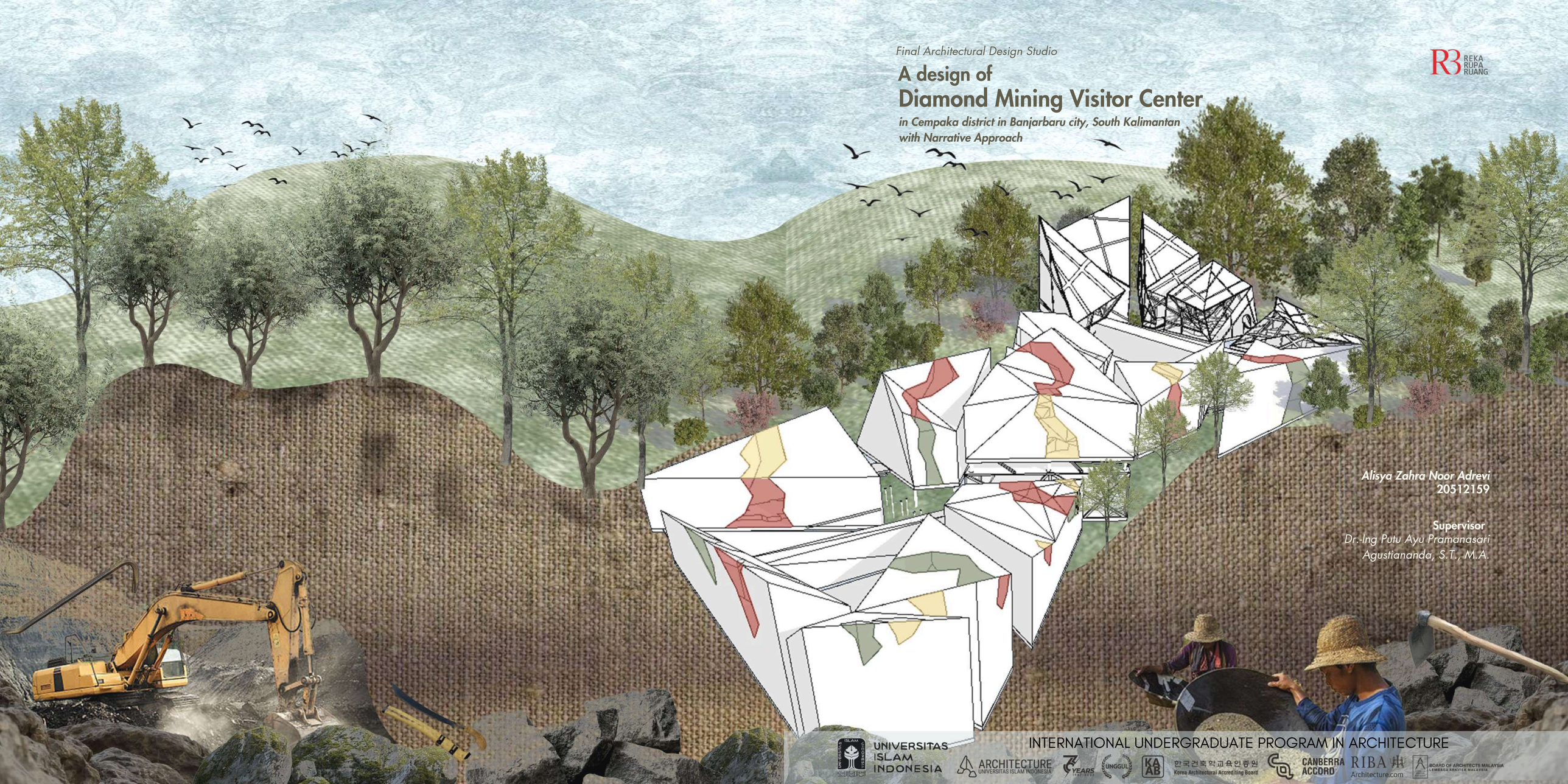
Final Architectural Design Studio

A design of
Diamond Mining Visitor Center

in Cempaka district in Banjarbaru city, South Kalimantan
with Narrative Approach

REKA RUPA RUANG



Alisya Zahra Noor Adrevi
20512159

Supervisor
Dr.-Ing Putu Ayu Pramanasari
Agustiananda, S.T., M.A.

UNIVERSITAS ISLAM INDONESIA

INTERNATIONAL UNDERGRADUATE PROGRAM IN ARCHITECTURE

ARCHITECTURE UNIVERSITAS ISLAM INDONESIA

Korea Architectural Accrediting Board

CANBERRA ACCORD

RIBA Architecture.com

BOARD OF ARCHITECTS MALAYSIA LEMBAGA ARKITEK MALAYSIA

Final Architectural Design Studio

Kisah Palinggangan

A Design of Diamond Mining Visitor Center in Cempaka District
in Banjarbaru City, South Kalimantan with Narrative Approach

Alisya Zahra Noor Adrevi
20512159

Supervisor
Dr.-Ing Putu Ayu P. Agustiananda, S.T., M.A.

UNIVERSITAS
ISLAM
INDONESIA

INTERNATIONAL UNDERGRADUATE PROGRAM IN ARCHITECTURE

Studio Akhir Desain Arsitektur

Kisah Palinggangan

Perancangan Pusat Pengunjung Pertambangan Intan di Kecamatan
Cempaka Kota Banjarbaru Kalimantan Selatan dengan Pendekatan Naratif

Alisya Zahra Noor Adrevi
20512159

Dosen Pembimbing
Dr.-Ing Putu Ayu P. Agustiananda, S.T., M.A.

UNIVERSITAS
ISLAM
INDONESIA

INTERNATIONAL UNDERGRADUATE PROGRAM IN ARCHITECTURE

VALIDATION SHEET

Final Architectural Design Studio entitled:

A DESIGN OF DIAMOND MINING VISITOR CENTER IN CEMPAKA DISTRICT IN BANJARBARU CITY, SOUTH KALIMANTAN WITH NARRATIVE APPROACH

Student Full Name : Alisya Zahra Noor Adrevi

Student ID Number : 20512159

Has been evaluated and agreed in : August 15th 2024

Supervisor	1st Examiner	2nd Examiner
Dr.-Ing Putu Ayu P. Agustiananda, S.T., M.A.	Arif Budi Sholihah, S.T., M.Sc., Ph.D	Prof. Dr.-Ing. Ar. Ir. Ilya Fadjar Maharika, M.A., IAI

Acknowledged by
Head of Undergraduate Program in Architecture

Ir. Hanif Budiman. M.T., Ph.D.

VALIDATION SHEET

Final Architectural Design Studio entitled:

A DESIGN OF DIAMOND MINING VISITOR CENTER IN CEMPAKA DISTRICT IN BANJARBARU CITY, SOUTH KALIMANTAN WITH NARRATIVE APPROACH

Student Full Name : Alisya Zahra Noor Adrevi

Student ID Number : 20512159

Has been evaluated and agreed in : August 15th 2024

Supervisor	1st Examiner	2nd Examiner
Dr.-Ing Putu Ayu P. Agustiananda, S.T., M.A.	Arif Budi Sholihah, S.T., M.Sc., Ph.D	Prof. Dr.-Ing. Ar. Ir. Ilya Fadjar Maharika, M.A., IAI

Acknowledged by
Head of Undergraduate Program in Architecture

Ir. Hanif Budiman. M.T., Ph.D.

ABSTRACT

This project presents the design of a Diamond Mining Visitor Center in the Cempaka District of Banjarbaru City, South Kalimantan, using a narrative approach to architecture. The design draws upon Nigel Coates' theory of narrative architecture, which emphasizes the creation of spaces that tell a story and evoke emotional connections. By incorporating this theory, the visitor center aims to narrate the rich history and cultural significance of diamond mining in the region, offering visitors an immersive experience that goes beyond mere observation. The project also integrates Gilles Clément's landscape restoration theory, which focuses on rehabilitating and transforming degraded landscapes into ecologically sustainable environments. The design seeks to restore the mining site's natural beauty, turning it into a vibrant landscape that reflects South Kalimantan's unique ecological characteristics. The restored landscape will not only serve as a backdrop to the architectural narrative but will also play an active role in the storytelling process, highlighting the relationship between the land, its resources, and the people who have interacted with it over time. Through the synthesis of narrative architecture and landscape restoration, the Diamond Mining Visitor Center aims to create a landmark that educates and engages visitors while fostering a deep appreciation for the region's cultural and environmental heritage. The project aspires to offer a holistic experience that intertwines architecture, history, and nature, ultimately contributing to the preservation and enhancement of South Kalimantan's cultural and ecological landscape.

Keywords: Cultural Preservation, Diamond Mining Heritage, Gilles Clément Theory, Landscape Restoration, Narrative Architecture

STATEMENT OF ORIGINALITY OF WORK

I hereby declare that, with the exception of the work cited as the reference, every component of this work is entirely original with no help from outside parties during any part of the design process. In addition, I acknowledge that there is no conflict of intellectual property rights regarding this work, which I provide to the Islamic University of Indonesia's Department of Architecture for use in publications and educational materials. Nothing in this design report has been authorised for credit toward a degree or at every other academic program in the university. Unless otherwise mentioned, sources include the author's drawings, photos, and figures.

Signed



Alisya Zahra Noor Adrevi
August 25th 2024

PREFACE

All praise and gratitude are offered to Allah SWT, and may prayers and peace be upon our Prophet Muhammad SAW, his family, and his companions. It is only through Their blessings and mercy that the author have been able to complete this Final Architectural Design Studio project titled "A Design of Diamond Mining Visitor Center in Cempaka District in Banjarbaru City South Kalimantan with Narrative Approach" to the best of her ability.

In the course of preparing this undergraduate final project, the author received significant help, guidance, and support from various individuals and institutions. The author would like to take this opportunity to express her deepest appreciation and gratitude to the following:

1. **Allah SWT**, for His infinite mercy and grace, which made the process of writing this Bachelor's Final Project smooth and blessed.
2. **Parents**, for their unwavering support, prayers, encouragement, and motivation throughout this journey.
3. Dr-Ing. **Putu Ayu P. Agustiananda**, ST., MA, as author's supervising lecturer in the Final Architectural Design Studio, who generously offered her time, knowledge, criticism, suggestions, and patience, enabling the author to complete this project.
4. **Arif Budi Sholihah**, S.T., M.Sc., Ph.D and Prof. Dr.-Ing. Ar. Ir. **Ilya Fadjar Maharika**, M.A., IAI, the examiners of the Final Architectural Design Studio, for their constructive criticism and valuable suggestions that greatly improved the quality of this final project.
5. Ir. **Hanif Budiman**. M.T., Ph.D., Head of Undergraduate Program in Architecture at Universitas Islam Indonesia, along with all the lecturers and staff, for their guidance and the knowledge they imparted, which has been invaluable during the time as a student at UII.
6. Fellow FADS supervising group members, Mahadevi, Amelia, and Sharfina, fellow daily-discussion group, Amalia, Fitri, Kinanti, Zabrina, Hajid, Faiz, as well as all of author's friends from IP Architecture 2020, for their continuous support in completing this Final Architectural Design Studio.

May Allah SWT reward everyone for their prayers, support, and assistance. The author acknowledges that this work is not without flaws and welcomes constructive feedback and suggestions to help improve this undergraduate final project. The author hopes that this project will help readers gain knowledge and experience, serve as a reference, and provide learning materials to guide future improvements.

Yogyakarta, August 25th 2024
Author,



Alisya Zahra Noor Adrevi

LIST OF **CONTENTS**

Cover
Title Page
Validation Sheet
Statement of Originality
Preface
List of Contents
List of Figures

DESIGN PREMISE

CHAPTER 1 - INTRODUCTION
Diamond Mining and its Legacy

Indonesia and its Legacy of Mining 13
The City of Diamond 15
The Hidden 'City of Diamond': Banjarbaru 16
Beneath the Surface of Cempaka 17
Villages of Treasures 18
Discoveries Archive 19
Familiarizing 'Mendulang Galuh' 22
Ancient Equipment & Semi-Modern Equipment 23
On Finding Diamond 24
Features of 'Mendulang Galuh' 25
Galuh: The Folklore 26

CHAPTER 2 - DESIGN STUDY
Problem Formulation and Approach

CONVEYING MESSAGES: Narrative Approach 28
RESTORING THE ABANDONED: Landscape Restoration 31
Issues and Problem Formulation 34
Mind Mapping 36
Novelty 37
Design Method 38
Bryan Lawson 'Way of Thinking' 39

CHAPTER 3 - DESIGN PROBLEM AND PROBLEM SOLVING
Study of Location and Context

Site Location Study 41
Mining Aftermath: Galuh Cempaka Lake 50
Environmental Restoration Project 54
Theme Review: Historical Narrative 55
On Designing Theme Park 59
On Designing Visitor Center 60
Cultural Tourism: Mining Heritage Tourism 63
Precedent Studies 64

CHAPTER 4 - DESIGN EXPLORATIONS
Design Problem Solving Alternatives

Site Context Exploration 73
Journey Explorations 77
Mass Explorations 80
Form Finding 84

CHAPTER 5 - DESIGN DEVELOPMENTS
Design Problem Solving Alternatives

Narrative 86
Building Code 90
Visitors Mobility Circulation 91
Building Materials and Plan 92
Beginning: Bauntung Batuah 101
Climax: Suah Bahambur 103
Resolution: Malangkari Banuaku 108

CHAPTER 6 - DESIGN EVALUATION

CHAPTER 7 - ATTACHMENT

Plagiarism Check 134
Architectural Presentation Board (APREB) 135
Technical Drawing (Separate Attachment) -
3D Mockup 140
References 142

TABLE OF FIGURES

CHAPTER 1 - INTRODUCTION

Fig 1.1 Statistic of resources alternatives on Non-Metallic Mineral Resources and Rocks in Indonesia 2022
Fig 1.2. Statistic of the additional location of Non-Metallic mineral resources mining in Indonesia from 2018-2022
Fig 1.3. Total of Availability and Alternative Resource on Non-Metallic Mineral Resources (Specific Types) on 2022
Fig 1.4. Map of the Location of Banjarbaru in South Kalimantan
Fig 1.5. Monuments in Banjarbaru and Martapura as a tribute to the diamond
Fig 1.6. Map of Cempaka District and its mining history
Fig 1.7. Article of the collaboration of mining industries in Banjarbaru with Geopark Meratus
Fig 1.8. Mining Process Step by Step
Fig 1.9. Traditional Mining Pit Types
Fig 1.10. Mining Equipments
Fig 1.11. Mining Steps
Fig 1.12. Mining Activity

CHAPTER 2 - DESIGN STUDY

Fig 2.1 Classifications of Narrative Options by Nigel Coates
Fig 2.2 Gilles Clément
Fig 2.3 Ecological Restoration
Fig 2.4 7 key drivers for social-ecological restoration
Fig 2.5 Aquatic plants examples

CHAPTER 3 - DESIGN PROBLEM AND PROBLEM SOLVING

Fig 3.1 Map of Banjarbaru city and Cempaka district
Fig 3.2 Map of abandoned lakes (Modern mining) in Cempaka district
Fig 3.3 Analysis of surrounding area of Galuh Cempaka lake
Fig 3.4 Site area
Fig 3.5 Site area
Fig 3.6 Analysis of social components in the site
Fig 3.7 Current condition of site chosen
Fig 3.8 Locals fishing activity in Galuh Cempaka lake
Fig 3.9 Weather analysis
Fig 3.10 Experience Objective Map
Fig 3.11 Visitor's Flow Map
Fig 3.12 Examples of experiences profile (physical and content)
Fig 3.13 Herberton Mining Centre
Fig 3.14 Teamlab Planets: Tokyo
Fig 3.15 FILSØ Visitor Center

Fig 3.16 Jewish Museum Berlin
Fig 3.17 The Icebergs and the Sea
Fig 3.18 Waterfront building analysis

CHAPTER 4 - DESIGN EXPLORATIONS

Fig 4.1 Site Form Analysis
Fig 4.2 Site Possibility Analysis
Fig 4.3 Diamond-Cut Shapes Analysis
Fig 4.4 Form Finding Process

CHAPTER 5 - DESIGN DEVELOPMENTS

Fig 5.1 Timeline of Events
Fig 5.2 Top View
Fig 5.3 Circulation Route
Fig 5.4 Material Exploded Axonometry
Fig 5.5 Exploded Axonometry
Fig 5.6 Ground Floor Plan
Fig 5.7 First Floor Plan
Fig 5.8 Mezzanine Plan
Fig 5.9 Sections
Fig 5.10 Section (Manguyak Halalang)
Fig 5.10 Section (Bagamatan)
Fig 5.11 Floor plan of Manguyak Halalang
Fig 5.12 Floor plan of one of Bumi Basungkal Area
Fig 5.13 Floor plan of one of Bumi Basungkal Area
Fig 5.14 Floor plan of one of Basinggah wan Batulak Area
Fig 5.15 Floor plan of one of Basinggah wan Batulak Area
Fig 5.16 Floor plan of one of Bagamatan Area
Fig 5.17 Vegetations List
Fig 5.18 Outdoor Renderings
Fig 5.19 Bauntung Batuah Indoor Renderings
Fig 5.20 Suah Bahambur Indoor Renderings
Fig 5.21Malangkari Banuaku Indoor Renderings


Kisah
Palinggangan

DESIGN ***PREMISE***

Indonesia and its mining legacy have been known for centuries by people. Not to mention the history of mineral mining with its discoveries that brought the name of Indonesia to global communities. Especially in the Cempaka district, located in Banjarbaru City, South Kalimantan, the encounter of 'Galuh' or diamond during past years is well known because of its quality. With the growing exposure of diamond mining in the district, the mining activities are being enlarged as the people put hope beneath their feet. Traditional mining has been enhanced into semi-modern and modern mining by some companies. Unfortunately, these activities show both positive and negative results, especially in the quality of land as modern mining dug up a lot of soil to create voids yet ended up abandoned as ex-mining lakes. The abandonment of these lakes stands as the silent witness of the old-time mining breakthrough which will lead to the future of the diamond mining industry by honoring its legacy. Thus, a visitor center is proposed to assemble the society on reflecting as well as showcasing innovative ways of entertaining the visitors to highlight the symbol of resilience and regeneration on the future of diamond mining. On the other hand, the visitor center will also serve as a medium for reclaiming the natural beauty of the land while complementing what was left there.

INTRODUCTION

chapter 1: diamond mining and its legacy

"Di bumiku nang sugih kaya
Basambunyian batu mulia
Wadah basimpan di dalam bumi
Jadi idaman saluruh nageri"

Galuh Cempaka
Thamrin

Indonesia and its Legacy of Mining
The City of Diamond
The Hidden 'City of Diamond': Banjarbaru
Beneath the Surface of Cempaka
Villages of Treasures
Discoveries Archive
Familiarizing 'Mendulang Galuh'
Ancient Equipment & Semi-Modern Equipment
On Finding Diamond
Features of 'Mendulang Galuh'
Galuh: The Folklore





INDONESIA AND ITS LEGACY OF MINING

According to the book of '*Neraca Sumber Daya dan Cadangan Mineral, Batubara, dan Panas Bumi Indonesia Tahun 2022'* of The Ministry of Energy and Mineral Resources, Indonesia indeed obtained tons of geological resource potential such as minerals, coal, also geothermal based on the geological.

Each geological resource potential being said got their own speciality and purpose for its mining activities. For instance, the mining activities of coal which included in the that has been going on for ages are one of the most important as it became the biggest comodities for being exported in 2023 (Nugroho, 2024).

Following the coal mining history, minerals mining also being spread all over the 21 provinces out of 38 in Indonesia . Specifically on minerals, the mining has been divided into two categories which are metallic mineral resources (*sumber daya mineral logam*) and non-metallic mineral resources (*sumber daya mineral non-logam*).

No	Provinsi	IUP (Ditjen Minerba)	Penyelidikan PSDMBP	TOTAL
1	Aceh	4	1	5
2	Sumatra Utara	-	19	19
3	Sumatra Barat	-	14	14
4	Kepulauan Bangka Belitung	4	-	4
5	Kepulauan Riau	8	15	23
6	Lampung	3	-	3
7	Banten	9	-	9
8	Jawa Barat	106	-	106
9	Jawa Tengah	55	-	55
10	Jawa Timur	28	42	70
11	Kalimantan Barat	10	-	10
12	Kalimantan Tengah	36	-	36
13	Kalimantan Utara	1	-	1
14	Kalimantan Selatan	4	-	4
15	Sulawesi Barat	3	-	3
16	Sulawesi Tengah	23	-	23
17	Sulawesi Tenggara	19	-	19
18	Sulawesi Selatan	17	-	17
19	Nusa Tenggara Barat	13	-	13
20	Nusa Tenggara Timur	20	-	20
21	Maluku	2	1	3
TOTAL		**365**	**92**	**457**

Fig 1.1 Statistic of resources alternatives on Non-Metallic Mineral Resources and Rocks in Indonesia 2022
(source: The Ministry of Energy and Mineral Resources 2022)

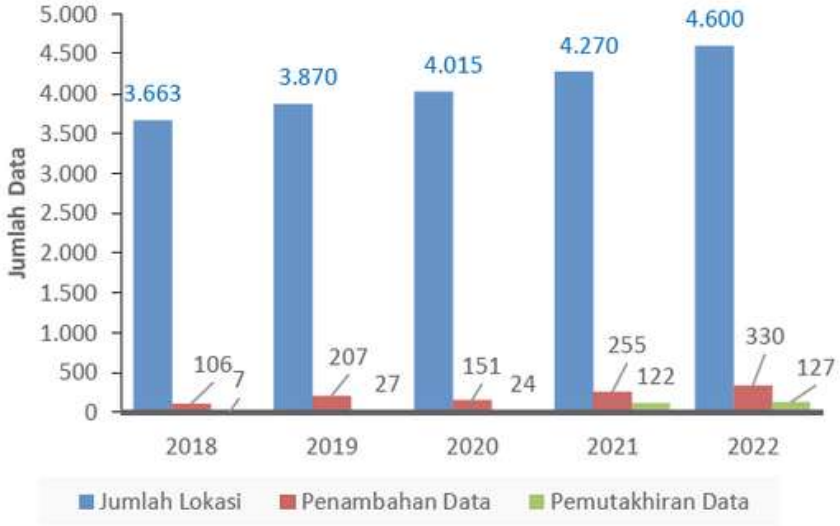


Fig 1.2. Statistic of the additional location of Non-Metallic mineral resources mining in Indonesia from 2018-2022
(source: The Ministry of Energy and Mineral Resources 2022)

Non-Metallic Mineral Resources:
includes asbestos, sulfur, bentonite, bromium, fluorite, gypsum, calcite, alum, iodine, and so on.

Non-Metallic Mineral Resources (Specific Types):
mostly gems which include amethyst, aquamarine, **diamond**, ruby, sapphire, topaz, phosphate, corundum, tourmaline, graphite, and zircon, as well as limestone, clay, and sand used for the construction industry.

Rocks:
usually contains the mining of andesite, basalt pumice, river stone, jade, granite, quartz crystal, marble, and many more.

Especially in 2022, the mining on non-metallic mineral resources locations are increasing with 330 new mining location.

NO	KOMODITAS	HIPOTETIK (TON)	TOTAL SUMBER DAYA (TON)*	TOTAL CADANGAN (TON)**
1	Ametis	-	8.668,00	-
2	Batugamping	608.085.957.467,00	210.910.347.846,00	14.065.496.612,00
3	Dolomit	2.450.643.480,00	4.448.658.285,30	303.806.755,00
4	Felspar	6.435.680.286,00	4.920.434.796,00	55.367.269,24
5	Fosfat	19.113.040,00	11.284.520,00	187.561,00
6	Grafit	-	31.300.000,00	-
7	Intan*(karat)	100.640,00	43.590.201,00	10.073.201,00
8	Kuarsit	2.975.259.000,00	264.484.842,25	-
9	Lempung	91.002.625.845,00	10.851.537.246,00	1.380.353.462,00
10	Pasir Zirkon	5.026.850,03	411.021.837,00	124.267.690,00
11	Pasir Kuarsa	23.301.993.600,00	3.115.031.308,00	1.122.521.270,00

Catatan : *=jumlah sumber daya tereka, tertunjuk dan terukur ; **=jumlah cadangan terkira dan terbukti

Fig 1.3. Total of Availability and Alternative Resource on Non-Metallic Mineral Resources (Specific Types) on 2022
(source: The Ministry of Energy and Mineral Resources 2022)

As mentioned in the table, comparing the availability and the alternatives resources of non-metallic mineral resources (specific types) with the category of gem, the possibility of diamond compared to amethyst got a higher number which means the mining activities of diamond would still be a prospective way of business for years in the future.

Therefore, the knowledge of people and further actions to be taken need to have a lot of consideration in order to brought diamond as one of the treasures in Indonesia.

THE CITY OF ***DIAMOND***

Banjarbaru, the newest city of South Kalimantan, located in the middle of Banjarmasin and Martapura, is known for its natural resources especially when it comes to land mining. Some resources that are usually being find is different types of precious stones that could be turned into a jewel, one of the most impressive one is diamond. Although Martapura is being known for the trading of diamond, only some small percent of people knew that those diamonds are originally found in Banjarbaru.

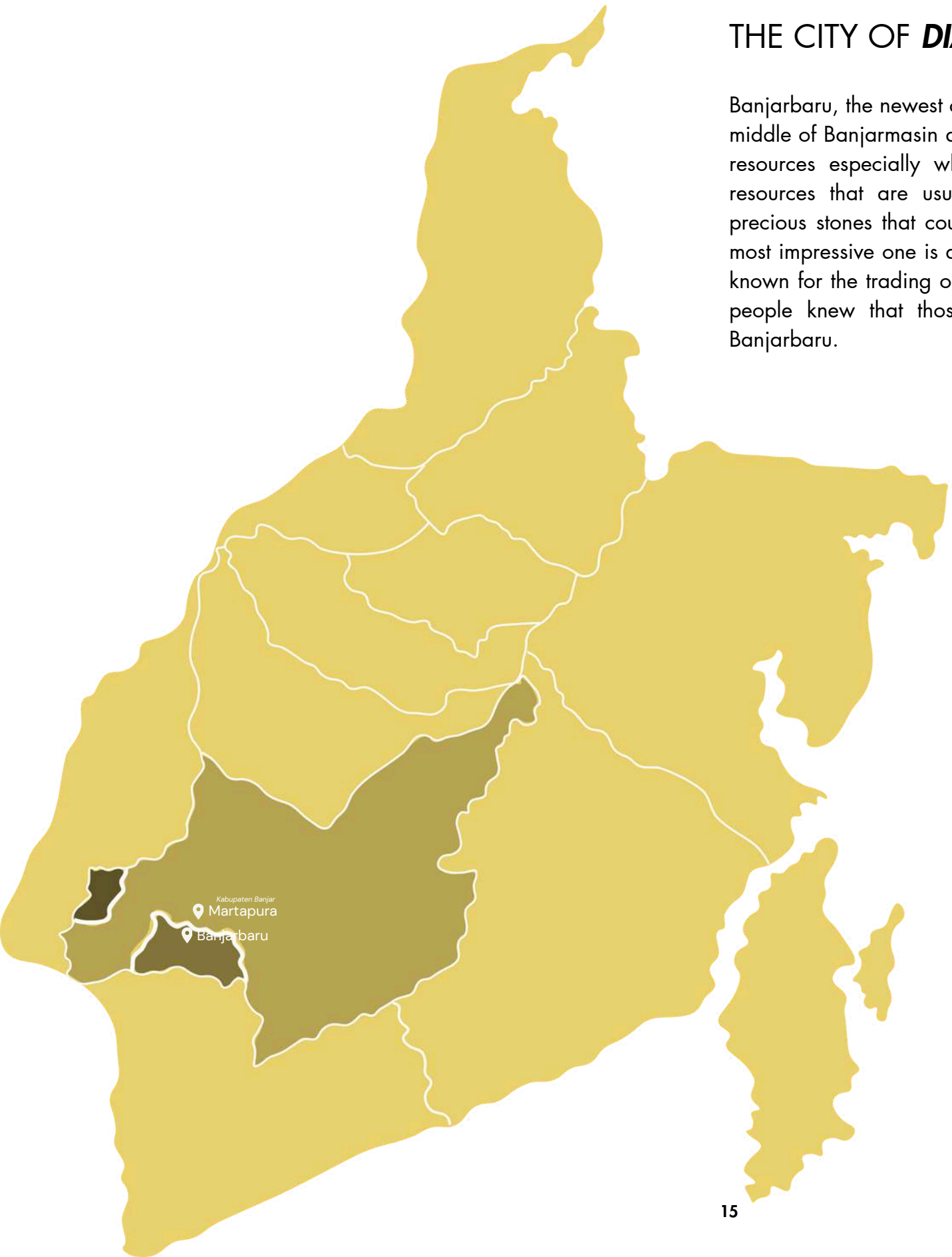


Fig 1.4. Map of the Location of Banjarbaru in South Kalimantan (source: author)

THE HIDDEN 'CITY OF DIAMOND', ***BANJARBARU***

The city of Banjarbaru and Martapura has always been connected to one another, not only because of the geographical position, they are also sharing the same historical connection on an event, namely the diamond mining activities. **Banjarbaru itself, in the past, known as the hilly area surrounding Martapura, named as *Gunung Apam* where this area was used for the resting area for diamond miners after working in Cempaka district**.

While at that time the development of Banjarbaru has not yet as good as nowadays, **Martapura being the city who supports the diamond brillianteering (polishing) and trading activities,** there was also built the diamond trading center in Martapura called '*Cahaya Bumi Selamat (CBS)*' . That is why, Martapura become the more popular 'city of diamond' of South Kalimantan.

Fig 1.5. Monuments in Banjarbaru and Martapura as a tribute to the diamond (source: author)

Diamond Monument of Banjarbaru

Trisakti Diamond Monument in Cempaka

Diamond Monument of Martapura



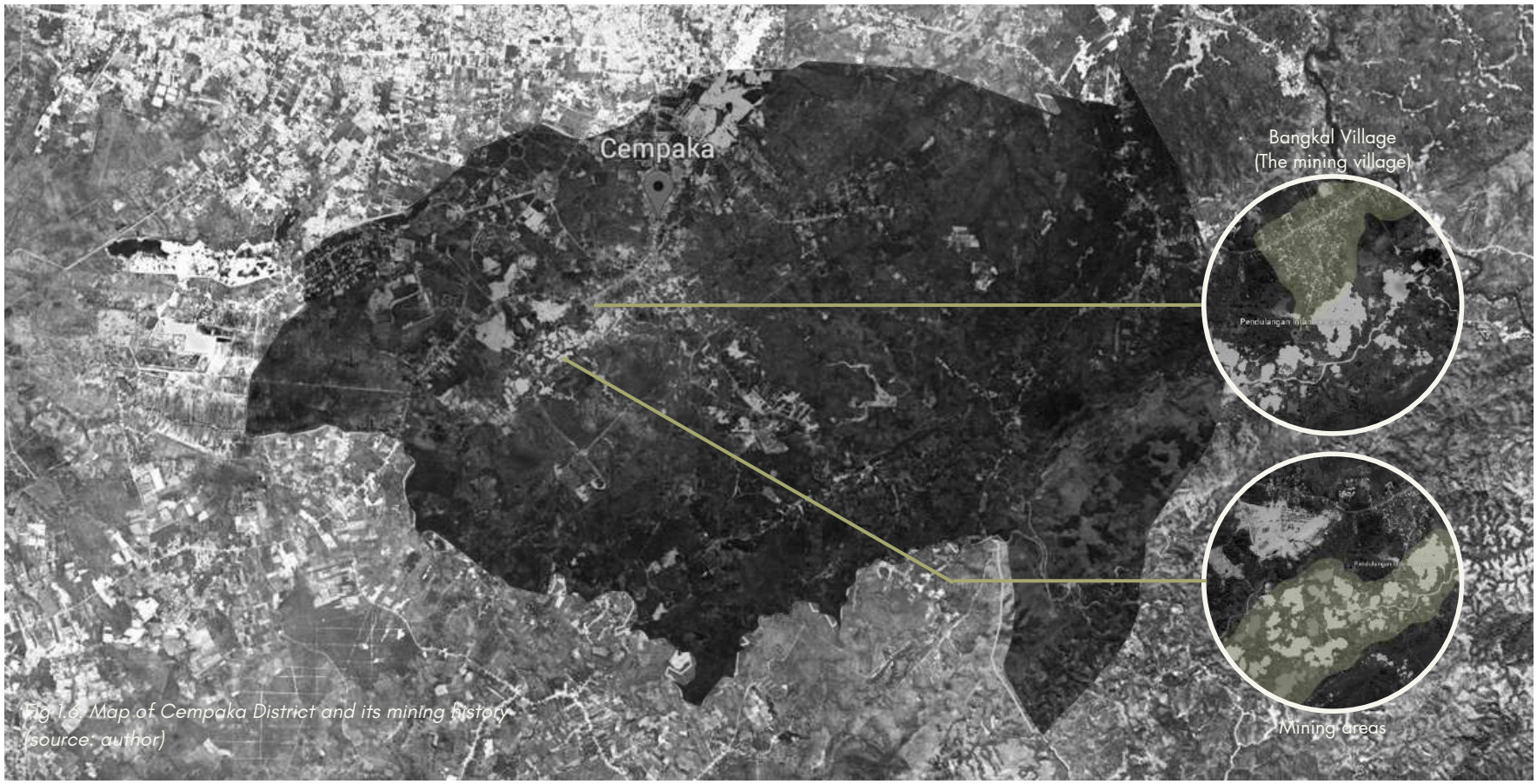


Fig 1.6. Map of Cempaka District and its mining history (source: author)

BENEATH THE SURFACE *OF CEMPAKA*

The mining activities in Cempaka district has been done for ages by using the traditional method. Some of the gems that are usually found in this area is diamond and gold. There are also two locations that are famous being used for mining activities which are in the *Kelurahan* Sungai Tiung, located in Pumpung Village and Ujung Murung as well in Bangkal. Regarding the start of the activities, there are no official history record where did it start. With that being said, most locals believed that this mining activities are present during the colonial era, while some other resources did say that it started around 9th Century (Leend, 2015).



***Galuh* Trisakti**
August 26th 1965
166,75 carat
Found in Cempaka

***Galuh* Putri Malu**
2008
200 carat
Found in Antaruku, Pengaron district

***Galuh* Cempaka 5**
1850
106.7 carat
Found in Cempaka

***Galuh* Pumpung**
1990
98 carat
Found in Cempaka

VILLAGES OF ***TREASURES***

Several villages are known for being the area of traditional diamond mining activities, one of them that is well-known in the area called 'Pumpung Village'. This village is also the location of where the *Intan Trisakti* was found.

As the era changed, the process of mining also being enhanced by using several machines such as water pump to soften the land. This would definitely creates easier way of doing the work, but it also resulting on the void (big holes) to keep on appearing.

Although the village had survive the problem of being closed due to certain event, now, the village is being one of the part of Geopark Meratus as one of the tourism destination in South Borneo.

Not only Pumpung village that is being focused as 'mining village' in Cempaka, another that is being included in Meratus Geopark is in *Kelurahan* Bangkal which located also in Cempaka district.





Fig 1.7. Article of the collaboration of mining industries in Banjarbaru with Geopark Meratus (source: instagram: @meratusgeopark)

DISCOVERIES ***ARCHIVE***

Beside the four magnificent discoveries on the diamond, there are also some other diamonds that is important and got their own specific names such as:

was bought by a foreigner from Belgium



Galuh Badu
1967
26 carat
Found in Bati-Bati

Galuh Bangkirai 1
unknown
10 carat (400 mil)
Found in Cempaka

Galuh Bangkirai 2
July 1st 2005
27 carat (1.6 bil)
Found in Cempaka

Galuh Barakat
Nov 17th 1987
50 carat (1.6 bil)
Found in Pengaron

Galuh Bulan
unknown
27 carat
Found in Cempaka

Galuh Cempaka 1
unknown
12 carat
Found in Cempaka



Galuh Cempaka 2
unknown
13 carat
Found in Cempaka

Galuh Cempaka 3
unknown
20 carat
Found in Cempaka

Galuh Cempaka 4
unknown
77 carat
Found in Cempaka

Galuh Cempaka 6
Aug 18th 1966
29.75 carat
Found in Cempaka

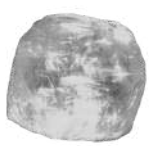
Galuh Cempaka 7
Dec 31st 1970
29 carat
Found in Cempaka

Galuh Hamsan
Aug 21st 1987
14 carat
unknown

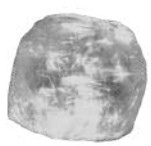
DISCOVERIES ***ARCHIVE***



Galuh Kait-Kait Gunung
Feb 25th 1991
16 carat (225 mil)
Found in Cempaka



Galuh Luk Punduh
Nov 29th 2004
15.5 carat
Found in Cempaka



Galuh Bangkirai 2
July 1st 2005
27 carat (1.6 bil)
Found in Cempaka

Tribute to a woman named Noorsehat who died in the mining area



Galuh Noorsehat
May 12th 2002
66 carat
Found in Pengaron

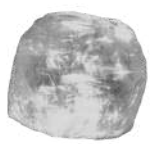
Could shine with the rainbow colors, therefore being named as 'daughter of the rainbow'



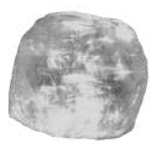
Galuh Pumpung Balahindang
Nov 30th 2004
34 carat (2 bil)
Found in Cempaka



Galuh Sungai Rancah
unknown
4 carat
Found in Cempaka

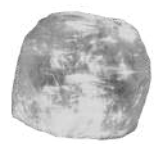


Galuh Sungai Tiung
Aug 2oth 1989
20 carat (215 mil)
Found in Cempaka



Galuh Ujung Murung
May 16th 1999
77 carat (4.1 bil)
Found in Cempaka

Was not found in mining area but between pile of rocks near a river



Intan Anugerah
July 5th 1989
61 carat (200 mil)
Found in Aranio

Owned by the King of Kingdom of Banjar, Sultan Adam



Intan Sultan Adam
unknown
103 carat
(25,000 riyal)
unknown

Owned by the King of Kingdom of Banjar, Sultan Sulaiman



Intan Sultan Sulaiman
unknown
26 carat (25,000 riyal)
unknown

On September 9, 1809, Sultan Sulaiman gave his diamonds to HW Daendels, an official representative of the Dutch Governor-General in Batavia, in return for taking on ownership of the Dutch forts on Tabonio Beach and Tatas Island (Banjarmasin).

Pumping water to soften the land to make it easier to dig

Collecting the gems found

"*Galuh*" (Diamond in Banjarese)



Diamond's panning (*Malinggang*)

Brillianteering (polishing) "*Galuh*"

Fig 1.8. Mining Process Step by Step (source: author)

FAMILIARIZING '***MENDULANG GALUH***'

As stated by Mansyur (2022) in the book of 'Kemilau Borneo', in general, diamond mining are usually being separated into two types, which are aluvial and kimberlite. In Cempaka district (*Kabupaten Banjar*), mining activities on diamond was done in aluvial type where the position of each diamonds are scattered around inside the soil, along with pebbles; sands; corals, and so on while also being covered by puddles. The mining were also done traditionally by being divided into four, which are:

Kuyak Halalang Mining

'Kuyak Halalang' mining is the most shallow type of diamond mining because following its name that means '*tearing up the bushes/weeds'* the miners can easily find the diamonds by doing so as they are located near the surface. Usually this mining are being done by only a person.

Dry Pit Mining

Almost similar with *Kuyak Halalang*, the difference on this mining type is that the miners have to dig a pit until 1 meter deep. This type could be done due to geological aspect of soil which contains pebbles, quartz, and sand on the upper surface while diamond is below them.

Shallow Pit Mining

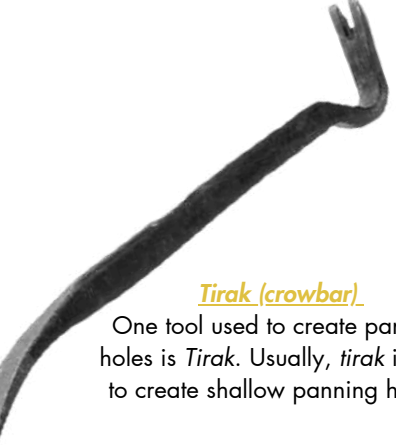
This type of mining usually focuses on finding the diamond that are located in the range of 1-3 meters below the surface. Therefore they have to dig up some depth of soil. This mining type is often being done by small groups up to 3 people.

Deep Mining

Especially in Cempaka District, the miners usually did this type of mining where the pit could be dug until 15 meter deep. This mining type has also been done since the ancient times. Yet, as this mining type is way riskier than the other three, a big group of miners are being assigned to make sure that everyone could share the work while maintaining the safety for every miners.



Fig 1.9. Traditional Mining Pit Types
(source: author)



Tirak (crowbar)
One tool used to create panning holes is *Tirak*. Usually, *tirak* is used to create shallow panning holes.



Cangkul (hoe)



Linggangan
Tool for separating other rocks and diamond

Ayakan
Tool for separating rocks and sand made from bamboo



Sakrup (shovel)



Parang (machete / golok)

Fig 1.10. Mining Equipments (source: author)



In deep mining, people made some borders to hold back the soil that has been dug up by using wood, which usually called '*bantiyai*' then added with '*jarajak*' (reinforcing bar) in every corner of rectangle with the span every 1 meter. The 'soil wall' would also be added with the weeds (*ilalang*) to add more safety in the pits.

ANCIENT ***EQUIPMENTS***
&
SEMI-MODERN *EQUIPMENTS*

Water shooting machine

This machine has a branch hose that can be adjusted in size to fit the machine's requirements. It is used to shoot water into solid soil to turn it into muddy soil and to separate large and small rocks. The suction machine then draws in large and smaller rocks, some the size of eggs.

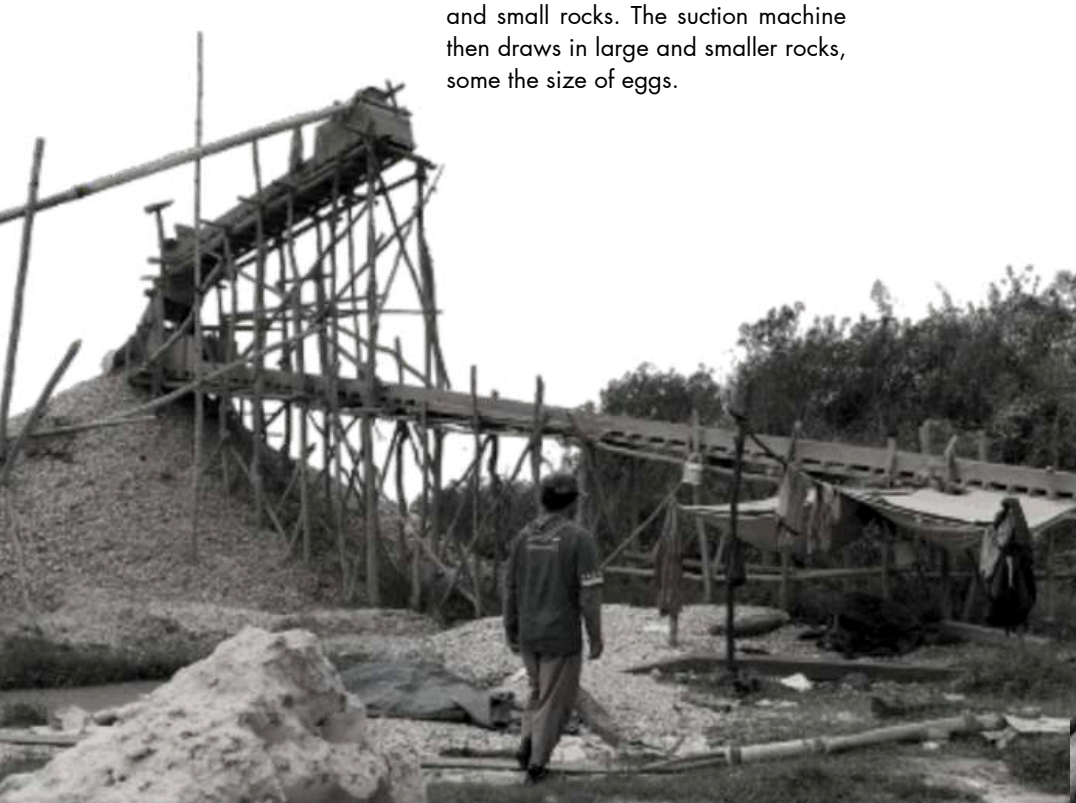
Water suction machine

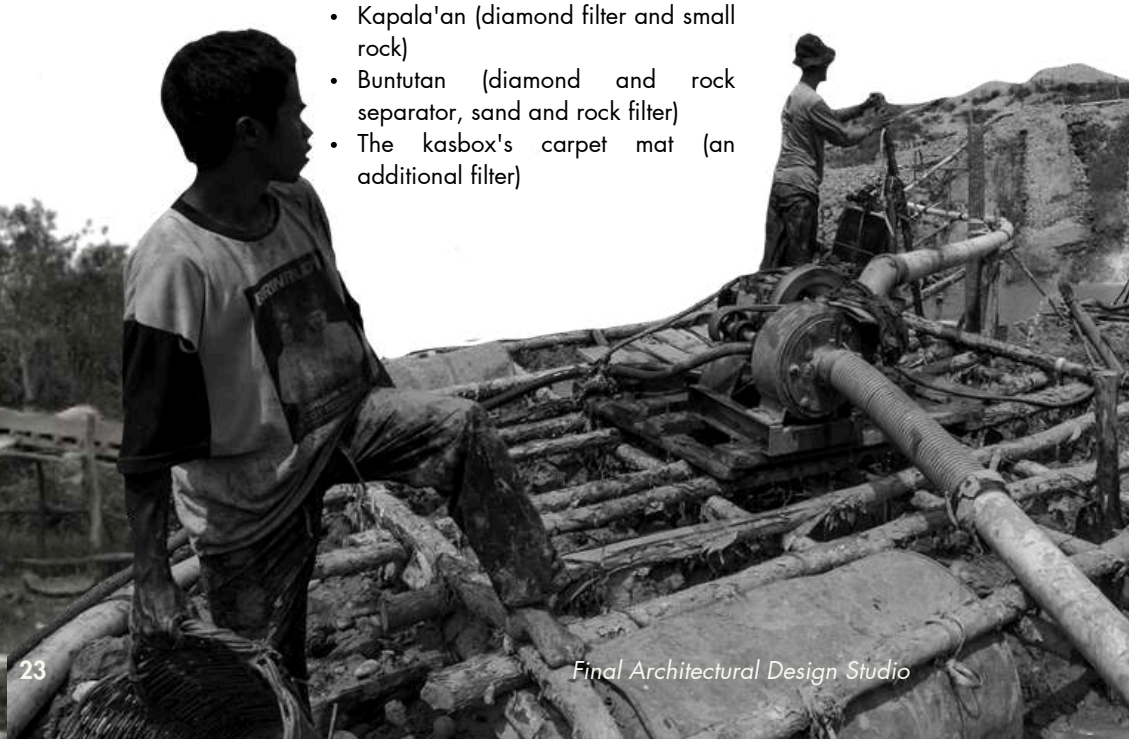
The tool is linked to a pipe (often 25 cm in diameter) that can accommodate up to 10 rods, followed by a spiral pipe and a 'kasbox'.

'Panggungan' or Kasbox

constructed from boards that have been treated to resemble a rectangular chest and set atop a platform held up by galam wood. great for filling panning holes with water, dirt, sand, and rocks to collect and filter. The Kasbox has been divided up into multiple sections:

- Kapala'an (diamond filter and small rock)
- Buntutan (diamond and rock separator, sand and rock filter)
- The kasbox's carpet mat (an additional filter)



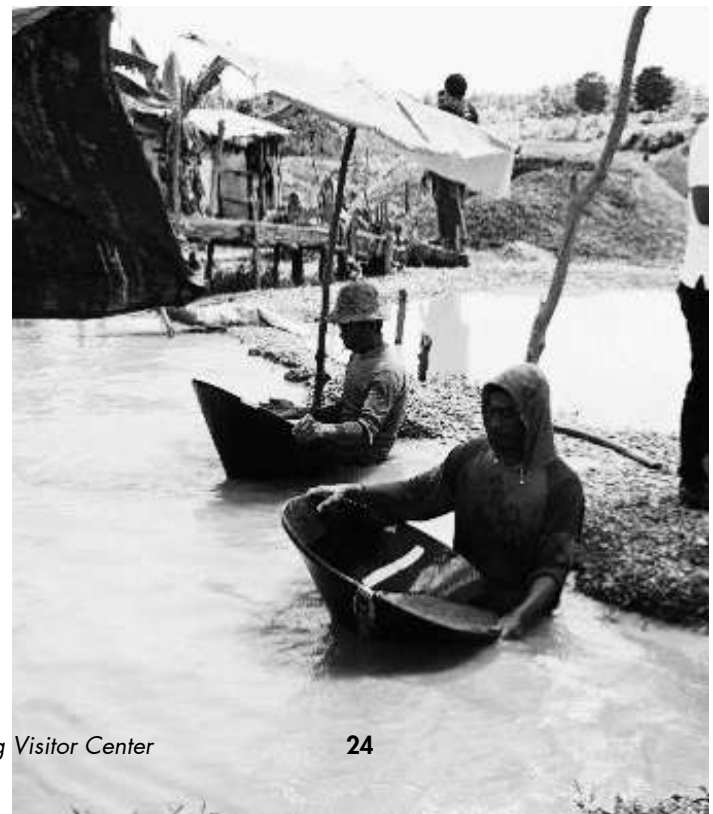


ON *FINDING* ***DIAMOND***

According to Syarifuddin (2002) in his '*Mendulang Intan*' book, the traditional process on mining the diamonds are:







***Mambasuh* (clean up)**

scrubbing the soil and stone mixture with water. The location may be in a pond, a river, or a small boat that has been given.

Malinggang

second step on cleaning up the mixed soil and sand by swaying the *linggangan* in order to separate the different size rocks.

Baantahan

Separating the pebbles from the sand that contains the diamond.

Mamuyai

Final cleansing process to remove all the sands from *linggangan*. This process will be beneficial on finding small diamonds that is being covered. Unlike big diamonds that usually easily found while doing the washing.

***Mamicik Intan* (pressing down)**

When finding small diamonds, those are usually being pressed down to *linggangan* by using a traditional adhesive called *katipi*.

Fig 1.11. Mining Steps (source: author)

FEATURES ON
'***MENDULANG GALUH***'

Taken from the research of Arbayati (2018) in traditional ways which diamond mining was done by the traditional miners started by some types of process such as:

Starts by differentiate type of void they would create, either *kuyak ilalang* (no need to dig the soil), low tide hole, or deep holes

Combined a group of people (7-10) to dig the soil. 2 will do the hoeing work, 2 people soften the soil, 1 sucking water from other sources, other 1 will fill the hole with water until around 10 meters deep, 1 ensure the soil that are being dug is not wasted

"*Malinggang*' or panning the soil to find the diamond. Usually done by 4-5 people

Selling to the middlemen (*tengkulak/ pembelantik)*



Not only during the process of mining they did the traditions. There are also several certain traditions that usually being held by the people before and after finding the diamond.

Asking for the 'help' from Muallim or *Tuan Guru*

According to the belief of Banjar people, not only learning about religion things from Muallim, it is also believed that they are having the connection to the supernatural things that could lead them to know about the location where should they mine the diamond.

Holding a Thanksgiving Event (*Syukuran*)

Banjar culture is really close with this kind of event. Almost every conditions having the event of thanksgiving as a way to recite prayer together for a better future as well as an act of showing gratitude. Specifically for mining, they usually held it in the mining location or the owner of the machine equipment.

Naming things with different terms

One of the most important tradition that must be followed during mining is changing the vocabulary of things. For instance, they must not saying diamond as diamond, instead they have to say it as *Galuh*. It also happens for the name of animals, movement, objects and so on. They believed that if these rules are violated, it will bring them the bad luck, such as the belief of the diamond will get further from the miners.

Inserting the diamond to mouth while reciting Shalawat

Another rituals that are being done while mining is when the miners caught a big diamond, they will put it in the mouth while reciting Shalawat loudly three times, then the people surrounding will respond to that wirh *Sallim* or *Shallu 'alaih*". This act shows the way the miners are grateful for getting the diamond. They also hope that the Shalawat became the 'string' between the miner and the diamond so that it will not be lost.

GALUH:
THE ***FOLKLORE***

It has been known among the miners of diamond that the word *Galuh* refers to the diamond that they are seeking. This word obviously did not come without reason. While in some understanding the act of calling diamond as *Galuh* could be understood as the way they think about how precious a diamond is by calling it as 'the pretty daughter/lady', there is also a belief that has been spread for ages in the community. Precisely, spread as a folklore.

It is indeed related to the calling of 'pretty daughter/lady', but **people belief that the diamonds themselves are being sprinkled by some ladies from another world named Siti Anggani and Putri Sahanjani. The tale told about the story of how these ladies came when the miners are busy working, strolling around the area on choosing which holes that they will gives the diamonds. But, one rule that the miners have to follow is that each person in the area should behave**. Therefore, due to this rules, the people also define things that are taboo to be done in the location (Suryacahya, 2018).

Some that should not be done are **sneezing, putting hands on waist (*bertolak pinggang*), whistling, urinating, carrying certain prohibited foods, and prohibiting menstruating women to come**. Basically these limitations were believed to drive those *Galuh*s away. Overall according to the people, since the old times, diamond mining has always been something that is sacred and contained supernatural energies. In the other hand, this way of thinking made people, especially miners, would not take this precious natural resource for granted (Arbayati, 2018).



Fig 1.12. Mining Activity (source: TribunJakarta.com)

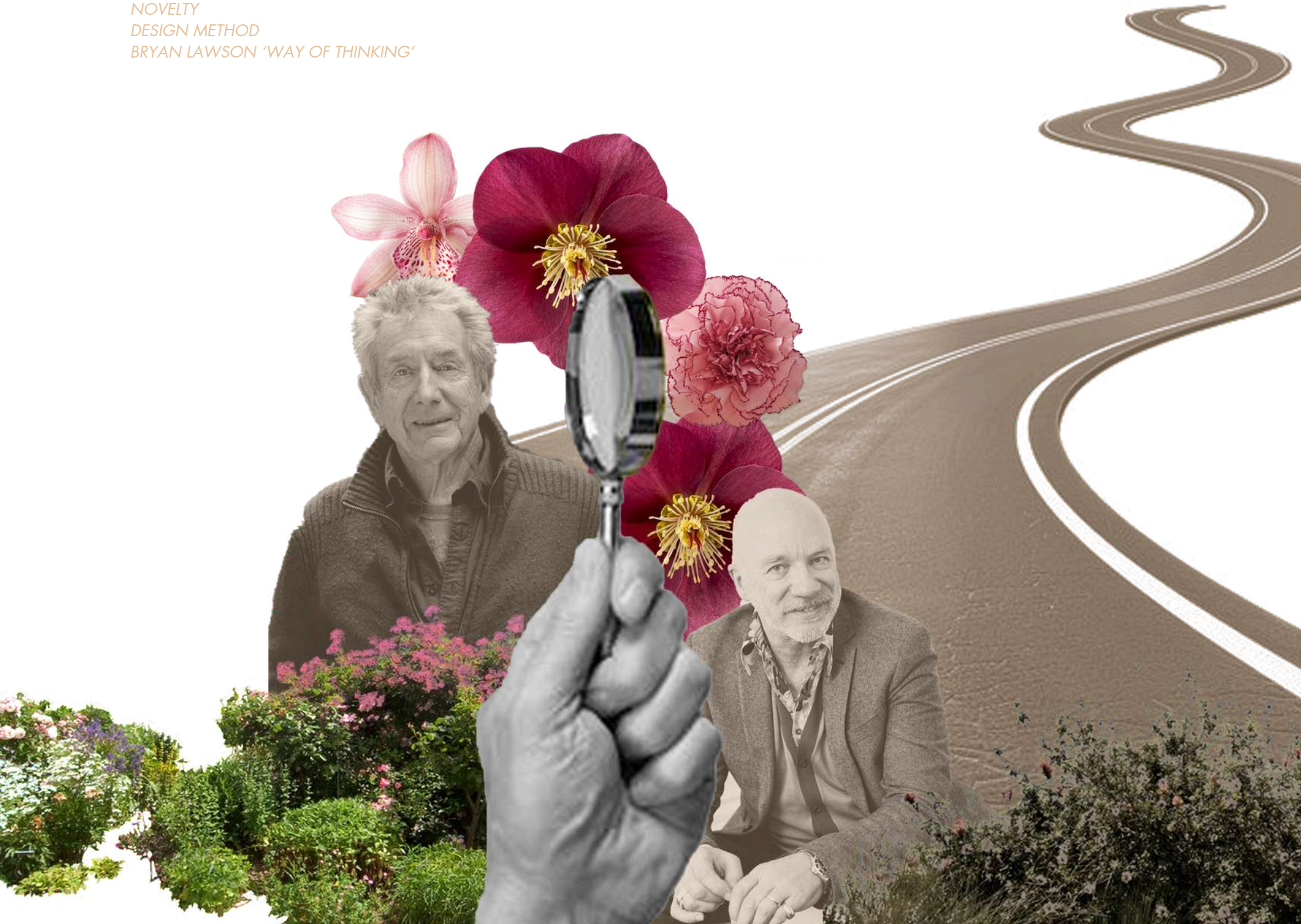
DESIGN STUDY

chapter 2: problem formulation and approach

"Di bumiku nang sugih kaya
Basambunyian batu mulia
Wadah basimpan di dalam bumi
Jadi idaman saluruh nageri"

Galuh Cempaka
Thamrin

CONVEYING MESSAGES: Narrative Approach
RESTORING THE ABANDONED: Landscape Restoration
ISSUES AND PROBLEM FORMULATION
MIND MAPPING
NOVELTY
DESIGN METHOD
BRYAN LAWSON 'WAY OF THINKING'



CONVEYING *MESSAGES*

Architecture as narrative

Forty (2000, as cited in Tseng, 2015) note the perspective of Goethe that architecture could symbolize as language that shows the judgement and character of an immediate man expression. Architecture could as well showcasing the combined uniqueness of people that later on will be translated into a series of narrative.

In '*Story and Discourse*', Chatman (1978) classifies in the theory of narratives contains two parts which are the story conveyed and its contents. The contents are based on the actions happened, expression, the actors, and setting. In creating narrative it is also said important on deciding the 'order of appearance' whether the creator will used a sequential plot (*abc*), flashed-back (*acb*), or started from the middle (*bc*).

The identification of the usage of narrative in architecture also portrayed from the works of Bernard Franken that shows three characters in the plot, represented by "form follows force" to characterize, "the generative force of the story" to integrate, and "imagination" for event. These three are produced due to the urgency of Franken on conveying stories through sequence of spaces rather than buildings and forms in architecture (Seungkoo, 2007).



COATES' *STORY BUILDING*

In his book of 'Narrative Architecture' (2012), Coates classified the characteristics of narrative options that could be used by an architect in designing their buildings.



Fig 2.1 Classifications of Narrative Options by Nigel Coates (source: author)

Binary *narrative*

Straightforward narratives are often being used in pouring the idea that invests with its parallel identity. It is said that this narrative are usually portrayed in designing a 'disconnected' place which are not the identity of the area. This narrative could be brought by designing a culture far away into totally different area. This narrative also being used in order to showcase the architecture as the icon/art of the creator.

Sequence *narrative*

Often used in art museums where the curators usually create a structured plot for the visitor experience in the exhibition. This narrative is usually shown in a chronologically order to show the connection of the ideas' chain. Not only limited to the building, usually the narrative also produced through the landscape arrangement.

Biotopic *narrative*

Taken from the word 'bio' combined with *topos* (meaning 'place' in Greek), biotopic narrative serves as the essential place that could occupy as well as gather community together with different purposes and perceptions. The name biotopic also creates a similar image as tree bark that protect different organisms that lives underneath.

THE **THIRD LANDSCAPES**

Gilles Clément

According to Bianchetti (2006), taken from the book written by Gilles Clément '**Manifesto del Terzo Paesaggio**' shows several ideas of Clément in designing landscape, such as:

First and Foremost: Landscape

Clément calling the Third Landscape as an area in between of something that is never exploited yet protected from human activities. The Third Landscape connects extension, character, challenges, mobility, and so on with society, culture, as well as the change of time.

Going with Nature (Not against it)

Vegetations with different concept are planted naturally in the contemporary times for it to takes firm root until those vegetations are expanded by themselves. The space itself will connects the idea of heterotopia and utopia and developing ideas on the urban.

Form

Gardens are related to the aesthetic bound to science where it would related to the change in scale as well the surprise from the growth. In gardening, it is important to look back from the previous experiences and continue on readapt on the most recent concerns of planning that is sensitive to the landscape.

"To do as much as possible with, and as little as possible against the energy involved in a particular place."

Gilles Clément

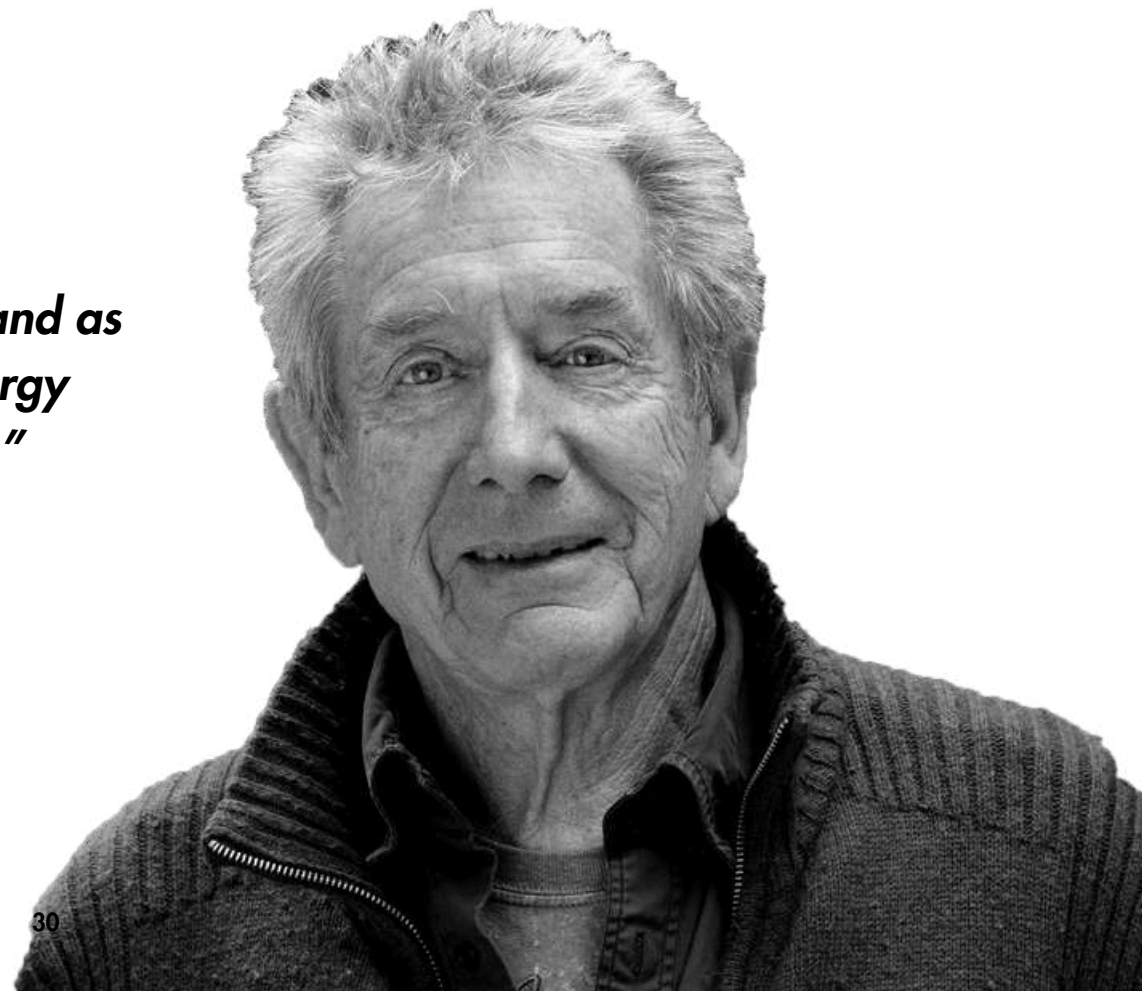


Fig 2.2 Gilles Clément
(source: www.larchitecturedaujourdhui.fr)

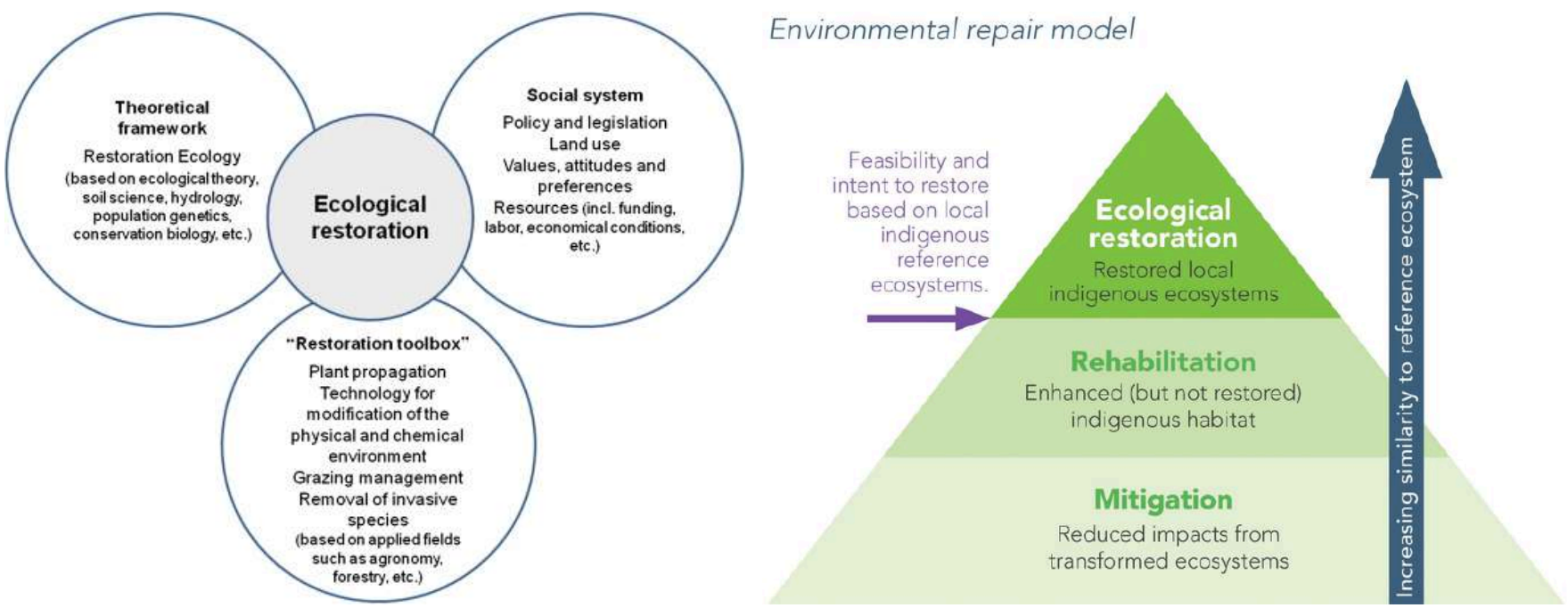


Fig 2.3 Ecological Restoration
(source: researchgate.net)

RESTORING *THE ABANDONED*

According to IUCN, Ecological restoration is the effort on guiding the recovery process of the environment who have been damaged or destroyed. Some principles that are being incorporated of a good ecological restoration such as:

Ecosystems

- Incorporating biological and environmental spatial variation into the design
- Allows sufficient time for the process of environment self-generating
- Focusing on the causes rather than symptoms of degradation

Human systems

- Engaging all relevant sectors in the process of monitoring and implementation
- Considering all forms of historical and current information of the area
- Initializing the short-term benefit that will lead into a long-term benefit.

According to Maniraho, L., Frietsch, M., Sieber, S. *et al.*, it is beneficial on including the communities in the process of ecological restoration as the information collected based on context, scale, as well as different types of knowledge is needed in the 'recovering' process. It is assumed that if the participation level is low and not taken appropriately, the implementation might lead into a less successful one.



Fig 2.4 7 key drivers for social-ecological restoration (source: author)

Aquatic Habitat Restoration

restoring aquatic habitat (fishes and plants) that were decreasing due to previous hazardous mining waste






AQUATIC PLANTS FOR THE ***REVIVAL***

Taken from the example of similar lake condition, which is Tempe Lake in South Sulawesi where the water condition is brown-colored and not clear, several aquatic plants could be used to cover-yet-boost up the revival of the environment.

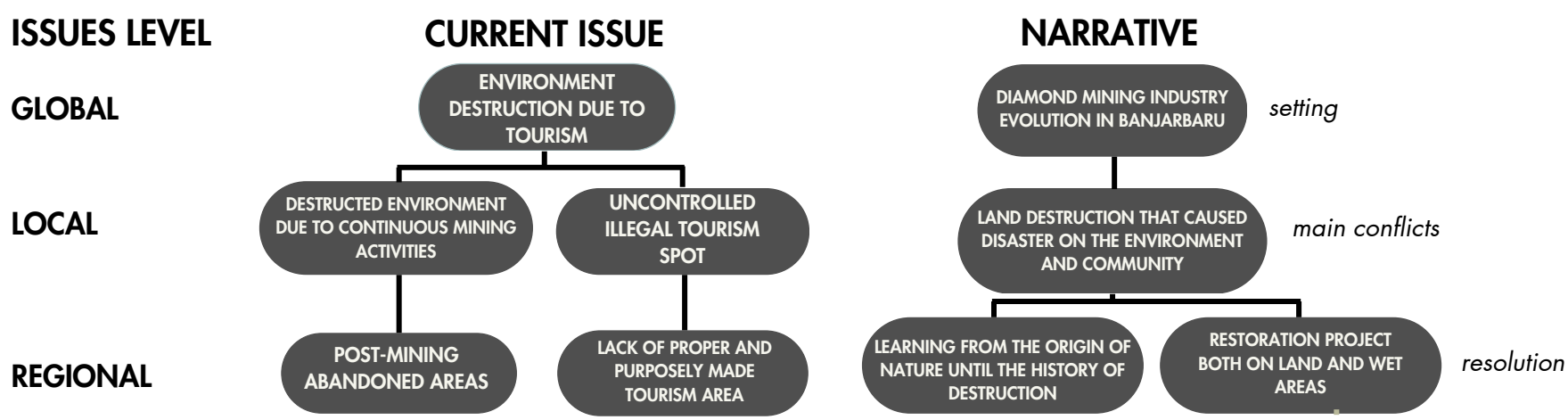
Similar with other freshwater (*air tawar*) typology, the vegetation that is often exist are Solms (*eceng gondok*), Kiambang, also Water Kale.

No	Nama Latin
1	Ludwigia hyssopifolia (G.Don)exell
2	*Eclipta prostrata (L.) L.*
3	*Breynia virgate* (Blume) Müll.Arg
4	*Paspalum sp*
5	*Opomea aquatica* Forssk
6	*Merremia gemelli* (Burm.f.) Halier f.
7	*Ipomea carnea Jacq*
8	*Persicaria barbata* (L.) H.Hara
9	*Ludwigia adscendens* (L). H. Hara
10	*Pistia stratiotes L*
11	*Mimosa invisa* Colla
12	*Gymnopetalum chinense* (Lour.) Merr
13	*Heliotropium indicum L.*
14	*Eichhornia crassipes* (Mart.) Solms



Fig 2.5 Aquatic plants examples (source: author)

ISSUES ANALYZING
CREATING NARRATIVE



NON-ARCHITECTURAL ISSUE	ARCHITECTURAL ISSUE	PROBLEM FORMULATION	GOAL
ENVIRONMENTAL DESTRUCTION	**LAND USE** Due to the continuous mining activities in the district, the areas that used to be filled with vegetations and green, has turned into some big and deep voids that ended up filled up by rainwater	How to restore the nature into its original state with the addition of human intervention in it?	• **RESTORING NATURE** • **PROVIDING ADEQUATE INFRASTRUCTURE IN THE TOURISM SPOT** • **EASY ACKNOWLEDGEMENT OF THE HISTORY BROUGHT IN THE NARRATIVE THROUGH ARCHITECTURE**
UNCONTROLLED MASS TOURISM	**INADEQUATE BUILDING AND INFRASTRUCTURES IN THE TOURISM SPOT** A lot of abandoned post-mining areas lead to the ideas of locals naming the area as a 'tourism spot', yet the infrastructure are lacking a lot even the most important such as toilets and proper foodcourts area. Which then leads to the inability to provide the price that visitors need to pay.	How to avoid mass tourism while providing a better development in the area namely tourism spot with the help of architecture?	

GENERAL PROBLEM FORMULATION

How to design a waterfront visitor center of diamond mining in Banjarbaru using narrative approach?

SPECIAL PROBLEM FORMULATION

- How to design a building that is strongly represent the image and story of diamond and its mining history?
- How can the areas of each program—interactive and display—be integrated and arranged so they remain compatible with one another?
- How to create a balance efforts between providing a tourism area while also restoring the surrounding ecosystem at the same time?

DESIGN GOALS

Designing a visitor center of diamond mining aims to promote and enlarge people's interest to the background of Banjar people tradition who deal a lot with mining activities as well as knowing the aftermath of the activities on the site which was abandoned due to the previous mining activities.

DESIGN BENEFITS

Using the narrative approach when designing a visitor center for diamond mining enhances both the experience of visitors and the environment. Not only the architecture will serves as an edu-tourism area regarding the history of mining precious natural resources in the area, by promoting the approach, it will also add the awareness and collaboration with the community on reviving an abandoned area from a certain activity.

DESIGN LIMITATION

This design is subject to various limitations, such as:

1. The approach used in the design will only limit to the scope of narrative
2. The design will respond to the problems by using the basis of architectural aspects
3. The focus of the design will be on designing a waterfront diamond mining visitor center in an abandoned area because of mining activities

OBJECT	THEORETICAL	ARCHITECTURAL ASPECT	CRITERIA	CRITERIA	CONCEPT
Designing a diamond mining visitor center with narrative approach	Diamond and Diamond MIning	Building Form	the mass of the building in a form that can serve as a diamond to forge a strong sense of identity for the object	How to design a building that is strongly represent the image and story of diamond and its mining history?	• Designing a building that holds a strong identity on representing the diamond and mining activities • Arranging areas in the building mass that is harmonious to each space programs • Enhancing on implementing the ecological restoration of the site surrounding
		Contextual Integration	The building should respond to the organic form on site location and history of the tradition of mining		
	Visitor Center	Zoning	Creating several different space that could provide different attraction inside the visitor center	How can the areas of each program—interactive and display—be integrated and arranged so they remain compatible with one another?	
		Space Program	The visitors allowed to experience different types of interactive attractions in order to enhance the knowledge on diamond and mining		
	Ecological Restoration	Environment	Enhancing a pilot project of landscape in the surrounding land area on the site by re-plant certain locally cultivated vegetations	How to create a balance efforts between providing a tourism area while also restoring the surrounding ecosystem at the same time?	

*EXCELLENCY, ORIGINALITY, AND **NOVELTY***

Title Description	Concept	Difference
Design of Ngeteh Visitor Centre with Eco-Architectural Approach in Nglinggo Village, Kulon Progo **(Hanifah Hestyas Khumaira, 2022)**	Responding to the lack of supporting facility on promoting local tea which have been developing with the continuous approach on maintaining the connection with environment ecosystem.	Similar building typology, different approach
Design Of Turtle Conservation Center In Goa Cemara, Sanden, Bantul With Ecological Approach **(Mode Jutta Dewi Haryono, 2022)**	Responding to the endangered turtle and its environment due to human's activities. The approach will be focusing on the preservation of nature surrounding for the wellbeing of turtle and human.	similar ecological approach, different building typology
Design of Family Natural Tourism in the District Argapura Majalengka Regency based on Wisdom Local Sunda Culture **(M Yoma Istifa, 2022)**	Responding to the lack of facilities provided targeted for family tourism, especially in natural tourism spots. The approach will be incorporated to the natural aspects of the site where it allows to empower local culture and wisdom of Sundanese culture.	similar target user, different typology, different approach

DESIGN METHOD

Design Study Stage:

In this stage, information and facts are gathered in accordance with the design problem's context. The informations are planned to be taken from research findings regarding diamond mining activities as well as the ecological restoration approach. Additional information will also be gathered from precedent studies on built architecture.

Design Variable Analysis Stage:

Data collection method for this project will use both qualitative and quantitative method during the stage. The qualitative research method carried out by direct observation, interviews, and surveys on the user target in Banjarbaru. The quantitative method will be focused on numeric data collection.

Design Concept Stage:

The stage will be carried out on the problem solving through architectural design concepts that will respond and use the data that could be found for further design analysis..

Design Synthesis Stage:

Design Synthesis Stage will continue the matured design concept on the execution on the design. This phase will later on determine the result of the design where it should met the standard and quality that has been determined in earlier phase.

***MATRIX** OF DESIGN THINKING*	PRACTICAL PROBLEM	RADICAL PROBLEM	SYMBOLIC PROBLEM	FORMAL PROBLEM
REGULATIONS REGULATION OF THE MINISTER OF PUBLIC WORKS AND PUBLIC HOUSING OF THE REPUBLIC OF INDONESIA NUMBER 28 OF 2015 BANJARBARU CITY REGIONAL REGULATION NUMBER 3 OF 2019	**BANJARBARU CITY REGIONAL REGULATION NUMBER 3 OF 2019** Regional Tourism Development Master Plan Year 2019-2034 *Chapter III Second Part Verse 20:* • ***Developing the tourist attraction of Pumpung Diamond Mining and Tree House as an education-based ecotourism*** • *Establishing tourism environments, both natural and cultural, that reflect the values of responsible and creative journeys.* *Chapter III Second Part Verse 22:* *Development of accessibility and integrated environment-based transportation that connects Tourism areas and Tourism destinations as referred to in Article 15 letter d by **initiating pavement areas** on natural tourism area including Danau Seran, Caramin, **Galuh**, Biru, Kehati Park, Lentera Hills, and **Pumpung Diamond Mining***	**BANJARBARU CITY REGIONAL REGULATION NUMBER 3 OF 2019** Regional Tourism Development Master Plan Year 2019-2034 *Chapter VI Fifth Part Verse 53:* *A tourism business management that adheres to sustainable tourism development principles is one way that the development of environmental responsibility can be achieved by doing:* • *Promoting the expansion of the green economy along the chain of tourism businesses* • *Develop tourism business management that cares about environmental and cultural preservation.*	**BANJARBARU CITY REGIONAL REGULATION NUMBER 3 OF 2019** Regional Tourism Development Master Plan Year 2019-2034 *Chapter I Verse 1:* *Ecotourism is a responsible, sustainable tourism in natural areas, focusing on environmental sustainability, providing economic benefits to local communities, and aligning with their socio-cultural values.* *Chapter III Second Part Verse 26:* • *Development of landscape objects that characterize the cultural identity of the Region* • *enhancing the players in the tourism industry's knowledge and comprehension of the traits, demands, and preferences to give visitors positive experiences and impressions; and* • *fostering collaboration in the application of marketing initiatives with creative communities, the arts, culture, history, science, and technology*	**REGULATION OF THE MINISTER OF PUBLIC WORKS AND PUBLIC HOUSING OF THE REPUBLIC OF INDONESIA NUMBER 28 OF 2015** Determination of River Boundary Lines and Lake Boundary Lines *Chapter II Third Part Verse 18:* *the lake boundary line mentioned in paragraph (1) is **at least fifty (50) meters away from the lake's edge**.* *Chapter II Fourth Part Verse 23:* *Only specific buildings and activities are permitted along lake borders, including those related to tourism.*
USERS Locals (*Pokdarwis*, communities) and Tourists	Ensuring that the existence of visitor center provides an upgrade in economical aspects and as public facilities for surrounding communities in order to minimizing the negative impacts that could arose by having planned management on the area	Empower the opinions of locals to create some decision making in the progress of developing the visitor center to compile different perspectives. Tourists needs and concerns also should be considerated in order to create a suitable tourism area.	Promoting awareness on the previous diamond mining history as a way to not only promote cultural heritage but understanding what could be the result from the activities	Carry on the programs based on the regulations and permits that is given so that every development met the standard and the tradition value in the area without violating any.
CLIENTS *Dinas Pekerjaan Umum dan Penataan Ruang* of Banjarbaru dan *Dinas Pariwisata Banjarbaru*	Securing the budget allocation regarding the construction as well as providing needed facilities that met the standard and requirements	Ensuring the long term legacy of diamond mining to the visitors with the point of view of the possibility of the continous actions in mining that could leave a good and bad impact on the area	Displaying the symbolic of governments' interference and collaboration in the effort of managing the activities of diamond mining while enhancing the traditions for generations through the architecture	Certify the regulations and permits in terms of tourism activities as well as cultural preservation and sustainable environment restoration and development
DESIGNER Architect	• Ensure the safety issues on the building by choosing the right construction method • Establishing the most effective way on brings out the needed 'tourism area' based on the programs, materials, constructions, as well as historical legacy that it brought	• Preventing the additional environmental degradation from diamond mining which could be caused by tourism activities • Ensuring the participations from every parties included in terms of designing for preventing misunderstanding	Brings out the narrative of diamond's original identity and its relation to Banjarbaru, as well as introducing the other side of mining effects on the land through architecture and the landscape surrounding	Integrating the architectural design to the referred regulations, site condition, and traditional values to create a harmonious environment

DESIGN PROBLEM AND PROBLEM SOLVING

chapter 3: study of location and context

"Tanah ditirak, tanah disungkal
Mancari galuh, galuh Cempaka
Baluman dapat hatiku sangkal
Si galuh langkar, galuh Cempaka"

Galuh Cempaka
Thamrin

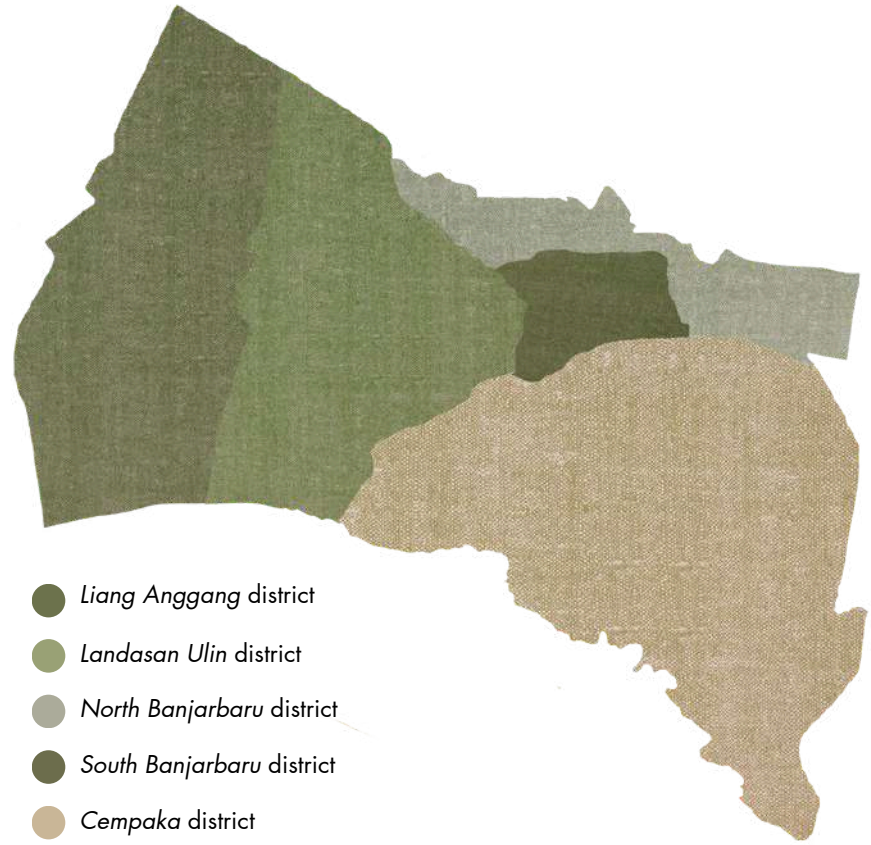
Site Location Study
Mining Aftermath: Galuh Cempaka Lake
Environmental Restoration Project
Theme Review: Historical Narrative
On Designing Theme Park
On Designing Visitor Center
Cultural Tourism: Mining Heritage Tourism
Precedent Studies



SITE ***LOCATION***

Macro Site *Analysis*

Banjarbaru city is a young administrative city started from 1999. The current Banjarbaru region was once a hilly area on the outskirts of Martapura City known as '*Gunung Apam*' which was used as a resting area of diamond miners in Cempaka district. The area of Banjarbaru city is considered as lowlands as it is located at an altitude of 0-500 m above sea level.



Messo Site *Analysis*

The Cempaka district is one of the five district located in Banjarbaru city. Cempaka district are well known for its activities that are mainly focused on mining, trading, farming, tourism, as well as settlement. Thus, create this district to be well known as the second-city center of Banjarbaru. Although known with its active mining activities, the soil condition of Cempaka district is based on Yellow Red Podzolic land which have a low fertility condition and an erosion-sensitive land.



Fig 3.1 Map of Banjarbaru city and Cempaka district (source: author)



Fig 3.2 Map of abandoned lakes (Modern mining) in Cempaka district (source: author)

During the era of diamond mining is being enhanced in the mining scale by *PT. Galuh Cempaka* in Cempaka district, they resulted three big lakes that is not quite far from each other. Although in the past years these three lakes were abandoned, now the government, especially, tried to make them into a proper tourism area, except for *Caramin* lake.

Seran lake has been prioritized in the past several years regarding its enhancement progress, therefore, they also upgrade the access to reach the lake. Compared to *Galuh Cempaka* lake, the access of neighborhood road is not yet reach the lake as there are no construction. Instead, only wild vegetations and nearby mining activities. Even so, it is accessible for vehicles to go to this lake.





Fig 3.3 Analysis of surrounding area of Galuh Cempaka lake (source: author)

Mining areas located in Cempaka district are quite close to each other. For instance, the location of the traditional mining site located in *Kelurahan* Bangkal and the three lakes created by *PT. Galuh Cempaka* got the distance of 6.5 kilometers (taken from lake Galuh Cempaka).

Near to lake Galuh Cempaka, there is also an even wider ex-diamond mining area created by the company which could be easily access from the neighborhood road and is align with lake Galuh Cempaka.

Align to the lake of *Galuh Cempaka*, there is an ex-diamond mining area that took the size three times bigger than the lake itself. This area was also the are of *Caramin* lake. In front of the mining area, there is an office that was built by the company to supervise the activities of diamond mining itself.





Fig 3.4 Site area
(source: author)

Micro Site *Analysis*

The site located in the abandoned ex-diamond mining lake named *Galuh Cempaka* lake which was made due to the mining activities by *PT Galuh Cempaka*. The mining activity was finished in 2012 and left a void with the depth of ± 25 meters which then filled with water. The area of the lake itself is ± 300,000m² while the area that will be used for the visitor center will took 14,000m² on land areas and will also integrated to the lake.

- Being managed by the locals in the surrounding
- Only being used for 'tourism' area
- Available for any collaboration with government or private business

Facilities:

- Some food vendors
- No garbage can
- Toilet (not functioning)
- Some sitting area
- No praying area
- Good access although the road is not using pavement yet

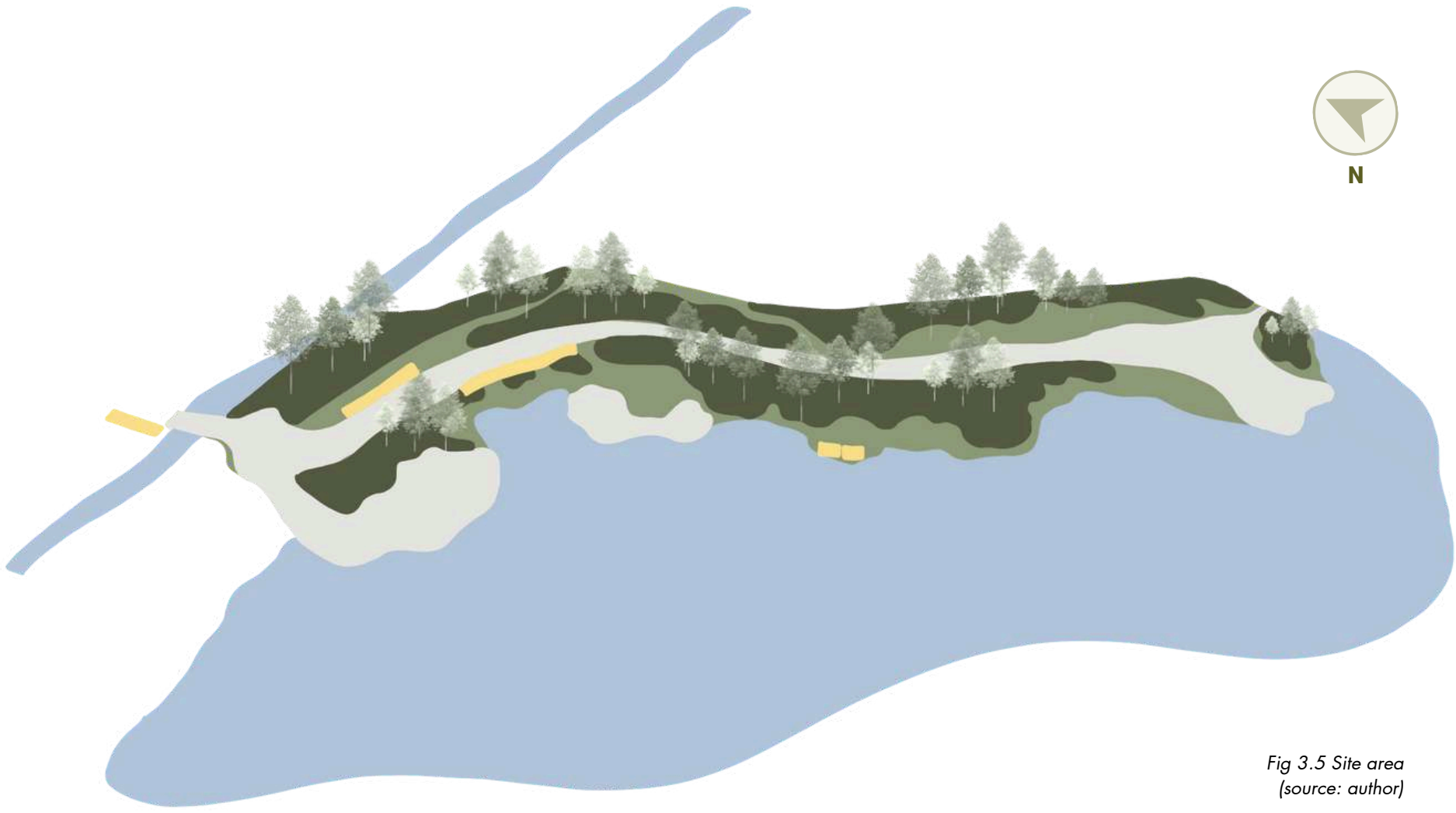
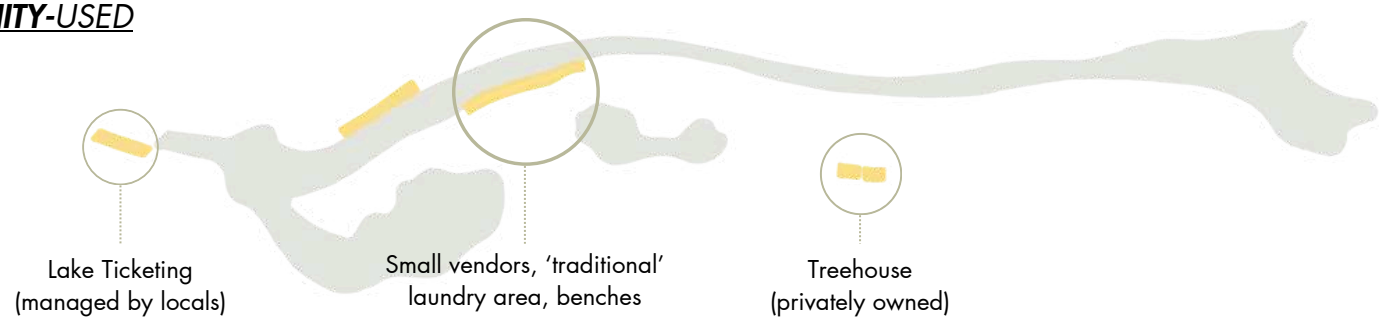


Fig 3.5 Site area (source: author)

***COMMUNITY**-USED*



***PATH** AND HABITAT*



WATER

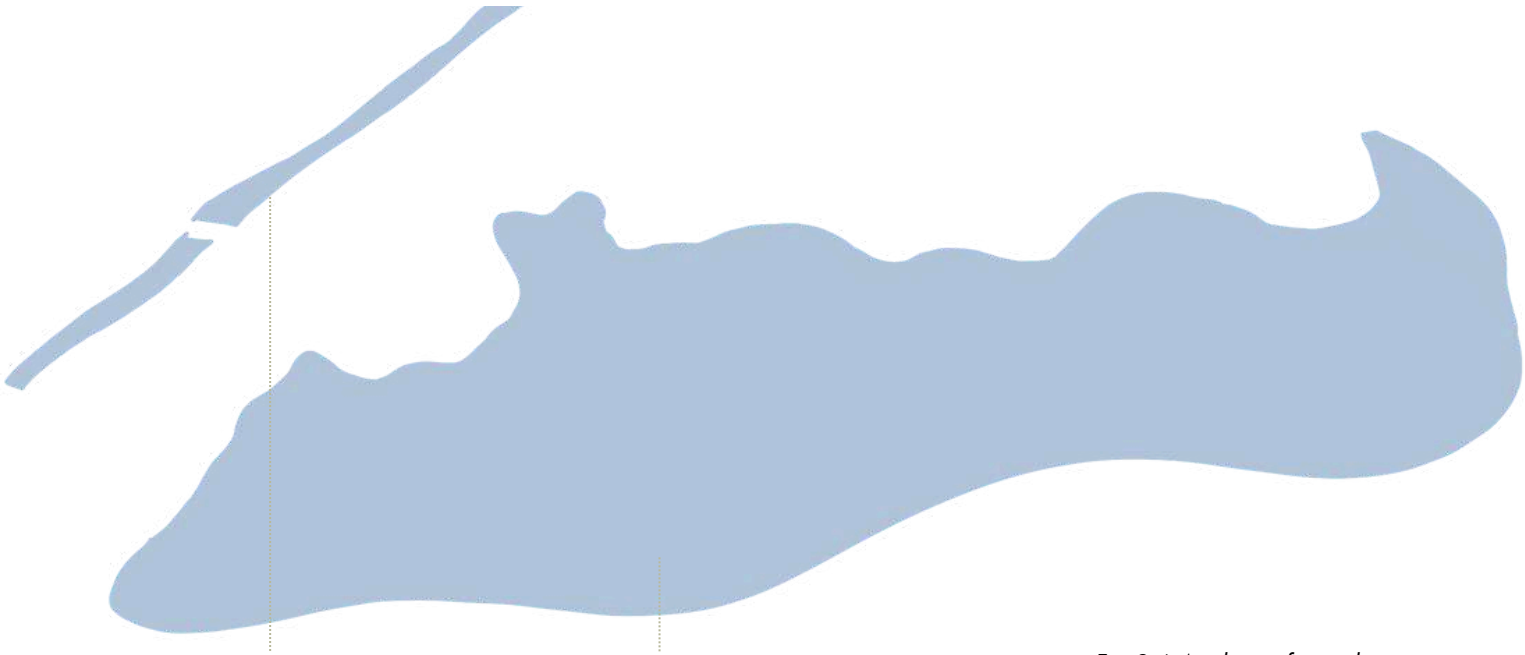


Fig 3.6 Analysis of social components in the site (source: author)



Entrance to the lake


Lake


Bridge (entrance)



'Ticketing Locket'


Toilet (not functioning)


Small Food Vendors


Access



Surrounding Vegetations



Garbage



Food Vendors



Lake

Fig 3.7 Current condition of site chosen (source: author)



Fig 3.8 Locals fishing activity in Galuh Cempaka lake (source: youtube.com, author)

MINING AFTERMATH:
GALUH CEMPAKA LAKE

Regardless of the material that is being mined in the area, there are several problems that is being addressed as the after-effects of mining itself.

As stated by Barokah (2022) in the research on the environmental problem analysis caused by diamond mining activities in Cempaka district, South Borneo, there are indeed damages happened due to this activities, one of which is related to the liquid waste on the water.

Especially in *Galuh Cempaka* lake, several years after the mining activities are finished and the void turns into a lake, the **liquid waste because of the mining activities are found in the water such as iron (Fe), mercury (Hg), and some other acid that affects the mortality level of fishes in the lake**. Therefore, in the past several years, the ecosystem surrounding the lake is experiencing quite impactful damage.

But, as time goes by, as the environment was started being managed by the surrounding local people, the condition does get better. **The recovery on the environment also happened in the quality of water where now it could be noted in a good and non-hazardous quality as a lot of fishes could live there**. Knowing about this condition, locals are starting to make use of this area for the fishing activities and took the fish back home.

Ternyata Danau bekas galian intan ini ternyata Nilanya Besar-besar

1.7K views 6mo ago ...more

Papah Radja 3.1K Subscribe





pertama kali mancing nila di danau galuh cempaka

rasyid fishing · 945 views · 3 years ago



MANCING DI DANAU GALUH CEMPAKA BANJARBARU

UKY CHANNEL · 370 views · 2 years ago

As time goes by, more and more locals are creating the content on having fun doing fishing activities in the lake



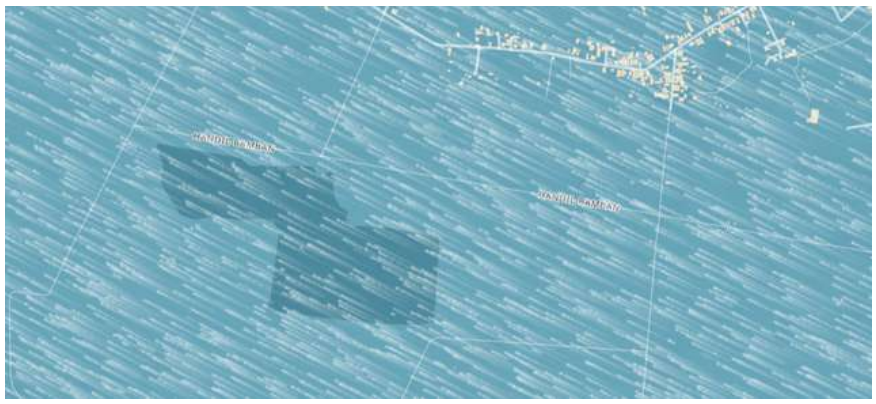
Maximum temperature in Cempaka district, Banjarbaru city could reach around 33°C while the minimum would be 25°C.



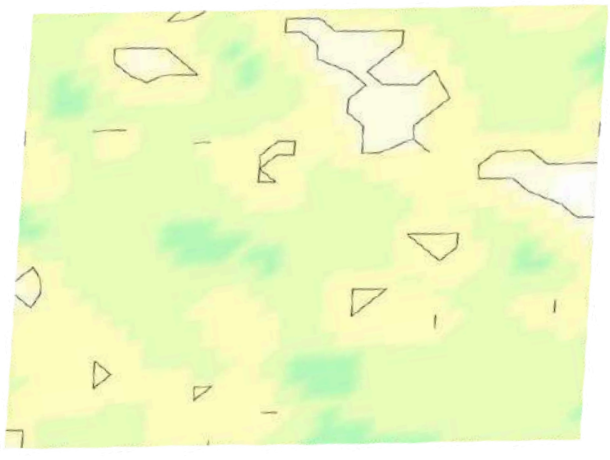
In Banjarbaru city, the air quality is good as shown in the map it reaches below the number of 25.



Especially in the area surrounding the site, the accumulated precipitation shows a really low number.



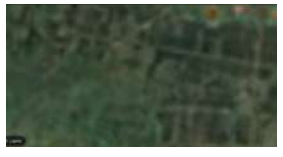
The wind direction are mostly moving from Southeast to Northwest.



The surrounding area of the site location has a low contour as this area was originally flat.



1985



1995



2005



2010



2020

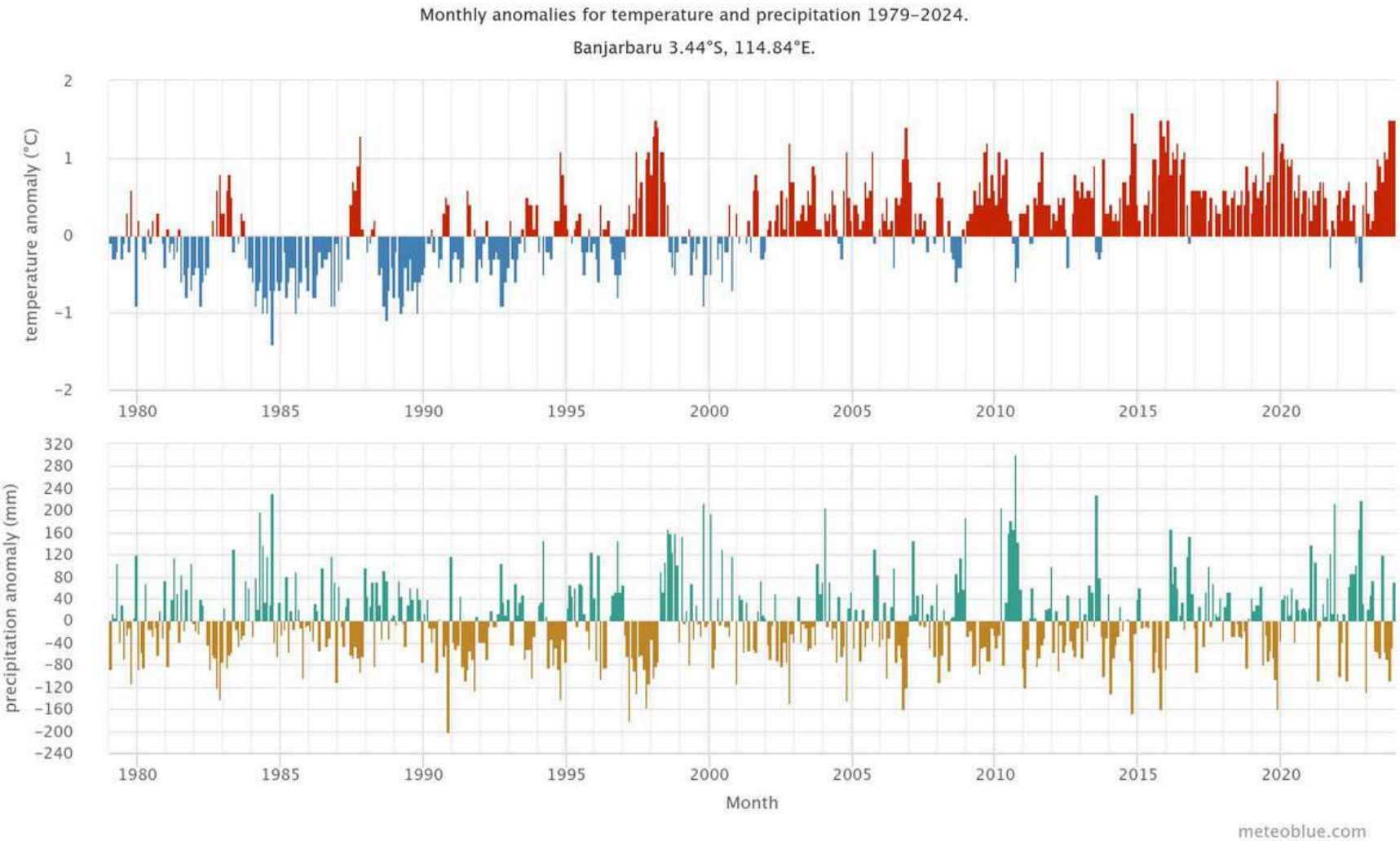


Fig 3.9 Weather analysis
(source: meteoblue.com)

PERDA BANJARBARU NO. 05 TAHUN 2001

- Building Base Coefficient (KDB) : 40-70%, except for sports and *Ruang Terbuka Hijau* (RTH) 15%
- *Angka Ruang Terbuka* : 20-60%

THE RESTORATION *PROJECT*

Landscape Restoration

resolving the unmanaged landscape











Shoreline Revegetation

preventing land erosion due to previous mining activities

make use of native plants that is suitable with the site condition







some examples on locally cultivated trees that are able to be placed in peat land (*tanah gambut*) where the land contains a high acidity level such as Ramin tree, Jelutung tree, and Bungur tree.

HISTORICAL *NARRATIVE*

Theme Review

Historical Narrative

Referring to Neighbors (1991), it is said that in a historical narrative, a historian shows the impression of what happened in the reality in the process of achieving the coherence to it. This process aims so that the audience or reader could sense the feeling of relevancy on the events that was included in the plot.

Polkinghorne, in Neighbors (1991) also stated that this narrative composed of two different referents which are the events of the story (first order) and plot (second order). Events of the story comes first in creating narratives as it would deliver the type of the story, whether it is an epic, tragedy, comedy, romance, and so on. If the first order has been fulfilled, then the second one could follow what should be complemented in the story.

Historical Fiction

A fiction is an imaginary literature that comes with narrative where it usually describes events and people. A historical fiction took the plot that takes place in past eras setting which inspired by the history itself. In fiction it takes us to see how the 'characters' growing, changing, and developing the whole situation which then leads to insight that could be witnessed by the audience.

There are four important features of historical fiction such as:

- Accurate historical settings
- Creative plot with historical themes
- Diverse characters that suits the chosen time
- Historically accurate dialogue and speech patterns

In designing an architecture, there are several Key Aspects that should be included such as:



Contextual References



Symbolism



Material Choices

MINING ***ARCHIVE***: CEMPAKA

- START: around the 9th century (800M)
- 1950: although Banjarbaru hasn't formed as a city yet, in the Cempaka district, there are already lots of civilization because of the activities of diamond mining that starts to rise up (especially in Pumpung Village)
- 1965: The glory of Cempaka district where the Trisakti diamond, which was the first biggest diamond that could be found, brought the name of Indonesia to international society. The famous discovery of Indonesian diamond.
- 1985: PT. Aneka Tambang (BUMN) conducted surveys and began serious mining activities in Cempaka
- 2004-2009: The activity of PT. Galuh Cempaka which specializes in diamond mining.
- 2009-2017: PT. Galuh Cempaka stand by, 2010 condition got worse due to the downfall of diamond's price in the market > resulting in the firing of the company's employees
- 2010: The discovery of Intan Putri Malu, weighed greater than Intan Trisakti yet it is less famous than the first discovery
- 2015: The rarity of diamonds is increasing, harder to get especially when the mining is done traditionally. The miners starts to change the object of the mining into 'Batu Akik' which was also trending in Indonesia at that time. On the other hand, although it gets harder to find the diamond, the miners are not giving up and try to find new prospective location to mine.
- 2019: Natural disaster often happens on mining sites where landslides and floods are happening due to the unstable land conditions. Some miners have died because they were buried 13-16 meters below. This happened in several series of event.
- 2020: The mining tourism site and industry are being affected by the pandemic to the point that the miners are losing their job and getting the help from government to change their job to poultry farmers (peternak unggas) to continue on living.
- 2021: To preserve this tradition of diamond mining, the mining sites located in Cempaka are being included to become a part of Meratus Geopark project that will be introduced to UNESCO.
- 2023: The mining sites are being enhanced into tourism area that invites both not only locals but also international tourists
- 2024: the Cempaka area still has the potential for mining both traditionally and on a large scale because diamonds can still be found in the area. But it is undeniable that people starts to do another mining activities which mainly focus on gold mining in other provinces in Kalimantan.





DIAMOND MINING HISTORY

in Cempaka District

The Alteration Phase

In Cempaka district, especially in Pumpung village, some changes of events happened. Starting from the enhancement of tourism as well as mining activities, into something related to the downfall of Banjarbaru's history of diamond mining.

Starting from the natural disaster that leads to the cause of death, the responibilities that are being taken by a bigger company, the decreasing of diamonds and so on. These events of course being heard by the government back then, but it didn't last long and caused the area to be closed. The government decided to find another job for the miners such as farming.

Yet, the bond of Diamond miners of Banjarbaru could not be cut as easy as that. Referring to the words of the miners who never called the diamond with *intan*, they choose to call it with "Galuh", which in Banjarese language it means the pretty daughter. Thus, based on further consideration of the people and government, the final decision is including diamond mining area in geopark preservation and development.





MINING:
THE GOOD AND THE BAD

Where the result of mining is giving such a great benefit for the people, it couldn't be denied that mining left a bad impact on the locations as most likely after the activities are done, what is left is the big and deep hole on the land where it leads into creating some abandoned areas. The result that was often being made after a mining activities are lakes.

Taken from the example of the result of PT. Galuh Cempaka, there has been three different big lakes after the mining activites were done, while between those three, as it is being abandoned, the people try to change one of it into a tourism attraction by putting on some activities. This lake is known as 'Danau Seran'.

Unfortunately, as the people also barely have enough knowledge on creating a tourism area, some accidents for people drowning and the decreasing of visitors number were happened, which to respond that, the facilitator have to add some new attractions to attract visitors again.

On the other hand, another abandoned lake, 'Danau Galuh Cempaka' is starting to be developed just as 'Danau Seran' did. Yet the discomfort happened as the area who is being claimed as tourism area did not provide any of the facilities that should be provided based on tourism standard. Which in the end, it leaves a bad review on the people who visits.

*ON DESIGNING **THEME PARK***

Theme Park, based on its name should contain distinct theme that is directed purposely to the area. Taken from Wabash Valley (2022) some of the typical themes that are usually being used are:

- **Adventure**: thrill rides and actions
- **Nature**: natural world, animals, science and conservation
- **Fantasy**: Myths, legends, fictional lands, heroes and villains
- **Historical**: Period-based, reenactments, costumed, day-in-the-life and educational
- **Film**: based on movies, the art of movie-making and celebrity

Theme Park Attraction Layout Designs

A. Build a Safety Bubble

Thinking about the safety of visitors while enjoying the rides

B. Tell a Linear Story

As an example of a coaster ride, on telling the beginning, middle, and end, the ride usually started with a slow pace and letting the passengers to enjoy the scenery. Continue on the middle usually became quick and action-packed as a way to tell the peak of the moments, then the story became concluded by the end of the ride.

C. Avoid Dead Space

To keep the interest and attention of the guest, dead space should be avoided as it could disrupt their focus. If dead space could not be avoided, it will be useful for adding some additional elements that are related to the theme. The main goal is to keep the focus of the visitor to still be on track based on the journey that needs to be delivered.

*ON DESIGNING **VISITOR CENTER***

Cristea (2016) note that in designing visitor experiences, it is important to allow visitors on interacting on the exhibits while at the same time arranging the orientation and space navigation nicely on the surroundings that will lead to the depth of interaction level of the visitor. Therefore, the story portrayed inside should be carefully selected.

Narrative Arc and Experience Objectives

Underlying story would affects the visitor experience, although it may vary based on the exhibition projects, Cristea highlighted five good starting point such as "**Entertaining, Memorable, Communicative, Social, and Empowering**".

- **Entertain**: captivating visitors to provide maximum experience on the objectives
- **Memorable**: as a reason to re-visit the visitor center and engage wider communities
- **Communicate**: deliver messages based on the designated content
- **Social**: sharing the experiences with people to achieve greater interests
- **Empower**: able to educate visitors that made them aware on the issues

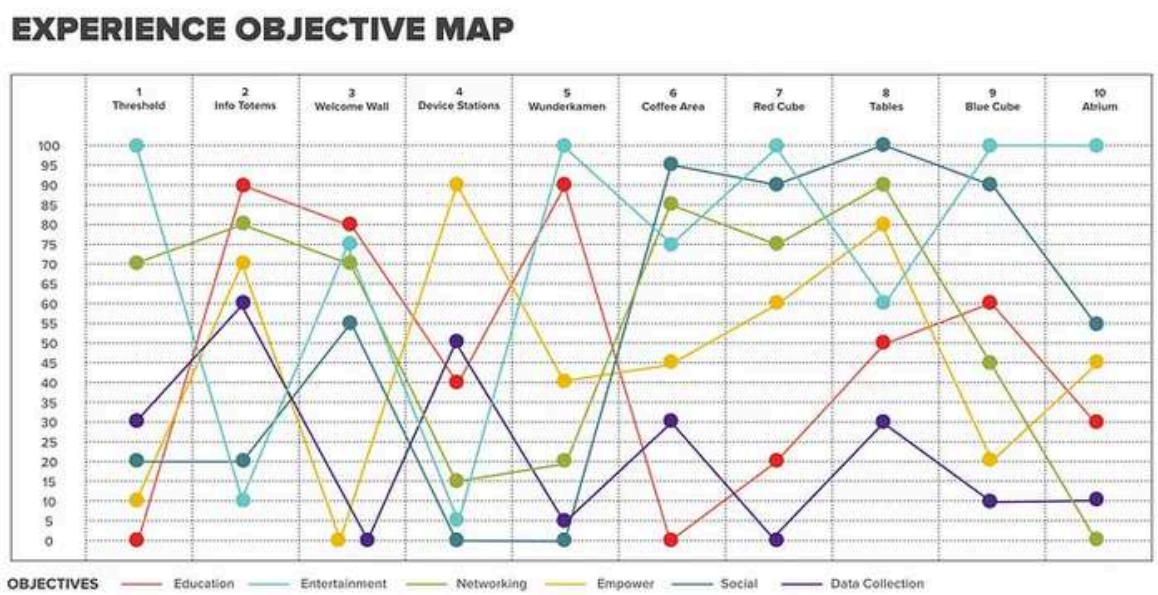


Fig 3.10 Experience Objective Map
(source: https://medium.com/@allofustweet/designing-visitor-experiences-521a009d381c)

Physical Context (Architecture and Environmental)

To adjust on the story, it is necessary to provide coherent experience which relate to the ambience and architectural structures such as natural sightlines, architectural canvases, pinch points or quiet areas. Some considerations that are beneficial to be added are ambient light levels as well as background noise, it is also good to provide a neutral transition spaces in order to clean the sensory palettes before experiencing the next experience.

Flow and Dwell

In designing the space, estimated the flow and dwell on the visitors are hugely useful in order to know where they will pause to experience the objectives and resting, then knowing how to catch their attention so that they continue moving to experience the next exhibits, this step usually done by providing visual landmarks to navigate them. The flow also beneficial for calculating the path that will be most convenient to access in terms of emergency reasons.

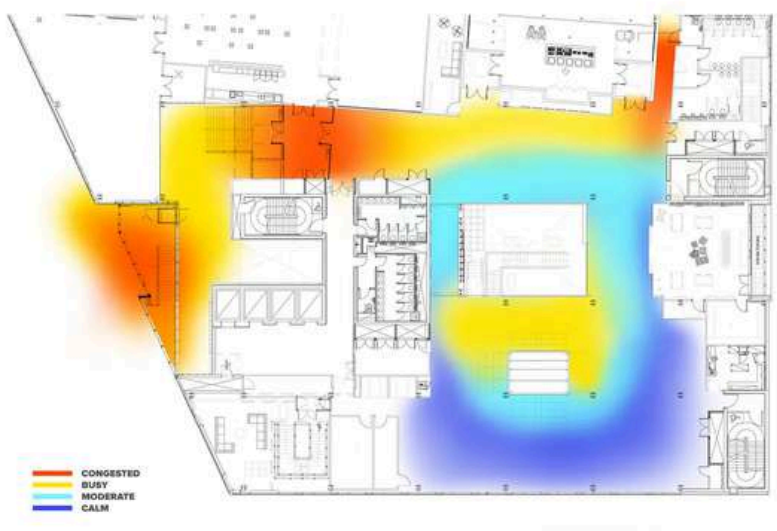


Fig 3.11 Visitor's Flow Map
(source: https://medium.com/@allofustweet/designing-visitor-experiences-521a009d381c)

Sightlines and Interpretation Levels

A. Attracting people from a distance

The goal is to design visually arresting, Instagram-worthy landmarks that are visible from a distance and that start to tell the narrative that the exhibit is supposed to convey.

B. Engaging people to pause

The interactive's ability to naturally convey to visitors how it is intended to be used and interacted with is a key goal at this distance. This can be achieved by making sure that sightlines allow users to clearly see how other people are using it, as well as by communicating the affordances of use through the physical form and layout.

C. Interacting in Layers

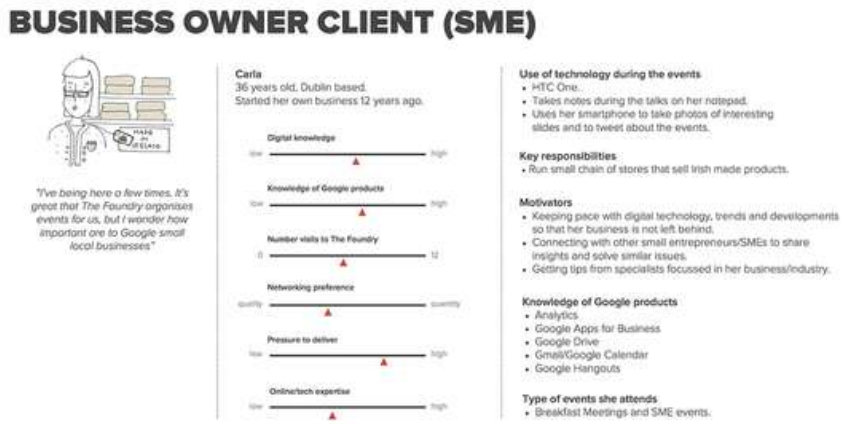
It is easy to turn off visitors from interacting. People frequently worry about breaking something that looks complicated or looking foolish when they can't use it. The challenging task is to then gradually add startling new levels of response, control, and interaction. They serve as motivation for further interaction and investigation as well as a point of entry into an even more effective and expressive type of interactive content engagement.

These layers offer an extremely useful tool for giving visitors control over the story and the depth and pace of their learning. They are also ideal for delivering interpretation content, offering high level facts at first, and then gradually revealing more depth as visitors continue to interact and show interest in the subject.

Engagement Principles

As the main focus of engagement is the visitor, it is important to consider different types of visitors that will come to the building. The consideration of the necessity learning styles such as visual, auditory, and kinesthetic will be vary based on the person. The principle of engagement would be divided into two which are users and the exhibits itself.

A. Visitor Profile Identification



An example of visitor profile identification
Source: https://medium.com/@allofustweet/designing-visitor-experiences-521a009d381c

B. Experiences profiles

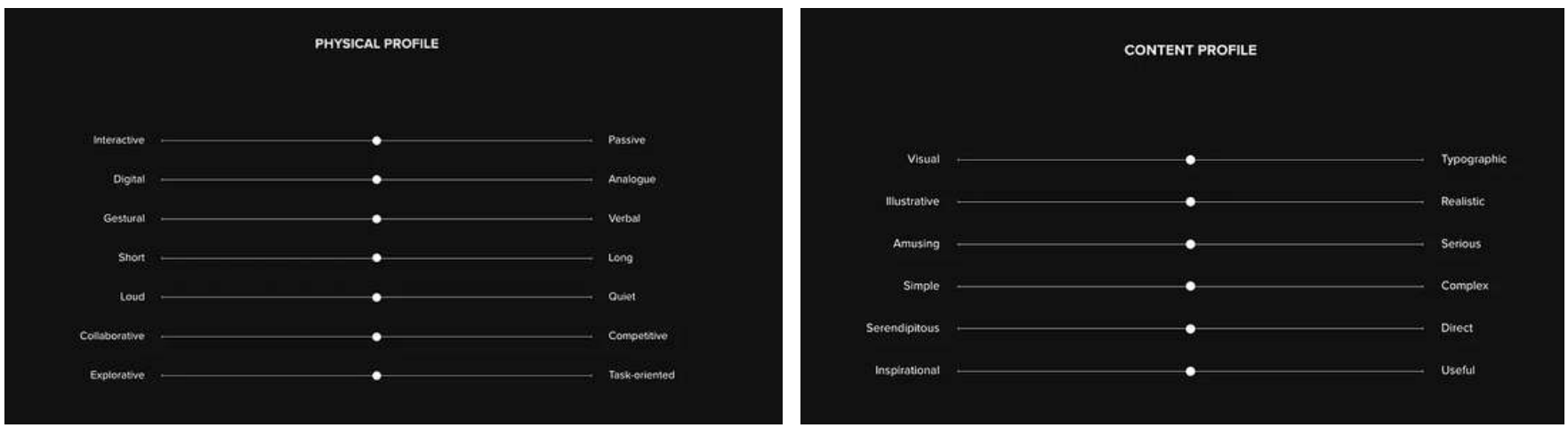


Fig 3.12 Examples of experiences profile (physical and content)
(source: https://medium.com/@allofustweet/designing-visitor-experiences-521a009d381c)



MINING HERITAGE TOURISM

Taken from Jelen (2018) on 'Mining Heritage and Mining Tourism' stated that in some part of the society there has been a trend of the change from mass tourism into individual or cultural experiences. These activity mainly focused on historical background that relates to traditions, way of life, or even cultural heritage where it allows the visitor to understand the values and its impact on the society.

On presenting the tourism of mining heritage, the narrator interprets the background study on the values and features of the heritage, specifically on how and what are the important things that present and future communities needs to understand regarding the conservation (Timothy & Boyd, 2003 as cited in Jelen, 2018).

To be presented to the public, mining tourism site usually have different ways on showcasing the mining heritage on the area. Some are presented by exhibition in a specified mining museums, accessible pit, showcase of the technology upgrade in each era of mining. These presentation should also be thought carefully as the visitors are expecting the relevance on what happened in the original events as a way to deliver the word 'heritage'.









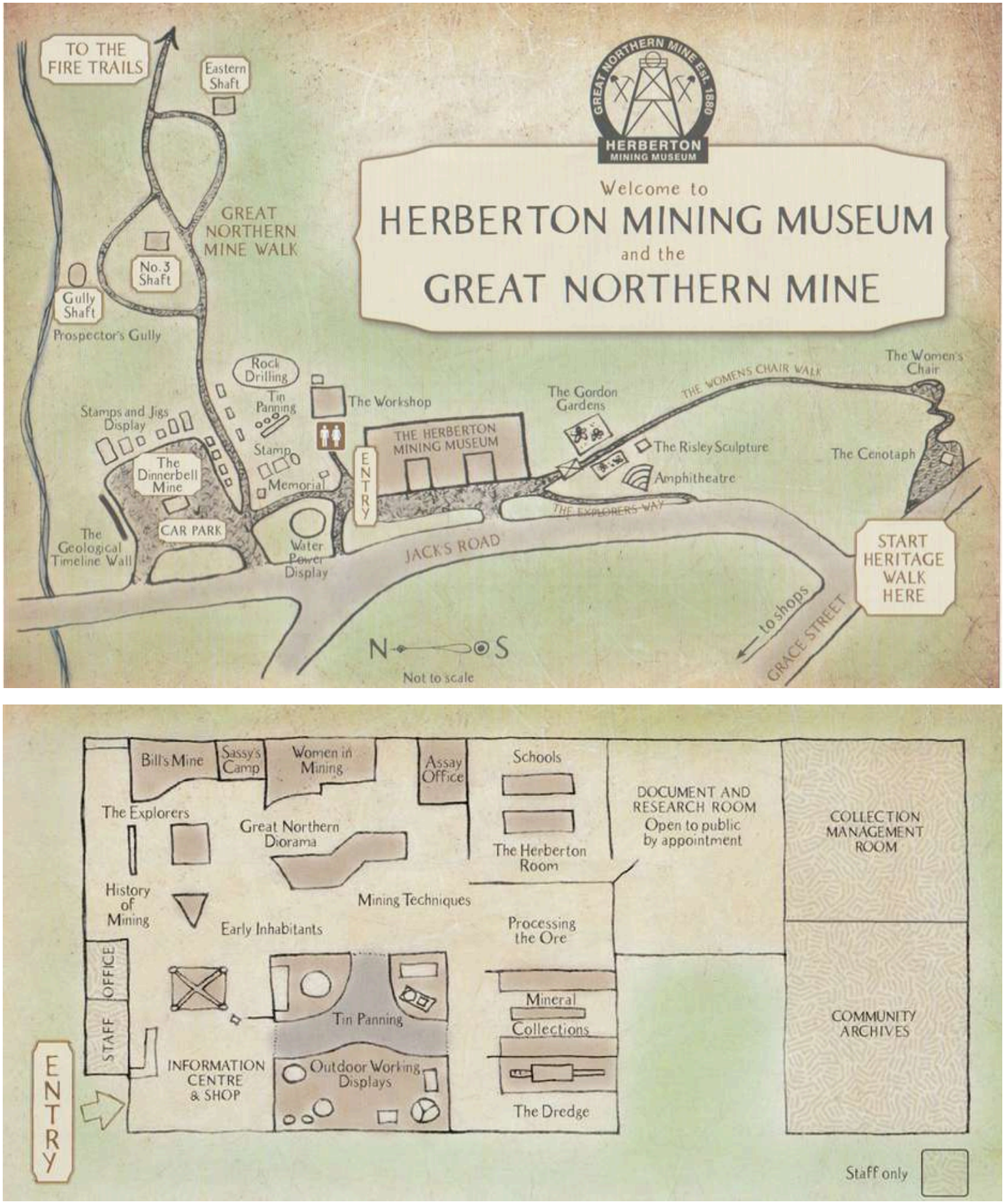
Fig 3.13 Herberton Mining Centre
(source: herbertonminingmuseum.com)

Precedent on Spatial Programming

HERBERTON MINING CENTRE / Australia

Herberton museum focus on providing the interactive displays both indoor and outdoor that can be used, especially for the children. Indoor area mostly showcasing on the collection of tin that is separated into seven themed rooms.

Especially outdoor area, it was made into interactive attractions such as pan for tin, pump your own water and use a hand drill to make holes.


TO THE FIRE TRAILS
Eastern Shaft
GREAT NORTHERN MINE WALK
No. 3 Shaft
Gully Shaft
Prospector's Gully
GREAT NORTHERN MINE Est. 1880
HERBERTON MINING MUSEUM
Welcome to
HERBERTON MINING MUSEUM
and the
GREAT NORTHERN MINE
Rock Drilling
Tin Panning
The Workshop
Stamps and Jigs Display
Stamp
Memorial
The Dinnerbell Mine
CAR PARK
The Geological Timeline Wall
Water Power Display
ENTRY
THE HERBERTON MINING MUSEUM
The Gordon Gardens
THE WOMENS CHAIR WALK
The Women's Chair
The Risley Sculpture
Amphitheatre
The Cenotaph
THE EXPLORERS WAY
JACK'S ROAD
START HERITAGE WALK HERE
to shops
GRACE STREET
N
S
Not to scale
Bill's Mine
Sassy's Camp
Women in Mining
Assay Office
Schools
DOCUMENT AND RESEARCH ROOM
Open to public by appointment
COLLECTION MANAGEMENT ROOM
The Explorers
Great Northern Diorama
The Herberton Room
History of Mining
Early Inhabitants
Mining Techniques
Processing the Ore
OFFICE
STAFF
Tin Panning
Mineral Collections
COMMUNITY ARCHIVES
ENTRY
INFORMATION CENTRE & SHOP
Outdoor Working Displays
The Dredge
Staff only

Precedent on Spatial Programming

TEAMLAB
PLANETS: TOKYO / Japan

"TeamLab Planets is a museum where you walk through water, and a garden where you become one with the flowers. It comprises 4 large-scale artwork spaces and 2 gardens created by art collective teamLab.

People go barefoot and immerse their entire bodies in the vast artworks together with others. The artworks change under the presence of people, blurring the perception of boundaries between the self and the works. Other people also create change in the artworks, blurring the boundaries between themselves and the works, and creating a continuity between the self, the art, and others."

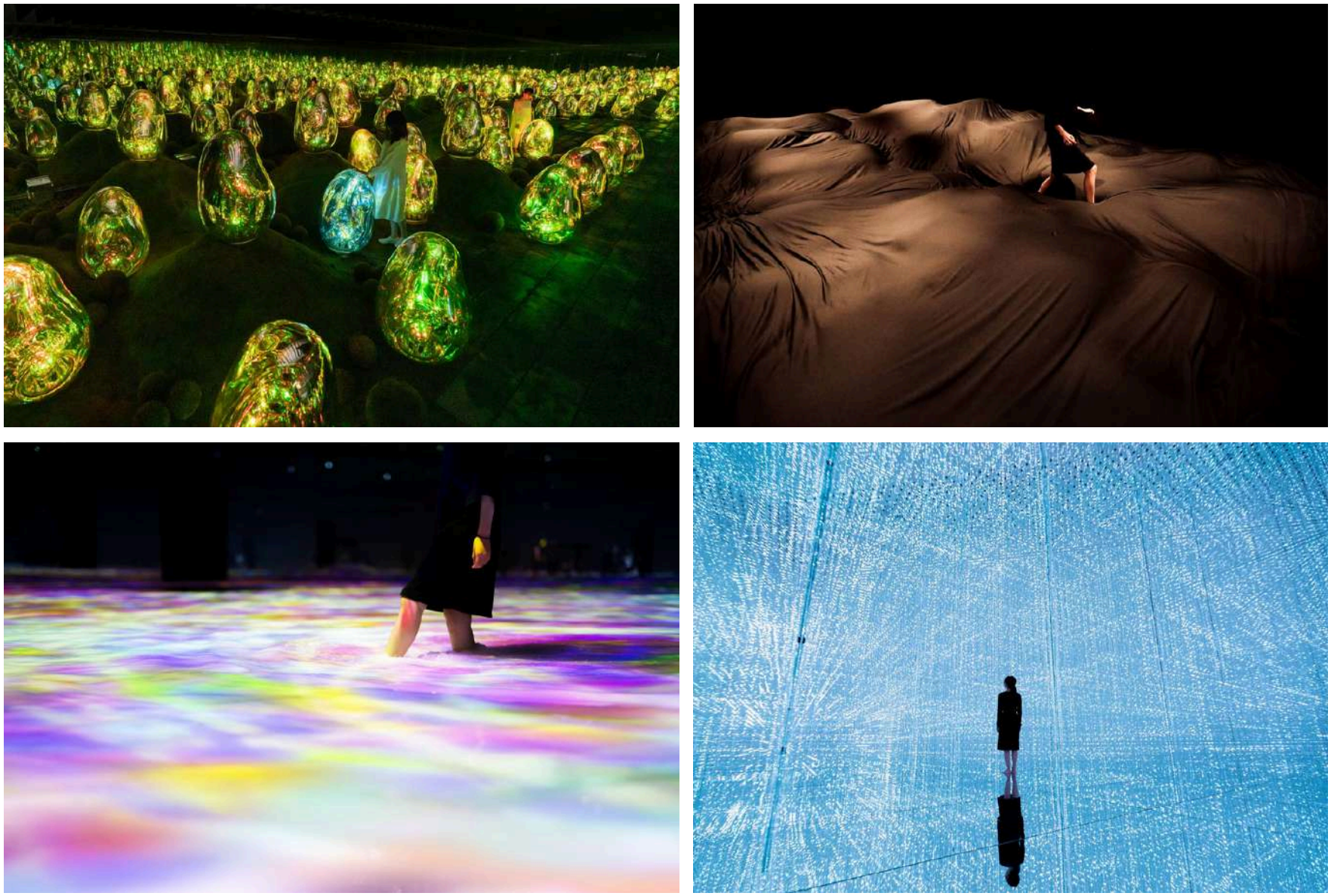


Fig 3.14 Teamlab Planets: Tokyo
(source: www.teamlab.art)

***LESSON** LEARNT:*
SPACE PROGRAMS

Building

Underground Chamber

On-Ground Museum and Equipment Displays

On-Ground Practices

Activities

Underground Chamber

- Diorama of mining activities
- Showcasing original materials
- Experiencing the senses regarding being in the inside of an underground space

On-Ground Museum and Equipment Displays

- Displays on historical timeline, events, and preserved equipment (mostly shows about theoretical things)
- Entrance and Exit
- Mainly for commercial purpose (souvenir shops)

On-Ground Practices

- Additional interactive attraction (digging the materials, exploring nature in the surrounding)
- Face to face interaction with the professionals (guides)



Fig 3.15 FILSØ VISITOR'S CENTER (source: archdaily.com)

Precedent on Narrative

FILSØ VISITOR'S CENTER / Schønherr

Located in one of Denmark's largest lakes, where between 1852 and 1951 was drained for the purposes of agricultural for the impoverished coastal area. This place also established as a part of the campaign "Places in the Landscape".

The ellipse-shaped bridge that was built in this visitor center not only used for unfolding the large horizon to maximize the experience at Filsø with its spacious landscape. Visitors are able to get very close to the water's surface and its nature.

The creation of this visitor center not only brought tons of visitors but also, at the same time, successfully enhancing the nature restoration with the registration of 242 birds species, 14 fish species, as well as 62 aquatic plants species.





Precedent on Narrative

AD CLASSICS: JEWISH MUSEUM / Studio Libeskind

The Jewish Museum Berlin tells a compelling story of Jewish history and culture in Germany. Designed by architect Daniel Libeskind, the museum's striking architecture reflects the fractured past, using zigzagging lines and voids to symbolize loss and resilience. Within, the core exhibition 'Jewish Life in Germany: Past and Present' spans three millennia, tracing the diverse tapestry of Jewish experiences, traditions, and struggles. From medieval eras to the Holocaust and beyond, the museum invites visitors to connect with narratives of identity, memory, and survival.

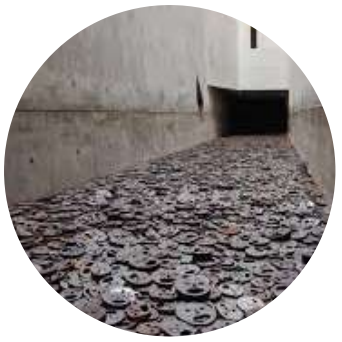




Fig 3.16 Jewish Museum Berlin (source: archdaily.com)





Competition Precedent

THE ICEBERGS AND THE SEA / OPEN architecture

The design of OPEN Architecture's Shenzhen Maritime Museum is influenced by natural formations. Six glass "iceberg" volumes are shown in the proposal, rising from Shenzhen, China's subtropical waters.

These icebergs highlight global warming and the need to protect marine environments while acting as a lighthearted but serious reminder of melting icebergs. As it establishes itself as a significant cultural landmark in Shenzhen, the museum hopes to increase awareness. By adding a mangrove wetland as a buffer against the sea, the design incorporates coastal ecology. Typhoon damage and heat load are reduced by an inland sea pond. The main exhibition space is flexible, and public programs are housed in volumes shaped like glass icebergs.

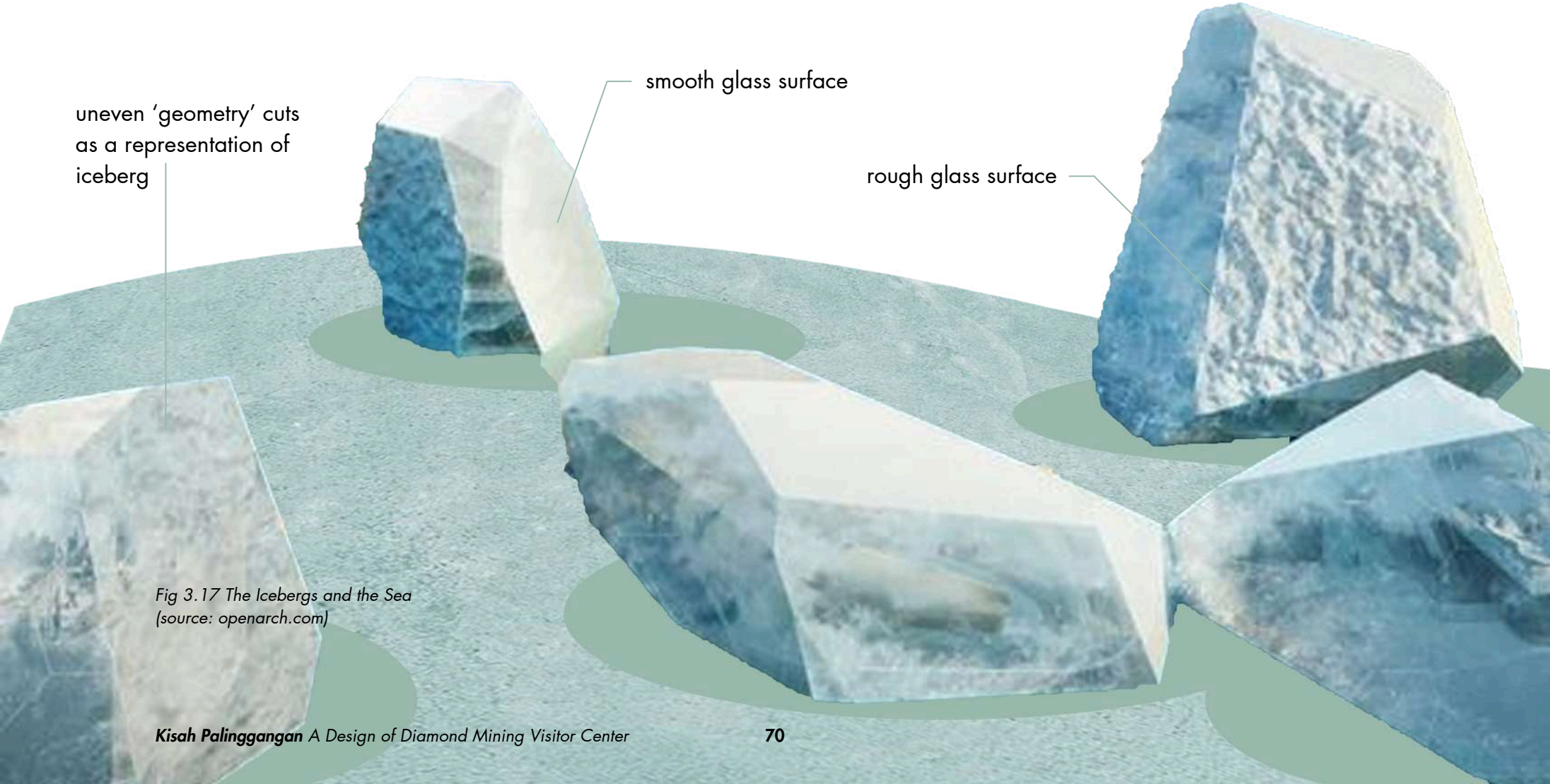


Fig 3.17 The Icebergs and the Sea (source: openarch.com)

LESSON *LEARNT: WATERFRONT BUILDING*

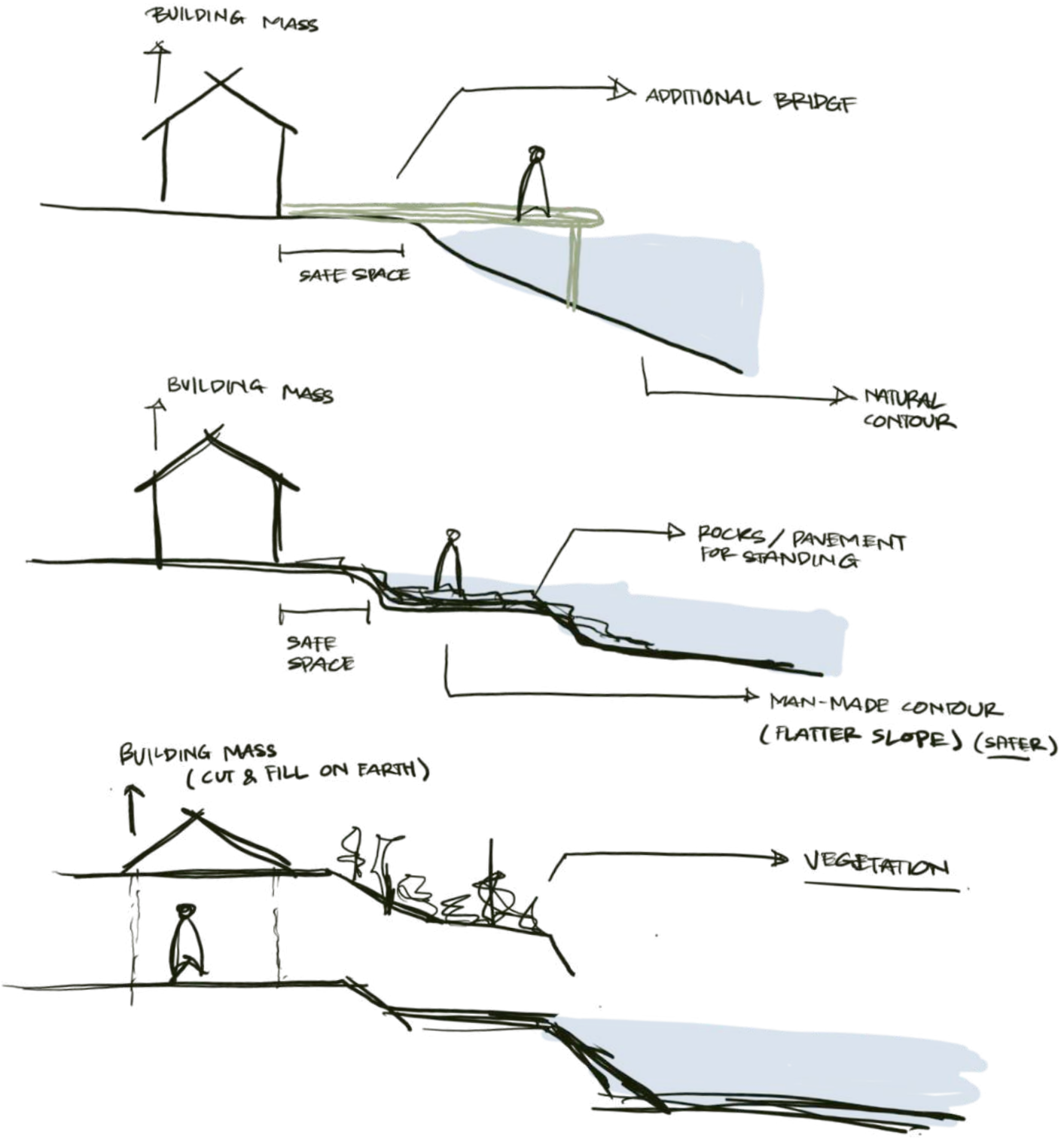


Fig 3.18 Waterfront building analysis
(source: author)

CHAPTER 4 - DESIGN EXPLORATIONS

Design Problem Solving Alternatives

Site Context Exploration
Journey Explorations
Mass Explorations
Form Finding





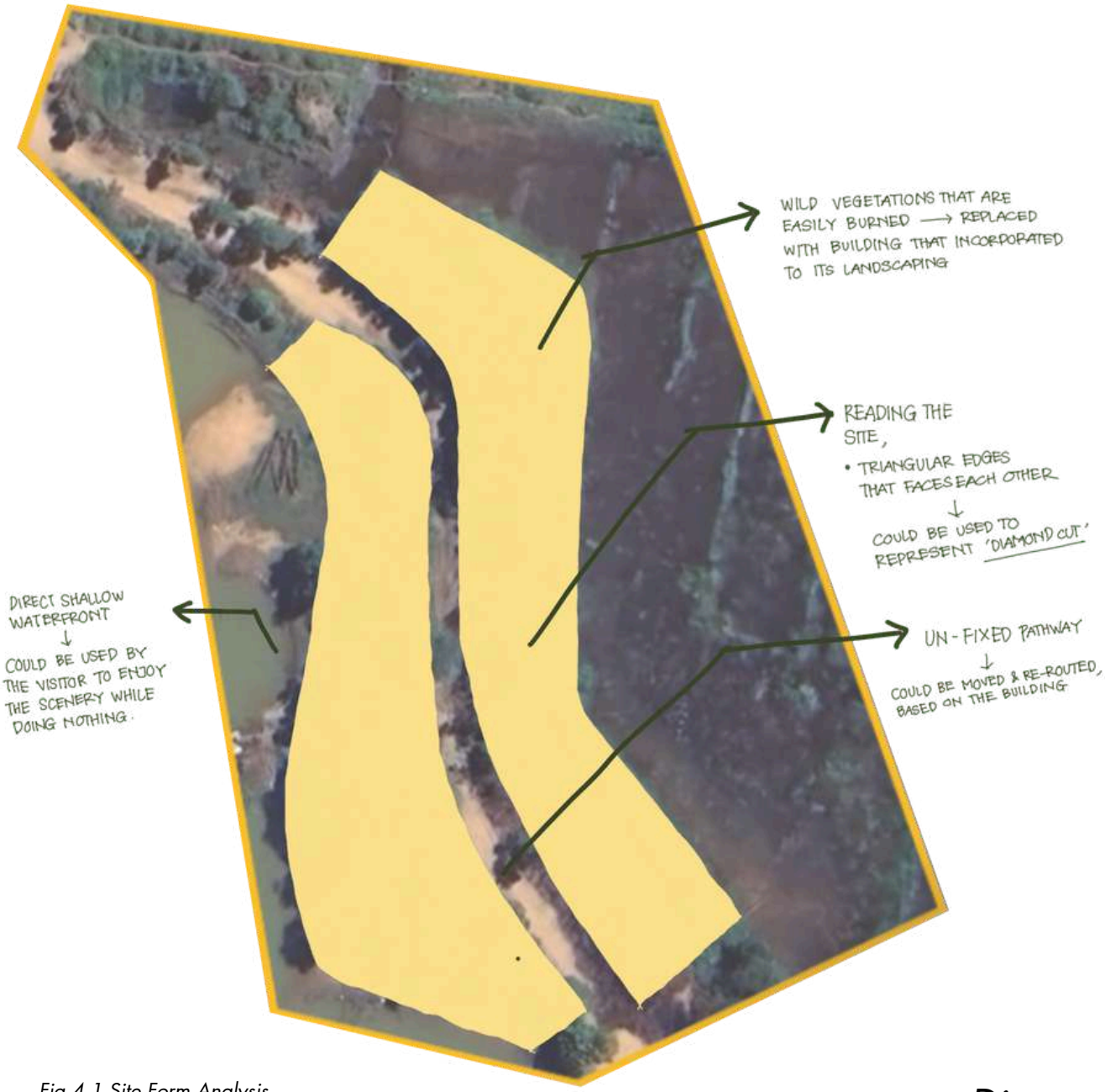


Fig 4.1 Site Form Analysis (source: author)

Diamond Mining **Visitor Center**

The idea on creating a Diamond Mining Visitor Center in this site is to directly showcasing an iconic architecture that represents 'diamond' or 'diamond mining'. As the approach that used is narrative, the aim is to make use of the surrounding for the visitor to experience what was happened by mining activities.

Not only make use of the scenery or the surrounding environment, it is also important to read the site where it will lead to the exploration of building mass on creating the journey.

Tracing the Path of **Diamonds**

In designing the visitor center using narrative approach, it is important to pay attention on what kind of journey that will be delivered, as it will also lead to the form and spatial organization of the building.

Based on the previous study on the background of diamond mining in Cempaka district, Banjarbaru, some considerations that are made as a baseline on designing are:

Journey that took the historical timeline

Between background that relate to diamond mining, different period of mining that goes from traditional until modern is worth to be witnessed by the people as it brought a lot of small details in them.

Therefore, rather than focus on showcasing on the object, it is better to bring visitors to dive in into the past, present, and future. This activities aim for the increasing awareness on the good and the bad that has been happening due to diamond mining. Then, to 'force' them to re-think on how to create an ethical mining in the future.

Looping-type of Architecture

The decision on using looping-type of architecture comes from the looping condition of mining, despite its technique (traditional or modern). It is quite concerning to know that the same thing happened over the year and enlarge even until different areas, create the same scene over and over.

Thus, looping-type of architecture could brought the visitor on an infinite journey of diamond mining if we do nothing on future diamond mining.

Beside journey-related reason, It is also easier for people to know the start and finish areas and access facilities provided in the building as they are close to each other.

Direct diamond mining introduction on the whole activities

Direct introduction comes regarding the building mass and activities inside. It is advisable to create a sightline that represents the 'diamond' that people know. By introducing from the start, visitors could prepare themselves emerging into the new world of different eras of diamond mining through immersive space-type of storytelling.

Immersive space as a direct introduction is beneficial as it will make visitors rely on three senses (see, hear, touch) where this method will suit people type of learning whether it is visual, audio, or kinesthetic.

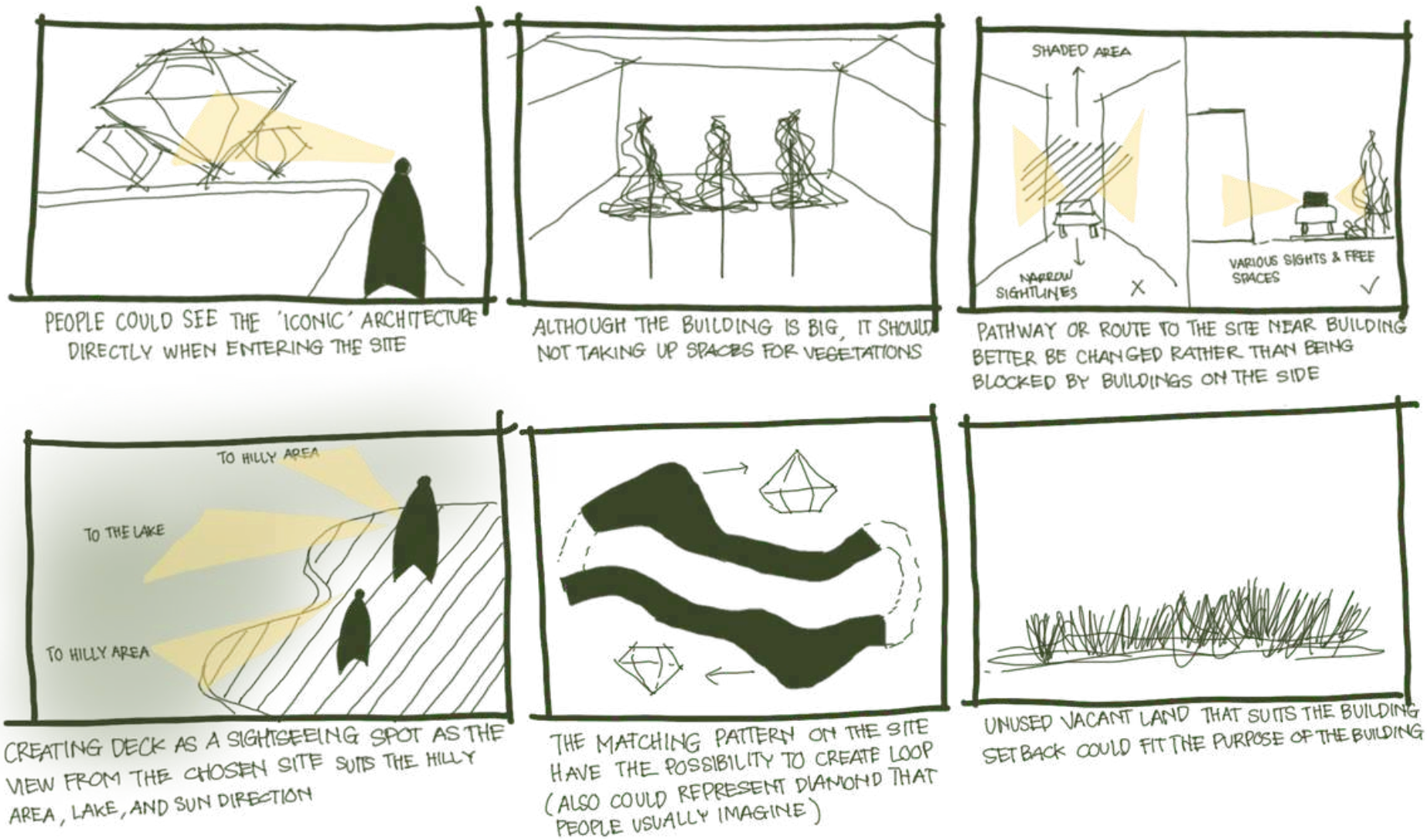


Fig 4.2 Site Possibility Analysis
(source: author)

GENERATIONAL *MINING*

Start
around 9th century / 800 M

Great Discoveries (1965)
After the discovery of '*Galuh Trisakti*', the name of Cempaka's mining industry rose up until international communities. This became the hope of people on creating a better living with being a miner

The War
Diamond used by the prince as a medium to reconcile, continued by the victory of Kingdom of Banjar

THE ENHANCEMENT AND *THE DOWNFALL*

Growing Industry (1985)
As diamond became popular, the government (*BUMN*) plans a serious mining business in Cempaka district

Tourism Enhancement (1965)
Along with the establishment of Banjarbaru on becoming the administrative city, Cempaka district opens its activities on diamond mining into tourism site

Not only focusing on showcasing the mining activities, they also open to trade and brilianteering process of raw diamonds. Which then able to attract visitors, be it locals and international visitors

Events of Disasters (2012)
Due to the continuous mining activities that were done in the bad soil condition, natural disasters are often happened in the site such as landslide which causes a lot of miners to be buried and lost their lives

Miners' Devastation (2015)
Because of the tragedy on landslides, diamonds were became harder to find to the point some miners lost their job. Yet, some of them are still doing it because it has been passed for generations in the family

Troubled Mining
Traditional mining activities in Cempaka district were being troubled along the problem on finding diamonds which caused a threat on the continuity of diamond mining

MINING *REINFORCEMENT*

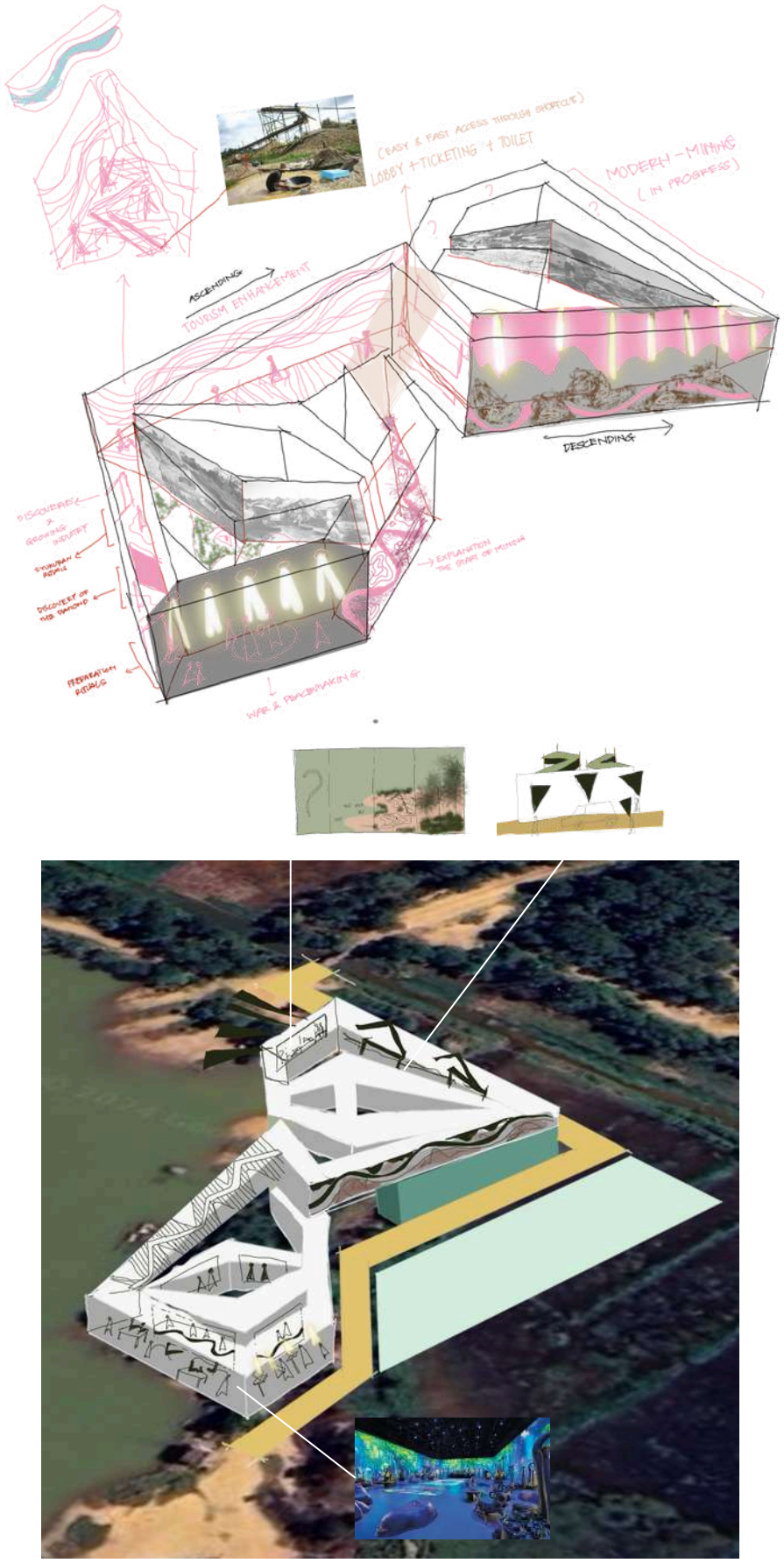
Modernity in Mining (2009-2017)
To increase the possibility of diamond mining industry in Cempaka district that haven't been explored in traditional way, a big company of mining, *PT. Galuh Cempaka* took over some areas to be used for diamond mining activities in a bigger scale which resulting on the three lakes (*Seran, Galuh Cempaka, Caramin*)

Abandoned Mining Sites
Although the mining industry shows the development on the results as using newer technologies, on the other hand, the ecological problems happened especially in these big abandoned lakes, which, after mining still contains chemical substances that caused the disturbance on the surrounding ecosystem

Ecological Refinement
Took more than 5 years for the nature to regain its condition into a normal balance. Now, the surrounding areas are developing its state into a better one where the vegetations, fishes, and others are living in the area.

MINING *PRESERVATION*

Recognition on Mining Sites
Nowadays, both mining sites (traditional and modern) are being recognized by the government where they are being enhanced and incorporated into *Meratus Geopark*



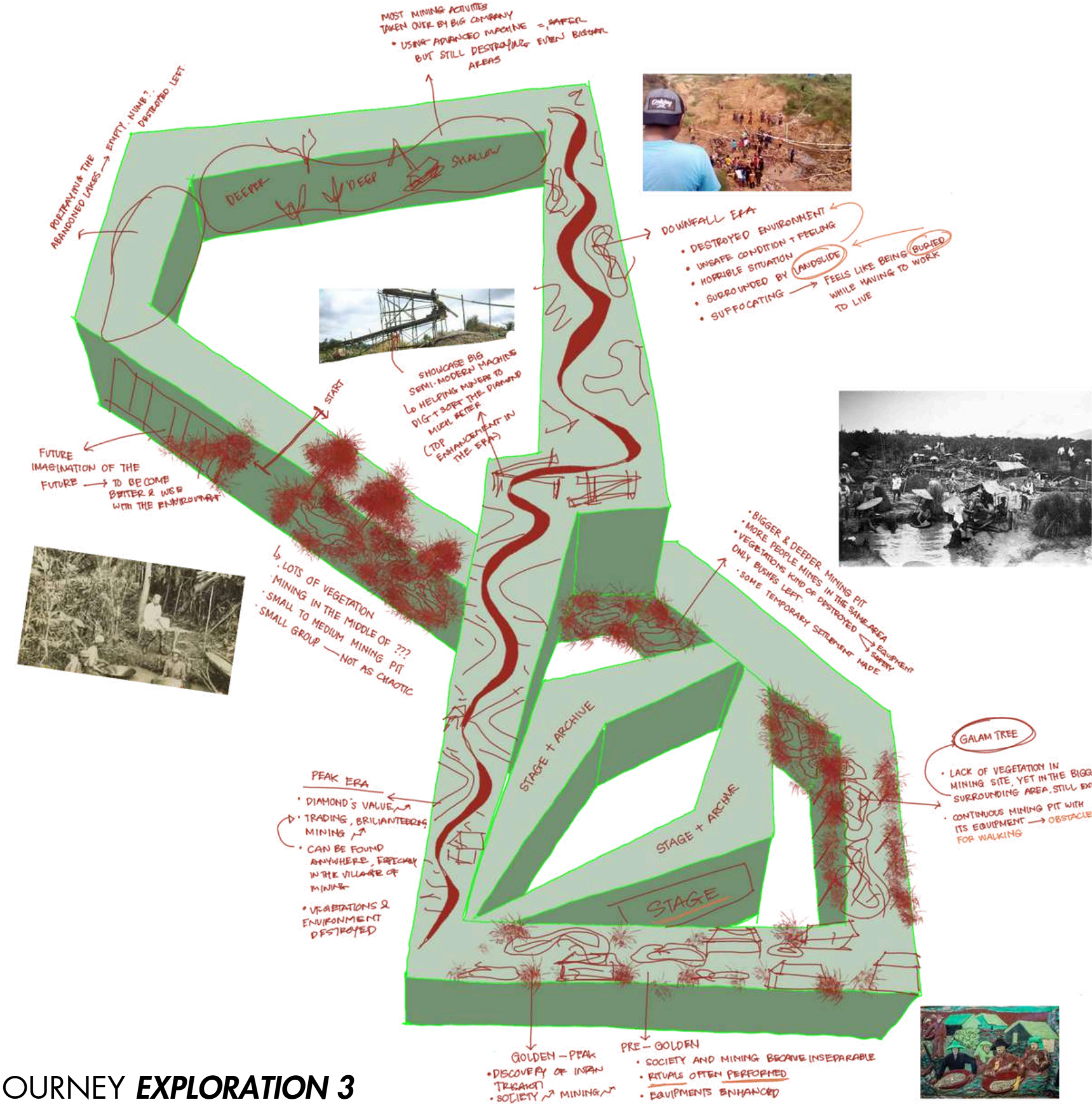
JOURNEY ***EXPLORATION 1***

The first exploration was made to fit any of the events that comes during each of the period, from traditional mining style and equipment; war era; rituals; tragedies; and present abandonment.

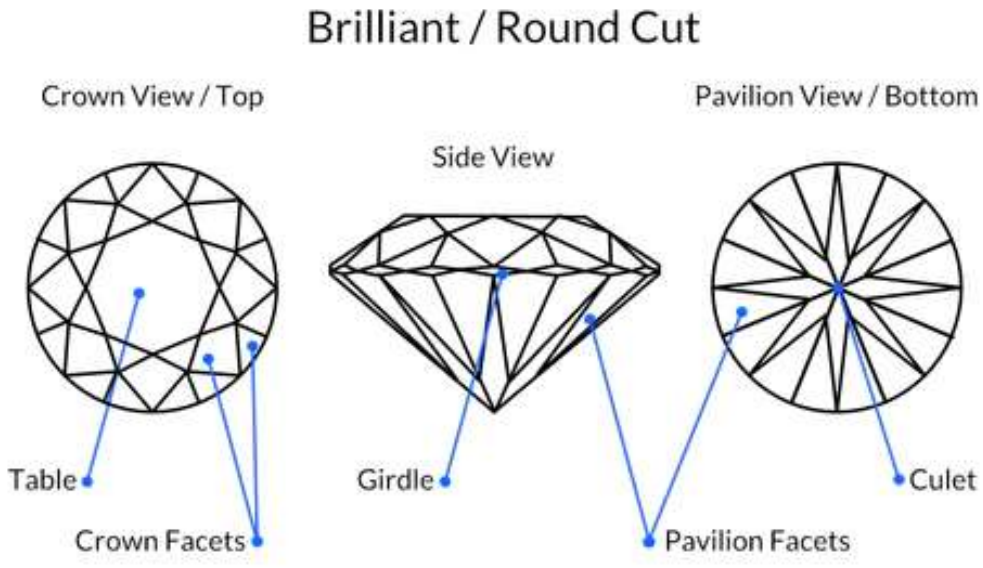
Despite all, future exploration is needed as the whole journey does not seem to 'connect' with each other although the storyline follows the timeline. On the other hand, one of the cons of this exploration phase is the identity of shortcut that might took over the main journey route as it also provides interesting activities.

JOURNEY ***EXPLORATION 2***

Continuing the first exploration on the journey, this exploration focused on creating a distinct maint journey from the shortcut, yet the connection between the routes are quite complicated to the visitors. At the same time, the addition of staff area on the front blocked the view to the entrance to the building. Therefore, there should be some more adjustment regarding the entrance.



JOURNEY ***EXPLORATION 3***



VORONOI PATTERN

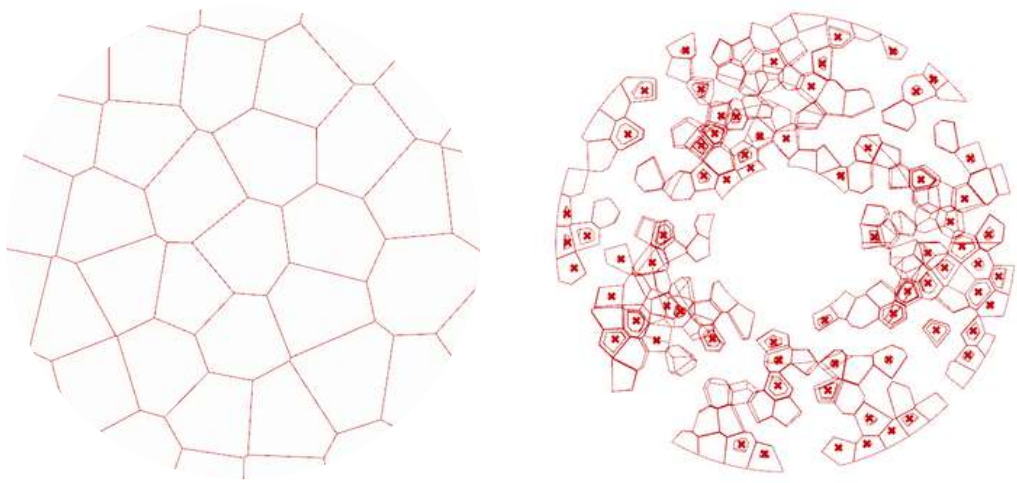


Fig 4.3 Diamond-Cut Shapes Analysis
(source: author)

DIAMOND ***CUT***

Diamond, although being well-known in the society, can still be said as a quite rare to be made into something else. Therefore, in order to make people easily noticing the building, the decision could be divided into two, either showcasing the raw diamond representation (by using voronoi) or directly goes to the brilliant cut. This will also later being executed whether it will fit with the concept of looping-architecture in order to not lose the touch of diamond on its visualization.

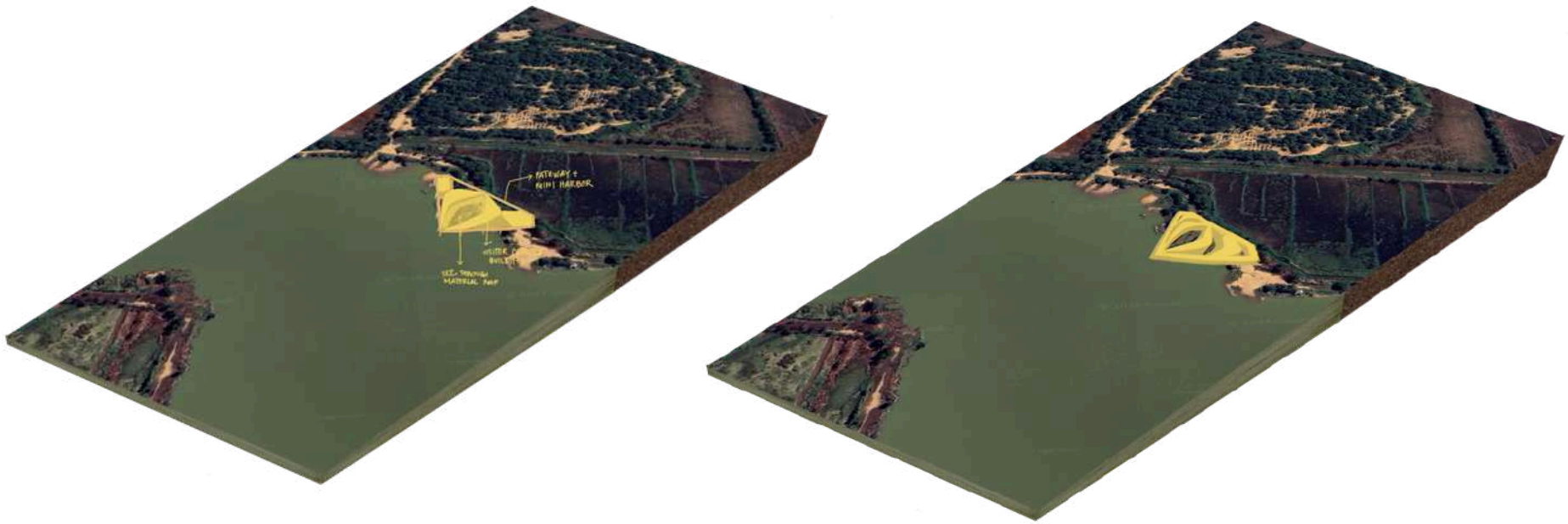
MASS ***EXPLORATION 1***

The first mass explorations were made following on to the voronoi pattern where it represents the raw condition of diamond. To fit with the concept of looping-architecture, the pattern needs to be adjusted to the journey and the site.

Yet, after this exploration, the programming of the room seemed off as it would not fit the arrangement of the activities. Therefore, the decision of mass formation changed into a the brilliant cut of diamond as it would be easier to be identified by people.







MASS ***EXPLORATION 2***

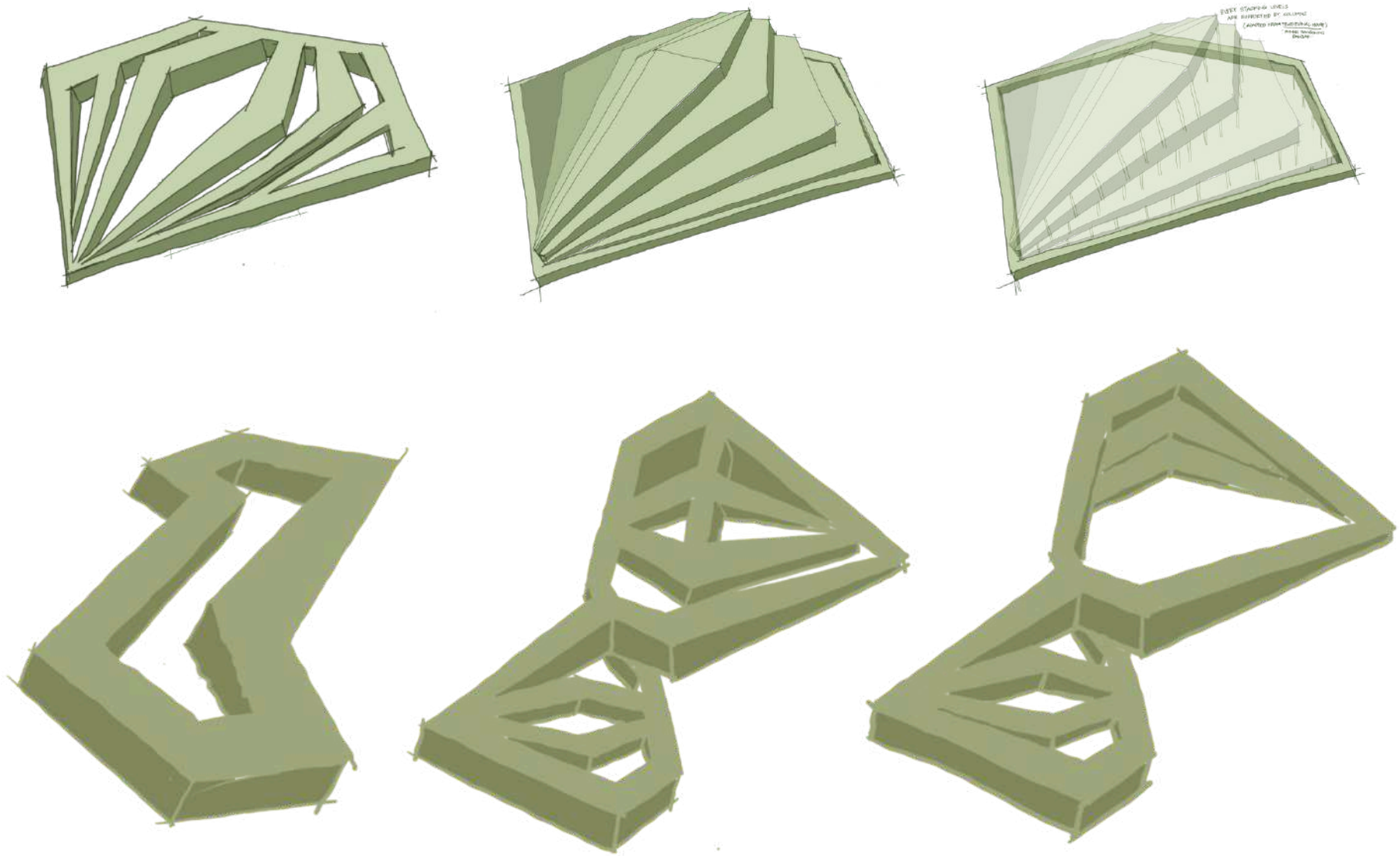
The change of the form of building mass turns into the side view of a diamond where usually being used to represent diamond. The reason behind was because of the site form creates triangular shape that could fit with the visualization of diamond. But, this idea could be better if the whole building mass which is quite big did not placed directly on the lakeshore. At the same time, the concept on creating looping architecture also needs to be considered.



MASS ***EXPLORATION 3***

The upgraded version of brilliant cut diamond on building mass is still based on the site form on its triangular form. But this time, it is created into a connection between two diamonds (also similar with the sign 'infinity loop'). The connectivity between the two showcasing the peak era which is golden era and dark era (where tragedies happened).

In general, this connection for the main journey helps a lot on delivering the story based on the events and period from traditional, semi-modern, and modern. Yet, some spaces need further optimalization for creating a better facilities arranged.



MASS ***EXPLORATION 4***

Further space programming on the building mass for better arrangement between the main journey, standard facilities, and connection to the surrounding environment without making it complicated.

FORM *FINDING*

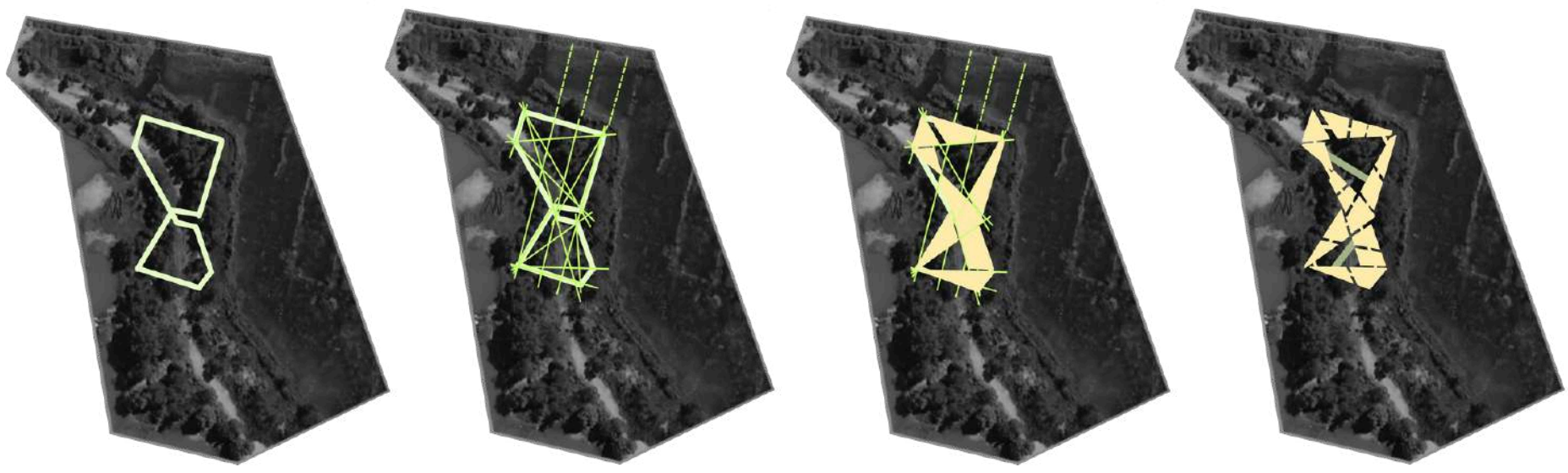
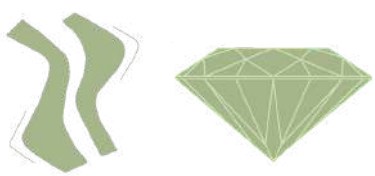
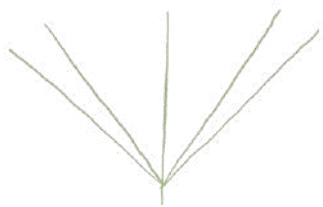


Fig 4.4 Form Finding Process
(source: author)



visitor's pathway is made by following the triangular lines formed on the site, as well as incorporating into the shape of diamond's brilliant cut



form finding concept was taken by the lines on the diamond cut (representing the sharpness of diamond) also following the lines that is 'existed' on site



Although sharpness has been found by creating the "diamond's triangular", building's masses are focused on recreating the diamond's facets

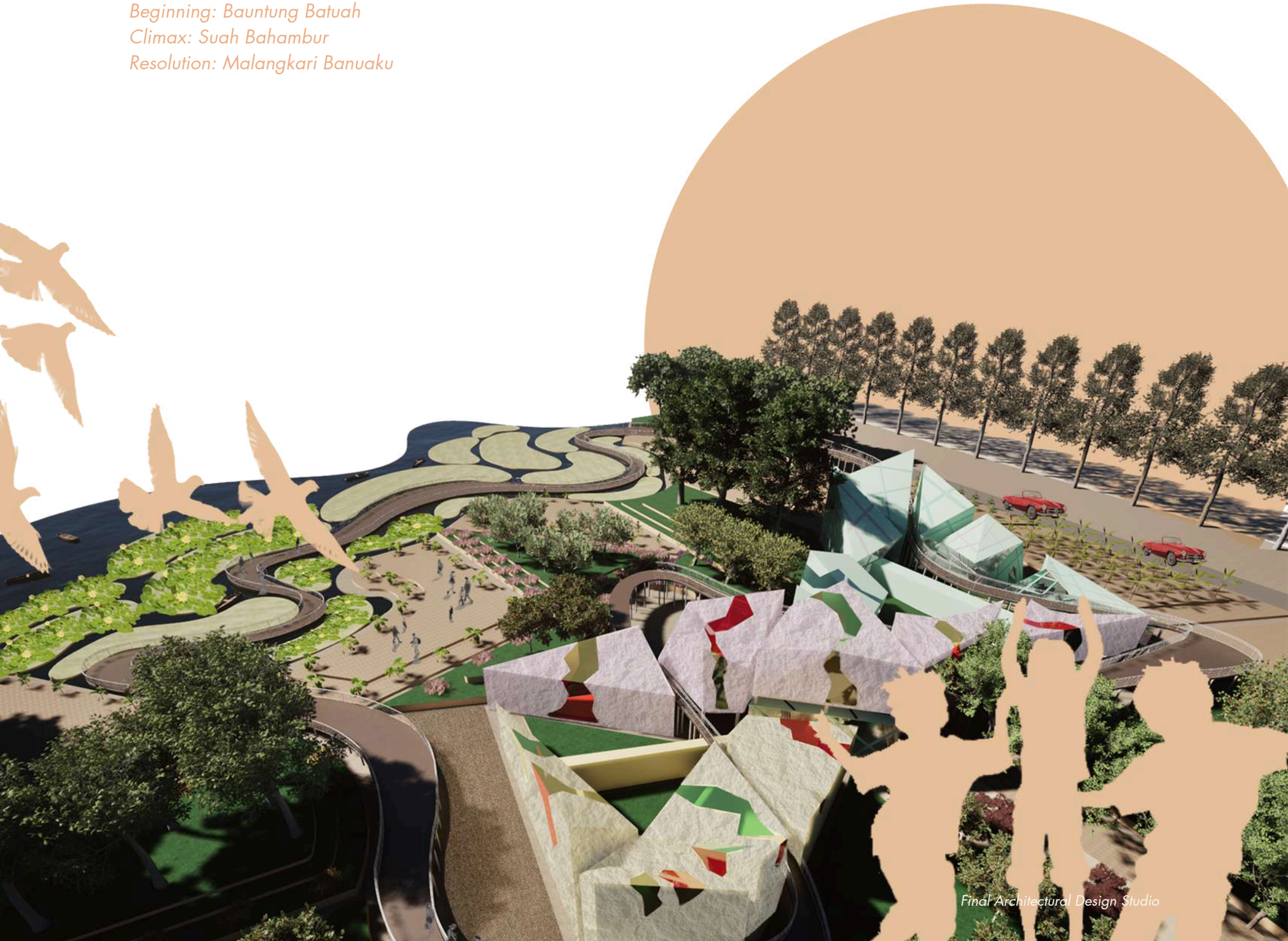


Building masses are equipped with shortcuts for maximizing mobilities inside. Gaps between building masses are being utilized as small gardens for the pilot project of ecological restoration

CHAPTER 5 - DESIGN DEVELOPMENTS

Design Problem Solving Alternatives

Narrative
Building Code
Visitors Mobility Circulation
Building Materials and Plan
Beginning: Bauntung Batuah
Climax: Suah Bahambur
Resolution: Malangkari Banuaku



Final Architectural Design Studio

NARRATIVE

GREAT DIAMOND DISCOVERY (*GALUH TRISAKTI*)

The first great discovery of diamond that brought world's attention to Cempaka's mining industry

GROWING COMMUNITY OF DIAMOND MINING

Mining pits became wider and deeper, also being used by more than five people in it

EARLY DIAMOND MINING EQUIPMENTS

Tirak (crowbar), *Sakrup* (shovel), *Cangkul, Linggangan*

EXPANDED DIAMOND COMMUNITY

More people change their job into something that is related to diamond, not only miners but brilianteering and trading as well



RITUALS BEFORE-DURING-AFTER MINING

Diamond miners usually performed some rituals (*islamic*) with certain rules in the community, in hope their mining result will turned out great

THE ORIGIN OF BANJARBARU'S NATURE

Green environment with hilly landscapes

EARLY DIAMOND MINING ERA IN CEMPAKA

Small and shallow pits inside the forest

DIAMOND MINING TRADITIONAL MACHINE

A tower-like filtration machine for rocks to be used in sorting the mining result

TRAGEDY ON THE PITS

Due to the wide land destruction, landslides happened. Causing a lot of miners to be buried under the pits



MODERN DIAMOND MINING ERA

After the grief on traditional mining community, a bigger diamond mining activity happened using big machines by a company named PT. Galuh Cempaka on several new-and-untouched land



VOICES OF THE LOCALS

However, modern mining done by the company causing new troubles where they throw the waste inconsiderably. Therefore, locals are protesting and the mining's stopped, leaving three big abandoned lakes

RESTORATION PROJECT ON THE ABANDONED

Restoring of what was used to be in nature by planting trees, reviving fauna, re-planting aquatic vegetations and so on

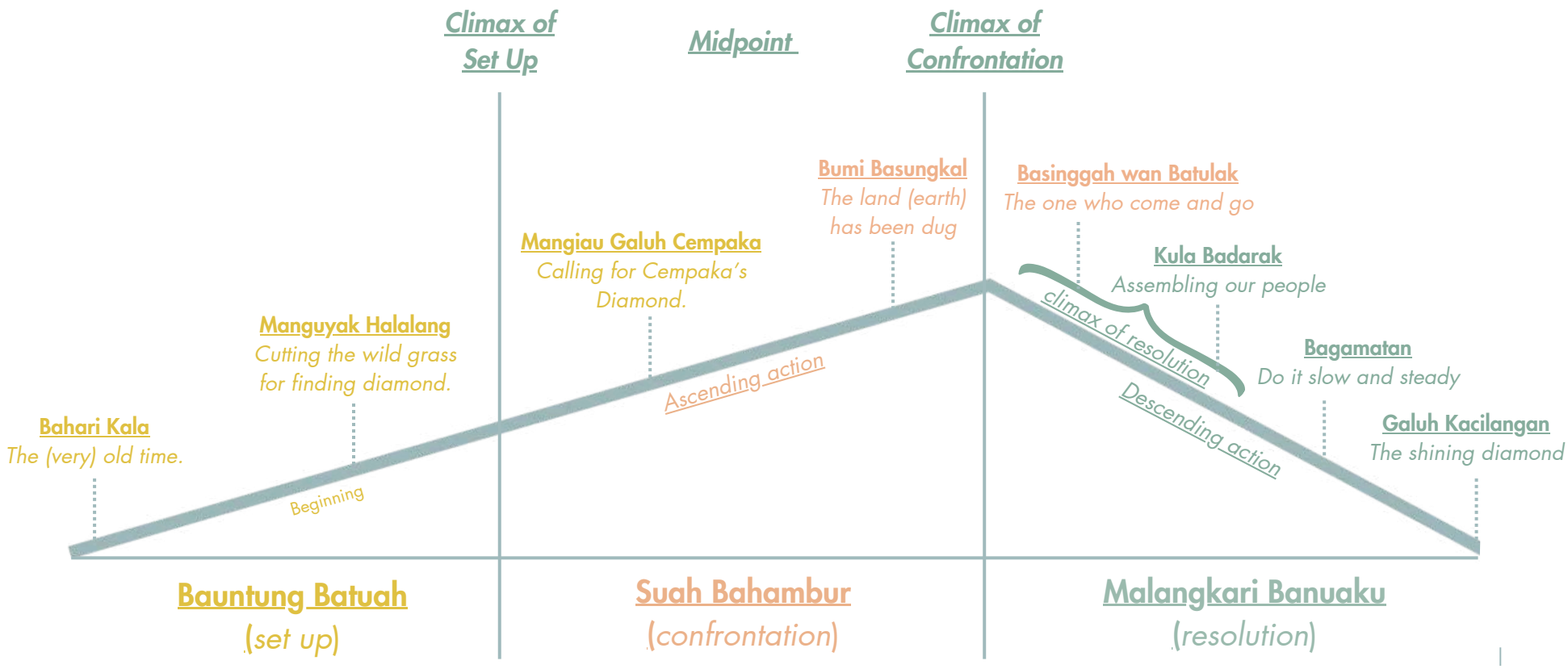


WISE MINING FOR A BETTER ENVIRONMENT

As the project grows, the amount of environment that is being restored will also increase, creating a harmonious and green nature like it used to be

Fig 5.1 Timeline of Events (source: author)

PLOT *STRUCTURE*



BEGINNING

Start of mining activities in Cempaka district, Banjarbaru city, South Borneo

- DIVERSE ENVIRONMENT INTRODUCTION
  - Miners are doing mining activities in the middle of the forest
- EARLY MINING TYPES AND EQUIPMENTS
  - Trial and Error attempts on 'upgrading' mining quality and result

Roots of Cempaka's mining activities

CONFLICT

Rapid growth of mining industry started by a diamond discovery

- MODERATE ENVIRONMENT DESTRUCTION
  - Miners community increased, mining pits became deeper
- TRADITIONS, ACTIVITIES, AND EQUIPMENTS ARE UPGRADING
  - Transition to semi-modern with mining using machines

Transition and the start of environment destruction

CLIMAX

Tragedy of miners and the change into modern mining era

- MASSIVE LAND DESTRUCTION LEADS TO DISASTER
  - Miners were buried and died due to landslide. Happened on the mining pit
- MINING INDUSTRY IS MOSTLY TAKEN OVER BY A BIG COMPANY
  - PT. Galuh Cempaka mined on new areas using big vehicles

Peak of environment destruction that leads to disaster

ANTI-CLIMAX

Post-tragedies and the start of society's acknowledgement

- LOCALS PROTESTING TO THE COMPANY ON STOPPING THE ACTIVITY
  - forced to stop the mining activities due to the inconsiderate mining waste
- THE ABANDONED MINING VOIDS
  - Voids that were abandoned for years turned into lakes without functions

Era of the abandoned destructed environment

RESOLUTION

Actions on environment restoration starts from the surrounding area of the site

- RESTORING LAND AREA
  - Tree planting, bird habitat restoration
- RESTORING LAKE AREA
  - aquatic plants and animal restoration

Roots of environment restoration on mining industry area

START: FOREST, GREEN AREAS EVERYWHERE

CHANGE FROM THE UNBUILT FOREST INTO A VILLAGE + MINING PITS

GRIEVING, DESTRUCTED AREAS, YET CHANGED INTO MODERN ERA

THE SILENT AFTER THE 'WAR', TRANSITION FROM DESTRUCTED INTO HEALED

RESTORATION PROJECT THAT INVOLVES SOCIETY ON TAKING PART ON IT

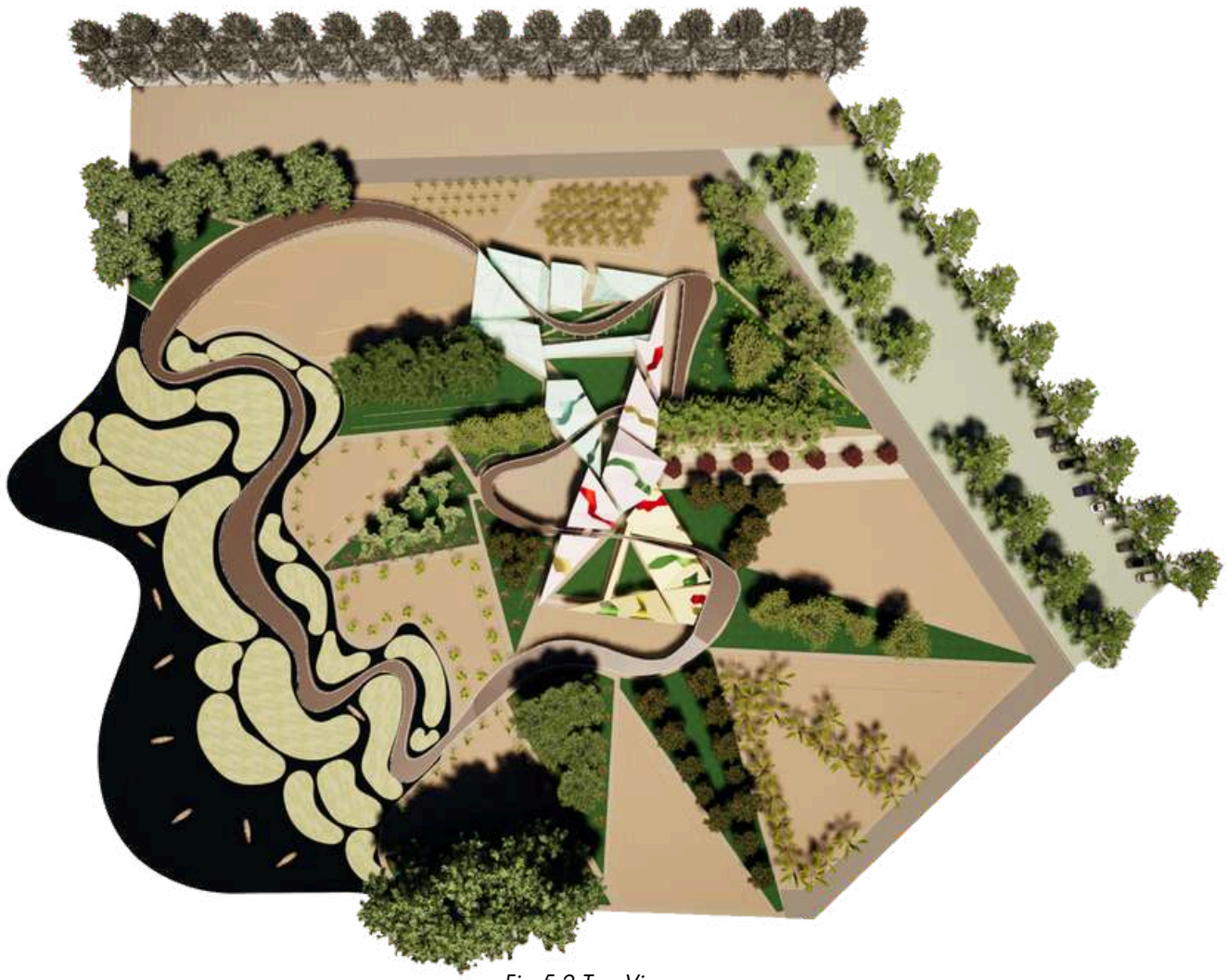


Fig 5.2 Top View
(source: author)

Building Code

Data

Building Base Area (m2)	: 9800
Total of Storeys	: 4 story
Green Area (m2)	: 4200

Intensity Calculation (%)

Total Area	: 14.000
Building Coverage ratio (BCR)/ (KDB)	: 70%
Green Base Coefficient (GBC)/(KDH)	: 30%

Visitor Center

Data

Building Base Area (m2)	: 655
Total of Storeys	: 1 storey
Green Area (m2)	: 10500

VISITOR MOBILITY *CIRCULATION*

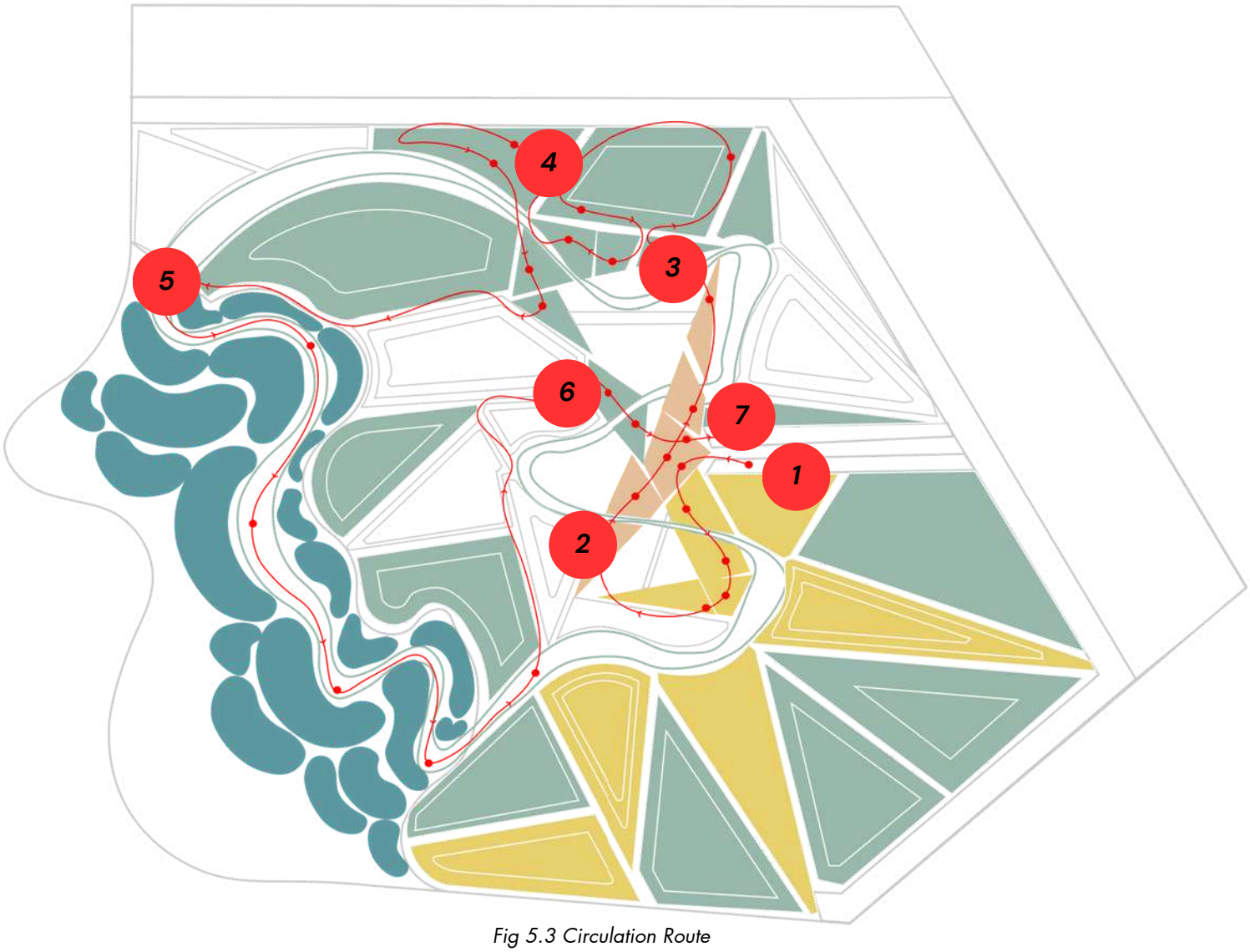


Fig 5.3 Circulation Route
(source: author)

1. Start: enter the lobby for ticketing and merchandise. continue on 'Bauntung Batuah' as first phase
2. Entering 'Suah Bahambur' as the second phase. (visitor could go back a little bit for using the shortcut to go back to the first point
3. Entering 'Malangkari Banuaku' as the last phase. (visitor could go back a little bit for using the shortcut to go back to the nearest access to lobby
4. Outdoor activities integrated to 'Malangkari Banuaku', visitors are free to explore and plant some vegetation seeds
5. Outdoor activities integrated to 'Malangkari Banuaku', visitors are free to explore, plant, and release fish seedlings using boats on the lake
6. Visitors are brought inside to have meals in foodcourt
7. Ending: exit from the main lobby and explore the merchandise area

FACADE *AND MATERIALS*

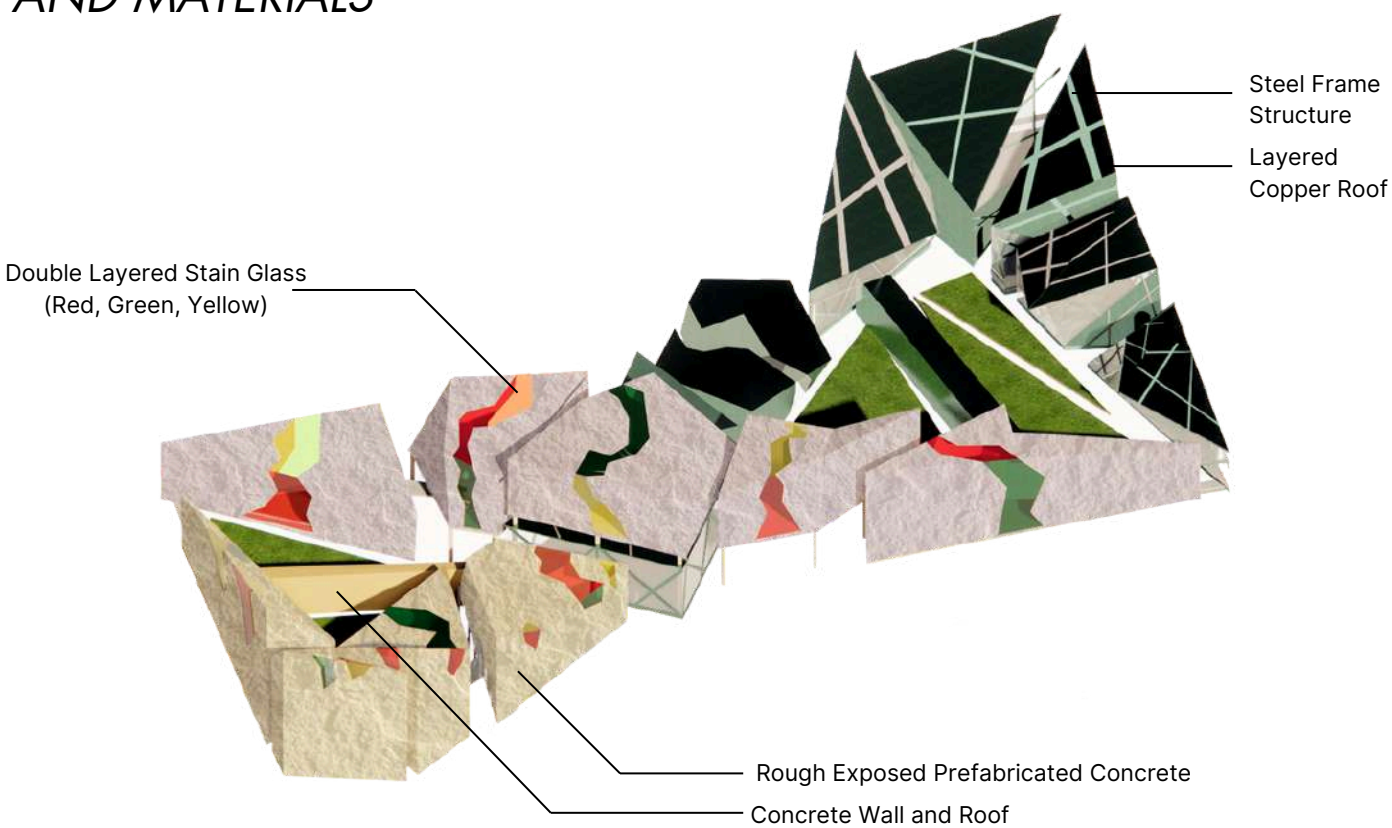
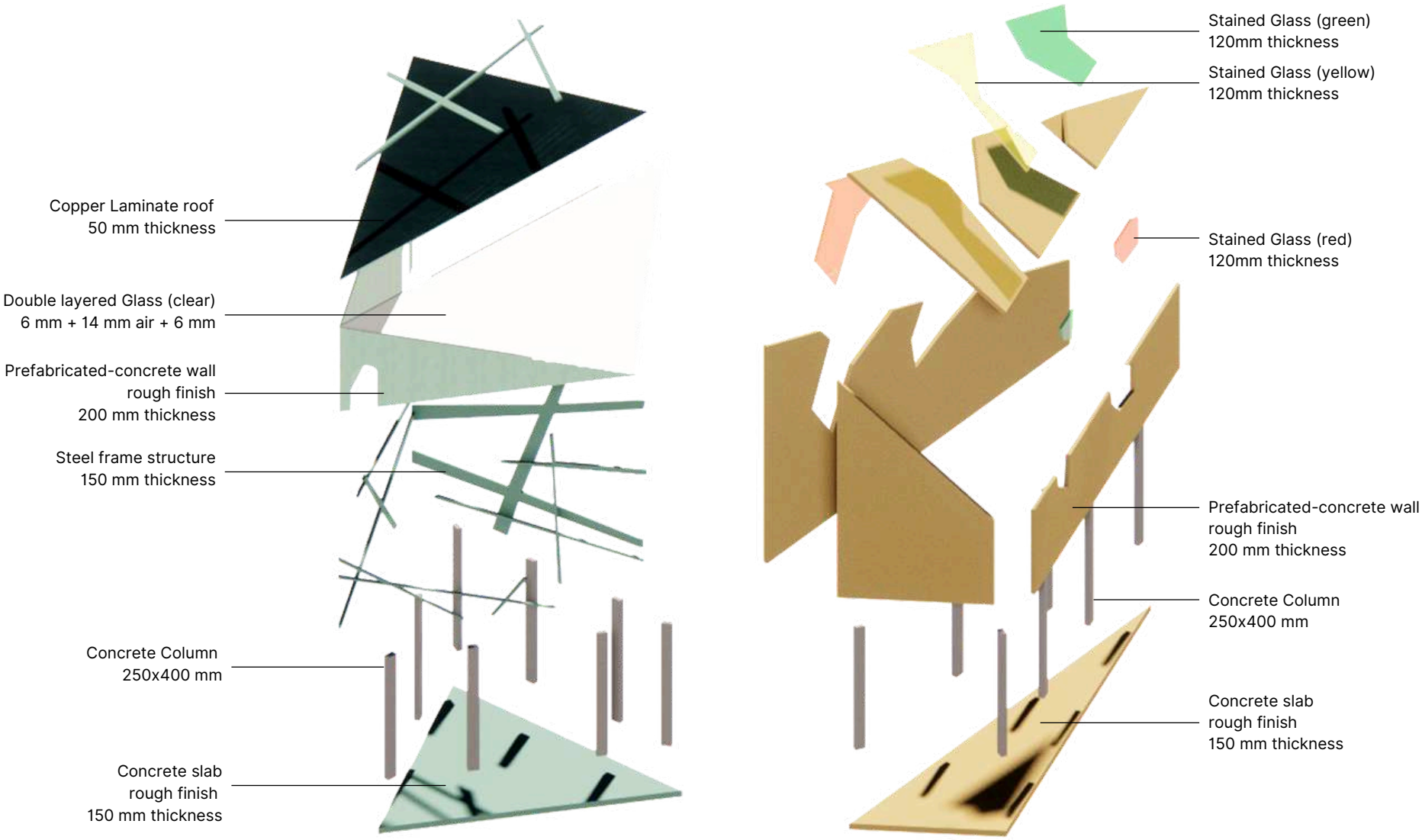


Fig 5.4 Material Exploded Axonometry (source: author)



BUILDING MASS TYPE B
(PHASE 'MALANGKARI BANUAKU')

BUILDING MASS TYPE A
(PHASE 'BAUNTUNG BATUAH' AND 'SUAH BAHAMBUR')

Fig 5.5 Exploded Axonometry
(source: author)

BUILDING ***MATERIALS***

'Bauntung Batuah' and 'Suah Bahambur' Materials and Structure



STAINED GLASS

To represent the raw stain quality of diamond's rock as well as the rainbow glow on polished diamond, some stained glass are used in the building to create the same effect as diamond when being hit by lights.



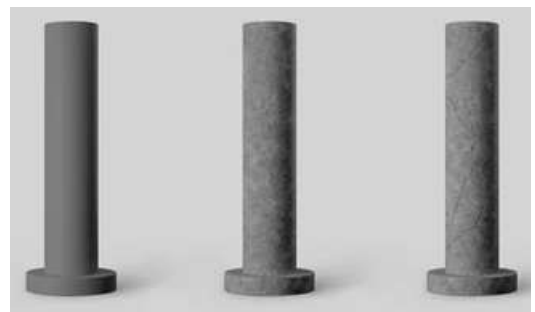
PREFAB CONCRETE

Using prefabricated concrete for a more precise and unite facade on these phases.



ROUGH FINISH CONCRETE

Customized the concrete with rough finish to represent the original form or rock when being mined.



CONCRETE COLUMN

Fully used of concrete structure as the load in these phases weigh more than 'Malangkari Banuaku's phase.

'Malangkari Banuaku' Materials and Structure



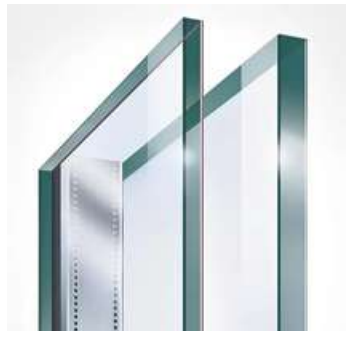
COPPER FACADE AND ROOF

To show the modernity as well as different kind of shine of diamond, the usage of copper's shine will be beneficial to make it as diamond's representative.



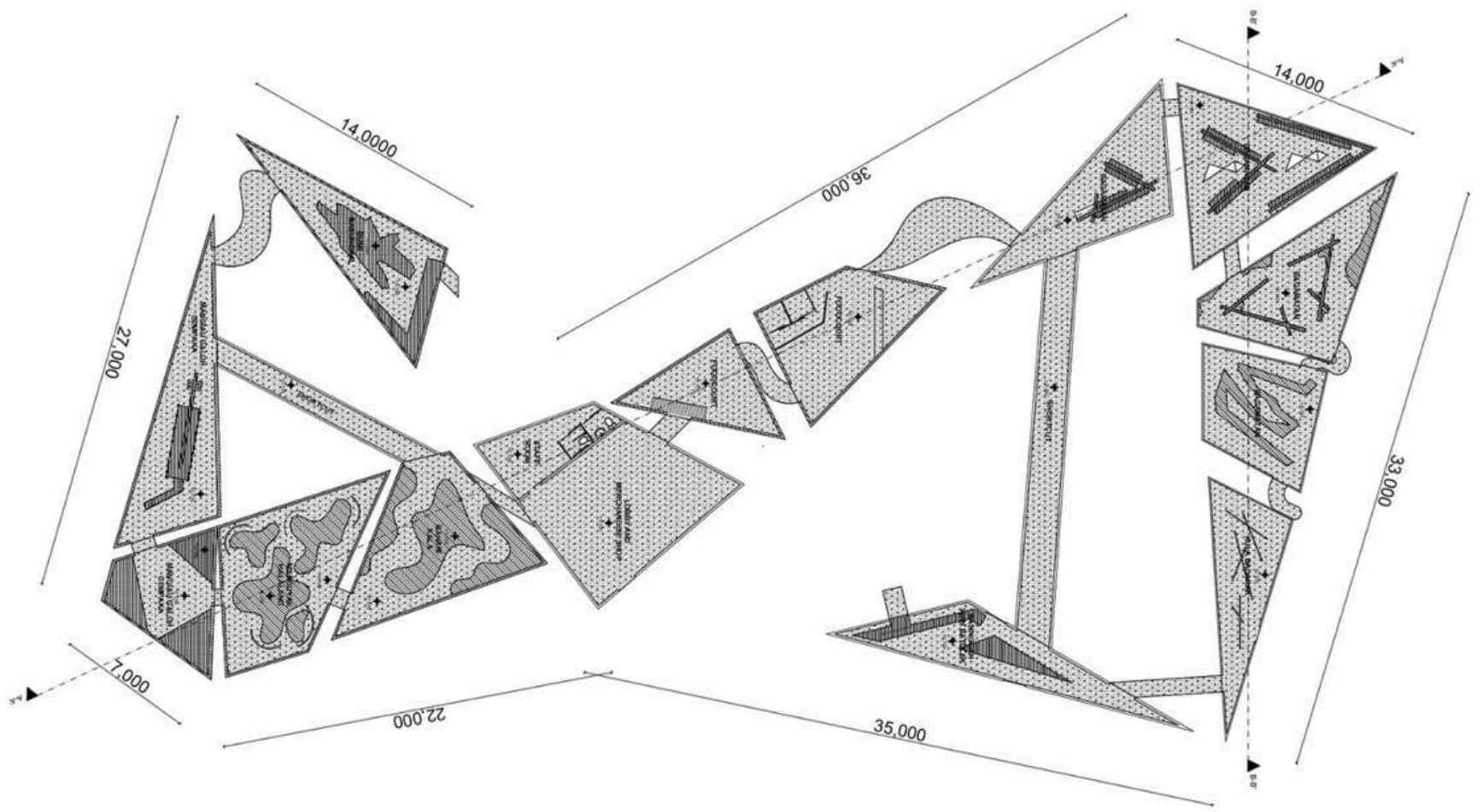
SPIDER GLAZING STRUCTURE

As the whole building will mostly held by steel structure and glass material, spider structure will be effective on holding every pieces to unite.



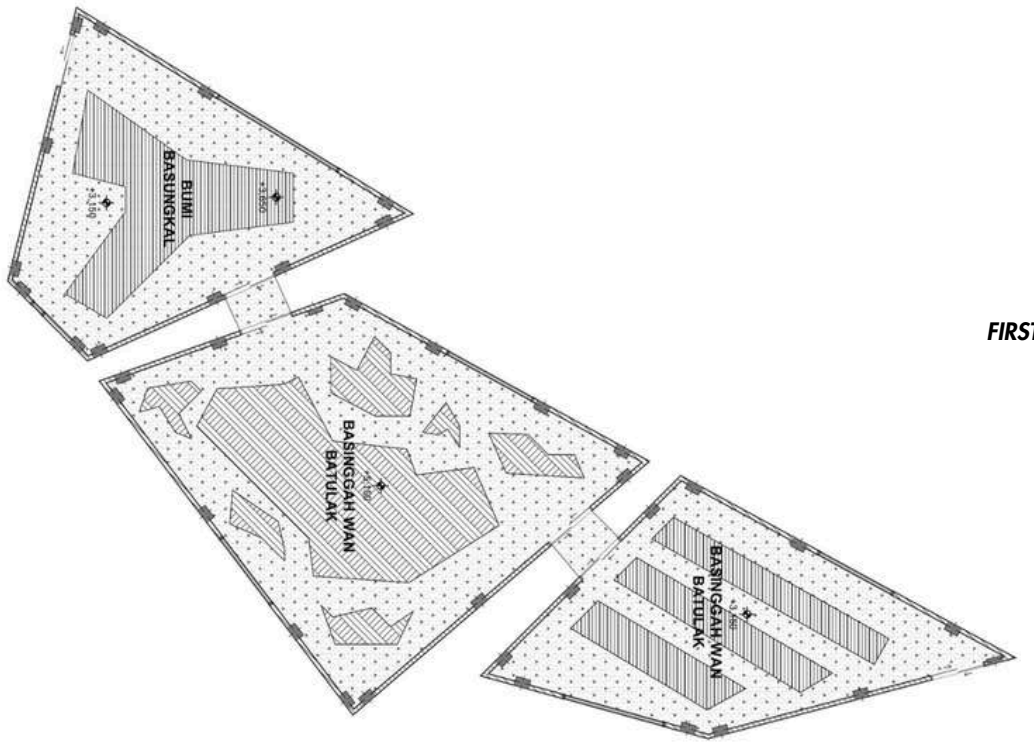
DOUBLE LAYERED GLASS

To reduce the absorption of heat inside the mass, the usage of double layered glass will create a cooler and transparent option for the building



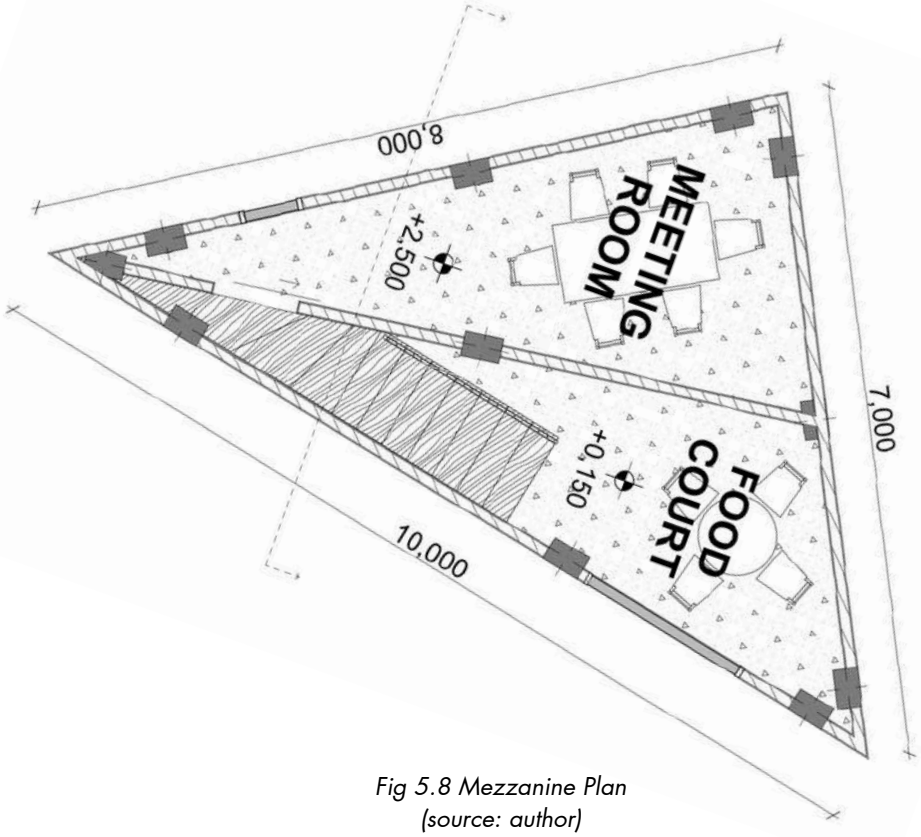
GROUND FLOOR PLAN

Fig 5.6 Ground Floor Plan
(source: author)



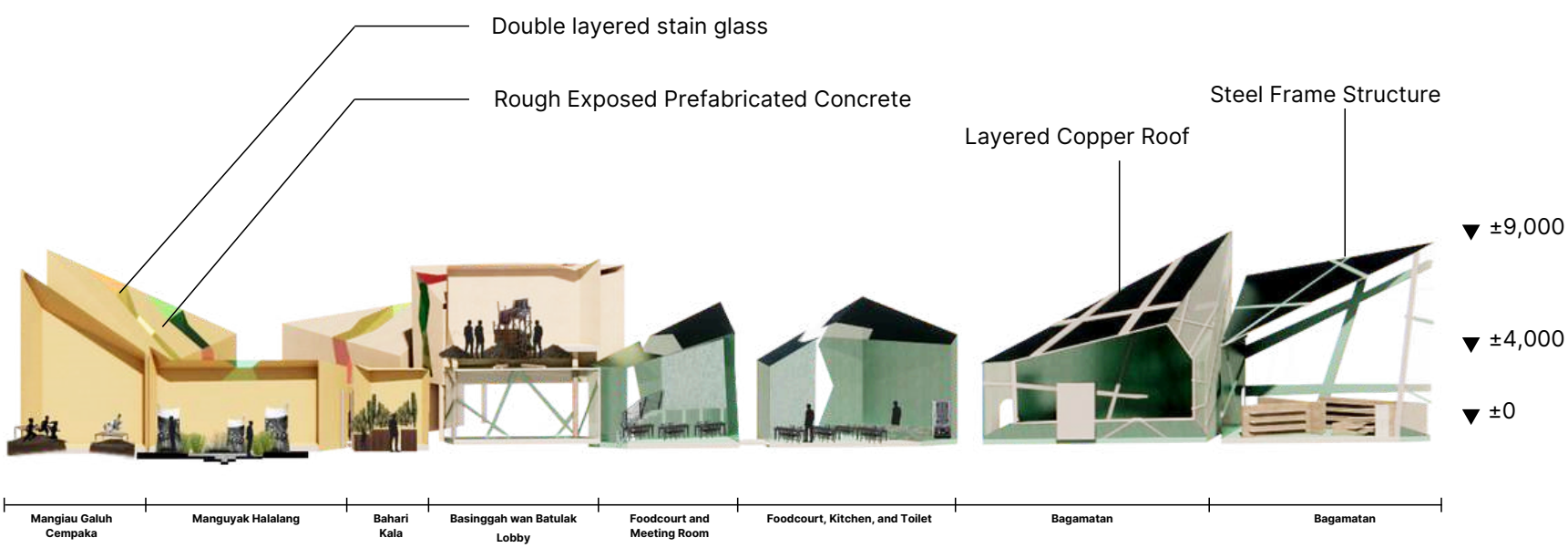
FIRST STORY PLAN

Fig 5.7 First Floor Plan
(source: author)

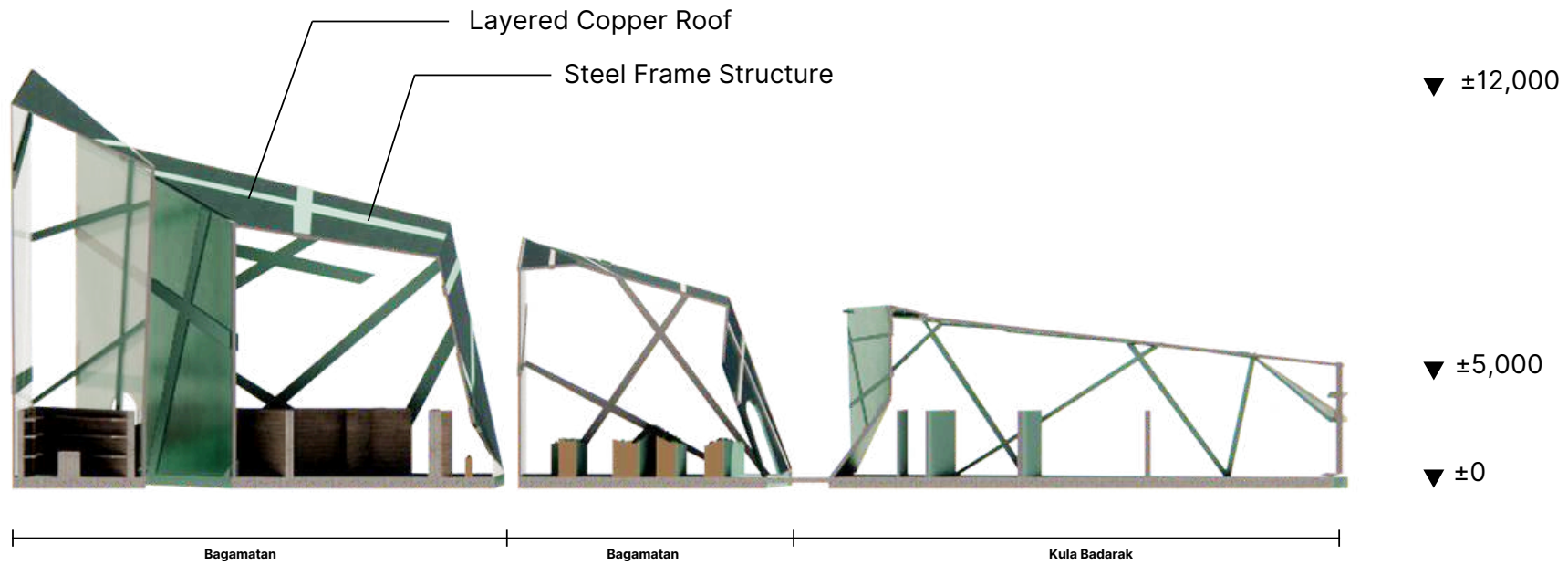


MEZZANINE PLAN

Fig 5.8 Mezzanine Plan
(source: author)



SECTION A-A'



SECTION B-B'

Fig 5.9 Sections
(source: author)

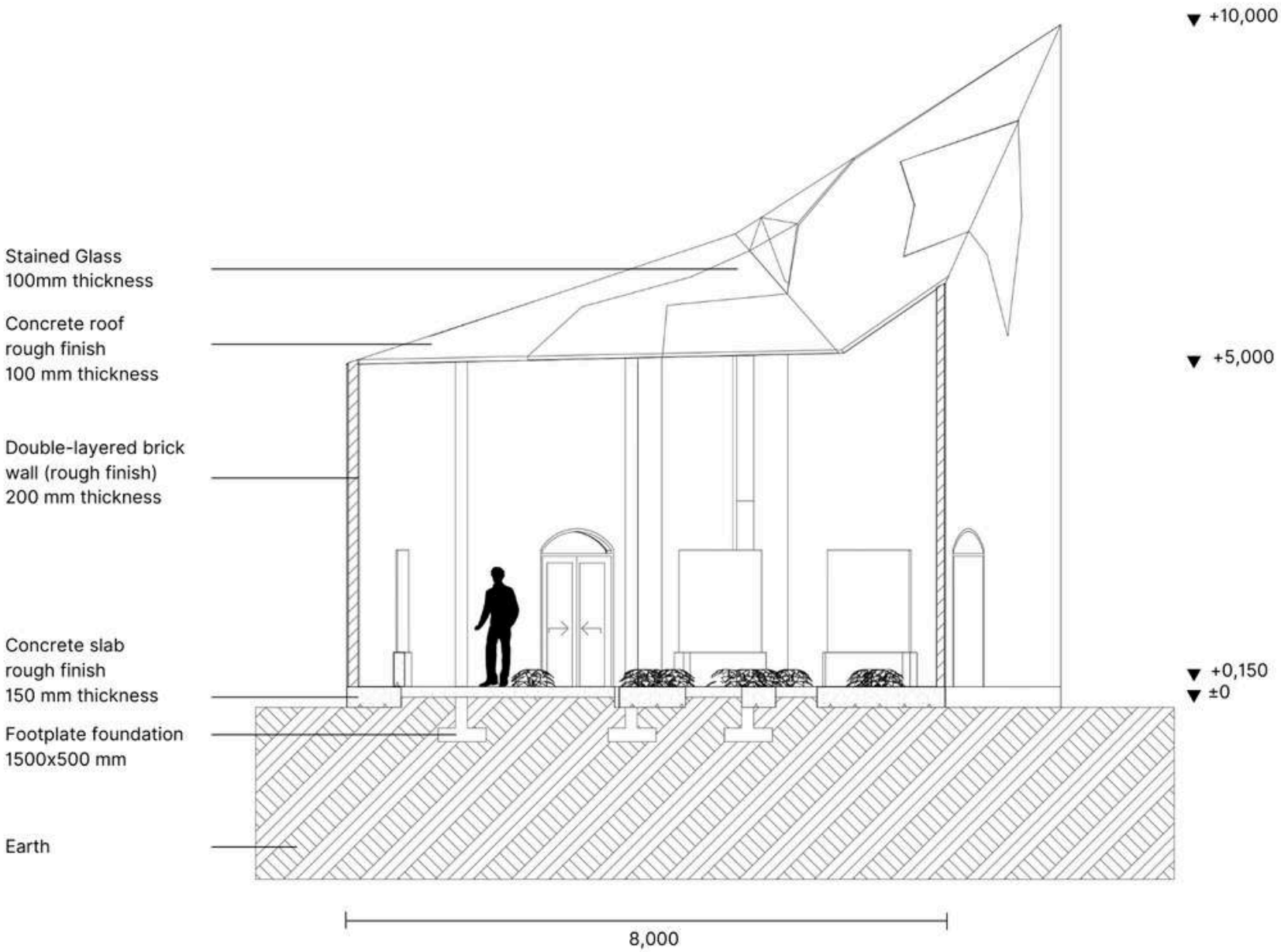


Fig 5.10 Section (Manguyak Halalang)
(source: author)

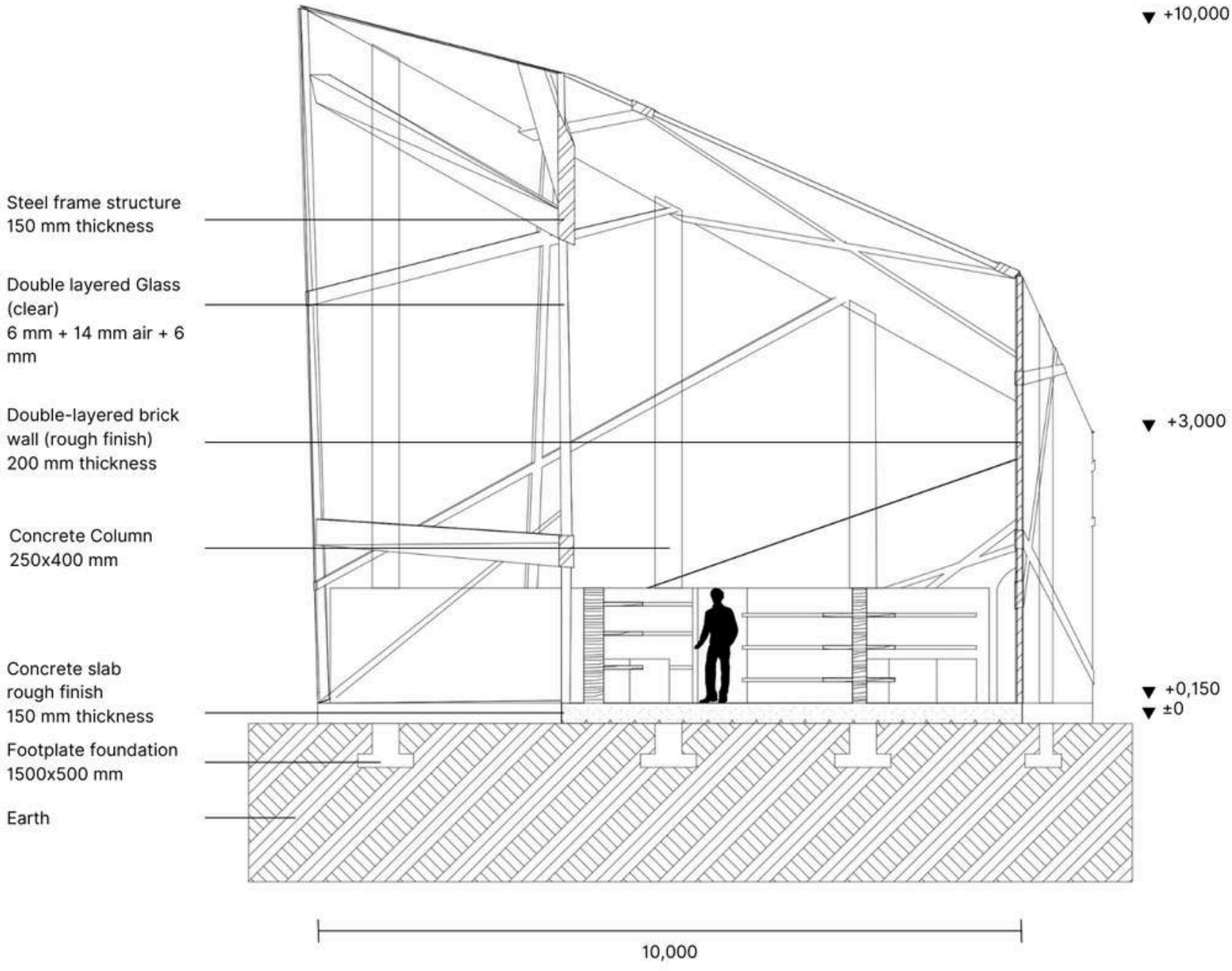
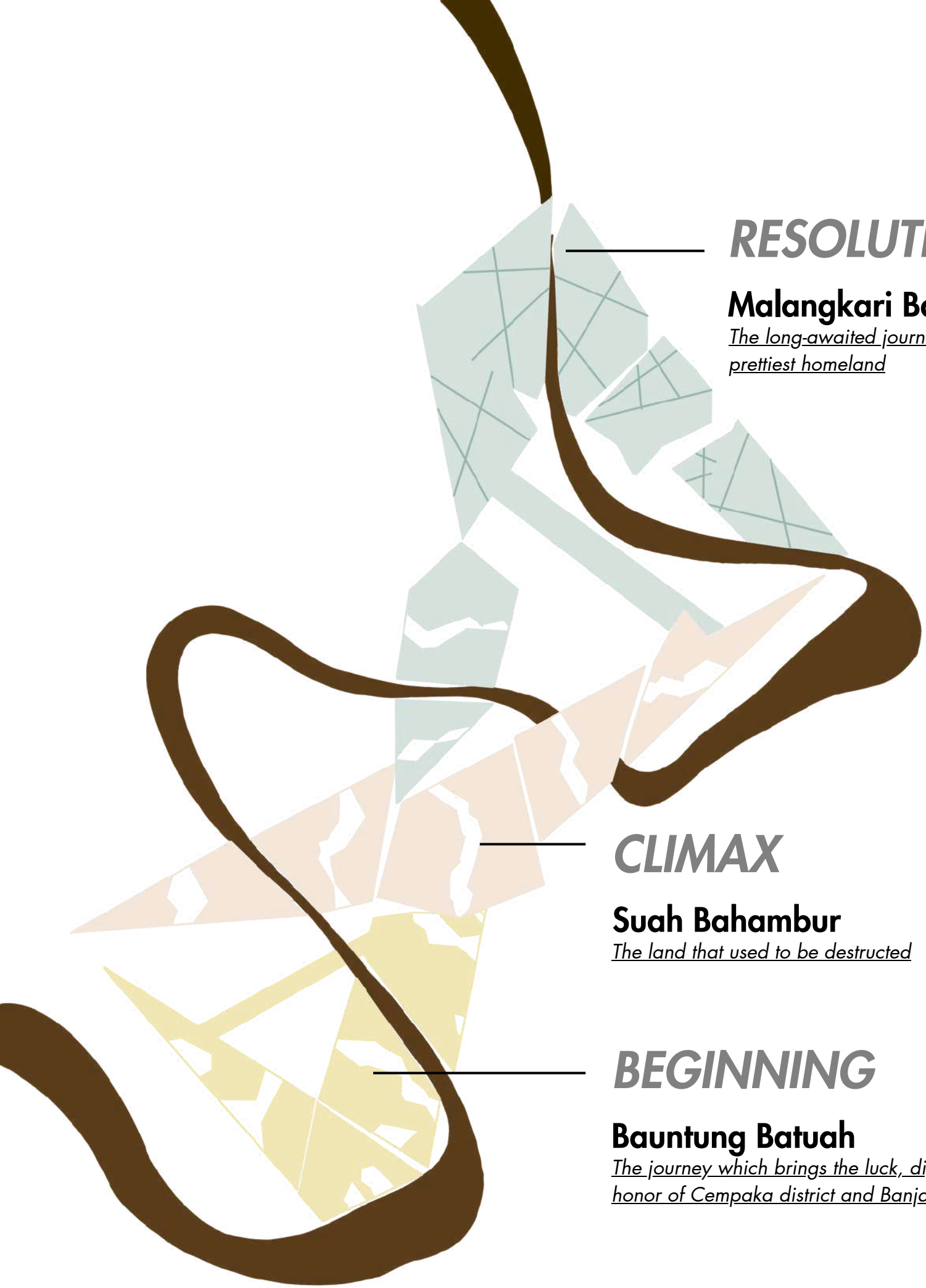


Fig 5.10 Section (Bagamatan)
(source: author)



RESOLUTION

Malangkari Banuaku

The long-awaited journey on creating our prettiest homeland

CLIMAX

Suah Bahambur

The land that used to be destructed

BEGINNING

Bauntung Batuah

The journey which brings the luck, dignity, and honor of Cempaka district and Banjarbaru.

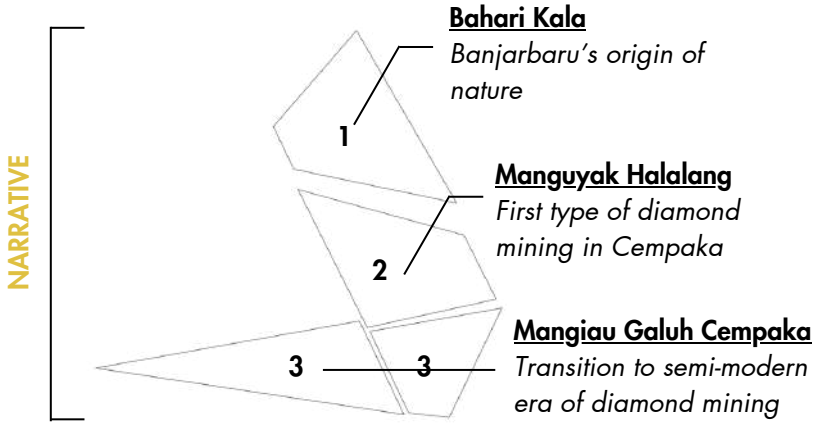
BEGINNING

phase 1

Bauntung Batuah

The journey which brings the luck, dignity, and honor of Cempaka district and Banjarbaru.





Introduction of the origin

This phase will start the journey as the welcoming area and introduction to the narrative. As the story that will be provided in this phase will focus on traditional mining era, the focus is to inform the visitors regarding early mining era through visual, audio, and objects of vegetations or equipment that are related and used in that era.

Bahari Kala

Banjarbaru's origin of nature

The area of 'Bahari Kala' act will focuses on audio-visual introduction of the nature's origin and telling an early history of diamond mining. Equipped with indoor vegetations and an immersive space arrangement on creating forest-like scenery.



Manguyak Halalang

First type of diamond mining in Cempaka

This area will be focused on introducing early mining era, such as types and equipments. This area will also rely on audio-visual on providing the information. Visitors could read, watch, and listen on the story as well as touching the objects of traditional equipments that are showcased.



Mangiau Galuh Cempaka

Transition to semi-modern era of diamond mining

Focusing on the growth and achievement of the mining community in Cempaka, the attraction provided are mostly focused on engaging visitors to re-do the activities (with modern modification), accompanied by professionals or locals for detailed information on the work and objects showcased (mining machine on semi-modern era).



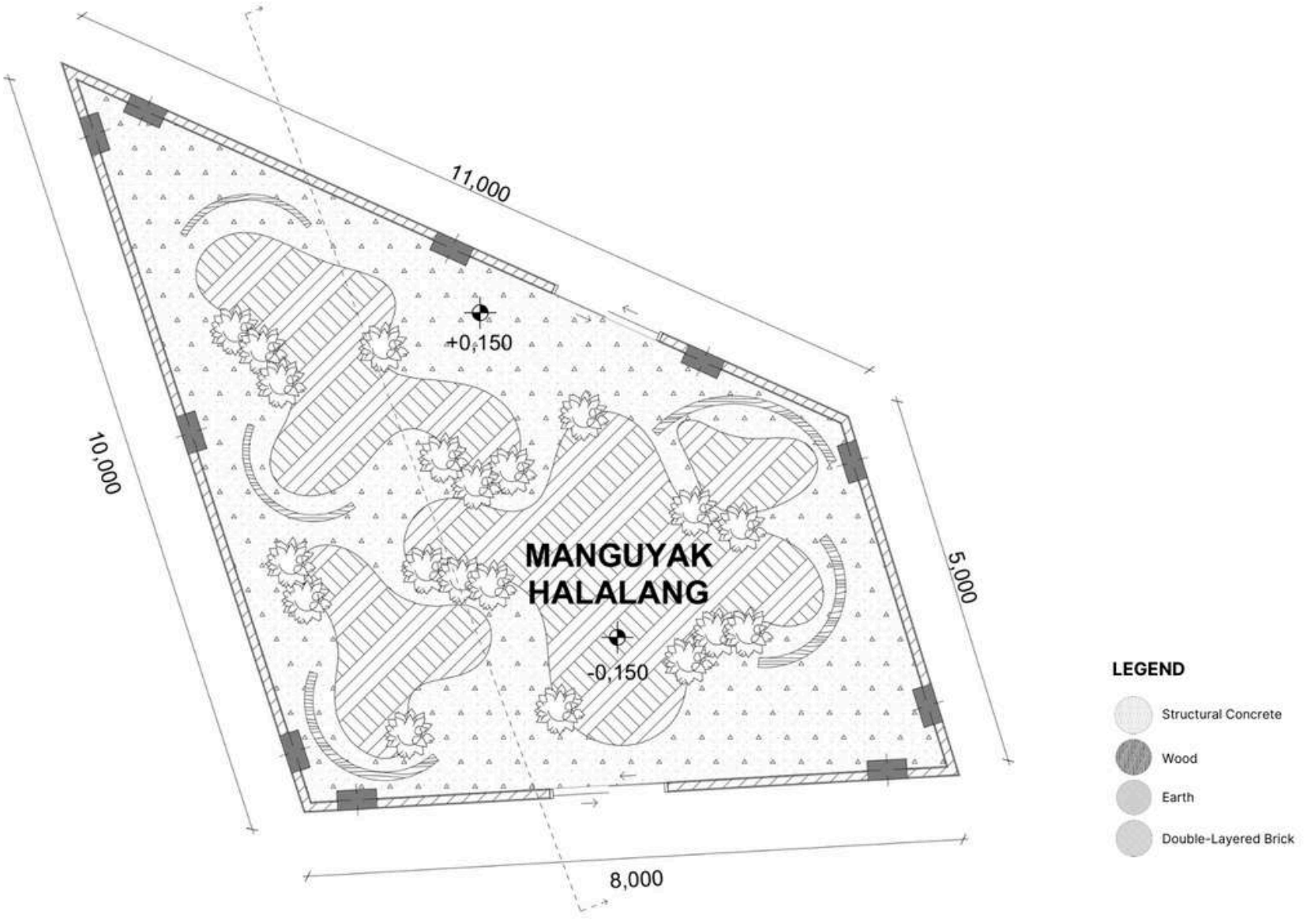


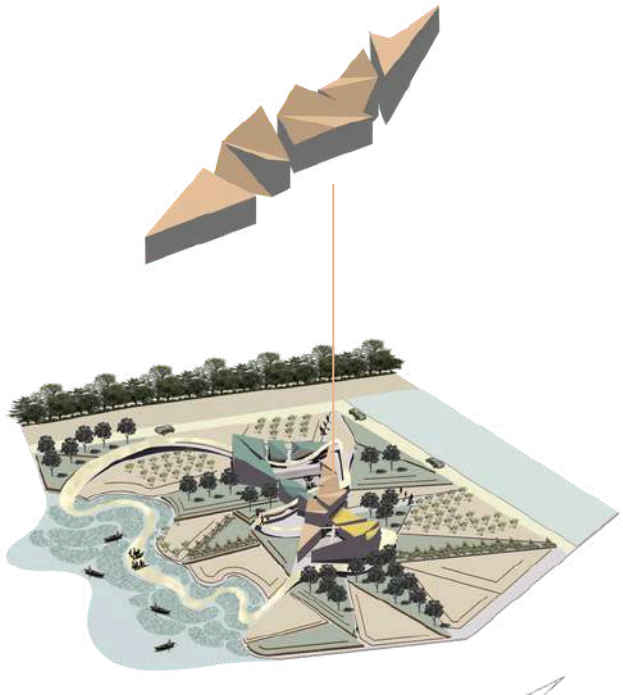
Fig 5.11 Floor plan of Manguyak Halalang
(source: author)

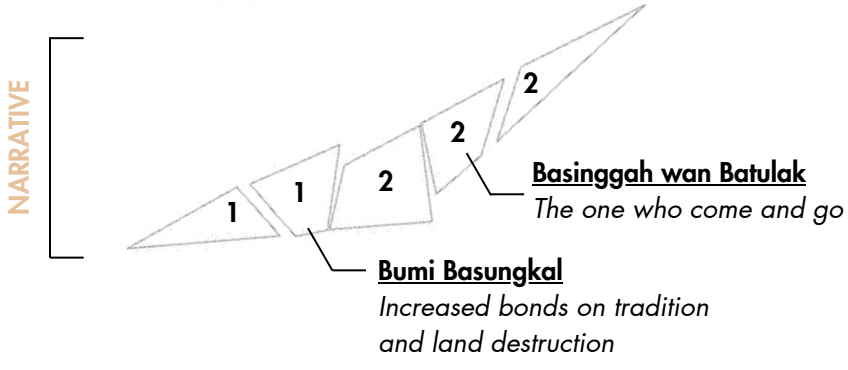
CLIMAX

phase 2

Suah Bahambur

The land that used to be destructed





Turnback point of diamond mining's golden era

This phase will consist of the ascending action where it reaches the climax on land destruction and events afterward. The story will gradually become chaos where it started from the community that grows bigger and caused the increase of mining activity and pits. Due to the change of the structure of soil, it became prone to disaster, which then caused the landslide that bury lots of miners.

Bumi Basungkal

Increased bonds on tradition and land destruction

The area of 'Bumi Basungkal' will tell the story on the early semi-modern era in diamond mining where machinery and better quality equipments were used. It also tell how the community growth from the variety of jobs and activities, traditions (rituals and rules on mining) as well as folklore spread on the society.



Basinggah wan Batulak

The one who come and go

Continuing the story of the community growth, on the aftermath, all those activities caused a great land destruction where landslide starts to happen and bury miners deep down the pits that could reach the depth of 20m. Post-event, mining activities were mostly taken by a big company using modern tools such as excavator.



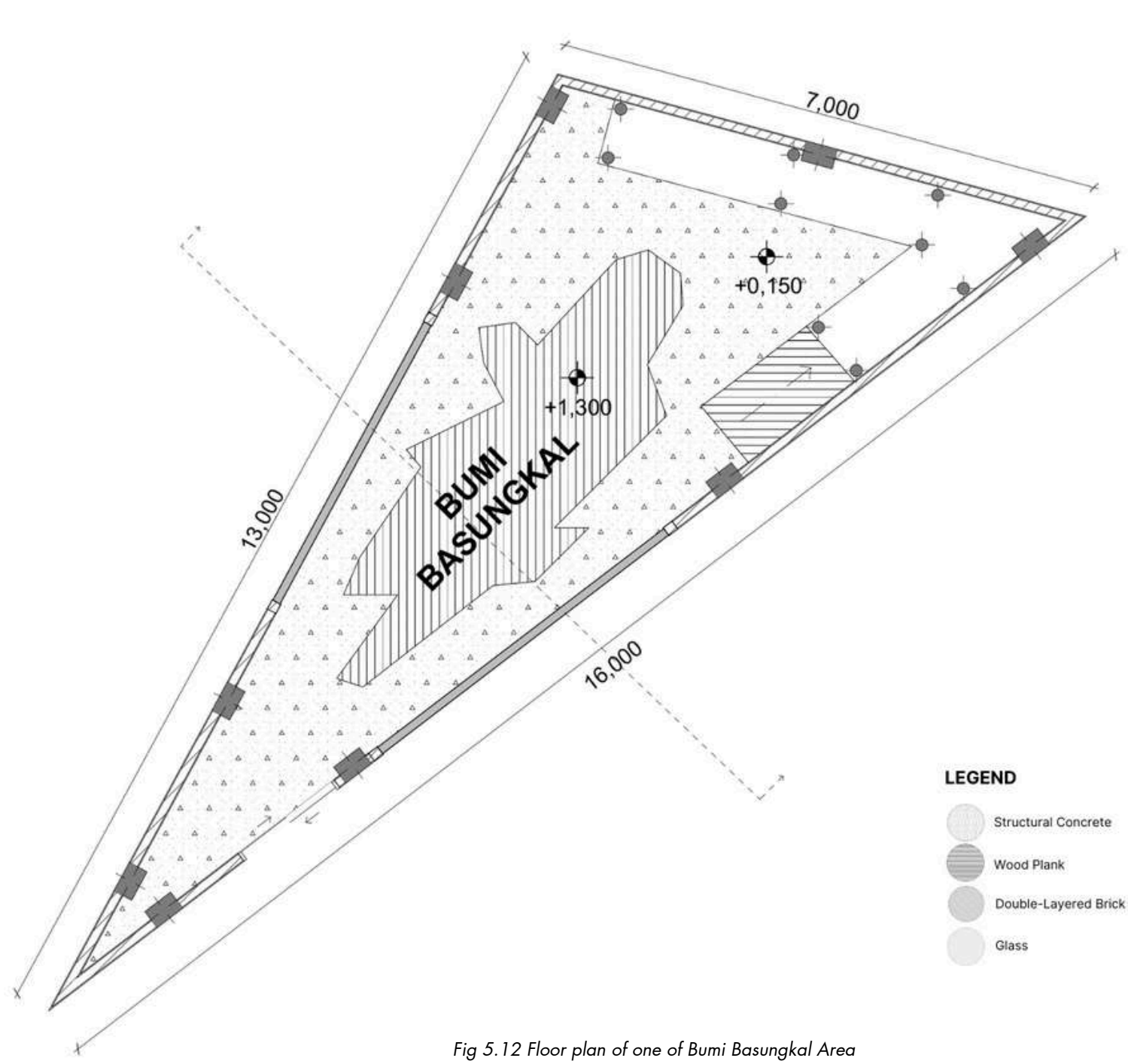


Fig 5.12 Floor plan of one of Bumi Basungkal Area
(source: author)

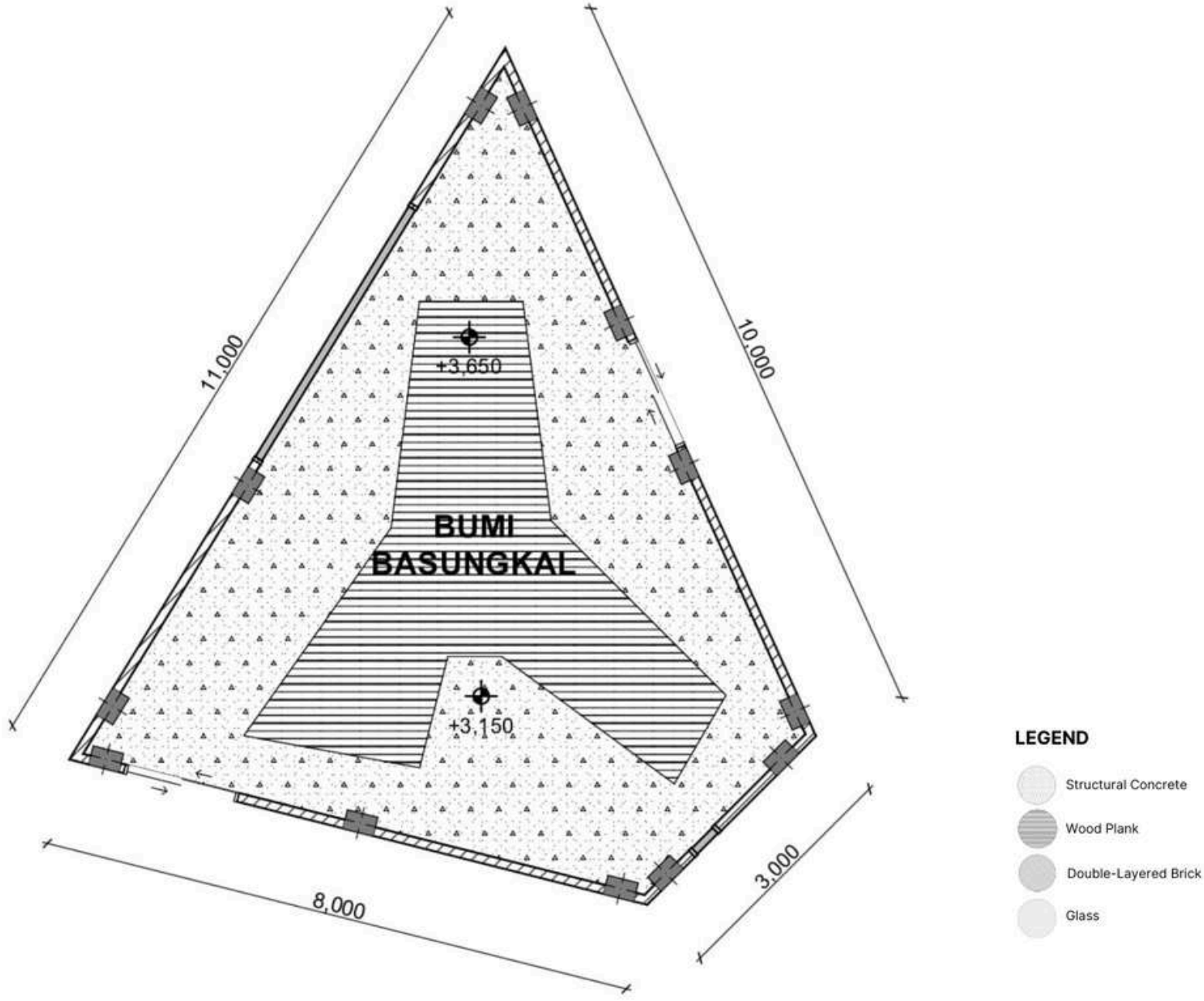


Fig 5.13 Floor plan of one of Bumi Basungkal Area (source: author)

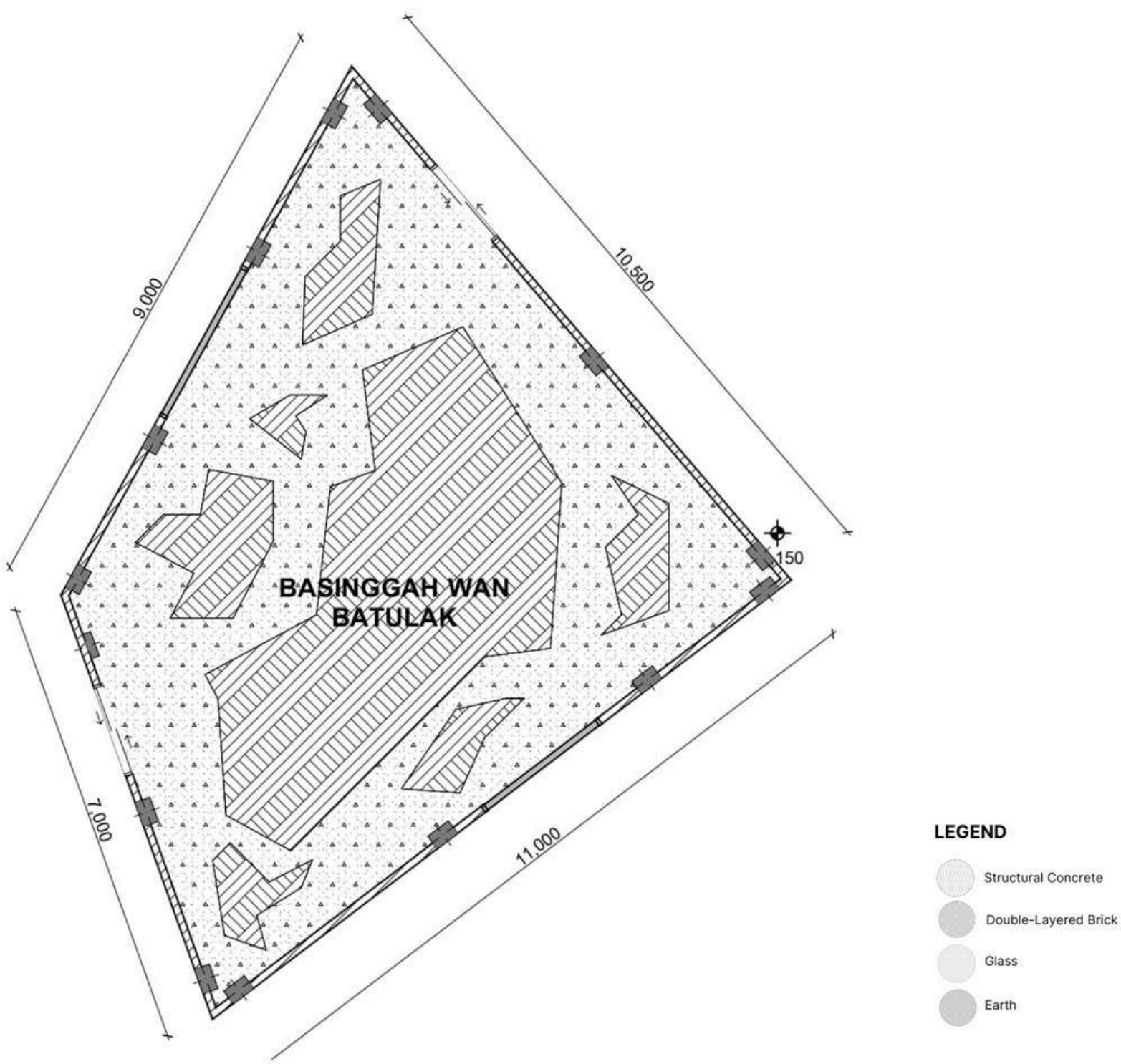


Fig 5.14 Floor plan of one of Basinggah wan Batulak Area
(source: author)

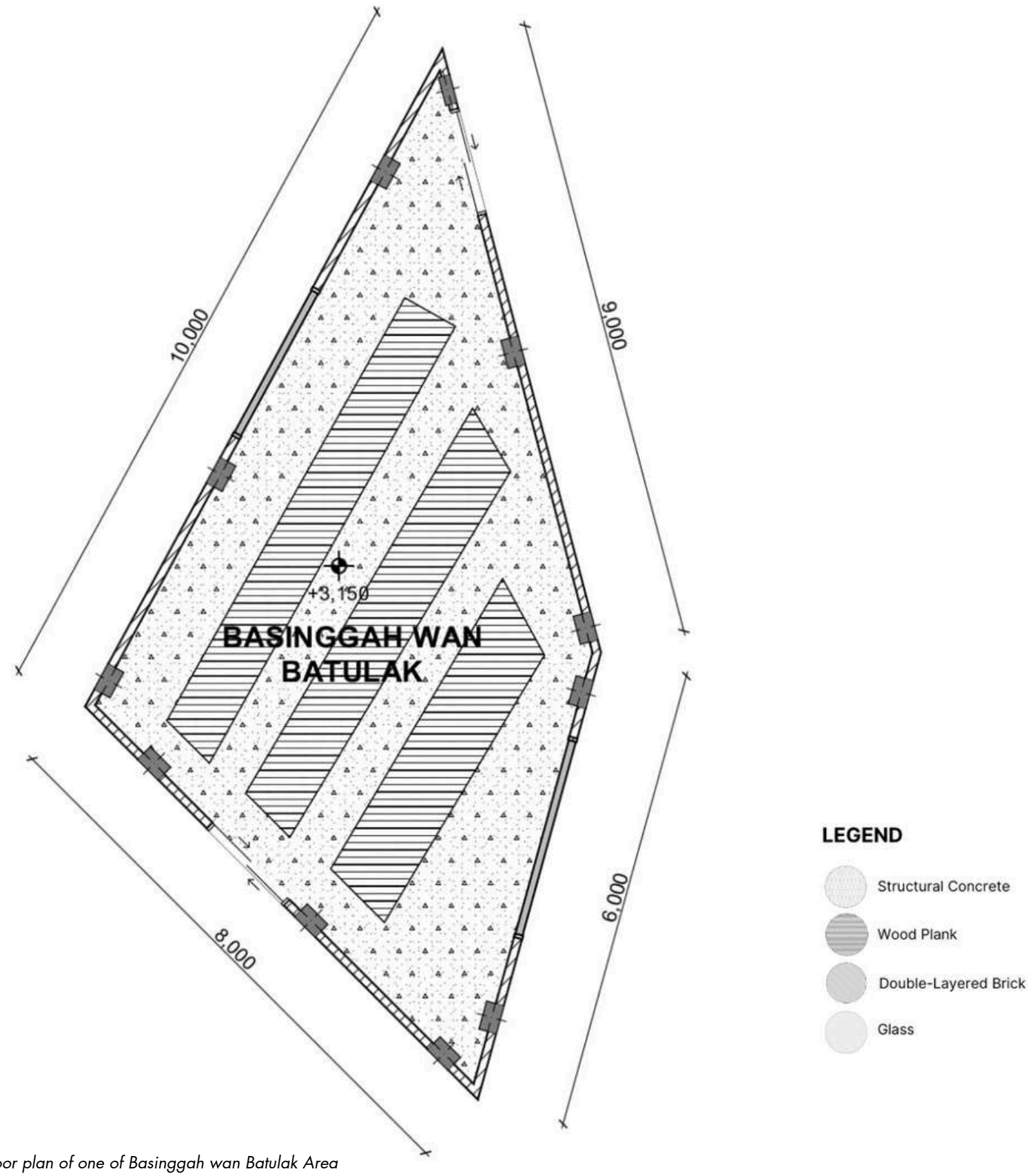


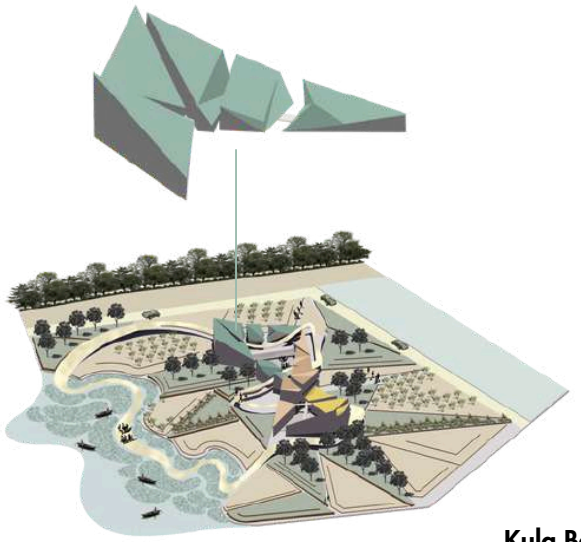
Fig 5.15 Floor plan of one of Basinggah wan Batulak Area (source: author)

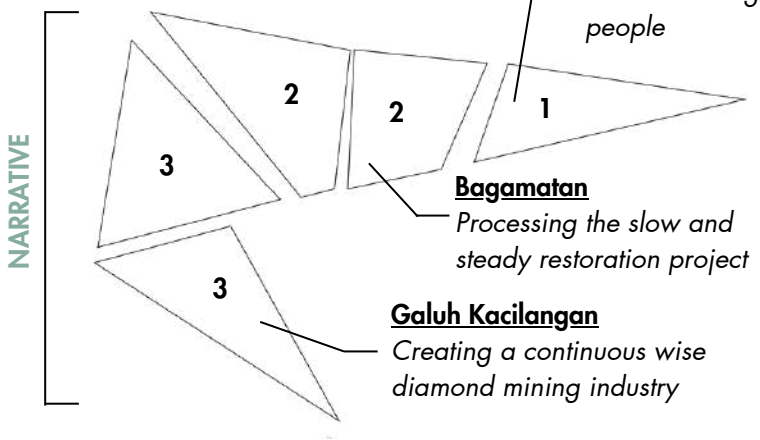
RESOLUTION

phase 3

Malangkari Banuaku

The long-awaited journey on creating our prettiest homeland





On reviving the once-abandoned

Acts as the last phase of the narrative, 'Malangkari Banuaku' incorporate both indoor and outdoor restoration project started from the site and gladly encouraging visitors on taking part of reviving the land by replanting, releasing seedlings and aquatic plants, as well as inviting small fauna to live in the area such as birds, insects, and so on. This phase aim to invite visitors to re-visit and see about their good deeds that was done in the past towards the environment.

Kula Badarak

On assembling our people

The act of 'Kula Badarak' starts the journey of land restoration by "assembling" the people, which is visitors. This act will combine technology and on-site activities that will be done indoor to outdoor. In the building, visitors will be interacting with touchscreen booths on project information.



Bagamatan

Processing the slow and steady restoration project

Continuing the previous act, visitors will be given some vegetation and fish seedlings to be planted and released on the site. The term "slow and steady" represents the journey of restoration starting from planting then taking care of them and finished when the seedlings have grown.



Galuh Kacilangan

Creating a continuous wise diamond mining industry

'Galuh Kacilangan' became the final resolution phase on looking back of what the visitors have done by participating in this project. Visitors were brought to see the whole area through a walkway that goes through the entire site in different elevation. In the end of the walk, each visitors will be given a barcode that could notify about their grown trees or fishes that they have planted.



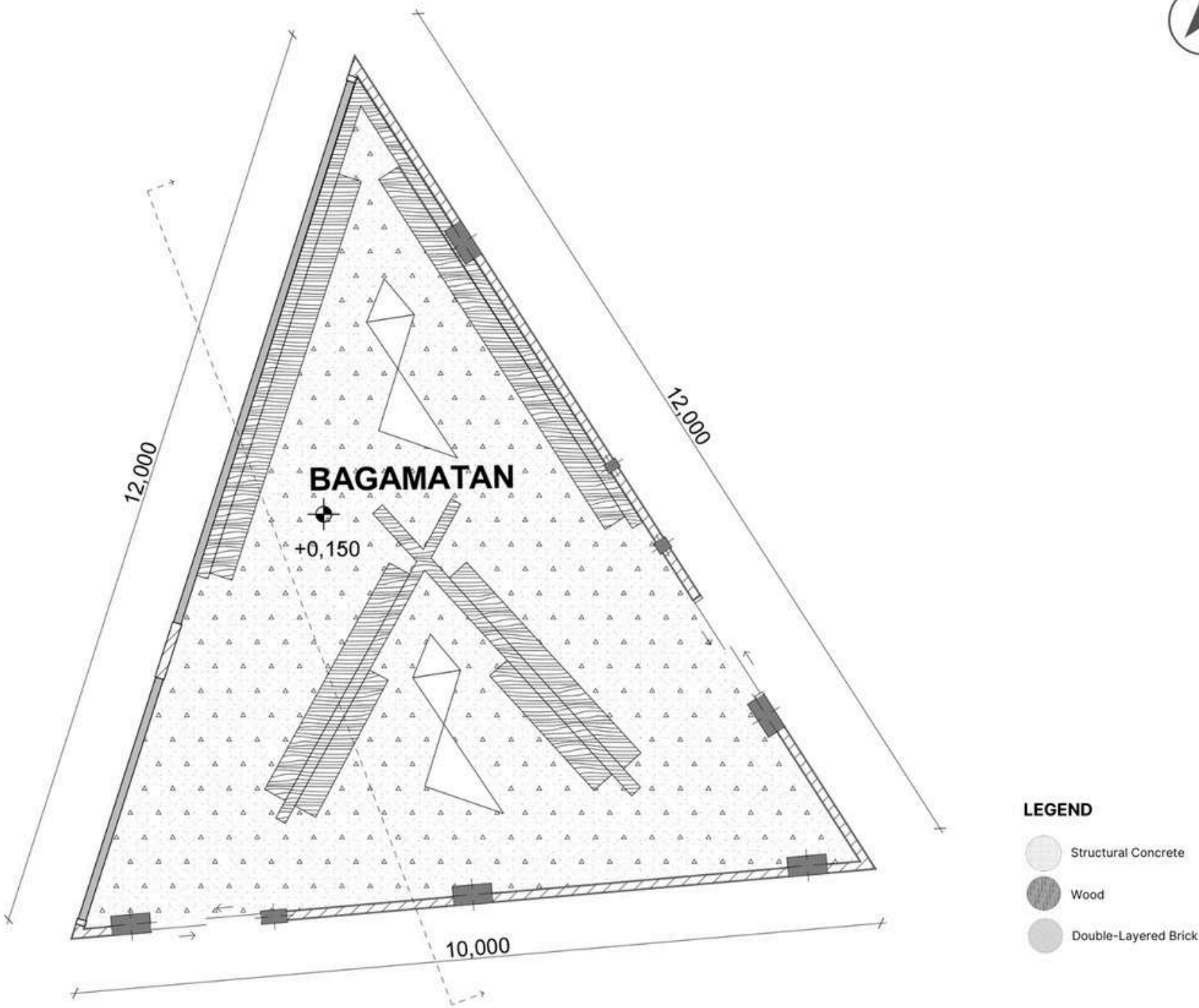


Fig 5.16 Floor plan of one of Bagamatan Area
(source: author)

Collaborate with Nature

On choosing the type of vegetations to be included in the restoration project, the idea is not only to let them grow and make diverse type, but also being chosen as one that could bring back memories, give indirect education, as well as attracting the visitors to come back (especially by its season).

CONSIDERATION ON CHOOSING VEGETATION TYPE:

- Growing local plants (fruit tree, especially)
- Attractive (visual, meaning, shape)
- Growing period (how many years will it took to be harvested/bloom)
- Size (shading purpose)

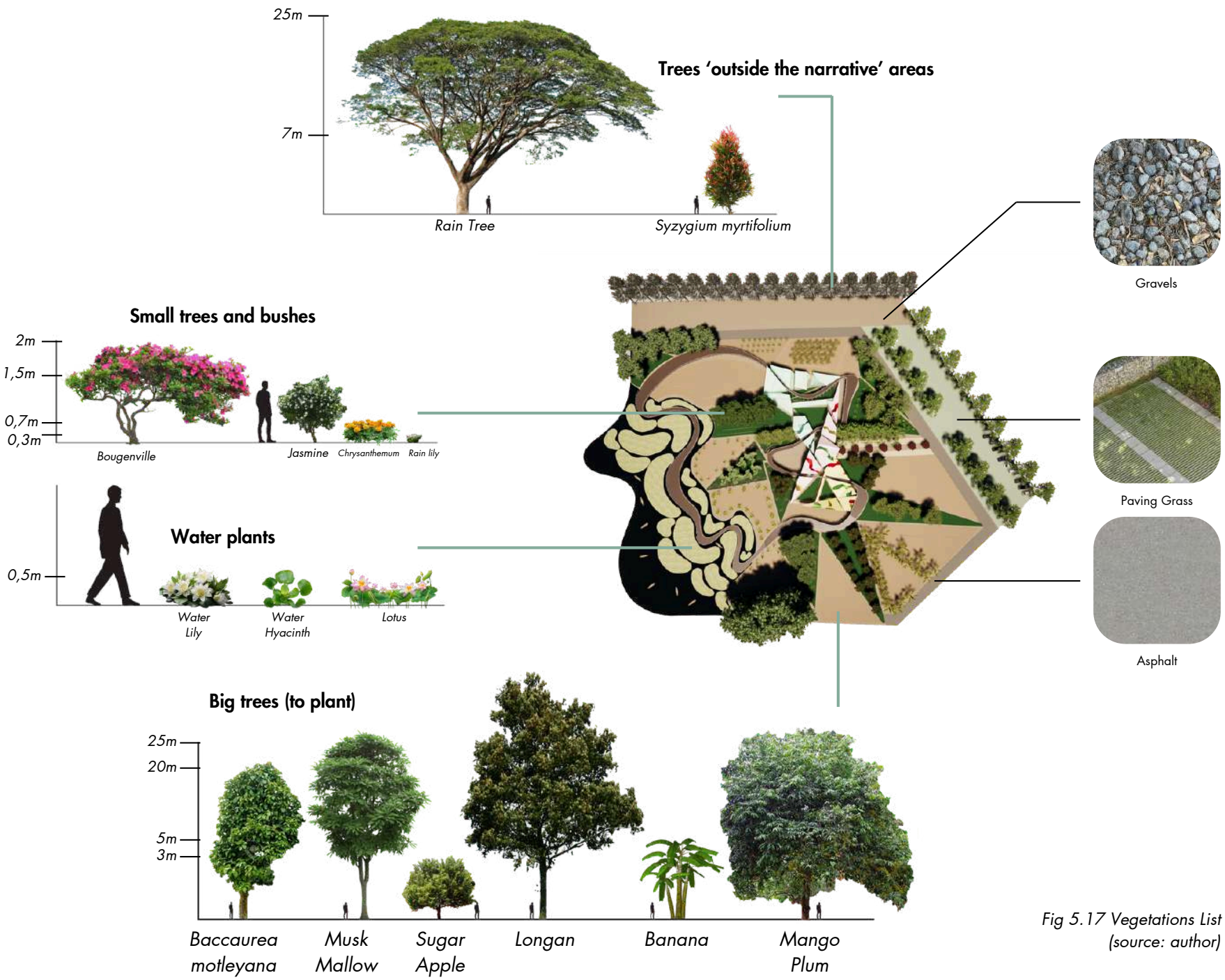


Fig 5.17 Vegetations List (source: author)

Malangkari Banuaku

Our prettiest home









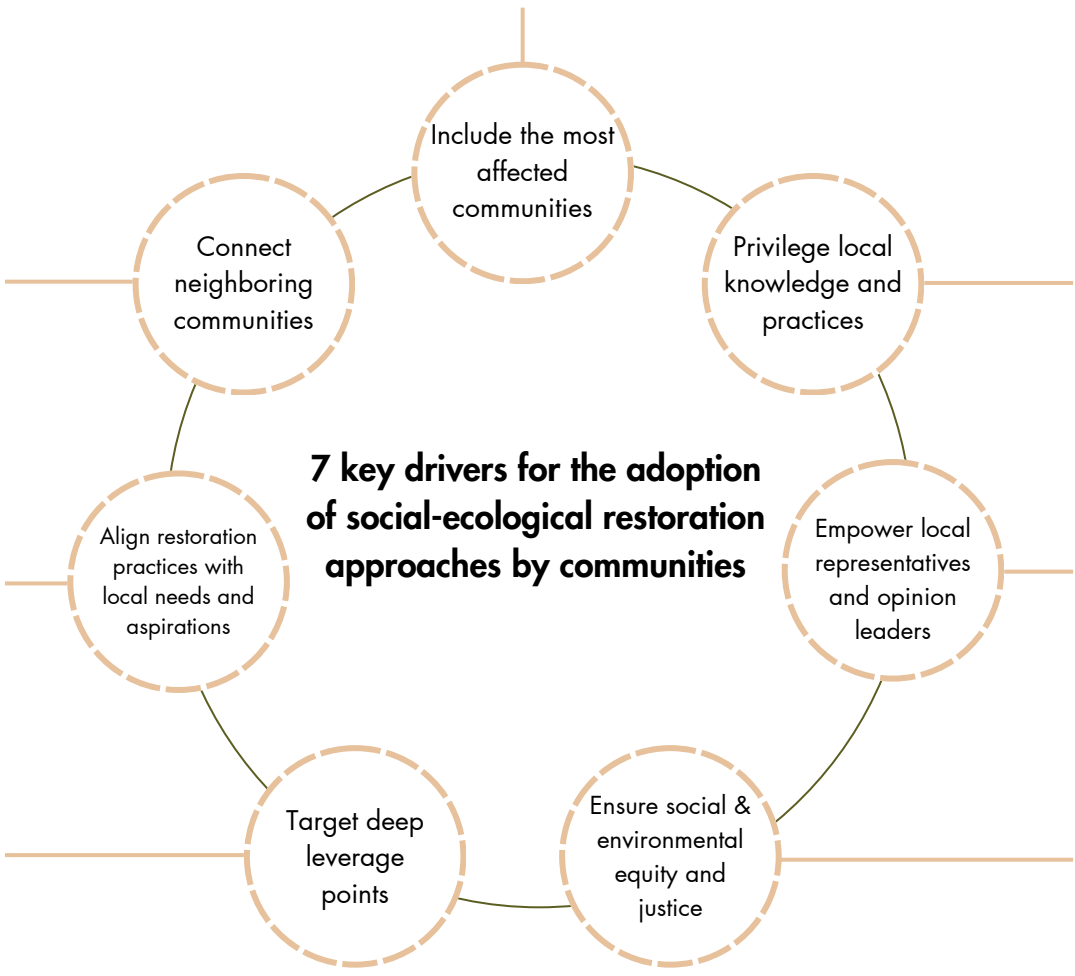




Traditional mining communities and surrounding locals in Cempaka district (especially for the inhabitants near mining areas/villages)

Organizer target: Miners community, locals surrounding the site (and people who currently in charge to handle the lake as "tourism spot"), historian, local curators, directorate of related issue

Visitor target: Schools, Family, Government, Environment-related communities



Experienced Miners and people who handle diamond brilianteering, Took information from the help of Directorate of Mineral and Coal (*ESDM*) regarding mining

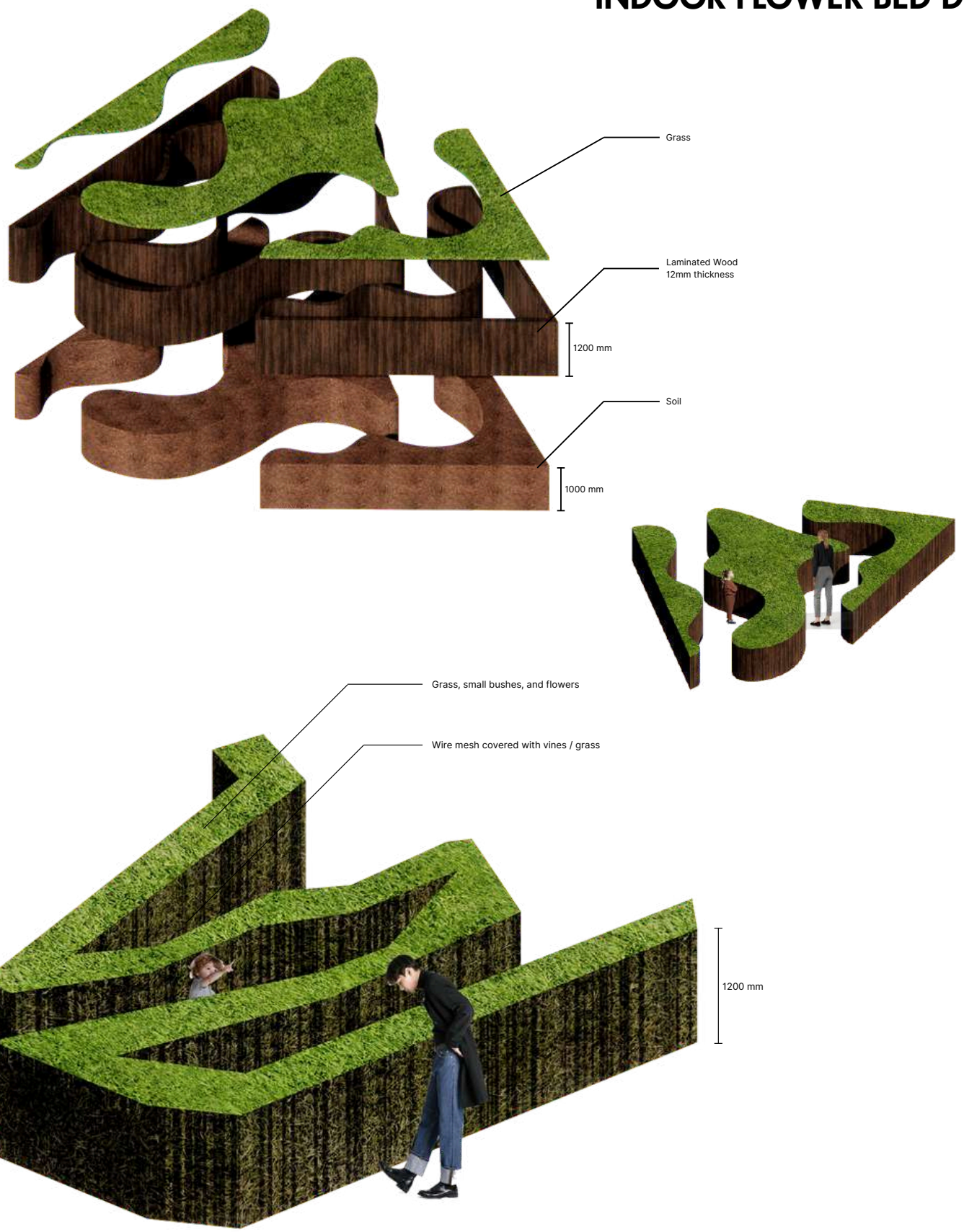
Including restoration project in the narrative with the base on the urgent issue post-mining of restoring site condition

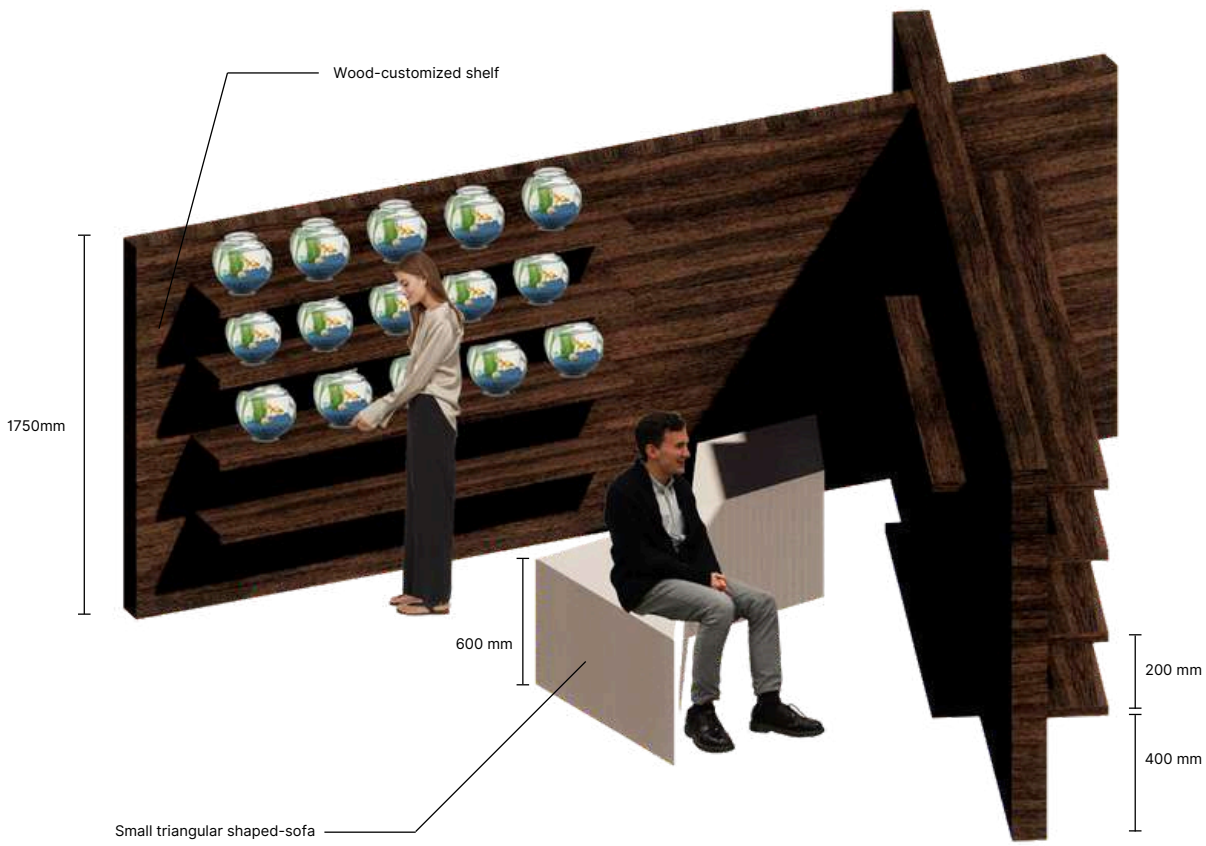
Finding the solution based on the protest done by locals, starting by restoring the environment quality

Including a hands on activity on the restoration after understanding what happened in the past and make it suitable with modern era to make it an attraction point

Avoid mass tourism by creating an organized and purposely made tourism spot in order to balance the need for tourism demand and human intervention with the current selected restoration area in order to ensure the success of the goal

INDOOR FLOWER BED DETAILS



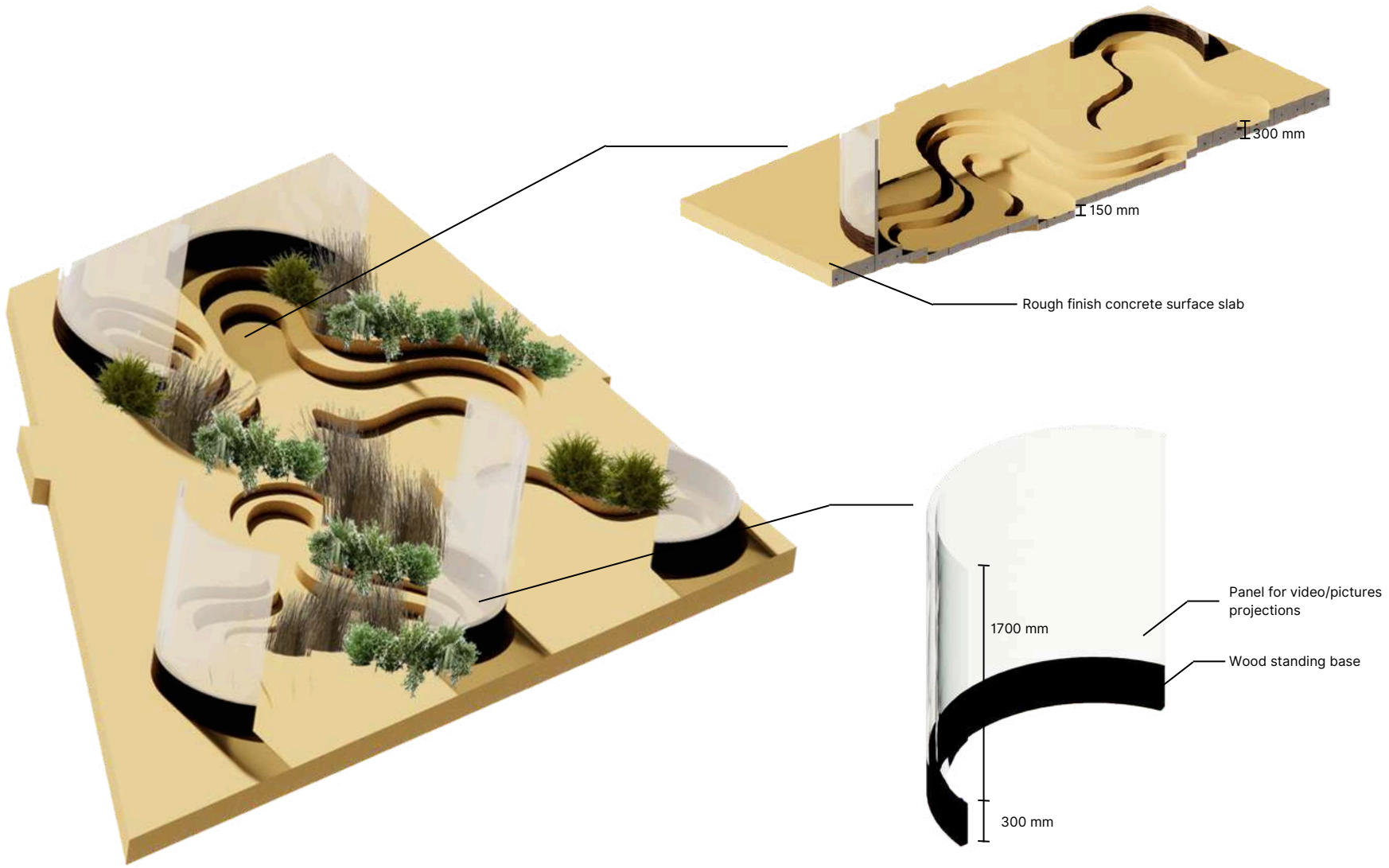


SEEDLINGS SHELF DETAILS



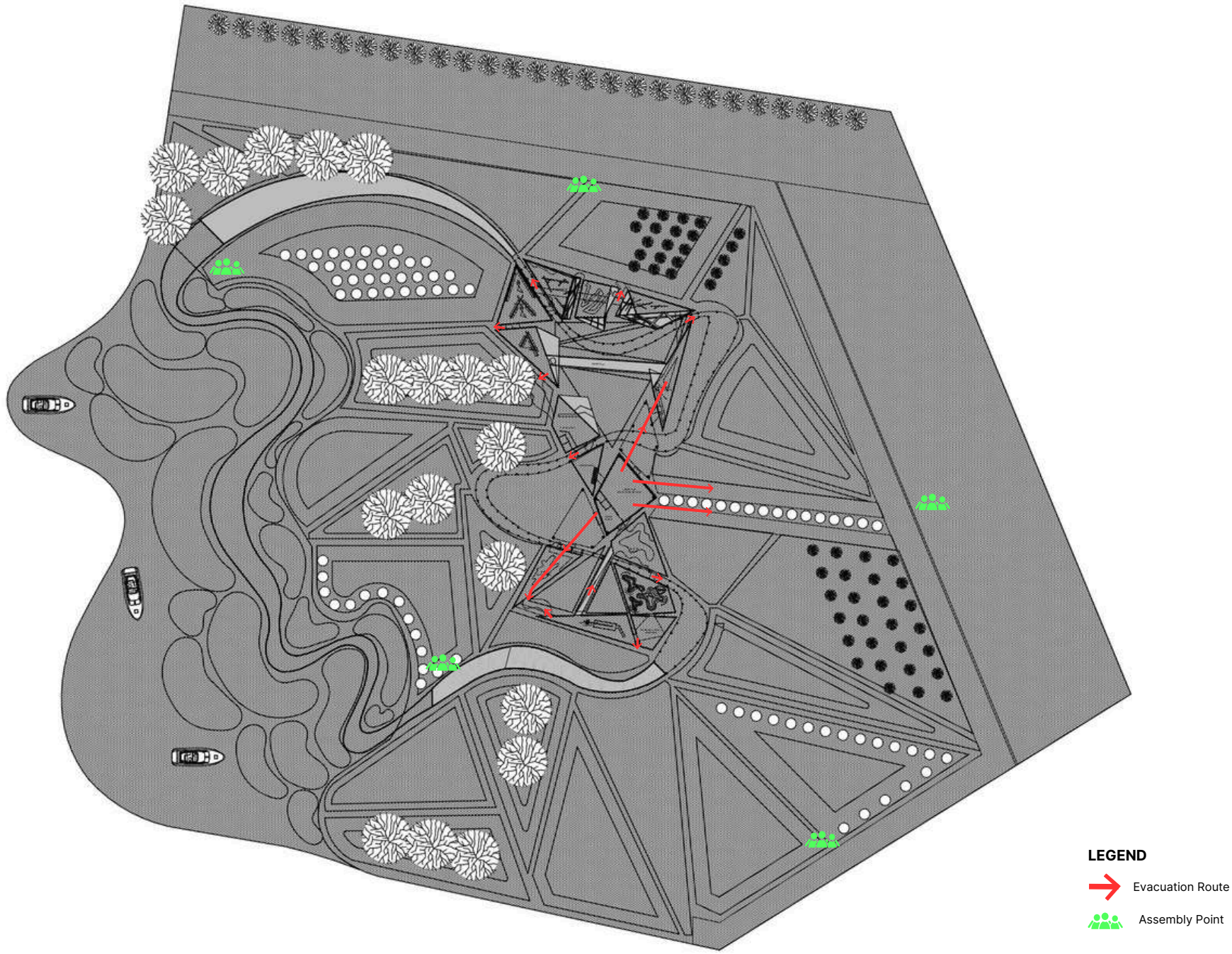
'SUAH BAHAMBUR' INDOOR RAMP DETAIL

‘MANGUYAK HALALANG’ INTERIOR DETAIL

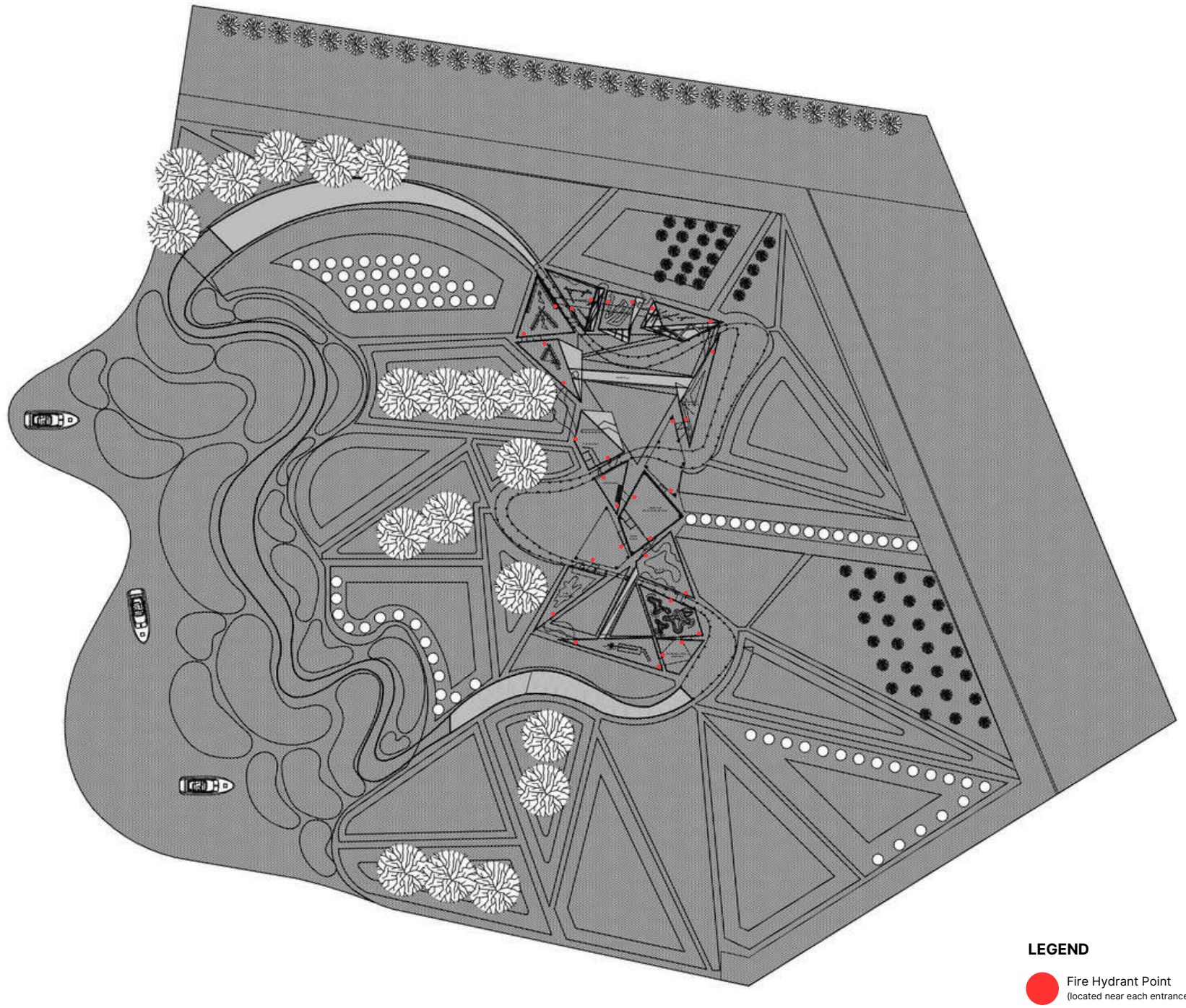


EMERGENCY

EVACUATION ROUTE



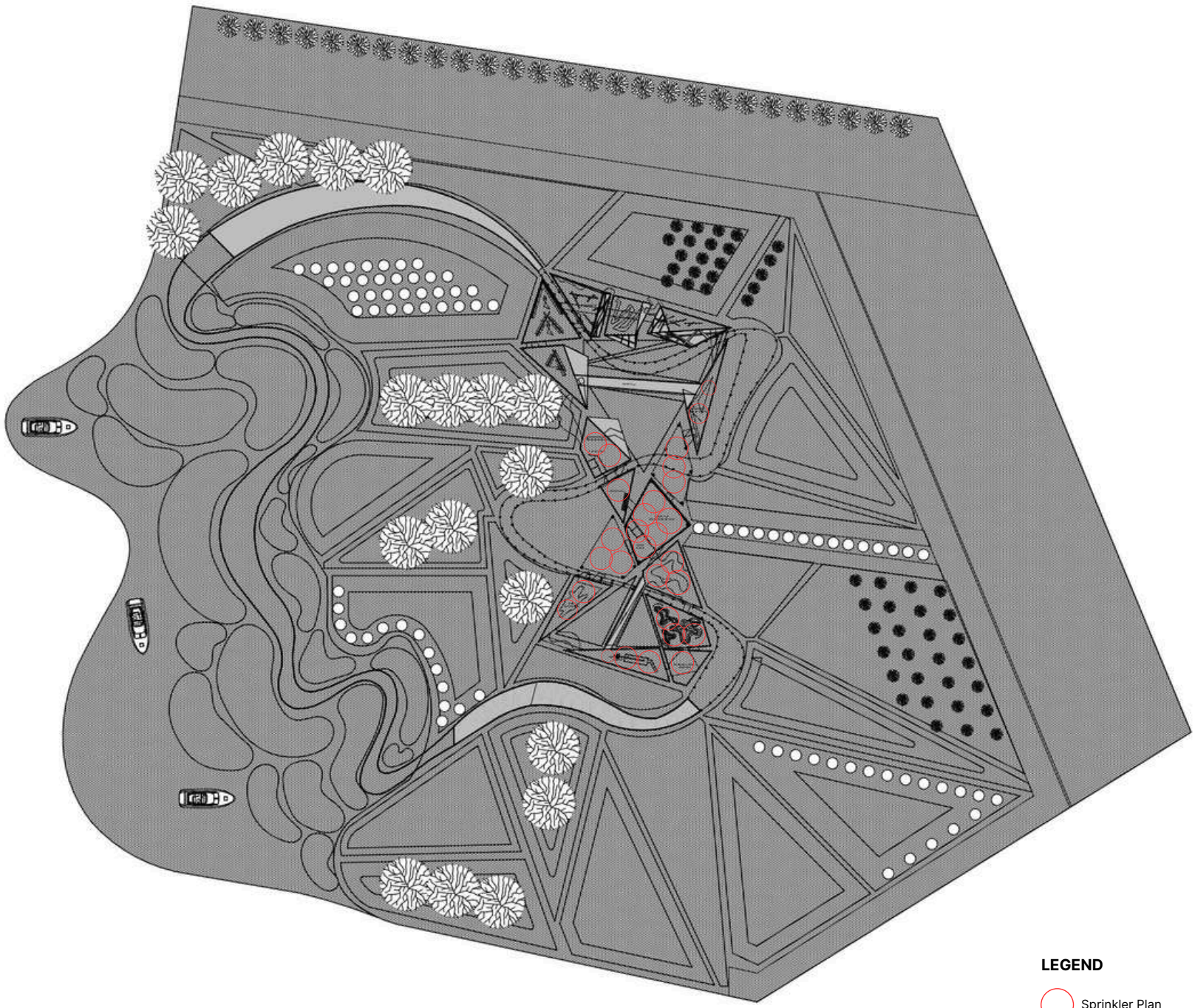
FIRE HYDRANT *POINTS*



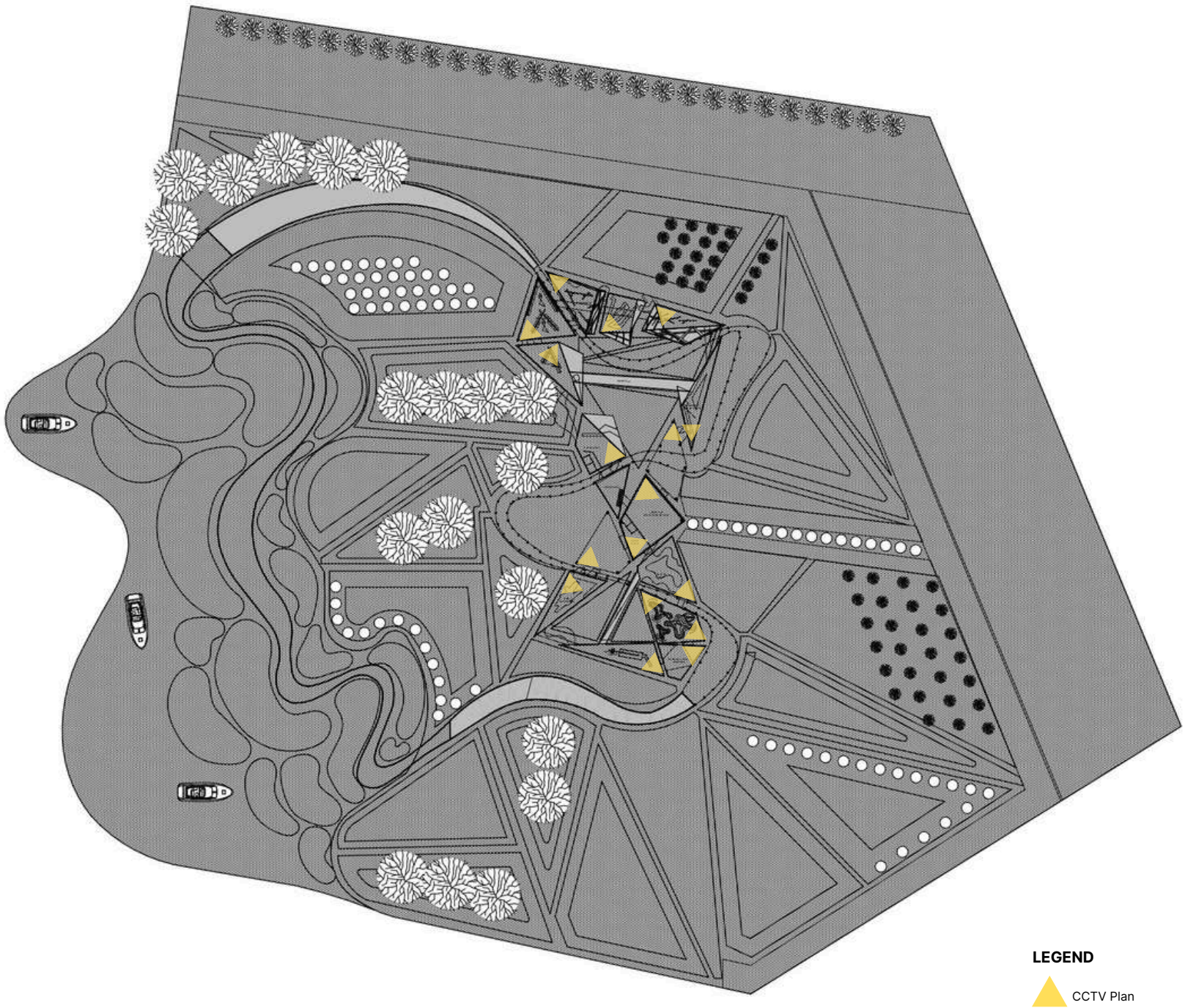
LEGEND

Fire Hydrant Point
(located near each entrance and exit)

SPRINKLER *PLAN*



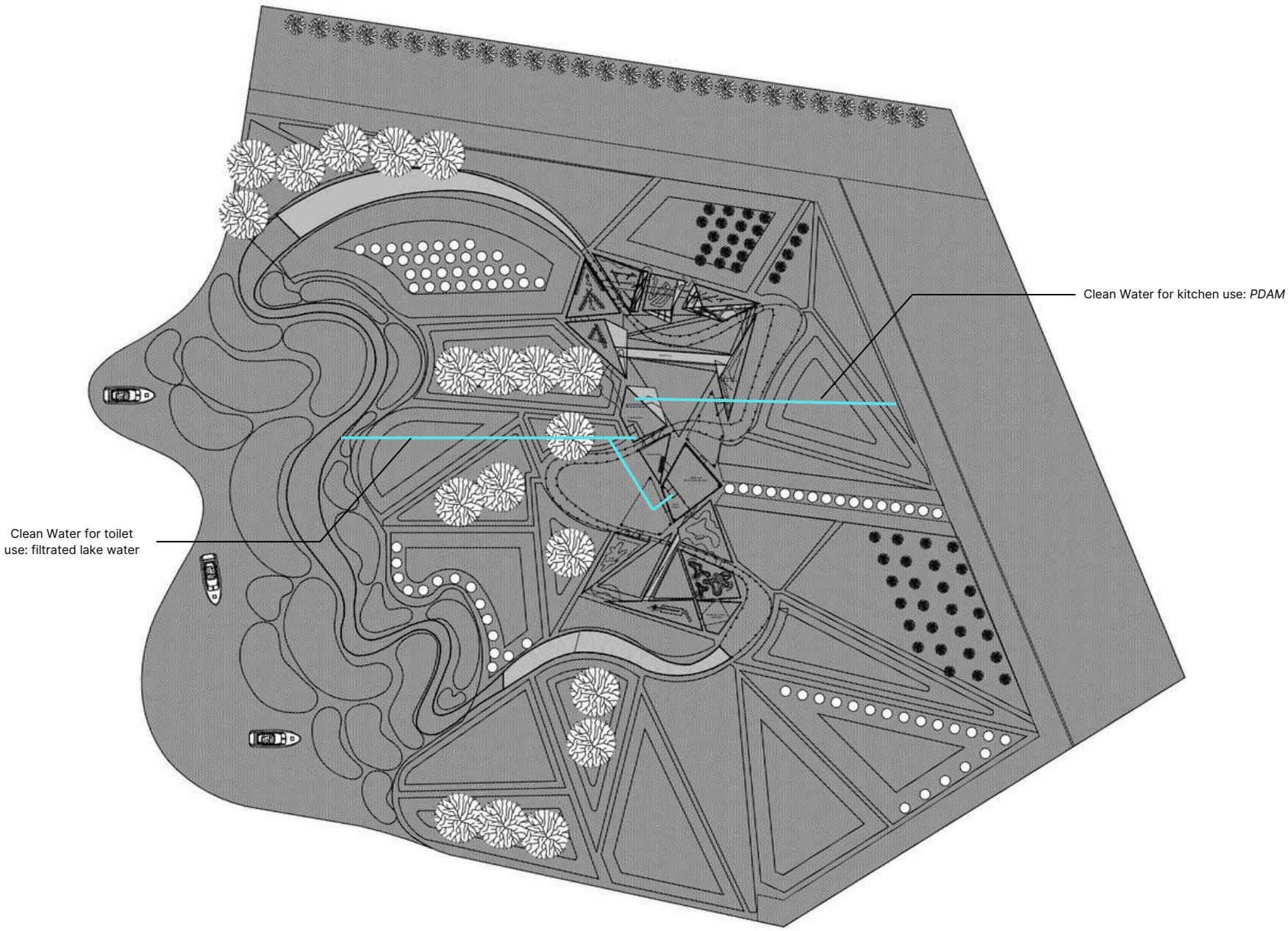
CCTV *PLAN*



LEGEND

CCTV Plan

CLEAN WATER ***PLAN***



BLACK WATER ***PLAN***

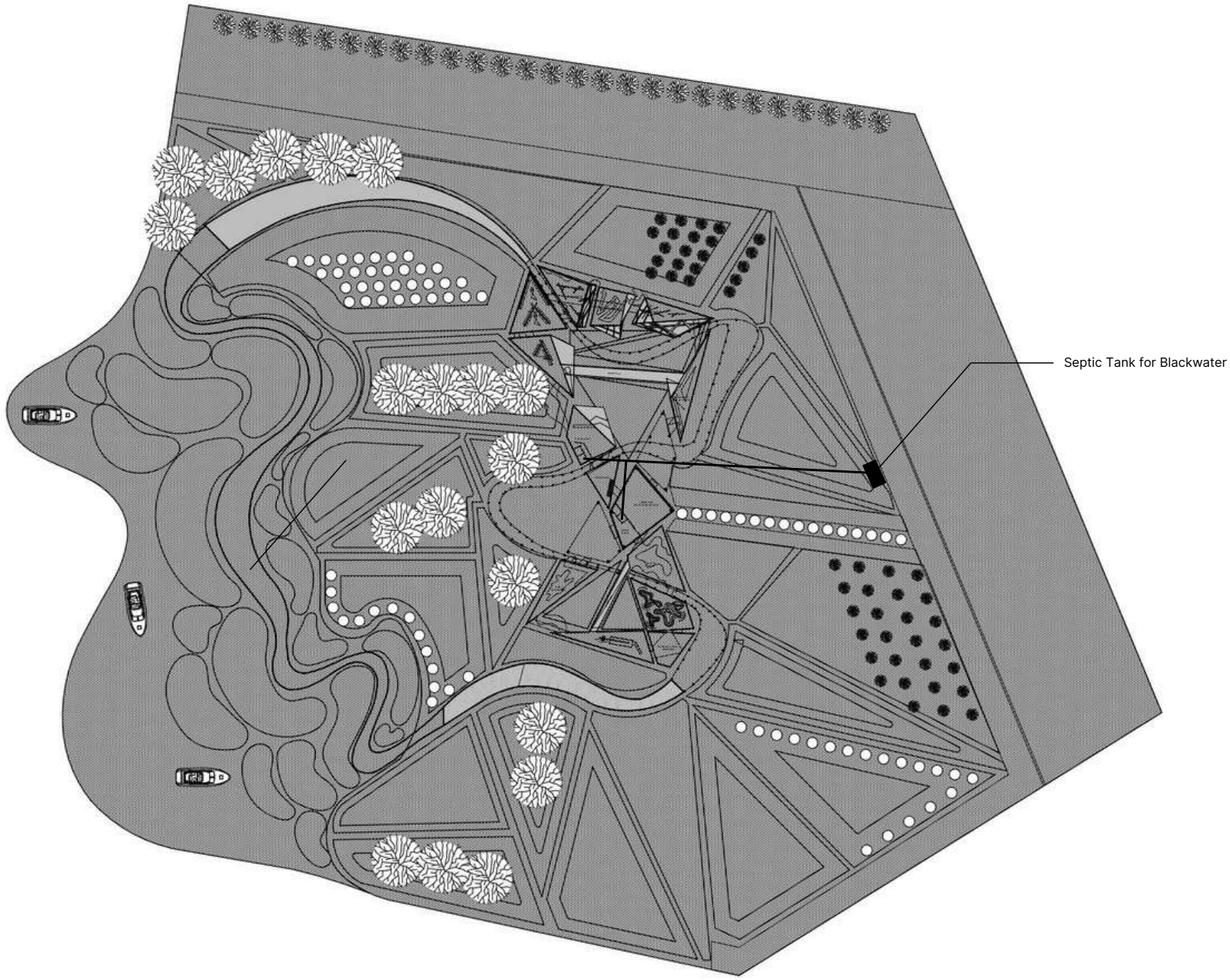










Fig 5.18 Outdoor Renderings
(source: author)











Fig 5.19 Bauntung Batuah Indoor Renderings (source: author)

BEGINNING

Bauntung Batuah

The journey which brings the luck, dignity, and honor of Cempaka district and Banjarbaru.



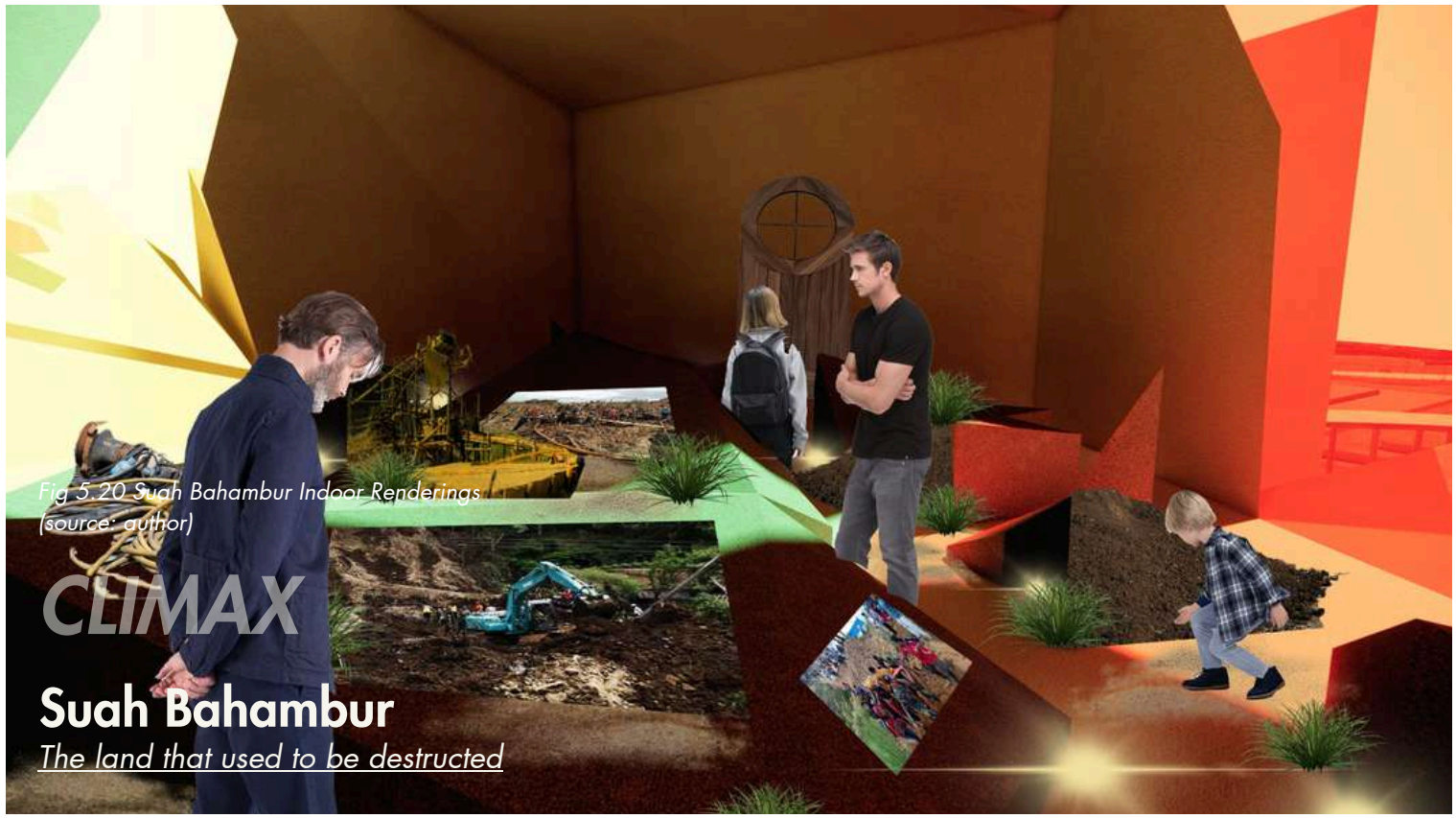


Fig 5.20 Suah Bahambur Indoor Renderings (source: author)







Fig 5.21Malangkari Banuaku Indoor Renderings (source: author)

RESOLUTION

Malangkari Banuaku

The long-awaited journey on creating our prettiest homeland

DESIGN EVALUATION

chapter 6: evaluation based on supervisor's review

"Di bumiku nang sugih kaya
Basambunyian batu mulia
Wadah basimpan di dalam bumi
Jadi idaman saluruh nageri"

Galuh Cempaka
Thamrin



SUPERVISOR'S REVIEW CONCLUSION

Based on the review and discussion regarding the design, there are several things to improve such as,

COMMENT 1:
Students need to complete technical drawings to explain the design, and further naturalize the landscape area.

RESPONSE 1:



BEFORE



AFTER

According to the discussion, where I try to implement Gilles Clement's theory on landscaping, it was agreed that rather than creating shaped blobs for water vegetations, I should remove the 'cage' and let the water lilies to spread all by themselves on the lake after being placed by the visitors. That way, the form would be more natural and the boat's route to explore the lake will be different each time they ride the boat as the water lilies moves by themselves.

RESPONSE 2:



BEFORE



AFTER

It was argued that the shape of geometry that I created on land looks like referring to 'French Garden' theories rather than Gilles Clement's way. But, the implementation is actually intended to still following Gilles Clement's way as there is '**no rule of planting'** in the surrounding area. The geometry shapes created was only for early way of designing the area, rather than leave it plain. But as the vegetations grow by themselves, The area will be covered based on what grows there, even for human's path in the garden, are following the form of nature that is created.

Diverse vegetations grow here

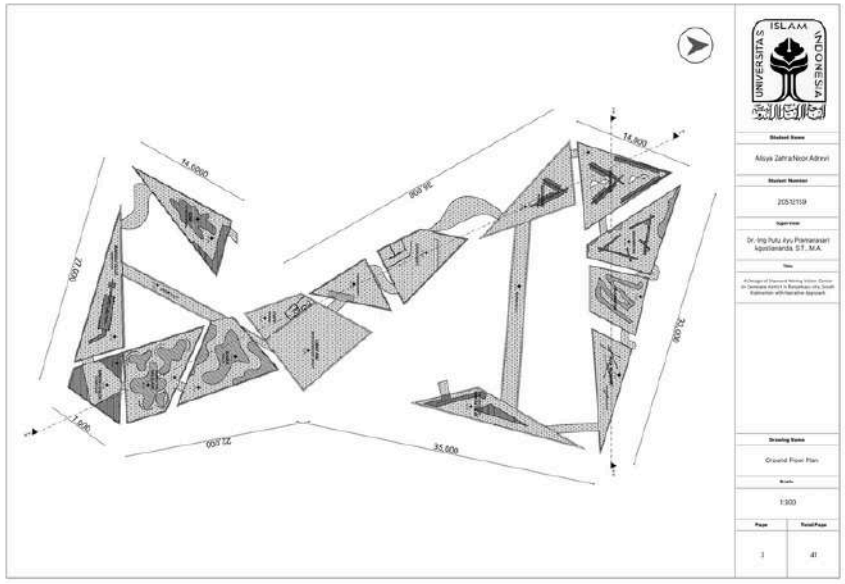
pathway created by nature

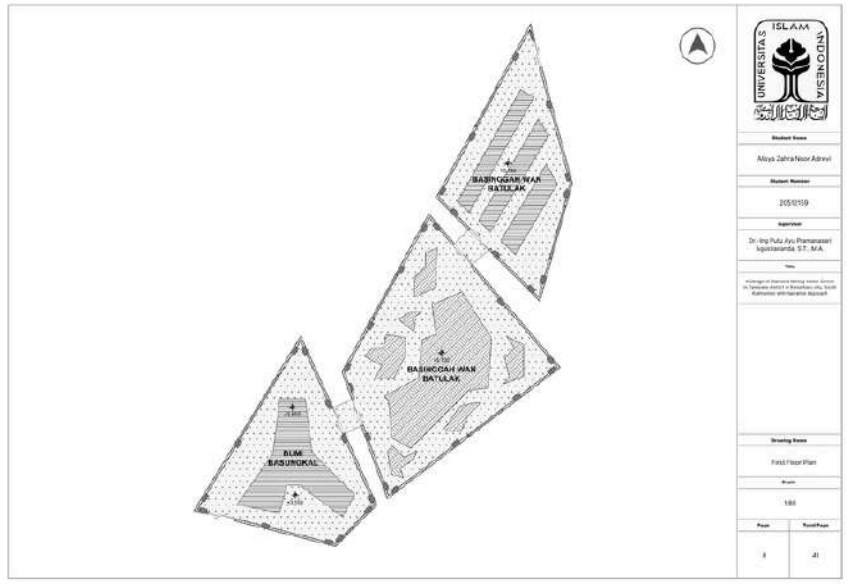


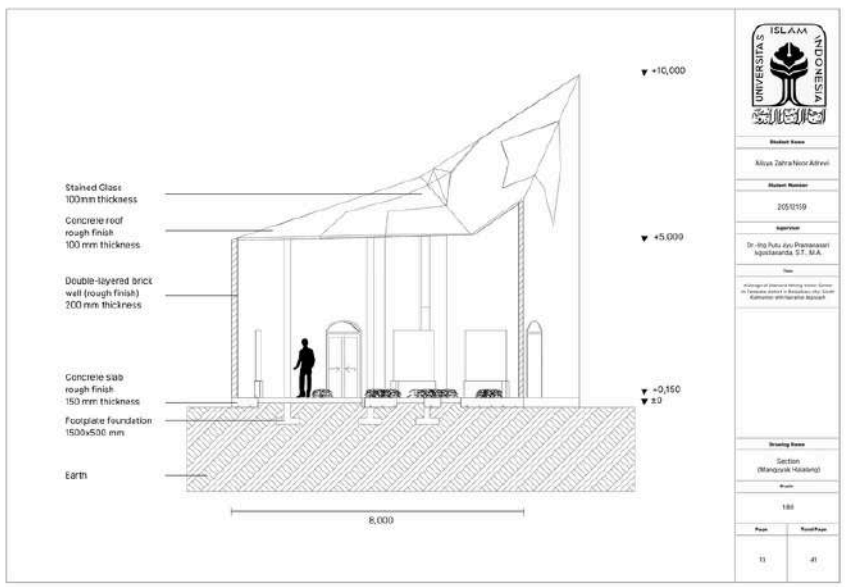
COMMENT 2:
The design is great but the constructability is still not enough to clarify the ideas.
We need at least one complete building to be drawn in more technical (LOD 300)

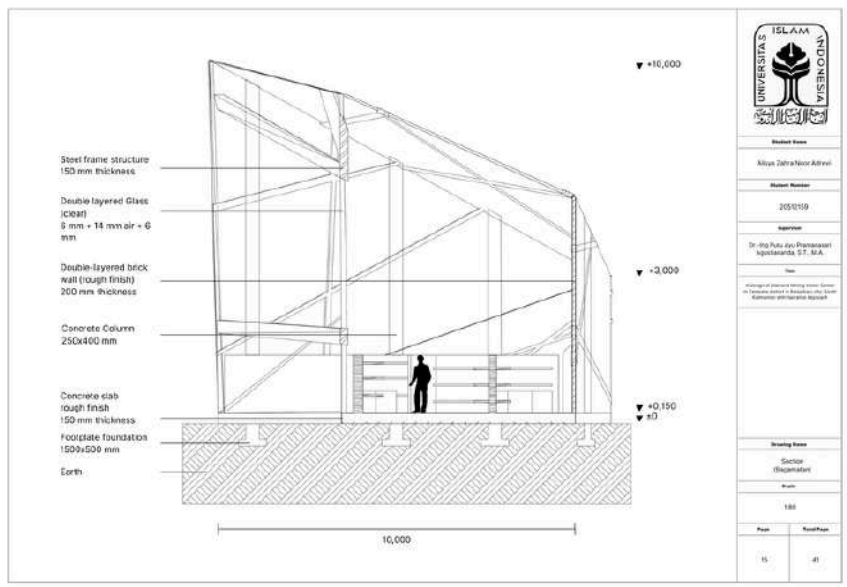
RESPONSE:

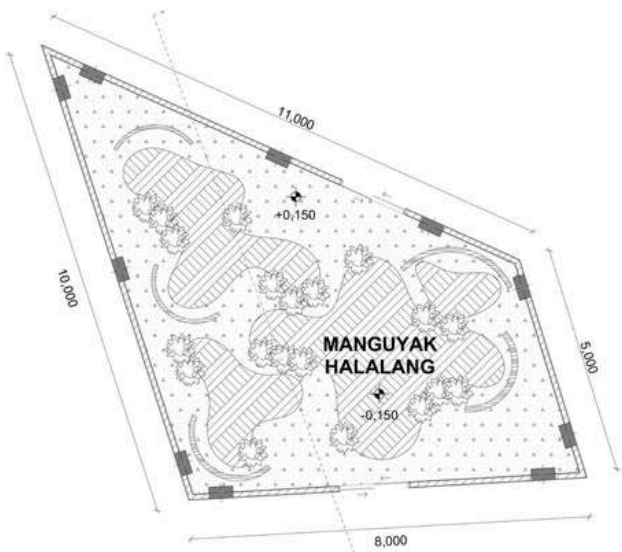
As the discussion focused on detailing floor plan, section, and elevation, I tried to improve the drawing quality by adding the notations of material, floor levels, dimension, and so on.







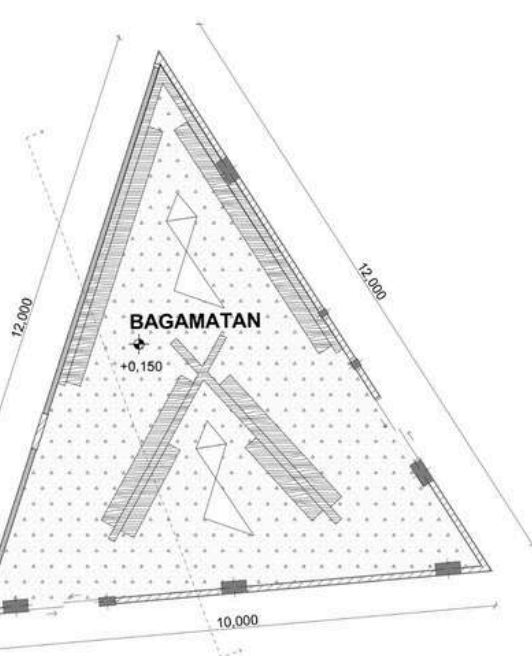




LEGEND

- Structural Concrete
- Wood
- Earth
- Double-Layered Brick

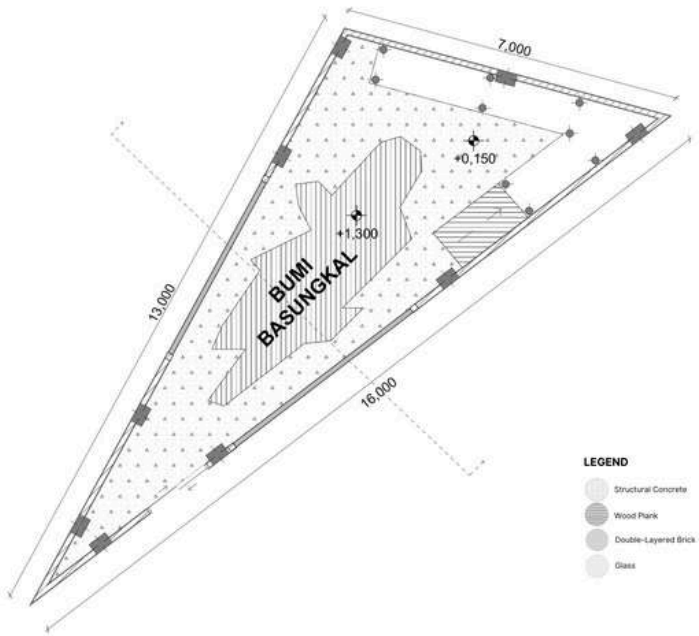
Student Name	Alisya Zahra Noor Adrevi
Student Number	20512159
Supervisor	Dr.-Ing Putu Ayu Pramanasari Agustiananda, S.T., M.A.
Title	A Design of Diamond Mining Visitor Center in Cempaka district in Banjarbaru city, South Kalimantan with Narrative Approach
Drawing Name	Ground Floor Plan (Manguyak Halalang Area)
Scale	1:30
Page	4
Total Page	41



LEGEND

- Structural Concrete
- Wood
- Double-Layered Brick

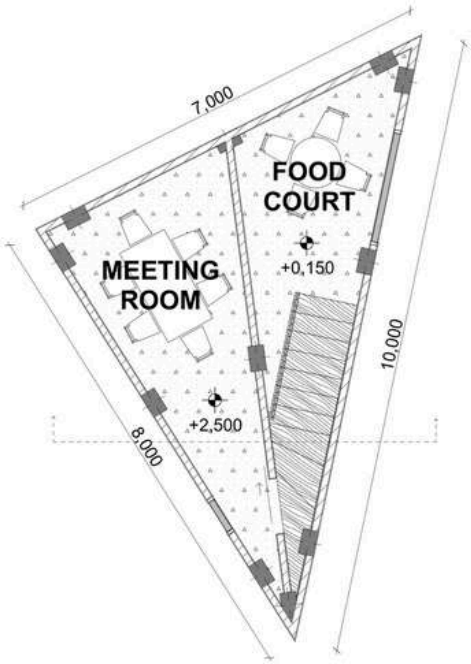
Student Name	Alisya Zahra Noor Adrevi
Student Number	20512159
Supervisor	Dr.-Ing Putu Ayu Pramanasari Agustiananda, S.T., M.A.
Title	A Design of Diamond Mining Visitor Center in Cempaka district in Banjarbaru city, South Kalimantan with Narrative Approach
Drawing Name	Ground Floor Plan (Bagamatan Area)
Scale	1:30
Page	6
Total Page	41



LEGEND

- Structural Concrete
- Wood Plank
- Double-Layered Brick
- Glass

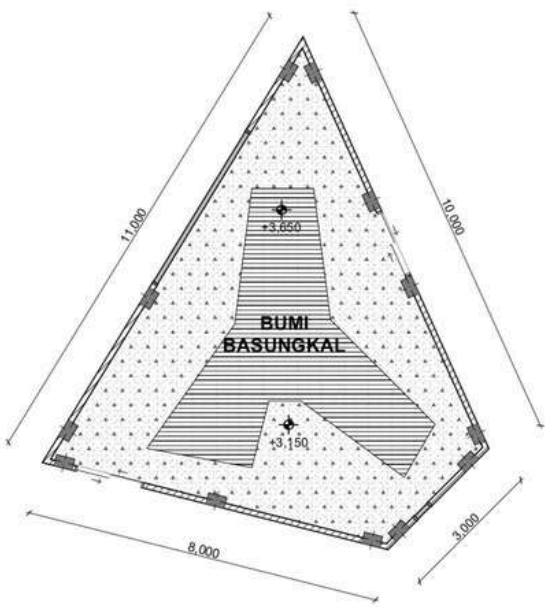
Student Name	Alisya Zahra Noor Adrevi
Student Number	20512159
Supervisor	Dr.-Ing Putu Ayu Pramanasari Agustiananda, S.T., M.A.
Title	A Design of Diamond Mining Visitor Center in Cempaka district in Banjarbaru city, South Kalimantan with Narrative Approach
Drawing Name	Ground Floor Plan (Bumi Basungkal Area)
Scale	1:30
Page	5
Total Page	41



LEGEND

- Structural Concrete
- Wood
- Double-Layered Brick
- Glass

Student Name	Alisya Zahra Noor Adrevi
Student Number	20512159
Supervisor	Dr.-Ing Putu Ayu Pramanasari Agustiananda, S.T., M.A.
Title	A Design of Diamond Mining Visitor Center in Cempaka district in Banjarbaru city, South Kalimantan with Narrative Approach
Drawing Name	Mezzanine Plan
Scale	1:30
Page	7
Total Page	41



LEGEND

- Structural Concrete
- Wood Plank
- Double-Layered Brick
- Glass

Student Name: Alisya Zahra Noor Adrevi

Student Number: 20512159

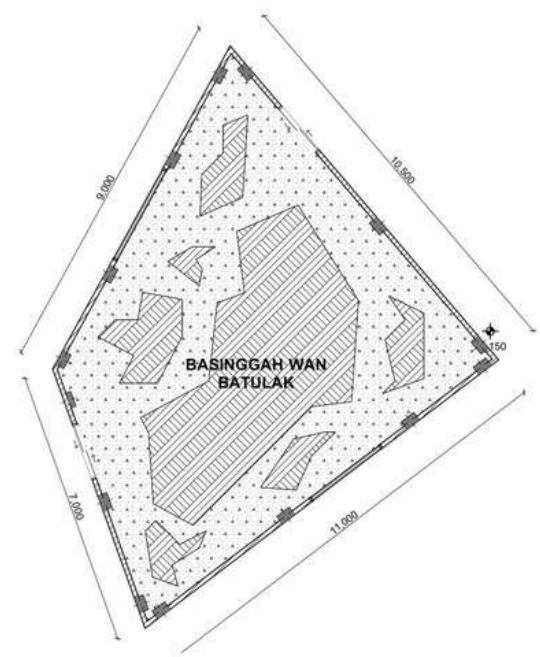
Supervisor: Dr.-Ing Putu Ayu Pramanasari Agustiananda, S.T., M.A.

Title: A Design of Diamond Mining Visitor Center in Cempaka district in Banjarbaru city, South Kalimantan with Narrative Approach

Drawing Name: First Floor Plan (Bumi Basungkal)

Scale: 1:80

Page	Total Page
9	41



LEGEND

- Structural Concrete
- Double-Layered Brick
- Glass
- Earth

Student Name: Alisya Zahra Noor Adrevi

Student Number: 20512159

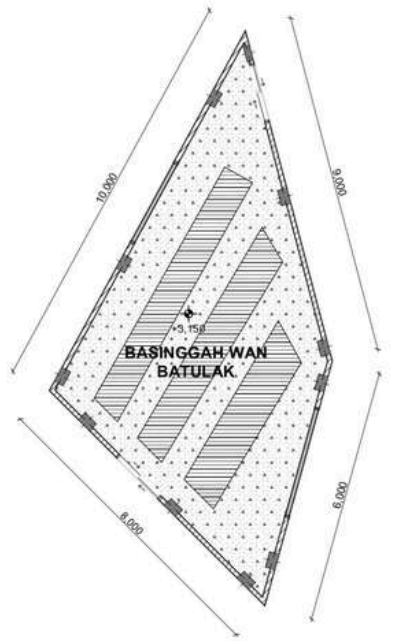
Supervisor: Dr.-Ing Putu Ayu Pramanasari Agustiananda, S.T., M.A.

Title: A Design of Diamond Mining Visitor Center in Cempaka district in Banjarbaru city, South Kalimantan with Narrative Approach

Drawing Name: First Floor Plan (Basinggah wan Batulak)

Scale: 1:80

Page	Total Page
10	41



LEGEND

- Structural Concrete
- Wood Plank
- Double-Layered Brick
- Glass

Student Name: Alisya Zahra Noor Adrevi

Student Number: 20512159

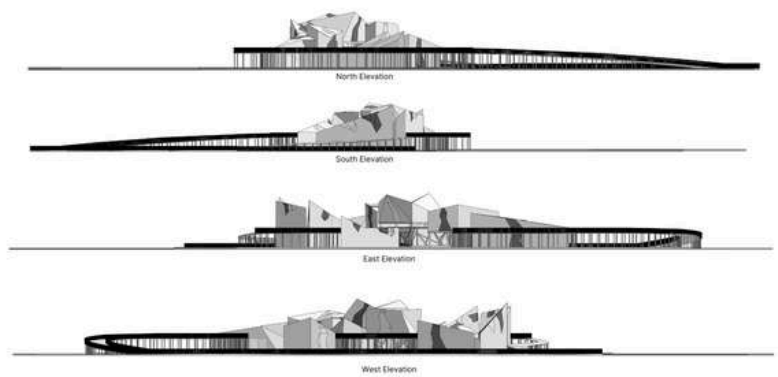
Supervisor: Dr.-Ing Putu Ayu Pramanasari Agustiananda, S.T., M.A.

Title: A Design of Diamond Mining Visitor Center in Cempaka district in Banjarbaru city, South Kalimantan with Narrative Approach

Drawing Name: First Floor Plan (Basinggah wan Batulak)

Scale: 1:80

Page	Total Page
11	41



Student Name: Alisya Zahra Noor Adrevi

Student Number: 20512159

Supervisor: Dr.-Ing Putu Ayu Pramanasari Agustiananda, S.T., M.A.

Title: A Design of Diamond Mining Visitor Center in Cempaka district in Banjarbaru city, South Kalimantan with Narrative Approach

Drawing Name: Building Elevation

Scale: 1:300

Page	Total Page
20	41

ATTACHMENT

chapter 7: documents

Plagiarism Check
Architectural Presentation Board (APREB)
Technical Drawing (Separate Attachment)
3D Mockup
References



Direktorat Perpustakaan Universitas Islam Indonesia
Gedung Moh. Hatta
Jl. Kaliurang Km 14,5 Yogyakarta 55584
T. (0274) 898444 ext.2301
F. (0274) 898444 psw.2091
E. perpustakaan@uii.ac.id
W. library.uii.ac.id

SURAT KETERANGAN HASIL CEK PLAGIASI

Nomor: 2424079054/Perpus./10/Dir.Perpus/VI/2024

Bismillaahirrahmaanirrahiim

Assalamualaikum Wr. Wb.

Dengan ini, menerangkan Bahwa:

Nama	: Alisya Zahra Noor Adrevi
Nomor Mahasiswa	: 20512159
Pembimbing	: Dr.-Ing Putu Ayu Pramanasari Agustiananda, MA.
Fakultas / Prodi	: Teknik Sipil dan Perencanaan/ Architecture
Judul Karya Ilmiah	: Design of Diamond Mining Visitor Center using narrative approach in Cempaka district in Banjarbaru city, South Kalimantan

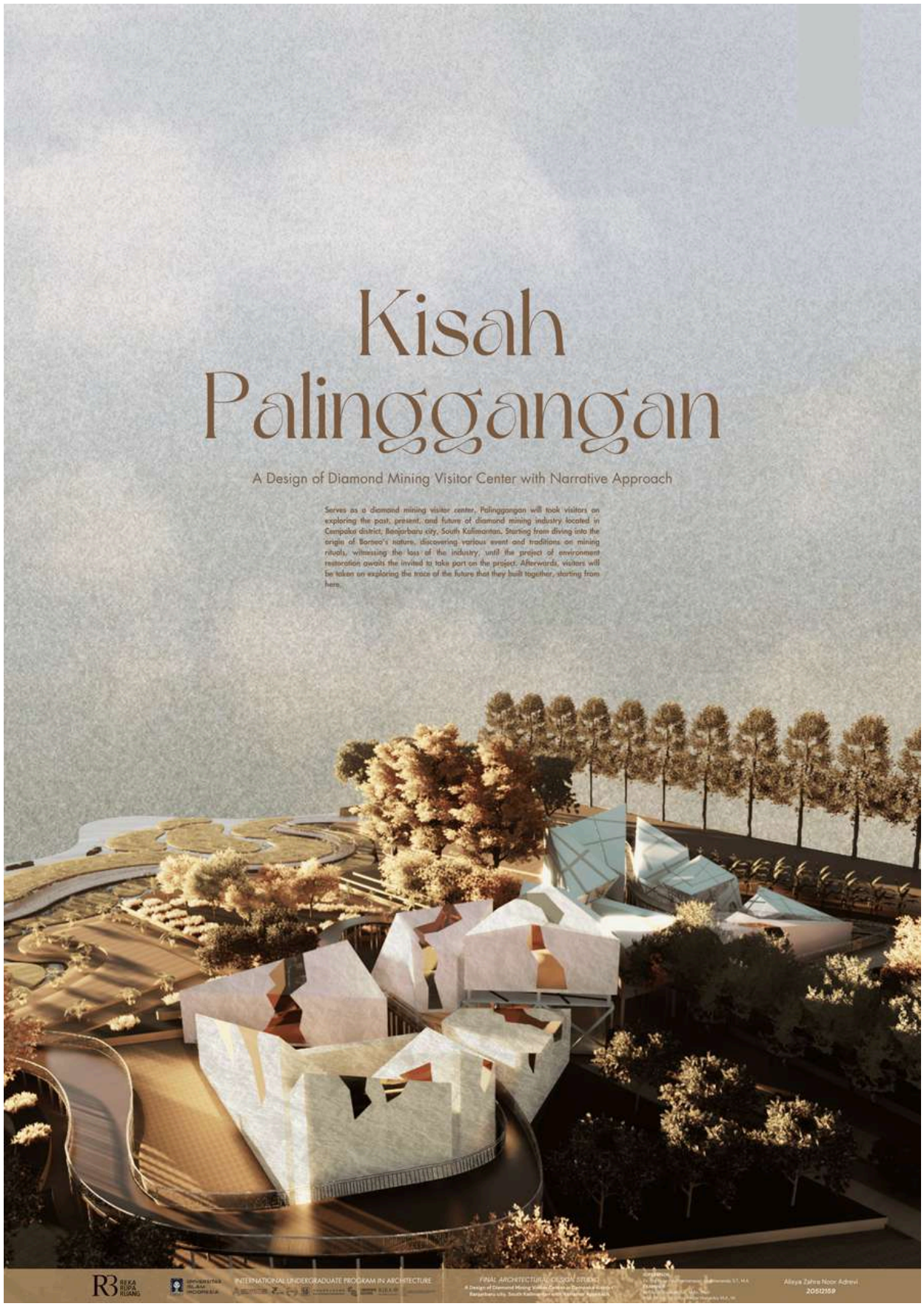
Karya ilmiah yang bersangkutan di atas telah melalui proses cek plagiasi menggunakan **Turnitin** dengan hasil kemiripan (*similarity*) sebesar **3 (Tiga) %.**

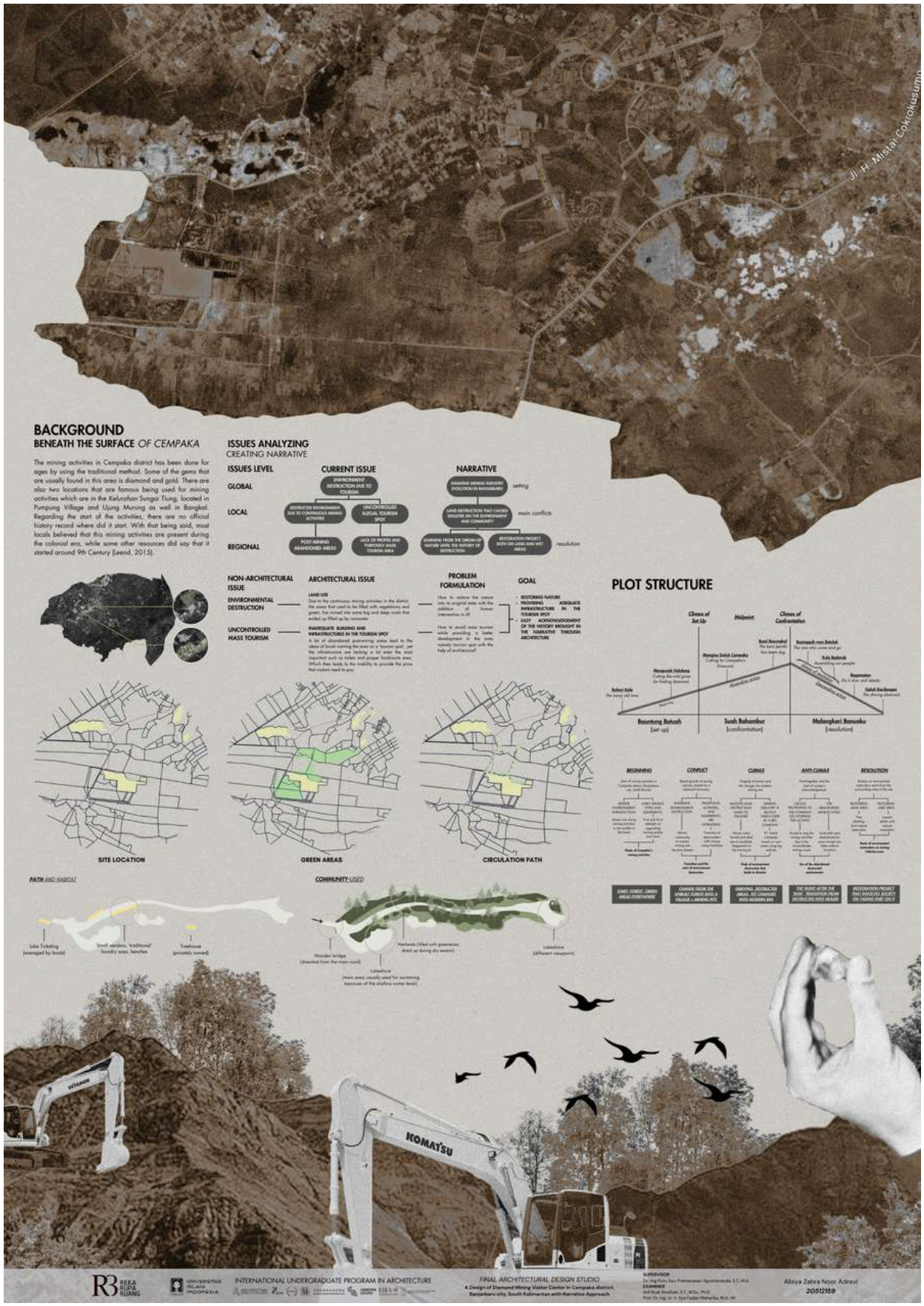
Demikian Surat Keterangan ini dibuat untuk dapat dipergunakan sebagaimana mestinya.

Wassalamualaikum Wr. Wb.

Yogyakarta, 7/29/2024
Direktur

Muhammad Jamil, SIP.


Kisah
Palinggangan
A Design of Diamond Mining Visitor Center with Narrative Approach
Serves as a diamond mining visitor center, Palinggangan will took visitors on exploring the past, present, and future of diamond mining industry located in Cempaka district, Banjarbaru city, South Kalimantan. Starting from diving into the origin of Borneo's nature, discovering various event and traditions on mining rituals, witnessing the loss of the industry, until the project of environment restoration awaits the invited to take part on the project. Afterwards, visitors will be taken on exploring the trace of the future that they built together, starting from here.
REKA RUPA RUANG
INTERNATIONAL UNDERGRADUATE PROGRAM IN ARCHITECTURE
FINAL ARCHITECTURAL DESIGN STUDIO
Aleya Zahra Noor Adrevi
20512159


Jl. H. Mistar Cokrokusumo
BACKGROUND
BENEATH THE SURFACE OF CEMPAKA
The mining activities in Cempaka district has been done for ages by using the traditional method. Some of the gems that are usually found in this area is diamond and gold. There are also two locations that are famous being used for mining activities which are in the Kelurahan Sungai Tiung, located in Pumpung Village and Ujung Murung as well in Bangkal. Regarding the start of the activities, there are no official history record where did it start. With that being said, most locals believed that this mining activities are present during the colonial era, while some other resources did say that it started around 9th Century (Jaeod, 2015).
ISSUES ANALYZING
CREATING NARRATIVE
ISSUES LEVEL
CURRENT ISSUE
NARRATIVE
GLOBAL
LOCAL
REGIONAL
setting
main conflicts
resolution
NON-ARCHITECTURAL ISSUE
ENVIRONMENTAL DESTRUCTION
UNCONTROLLED MASS TOURISM
ARCHITECTURAL ISSUE
PROBLEM FORMULATION
GOAL
PLOT STRUCTURE
Climax of Set Up
Midpoint
Climax of Confrontation
Resolution
Beginning
Conflict
Climax
Anti-Climax
Resolution
SITE LOCATION
GREEN AREAS
CIRCULATION PATH
PATH AND HABITAT
COMMUNITY-USED
KOMATSU
INTERNATIONAL UNDERGRADUATE PROGRAM IN ARCHITECTURE
FINAL ARCHITECTURAL DESIGN STUDIO
A Design of Diamond Mining Visitor Center in Cempaka district Banjarbaru city, South Kalimantan with Narrative Approach
Alisya Zahra Noor Adrevi
20512159

THEORIES

NARRATIVE

Nigel Coates

SEQUENCE NARRATIVE

Often used in art museums where the curators usually create a structured plot for the visitor experience in the exhibition. This narrative is usually shown in a chronologically order to show the connection of the ideas' chain. Not only limited to the building, usually the narrative also produced through the landscape arrangement.

THE THIRD LANDSCAPE

Gilles Clément, **'Manifesto del Terzo Paesaggio'**

First and Foremost: Landscape

Clément calling the Third Landscape as an area in between of something that is never exploited yet protected from human activities. The Third Landscape connects extension, character, challenges, mobility, and so on with society, culture, as well as the change of time.

Going with Nature

Vegetations with different concept are planted naturally in the contemporary times for it to takes firm root until those vegetations are expanded by themselves. The space itself will connects the idea of heterotopia and utopia and developing ideas on the urban.

Form

Gardens are related to the aesthetic bound to science where it would related to the change in scale as well the surprise from the growth. In gardening, it is important to look back from the previous experiences and continue on readopt on the most recent concerns of planning that is sensitive to the landscape.

STORYLINE

THE ORIGIN OF BANJARBARU'S NATURE
Green environment with hilly landscapes

EARLY DIAMOND MINING ERA IN CEMPAKA
Small and shallow pits inside the forest

DIAMOND MINING TRADITIONAL MACHINE
A tower-like Vitruvius machine for rocks to be used in sorting the mining result

EARLY DIAMOND MINING EQUIPMENTS
Tatak (conoshun) Saloup (shovel), Cangkul (Hoe), Linggangan

GROWING COMMUNITY OF DIAMOND MINING
Mining pits become wider and deeper, also being used by more than five people in it

GREAT DIAMOND DISCOVERY (GALUH TRISAKTI)
The first great discovery of diamond that brought world's attention to Cempaka's mining industry

MODERN DIAMOND MINING ERA
After the grief on traditional mining community, a bigger diamond mining activity happened using big machines by a company named PT. Galuh Cempaka on several rare-and-untouched land

TRAGEDY IN THE PITS
Due to the wide land destruction, landslides happened. Causing a lot of miners to be buried under the pits

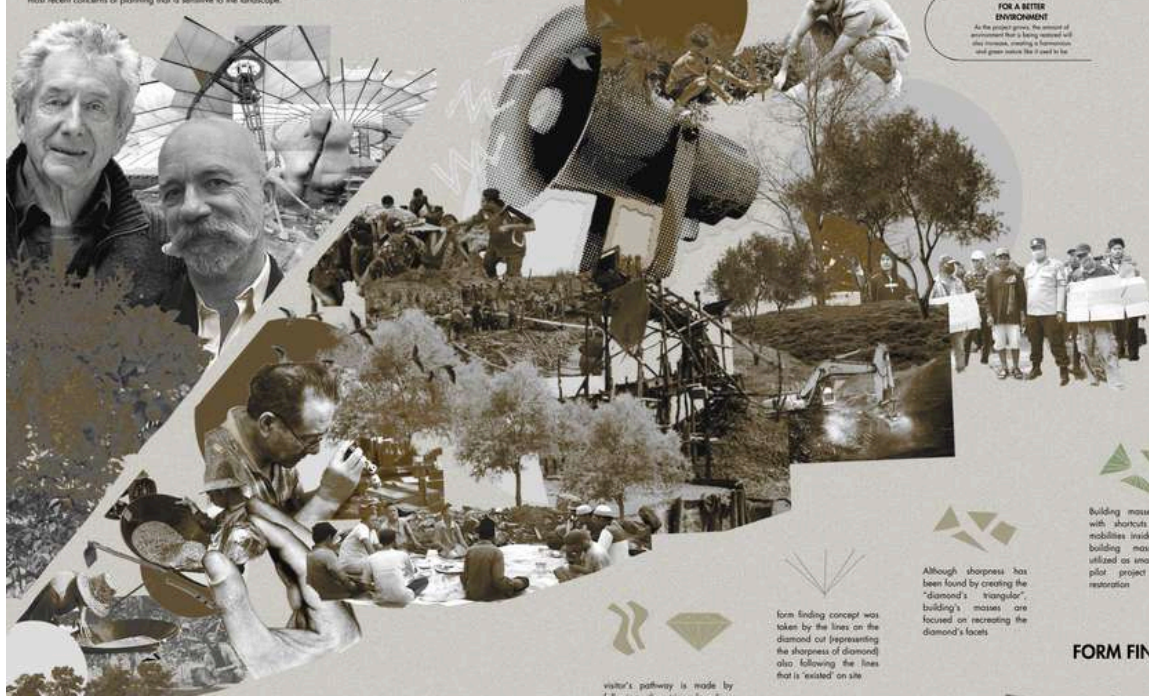
EXPANDED DIAMOND COMMUNITY
More people change their job into something that is related to diamond, not only miners but ballotmening and trading as well

RITUALS BEFORE-DURING-AFTER MINING
Diamond miners usually performed some rituals (ulamo) with certain rules in the community, in hope their mining result will turned out great

RESTORATION PROJECT ON THE ABANDONED
Restoring of what was used to be in nature by planting trees, reviving fauna, replanting aquatic vegetations and so on

VOICES OF THE PEOPLE
However, modern mining done by the company causing new troubles where they thrive the waste irresponsibility. Therefore, locals are protesting and the mining's stopped, leaving those big abandoned lakes.

WISE MINING FOR A BETTER ENVIRONMENT
As the project grows, the amount of environment that is being restored will also increase, creating a harmonious and green nature like it used to be



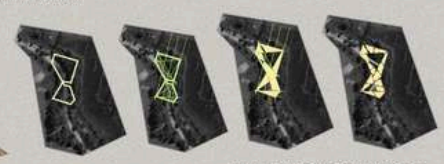
form finding concept was taken by the lines on the diamond cut (representing the sharpness of diamond) also following the lines that is 'existed' on site

visitor's pathway is made by following the triangular lines formed on the site, as well as incorporating into the shape of diamond's brilliant cut

Although sharpness has been found by creating the "diamond's triangular", building's masses are focused on recreating the diamond's facets

Building masses are equipped with shortcuts for maximizing mobilities inside. Gaps between building masses are being utilized as small gardens for the pilot project of ecological restoration

FORM FINDING



BUILDING REGULATION

Data

Building Base Area (m2)	: 9800
Total of Storeys	: 4 story
Green Area (m2)	: 4200

Intensity Calculation (%)

Total Area	: 14.000
Building Coverage ratio (BCR)/ (KDB)	: 70%
Green Base Coefficient (GBC)/(KDH)	: 30%

Visitor Center

Data

Building Base Area (m2)	: 655
Total of Storeys	: 1 storey
Green Area (m2)	: 10500

VISITOR MOBILITY

CIRCULATION

1. Start: enter the lobby for ticketing and merchandise, continue on 'Basumung Bakadi' as first phase
2. Entering 'Sush Bahandau' as the second phase, visitor could go back a little bit for using the shortcut to go back to the first point
3. Entering 'Malangkari Banuaku' as the last phase (visitor could go back a little bit for using the shortcut to go back to the nearest access to lobby
4. Outdoor activities integrated to 'Malangkari Banuaku', visitors are free to explore and plant some vegetation seeds
5. Outdoor activities integrated to 'Malangkari Banuaku', visitors are free to explore, plant, and release fish seedlings using boats on the lake
6. Visitors are brought inside to have meals in foodcourt
7. Ending: exit from the main lobby and explore the merchandise area



REKA RUPA RUANG

UNIVERSITAS ISLAM INDONESIA

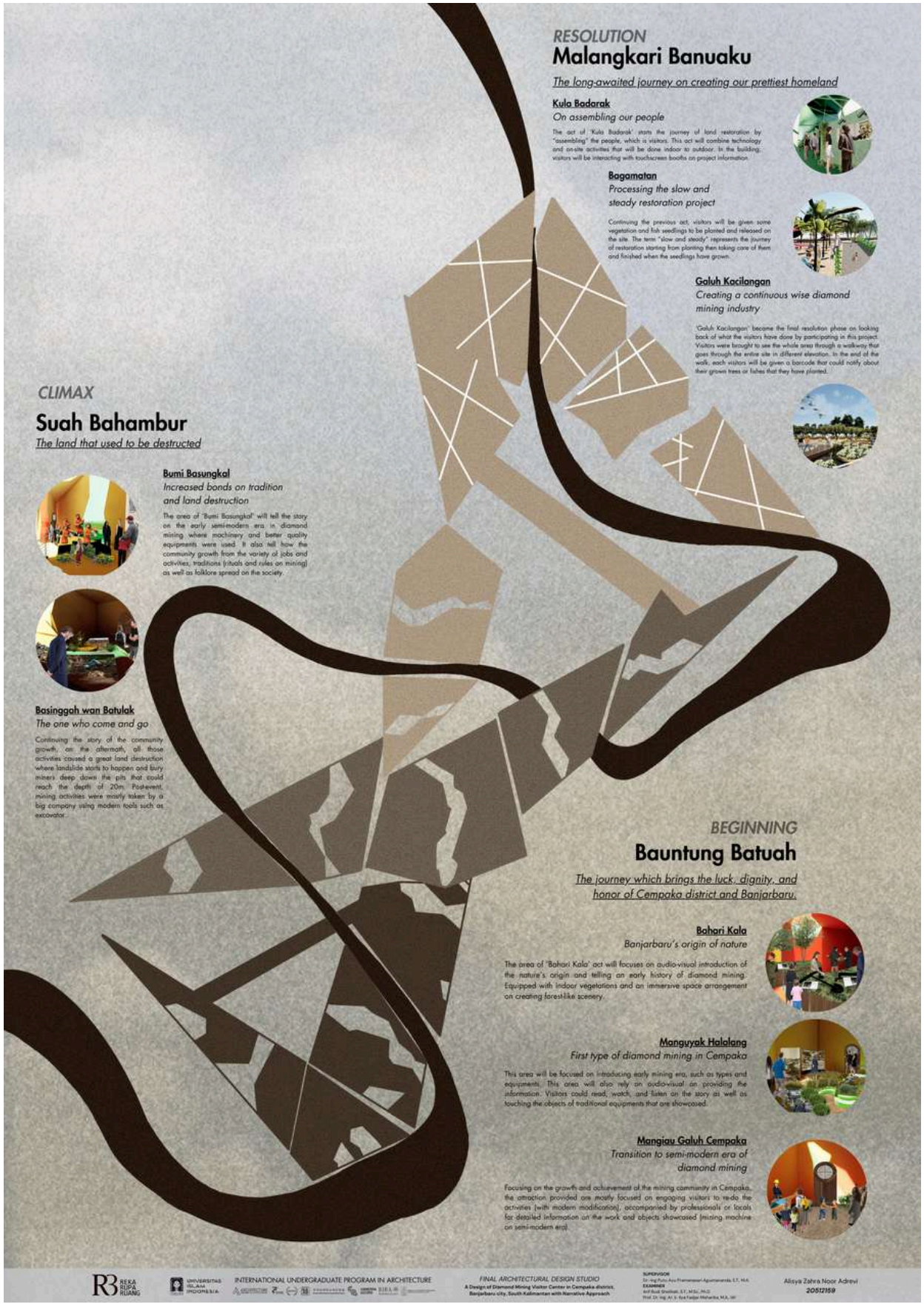
INTERNATIONAL UNDERGRADUATE PROGRAM IN ARCHITECTURE

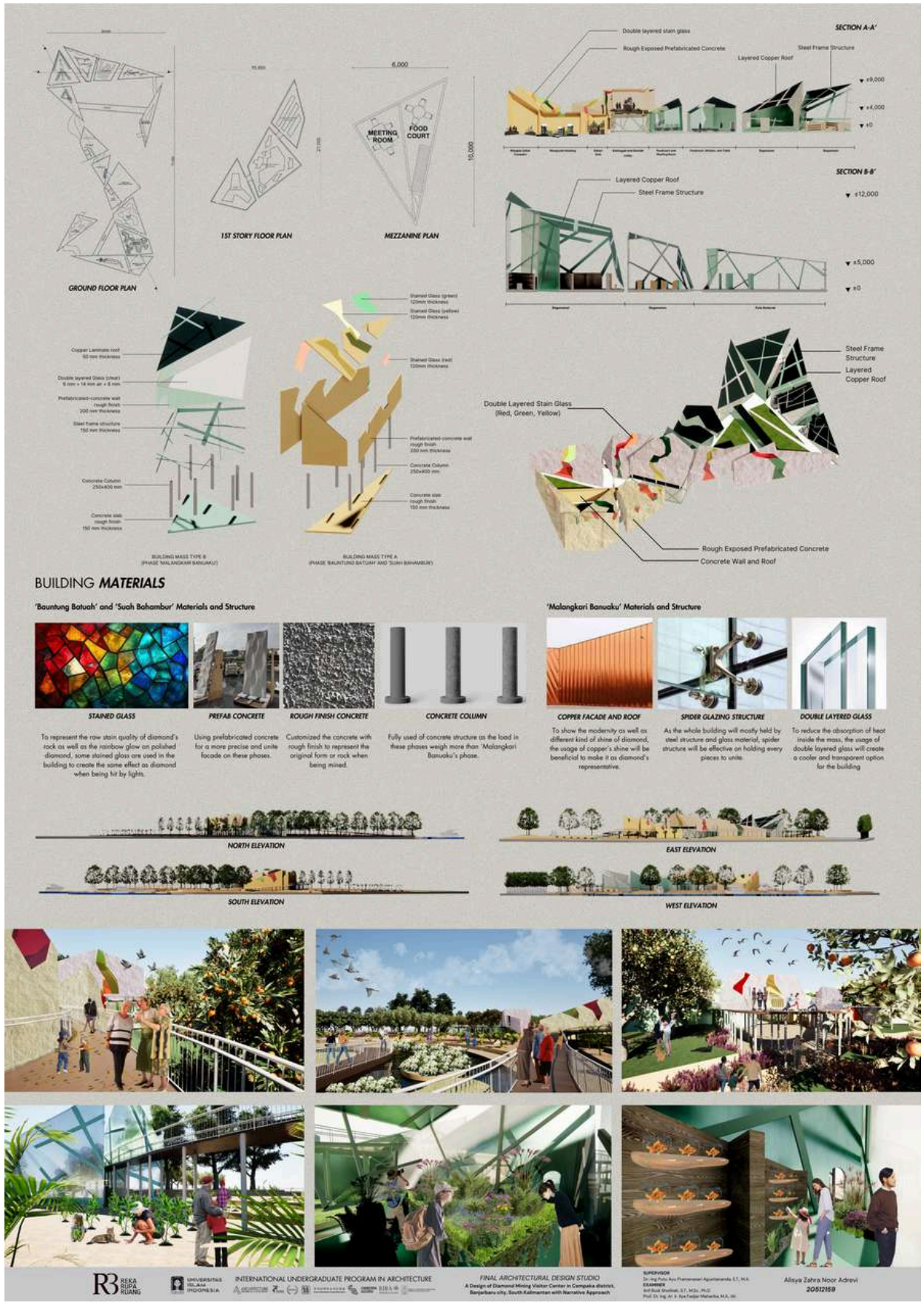
FINAL ARCHITECTURAL DESIGN STUDIO

A Design of Diamond Mining Visitor Center in Cempaka district, Banjarbaru city, South Kalimantan with Narrative Approach

SUPERVISOR
Dr. Ing Putu Ayu Pramesrani Agustinawita, S.T., M.A.
EXAMINER
Arif Budi Utomoki, S.T., M.Sc., Ph.D
Prof. Dr. Ing. Ir. Ir. Nur Fadjar Maharika, M.A., IAI.

Alisya Zahra Noor Adrevi
20512159


RESOLUTION
Malangkari Banuaku
The long-awaited journey on creating our prettiest homeland
Kula Badarak
On assembling our people
The act of 'Kula Badarak' starts the journey of land restoration by "assembling" the people, which is visitors. This act will combine technology and on-site activities that will be done indoor to outdoor. In the building, visitors will be interacting with touchscreen booths on project information.
Bagamatan
Processing the slow and steady restoration project
Continuing the previous act, visitors will be given some vegetation and fish seedlings to be planted and released on the site. The term "slow and steady" represents the journey of restoration starting from planting then taking care of them and finished when the seedlings have grown.
Galuh Kacilangan
Creating a continuous wise diamond mining industry
'Galuh Kacilangan' become the final resolution phase on looking back of what the visitors have done by participating in this project. Visitors were brought to see the whole area through a walkway that goes through the entire site in different elevation. In the end of the walk, each visitors will be given a barcode that could notify about their grown trees or fishes that they have planted.
CLIMAX
Suah Bahambur
The land that used to be destructed
Bumi Basungkal
Increased bonds on tradition and land destruction
The area of 'Bumi Basungkal' will tell the story on the early semi-modern era in diamond mining where machinery and better quality equipments were used. It also tell how the community growth from the variety of jobs and activities, traditions (rituals and rules on mining) as well as folklore spread on the society.
Basinggah wan Batulak
The one who come and go
Continuing the story of the community growth, on the aftermath, all those activities caused a great land destruction where landslide starts to happen and bury miners deep down the pits that could reach the depth of 20m. Post-event, mining activities were mostly taken by a big company using modern tools such as excavator.
BEGINNING
Bauntung Batuah
The journey which brings the luck, dignity, and honor of Cempaka district and Banjarbaru.
Bahari Kala
Banjarbaru's origin of nature
The area of 'Bahari Kala' act will focuses on audio-visual introduction of the nature's origin and telling an early history of diamond mining. Equipped with indoor vegetations and an immersive space arrangement on creating forest-like scenery.
Mangayak Halalang
First type of diamond mining in Cempaka
This area will be focused on introducing early mining era, such as types and equipments. This area will also rely on audio-visual on providing the information. Visitors could read, watch, and listen on the story as well as touching the objects of traditional equipments that are showcased.
Mangiau Galuh Cempaka
Transition to semi-modern era of diamond mining
Focusing on the growth and achievement of the mining community in Cempaka, the attraction provided are mostly focused on engaging visitors to re-do the activities (with modern modification), accompanied by professionals or locals for detailed information on the work and objects showcased (mining machine on semi-modern era).
REKA RUPA RUANG
UNIVERSITAS ISLAM INDONESIA
INTERNATIONAL UNDERGRADUATE PROGRAM IN ARCHITECTURE
FINAL ARCHITECTURAL DESIGN STUDIO
A Design of Diamond Mining Visitor Center in Cempaka district, Banjarbaru city, South Kalimantan with Narrative Approach
SUPERVISOR
EXAMINER
Alisya Zahra Noor Adrevi
20512159


GROUND FLOOR PLAN
1ST STORY FLOOR PLAN
MEZZANINE PLAN
MEETING ROOM
FOOD COURT
6,000
15,000
SECTION A-A'
Double layered stain glass
Rough Exposed Prefabricated Concrete
Layered Copper Roof
Steel Frame Structure
±9,000
±4,000
±0
SECTION B-B'
Layered Copper Roof
Steel Frame Structure
±12,000
±5,000
±0
Steel Frame Structure
Layered Copper Roof
Double Layered Stain Glass (Red, Green, Yellow)
Rough Exposed Prefabricated Concrete
Concrete Wall and Roof
BUILDING MASS TYPE B (PHASE 'MALANGKARI BANUAKU')
BUILDING MASS TYPE A (PHASE 'BAUNTUNG BATUAH' AND 'SUAH BAHAMBUR')
BUILDING MATERIALS
'Bauntung Batuah' and 'Suah Bahambur' Materials and Structure
'Malangkari Banuaku' Materials and Structure
STAINED GLASS
To represent the raw stain quality of diamond's rock as well as the rainbow glow on polished diamond, some stained glass are used in the building to create the same effect as diamond when being hit by lights.
PREFAB CONCRETE
Using prefabricated concrete for a more precise and unite facade on these phases.
ROUGH FINISH CONCRETE
Customized the concrete with rough finish to represent the original form or rock when being mined.
CONCRETE COLUMN
Fully used of concrete structure as the load in these phases weigh more than 'Malangkari Banuaku's phase.
COPPER FACADE AND ROOF
To show the modernity as well as different kind of shine of diamond, the usage of copper's shine will be beneficial to make it as diamond's representative.
SPIDER GLAZING STRUCTURE
As the whole building will mostly held by steel structure and glass material, spider structure will be effective on holding every pieces to unite.
DOUBLE LAYERED GLASS
To reduce the absorption of heat inside the mass, the usage of double layered glass will create a cooler and transparent option for the building
NORTH ELEVATION
EAST ELEVATION
SOUTH ELEVATION
WEST ELEVATION
INTERNATIONAL UNDERGRADUATE PROGRAM IN ARCHITECTURE
FINAL ARCHITECTURAL DESIGN STUDIO
A Design of Diamond Mining Visitor Center in Cempaka district, Banjarbaru city, South Kalimantan with Narrative Approach
Alisya Zahra Noor Adrevi
20512159









REFERENCES

Neraca Sumber Daya Mineral, Batubara, dan Panas Bumi Indonesia Tahun 2022. (2023). Badan Geologi, Kementerian Energi dan Sumber Daya Mineral.

Ganie, T. N. (1970, January 1). *Intan Kalsel Tajuddin Noor Ganie*. INTAN KALSEL TAJUDDIN NOOR GANIE. https://intankalsel.blogspot.com/

Arbayati, A. (2018, January 4). *Budaya Mendulang Intan di Kalangan masyarakat cempaka kota banjarbaru*. Budaya Mendulang Intan di Kalangan Masyarakat Cempaka Kota Banjarbaru - IDR UIN Antasari Banjarmasin. https://idr.uin-antasari.ac.id/9237/

Suryacahya, F. W. (2018, May 4). *Ini Mitos Galuh, Gadis Alam Gaib Penabur Intan, Pendulang Punya Sejumlah Pantangan*. Tribunjakarta.com. https://jakarta.tribunnews.com/2018/05/04/ini-mitos-galuh-gadis-alam-gaib-penabur-intan-pendulang-punya-sejumlah-pantangan

Maniraho, L., Frietsch, M., Sieber, S., & Löhr, K. (2023). *People's Participation in Social-Ecological Restoration toward a Framework for Drivers Fostering Social-Ecological Restoration within Forest Landscape*. https://doi.org/10.21203/rs.3.rs-2617117/v1

Nugraha, M. F. I., Julzarika, A., Radjamuddin, A., Reflinur, Yunita, R., Enggarini, W., & Novita, H. (2019). *Studi Tanaman Air Dan Ekologi-Fisika Danau Tempe, Sulawesi Selatan*, 2(2), 105-115.

Neighbors, L. L. (1991). Historical Narrative: Story and Meaning in Historical Texts.

Jelen, J. (2018). Mining Heritage and Mining Tourism. https://doi.org/10.1515/cjot-2018-0005.

Khan Academy. (n.d.). Imagineering in a box | storytelling | arts and humanities. Khan Academy. https://www.khanacademy.org/humanities/hass-storytelling/imagineering-in-a-box

AllofUs. (2020, November 17). Designing visitor experiences. Medium. https://medium.com/@allofustweet/designing-visitor-experiences-521a009d381c

The third landscape. (2017, September 14). Domus. https://www.domusweb.it/en/reviews/2006/02/06/the-third-landscape.html