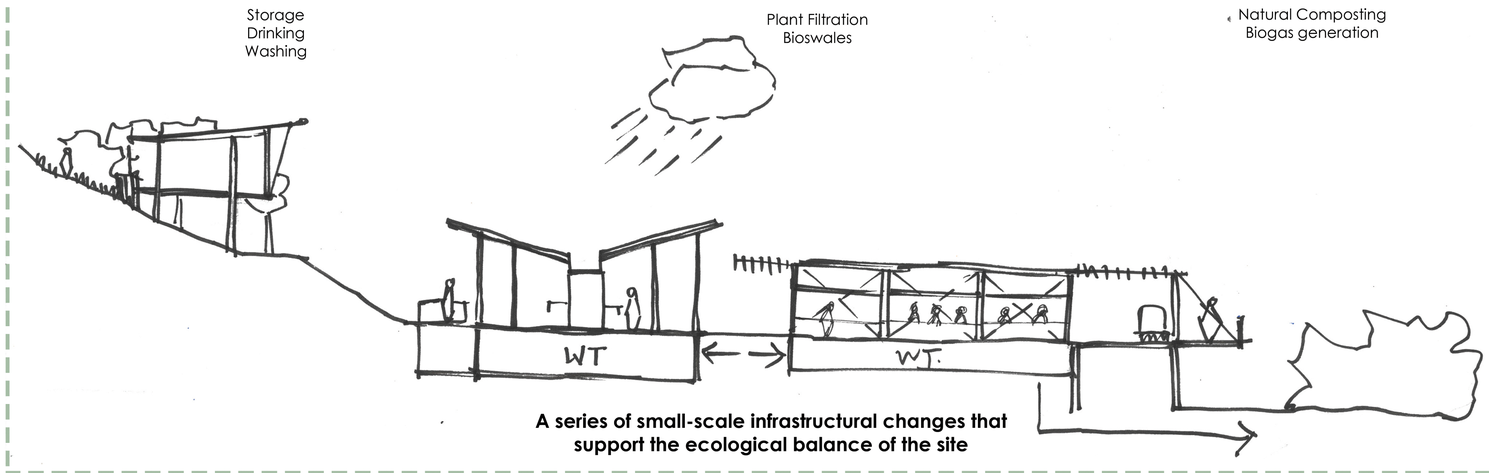
Storage
Drinking
Washing

Wastewater

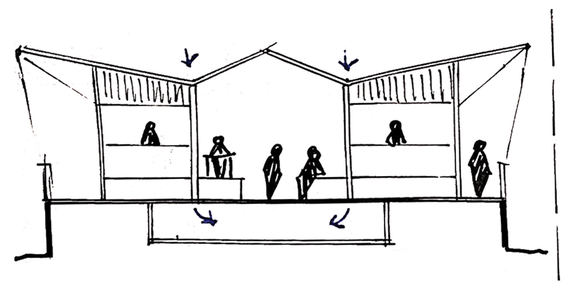
Plant Filtration
Bioswales

Septic Waste

Natural Composting
Biogas generation

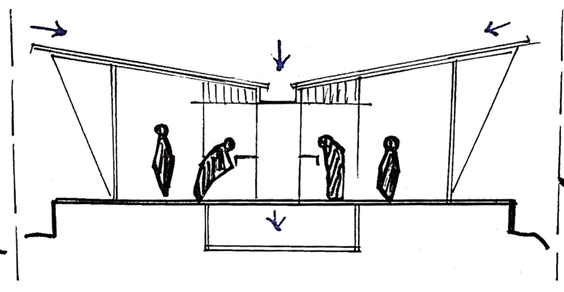


A series of small-scale infrastructural changes that support the ecological balance of the site



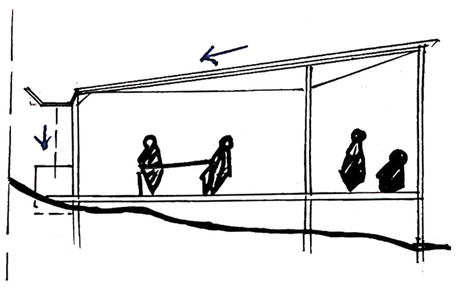
The Catalyzer

Market area reorganized
Viewing Points
Seating spaces
Rainwater harvesting tank



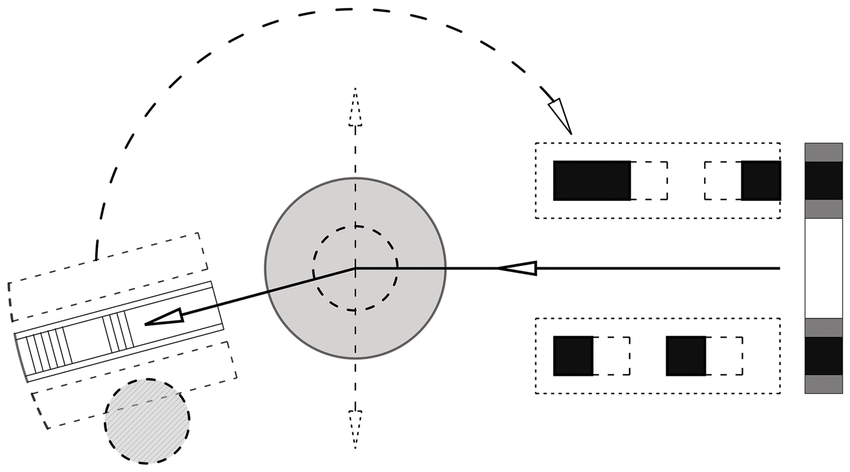
The Collector

Public toilets
Water taps
Public Programmed space
Workshop areas
Admin office



The Cultivator

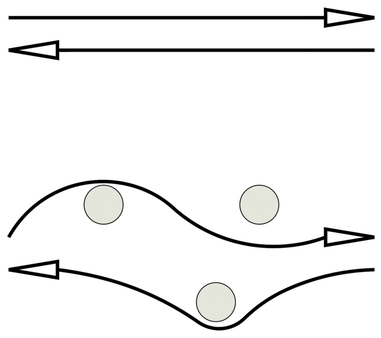
Modular units deployed in the landscape
Terrace farming workshop



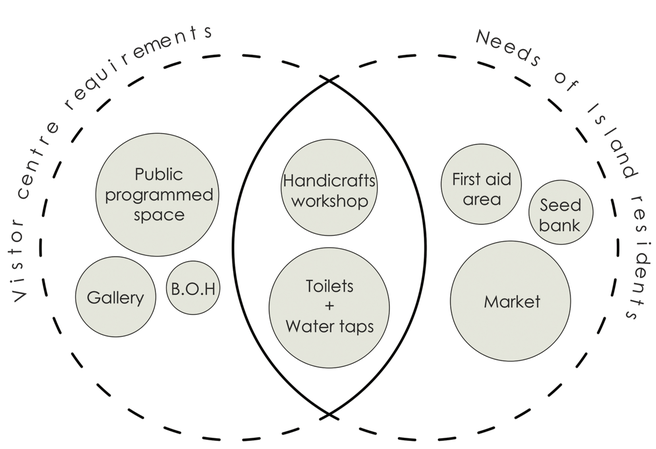
Terrace farming and modular shops along heritage steps

Strengthening routes to other sites on the Island

Reorganized and densifying the market along the pier



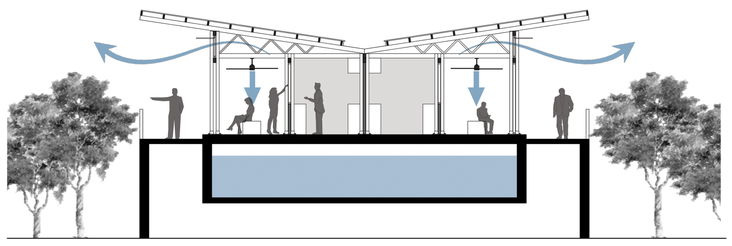
Adding programs along the exiting route to slow down visitors



Shade + Ventilation + Programmed space



Site Section @500- The existing pier is excavated to provide a large water storage tank while minimising resource use



Methods employed to slow down visitors on their journey

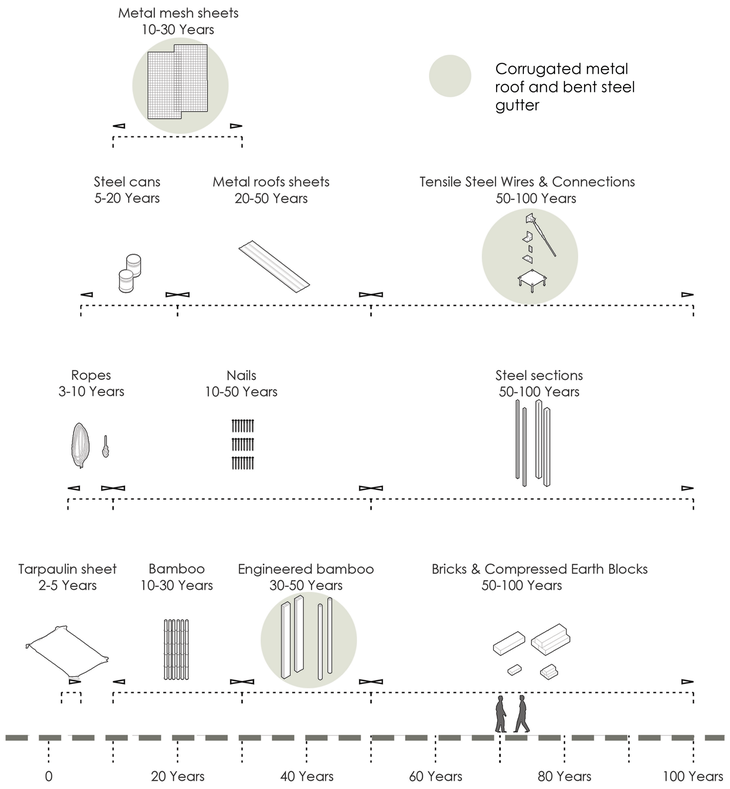
Native Vegetation

	Avicennia marina	Sonneratia apetala	Sonneratia caseolaris	Acanthus ilicifolius	Azadirachta indica	Bambusa (balcooa and bambos	Tamarindus indica	Pongamia pinnata	Aegle marmelos
Common name and use	Grey Mangrove- Absorbs heavy metals (lead, mercury, arsenic), reduces water salinity	Mangrove Apple- Filters organic pollutants, excess nutrients, prevents coastal erosion	Mangrove Tree- Improves water quality and stabilizes soil	Holly Mangrove- Removes pollutants from water in wetlands	Neem- Removes toxins from soil, acts as a natural pesticide	Bamboo- Absorbs heavy metals (cadmium, lead), nitrates, and stabilizes soil	Tamarind- Improves soil fertility, removes fluoride from soil	Indian Beech- Absorbs hydrocarbons and heavy metals from contaminated soils	Bael- Improves soil microbial activity, removes pollutants from water
Size required per plant	5-10 Sq. M	5-10 Sq. M	5-10 Sq. M	2-5 Sq. M	3-6 Sq. M	5-10 Sq. M	4-8 Sq. M	3-7 Sq. M	3-6 Sq. M
Time taken to grow	4-5 Years	3-4 Years	3-4 Years	2-3 Years	5-7 Years	3-5 Years	5-7 Years	4-6 Years	5-7 Years
Key role	Water Purification	Water Purification	Water Purification	Water Purification	Soil Remediation	Soil Remediation	Soil Remediation	Soil Remediation	Require monitoring and management

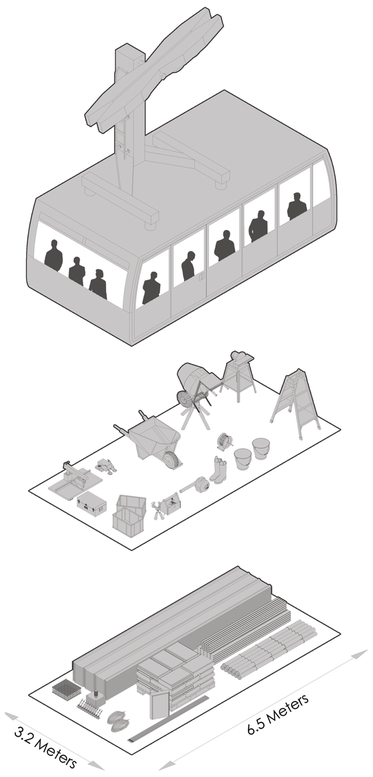
Proposed Vegetation

	Canna indica	Phragmites australis	Chrysopogon zizanioides	Ricinus communis	Colocasia esculenta
Common name and use	Canna Lilly- Absorbs heavy metals, nitrogen, phosphates from wastewater	Reed Grass- Filters wastewater, stabilizes wetland ecosystems	Vetiver Grass- Absorbs toxins, nitrates, phosphates from greywater	Castor Plant- Absorbs cadmium, lead, arsenic from soil	Taro- Absorbs heavy metals from waterlogged areas
Size required per plant	2-4 Sq. M	4-8 Sq. M	2-5 Sq. M	3-5 Sq. M	2-4 Sq. M
Time taken to grow	1-2 Years	2-3 Years	1-2 Years	1-2 Years	1-2 Years
Key role	Water Purification	Water Purification + Require monitoring and management	Water Purification + Require monitoring and management	Soil Remediation + Require monitoring and management	Soil Remediation + Require monitoring and management

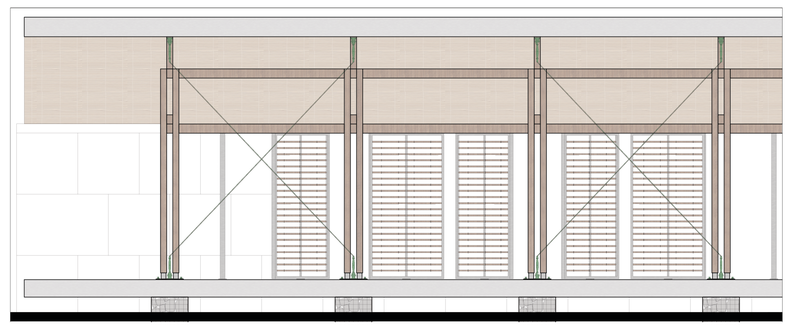
Phytoremediation forming the bedrock of the ecological intervenions



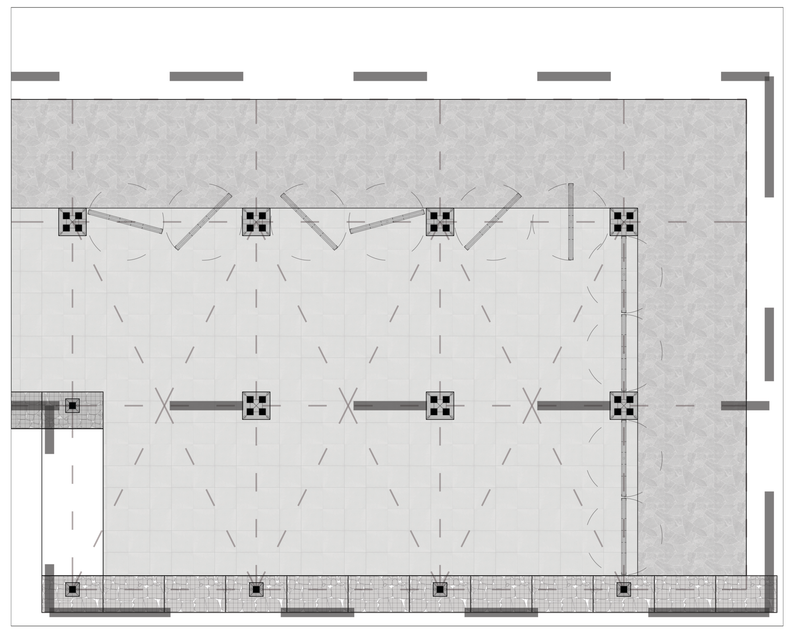
Material life cycle study- To determine the final kit that would be employed across the structures



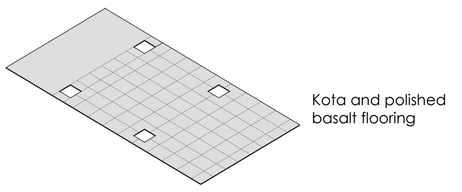
Logistics- Relying on boats or the ropeway for material movement incentivizes small modular components that can be assembled on site



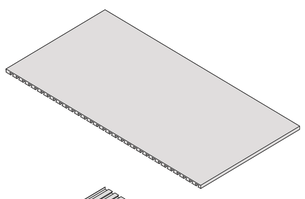
West facing facade @ 50



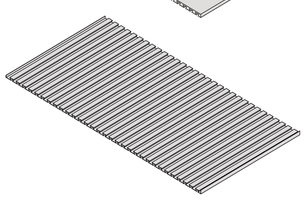
Part Plan @ 50



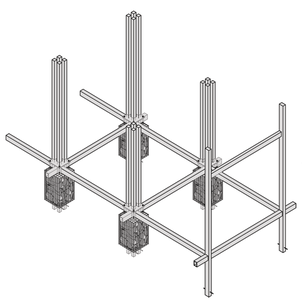
Kota and polished basalt flooring



In-situ concrete

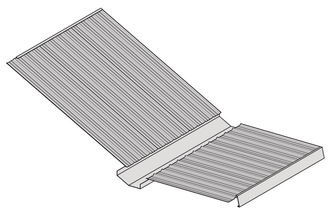


Steel decking sheet

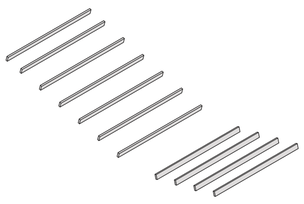


Engineered bamboo and steel frame

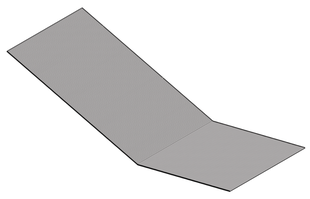
Structure and floor material breakup



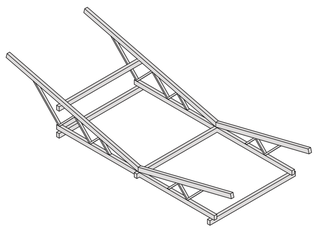
Corrugated metal roof and bent steel gutter



Engineered bamboo purlins

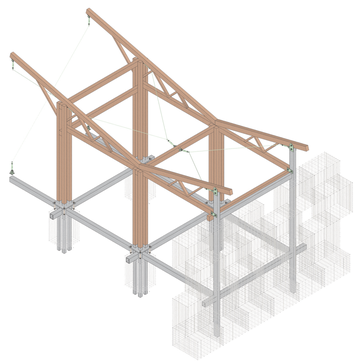


Treated bamboo decking



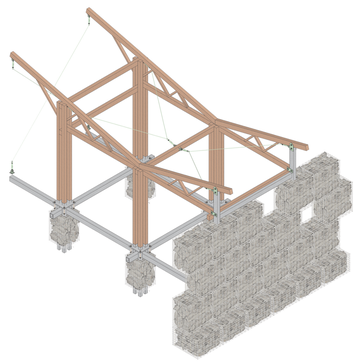
Engineered bamboo rafter and beam frame

Roof construction and materials



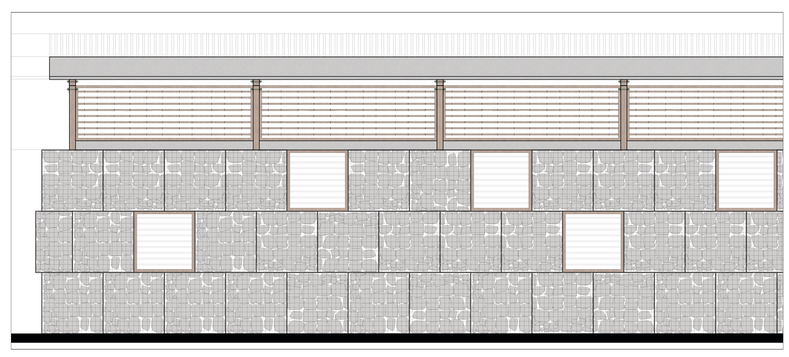
Steel column inserted first

Metal sheet frame constructed around column

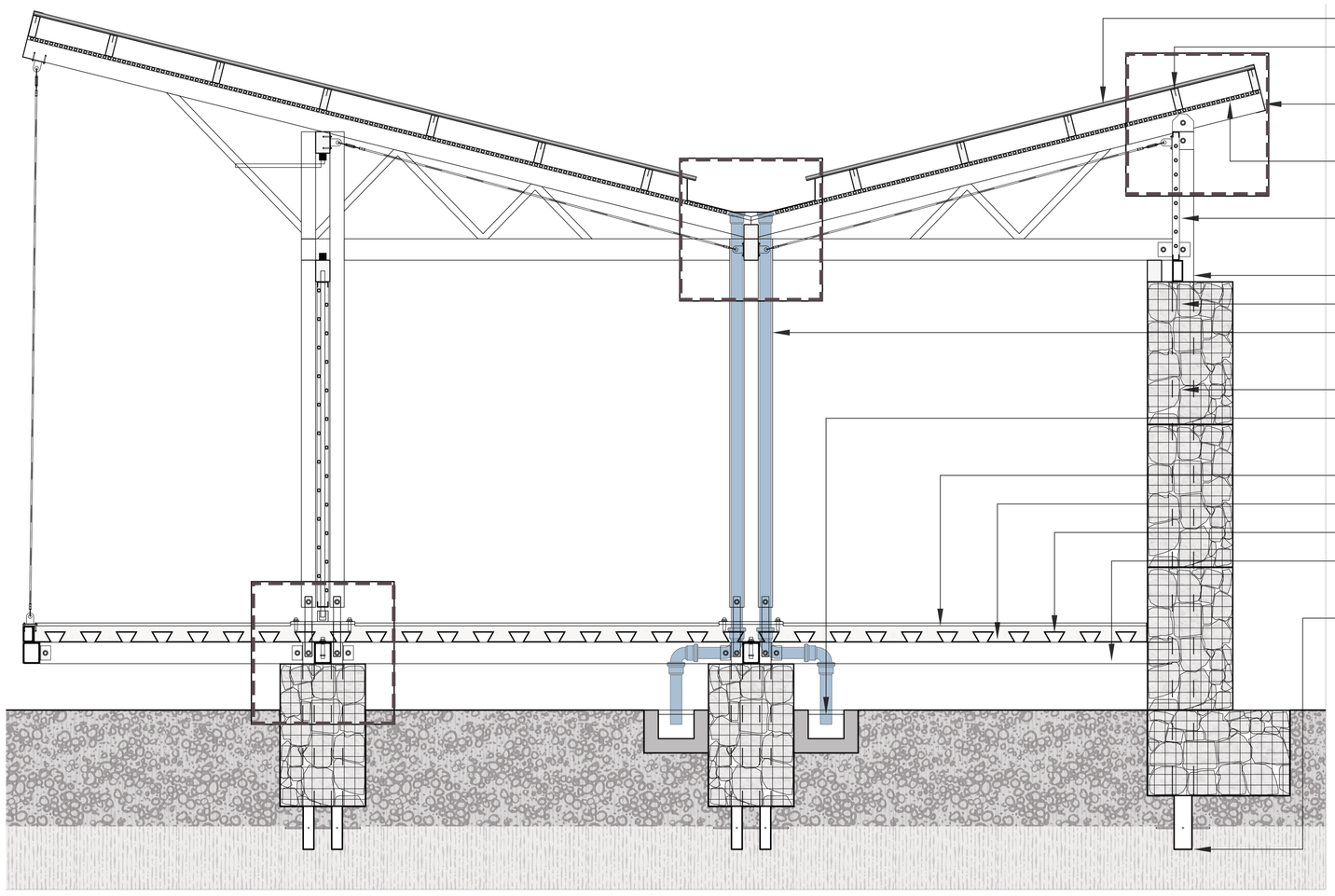


Each smaller gabion wall is filled one at a time layer by layer

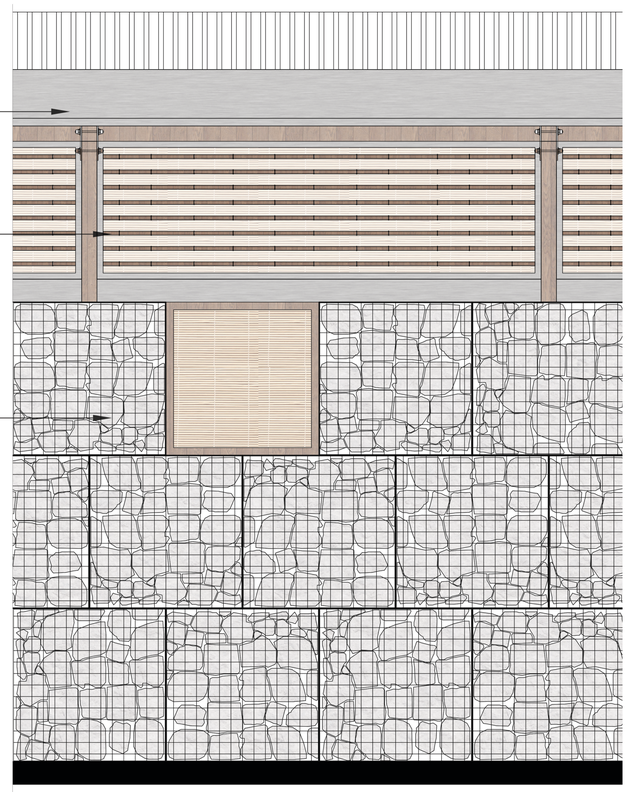
Gabion wall construction method



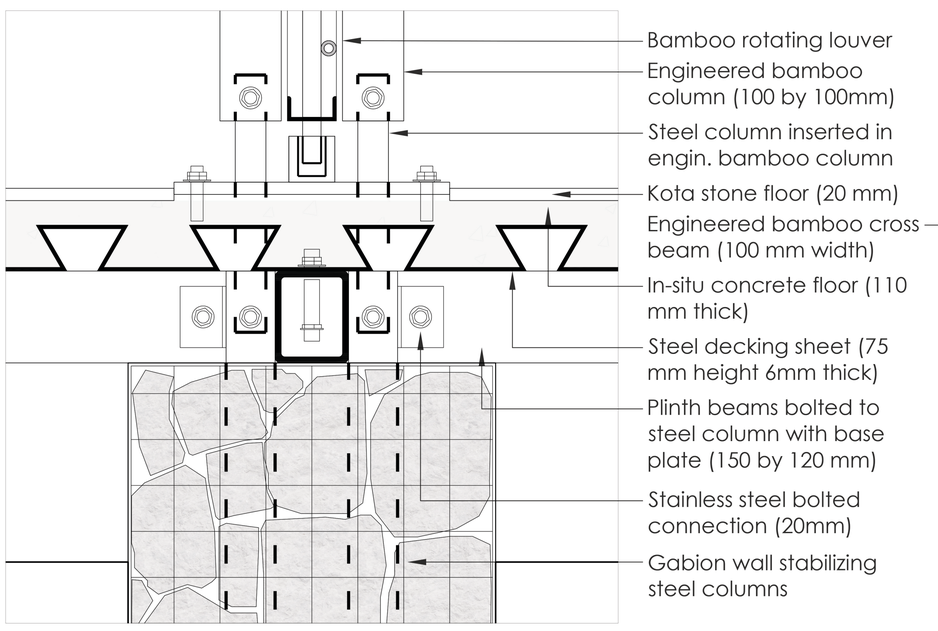
South facing facade @ 50



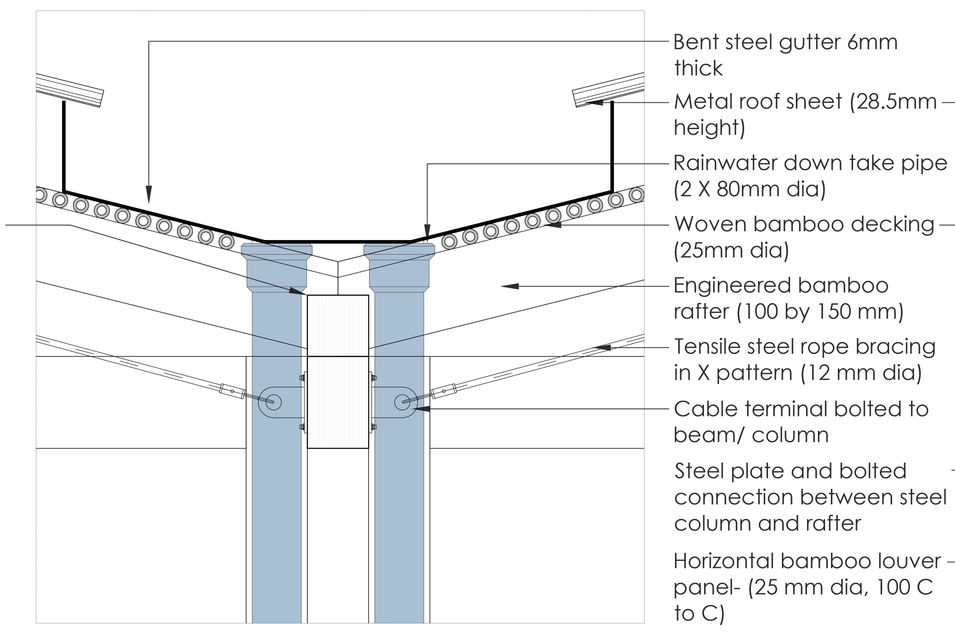
Fragment Section @ 20- Section through one of the Collector structures



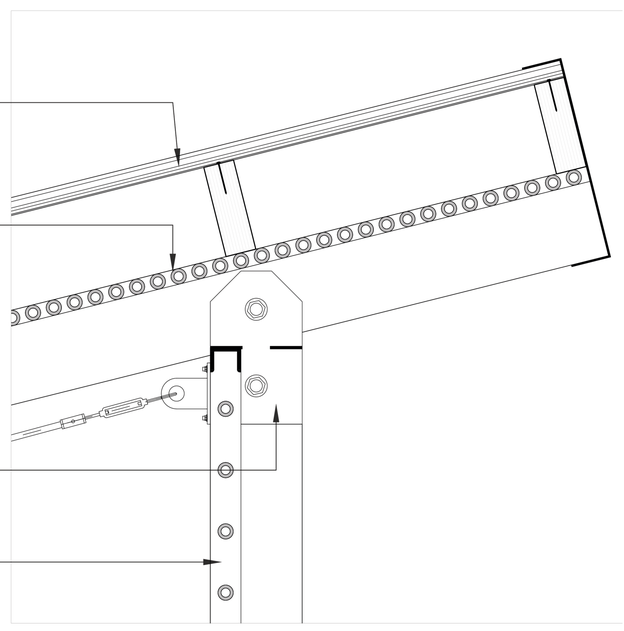
Fragment Section @ 20- Section through one of the Collector structures



Detail @ 5- Gabion wall and column connection



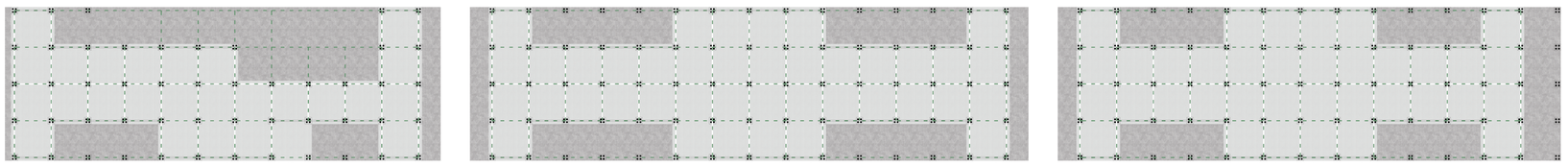
Detail @ 5- Rainwater harvesting detail



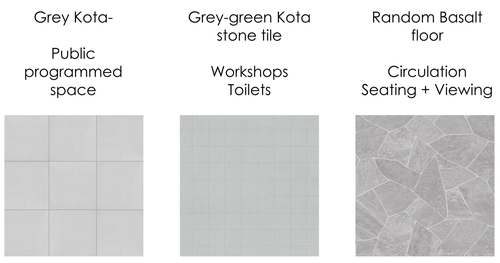
Detail @ 5- Roof construction



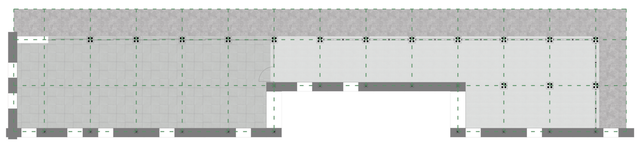
Section through The Catalyzer and Collector @ 75- Both major interventions are at the foot of the heritage steps. They aim to maximize shaded spaces with exaggerated overhangs and courtyards



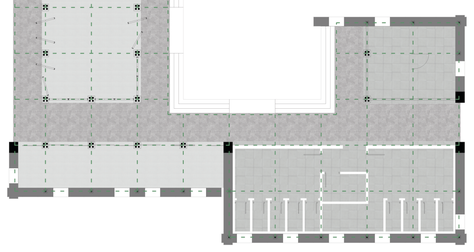
The Catalyzer @ 200- Reorganized market area. Modularity through sliding wall panels so shops can expand or contract based on demand



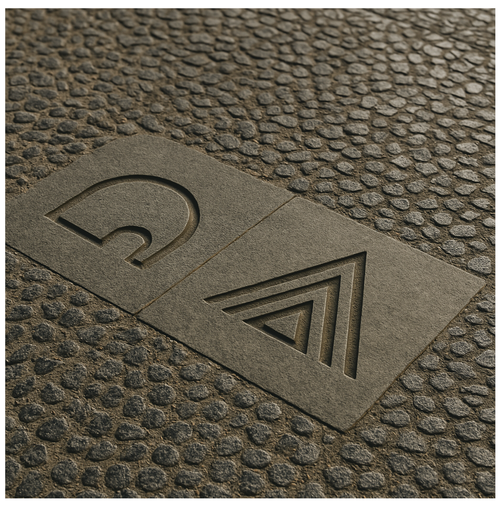
Delineation through material



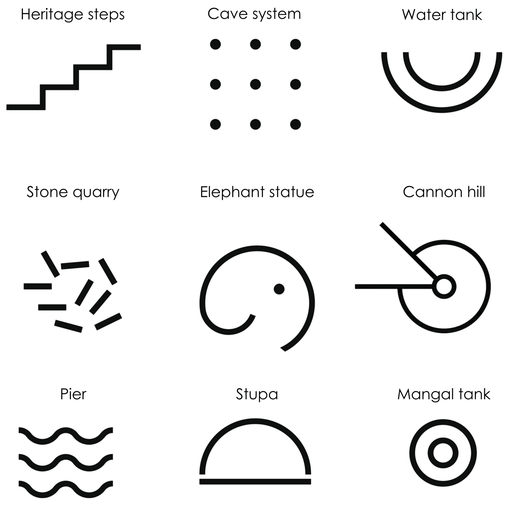
The Collector @ 200- Workshop + Office + Service areas



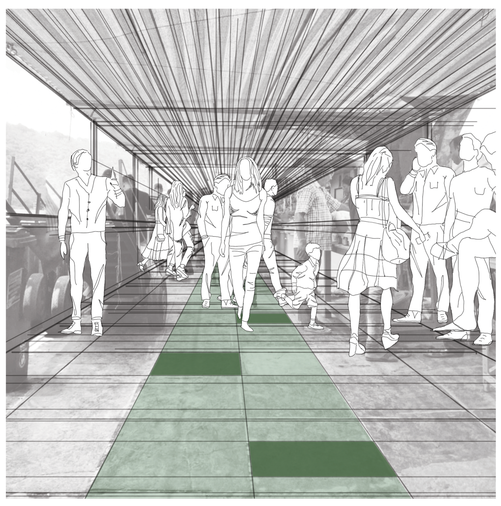
The Collector @ 200- Public toilets + Water taps + Workshop + Office + Service areas



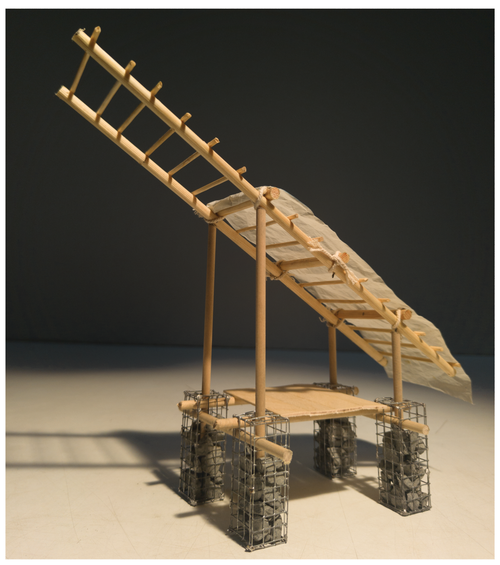
View- The narratives of the other sites on the Island



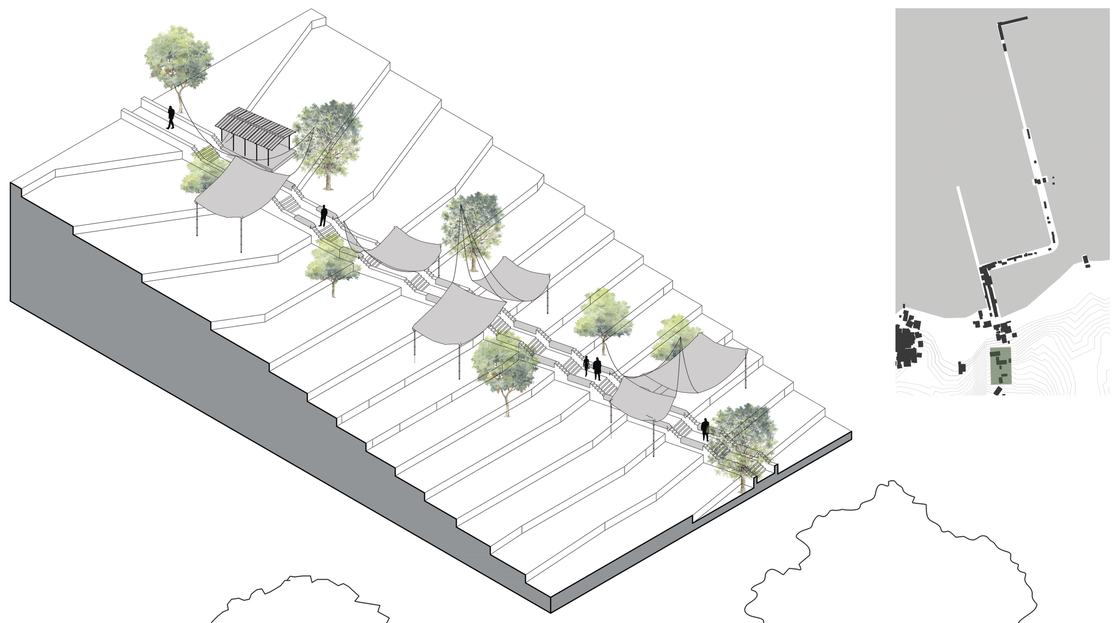
Symbolism- Abstracting symbols of important sites on the Island



Narratives woven into the route- Sybolic tiles spread across the roue to the caves

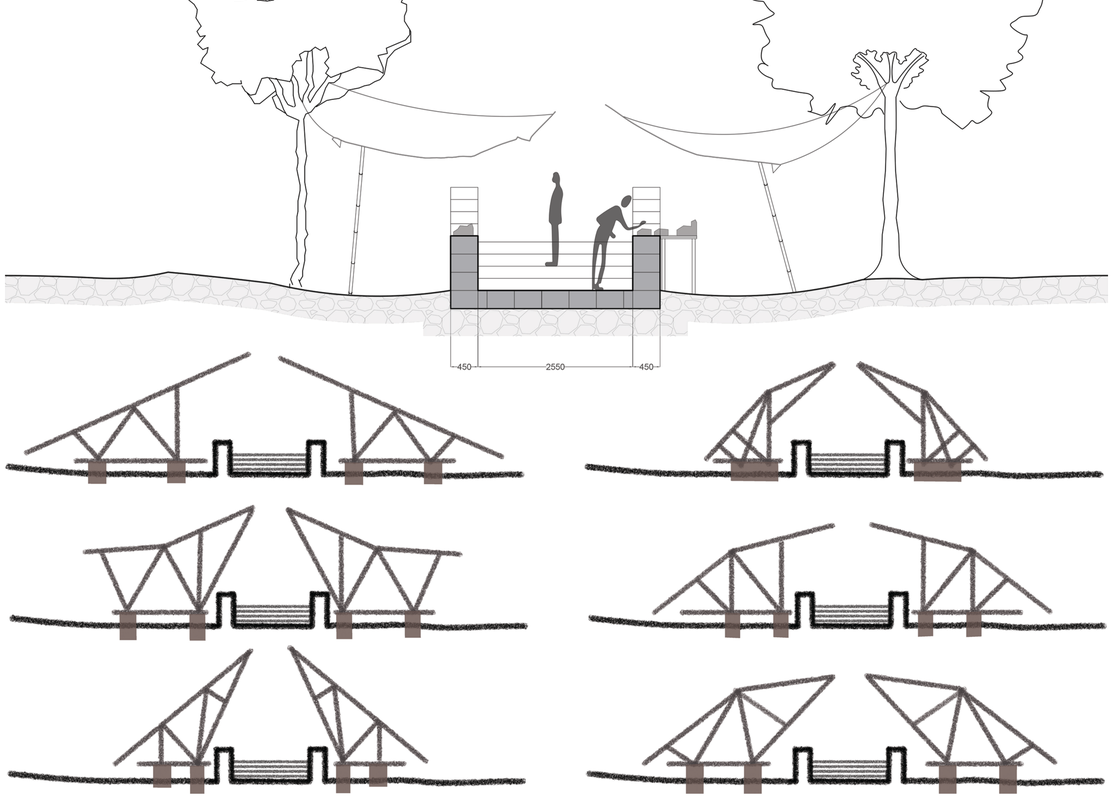


A model of a typical shopping unit- Designed for dissasembly, these units are proposals along the heritage steps

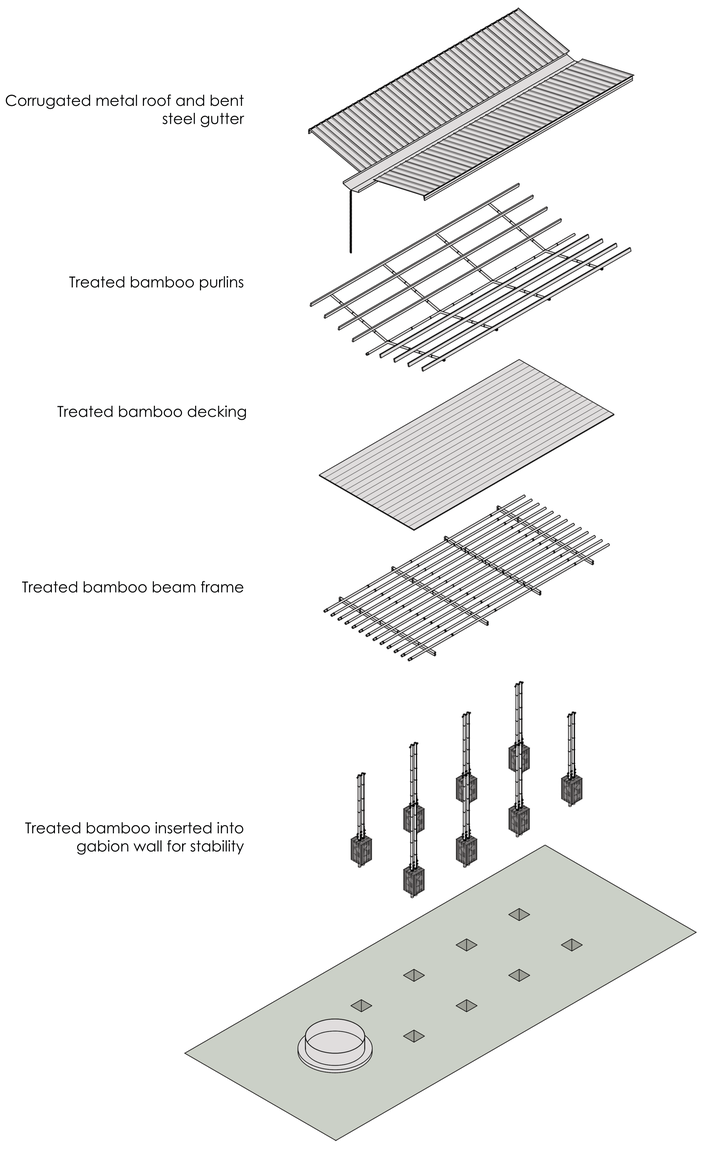




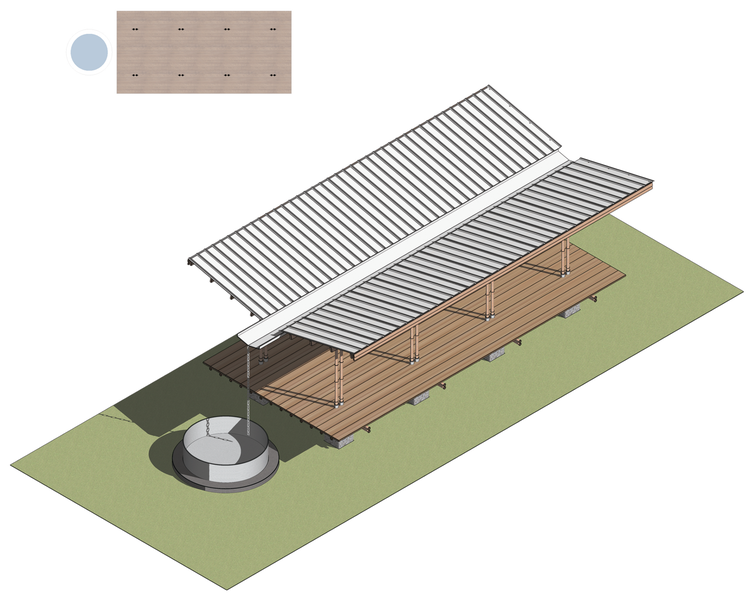
Kit of parts- Employing resources availible on the Island, the proposal offers flexibilty to the sellers



Modularity = Flexibility- The kit of parts approach allows each seller to customise their own unit. The only focus will be on an exaggerated roof to provide shade for visitors along the heritage steps.



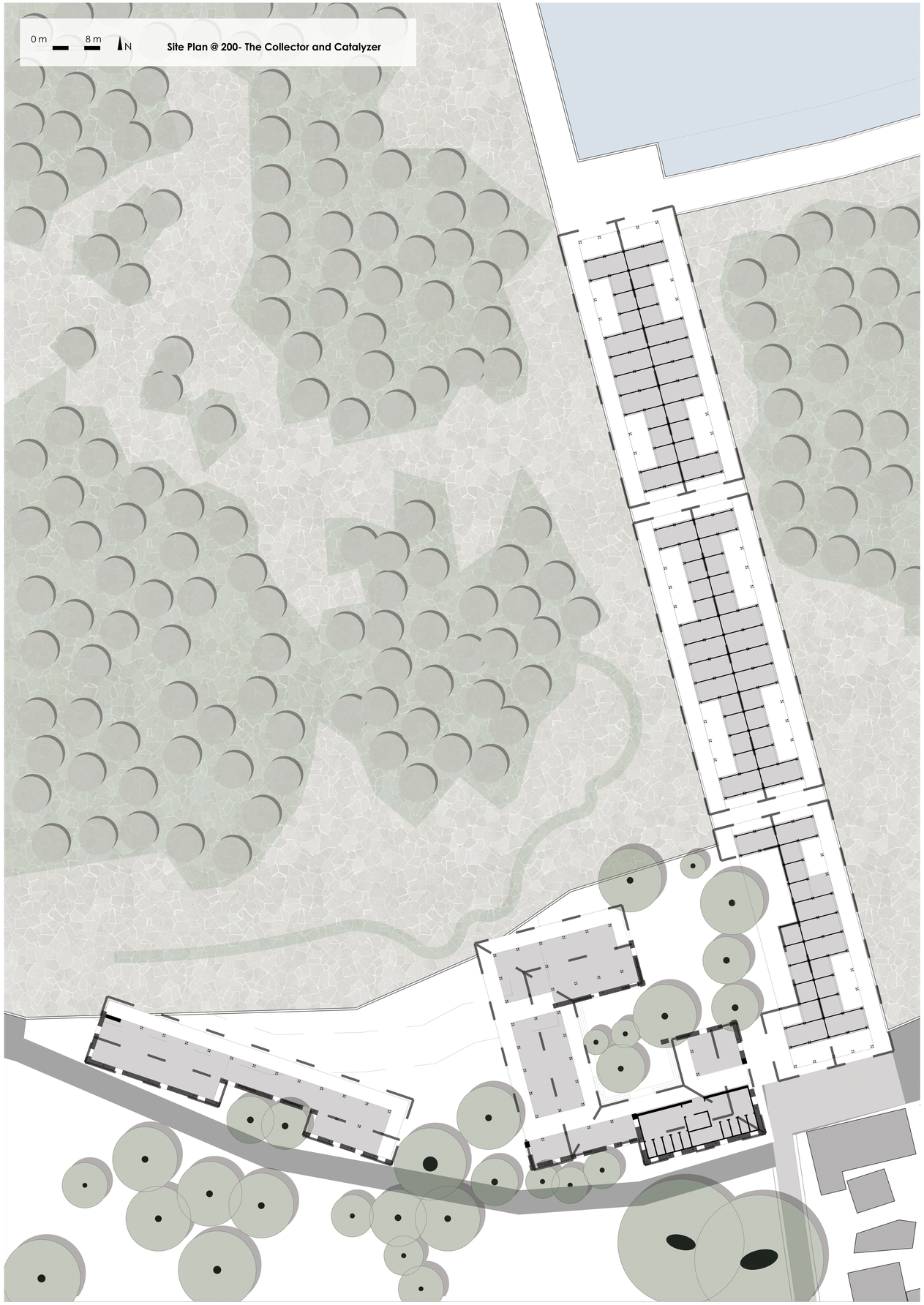
Construction of the modular Cultivtor units- Small components primarily bamboo and integrated with gabion walls to deal with the uneven terrain of the site



Isometric of the Cultivtor units- Designed for dissasembly, these units have seed storage and collect water for agricultural purposes.

0 m 8 m N

Site Plan @ 200- The Collector and Catalyzer



0 m 80 m N

Nolli Plan @ 2000

