

SEMINAR 2

TEA EXPERIENCE ARENA

discover tea, its alchemy and innovation



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SUBMITTED IN PARTIAL FULLFILLMENT OF THE REQUIREMENTS FOR
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DEPARTMENT OF ARCHITECTURE
BRAC UNIVERSITY

A Design Dissertation submitted to the Department of Architecture in partial fulfilment of the requirement for the degree of Bachelor of Architecture (B. Arch) in the Faculty of BRAC University, Dhaka. Information given within this Design Dissertation is true to the best knowledge of the student mentioned below. All possible efforts have been made by the author to acknowledge the secondary sources information. Right to further modification and/or publication of this Design Dissertation in any form belongs to its author. Contents within this Design Dissertation can be reproduced with due acknowledgment for academic purposes only without written consent from the author.

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Abstract

The project, "TEA Experience Arena" aims to re – introduce TEA in new dimensions in Bangladesh.

Tea is a universal drink and the second most consumed beverage in the world after water. It connects people and is drunk by the most privileged and also extremely underprivileged people. In a country like Bangladesh where poverty is a major problem, Tea can be a new sector, which can bring light to many homes and also to the economy of the country. For that Tea has to be introduced in a new dimension to the people of the country and in a state of the art level to attract the world.

The "**TEA EXPERIENCE ARENA**" will be an innovative concept that celebrates tea as an essential element of food and of life. It will let people discover the alchemy and innovations of this plant along with its rich history. Teaching people about this plant through a fun filled experience.

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Chapter 1: Background of the project :

This is the first chapter where a brief of the project is given along with a general idea about site and surroundings. A basic program obtained from the client is also presented and formal introduction to the project and its aims and objectives are clarified in this section of the writing.

1.1 Project brief:

1.1.1 Name of the project:
Tea Experience Arena

1.1.2 Project type:
Edutainment Centre

1.1.3 Client: Maiaz M. Rahman (M. Rahman Tea Company)

1.1.3 Location:
Saif Tea Estate, Shatgaon, Srimangal, Sylhet.

1.1.4 Site area:
42,296,760 sft = 971 acres

1.2 Project Introduction:

The Tea Experience Arena is located at the heart of Bangladesh's Tea District, Srimangal and aims to promote the tea culture in Bangladesh, while advertising the quality and superiority of Bengal Black tea. The Arena is located in the middle of a tea garden in Shatgaon, Srimangal.

In this entire experience, there is a tea alchemy museum where you may learn about the history, varieties, and culture associated with tea. At the Tea Innovation Center visitors can enjoy such hands-on programs like making tea in a traditional hand-made way and learning the traditional tea etiquette of different regions, gastronomy and mixology restaurants where tea will be celebrated as an essential element of food and life, and a tea market where you can purchase a variety of high-quality tea produced around the world. The discovery centre will let people come close to the production of the basic six types of teas and taste the raw flavours directly from the freshly flushed teas. Moreover, a Visual Theatre with 9D effects will allow people to come close to the environment of tea gardens at anytime of the year.

1.3 Aims and objectives of the project:

- To design an experience which aims to make people know about tea, its contribution to humanity which is only hidden in the history books. Moreover about its benefits and innovations which will economically benefit our country.
- We have a large percentage of young generation and creative mind, with proper utilization of our manpower in this sector they can express their creative prospect.
- It will be a landmark for next generation of Tea Connoisseurs and Tea Estate Owners. Moreover, this project will be an icon of Bangladesh to the whole world through which our dream, idea, capability, and technology will be explored.
- The professional tea makers, who work in our country for a long time, will find the way to establish themselves again and can share the idea of tea with the world.
- This project becomes a '*Platform*' for both the pioneers and the new generations and can work as a doorway for sharing culture, dream, idea, capability, creativity and technologies to explore in the field of tea.

1.4 Functions and programs required for the project:

The design proposal can initially be divided into the following main parts, according to the types of activity.

1. Reception and Train Platform
2. Administration Unit
3. Production Unit
 - Tea Factory
 - Tea Tasting Room
4. 9D Visual Theatre
5. Exhibition Galleries
6. Innovation Centre
7. Wading pool and plaza
8. Parking, Souvenir shop

1.5 Rationale of the project:

This particular project is very important with its new purpose of its global phenomena. The global aspects and the overwhelming capability of being popularized needed a proper presentation to attract people through the programs and functions. That is why it needs careful understanding of space, form and function. So in such a project, it is essential to have a proper planning and understanding of the requirements. This project has one constant “TEA” and needed an interesting chain of the spaces where people would learn through a fun filled experience. Another important thing while designing was to remember about all ages. So there’s something for everyone to enjoy here. The 9D theatre, the amount of greenery and the wading pool will help stimulate the senses along with the soothing smell of fresh tea will create a paradigm shift in everyone. This aims to provide a healthy environment, a ground to play, to come close to nature. Along with learning new things everyone coming here would go through a cleansing of the mind, unwinding the stress, rejuvenate and relax. Apart from the recreational side, this place will let people know from the roots of this plant till present and make them know about the possibilities. This learning would attract new investors and thus creating new job markets in this sector. Tea is a plant with so many possibilities that once it is known to people it can be a milestone in the development of this country.

Chapter 2: Site Appraisal :

Site appraisal holds the details of the site such as site location, area and its surroundings. The access ways or streets and communication means, landmarks. An overall idea of the site is achieved from this chapter. Analysis of the site and surroundings is presented here.

2.1. Location of the site:

Location: Saif Tea Estate, Shatgaon, Srimangal, Sylhet.

Site area: 42,296,760 sft = 971 acres

Altitude:

25m from sea level

Latitude: 24°23' N

Longitude: 91°37' E

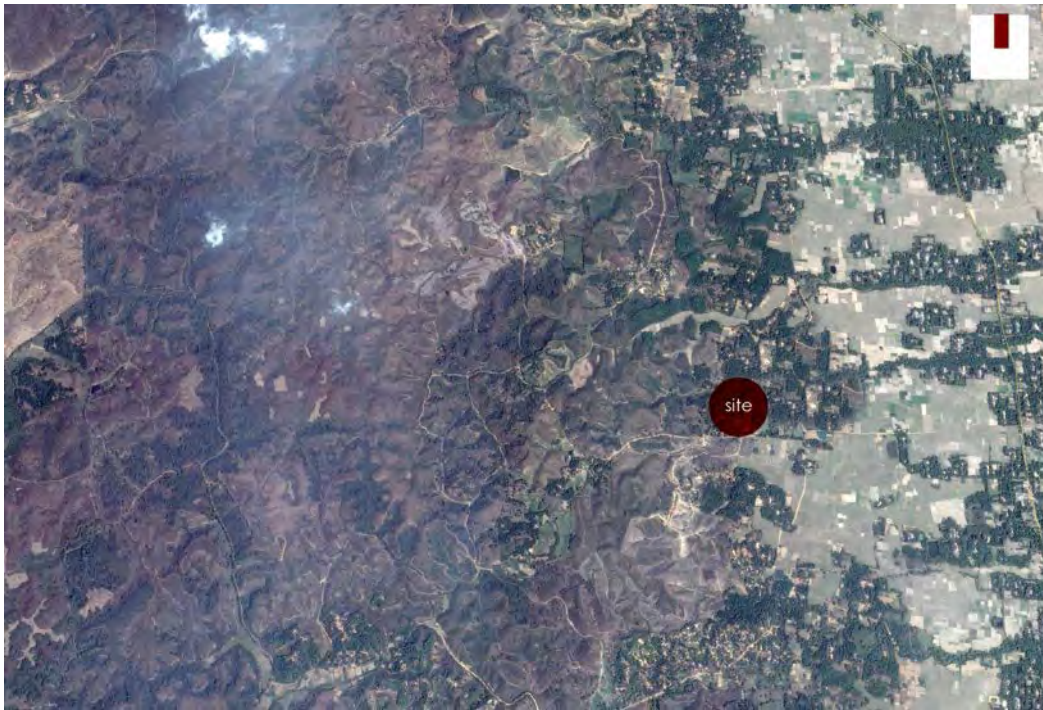


fig 2.1: Location of the site (source: Google Earth)

The above picture marks approximately the 971 acre Tea Estate and the Red marked Area is where the project was built



fig 2.1.1: The existing factory (source: Google Earth)

The site for Tea Experience Arena is located at the base of the hills of Saif Tea Estate where the existing factory is built.

2.2. Site and surroundings:



fig 2.2: Panoramic view of the site (source:Quazi Faheemul Huq)

Currently the site consists of tea plantations and tea garden workers house.

From the peaks which are 60 feet and above height, the nearby Hali haor can be seen.

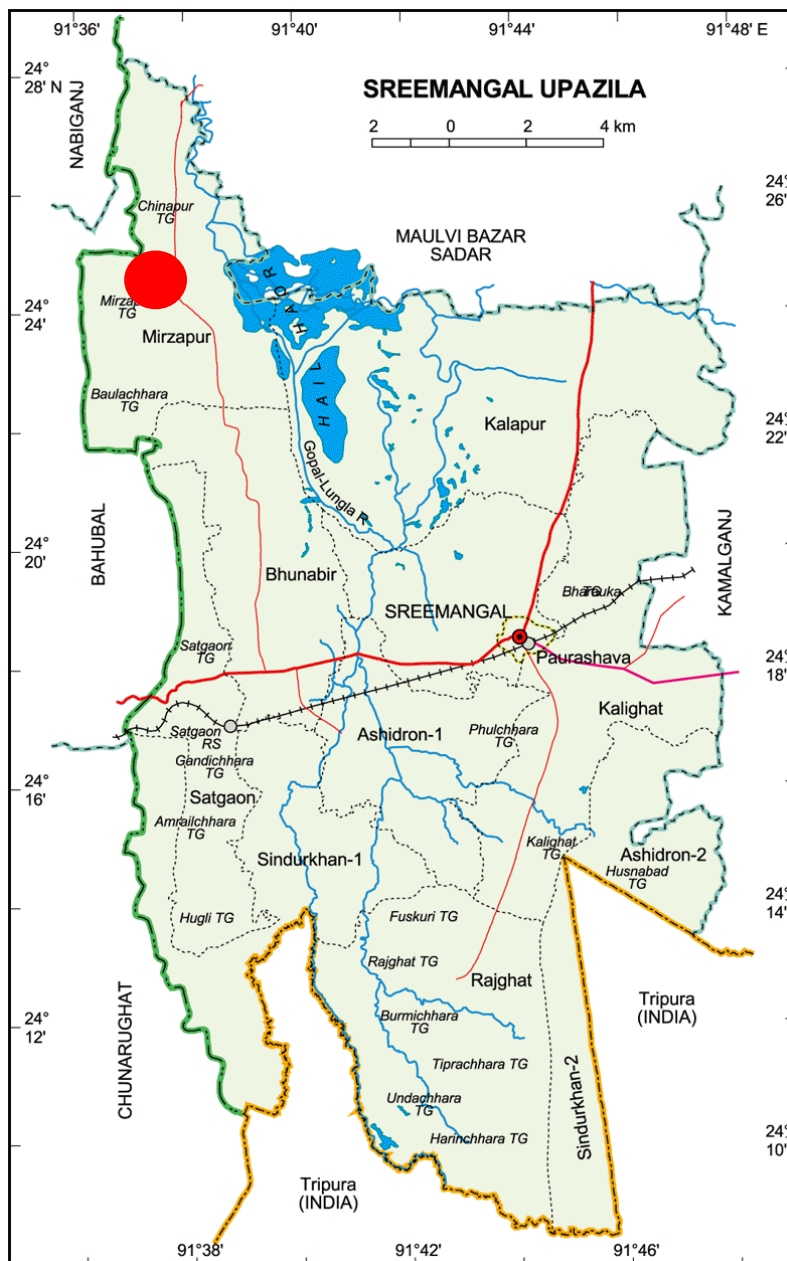


fig 2.2.1: Site in Srimangal Map (source: <http://lib.pmo.gov.bd/maps/>)

2.3.1 Temperature:

The Temperature is warm with an average of 28.3 °C, July is the warmest month. In January, the average temperature is 17.4°C. It is the lowest temperature of the whole year.

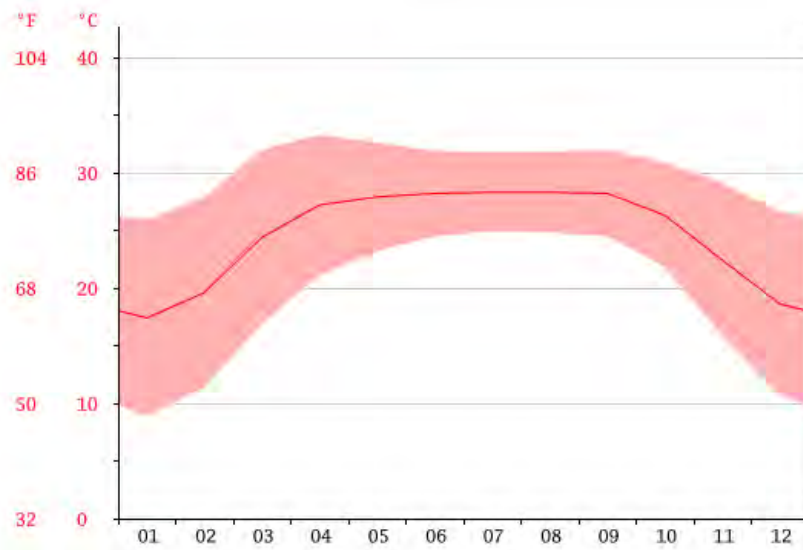


fig 2.3.1: Temperature chart of Srimangal
(source: <http://en.climate-data.org/location/970045/>)

2.3.2 Climate:

The climate is classified as Cwa according to Koppen and Geiger with an annual rainfall of 2420 mm. The driest month is December with a 6mm of precipitation and is most at June with an average of 498 mm.

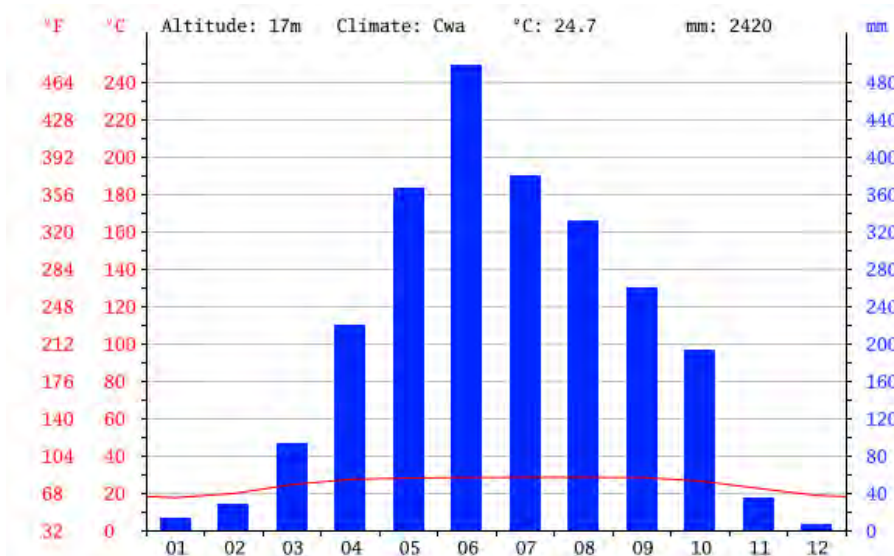


fig 2.3.2: Climate chart of Srimangal
(source: <http://en.climate-data.org/location/970045/>)

2.3.3 Views of the site:



2.4. S.W.O.T. analysis:

➤ **Strength:**

- Srimangal hasn't fully developed yet, so the site has a potential of becoming a good urban public place and will help speed up the process of development of the city.
- The place can be a centre for tea of Bangladesh and the world.
- Here Tea makers from inside and outside the country can perform and research, therefore it will leave a mark globally.
- The site is located in midst of a Tea Estate.
- The site has no rush of traffic which is helpful for researcher
- Huge site provide vast open green spaces

➤ **Weakness:**

- The present access road is very narrow
- At night the area becomes insecure.
- The tea gardens are mostly in the east-west side.
So it should be handled sensitively
- The site and surrounding is not properly taken care by authority

➤ **Opportunity:**

- As the area does not have a proper public place, this site will give a chance to flourish the idea of public place in the city
- It will initiate a new kind of development in this area

➤ **Threat:**

- If the site is not handled appropriately, it might make a bad effect in community
- The environment would be affected if the ratio of build area and green is not properly balanced

Chapter 03: Literature Review

3.1 The History of Tea

The historical backdrop of tea is long and mind boggling, spreading over numerous societies over the compass of a huge number of years. Tea likely started in China amid the Shang administration as a therapeutic drink. An early valid record of tea drinking dates to the 3rd century Commercial, in a restorative content composed by Hua Tuo. Tea was initially acquainted with Portuguese clerics and vendors in China amid the 16th century. Drinking tea got to be famous in England amid the 17th century. The English presented tea creation, and in addition tea utilization, to India, so as to rival the Chinese syndication on tea.

In one popular Chinese legend, Shennong, the legendary Emperor of China and inventor of agriculture and Chinese medicine was drinking a bowl of just boiled water due to a decree that his subjects must boil water before drinking it sometime around 2737 BC when a few leaves were blown from a nearby tree into his water, changing the color. The emperor took a sip of the brew and was pleasantly surprised by its flavor and restorative properties. A variant of the legend tells that the emperor tested the medical properties of various herbs on himself, some of them poisonous, and found tea to work as an antidote.] Shennong is also mentioned in Lu Yu's famous early work on the subject, The Classic of Tea. A similar Chinese legend goes that the god of agriculture would chew the leaves, stems, and roots of various plants to discover medicinal herbs. If he consumed a poisonous plant, he would chew tea leaves to counteract the poison.

A rather gruesome legend dates back to the Tang Dynasty. In the legend, Bodhidharma, the founder of Chan Buddhism, accidentally fell asleep after meditating in front of a wall for nine years. He woke up in such disgust at his weakness that he cut off his own eyelids. They fell to the ground and took root, growing into tea bushes. Sometimes, another version of the story is told with Gautama Buddha in place of Bodhidharma.

Whether or not these legends have any basis in fact, tea has played a significant role in Asian culture for centuries as a staple beverage, a curative, and a status symbol. It is not surprising, therefore, that theories of its origin are often religious or royal in nature. to human existence and deserves respect and awareness.

3.2 Tea In Bangladesh

History Of Bangladesh Tea Industry Dates Back To 1840 When A Pioneer Tea Garden Was Established On The Hills In Chittagong Where The Chittagong Club Now Stands. First Commercial Tea Garden Was Established In 1857 At Mulnichera In Sylhet. During The Partition In 1947, Bangladesh (The Then East Pakistan) Owned 103 Tea Estates, Covering 26,734 Hectares Of Tea Plantation With Annual Production Of 18.36 M.Kg. With A Yield Of About 639 Kg. Per Ha. Home Consumption Was Around 13.64 M. Kg. Up To 1955. After That Home Consumption Went Up Rapidly And Government Imposed 3% Mandatory Extension Of Tea Area Per Year In 1961. Ten Years Later By 1970, Tea Area Was Extended To 42,658 Hectares And Production Was Increased To 31.38 M.Kg.

During Liberation War In 1971, Our Tea Industry Suffered Colossal Damages Which Resulted In Poor Management, High Vacancies, Insufficient Inputs, Dilapidated Factory Machinery, Inadequate Maintenance Etc. Leading To Lower Yield And Poor Quality Of Tea. But The Industry Soon Got A Big Push On Behalf Of The Government Through A Massive Development Program (Btrp-1980-92) With The Financial And Technical Assistance Of The British Oda And Eec And Production Increased To 65.84 Million Kg, With A Yield Of 1255kg Per/Ha In 2013.

3.2.1 Production Of Tea In Bangladesh:

Production Of Tea In Bangladesh Registered Steady Growth Rising From 39.81 Million Kg In 1980 To 53.41 Million Kg In 2001. Many Of The Tea Bushes In Bangladesh Are Well Over 50 Years Old. This Has Resulted In Loss Of Vigor And Production. In The Past, For Achieving Short-Term Gains, Planting Efforts Were More Concentrated On New Areas Than On Replacements. As A Result, The Old Areas Did Not Receive Proper Care And Attention. The Result Has Been A Sharp Fall In The Yield From These Gardens. Infilling May Be Most Profitably Carried Out In Tea Up To The Age Of 20-25 Years. But Infilling Of Young Tea Plants Should Get Priority.

The World Production Of Tea Has Increased Tremendously Over The Last 50 Years. It Is Interesting To Note That The Production Increases In The Major Tea Producing Countries Have Been Due To Large Increase In The Yield Per Hectare. In The Nineties, The Yield Per Hectare In India Was Around 1500 Kg, In Sri Lanka This Was 1600 Kg And In Bangladesh It Was Only 1000 Kg. The Net Outcome Has Been A Relatively High Per Kg Cost In Bangladesh Due To Low Yield And A Consequent Unfavorable Competitive Position In The World Market.

Later On Poor Quality Of Bangladesh Tea Has Turned Into A Problem. A Number Of Reasons Account For This. First, The Standard Of Leaf Plucking Is Not Satisfactory. To Increase Production, The Producers Resort To Rough Plucking. The Second One Is The Age-Old 'Orthodox' Method Of Processing In The Out-Modeled Factories And Machines. Besides, The Presence Of High Vacancies, Poor Quality Plants, Unchecked Propagation Of Pests And Diseases In The Tea Bushes, Absence Of Shade Trees, Etc. Are Some Other Constraints To The Yield Of Quality Tea In Bangladesh.

Besides, There Are Too Much Fallow Land In The Tea Estates. It Can Be Said Without Hesitation That Even Half Of The Potentiality Of The Land Under Tea Cultivation Has Not Been Exploited.

3.2.2 Domestic Consumption:

Amount Of Tea Used For Domestic Consumption Stood At 15.93 Million Kg In 1980 That Declined To 8.72 Million Kg In 1984, And Then Rose To 24.31 Million Kg In 1994. The Figure Stood At 36.89 Million Kg In 2001. The Wide Fluctuation Is Due To The Fluctuation In Tea Export.

India And China Are The Largest Tea Consuming Countries In The World And

The Amount Of Their Consumption Was 615.33 And 420.43 Million Kg In 1996 Respectively. Whereas Consumption Of Tea In Bangladesh Was Only 25 Million Kg At The Same Time.

3.3 What Is Tea Gastronomy?

Gastronomy Is The Study Of Food And Culture. It Is The Art And Knowledge Involved In Preparing And Eating Good Food. At The Heart Of Gastronomy Is The Harmony Of Flavor. The Magic In Tea Where Gastronomy Is Concerned Is Not Only This Variety But Also The Fact That Each Characteristic In Tea - Colour, Aroma, Strength, Flavour, Texture - Tells A Unique Story. Tea Gastronomy Will Be An Innovative Concept In The Lives Of Bangladeshi People Which Will Celebrate Tea As An Essential Element Of Food And Of Life. Introduction Of This Concept Will Also Lead To Tea Mixology And Bringing Chefs, Tea Makers From All Over The World To Test New Culinary Creation With The Finest Teas Of Bangladesh.

3.3.1 Tea Mixology In Bangladesh:

Mixology Is A Colourful Combination Of Exceptional Taste, Creative Energy And Suave Flair Of Mixing Different Ingredients To Produce Harmony On The Palate. Add Tea, With Its Limitless Variety, To The Equation And It Takes This Craft To A Different Level Altogether.

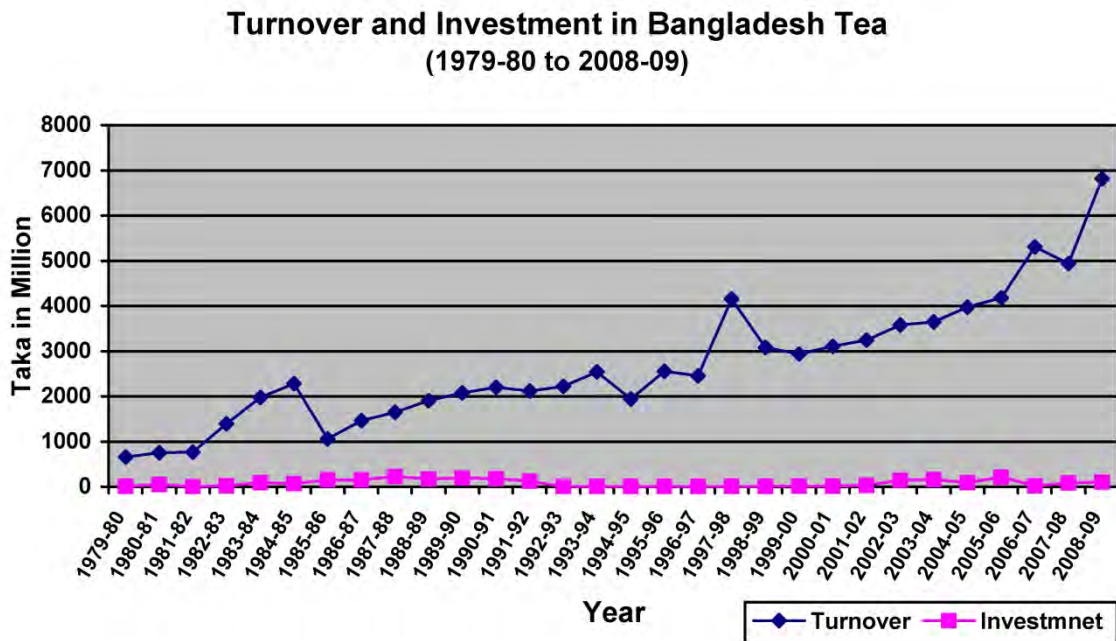
Tea Mixology Demands Expertise And Commitment From The Mixologist For It Requires An Understanding Of The Unique Identity Of Each Tea. It Is The Art Of Respectfully Combining Nature's Most Indulgent Herbal Beverage, With Other Ingredients To Produce Tea Inspired Cocktails, Dishes And Patisseries. For This To Be Accomplished, The Mixologist Must Understand The Influence Of Of Soil, Moisture, Wind Conditions, Sunshine And Temperature Which Define The Character Of Tea As The Nature Intended It To Be.

Camellia Sinensis, The Plant From Whose Tender Buds Tea Is Handpicked When Making Real Tea, Produces A Spectrum Of Taste, Flavour, Strength, Colour, Aroma And Texture. This Infinite Variety Is At The Heart Of Indulgence In Tea And Is Craft. Tea Effectively Changes With The Weather, With Tea From One Valley For Example, With Certain Characteristics, Being Entirely Different Even Days Later As The Weather Changes.

Chapter 04: Contextual Analysis

4.1 Investment On Tea Compared With Turnover In Bangladesh

Investment In Bangladesh Tea Is Very Low Compared To National Investment. The Growths Of Turnover And Investment In Tea Have Been Shown In Figure Below.



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Based, Labour Intensive And Export Oriented Sector And Plays An Important Role In The National Economy Through Export Earnings, Trade Balancing, Import Substitution And Employment Generation. Bangladesh Tea Dates Back To 1854. Tea Estates In Bangladesh Are Predominantly In The Private Sector. Managements Are The Only Players For Investments In Tea Estates. The Private Owners Possess 97.54 Per Cent Of Grant Area And Bangladesh Tea Board Owns Remaining 2.46 Percent Of Land, Which Is A Statutory Body Under The Ministry Of Commerce.

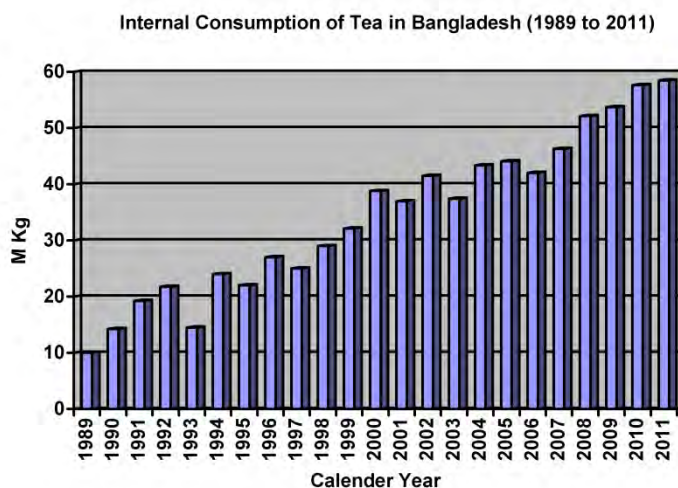
Srimangal In Moulvibazar, Called As The Tea Capital Of Bangladesh, Is The Main Center Of Tea Area Commonly Known As Surma Valley. Greater Sylhet, The Tea Granary Of Bangladesh, Has 133 Tea Estates. Besides Quality Tea Is Also Grown In 23 Tea Estates In Chittagong And Chittagong Hill Tracts Known As Halda Valley, One Of The Country's Famous Tea Growing Areas. Tea Cultivation Has Also Started In 2000 In 16 Tea Estates In Panchagarh, The Northern District Of The Country.

Though Tea Industry Suffered A Serious Setback In 1971 But Bangladesh Could Succeed In Reversing With The Help Of The Government, Foreign Assistance And Hard Work Of Planters. Per Ha Yield Has Increased From 500 Kg Per Ha Then To Over 1240 Kg Per Ha Today. The Country Is Planning To Increase Its Production To An Average Of Over 1500 Kg Per Ha In A Few Years Time. Bangladesh Tea Board Has Undertaken Measures To Improve The Quality Of Tea By Extending The Area With New Varieties Of Hybrid Clones, Modernizing Factories And Improving Infrastructure. The Annual Production Of Tea Is Now 59.13 Million Kg Of Made Tea. Investment In Bangladesh Tea Is Very Low Compared To National Investment. While The Turnover Is Increasing In Tea, The Investment Is Decreasing In Bangladesh Tea.

4.2 Internal Consumption Of Tea, Its Export And Import In Bangladesh Over The Years

Demand For Tea Has Been Increasing In Bangladesh Since Its Independence Due To Increased Tea Drinking Habit, Higher Income, Population Growth And Rapid Urbanization. Trend Of Internal Consumption Has Been Shown In Figure Below. Production Of Tea Has Been Increasing At A Rate Of 1.03% Per Year, While The Demand For Has Been Increasing At A Rate Of 4.10%

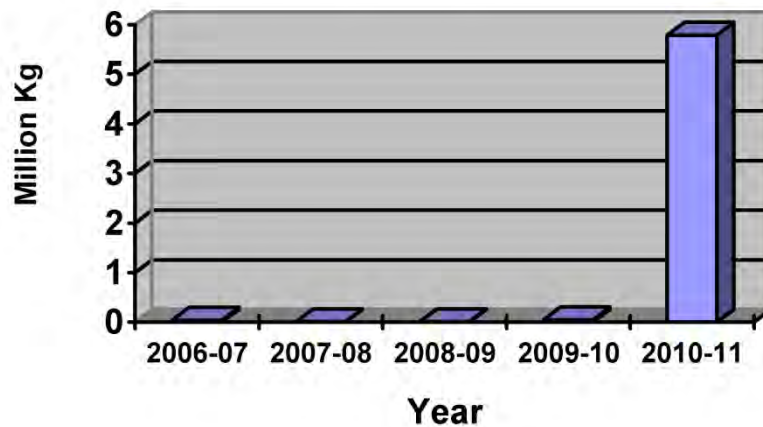
Per Annum Over The Last 10 Years (2002 To 2011). Due To Low Level Of Production And Higher Rate Of Internal Consumption For Tea Supply In The Market Could Not Keep Pace With The Demand. As A Result Prices Of Teas Have Been Increasing. Lower Level Of Production Reduces Exportable Surplus Of Tea.



Though Bangladesh Is Not A Net Tea Deficit Country, It Has Started Import Of Tea Since 2006-07 As Shown In Figure. The Tea Traders Imported Record Highest Quantity, 5.79 Million Kg Of Tea, In 2010-11. Import Of Low Priced Tea Has Already Created Serious

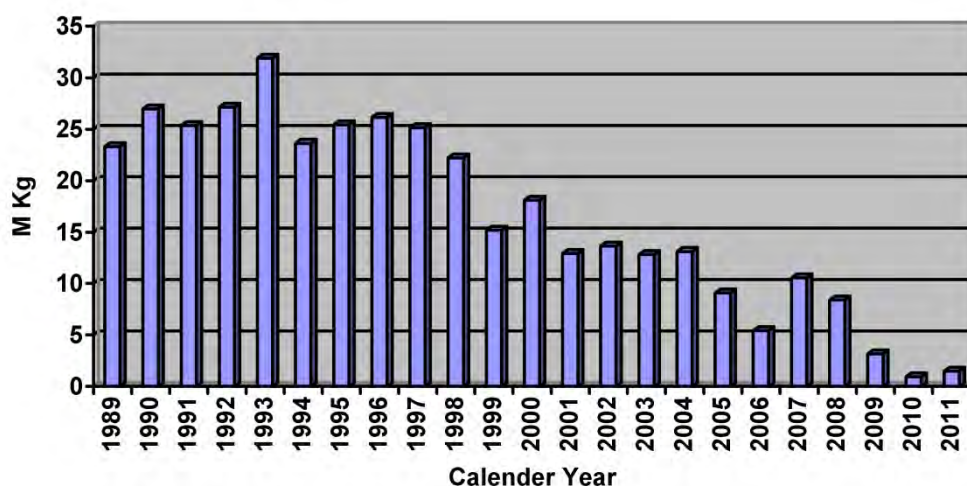
Consequences For Domestic Industry. For Example, Price Of Tea For Bangladesh In Action Fell Down And Large Quantity Of Tea Remained Unsold Due To Withheld Of Two Auctions In 2010-2011.

Import of Tea in Bangladesh (2006-07 to 2010-11)



Export Of Tea From Has Been Declining At 8.92% For The Last 10 Years (2002-2011) Due To Lack Of Exportable Surplus. Bangladesh Exported 31.91 Million Kg Of Tea In 1993 As Shown In Figure. The Last Year The Country Only Exported Only 1.47 Million Kg Of Tea Due To Lack Exportable Surplus.

Export Of Tea From Bangladesh (1989 To 2011)



Chapter 05: Case Studies

5.1 Boh Visitor Center:

5.1.1 Introduction:

Architect: Zlg Design

Team: **Huat Lim, Susanne Zeidler, Jimmy Wong, Mary Verhaeghe, Hong Chieh**

Location: **Sungai Palas, Cameron Highland, Boh Visitor Centre, Malaysia**

Locale Description: ***Tea Plantations And Factory***

Site Area: **12,168.32 Sqm**

Built Area: **1,233.8 Sqm**

Building Start: **November 2005**

Building Completion: **July 2006**

Budget: **Usd\$498,652.29**



The Approach View Of The 145m Long And 9m In Width Building Reveals The Large Cantilever Of The Balcony Overlooking The Valley. A Very Large Tree Has Been Preserved And It Now Anchors The Building To Its Surrounding Natural Landscape.

The Terrace Holds Seating For Those Staying Outdoors. This Is Linked To The F+B Area Partially Enclosed By Sliding Glass Panels Allowing Maximum Views And Natural Ventilation On Warmer Days.

The Shape Of The Building And Its Location Is A Direct Response To The Site With Cut Outs In The Structure To Avoid Cutting Down Existing Trees Or Demolition Of Other Important Site Features. A New



Car Park Area For The Visitor Has Been Allowed For At The Back Accessible By Drive Below The “Bridge” Segment Of The New Building.

The Visitor Center Is Naturally Ventilated Building With A Minimum Need For Any Mechanical Ventilation Or Air Conditioning. It Has Extensive Daylight Penetration To Reduce Contrast Between Outside And Inside Lighting Conditions And To Allow For Maximum External Awareness.

For The Most Part Of The Building, It Is Elevated To Provide Space Below The Underside Of The Structure, A Gesture To Reduce Impact On Any Of The Original



Contours Of The Terrain. Moreover, This Makes The Building “Float” Above The Ground.

The Retail Area Has A Clearly Defined And Therefore Secure Access And Exit Design. A 20m Long Fixed Partition Shelf-Wall Allows For Views Into The Retail And Display Area For The Boh And Other Products. The Shelves Are Made From Mild Steel Plates Welded Together With Fixed Glass Panels In Random Order Inserted.

One Of The Key Features Of The Design Was The Area In Front Of The Main Entrance, The Approach. The Designers Called For A Big Outdoor Terrace Area For Seating As Well As For Appreciating The Panorama View Of The Estate And The Valley. This Area Is Finished In A Simple And Affordable Concrete Tiled Flooring Material With Grass Or Loose Chippings In Between.

The Budget Constraint Appears To Have A Hidden Blessing; The Decision To Utilize Simple And Humble Materials Provided Us With A Palette That Has Now Become The Signature To The Project. Indeed The Entire Aesthetic Would Have Been Quite Different If The Budget Was Anything More Than What Was Given To The Team. Our Commitment To Use Basic Rudimentary Materials And Technology Gave This Building Its Essence.

5.1.2 Architectural Features:

Building Structure

The Choice To Use Metalwork Was Based Strictly On The Need To Reduce On Site Construction Activities. We Were Also Contemplating To Expedite Erection Of Steel Frames In Order To Mitigate Delivery Problems Of The Tea Leaves To The Currently Operating Factory Nearby. The Structural Components Were Kept Very Simple, Using Mainly Standard Section



Sizes. No Major Welding Were Done, Except For Smaller Components. The Side Windows And Facade Were Fabricated Off Site And Assembled Quickly And Put Into Place Between Posts On A Span Of 9m Grid. The Steelwork Is Limited Strictly To The Upper Storey Structure, This Is Then Assembled In Situ To Sit Atop A Reinforced Concrete Frame Consisting On 350x1000 Deep Beams Spanning The 9m Grid. The Floor Slabs Are Then Finished In Exposed But Sealant Treated Cement Render. These Were Applied A Dark Receding Colour. The Ramped Concrete Floor Allows For A Truck And General Vehicles To Pass Under For The Next Phase Of Construction.

Roof Structure

Roof Is Constructed Of A Simple Mild Steel Edge Capping Assembled To Terminate The Open Trussed Metal Beams. Such Devices Were Used Reduce The Weight Of The Structure Overall And To Ease The Distribution Of Services Inside The Voids Between The Trusses. A Slight Slope Towards The Back Allows Draining Of The Rainwater Of The Roof Towards Only One Side Of Roof Which Simplifies Building Elevation Treatment.

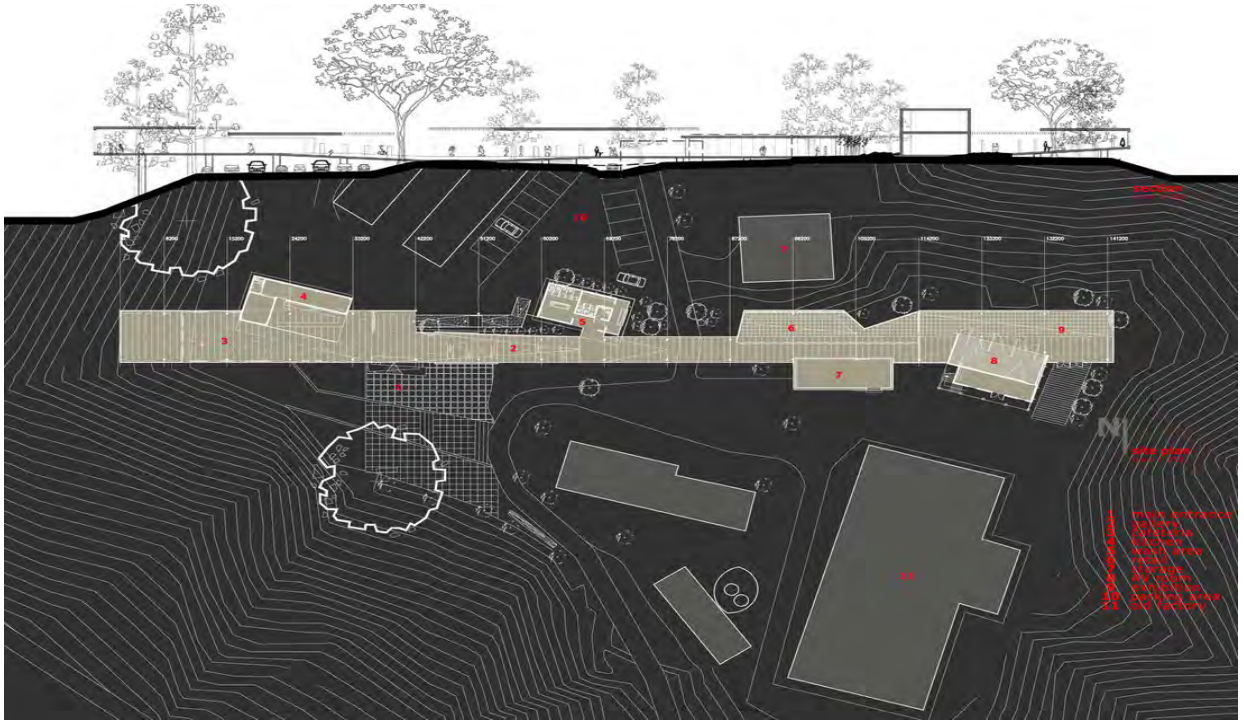


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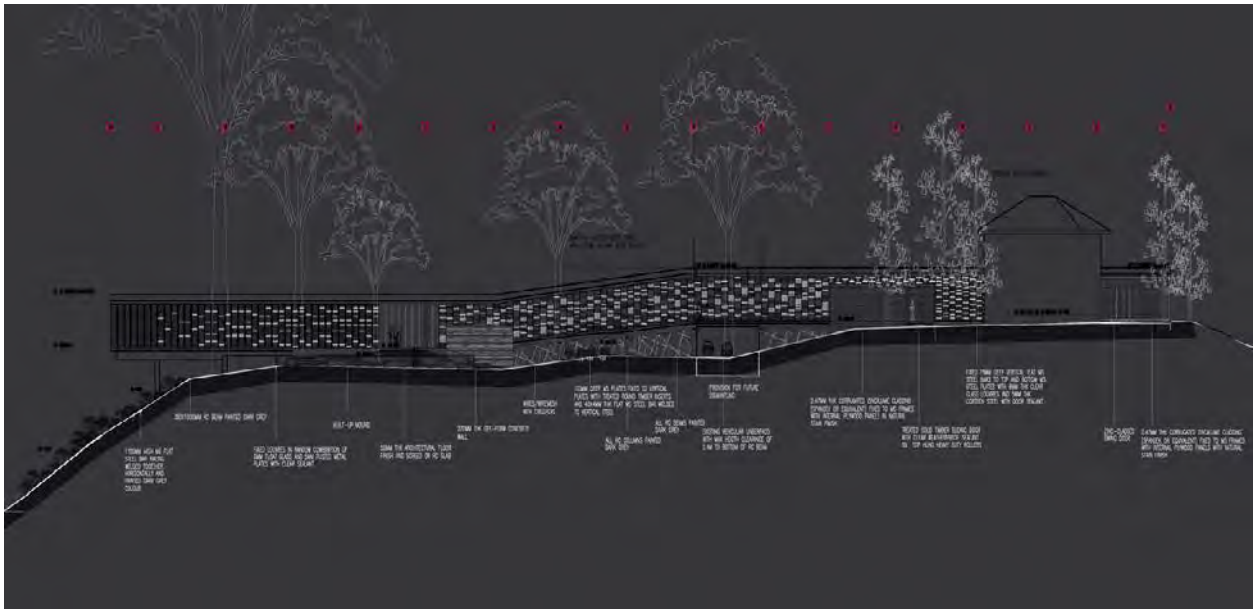
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5.1.3 Layouts:

Roof Plan



Elevation



Site Plan



5.2 Tea Stone Museum And Café In Korean Forest

5.2.1 Introduction:

Project Information:

Construction Period: 2012.04-2012.12

Type: Commercial, Cultural

Location: Jeju, Korea

Site Area: 18,976.00 M2

Site Coverage Area: 1,157.95 M2

Total Floor Area: 1,451.91 M2

Architects: Mass Studies, Minsuk Cho, Kisu Park, Joungwon Lee, Hyunseok Jung, Jonghwa Hong, Kwonwoong Lim, Soo Hyun Jin, Daehyun Kim

Structural Engineer: Teo Structure

Mep Engineer: Hana Consulting & Engineers

Façade Consultant: Front Inc.

Lighting Engineer: Newlite

Landscape Design: Seo Ahn Landscaping

Construction: Daerim Construction

Client: Amore Pacific

Mass Studies Designed The Trio Of New Buildings For The O'sulloc Tea Museum, An Exhibition Centre Dedicated To The History Of Korea's Traditional Tea Culture, And Dotted

Them Along A Pathway Winding Between The Main Building And The Surrounding Green Tea Fields.

Unlike The Circular Form Of The Museum, The Three Pavilions Were All Designed As



Rectilinear Volumes With Similar Sizes And Proportions. Two Are Positioned On Either Side Of A Gotjawal - The Korean Term For Woodland On Rocky Ground - So That They Face One Another Through The Trees.

The First Pavilion, Named Tea Stone, Is A Two-Storey Concrete Building That Accommodates New Exhibition Spaces And A Classroom Where Visitors Can Watch And Participate In Tea Ceremonies.



Positioned Close To The Existing Museum, The Building Has A Polished Dark Concrete Exterior That The Architects Compare To "A Black Ink-Stone".

"The Glossy Black Surface Of The Building Reflects The Surrounding Environment, That Is, The Gotjawal Forest And The Sky, Making It Possible To Exist And Give A Sense Of Heaviness And Lightness Simultaneously," They Said.

Large Expanses Of Glazing Create Floor-To-Ceiling Windows At Both Ends Of The Building, Meaning Anyone Within The Tea Classroom Can Look Out Onto A Still Pool Of Water.

A Shop And Cafe Building Is The Next Structure Revealed To Visitors As They Make Their Way Across The Grounds. Named Innisfree, The Structure Is Glazed On All Four Sides To Create Views Through To The Tea Fields Beyond.



"Initially Planned As A 'Forest Gallery,' The Space Was Opened To The Forest As Much As Possible,

And Designing All Four Walls With Glass Allows One To Enjoy The Scenic Surroundings

From Any Given Spot," Said The Architects.

Timber Panels Clad The Upper Sections Of The Walls, But Were Left Unmilled On One Side To Give A Rough Texture To The Pavilion's Facade.



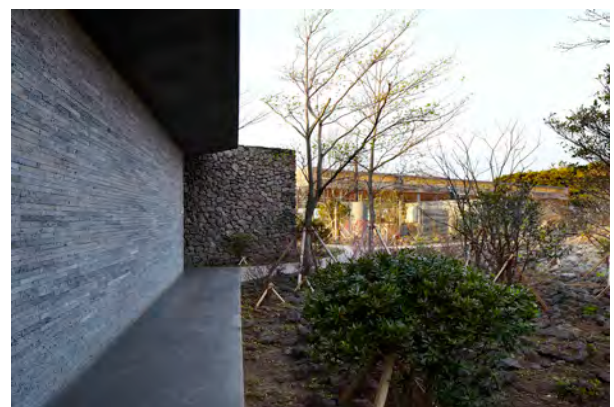
Wooden Ceiling Rafters Are Exposed Inside Both Innisfree And Tea Stone, And Help To Support The Saw-Toothed Roofs Of The Two Buildings.

The Last Of The Three Pavilions Is An Annex Containing Staff Areas, Storage Facilities And Toilets. The Walls Of This Building Are Made From Stone, Allowing It To Camouflage Against Its Surroundings.



5.2.2 Context :

The Scenic Landscape Of Seogwang Dawon, Its Main Attraction Being The Tea Farm, Is Located In Jeju Island, At A Mid-Mountain Level, In A Gotjawal (Traditionally, Jeju Locals Call Any Forest On Rocky Ground "Gotjawal", But According To The Jeju Dialect Dictionary, "Gotjawal" Refers To An Unmanned And



Unapproachable Forest Mixed With Trees And Bushes). The Osulloc Tea Museum, Tea Stone, Innisfree, And The Innisfree Annex Are Located At The Northwestern Side Of The

Seogwang Dawon Tea Fields, With The Gotjawal To The North, And Facing The Green Tea Fields To The South.

The Area Is Currently In The Middle Of A Large Scale Development, Where To The Southeast The Shinhwa Historic Park Is Being Developed, And To The Southwest, The English Education City. The Aerospace Museum Is Immediately Adjacent To The Site To The Northwest, And Because Of Such Surrounding Developments, The



Road At The Front Of The Site Has Been Expanded Into The 30m Wide, Shinhwa Historic Road.

As For The Walking Tour Course, The Jeju Olle-Gil 14-1 Course And The Jeoji-Mureung Olle Approach The Site From The Green Tea Field On The Other Side Of The Road And Leads To The Northwestern Side Of The Osulloc Tea Museum, After Passing Through The Front Of Innisfree, Across Tea Stone, And Arrives At The 8km Long 'Path Of Karma (Inyeoneui-Gil)', Which Starts From The Chusa-Gwan (Hall) Of Daejeong-Eub Among 'Chusa Exile Path (Yubae-Gil)', And Arrives At The Osulloc Tea Museum.

5.2.3 Tea Stone :

Tea Stone, Planned To Accommodate Additional Functions, Is Immediately Adjacent To The Osulloc Tea Museum, And Is A Simple Box, Extending 20.3 X 11m On The Slope Of A Hill.



The Main Structure Of This Building, Which Connects To The Chusa Exile Path, A Jeju Olle Trail, Resembling A Black Ink-Stone, Is A Polished Black Concrete Mass.

The Glossy Black Surface Of The Building Reflects The Surrounding Environment, That Is, The Gotjawal Forest And The Sky, Making It Possible To Exist And Give A Sense Of Heaviness And Lightness Simultaneously.

From The Rear Exit Of The Tea Museum, A 1m Wide Basalt Path Crosses A Dry Creek And Connects To The Basement Level Of The Tea Stone, Into A Dark Space, Where One Can Experience And Learn About Fermented Teas. A Narrow Staircase Leads Up Into A Triangular Space, The Chusa Exhibition Gallery, On The First Floor. The Chusa Exhibition Space Acts As The Front Room Of The Tea Classroom. It Faces The Tea Museum To The West, And Has A Dark Glass Exterior Façade, Making Visible The Landscape Outside, Yet Able To Contain The Soft Interior Lighting.

As One Passes Through This Space And Enters The Tea Classroom, Where Workshops And Lectures Take Place, The Preserved Gotjawal Forest Is Revealed Through The Glass Façade. From The Tea Class Space, The Concrete Walls Of The



Chusa Exhibition Space Act As Pillars That Support 10m Long Cantilevered Concrete Beams That Form And Shape The Perimeter Of The Roof Structure. Wooden Rafters Sit In A Single Direction Within The Structure Of The Concrete Roof Support, And Makes Up A Saw-Tooth Type Ceiling On The Entire Roof. This Wooden Ceiling Provides A Warm Environment, And At The Same

Time, Allows For A Soft Reflection Of Natural Light. The Structure, Without Other Support, Allows For The Tea Classroom To Have Three Glass Sides, And It Maximises The Feeling Of Openness As Continued Out To The Gotjawal Forest. The Fireplace To The North Also Adds Warmness To The Space. Two Sides Of The Tea Classroom, The North And



South, Used A Dark Glass, And A Clear Transparent Glass For The East Window Toward The Building Located Across The Gotjawal. With A 42m Wide Gotjawal In Between, The Two Buildings Face Each Other, Creating A Silent Tension And As Well As Directionality To Ones Gaze.

A Shallow, Polished Black Concrete Pool Sits Adjacent To The Glass Window, Reflecting The Building And The Forest, Heightening An Aura Of Tranquil Stillness For The Tea Classroom.

It Is Located On The Highest Point Of The Hill, And Is A Rectangular Building, With The Same Width As That Of The Tea Stone. The Two Building Face Each Other In Axis With The Gotjawal In-Between.

Initially Planned As A 'Forest Gallery,' The Space Was Opened To The Forest As Much As Possible, And In Designing All Four Walls With Glass Allows One To Enjoy The Scenic Surroundings From Any Given Spot. The Materials Used For The Interior Finishes Come From The



Surround Natural Environment, Such As Wood And Basalt, So That The 34.8 X 11m Store And Café Space Functions As One With Nature.

A Wall Made Out Of Cut Stone, Flush Flat On One Side, Sits At The Entrance. Through The Glass Doors, One Enters The Shop, And To The Right Is The Café, And Through The Transparent, Frameless Glass Window, One Can Take In A Panorama Of The Landscape Of The Surrounding Tea Fields To The East.

A 3.5m Wide Deck Along The Front Of The Café, As Well As The Folding Doors Between The Café And Deck Makes It Possible To Have All Sides 'Open', Making It Possible To Eat, Drink, And Relax In Nature.

A 6.3 X 5.3m Basalt Stone Volume Attached To The North Side Of The Building Includes A Preparation Room On The First Floor, And Stairs That Lead Down To The Underground

Kitchen And Mechanical Rooms, Etc., All To Supplement The Main Café Space.

Similar To The Tea Stone, The Wooden Rafters, In A Saw-Tooth Type Ceiling Throughout The Entire Roof Of Innisfree Provides A Warm Atmosphere And Soft Natural Light.

Along The Upper Portion Of The Southern Façade Is An Awning Made Out Of Roughly Cut Shingles, Blocking Direct Sunlight. The North, East, And



West Sides Are Finished With Milled Shingles. All Four Shingled Surfaces Will Weather Together, Naturally, As Time Passes.

The Annex Building Holds Facilities Such As A Warehouse And A Bakery, Etc. And Was Designed To Be Seen Not As A Building, But Rather The Backdrop To Innisfree. The Exterior Wall Facing The Green Tea Fields Utilises A Stone Fence, A Material That Comes From The Existing Land, And Is To Be Seen As A Continuation Of An Element Of The Surrounding Landscape (Jeju Island Is Known For The Scenic Stone Fences That Mark Property, Paths, And Undulate With Its Natural Terrain).

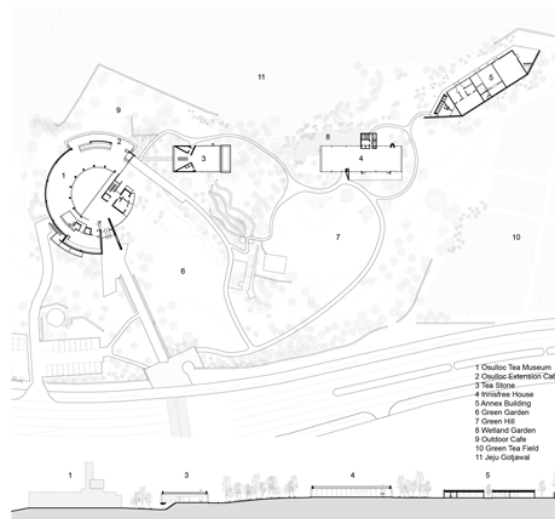
The Land Is Raised About 1.5m To Reduce The 3.5m High Stone Fence (Exterior Wall) To Mimic The Natural Topography. Three Courtyard Gardens Are Placed Inside And Outside Of The Annex Building, And By Planting Tall Trees, It Minimises The Presence Of The Building When Viewed From Outside. The End Of The Building Closest To Innisfree Is The Public Bathroom, And From There, In Sequence Are The Bakery, The Employees' Dining Hall, And The Warehouse. To The Rear Of The Stone Fence, Which Sits Symmetrically To The External Wall Of The Bathroom, Is The Access And Loading Space For Service Vehicles.

5.2.4 Osulloc Extension

Providing More Seating In The Café, The Extension Was Designed To Minimise Changes To The Existing Form And Space, With A 3m-Wide Addition, Following The Curvature Of The Café Space Toward The North.



The Interior Extension Utilises The Existing Curved Windows, With The New Exterior Curve Offset At A 3m Distance, And Was Designed So That The Extension Is In Harmony With The Language Of The Existing Building. Following This Café Extension, The Length Of The Kitchen Was Expanded In The Same Direction, While The Added Cafe Space Is Separate From The Main Circulation To Allow For A Space More Quiet And Calm. The New Extension Is Faced With Folding Doors, And The Entire Space Achieves A Continuous Flow To The Landscape To The North, In Fact Becoming Part Of The Outdoor Space.



Chapter 6: Project program

This section encloses the project aim, objectives and the main functions of the project programme.

6.1 PROGRAM BRIEF:

Administration

- A central administration with information centre, administrative offices, accounts section etc.
- The administration will ensure the smooth operation of the facility and also will maintain the process and promotional responsibilities of the facility.

Visual Theatre

- 9D Visual effects Theatre will help people come close to the tea garden environment all around the year.

Tea Production Unit

- The visitors will come hands on with the tea leaf being plucked to their cup in the factory and later taste the freshly brewed tea.

Tea Tasting Room

- Tea traditions from around the world will be practically presented for visitors.

Alchemy Centre

Tea Gastronomy

Mixology

6.2 SCHEMATIC:

The functional relationships are shown by different flow charts in the following pages.



Fig 6.2.1 Functional Flow Chart

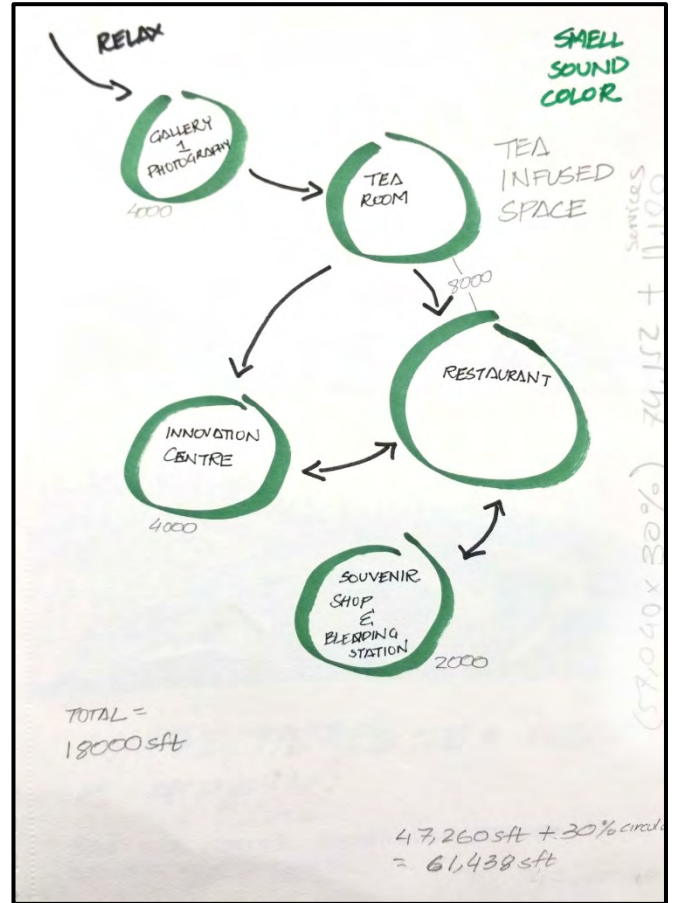
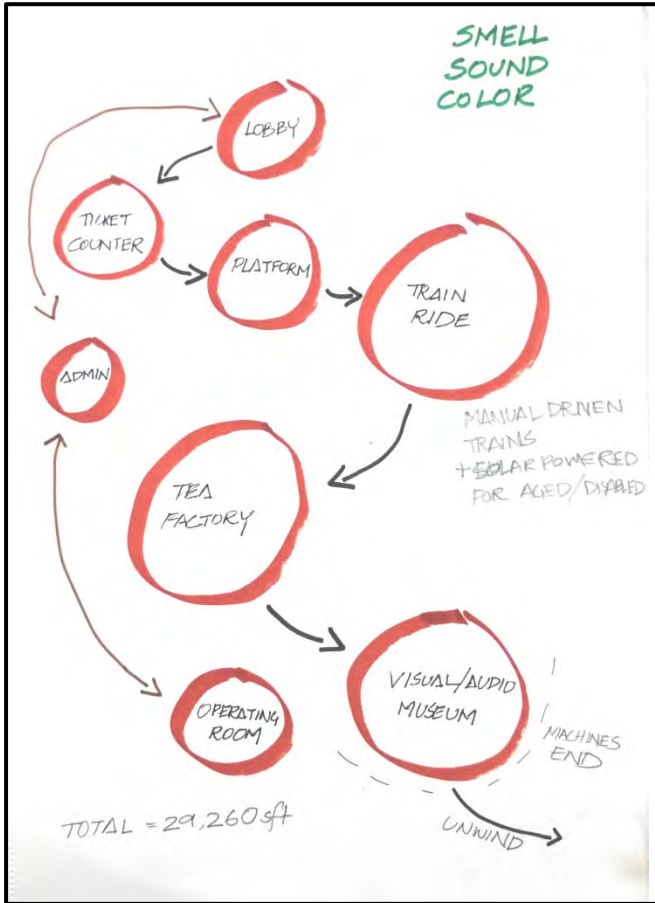


Fig 6.2.2 Detailed Functions

6.3 DETAIL PROGRAM:

| Functions | Details | Experience Region | | Special Requirements |
|-------------------------|--|-------------------|----------------------------|--|
| | | Area (sft) | User Staff Visitor | |
| Parking | 40 Cars | (16X10)40 = 6400 | | Parking for Disabled, Marking for the Blind, Access for disabled to everywhere along the site, Trains driven Manually and Solar powered for the Aged |
| | 4 Buses | (40X14)4 = 2240 | | |
| | 4 Trucks | (40X14)4 = 2240 | | |
| | Guard Room with attached toilet | 140 + 40 = 200 | | |
| | Guard Duty Box | 100 | | |
| Reception | Lobby, Waiting and Information | 1000 | | |
| | Ticket counter and Train Platform | 3000 | | |
| | Toilets (5 Male + 5 Female) with Janitor Room | 550 | | |
| Administration | Lobby and Waiting | 800 | | |
| | Office rooms | 1500 | 12 | |
| | Managers Room + Toilet | 300 | 1 | |
| | Owners Room + Toilet | 400 | 1 | |
| | Conference Room | 600 | 10 | |
| | Toilets (5 Male + 5 Female) with Janitor Room | 550 | | |
| Tea Factory | Withering | 7310 | | |
| | CTC (Cutting, Tearing and Curing) | 6000 | | |
| | Dryer Room | 1600 | | |
| | Gas Burner | 1600 | | |
| | Generator Room | 750 | | |
| | Sorting and Packaging | 2400 | | |
| | Milling | 600 | | |
| | Service Entry with leaf unloading space | 1080 | | |
| Operators Room | 500 | | | |
| Transiton space Toilets | Toilets (5 Male + 5 Female) with Janitor Room | 550 | | |
| Visual / Audio Space | Theatre of History | 5000 | | |

| Alchemy Belt | | | | |
|---|---|------|--|---|
| Gallery 1 | Photographs of Old Machines and processes, Audio of History with Pictures | 4000 | | Audio records and blind marking readers, Sitting area and water springs to cool down temperature, |
| Gallery 2 (Tea Room) | Tea, its types and benefits, Tea tasting centre, effect by terroir | 4000 | | |
| Transiton space Toilets | Toilets (5 Male + 5 Female) with Janitor Room | 550 | | |
| Innovation Ground | | | | |
| Gallery 3 Products from teas) | Inventions of tea for other uses over the years | 4000 | | Sitting area and water springs to cool down temperature, |
| Gallery 4 (Gastronomy and Mixology) along with Restaurant | Know about tea and its uses in food | 8000 | | |
| Transiton space Toilets | Toilets (5 Male + 5 Female) with Janitor Room | 550 | | |
| Remembrance Stop | | | | |
| Souvenir Shop | Traditional Tea utensils, All types of teas, its products, etc | 500 | | Ancient customised tea pots with brand name and the buyers name. |
| Blending Station | Taste all the teas, choose your flavour, take it into the old tea jars customized for you | 1000 | | |

Chapter 7: Design development

7.1 Concept development:



the thought:

tea and water, one is
nothing without the other

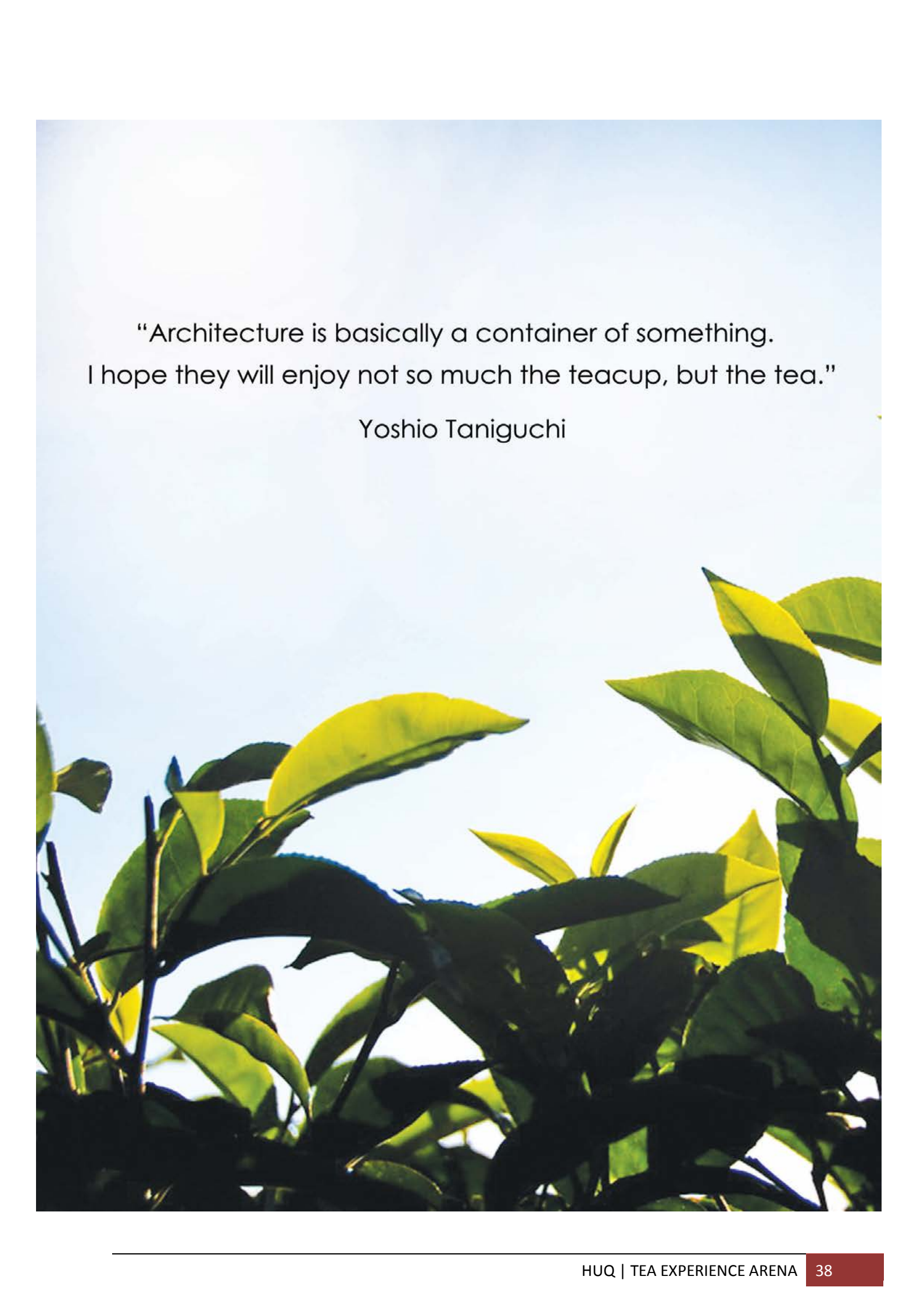
no rain, no tea plants

no water, no tea

the idea is to make people
experience both these
elements in every part of
their journey along this
experience centre

7.1.1 Concept:

The basic idea was to create a form that gives a feeling of the openness. Form that communicates with the people with nature. I started studying the features which create peace in a space using nature. Tea being a popular drink to calm a person made me thought to about studying peace of space. I found this could be achieved designing a simple space with lots of green, the most soothing color to the human eye. Using the Tea Bricks, in most walls of the spaces, an infusion of the smell of tea was given. The role of water in the space was created by designing the wading pool which also acted as the datum for all the forms where I put my functions. Also the natural canal which flow along the site was incorporated with the zen garden designed in the plaza area.

A photograph of tea leaves against a clear blue sky. The leaves are in the foreground, some in shadow and some catching the light, creating a range of green and yellow-green tones. The sky is a pale, clear blue.

“Architecture is basically a container of something.
I hope they will enjoy not so much the teacup, but the tea.”

Yoshio Taniguchi

7.1.2: Initial Ideas For The Experience



discover

tea production unit

tea tasting corner

the tea garden theatre



the alchemy

tea infused galleries

history

timeline

varieties



innovation

traditional tea room

gastronomy zone

mixology zone

7.1.3: Idea Sketches

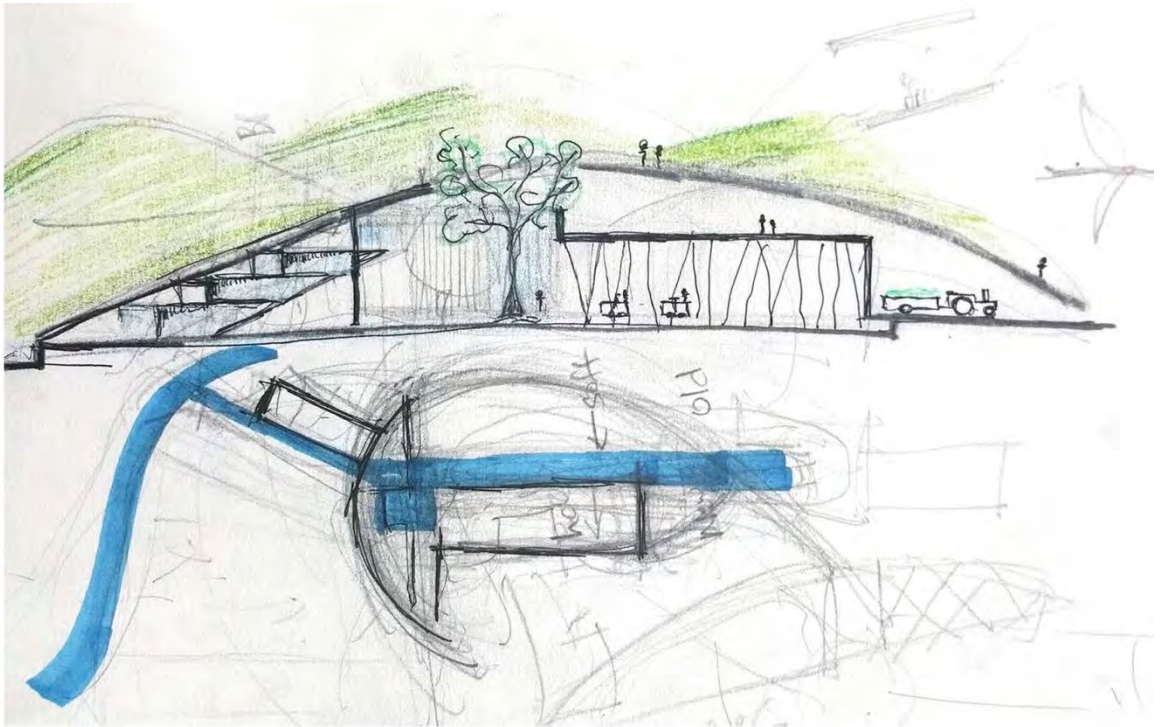


Fig 7.1.3 Idea to Blend with Nature



Fig 7.1.3 Open Exhibition gallery with Nature

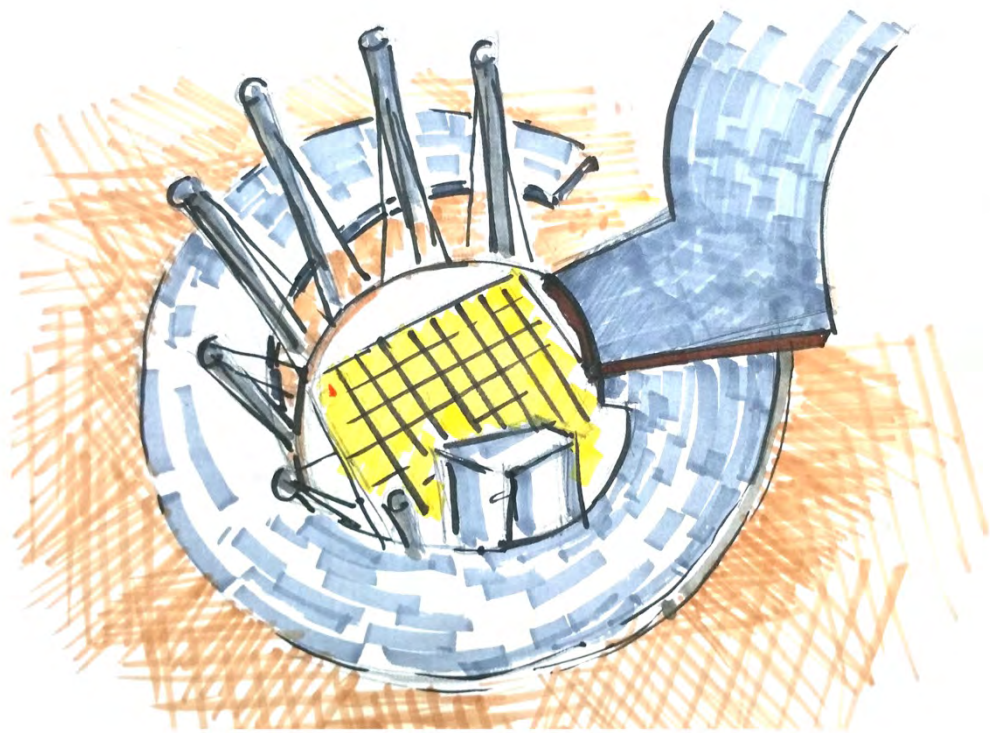


Fig 7.1.3 Idea of the 9D Theatre

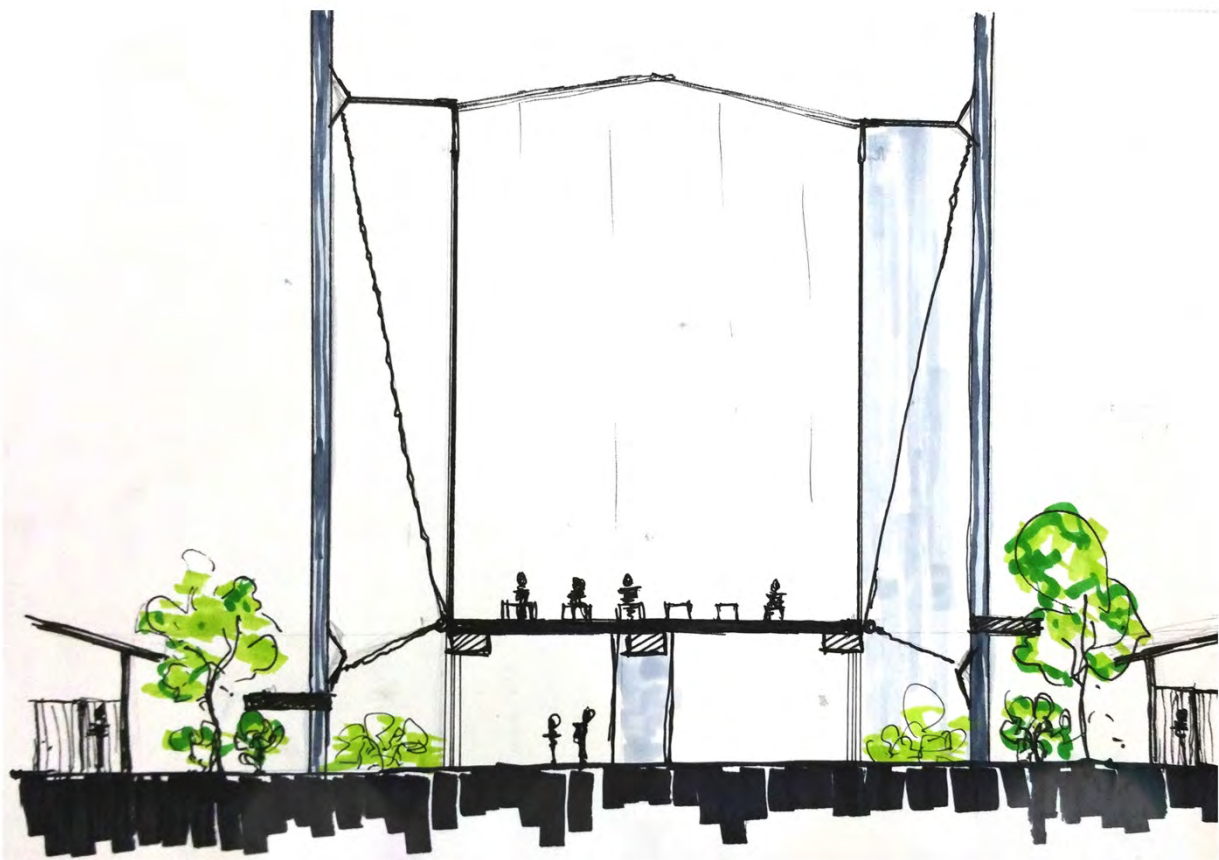


Fig 7.1.3 Conceptual section of the theatre

7.2 Design Phases:

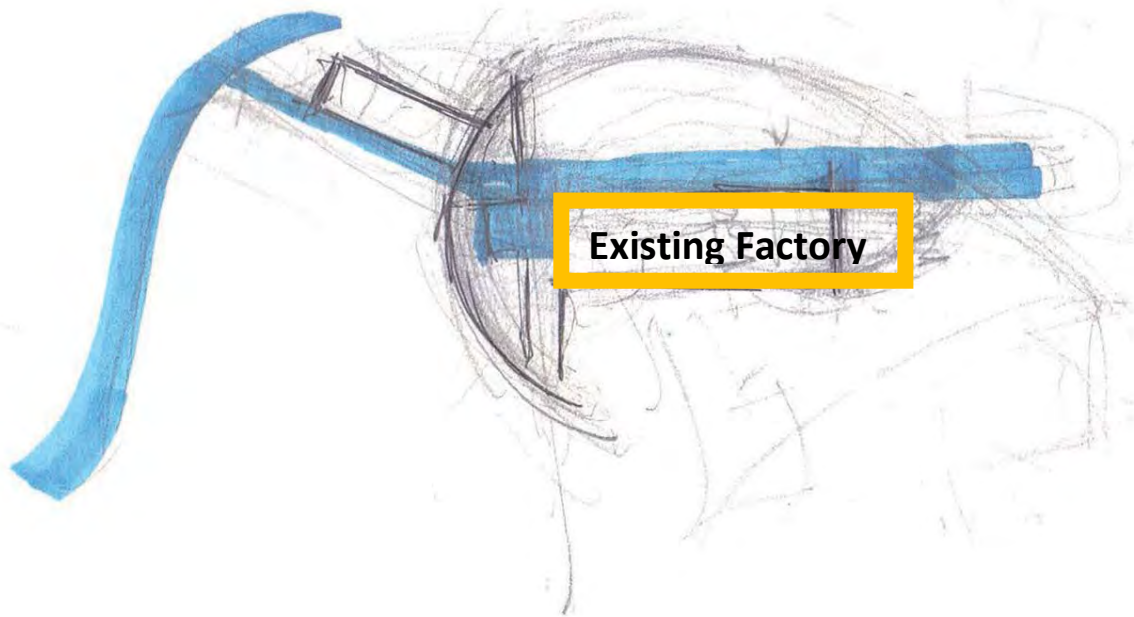


Fig 7.2 Water from canal Stretched inside the form

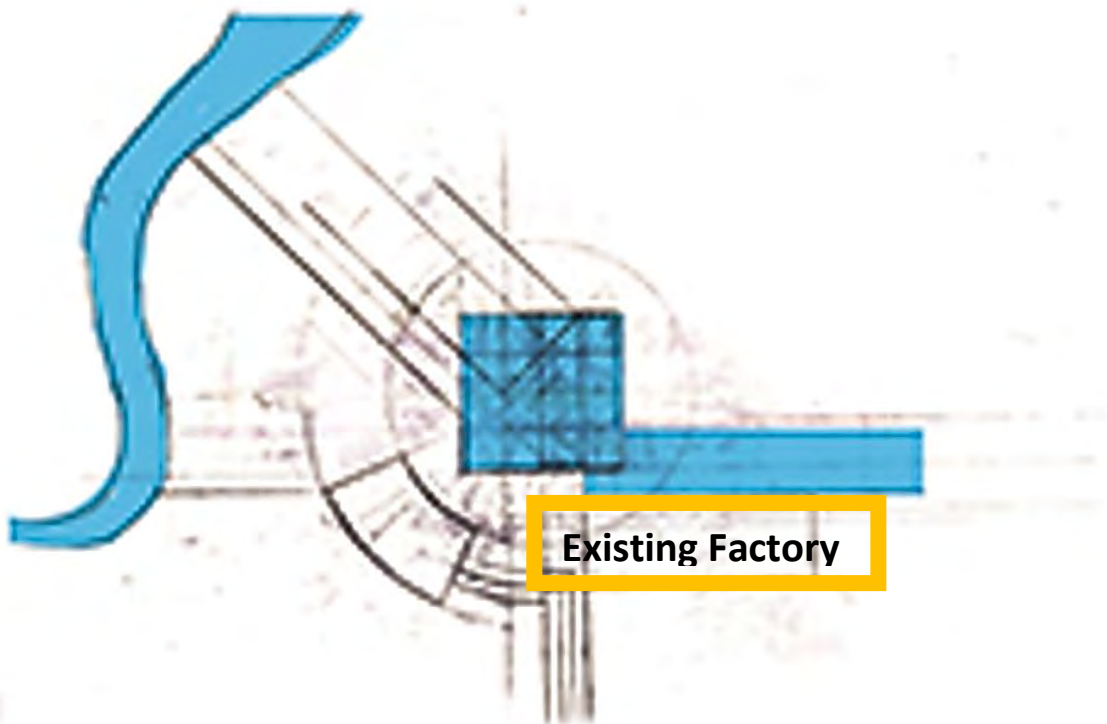


Fig 7.2 The Square water body to act as datum with the existing factory

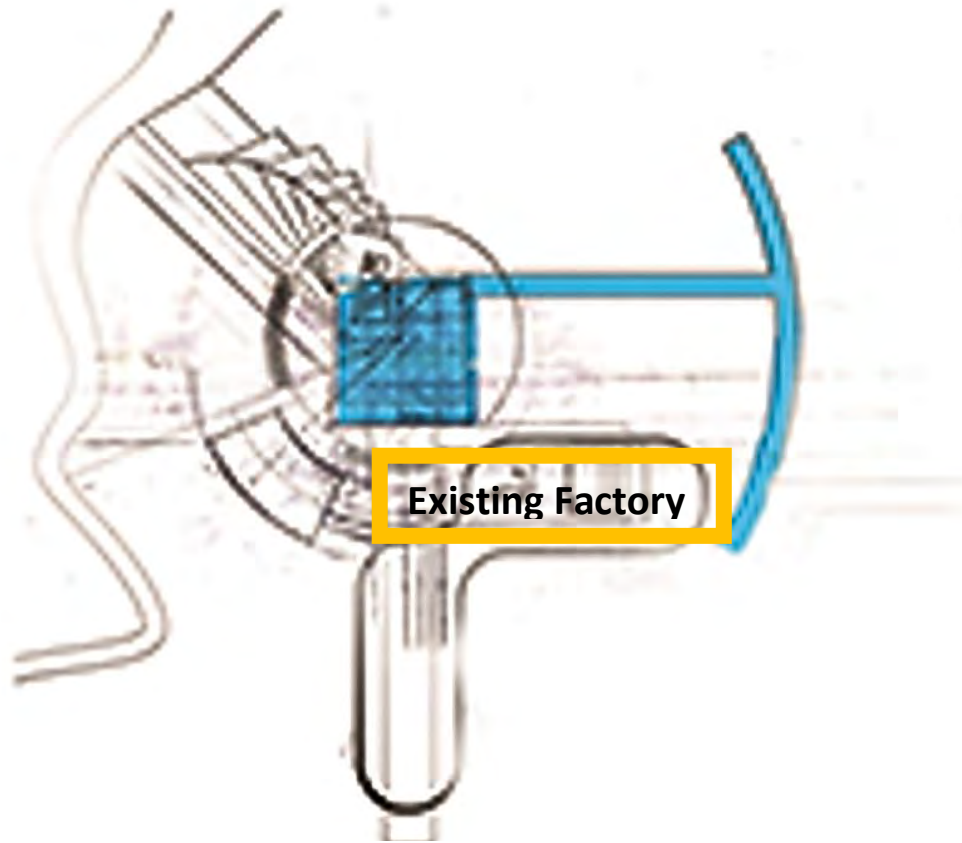


Fig 7.2 Forms placed along the datum

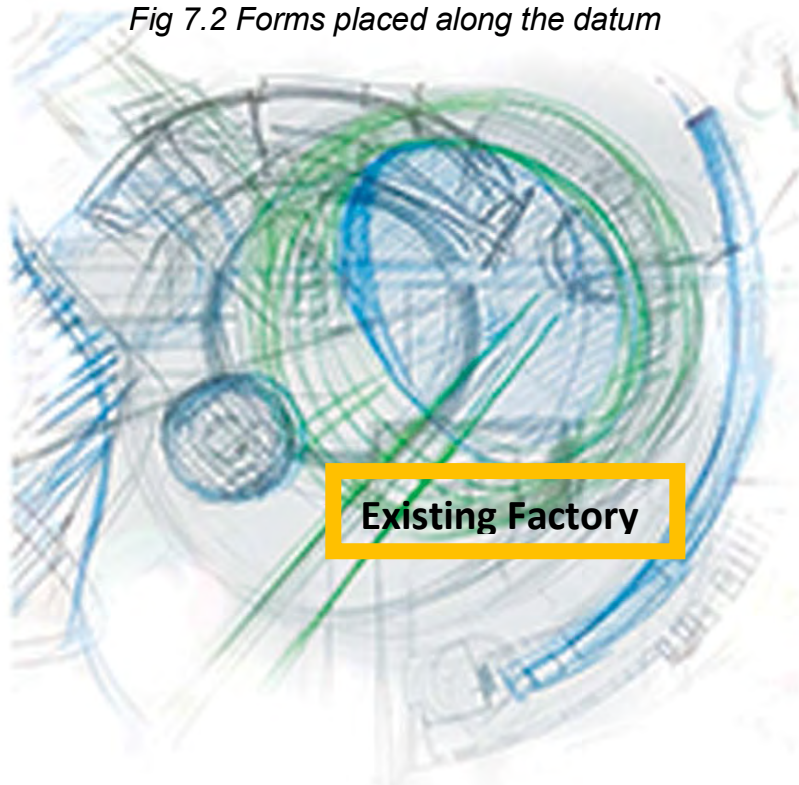


Fig 7.2 Lobby rearranged with semicircular water strip



Fig 7.2 Water body made circular keeping the factory as its tangent



Fig 7.2 Parasol roof to create shade resulting all the forms to stay open to nature

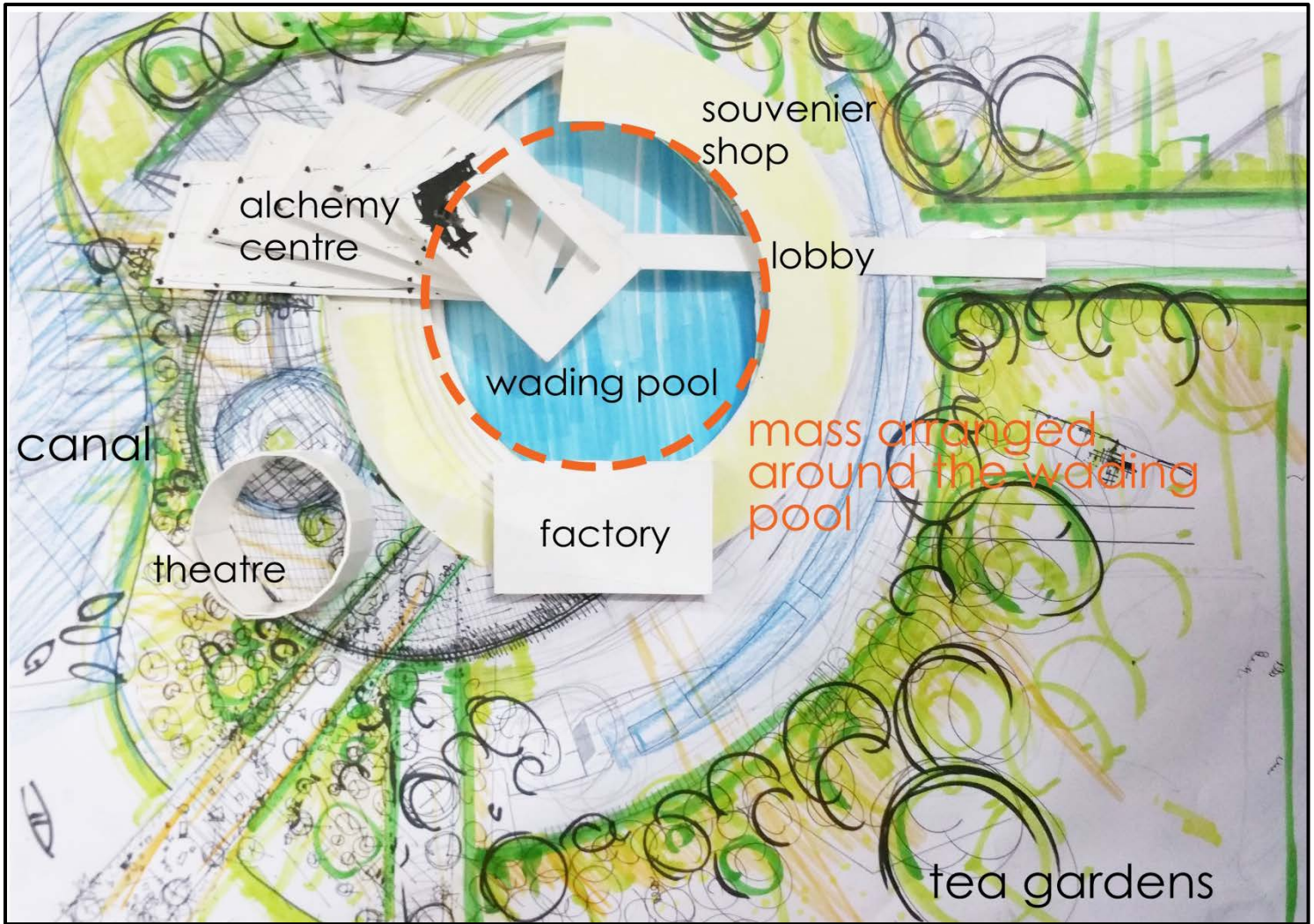
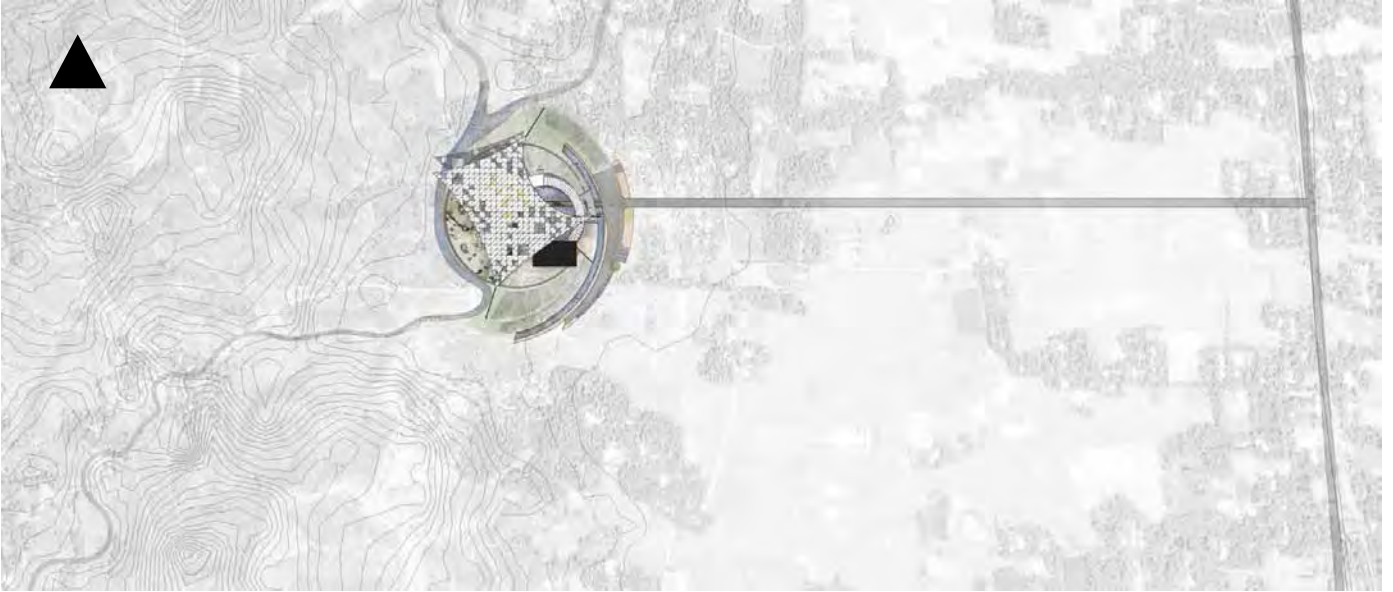


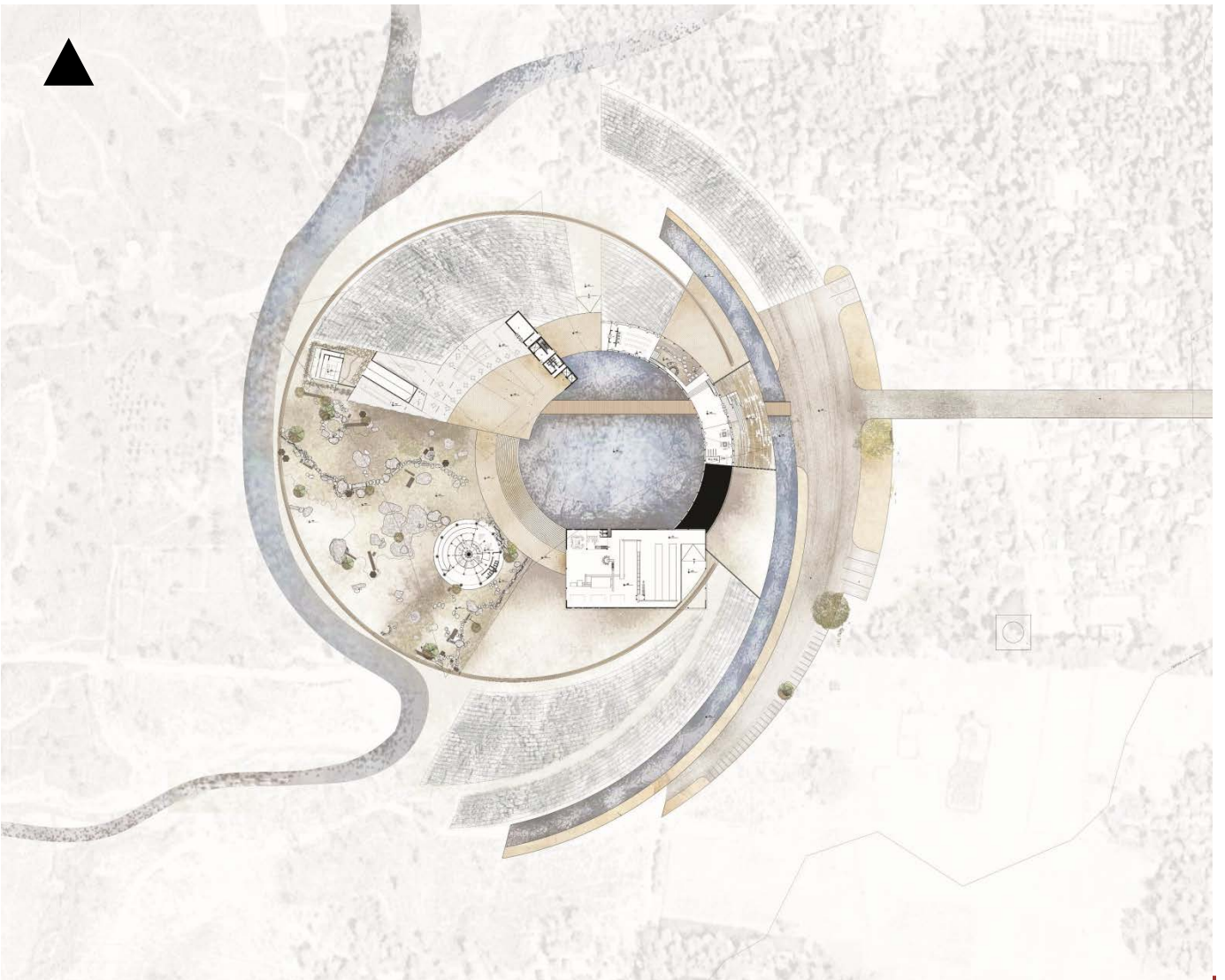
Fig 7.2 Final placement of the forms

7.3 Final Design:

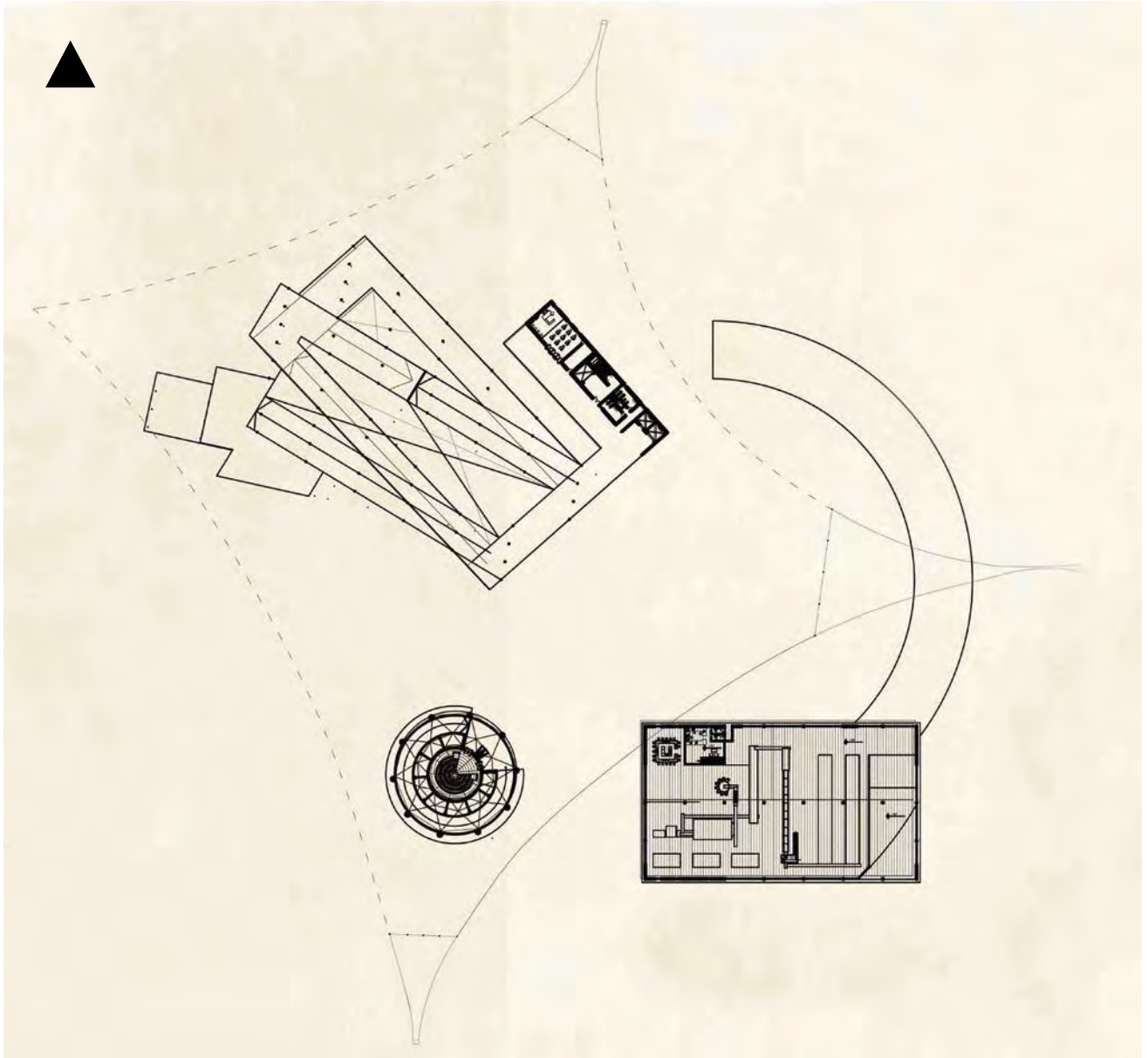
7.3.1: Site plan



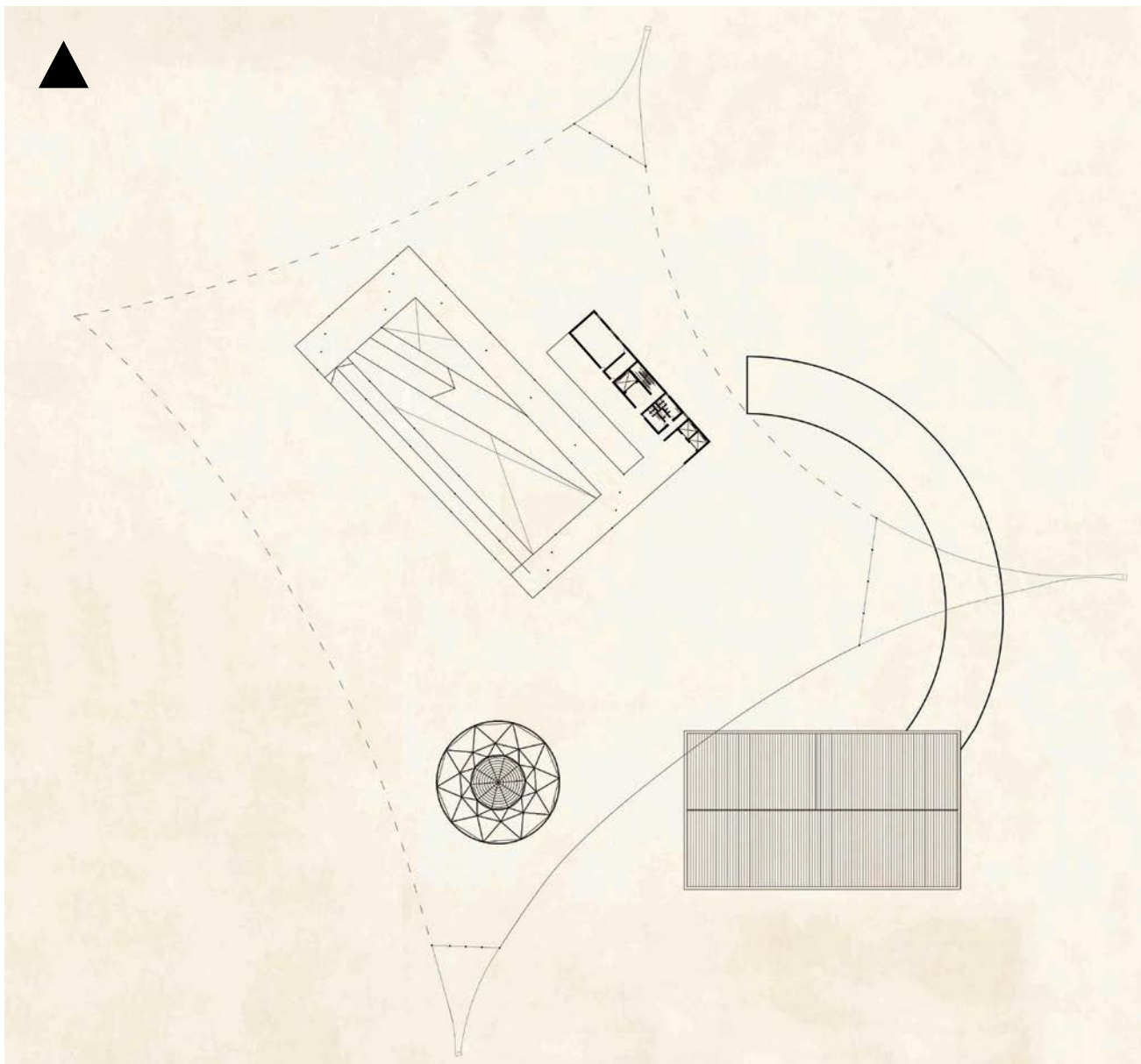
7.3.2: Master plan at 6' - 00"



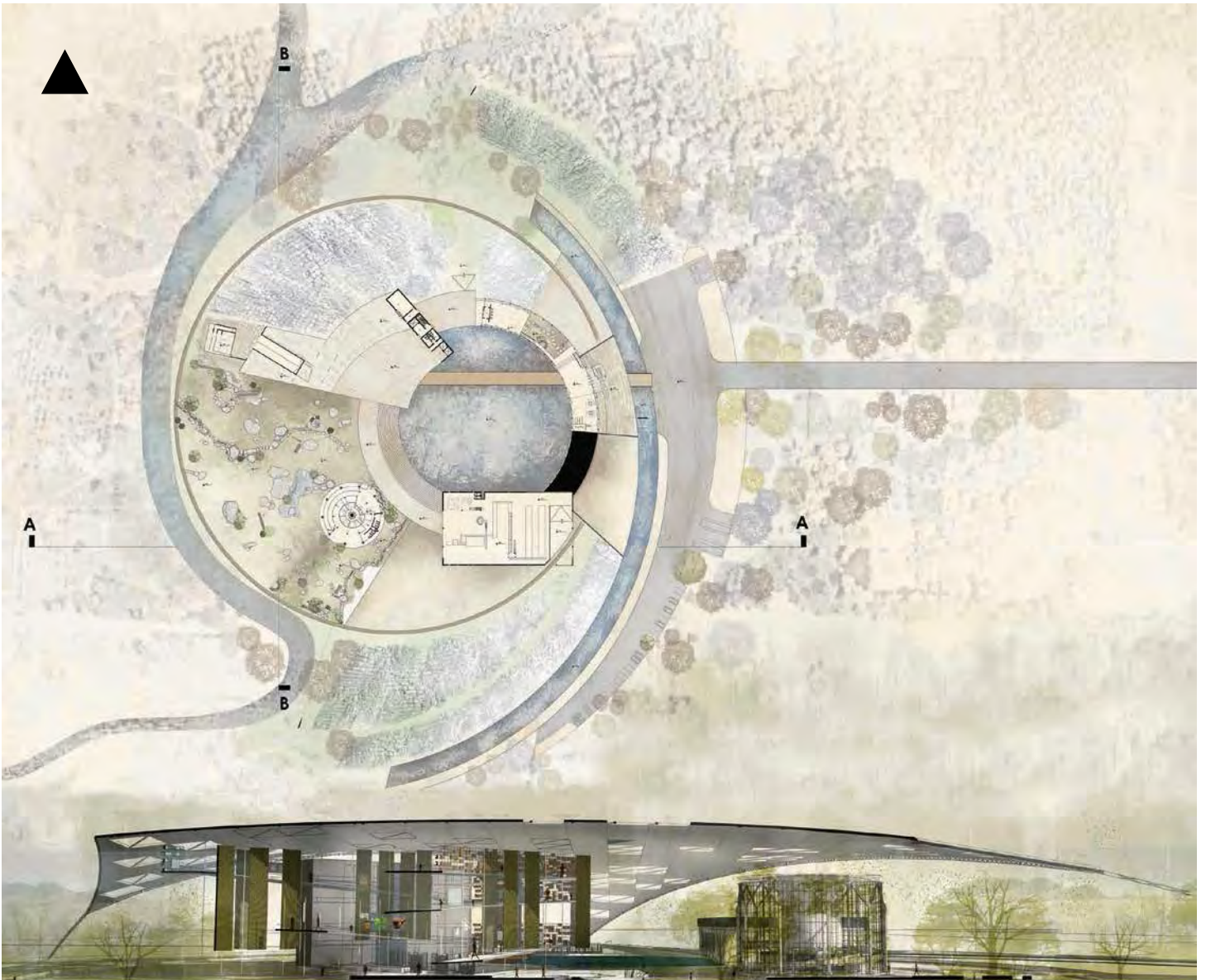
7.3.3: Plan at 20' - 00"



7.3.4: Plan at 65' - 00"



7.4: Sections

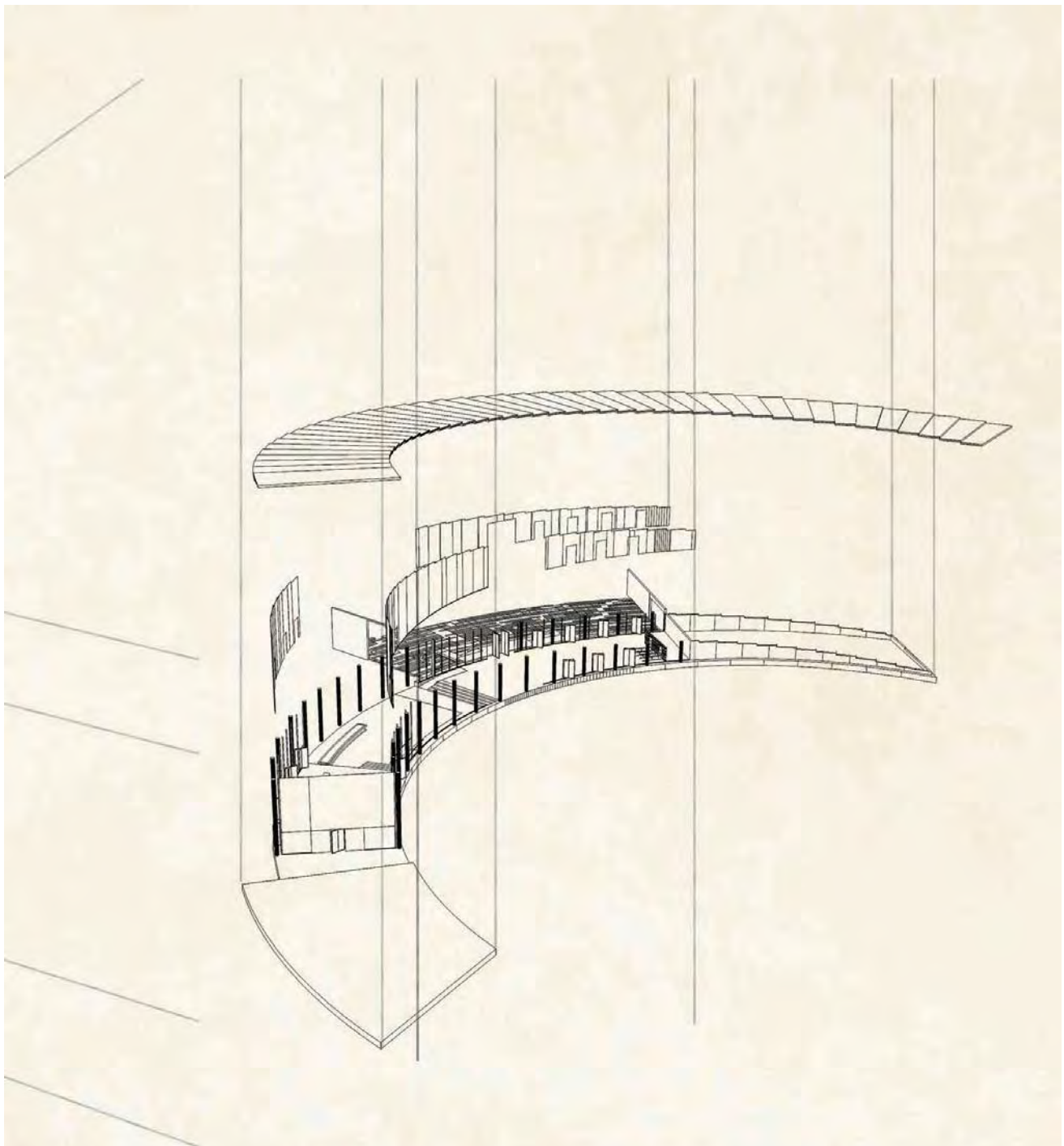


SECTION A-A



SECTION B-B

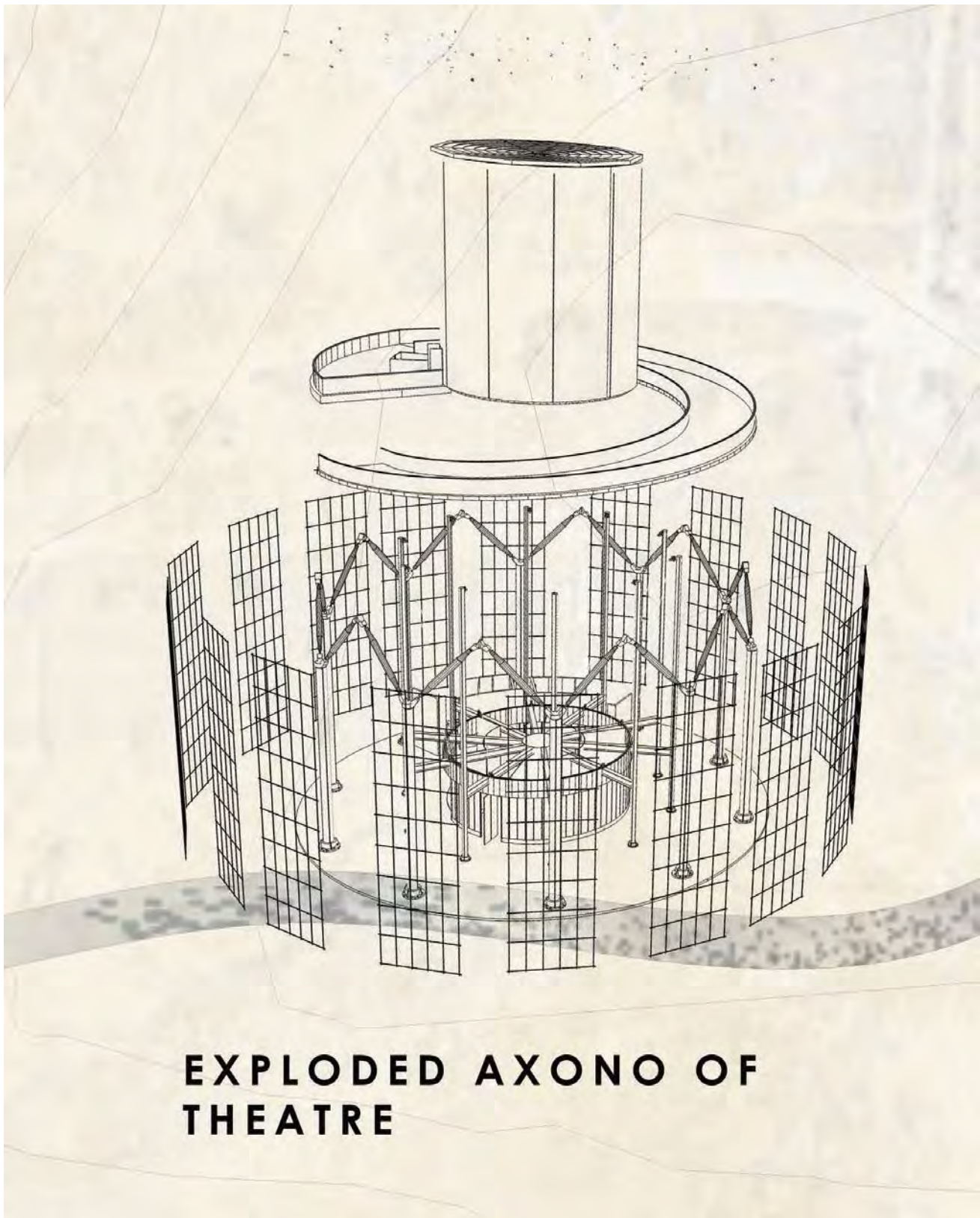
7.5: Axonometric Drawings



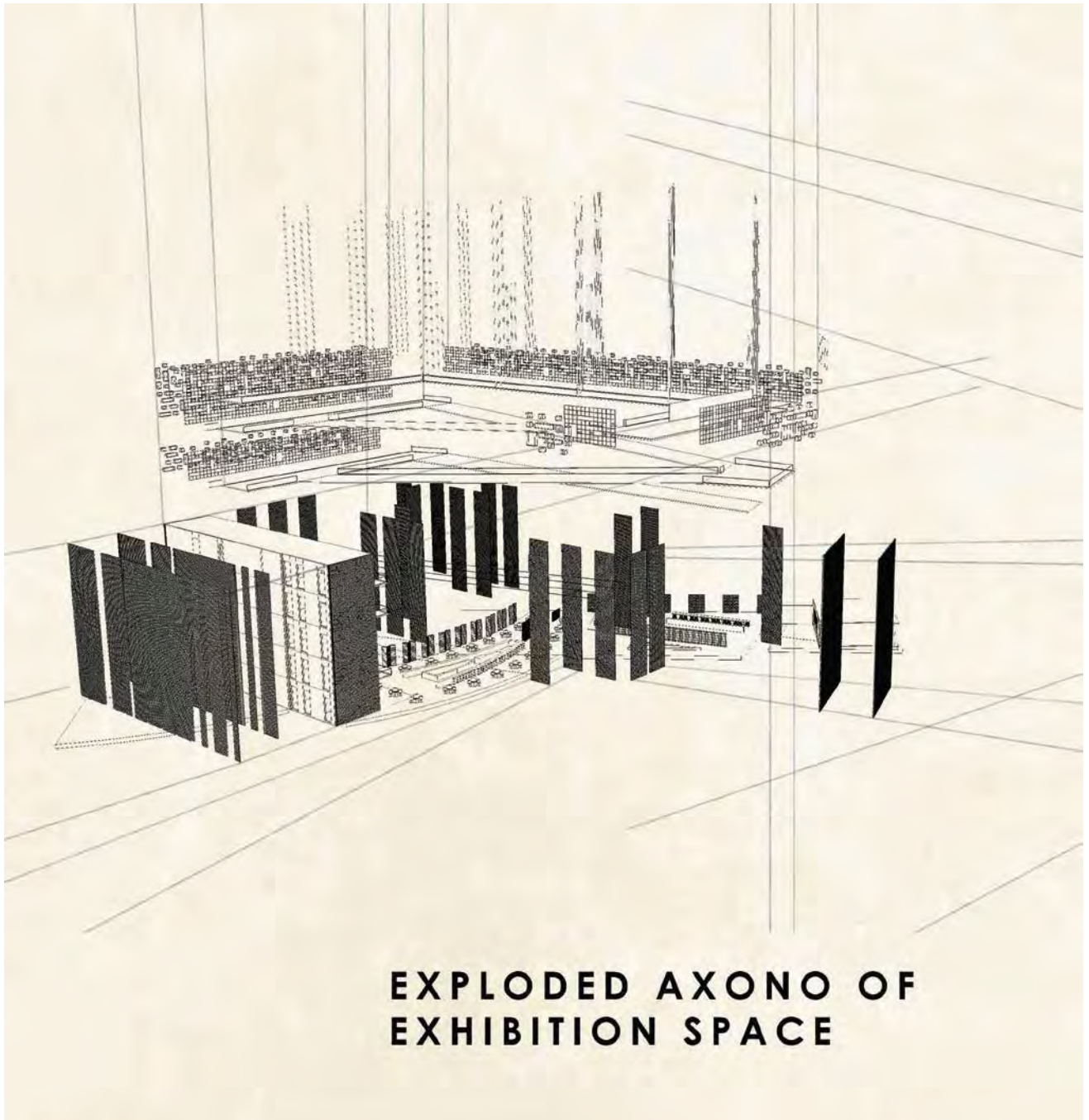
EXPLODED AXONO OF LOBBY



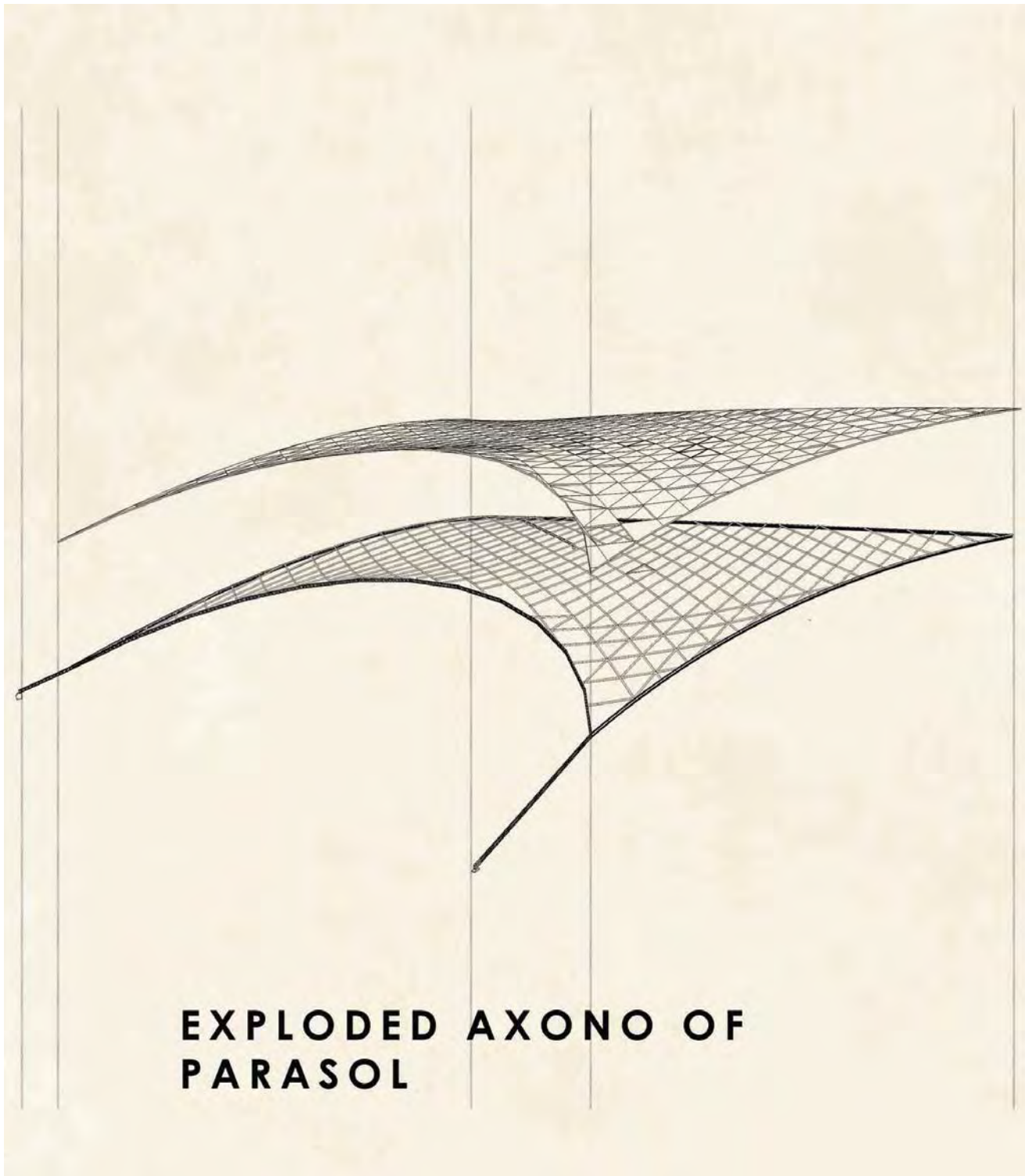
**EXPLODED AXONO OF
FACTORY**



**EXPLODED AXONO OF
THEATRE**



**EXPLODED AXONO OF
EXHIBITION SPACE**



**EXPLODED AXONO OF
PARASOL**

7.6: Digitally generated Images



Fig 7.6 Entrance of the Arena



Fig 7.6 View from the Lobby



Fig 7.6 View from Exhibition Gallery



Fig 7.6 The Wading Pool



Fig 7.6 View from Administration Office

Chapter 8: Conclusion

This project aims to revive the tradition of TEA in our country which has been an ancient and universal drink of fun, sorrow, stress, for us and the world. Tea is booming in the world economy always and we can also join that league through the project if built as it is aimed.

*“If you are cold, tea will warm you;
if you are too heated, it will cool you;
If you are depressed, it will cheer you;
If you are excited, it will calm you.”*

— *William Ewart Gladstone*

“Come, let us have some tea and continue to talk about happy things.”

Chaim Potok

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