Understanding the idea of nature in the city

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Understanding the idea of nature in the city

Ritu Rawat

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For details please write to,
M/S. Prabhakar B. Bhagwat, 901-Panchtirth, Opp. Aristoville, S.M.Road, Ahmedabad-380 015. INDIA

T # 91 79 2692 3054
E # landscapeindia@usa.net

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Introduction: Nature in our genes

Over the many years, I have always been surprised to note peoples yearning for somehow finding a way to experience the idea of the mountains, or the forests, or the sea; some kind of nature that seems untamed, raw, infinite, and liberating.
I am not clear, how it can be explained. Perhaps it is the memories of their travels or childhood that influences them so.
Or perhaps embedded in all of us, transmitted safely in our genes from wild Africa, is a deep-rooted craving for unbridled, seminal nature.
How else does one explain a city bred person, who has rarely traveled out of his geography, never spent time on the sea shore, never climbed a mountain, but yet so clearly connected and uplifted when being suffused by the idea of such landscapes?
But it happens; and continues to do so.
Development, and the aggravated physical loss of such landscapes resulting from it, has ensured that we yearn for them deeply and mourn for them when they disappear.
Through time, as designers of physical space, we have often turned to these natural systems for inspiration in the hope that it will help shape our sensibilities whilst we engage with space that is inhabited by human beings.
Landscape design after all, is in great part, a medium that transmits, interprets, values, and communicates the many ideas of nature.
While doing so, sometimes the systems of nature get overlooked. Often what is imbibed is the visual language. This then is recreated as a set of simple visual codes. Needless to say, the transference of a language however carefully and sincerely done, which in its original form manifests itself in such a vast scale, when compressed and installed in unnatural settings, leads to curious and uncomfortable semantics.
How then do we find ways of strengthening and enriching this umbilical cord of nature with the man in a city?
Grappling with this thought, Ritu decided to ask a simple question.
Namely " Can I find, nature or the sense of wild, free, liberating nature in the city?"
She was careful to dismiss those tracts that were hidden from the daily activity flows of the city, or those that were too far away from the mass of people residing in it.
As a method, she spent days traveling across the city, looking at locations. She used a simple measure to decide if a particular location should be selected or dismissed.
The measure was another question; " When here, does this nature touch my soul? Does it really move me emotionally?"

If the answer was in the affirmative she looked deeper and further.
She then evolved a method, a measurable quantifiable method, in which such tracts were mapped and understood, and their many intangible nuances coded methodically.
This has led to a unique study.
It not only contributes to our understanding in allowing us to develop ways and tools to map, evaluate, and analyze landscapes, in a generic manner; but further has some potential in developing tangible design codes and principles.
This later observation is perhaps very relevant; because linked to it are two larger concerns;

1. How do we create a theoretical framework, which will allow us to objectively develop a way of designing landscape space and linked to it, assessing the resulting quality of space?
2. And, how do we develop a language, or languages of landscape design? Or what do we use as a foil against which to evaluate the design processes we adopt and develop?

In the absence of clear theoretical frameworks that guide design processes in the country; and certainly very few that have been researched and tested by educators and practitioners alike, studies such as this may perhaps be markers of some value.

Aniket Bhagwat
June 2010

Idea of nature

Landscapes that reflect the idea of wilderness or untamed nature are important vignettes of our surrounding environment. The locations selected for the study are based on different preferences like the degree to which a scene is natural or manmade, the topographic variation, and scale and openness of the scene. This study focuses, specifically, on the experiential quality of these landscapes. It consists of five case studies having a varied range of backgrounds; which exist within urbanity as part of our surroundings and everyday spaces. This is a context specific study of such landscapes within Ahmedabad. The intention is to explore and understand the composition of these landscapes and to abstract them. This abstraction can then be further developed as a tool in designing landscapes.

Any such landscape, whether a woodland, a ravine, rows of trees along a road or a puddle is usually viewed as one single entity. It is however, composed of several components forming the total experience of the landscape. The ground, the sky, trees, - several fragments having different compositions, all these combine to form the landscape. For analyzing these landscapes there was a need to have tools and approaches for successfully translating the essence in a measurable way. The study first explores the bits and pieces through observing and mapping and then combines all the elements together to understand the overall character of the space.

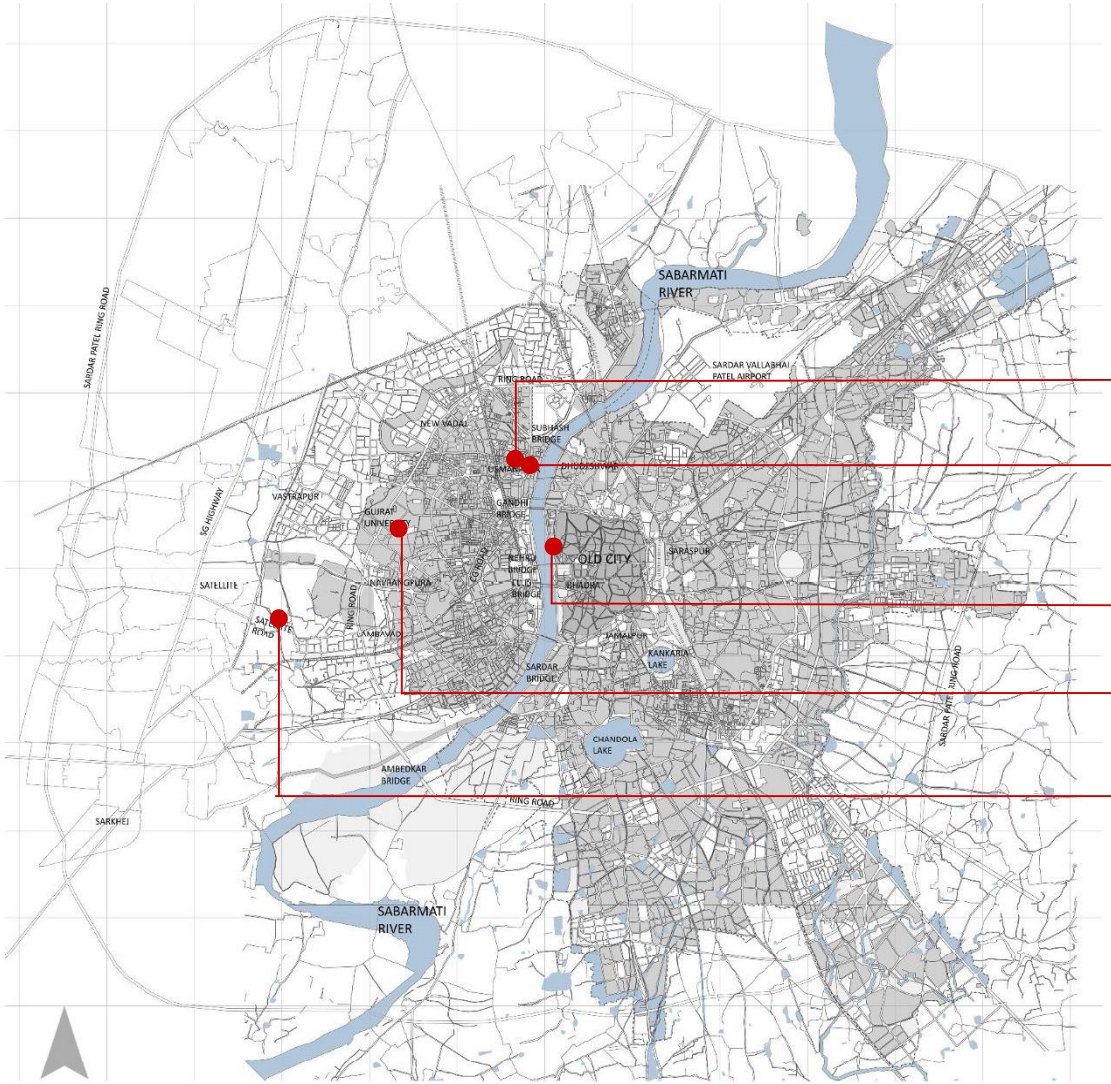
The study examines the specific character of the components and then the overall organization using the following methods:

Observations: perception while moving: This includes identifying small sections from the whole and observing and understanding them spatially. This is done through a simple plan analysis.

Layers defining depth and height: Here the aim is to understand the multiple layers forming the depth and height of the space. This includes understanding the setting of the foreground and background of the scene; and the multiple storeys it possesses.

Observing the sky: This is an attempt to read the sky as a landscape element by understanding and analyzing the sky cover and character of the perceived sky. The perceived character of the sky at different spaces is portrayed here either as coarsely sieved, fine sieved, clear sky or distant horizon, depending upon the openness or degree of enclosure and the medium through which the sky is perceived.

Observing the ground:	Here the aim is to portray the ground as a landscape element by looking at the topography and ground cover .
Components:	This involves identifying the variety of plant species of the area.
Inferences with typological examples:	This combines all the above analysis to gain a comprehensive understanding of the landscape, its components and its spatial qualities. I have also tried to look at how each of the above influence the others.



Vadaj

Dandi bridge

Road edge

ATIRA

Sundervan

Idea of nature

Ahmedabad was founded at the eastern bank of river Sabarmati. The Sabarmati splits Ahmedabad in two parts: the old medieval walled city on the eastern part and new city on the western part. The development along the fort wall forms the eastern edge of the river and is connected to the new city through bridges.
The presence of open land, garden, green belts, open woodlands, scrubs, urban wetlands, horticulture and agricultural areas at the fringes forms a mosaic of ecosystems within the city. Besides, these areas are also habitats for different animals, birds, insects as well as aquatic life forms.
The location of these untamed landscapes within the city, where the people experience them on a daily basis, makes them important spaces of the city's landscapes. The case studies selected for the study are:

1.ATIRA	Ahmedabad Textile and Industrial Research Centre (ATIRA) is a gated campus within the educational zone. It is characterized by an open woodland cover with glades including a field layer of grasses which supports the habitat of birds like peafowl (*Pavo cristatus*), kite (*Milvus migrans*) and other resident birds.
2.Sundervan	This place is a nature discovery centre in the core of western Ahmedabad. This place has high woodland with pierced or partially open canopy cover. The clearings within support an under storey of young trees, well developed ground flora, mature stems standing and fallen dead and decaying wood.
3.Dandi Bridge	Dandi bridge is an old bridge near Sabarmati ashram where the historic salt march began. The area at the western edge of the river is densely wooded and creates an environment which draws interest towards the hidden part.
4.Road edge	A stretch of road along the fort wall at the eastern edge of the river with Banyan planted all along the road forms a spectacular view of thousands of resident birds flying over the sky during evening.
5.Vadaj	This is a ravine, covering an area of around forty five thousand sq.mts, near a slum at the western edge of the river. It is an expansive, free, undulating, lightly enclosed space within the city where the skyline of the city or the sense of being within the city becomes imperceptible.

1

2

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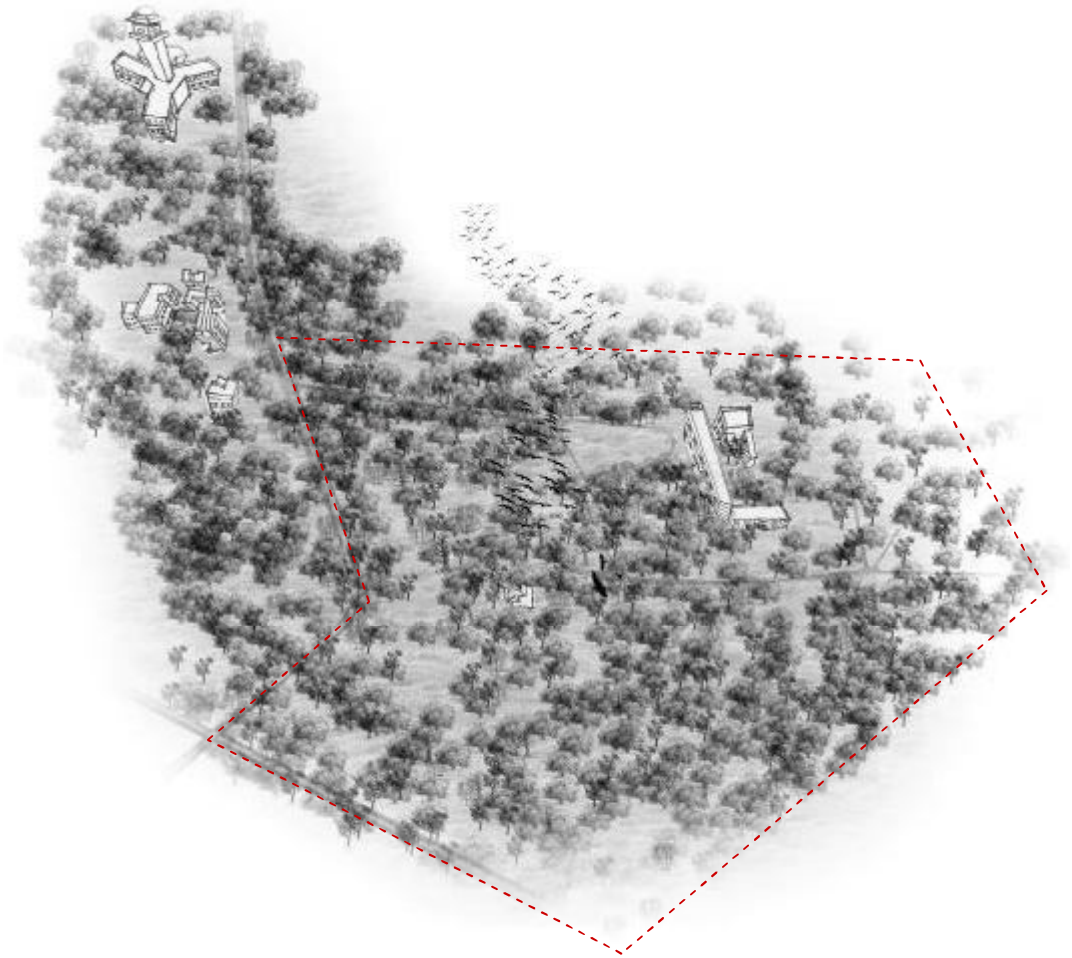
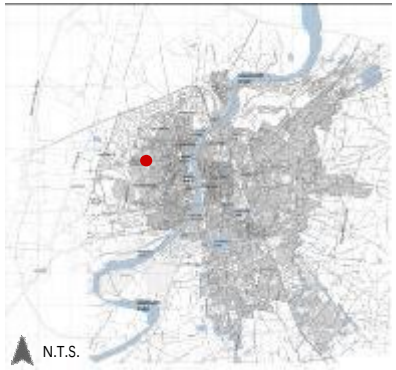
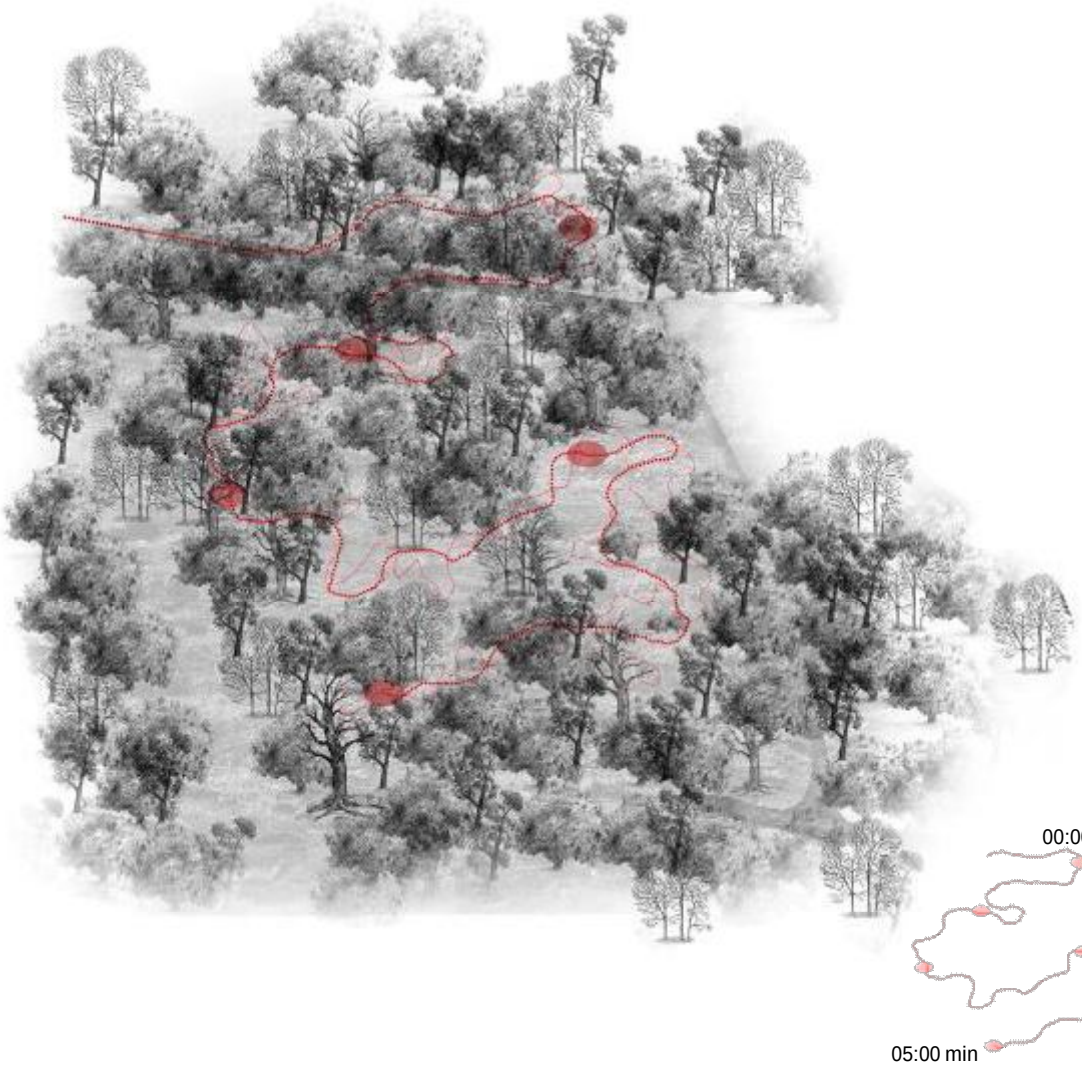
ATIRA

Perceived characteristics

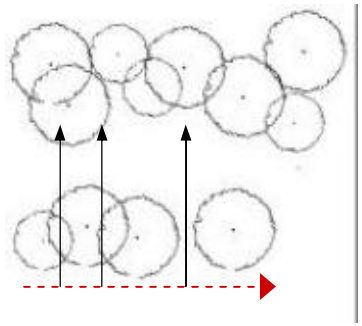
Sparse woodland cover
Low stature trees
Sieved sky
Littered ground
Light and shade
Wildlife- resident birds

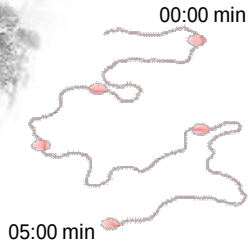






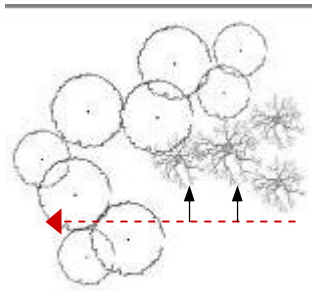
Open spaces within the clusters of trees draw interest towards the dense background.



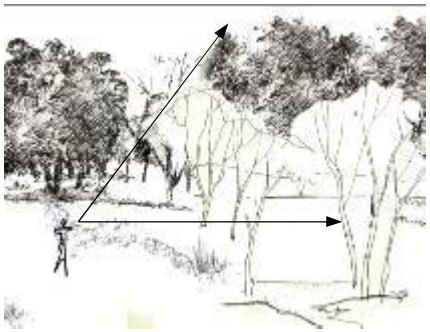


Observations: perception while moving

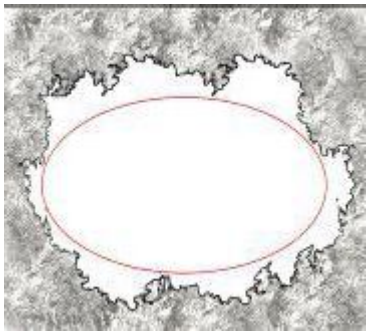
Clusters of leafless trees within the woodland draw interest towards themselves.



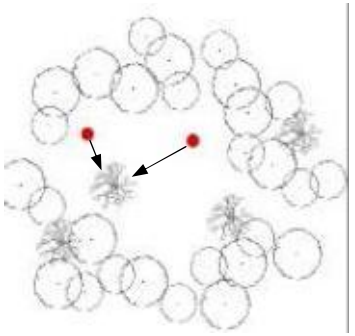
Trees with low height, sparse spacing and absence of shrub layer allow vision through, towards the sky and the distant layer of trees.



Open spaces within the woodland with varying textures and dense edge create habitat for birds like Indian peafowl (Pavo cristatus).



Large and small open spaces, where interest is directed towards specimen trees.



Layers forming depth

Background

Middle ground

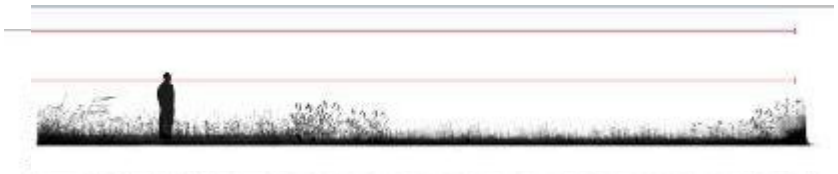
Foreground

Dense low stature trees with structural diversity at the edge of the woodland form the background for the low density woods.

Layers forming height

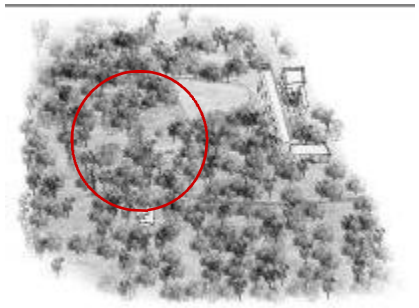
Upper storey

Middle storey



Under storey

Sparse woodland cover supports the scattered shrub and field layer of grasses.



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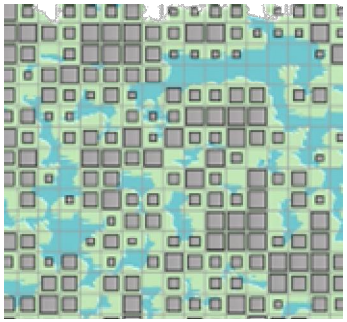

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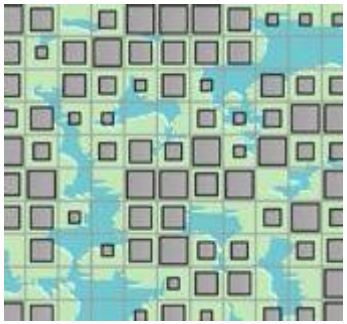
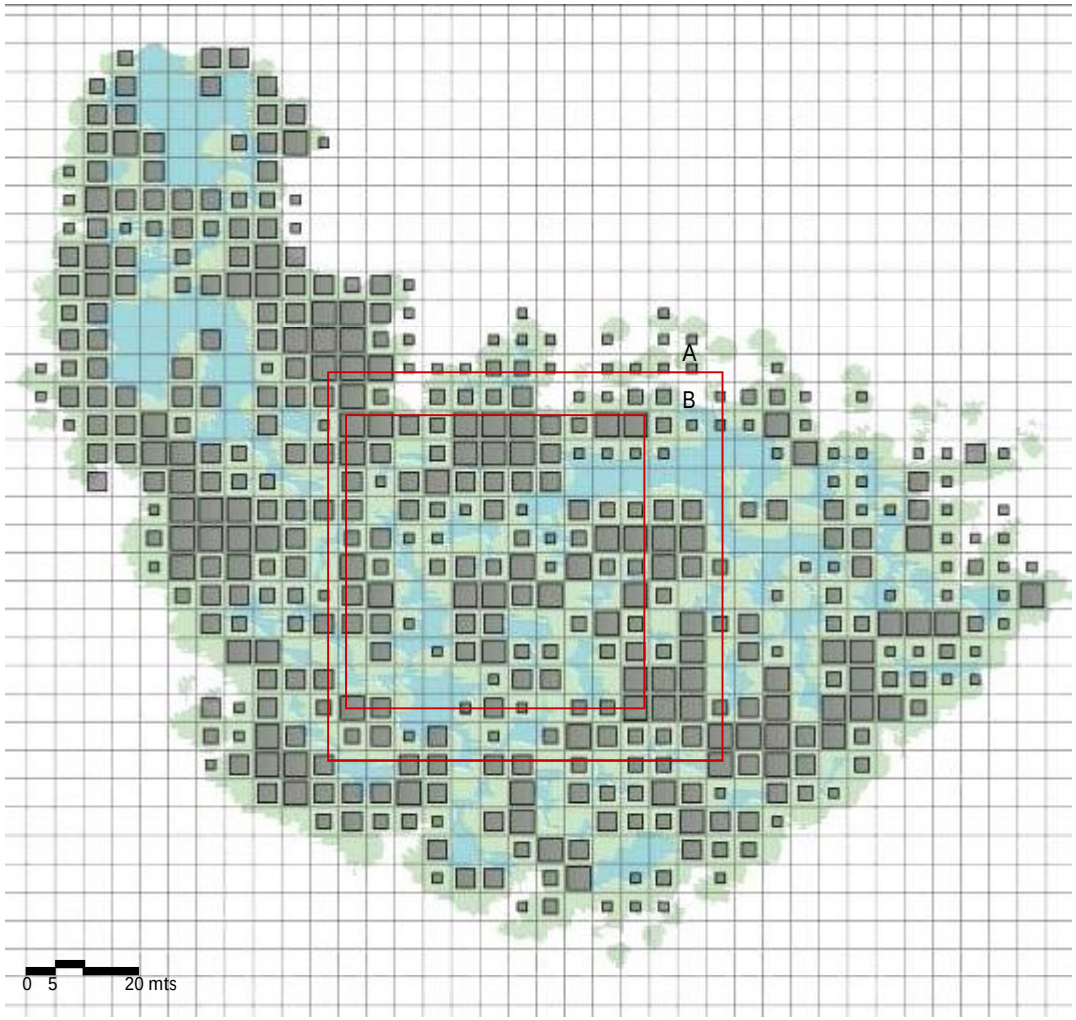


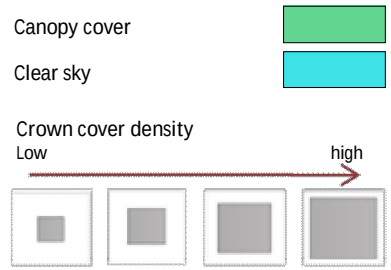
Observing the sky

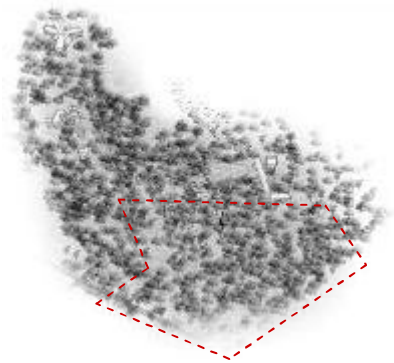


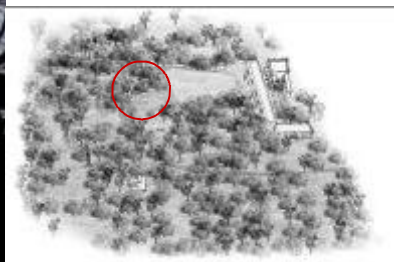
Canopy cover map

The larger vista of the canopy cover is similar to the smaller fragments of the area.

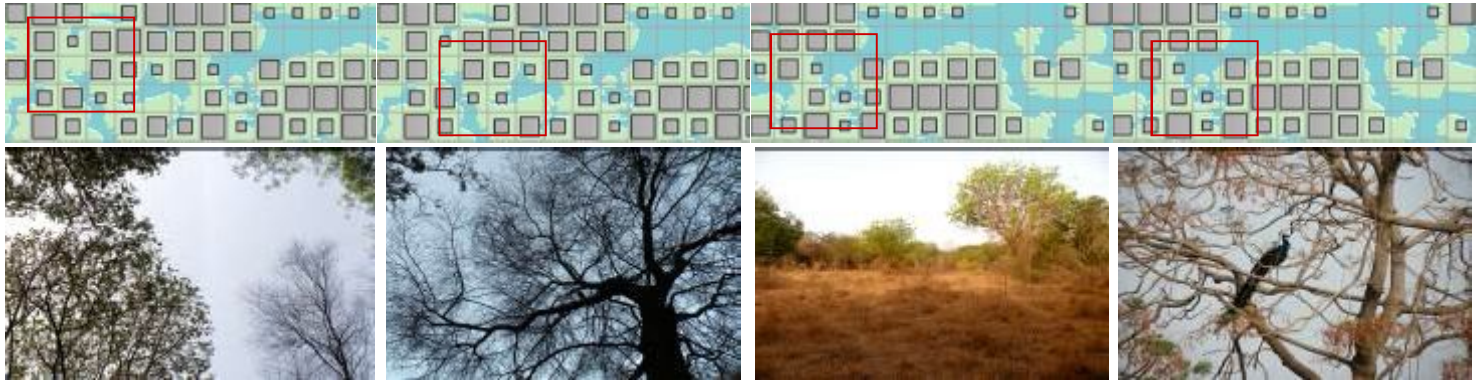
The crown cover, as observed in the area covers around 45% of the ground. The same percentage can be seen when we focus on smaller fragments as shown in figure A and B.



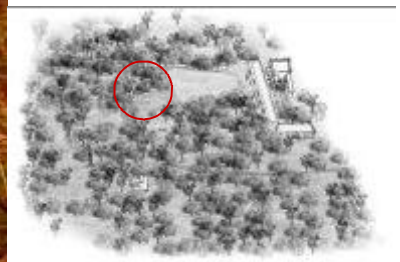




Observing the sky



Coarse sieved Clear sky Fine sieved Clear sky Coarse sieved



Observing the ground

Leaf litter

Excessive leaf litter

Grassland

Excessive leaf litter

List of Trees

Ashok (*Saraca asoca*)
Ashoka (*Polyalthia longifolia*)
Babool (*Acacia arabica*)
Bakul (*Mimusops elengi*)
Booganbel (*Bougainvillea*)
Champa (*Plumeria alba*)
Gulmohur (*Delonix regia*)
Imli (*Tamarindus indica*)
Karanj (*Pongamia pinnata*)
Kassod (*Senna siamea*)
Mahaneem (*Ailanthus excelsa)*
Neem (*Azardirachta indica*)
Peeli gulmohur (*Peltophorum pterocarpum*)
Peelu (*Salvadora persica*)
Pipal (*Ficus religiosa*)
Semal *(Bombax ceiba)*
Siris (*Albizia lebbeck*)
Subabul (*Leucaena leucocephala*)
Vilaiti keekar (*Prosopis juliflora*)

Bakul (*Mimusops elengi*)
Middle sized tree, with nut brown or grayish deeply fissured bark. leaves 5- 15cm long with wavy margin.

Neem (*Azardirachta indica*)
Middle sized tree, with dark grayish brown, rough bark. leaves feather–compound with toothed leaflets.

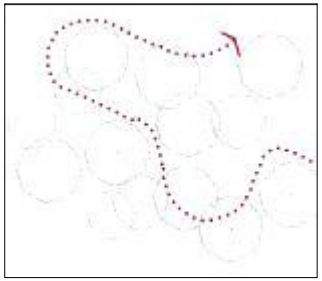
Gulmohur (*Delonix regia)*
Middle-sized tree, with light brown bark, not very rough. leaves twice feathered with 10-20 pairs of side stalks.

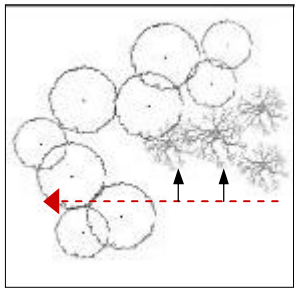
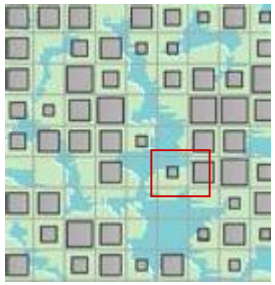
Semal (*Bombax ceiba*)
Large deciduous tree, ashy bark with conical prickles. Palmately compound leaves and large deep red flowers.

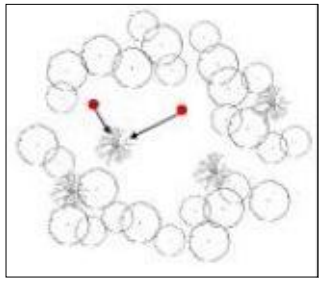
Organisation

Sky

Sky





Ground

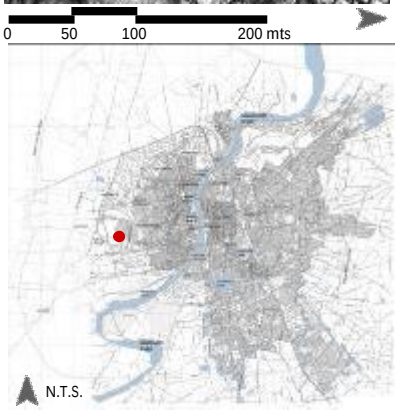
Inferences typological examples

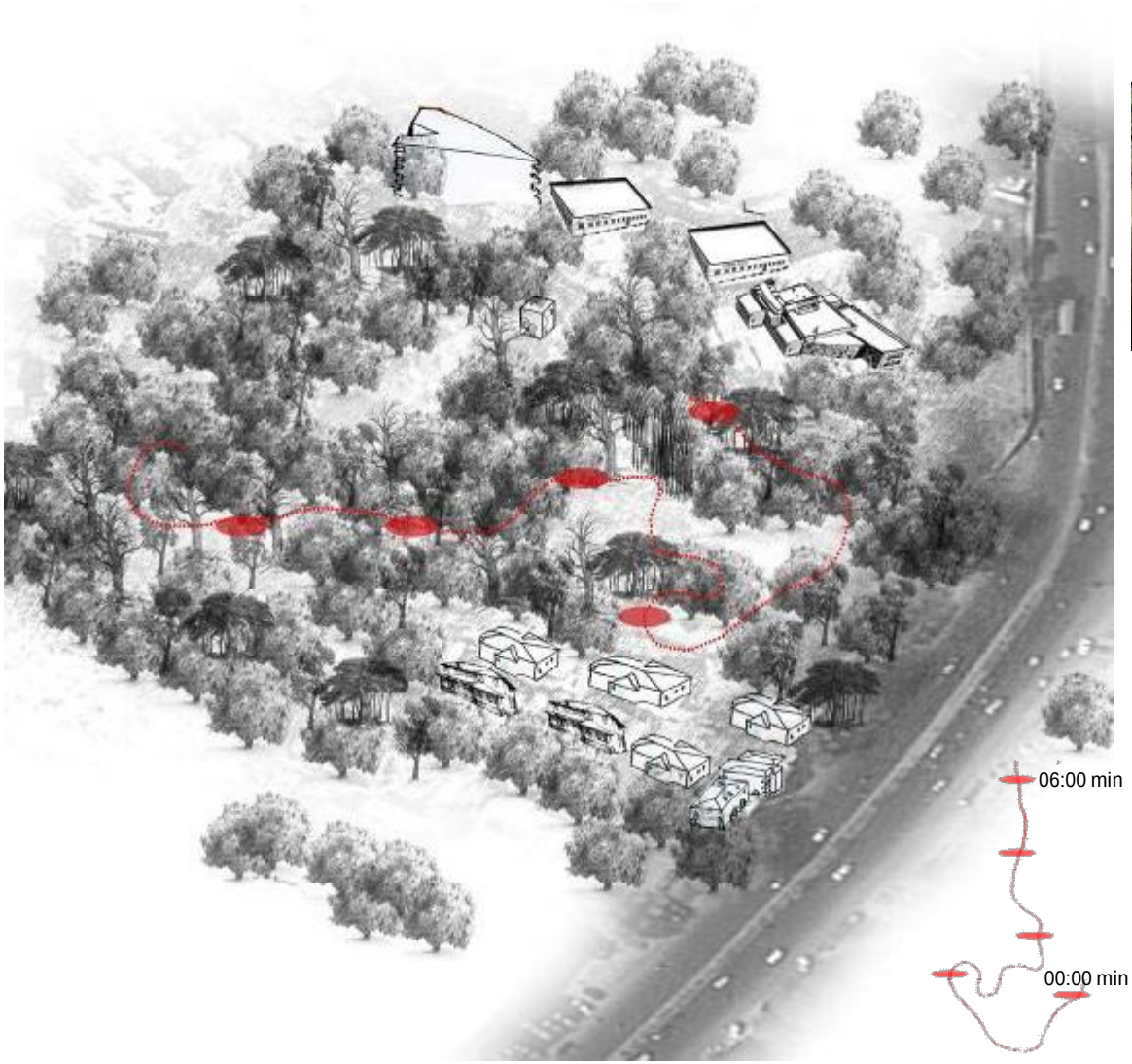
ATIRA complex is a sparse woodland; with clusters of trees occurring at a distance from each other. The sparse large trees and the minimal middle storey expand the perception of the enclosure to the furthest layer of shrubs and grasses. The eye is drawn to the edge of the landscape and/or to the sky. This large stretch of vision is punctuated by specimen trees or by the fauna which inhabit this space. This feeling of vastness is contrasted and broken by the highly textured ground and at places, even the sky. The extremely littered ground provides both an intimate scale of perception as well as draws attention to the immediate ground. Similarly, while the distant sky is clear, the immediate sky gets filtered by the branches of trees of varying density and texture.

Sundervan

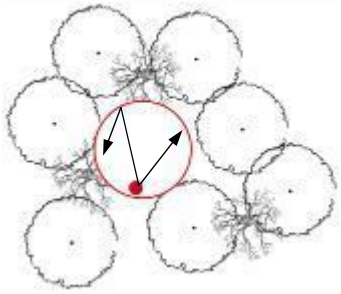
Perceived characteristics

Dense woodland
Mature vegetation
Pockets of sky
Thickly littered ground
Filtered light and sheltered space
Wildlife



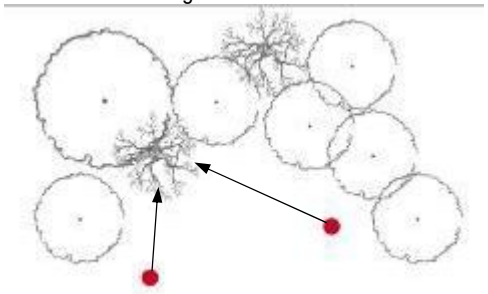


As one moves within the premises, the dense canopy of trees is punctured by small clearings. These feel like outdoor rooms and give a sense of openness and vastness to the landscape.

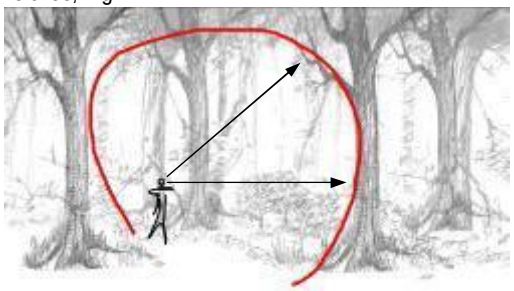


Observations: perception while moving

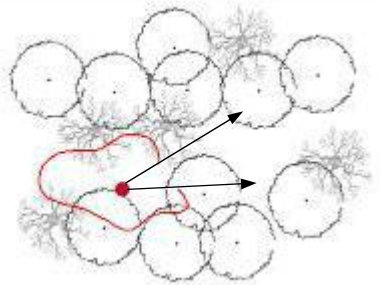
Trees like Banyan (Ficus banghalensis) and Silk cotton (Bombax ceiba) with distinctive character draw attention to themselves between stretches of contiguous woodland.



The closely spaced trees of the woodland, have few branches at a lower level; but form a dense canopy at a higher level . The volume of space felt is thus, high .



The sparse layer of shrubs at a distance from the pathway draws interest away from the immediate layer of trees.



Layers forming depth

Background

Middle ground

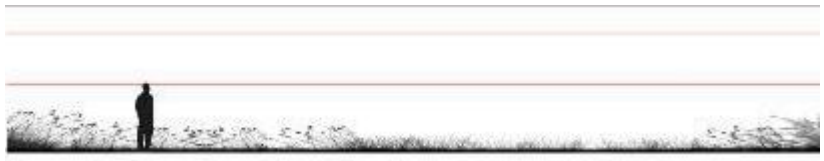
Foreground

Tall mature trees with fewer branches at lower part of the stem stand out against the backdrop of a dense middle storey.

Layers forming height

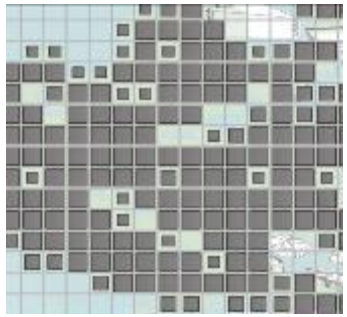
Upper storey

Middle storey



Under storey

Closely spaced trees form dense and high upper storey. Few species which are either leafless or let in quite a lot of sunlight, support the growth of shrub and field layer.



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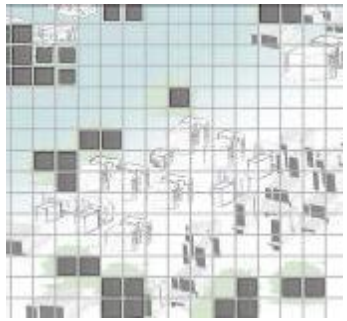
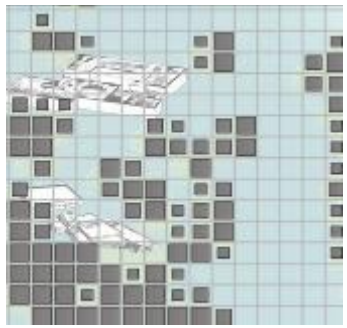


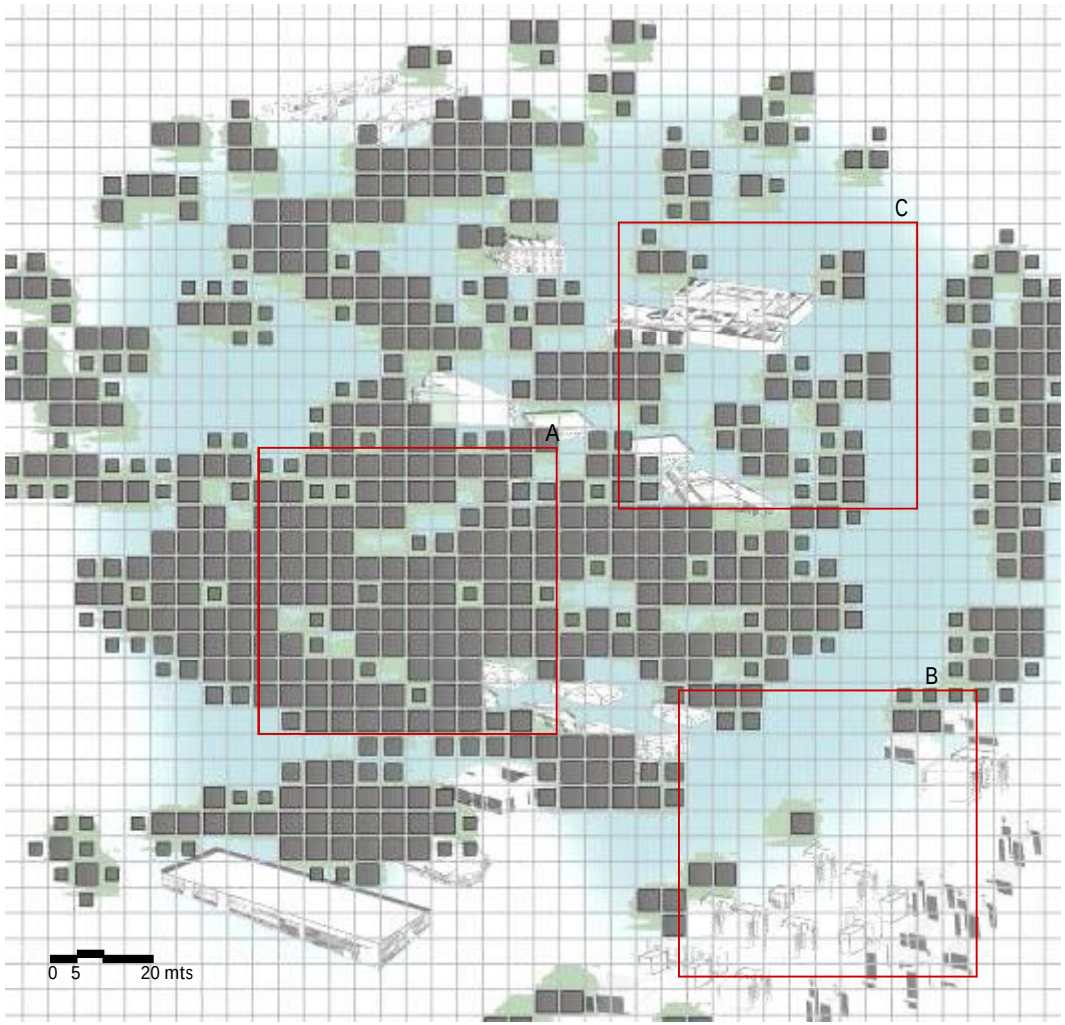
B



C

Observing the sky

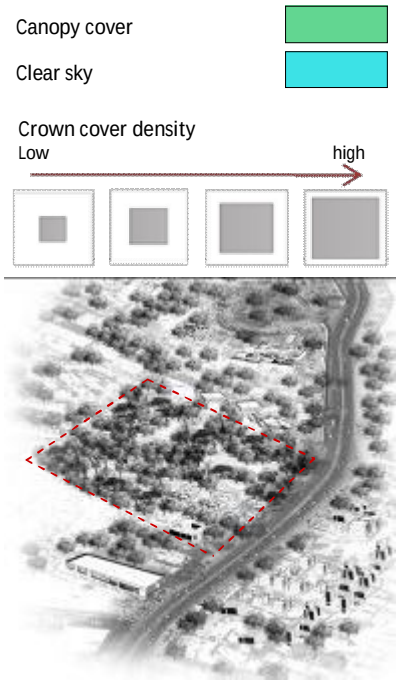
Observing the sky



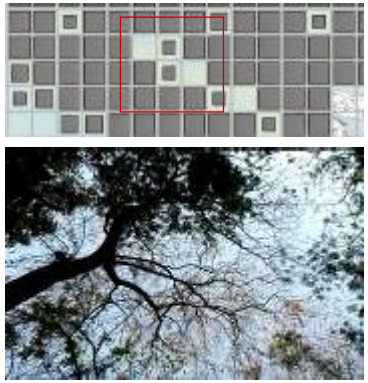
Canopy cover map

The larger vista of the canopy cover shows contrasting scenario when different fragments are examined.

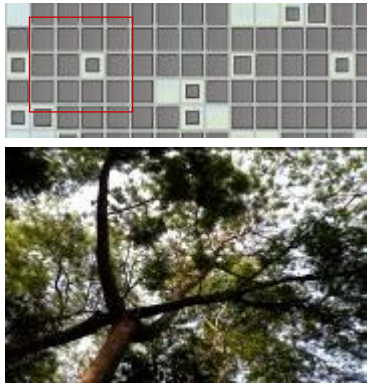
The crown cover, as observed at A covers around 80% of the ground, while at B it is 5% and at C it is around 18%.



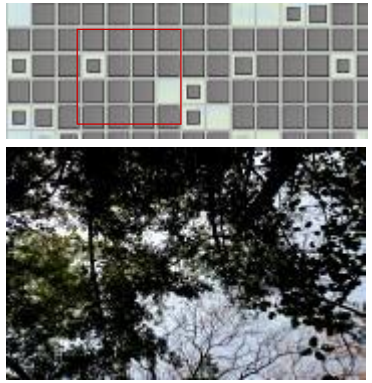
Observing the sky



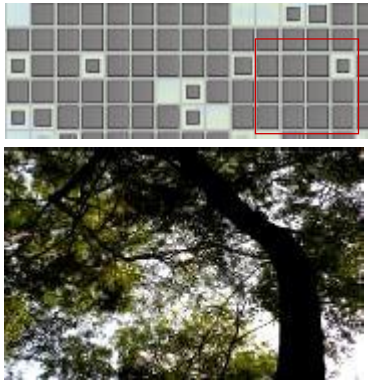
Sieved sky



Partially open

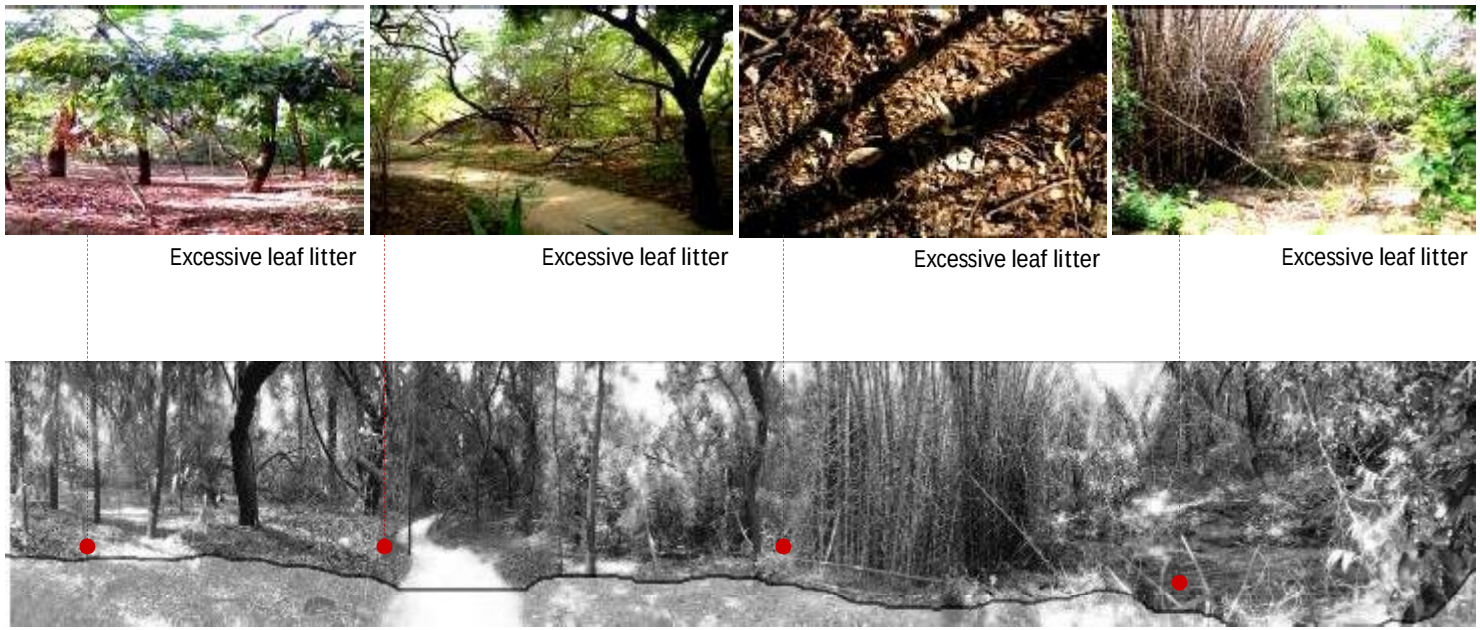


Partially open



Covered sky

Observing the ground



List of trees

Aam (*Mangifera indica*)
Aasopalav (*Polyalthia longifolia*)
Akash neem (*Millingtonia hortensis*)
Amaltas (*Cassia fistula*)
Amla (*Emblica officinalis*)
Arjuna sadad (*Terminalia Arjuna*)
Ashoka (*Polyalthia longifolia*)
Babool (*Acacia arabica*)
Bad (*Ficus benghalensis*)
Bael (*Aegle marmelos*)
Bottle palm (*Hyophorbe lagenicaulis*)
Divi divi tree (*Caesalpinia coriaria*)
Fishtail palm (*Caryota urens*)
Golden bamboo (*Phyllostachys aurea 'Holochrysa'*)
Gular (*Ficus racemosa*)
Gulmohar (*Delonix regia*)
Jungle jalebi (*Pithecellobium dulce*)
Kachnar (*Bauhinia variegata*)
Kadamb (*Anthocephalus cadamba*)
Karanj(*Pongamia pinnata*)
Khijado (*Prosopis cineraria*)
Lal lasora (*Cordia sebestena*)
Mahaneem (*Ailanthus excelsa)*
Nagod (*Vitex negundo*)
Neem (*Azadirachta indica*)
Palash **(***Butea monosperma*)
Pangra (*Erythrina Variegata*)
Peeli gulmohur (*Peltophorum pterocarpum*)
Pipal (*Ficus religiosa*)
Putranjiva (*Putranjiva ruxburghii*)
Sago palm (*Cycas revoluta*)
Saptparna (*Alstonia scholaris*)
Semal *(Bombax ceiba)*
Sitaphal (*Annona squamosa*)
Subabul (*Leucaena leucocephala*)
Trumpet Tree(*Tabebuia*)

Shrubs

Aloe vera (*Aloe barbadensis*)
Aralia
Asparagus (*Asparagus officinalis*)
Bougainvillea (*Bougainvillea*)
Canna (*Canna indica*)
Chandni (*Tabernaemontana*)
Clerodendrum (*Clerodendrum splendens*)
Devil's backbone (*Pedilanthus tithymaloides*)
Gemini evergreen (*Aglaonema Gemini*)
Golden duranta (*Duranta erecta*)
Ixora pink (*Ixora coccinea*)
Ixora white (*Ixora ebracteata*)
Juhi (*Jasminum auriculatum*)
Kewda (*Pandanus odorifer*)
Mexican lawn
Mogra (*Jasminum sambac*)
Railway creeper (*Ipomoea cairica*)
Softleaf Buffalo Grass (*Stenotaphrum secundatum*)
Song of India (*Dracaena reflexa variegata*)
Spider Lily (*Crinum amabile*)
Triangular Spurge (*Euphorbia antiquorum*)
Typha grass
Yellowbells (*Tecoma stans*)

Bad (*Ficus banghalensis*)
Spreading large tree, with prop-roots spreading up to 5 m. leaves up to 20cm long.

Kanju (*Holoptelea integrifolia*)
Large tree, with pale brown or grayish bark in rough patches. leaves 8-15cm long with blunt pointy apex.

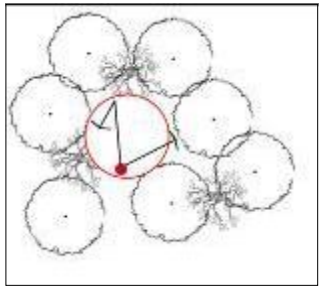
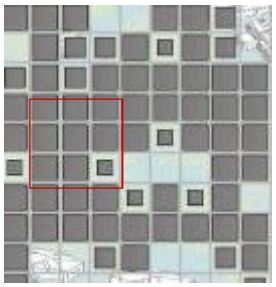
Gulmohur (*Delonix regia)*
Middle-sized tree, with light brown bark, not very rough. leaves twice feathered with 10-20 pairs of side stalks.

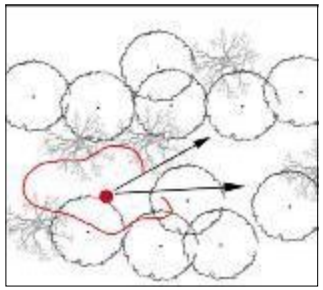
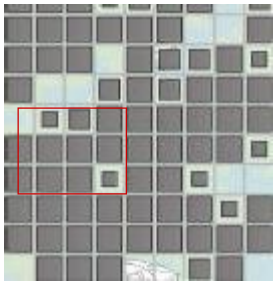
Pangra (*Erythrina variegata*)
Middle sized deciduous tree, with greenish white or grayish bark with shallow fissures. Cluster of bright scarlet flowers.

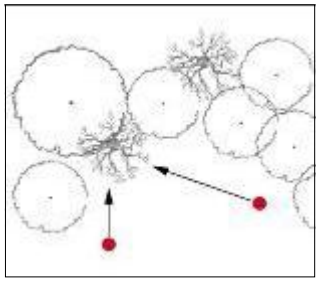
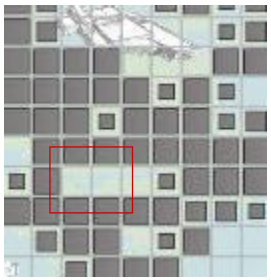
Organisation

Sky

Sky

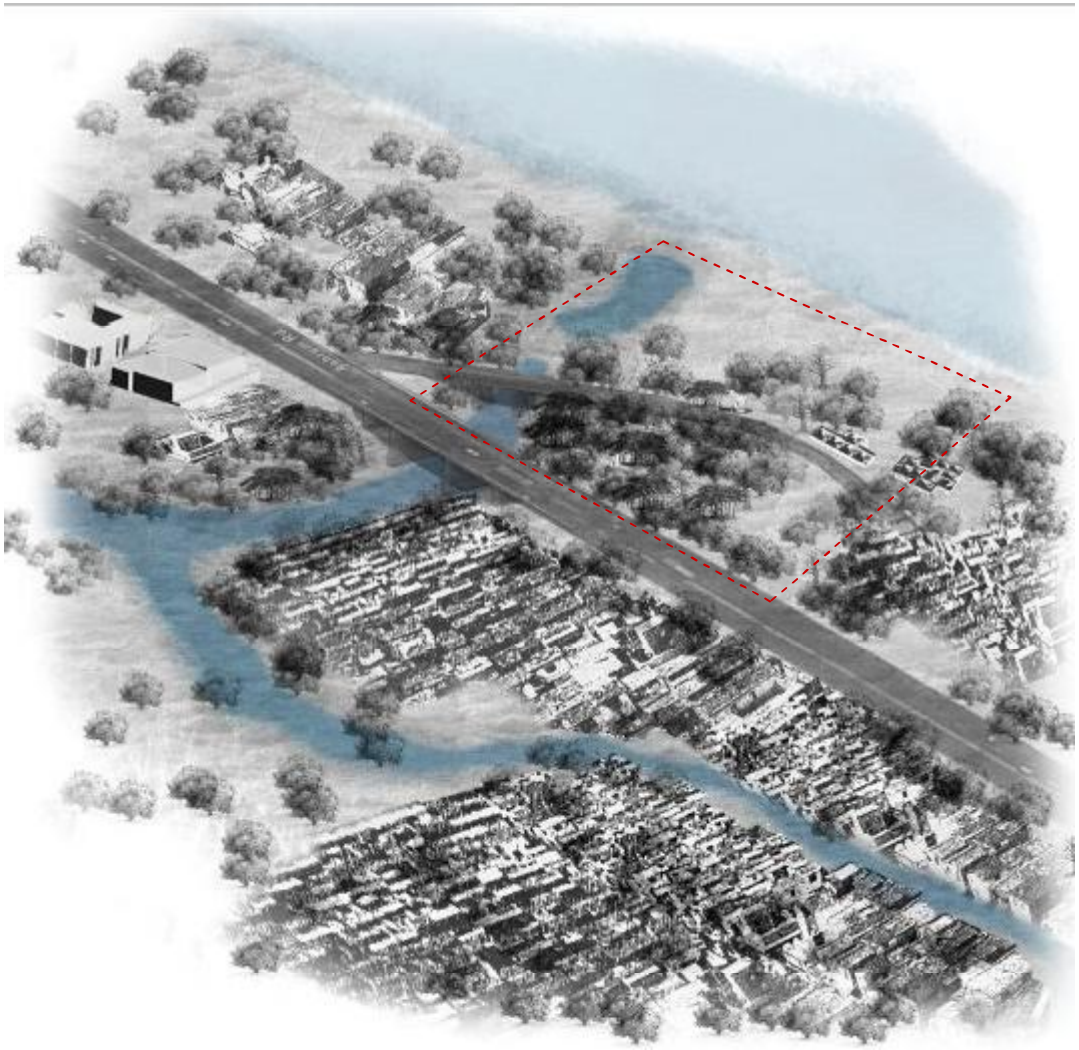



Ground

Inferences typological examples

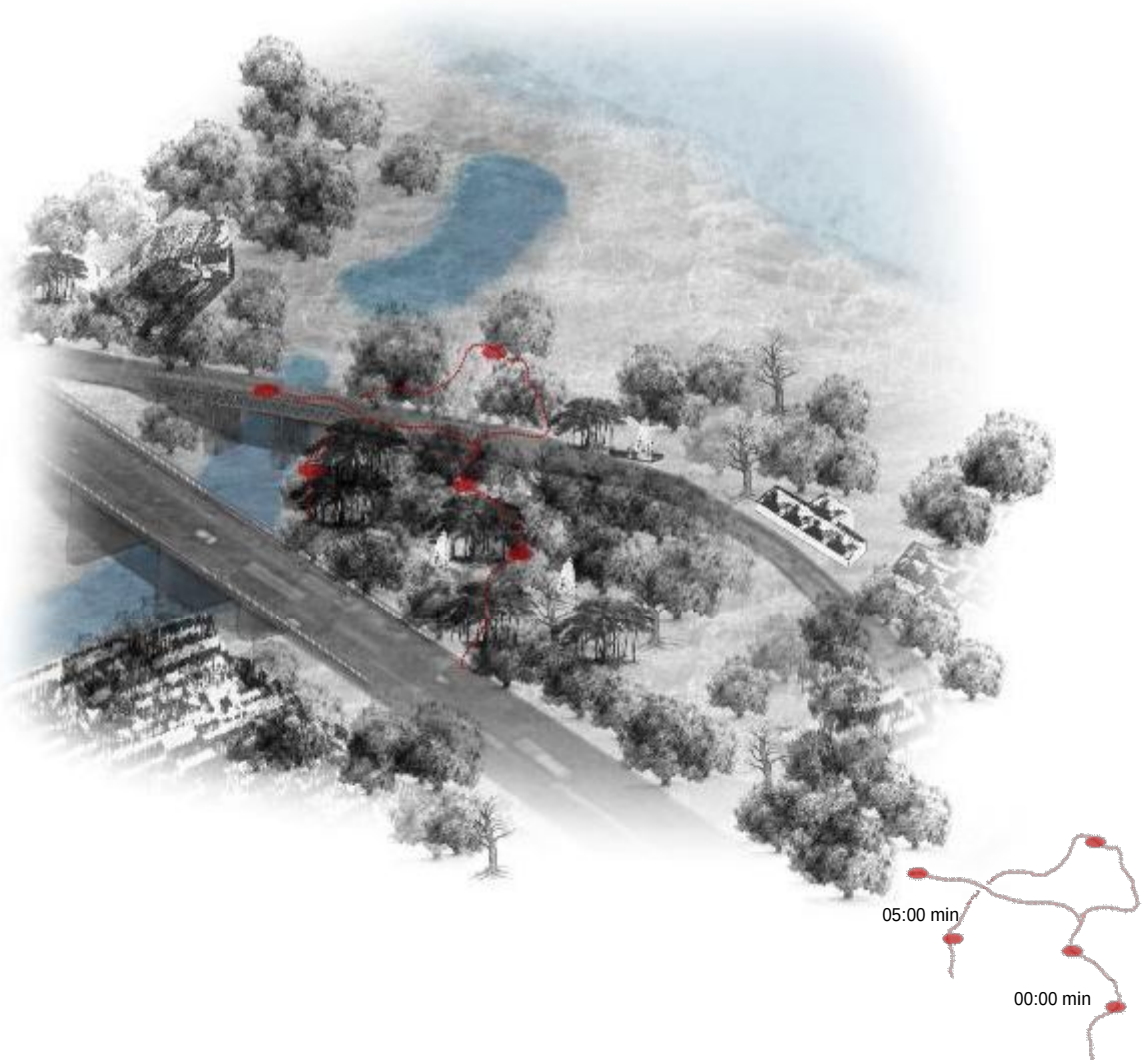
Sundervan is a composition of dense woodland, partially open sky and patches of clearings within it. The scale of the clearings, however, remains small, giving a sense of continuous density; simultaneously contrasting it with a sense of openness. The continuous stretch of dense trees always draws attention to the 'here' and the immediate. Only in the clearings, does one's eye get drawn to the sky.



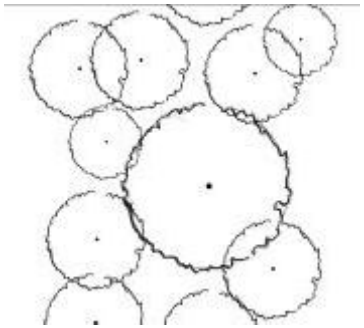
Dandi bridge

Perceived characteristics

Densely wooded
Large old trees
Contrast of covered and open sky
Undulating ground
Sheltered space
Cultural influence

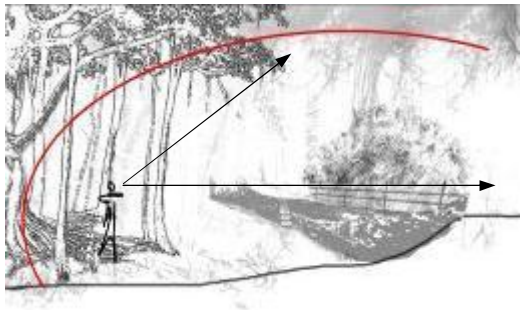


Sheltered space with pierced or partially open canopy cover.

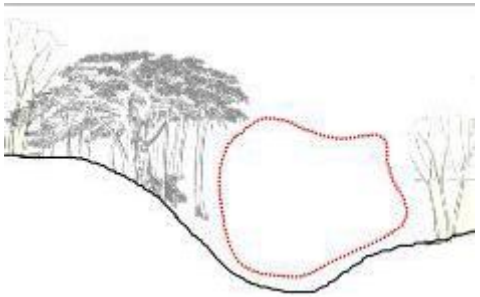


Observations: perception while moving

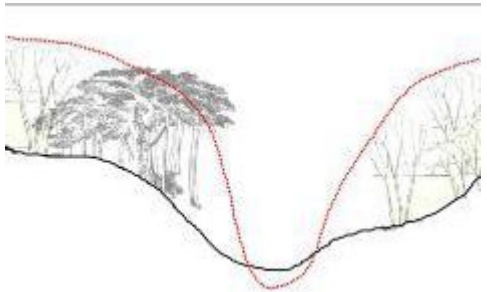
Overhead roof of foliage and dispersed trees directing vision towards the distant open sky.



Profile of the land and the large spreading trees create sense of enclosure.



Vegetation exaggerating the profile of the land .



Layers forming depth

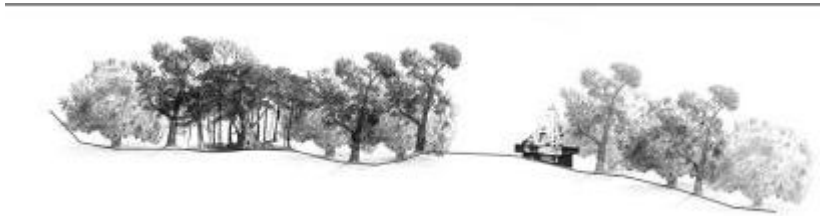
Background

Middle ground

Foreground

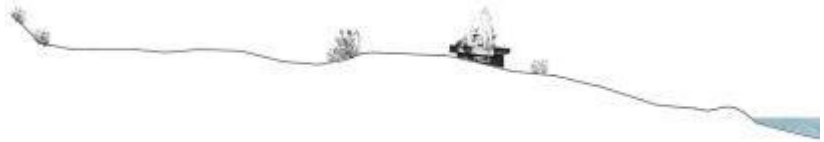
Big banyan tree as focal point, an old pathway, cenotaphs at the river bank and vast open sky at the background constitute the various layers of the place.

Layers forming height



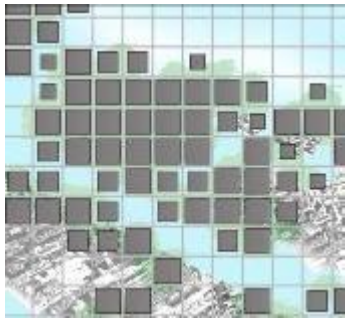
Upper storey

Middle storey

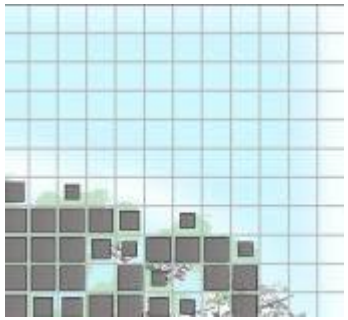


Under storey

Upper storey having dense and spreading trees with almost negligible understorey.

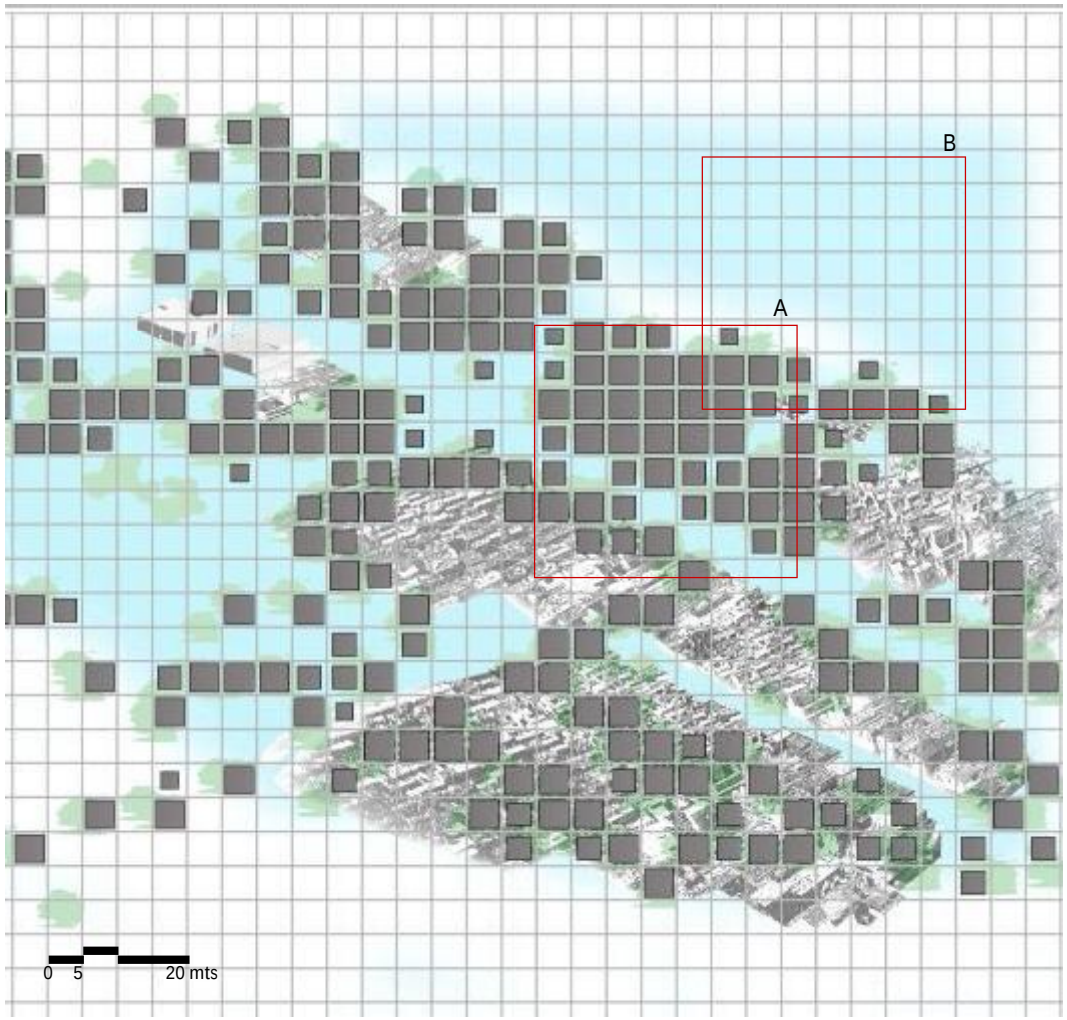


A



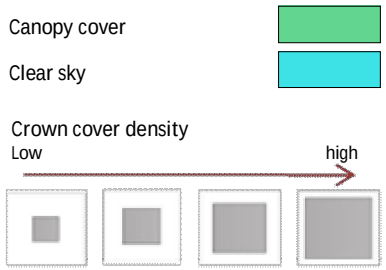
B

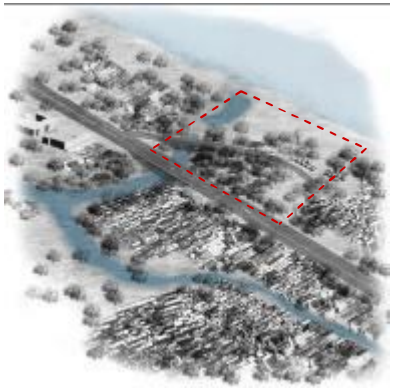
Observing the sky



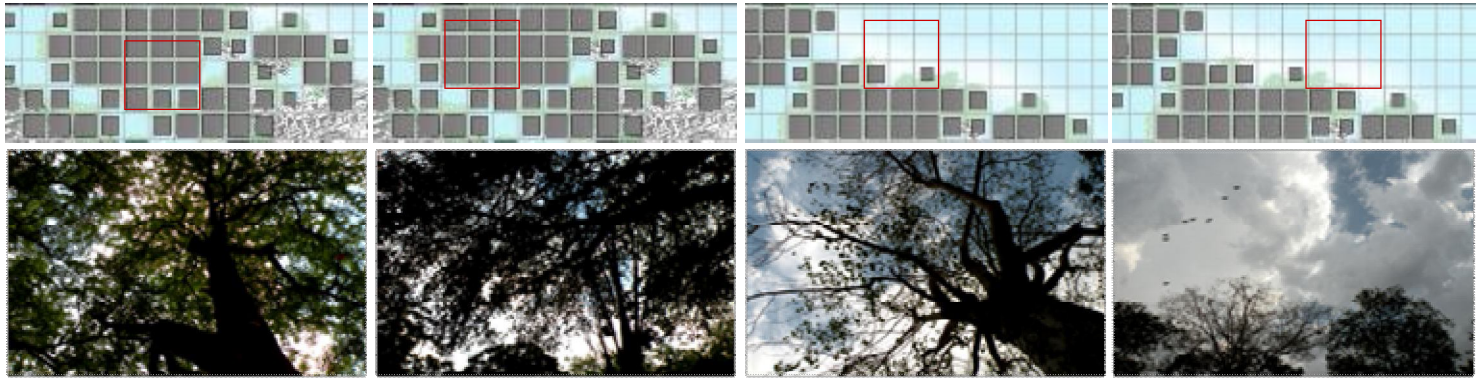
Canopy cover map

The contrasting scenario between the densely covered area and the clear sky adjacent to it can be clearly seen in the canopy cover map.
The crown cover, as observed in the selected area covers around 75% of the ground (fig A) with open area at the right (fig B).



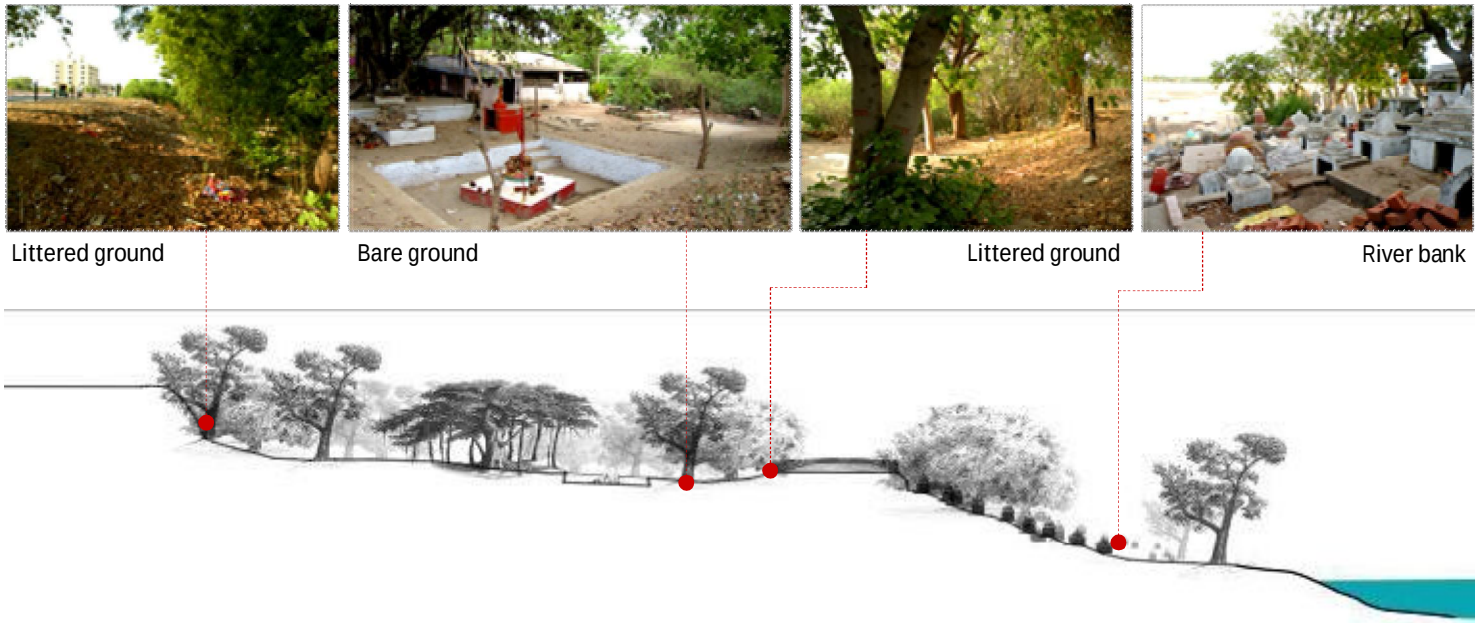


Observing the sky



Covered sky | Covered sky | Coarse sieved | Clear sky

Observing the ground



List of trees

Babool (*Acacia arabica*)
Bad (*Ficus banghalensis*)
Bael (*Aegle marmelos*)
Gular (*Ficus racemosa*)
Gulmohur (*Delonix regia*)
Karanj (*Pongamia pinnata*)
Karonda (*Carissa congesta*)
Kassod (*Senna siamea*)
Mahaneem (*Ailanthus excelsa)*
Neem (*Azardirachta indica*)
Peeli gulmohur (*Peltophorum pterocarpum*)
Peelu (*Salvadora persica*)
Peepal (*Ficus religiosa*)
Subabul (*Leucaena leucocephala*)

Bad (*Ficus banghalensis*)
Spreading large tree, with prop-roots spreading up to 5 m. leaves up to 20cm long.

Karonda (*Carissa congesta*)
Small tree, with pale brown or grayish bark not very rough. leaves in opposite pairs, rounded at apex.

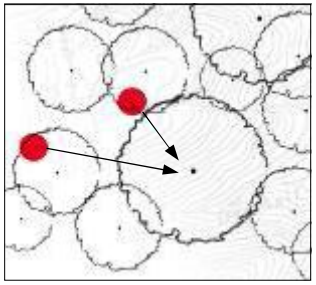
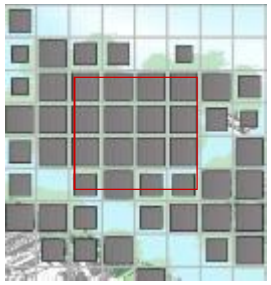
Peepal (*Ficus religiosa*)
Large deciduous tree, yellowish or grey brown bark. leaves heart shaped with long pointy tip and wavy margin.

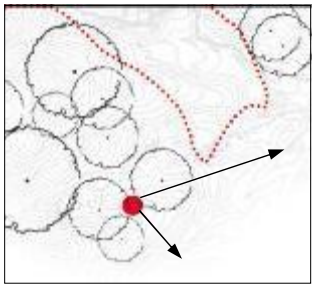
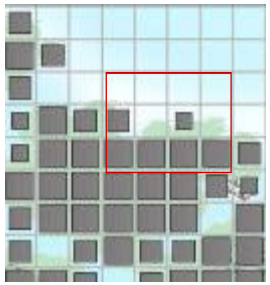
Bael (*Aegle marmelos*)
Middle sized tree, with pale corky-bark with shallow furrows. leaves compound with 3 leaflets.

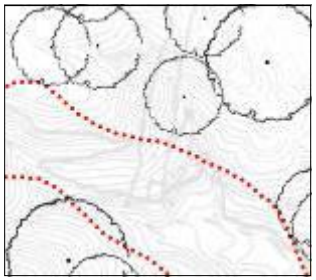
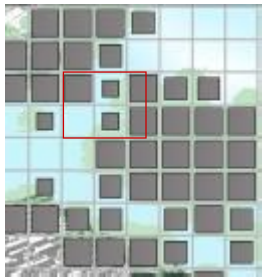
Organisation

Sky

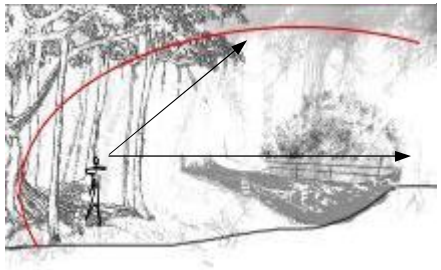
Sky

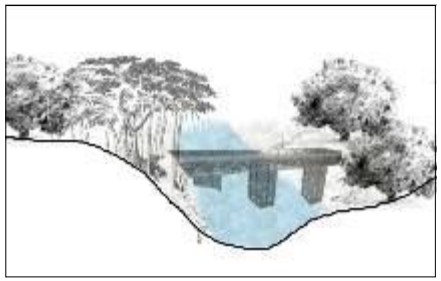



Ground





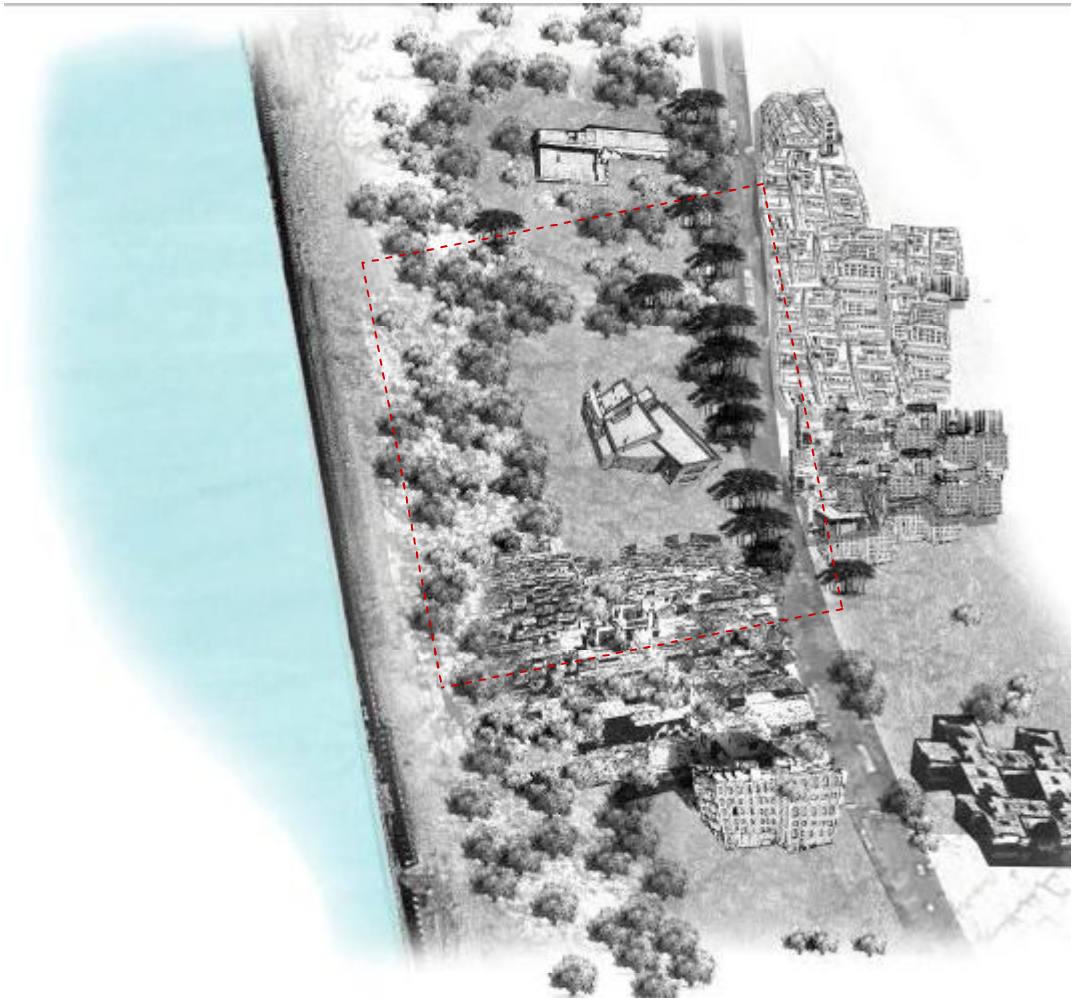
Inferences typological examples

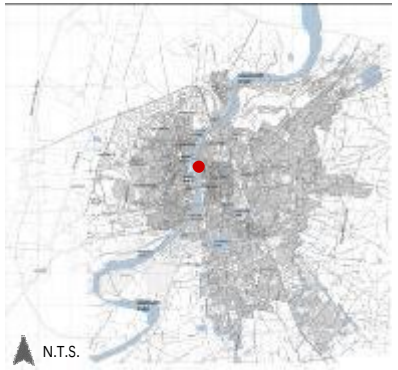
This fragment of landscape has a very strong sequential character. The sequence moves from high ground to the river. From a distance, one can see the progression of the landscape. This first glance tempts one to enter the space and traverse through till the end. Once inside, there is a strong sense of enclosure due to both topography as well as dense vegetation.
Simultaneously, a small glimpse of the next space, leads one from the first space to the next: high ground to complete enclosure to open sky to tree crowns and then finally; the edge of the river.

Fort wall

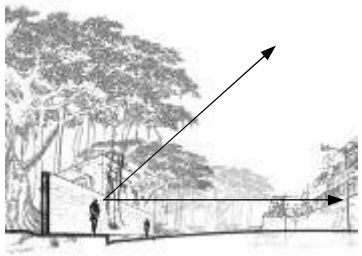
Perceived characteristics

Road side vegetation
Pockets of sky
Filtered light and sheltered space
Resident birds



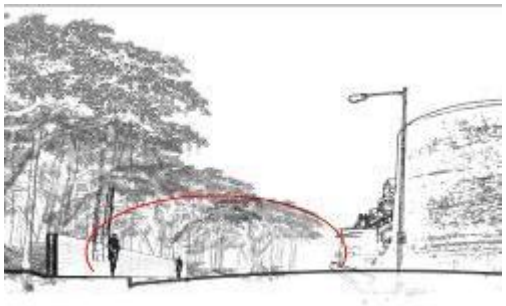


Attention is diverted towards the axis of the road, the fort wall, silhouette of the trees and the open sky.

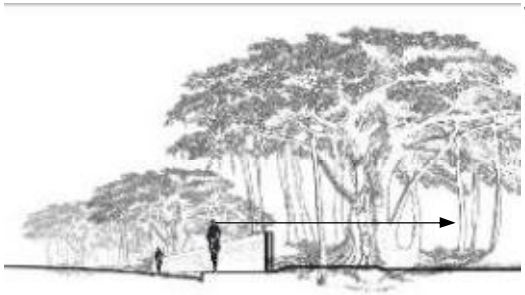


Observations: perception while moving

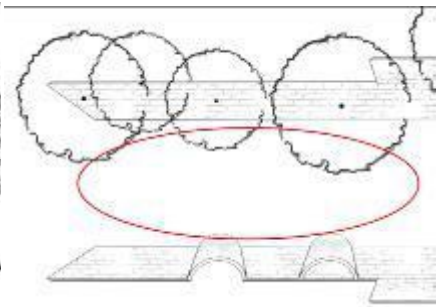
Solid wall at the right, low height boundary wall at the left and screen of canopy overhead form an enclosure.



While walking along the edge, attention is drawn towards the visually open area at the left.



All along the length of the road, the sense of enclosure is constant and similar in nature.



Layers forming depth

Background

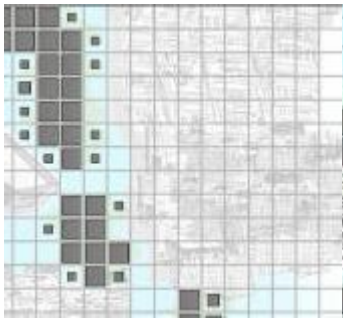
Middle ground

Foreground

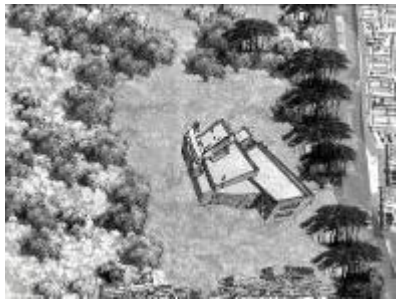
While walking along the stretch, experience of river and trees at the left provide variation, what is otherwise a constant experience.

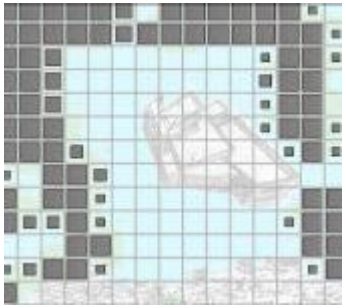
Layers forming height

The experience of the sky varies at different levels ranging from the partially open and pierced to clear sky.



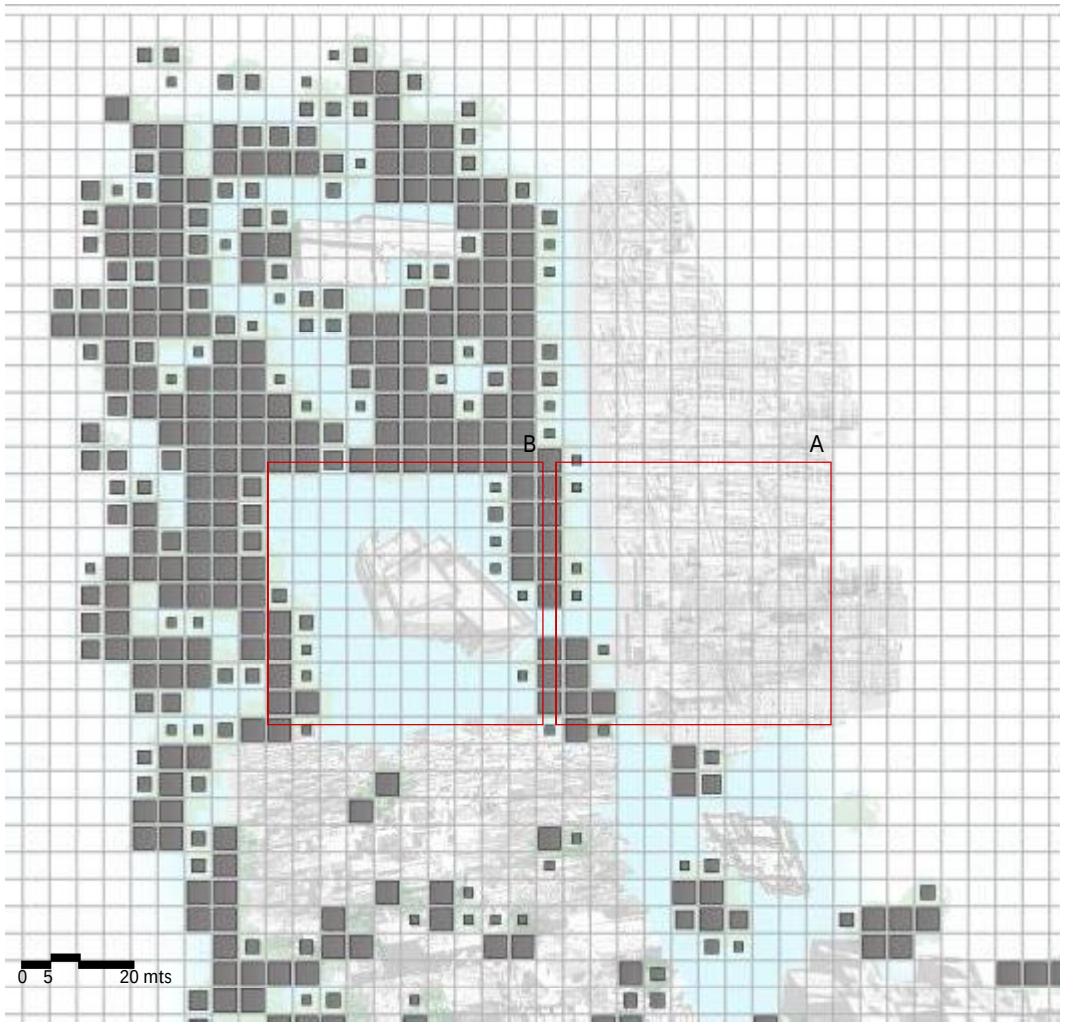
A





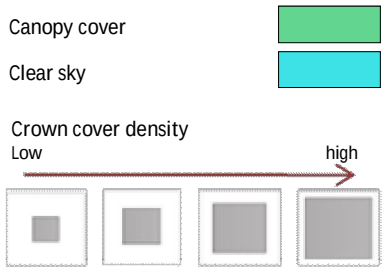
B

Observing the sky

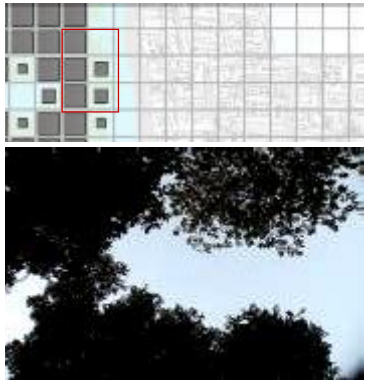


Canopy cover map

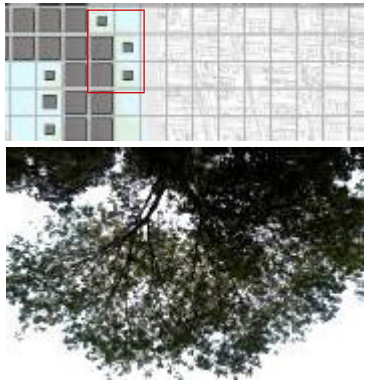
The crown cover, as observed in the area covers around 40% of the site at the left. The larger vista contains both built manmade objects and vegetation forming open to sky spaces in between as shown in fig. A and B.



Observing the sky

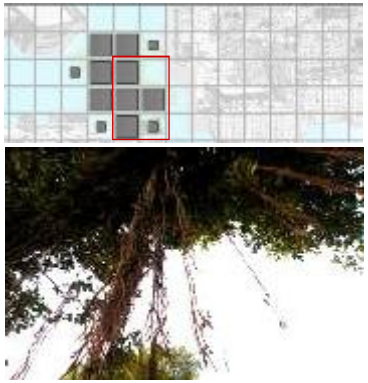


Partially open



Sieved sky

Covered sky



Partially open

List of Trees

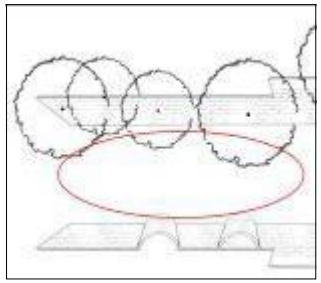
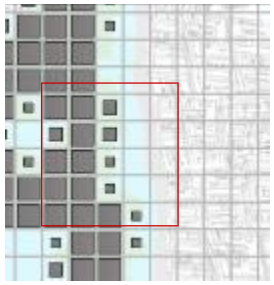
Bad (*Ficus benghalensis*)

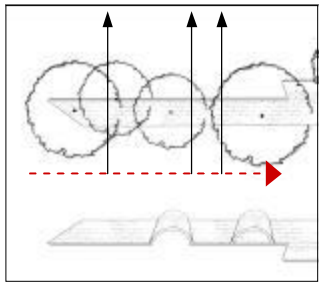
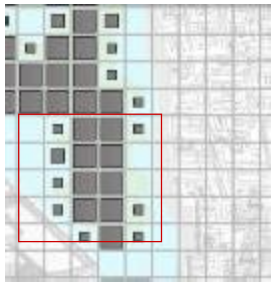
Bad (*Ficus banghalensis*)
Spreading large tree, with prop-roots spreading up to 5 m. leaves up to 20cm long.

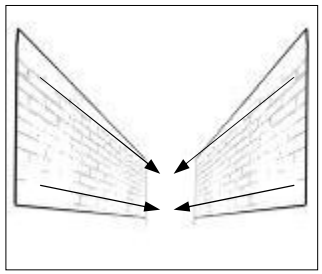
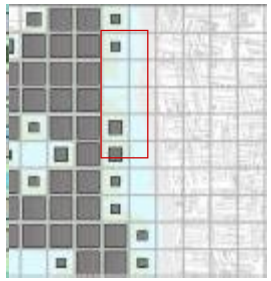
Organisation

Sky

Sky

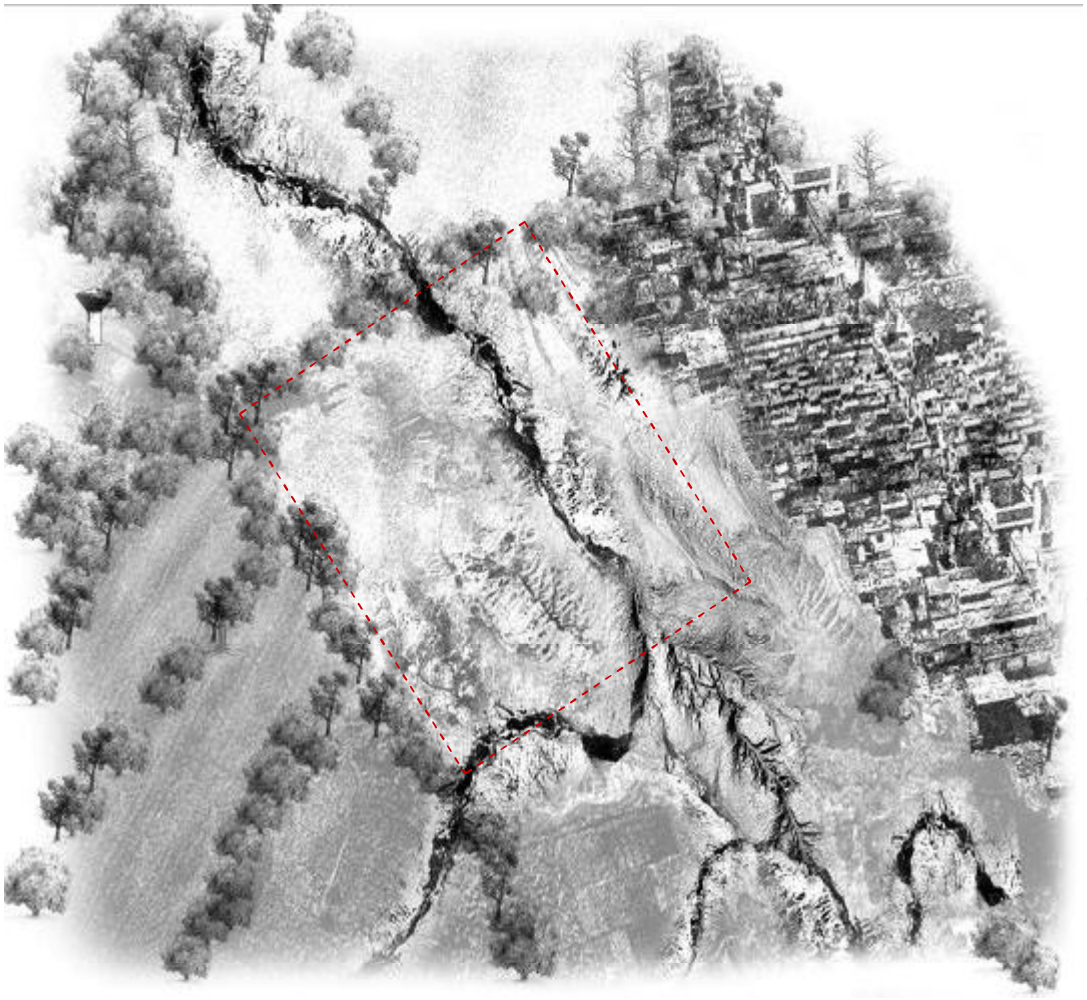
Inferences typological examples

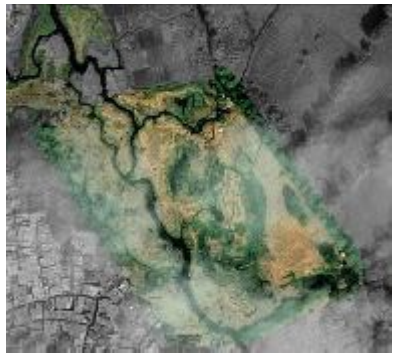
The space here has a very strong sense of enclosure; formed by the dense Banyan tree on one side and the high fort wall on the other. This forms a strong linear space along the road.
However, at points where the enclosure opens up on the left, the eye is drawn to the distant horizon.
The dense canopy of the Banyan tree, filtering the sky and the large number of resident birds, draw one's attention upwards. The still ground disappears against the moving mosaic of branches, leaves and birds that inhabit the Banyan tree.

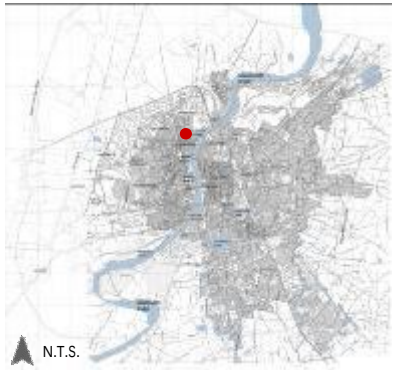
Vadaj

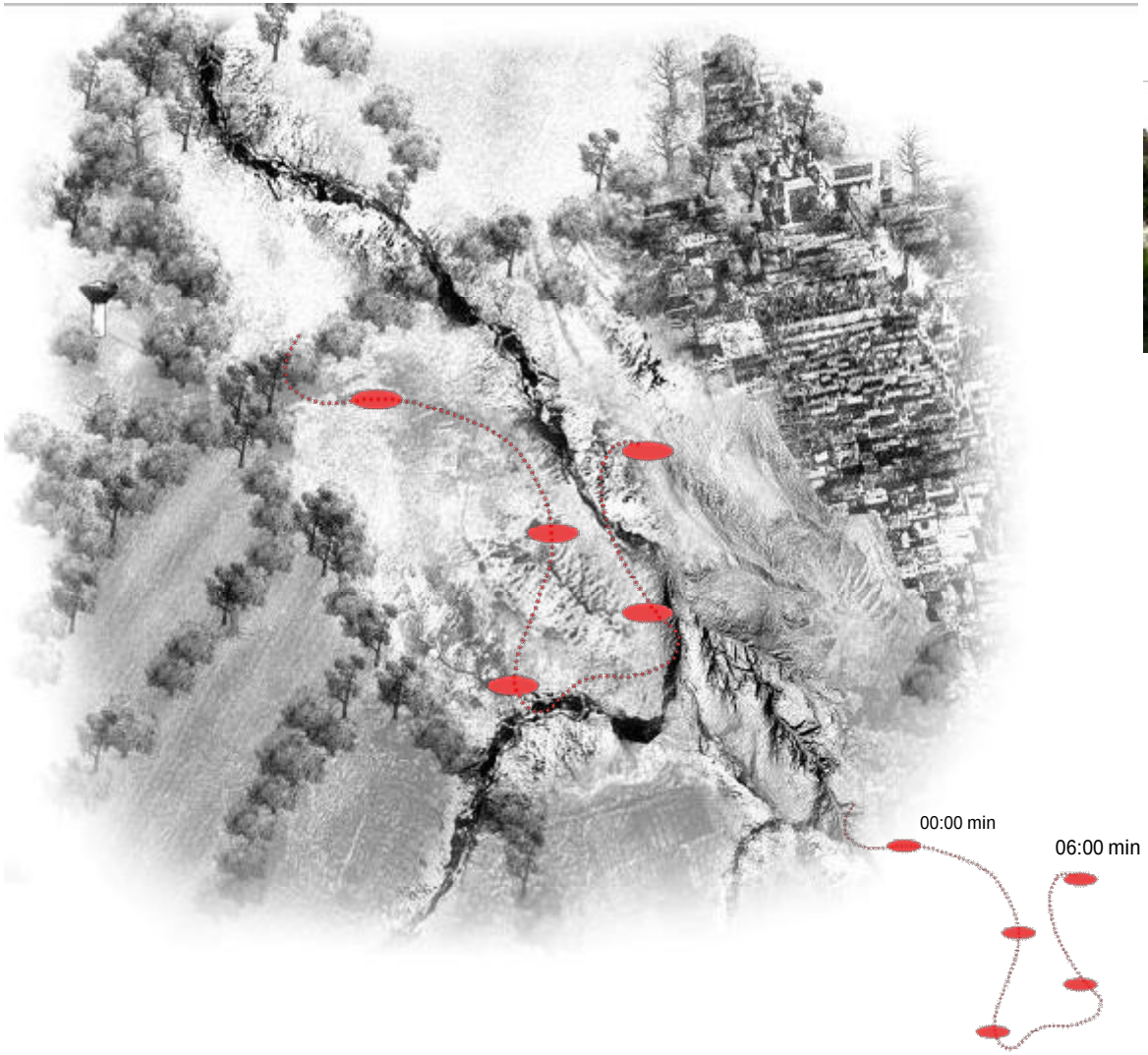
Perceived characteristics

Very shallow and small ravines
Field layer
Distant skylines
Undulating ground
Open sky

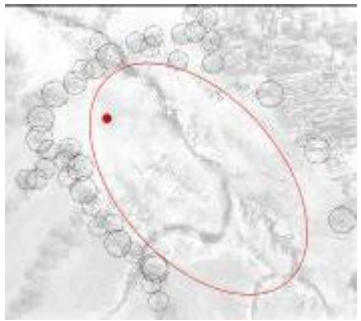








Large scale enclosed area where the visible horizon draws attention towards itself.

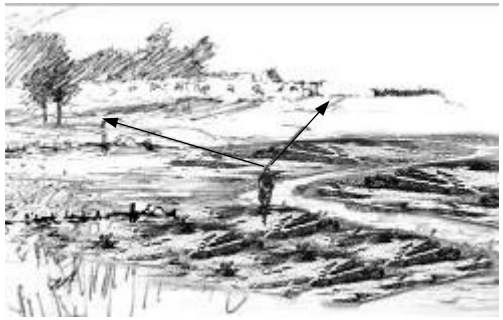


Observations: perception while moving

Vast open space which can be perceived through the pierced or partially open screen of trees directing vision.

Site appears more or less flat and the expanse of the site conveys a feeling of depth. Vision is directed towards the distant horizon .

The experience varies with different viewing distances. The stream becomes the foci and undulating space suggests directional movement.



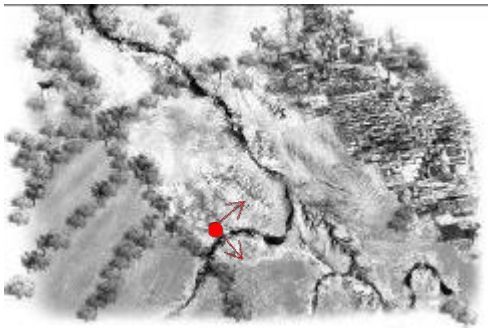
Layers forming depth

Background

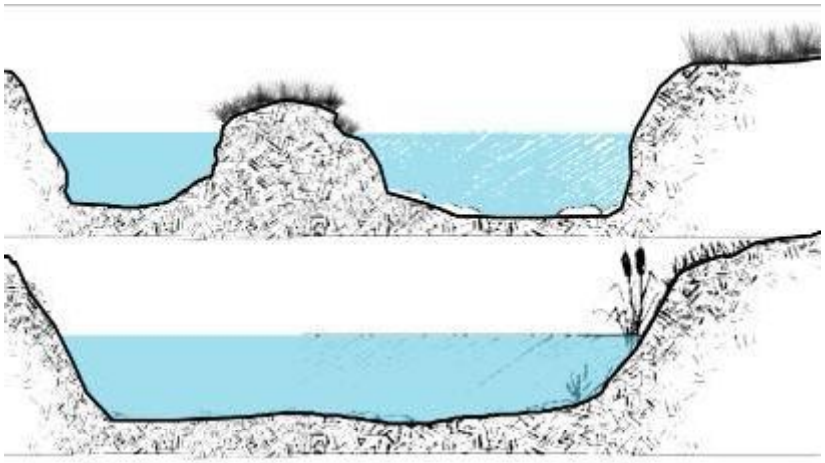
Middle ground

Foreground

The undulations of the ground form the foreground of the space with the backdrop of dense trees at the edge.



Layers forming height

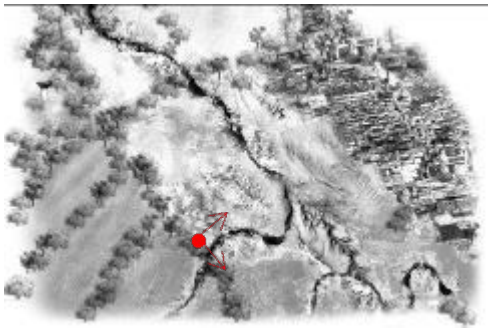


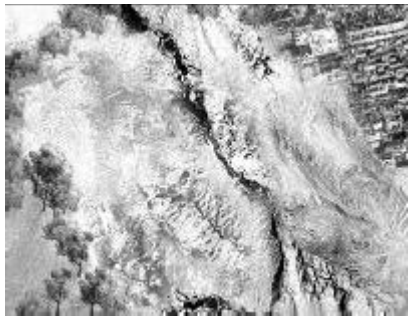
Combination of 'U' and 'V' shaped ravines

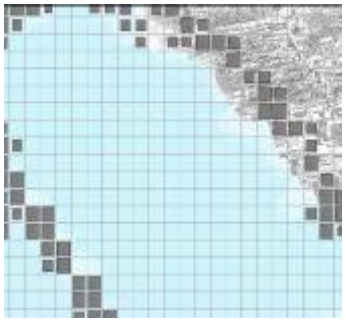
Steeply sloping

Gradually sloping

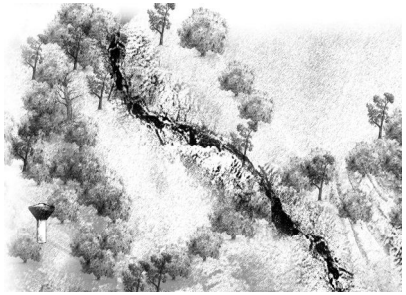
Varying depth and width of the stream causing varying flow.

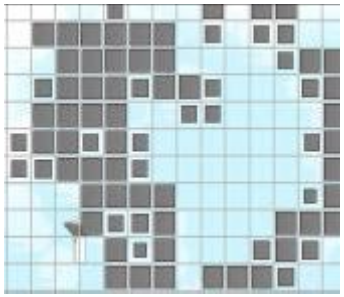






A

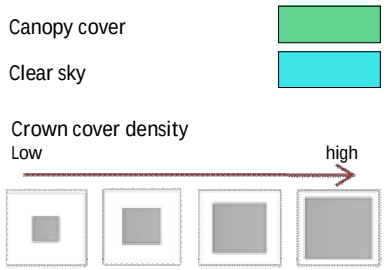


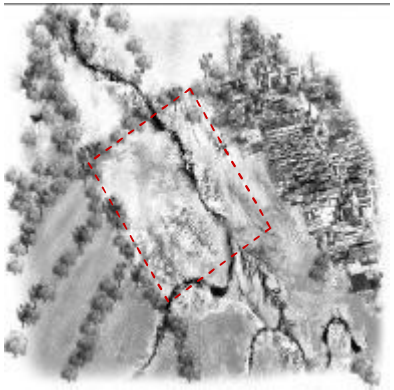


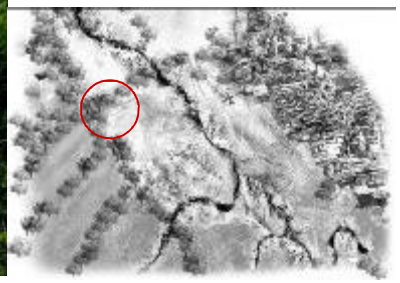
B

Canopy cover map

The crown cover, as observed in the area covers around 20% of the ground with patches of large open spaces and rows of trees defining the edges of the spaces as shown in fig. A and B.

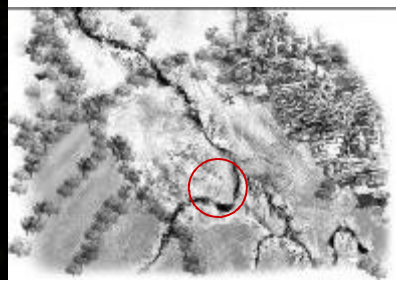


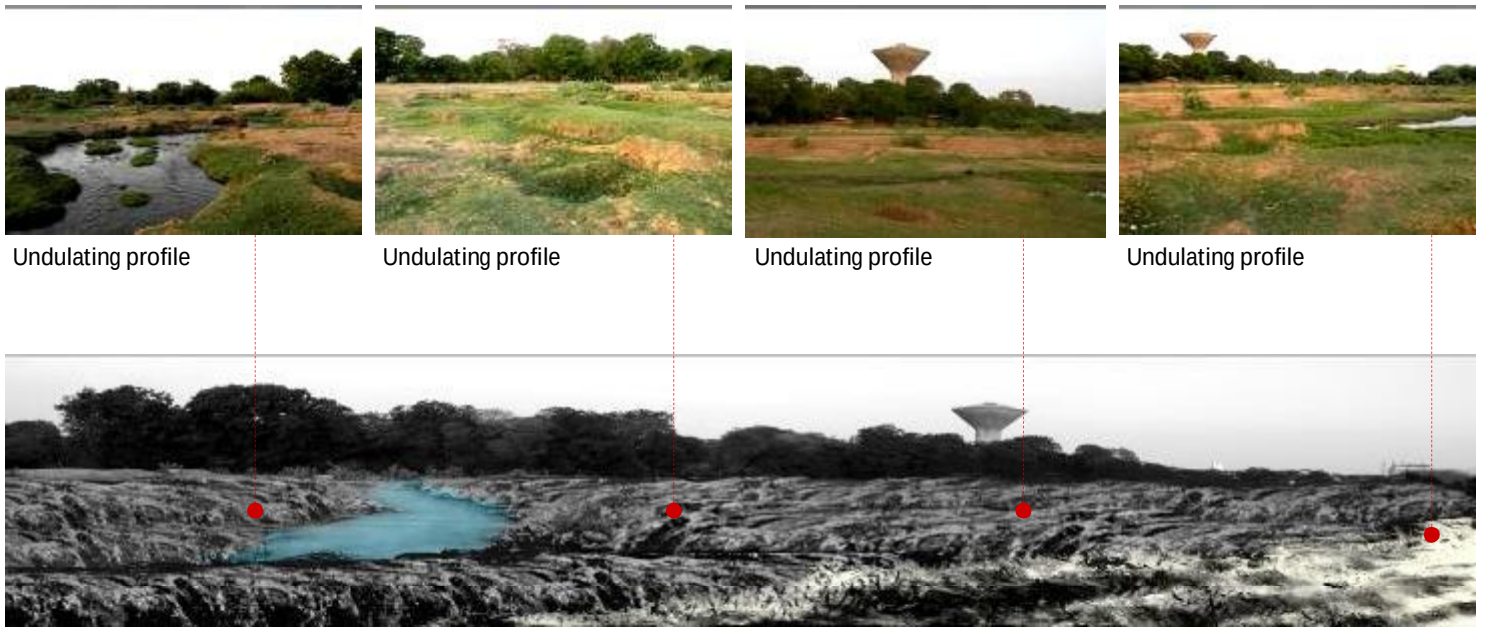




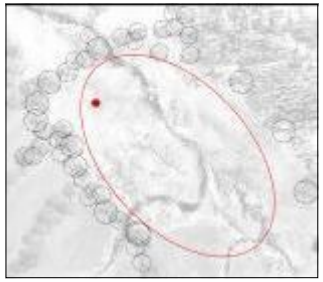
Observing the sky

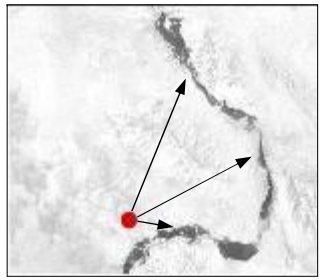
Clear sky | Distant horizon | Clear sky | Reflection

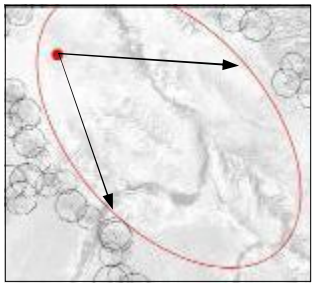



Undulating profile
Undulating profile
Undulating profile
Undulating profile

Organisation







Sky

Ground

Inferences typological examples

This a vast clearing held by the horizon all around. The horizon while defining the edge also, promises something beyond. Yet, the eye is drawn downwards, because of the highly sculptural landform. Sharp edges, soft edges, varying depths affecting flow and collection of water, different flora in all the conditions define the area. Attention is called to every line and turn of the surface.

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Ritu Rawat is a student of the post graduate program in Landscape Architecture at CEPT University, Ahmedabad.
This study is part of her summer training of 10 weeks. She graduated in architecture from Jai Narayan Vyas University at Jodhpur.

E# rituvastu@gmail.com

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