PORTFOLIO

ARCHITECTURE

Ekta Rakholiya

Ekta Rakholiya

// Architect // Ornithology Enthusiast // Graphic Designer //

rakholiya.ekta@protonmail.com
ekta.rakholiya92@gmail.com
(India) 91-7048835894
www.linkedin.com/in/ekta-b-rakholiya

Skills

Architecture
Drawing
ArchiCAD
AutoCAD
Rhinoceros
Sketchup
QGIS
ArcGIS
Ecotect
Radiance

Editing & Graphics
Adobe Photoshop
Adobe Indesign
Adobe Lightroom
Adobe illustrator
Adobe Premier Pro
Adobe After effects
Artlantis Render
Vray Render
Microsoft Office
Microsoft Excel

Production
Laser cut Machine
CNC milling router
Woodshop tools
Model making

Languages
English
Kathiyawari
Gujarati
Hindi
Sanskrit

Education

2013-18// Bachelor of Architecture (B.Arch.)
Center of Environmental Planning and Technology (CEPT) University // Ahmadabad, India *(Portfolio based transfer admission in 2nd year of B.Arch. Studies)*

2016// Student exchange program (Archineering)
Department of Architecture - TU Delft // Delft, The Netherlands (*Student exchange program*)

2011-12// B.Arch. First year // Vadodara Design Academy // Vadodara, India

2011// 12th Grade // Kendriya Vidyalaya - 1, Air Force // Vadodara, India (*secured 86%*)
2009// 10th Grade //Kendriya Vidyalaya - 1, Air Force // Vadodara, India (*secured 89%*)

Work Experience

Practice

April 2018// Junior Architect (Volunteer)
Bremen Overseas Research and Development Association //NGO, Leh-Ladakh, India

Feb-Mar 2018// Architect (Volunteer)
Ladakh Ecological Development Group //NGO, Leh-Ladakh, India

Jun 2015 - Jan 2016 // Candidate Architecture Intern
Competence Center for Envelopes and Solar Energy //CC-EASE at Lucerne University of Applied Science, Lucerne, Switzerland

May-Jun 2014// Architecture Intern
Beyond Green Landscape Architects //Ahmadabad, India

Workshops

2017// Archiprix 2017 (*the world's best graduation projects*)- The City Positive
The workshop explored engagement beyond built environments and study how through the "tyranny of small decisions" at city level drives potential long term impacts that shapes a city and its people //Ahmadabad, India

2014// Auroville Bamboo Centre
Exploring bamboo construction to learn various forms of arches, walls and domes techniques. In the process, built 4m tall storage space structure //Pondicherry, India

2013// Center of Science and Technology for Rural Development (COSTFORD)
Learnt various cost effective construction techniques with mud, stone, filler slab and bamboo- earth foundation //Thiruvananthpuram, India

City Documentations, RSPs (Related study programs), Winter schools

2015// Sculptural Exploration, Winter School
Explored making various scale sculptures using diverse scrape and cheaply available materials //Ahmadabad, India

2014// Film making and Appreciation, Winter school
Wrote, narrated and directed Short documentary film - "In search of Hope" about the Tibetan refugee and their support system in India //Ahmadabad, India

2013// Understanding life and living in Rural areas, Winter school
Understanding dynamics of rural settlement and how it functions economically, socially and financially //Visalpur Village, Ahmedabad

2012// Documentation, RSP
Mapping and measure draw stone houses settlement //Khetri Village, Rajasthan

2012// Documentation, RSP
Mapping and measure draw wooden houses settlement //Sankhenda Village, Gujarat

2011// Documentation, RSP
Mapping and measure draw old market and it's operation dynamics //Vadodara, Gujarat

Competitions & Selected Awards

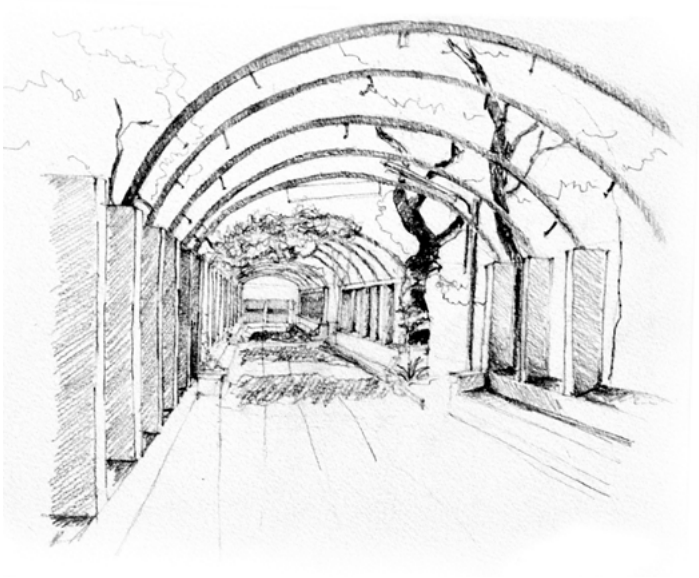
2017// Designing Resilience in Asia, (Conducted by NUS) //Honorable mention
Received 'Honorable mention' for the proposal 'Strengthening W.E. - Building with Nature' in Semarang City// NUS, Singapore

2017// City positive: Finding order in Chaos // Exhibition
Selected for the 11ª São Paulo Bienal de Arquitetura 2017. Exhibited during the Event. Developed and presented by team of ten architecture students from various countries during the Archiprix Conference 2017 at CEPT University, India // Sao Paulo, Brazil

2017// The Black Taj International Competition // Shortlisted entry
Conducted by UN-FUSE, secured shortlisted entry amongst 400 proposals from 35 different countries for outstanding performance in competition // Agra, India

2014// Best model maker of the year // CEPT University
For best exploration with brick in Construction Technology Module // Ahmedabad, India

2013// Aadarsh Photography Competition // Top 10 Shortlisted entry
For photo essay " Old-city scape: Spaces" // Delhi, India



Content

Project//
"RAAHAT" Public convenience center in high altitudes of Ladakh

Location// Hundar Village, Nubra Valley, Ladakh

Team//
Tsephel Stanzin (Project conceiver, leader, and head of BORDA), India
Ar. Latha Raman (Chief Architect), Jai Gopal (Chief Architect)
Ar. Boghadi (Execution Architect),
Ekta Rakholiya (Junior Architect, Volunteer through LEDeG and BORDA)

Design Concept

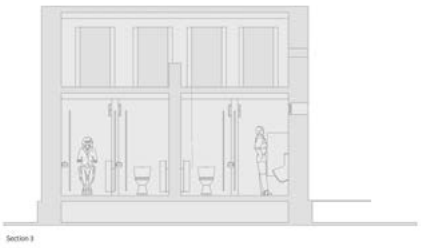
My Role//
Conceptualising design along with Ar. Bogadhi, creating renders and drawings for the project, one of the communicating member with Leh Government to facilitate design implimentation

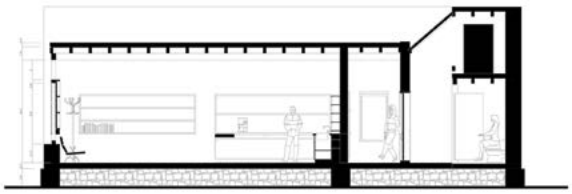
The Project - RAAHAT, conceived by Mr. Tsephel Stanzin (head of Bremen Overseas Research and Development, Asia wing) in partnership with Government of Leh; was a project to address the need of sustainable public convenience centers. Due to high influx of tourists that Ladakh has experienced in last decade, the demand for responsible tourism was very much needed to keep the ecosystem intact. In this cold desert, the team was asked to conceive pilot project design for four public convenience outlet in four different climatic regions of Ladakh.

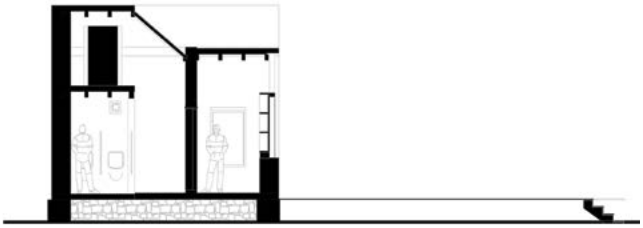
My key role involved specifically in Hunder village (Nubra Valley) where my contribution was in form of design conception, formulating local construction techniques and solar trombe walls in the design in guidance of Ar. Bogadhi who had been actively working in the region since last six years.

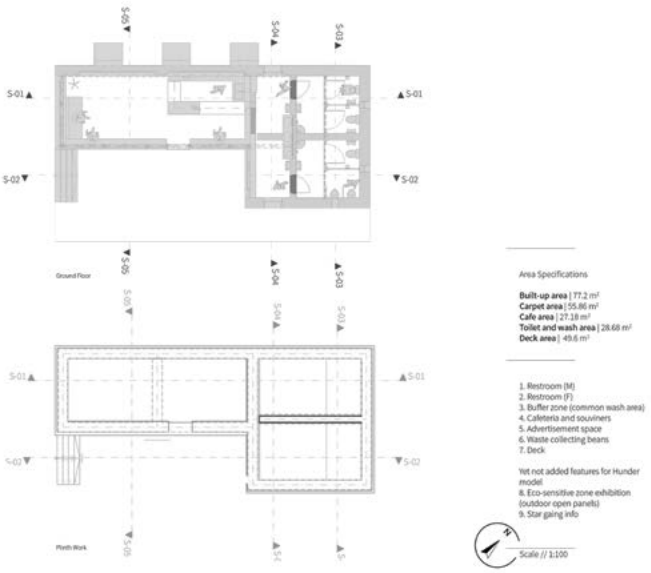
In such fragile landscape and the third pole of the globe, the most challenging part of the design was to built in a way that has minimum impact to the landscape. Hence, following design was conceived that consider dry wall construction (without foundation), rammed earth wall construction and keeping the design as simple as possible and creating something that tend to merge with the landscape.

All though it was very small and simple intervention, the through research and inputs of leading sustainable designers (Ar.Latha Raman and Ar.Jaigopal) of India had been a very rigorous and lengthy process.









Design Concept

Project// Strengthening W.E (Water Ecosystems), Build with nature

Location//Semarang, Indonesia

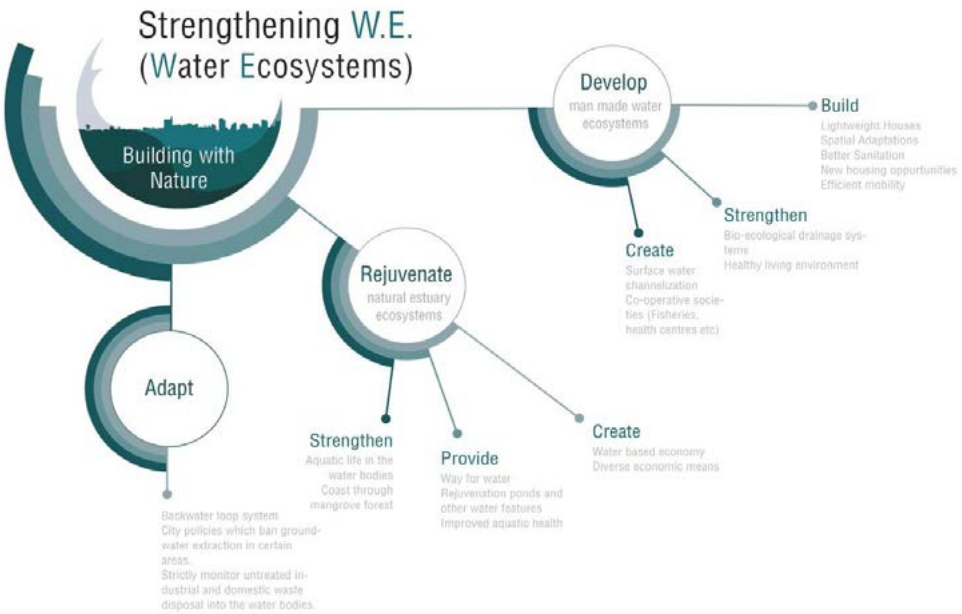
Team//Ekta Rakholiya, DVNL Chandra Bhanu

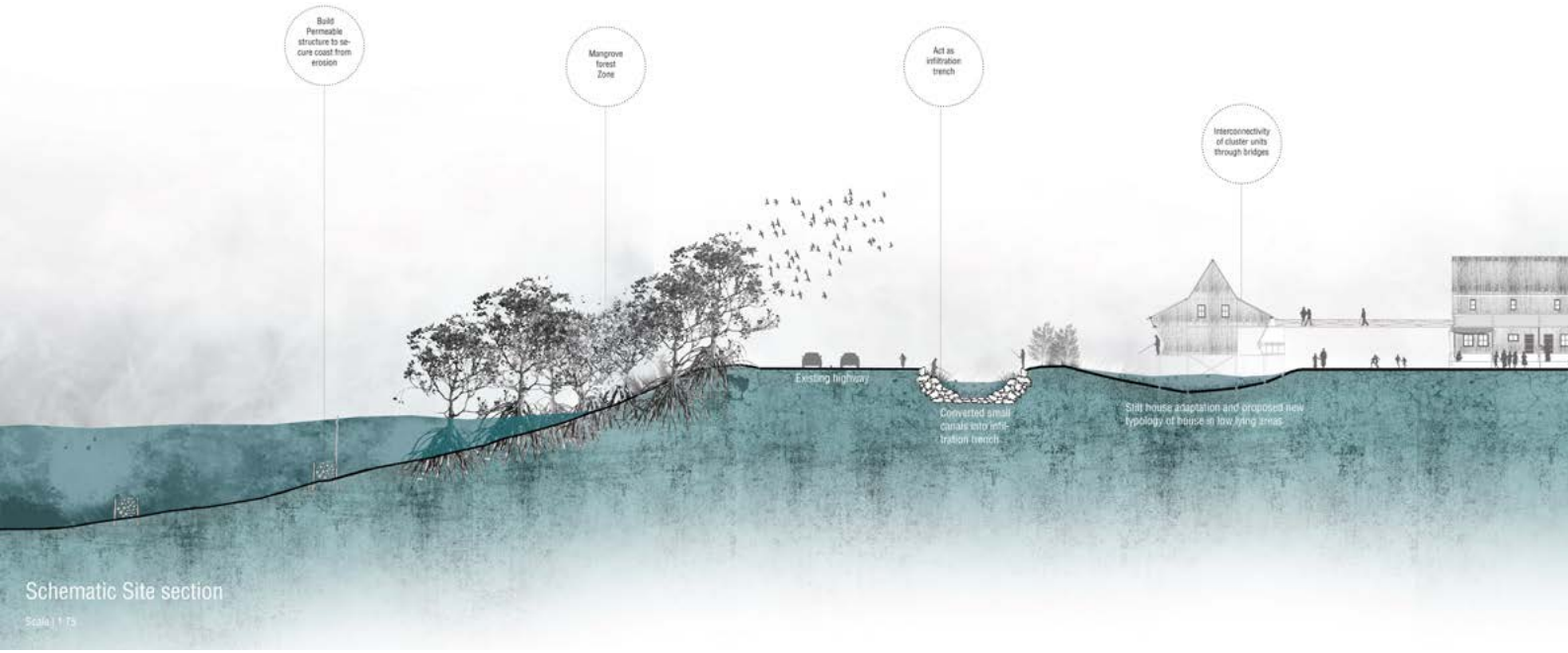
My role// To conceptualise the design, develop, create presentation drawings and draft final lay outs

The project title “Strengthening W.E.(Water Ecosystem), Building with Nature” refers to developing and maintaining healthy coastal and river ecosystems through prolonged interactions between human beings and nature. Hence, W.E. the people, unite together to develop and rejuvenate water ecosystems and adapt to a new kind of resiliency provided by the nature.

The vision for the design concept is to achieve holistic disaster resiliency, by not dealing but living with water through three major actions : Develop, Rejuvenate and Adapt. To create such conditions, the proposed action plan provides spatial adaptation strategies to tackle tidal flood and the flash floods are tamed through reviving natural ecosystems. In the process, ecological interventions will eventually be able to absorb shocks and in return provide diverse economic means around it.

The execution of the concept envisions a Low Impact Development approach. Also, considering the scale at which Semarang city faces disaster problems, it require a strategy where bottom-up shakes hand with top-down. Through our proposal, we have made a conscious attempt to en-corporate it and develop a scenario of friendlier governance.



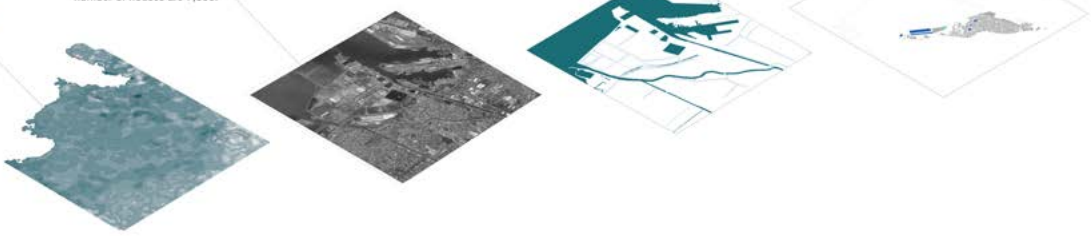


Topography
Most of the low lying areas are located on the edge of the site towards the main road which acted as a dike before the land in front of it got reclaimed, which suggests that there is a need to connect the flood retention canals on both sides of the site through an intermediary canal which also act a detention basin.

Existing urban fabric
Main growth of the settlement has been due to the presence of the ring road, therefore, the new urban intervention could positioned towards the ring in order to achieve more urban cohesion.
Number of inhabitants - 19,000 and number of houses are 7,800.

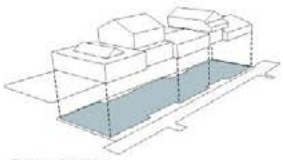
Water Networks
Main growth of the settlement has been due to the presence of the ring road, therefore, the new urban intervention could positioned towards the ring in order to achieve more urban cohesion.

Institutions and public spaces
The unorganized placements of some of the smoking fish industries can be seen as a hindrance to the daily economic life of the settlement. Therefore, the position of the smoking fish industries can be shifted inside

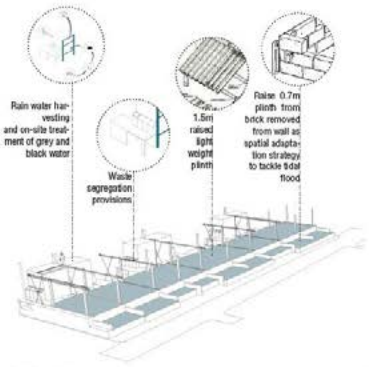


Site Analysis and Inference

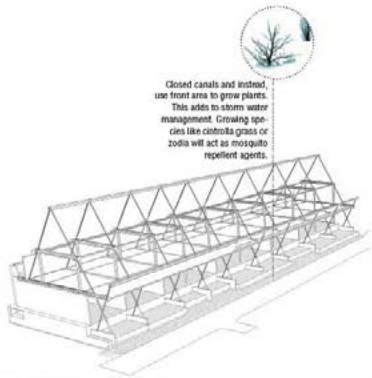
Man made water systems and Housing adaptations



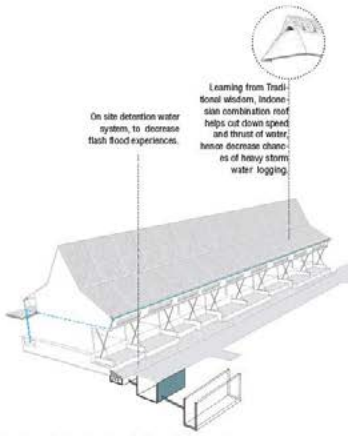
Existing plot cluster



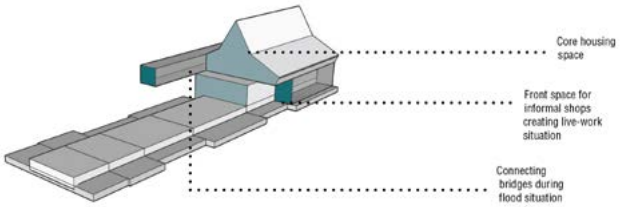
Raising plinth



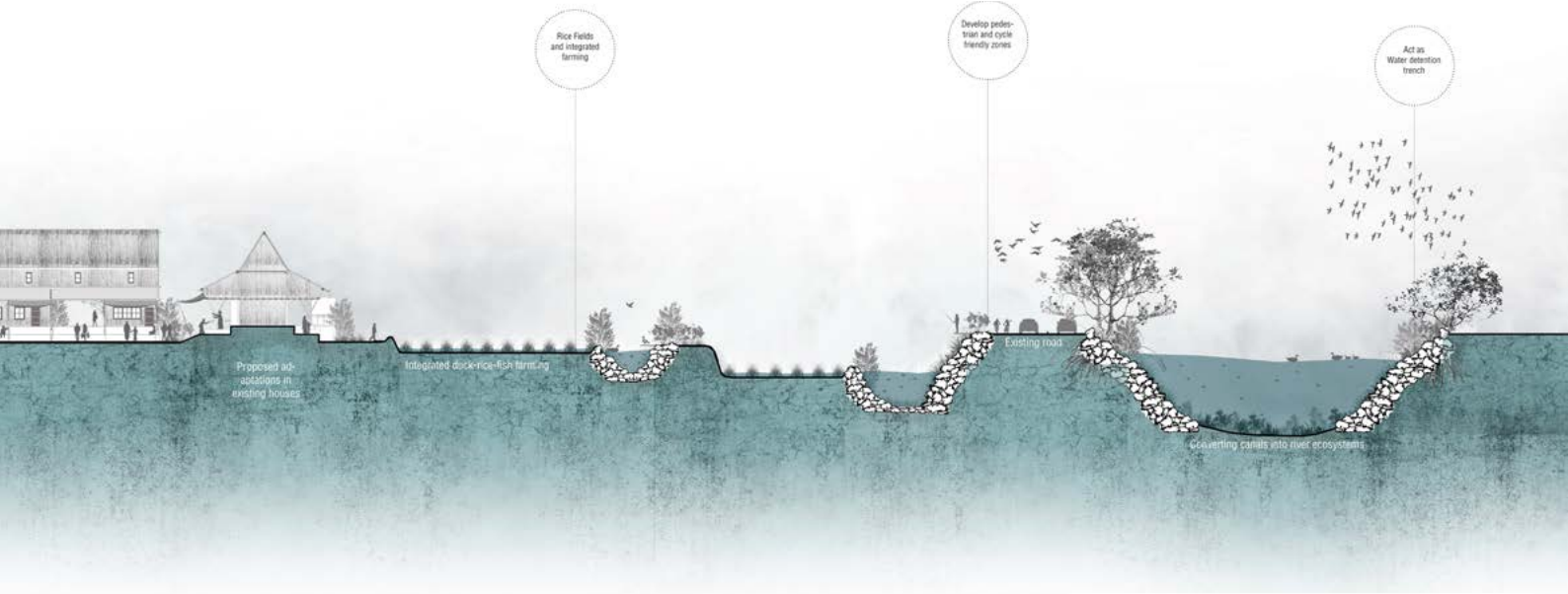
Building lightweight bamboo structure



On-site water treatment and rain water harvesting

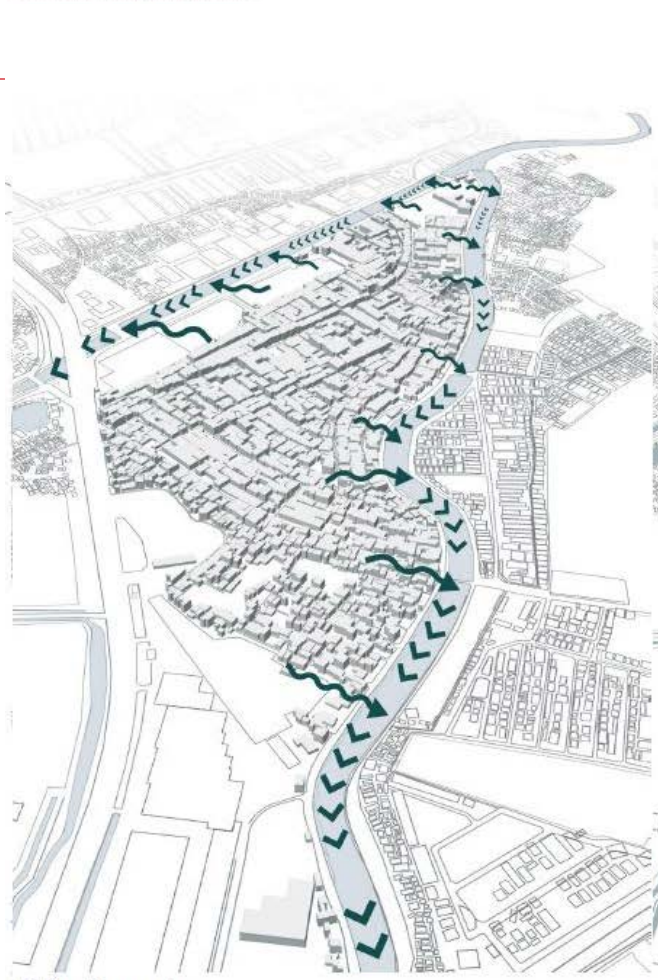


Spatial adaptations



Strengthen

Coast protection through mangrove forest



Existing drainage system

Proposed drainage system

Give way to water |

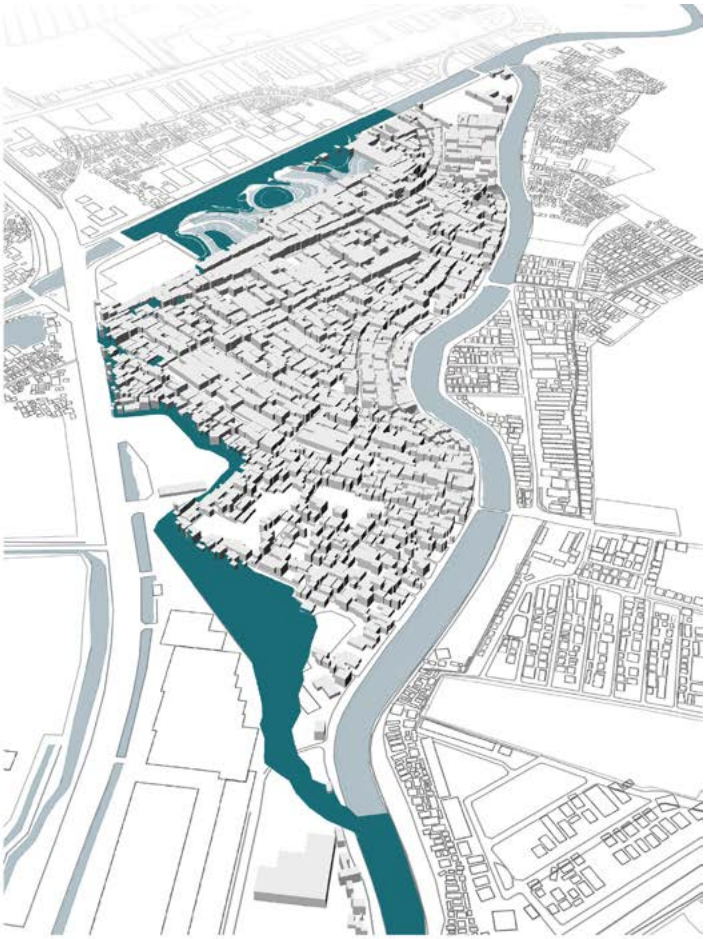
A way for water through site low lying areas not only help better storm-water management, but also maintain height of highlands. Channelizing water through low lying areas will alleviate flooding in higher areas which were previously more prone to risk of flash floods. Special construction techniques and safety measures can be incorporated for settlements in low lying areas.

Means of
Economy

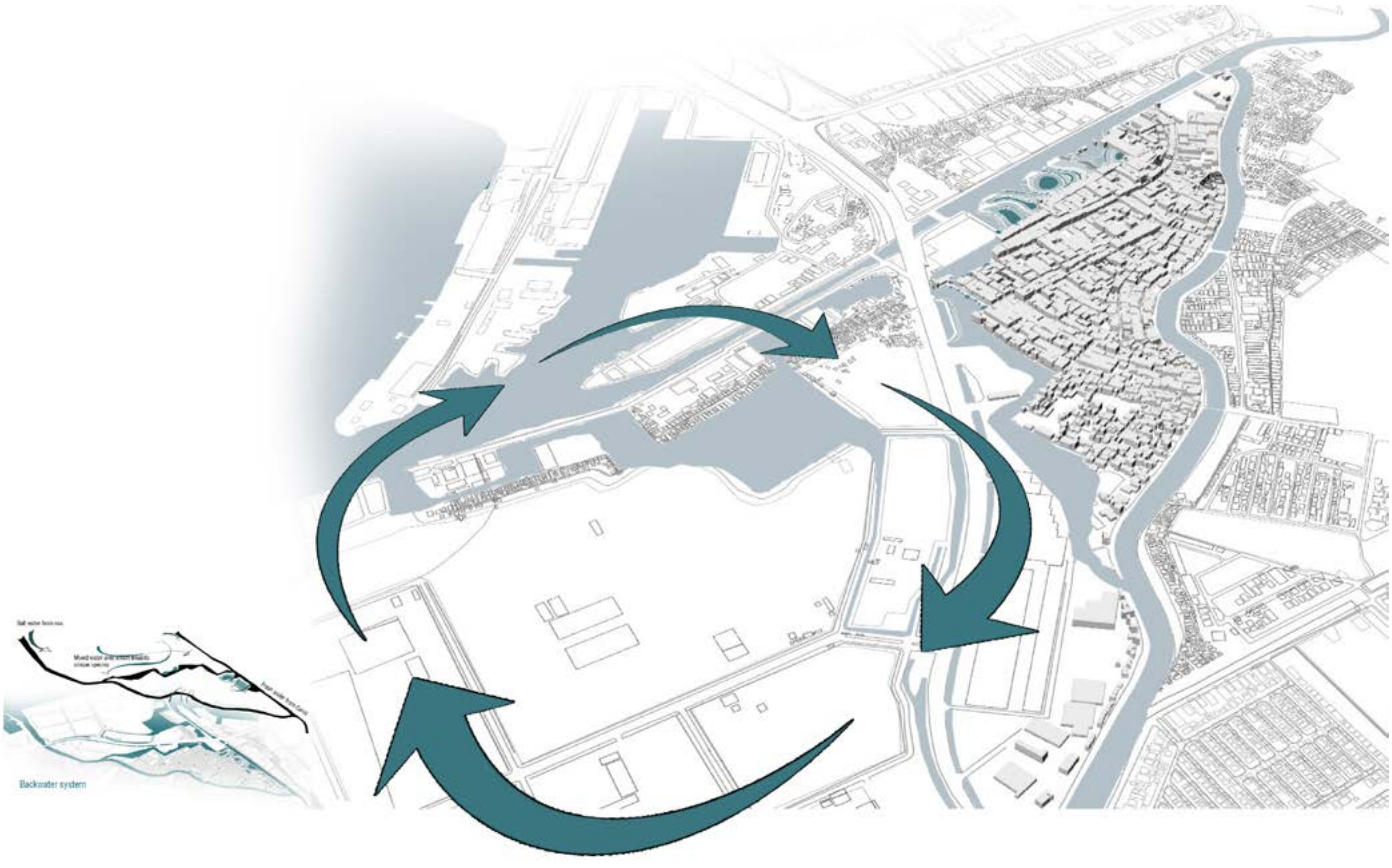
Means of
Recreation

Means of
Social activities

Provide
Way to water
Rejuvenation ponds and other water features
Improved Aqua Health



Proposed way for water (respects natural topography of the region)



Adapt
Backwater loop ecosystems

Design Concept

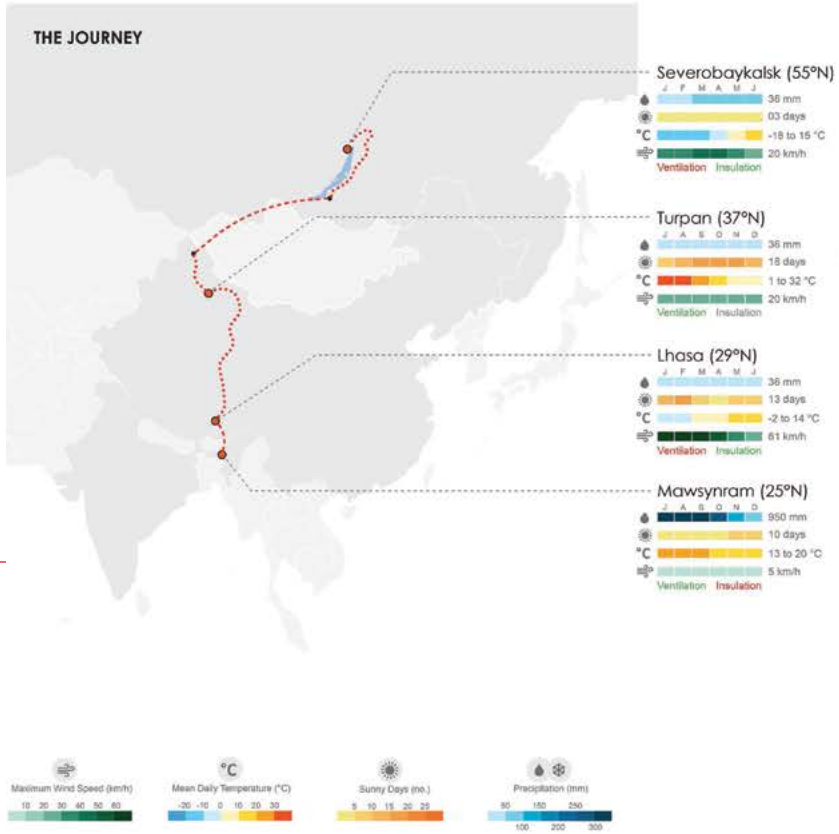
Project//Climate Design (Archineering, TU Delft)

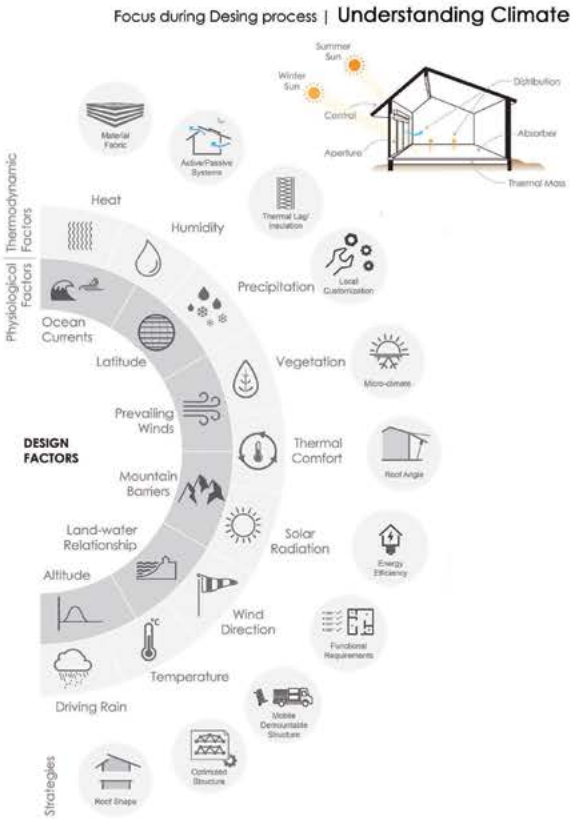
Location// Mausinaram, Lhasa, Turpan, Severo baikal

Team//Individual project

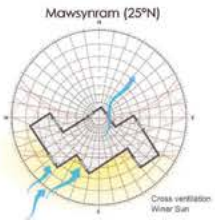
Under Archineering program at TU Delft, the purpose of this particular studio was to understand climate and generate climate responsive Architecture.

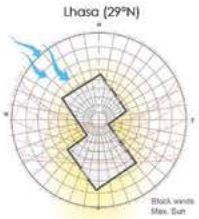
In order to do so, the design challenge was to articulate a journey through four cities that has extreme climate patterns and built a movable house that can transform itself as per the weather conditions. Only specific set of tools and materials can be carried. We were given the freedom to explore wide range of materials as per the need.

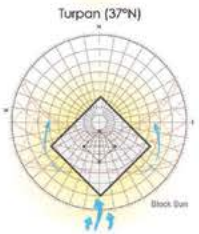




Orientation Study







"The Shrink house" | Journey to the North

In south east Asia, Silk road is one of my dream route to travel once in my lifetime. But just like olden days, it has extreme climate challenges. This studio provided me the opportunity to make this journey one step forward by pondering response to climate for my stay in these four extreme climate that I have chooses as my destination : Mauwsynram (India), Lhasa (Tibet, China), Turpan (China) and Severobaikalsk (Russia)

I decided to stay at each destination for 6 months and drag this climate responsive home to all of this destination by truck. This tiny little house is designed for one/ two person and with the concept of flexibility and mobility.
Except all structural members, every thing can be slide, folded, expanded and shrank in response to climate.

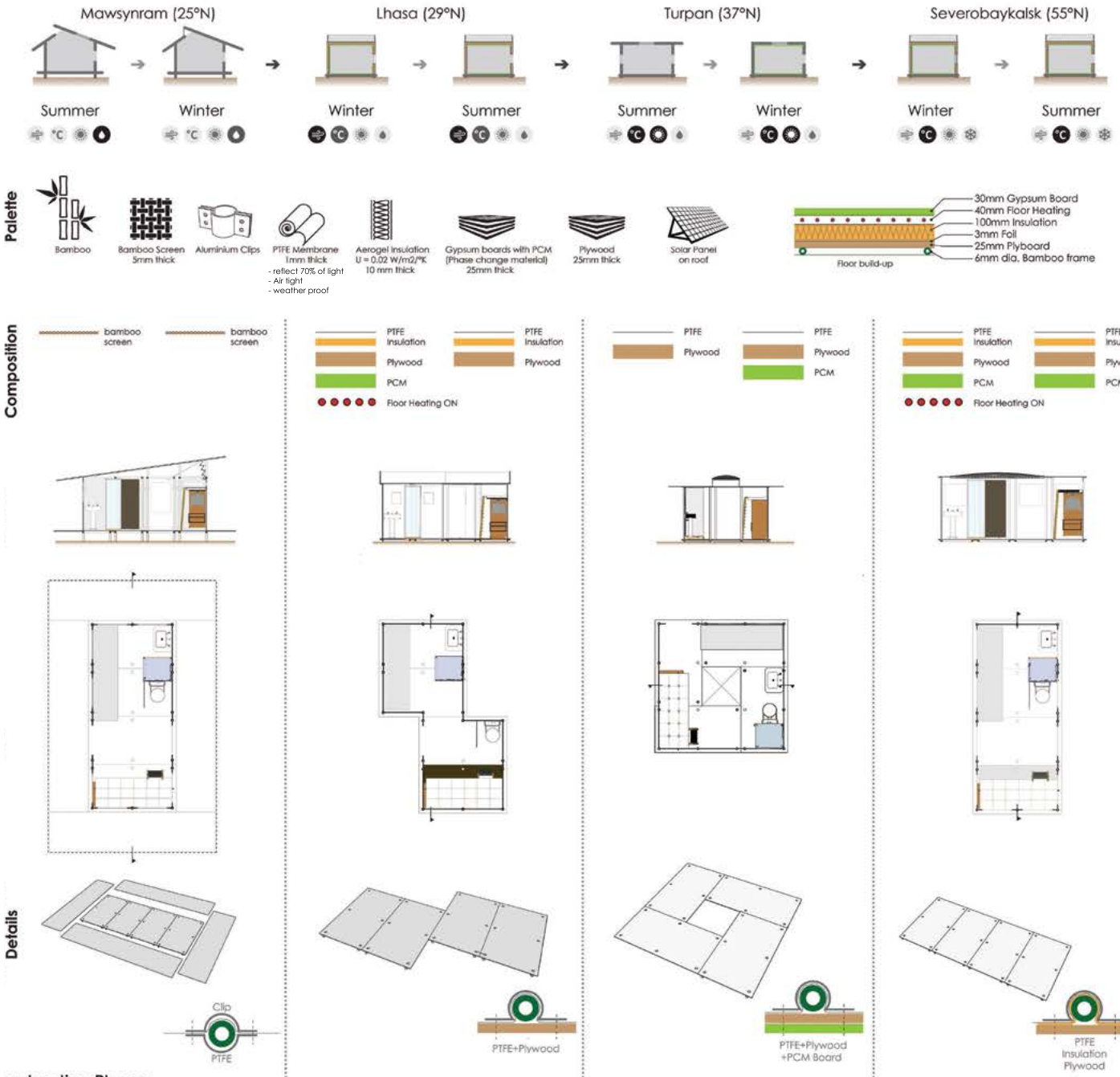
Through climate analysis, I realised, as Journey progresses; certain trends are obsereved in the building elements. The envelope shrinks, the skin gain mass, the space beomes compact.


Mauwsynram | India


Lhasa | China (Tibet)


Turpan | China


Severobaikalsk | Russia



onstruction Phases

ic envelop and structural members are of same material for all four climate. To adopt to climate and local micro climate demand, few materials (like window panels, uplifting mbers) has to be bought from the place of stay. To facilitate installation, window gaps are also designed to be in fixed unit and can adopt to size by sliding and folding

mx 1m four Floor boards has to be slide and aligned as per proposed Climatic configuration.
amboo Columns and wall pannels of repetative (but sliding and folding members withing it) has to be fixed in Coloumn socket and clipped and braced with each other.
oof is also made up of four panels of 2mx1m in 3 climates and can be assmbled b fixing it in provisional sockets.

Supercity, Ahemdabad

Super city , Ahemdabad | CLUB HOUSE

2014

Earth Arise Terrace lounge

Got opportunity to work at this firm as intern for few months in summer of 2014 and work on various landscape projects from various part of the country. Following is the list of projects I contributed in .

LIST OF PROJECTS

Supercity, Ahemdabad | Sketup model
Rendering
Presentation

Srivari Annaya , Coimbatore | Presentation

Earth Arise, Ahemdabad| 3D sketchup model
(Terrace lounge)

Jagran house, Kanpur | CAD drawing

University| 3D sketchup model
(Terrace Lounge)

Firm | Beyond Green,
Ahemdabad
Type | Landscape

INTERNSHIP WORK

Design Concept

Project//"Path finder" transit camp, Biomimicry design studio

Location//Maharashtra sea coast

Team//Individual project

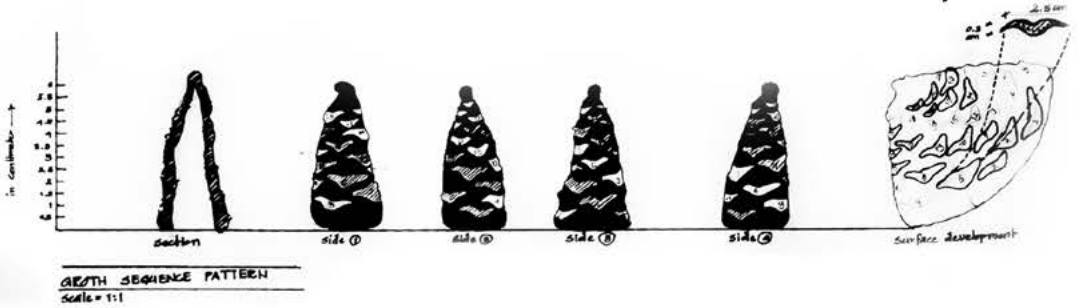
In nature; form, material and structure are inseparable. It inspires man to understand the logic of its formation that stems out of its own necessity towards growth, its ability to deal with the external forces of nature for its stability and its material composition that enable it to take its form.

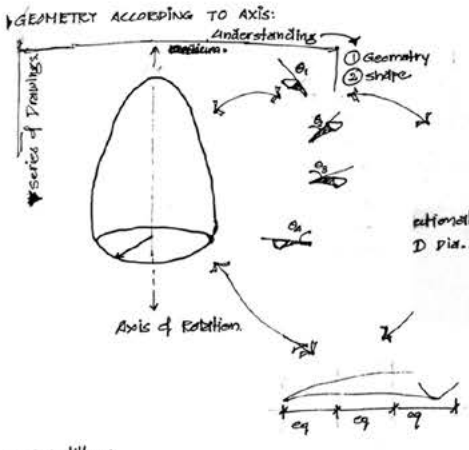
In architecture, unlike nature, the forms we make have to respond to many kinds of human needs. The expensive quality of built form is rooted in structure which is essential in making of architecture. Structure orders the distribution of material. It varies from material to material, allowing for different distributions of mass and void, leading to a variety of texture and grain, light and shadow, scale and proportions, which all come together to form our experience of the building. it is from this perspective that structure gives meaning to material.

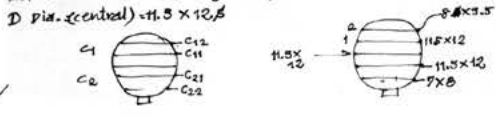
Studio systematically explores the possibility to learn through forms in nature using sketching, abstract drawing and modeling in order unearth organic ideas.

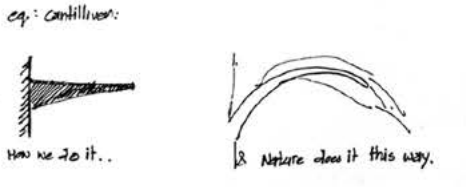
In order to understand strong relation of nature with form, material and structure, abstraction of the "geometry in natural form" was derived through observations, drawing and model making.
Further intention was to translate the abstracted principle from the natural object into a design idea and develop appropriate modeling technique for propagation.

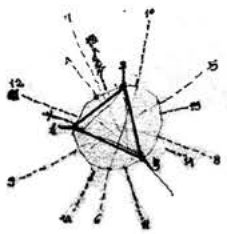
Cabbage was selected as subject of study.





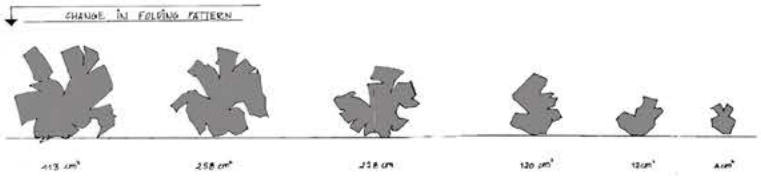


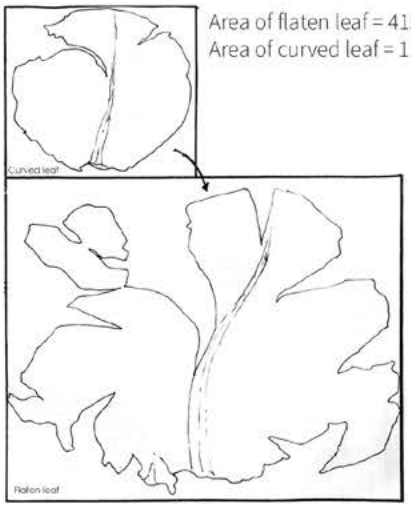




Layers of cabbage leaves were remover one by one in order to study sequential change in breaking pattern, surface area and observing elastic-plastic nature of material.

To simplify the study, average size between 5 consecutive leaves were selected to understand girth-surface relationship.



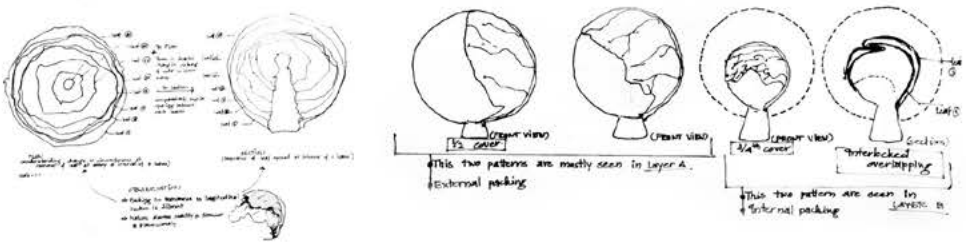


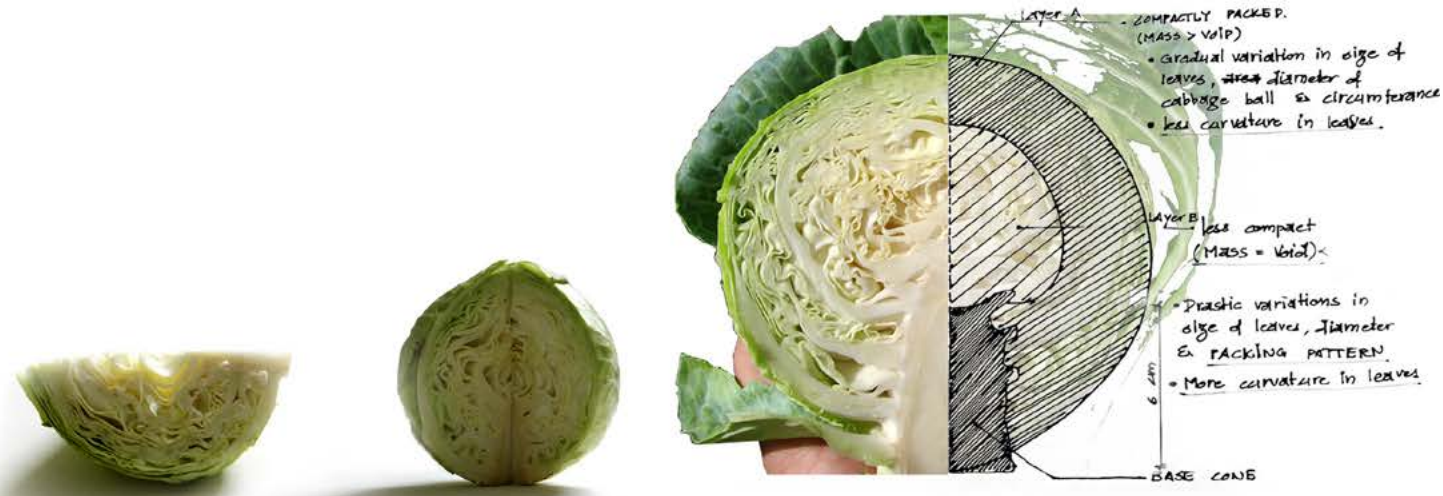
Area of flaten leaf = 413 cm^2
Area of curved leaf = 116 cm^2

When curved leaf is pressed, it tear ups to provide hints of

- Surface development
- Materials mutual behavior of being plastic or elastic according to situation.

Study of sectional slice



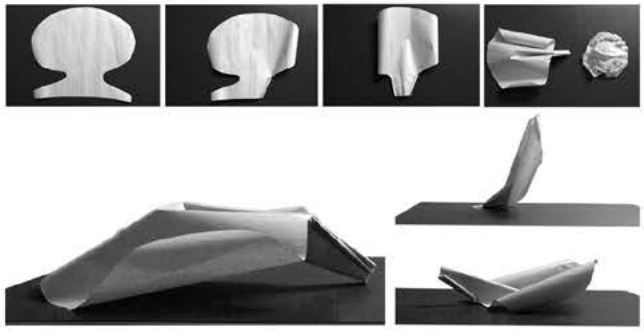


This study explores possibilities of materials to take up various geometrical forms. This oriented us to various technical fabrication process adopted for different material form.

Development of basic understanding that how even a thin "paper like" material can stand on its own following the geometry of a cabbage leaf.

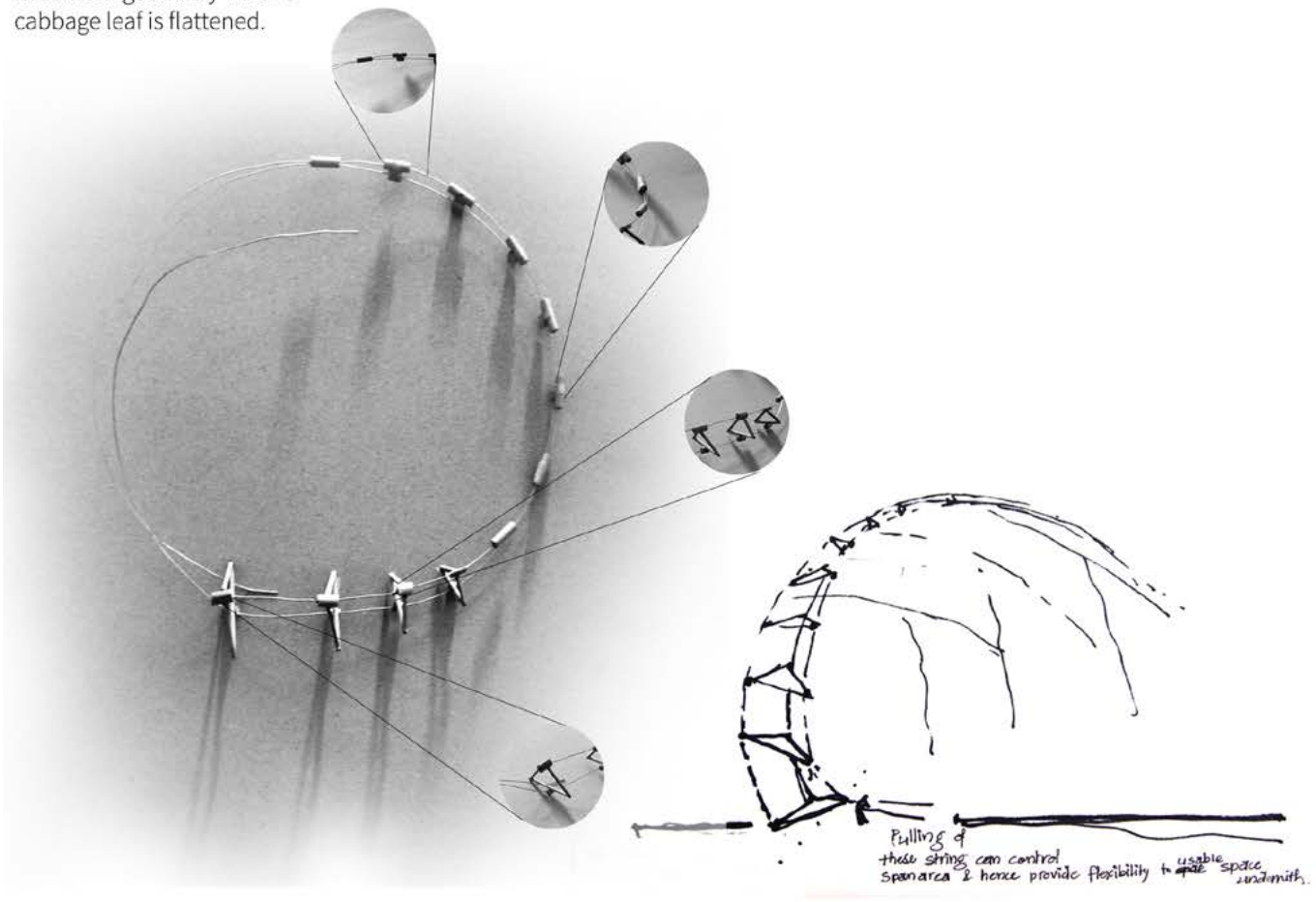
Process

Tracing paper were cut in elliptical shape and ten layers were sticked over one another to understand importance of thickness in cabbage leaf. Conclusion derived is strengthening of central portion of the leaf.



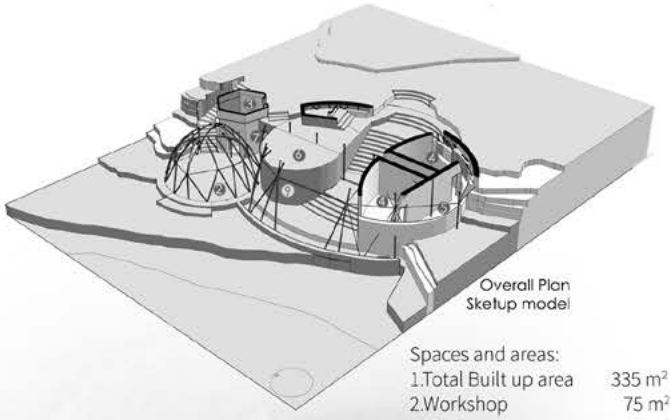
Exploring possibility of form enhancing strength of curvature in leaf. This particular model is made with Newsprint paper and it stands on its own. Form derived is amazingly strong yet light weight.

Development of expandable ridge derived from geometry when a cabbage leaf is flattened.



Based on the understanding of the unit/space defining element from the study of natural object, a campsite has to be designed for group of 25 people who wish to to carry intense work in their area of interest.

The site is part of the western ghat looking towards the Arabian sea. It is termination of deep forest lead to the site. The nearest town from the site is around 50km.



Overall Plan
Sketup model

Spaces and areas:

1.Total Built up area	335 m²
2.Workshop	75 m²
3.Kitchen	15 m²
4.Rooms for stay	50 m² (x3)
5.Common Toilets	30 m²
6.Community hall	45 m²
7.Store Room	10 m²
8.Tower	15 m²
9.Digital room	30 m²

1:50 scale model

Material | Corrugated sheet
Cane sticks
Buff Board

"Pathfinder" | TRANSIT CAMP

Design Concept

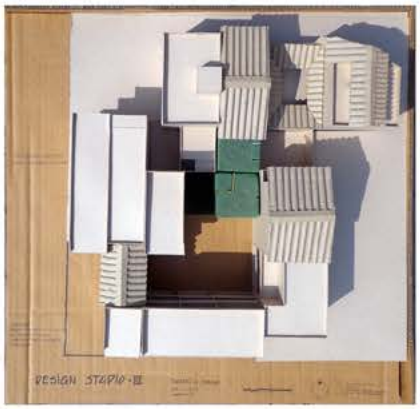
Its not just a place build with four walls and a roof. It's a place where we celebrate life. A place where we Cherise our existence. This highly personal space has a powerful influence over our lives. This studio was to ponder and understand emotions with house along with functional and spatial needs. As an Architect, how can we influence a resident's lifelong attachment to house and developing a sense of self. In order to achieve that, a very unique community was choosed. A village of carpenters... involved in lacquer work from 300 years and still passing this knowledge to their young ones. But with increase in mass production, these hand workers are still struggling to match the market demand.

Project//"Housing , response to craftsman settlement,

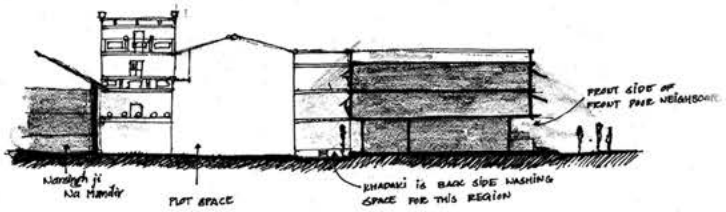
Location//Sankheda (woodworker's village), Vadodara, Gujarat

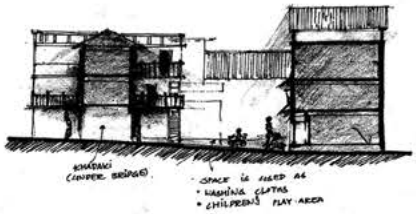
Team//Individual project

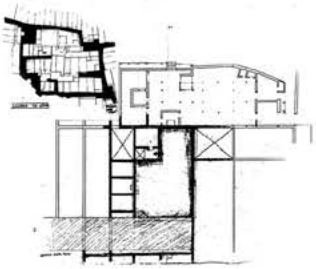
The studio systematically explores needs of such unique community in order to design a dwelling for them that revive their dying tradition.



1:100 scale site model



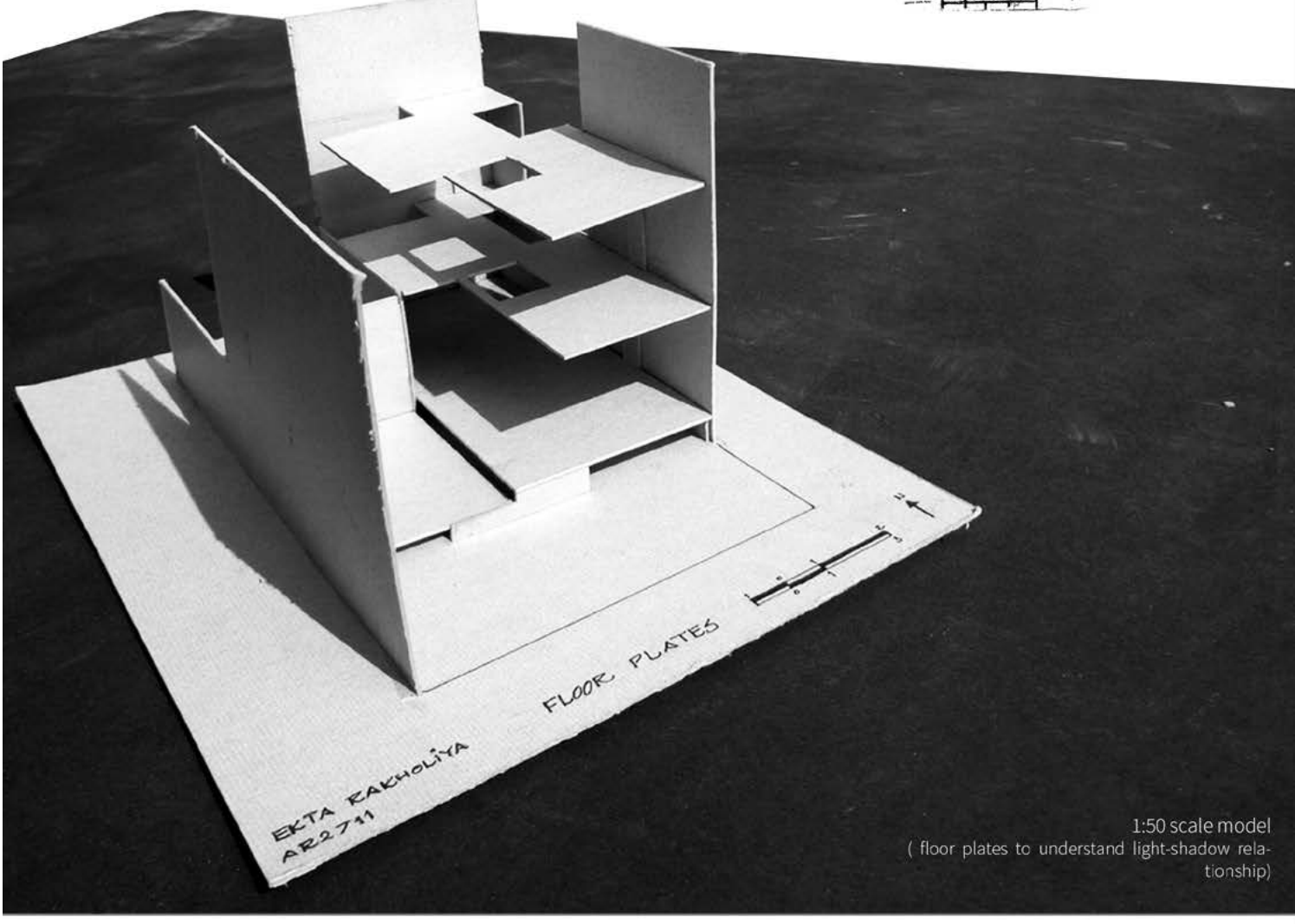




SITE DISCRIPTION

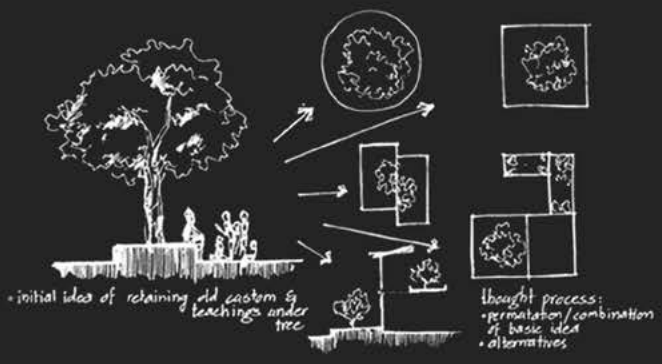
When road ends, this house opens it's doors to guide the path of serving god. It is situated at cul-de-sac, with back entrance leading to 'Narsigh ji-nu mandir'. Cul-de-sac serves in many ways to people living there. It serves as chauk and unites them.

This residence is like pilgrimage. People start their day by greeting him, spend time with him, receive their blessings and start their daily chores. His son teaches village children and their wives serves home and sunlight guides them through their chores.

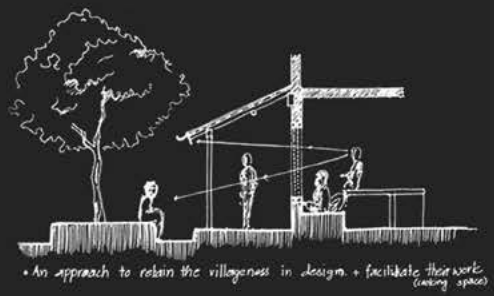


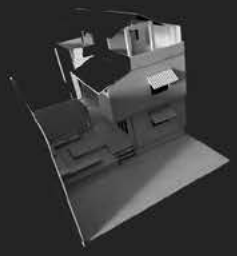
1:50 scale model
(floor plates to understand light-shadow relationship)

From conceptual sketch to making of residence

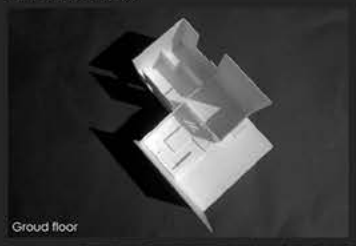


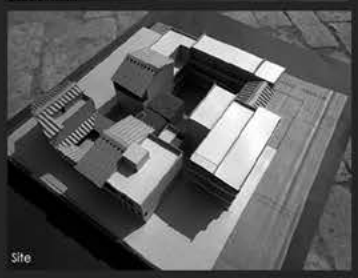
Elevation

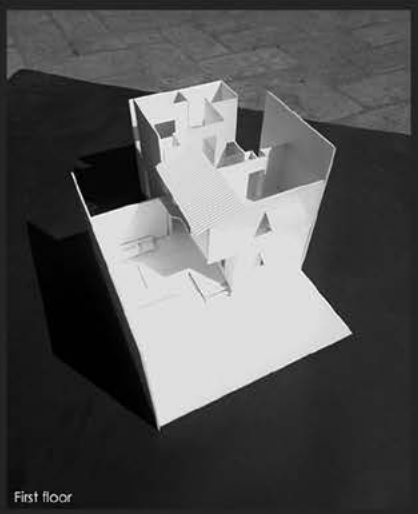




Model Making







First floor Plan

Ground floor Plan

Section BB'

Section AA'

Countryside | RESIDENCE