

HAVEN MISSIONARY- HOME for HOMELESS

A THESIS

Submitted in partial fulfillment of the requirements for the award of
Bachelor of Architecture degree

By

**TRIXIELEANNA.J
(37210040)**



**DEPARTMENT OF ARCHITECTURE
SCHOOL OF BUILDING AND ENVIRONMENT**

SATHYABAMA

**INSTITUTE OF SCIENCE AND TECHNOLOGY
(DEEMED TO BE UNIVERSITY) Accredited**

With Grade "A" by NAAC

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NOVEMBER 2021



DEPARTMENT OF ARCHITECTURE

BONA FIDE CERTIFICATE

This is to certify that this Thesis Report is the bonafide work of **Trixie Leanna.J(37210040)** who carried out the Thesis entitled “**Missionary-Home for Homeless**” under our supervision from July 2021 to November 2021.

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DECLARATION

I, **TrixieLeanna.J** here by declare that the Thesis Report entitled “**Missionary-Home for Homeless**” done by me under the guidance of **Dr.Arulmalar.R** (InternalGuide), **Ar.Vijendranath.L** (Internal Review Member) and **Ar.Sarath Chandra Kanth** (External Guide) Sathyabama Institute of Science and Technology is submitted in partial fulfillment of the requirements for the award of Bachelor of Architecture Degree.

DATE: 06.12.20

PLACE:Chennai



SIGNATURE OF THE CANDIDATE

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I am pleased to acknowledge my sincere thanks to Board of Management of **Sathyabama Institute of Science and Technology** for their kind encouragement in doing this Thesis and for completing it successfully. I am grateful to them.

I convey my thanks to **Dr.DevyaniGangopadhyay**, Dean and Head of the Department, School of Building and Environment, Our Design Chair **Dr.SureshKuppuswamy**, Thesis Coordinator **Ar.SuryaRajkumar** for providing me necessary support and details at the right time during the progressive reviews.

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Trixie Leanna.J

THESSYNOPSIS

Orphans or abandoned children become vulnerable and defenseless, those children without access to safe and healthy environment grow up to become problematic adults, leading to other serious social problems. The intention is to have a place where the children and the elderly can co-habit and provide a homely environment for each other.

The way of living, cramped and sophisticated places, feeling of not belonging, scared to interact, the social behavior and physical and mental changes and moods are not considered. The main purpose of providing an orphanage and old age home is the elderly voluntarily help the institution with providing care and education. Orphans or abandoned children become vulnerable and defenseless, those children without access to safe and healthy environment grow up to become problematic adults, leading to other serious social problems.

Old aged people may have lost their family in some calamities or their children would have abandoned them, or their children had to leave them for care while they are away from home, the elderly people expect love and care. The two target groups are abandoned and are in need of love and affection, when they start living together in one community, the children and the old people will be loved as their own family. A family, orphans and homeless children can grow up in a caring and happy.

Even if we combine an old age home with an orphanage, we need to have a planned space or platform where they both can interact. We can't always put both the generations together as they have different priorities. The idea behind this topic is to create: An interactive platform for old age homes and orphanages and careful planning of spaces:

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CHAPTER

1 INTRODUCTION

1.1 INTRODUCTION

Metaphors are used as a powerful channel to create and bring interaction between project and users by assisting our thinking ability, relation, reason, understanding and imagination.

MISSIONARY:

A person sent on a religious mission especially to promote Christianity in a foreign country.

It's not just promoting they care, feed, clean and provide shelter to the downtrodden and abandoned people.

They also educate and help them with the social justice and economical development of the lost and abandoned people.

The characteristic of a missionary is "an act of sending" or "to send".

Most of the missionaries are managed by the Nuns and Priests and majority

of them are run by the Nuns



Missionaries of Charity.

Missionaries of Charity is a Catholic religious congregation established in 1950 by St. Mother Teresa and spread out all around the world.

Motto:

"A member of the congregation must adhere to the vows of chastity, poverty, obedience, and the fourth vow, to give 'wholehearted free service to the poorest of the poor.'"

Missionaries Aim:

The sole aim is to give 'wholehearted free service to the poorest of the poor.' To Help sick, poor needy and have been discarded by the society

Missionaries care for those who include refugees, former prostitutes, the mentally ill, sick children, abandoned children, lepers, people with AIDS, the aged, and convalescent. They have schools that are run by volunteers to teach abandoned street children and run soup kitchens as well as other services according to the community needs. These services are provided, without charge, to people regardless of their religion or social status.



Training:

Nuns also help the destitute women by training them with skills for their survival.

They train them to tailor, weave, embroidery, instruments, craftworks, basket weaving, flower arranging, etc,



The missionaries of charity has branches in almost 133 countries of the world

It has setup orphanages, Old age homes, AIDS hospice, Homes for the destitute men and women and charity centers throughout the world



ThesisTopic : Missionary-(Homefor orphans,destitutewomen andold agedpeople)

DissertationTopic :Metaphorsin Architecture (visionand reality)

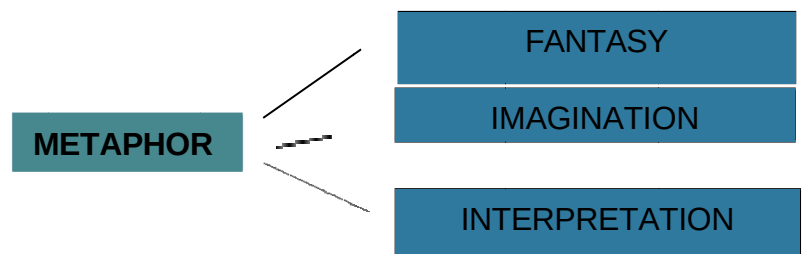
Metaphors,definedas“imaginativerationality”appeartobequiteappropriatetoolsforsolving such problems since they unite rationality and imagination.

Metaphor is a channel to creativity. Metaphor has been used repeatedly throughout the history of civilization in language, literature, philosophy and the teaching of creative architectural design. Architecture as the making of metaphors is the study of effective design.

Metaphor can be defined as a comparison between two different and unrelated subjects. In architecture, buildings are not only laying with the visual image of the form but it plays with the hidden meaning of it.

Metaphoric architecture uses the architecture to convey the message by the structural elements.

Implementing dissertation in thesis:



Metaphors can help express emotions.

Metaphors can provide architects with an effective and powerful perspective of thinking from the observation of the dissertation case studies.

ORPHANAGE

What is an orphanage?

An orphanage is a residential institution, or group home, devoted to the care of orphans and other children who were separated from their biological families.

An orphanage will care for tiny babies and also older children without parents. Orphanages care for children until they can be placed in homes and adopted.



ORPHANS

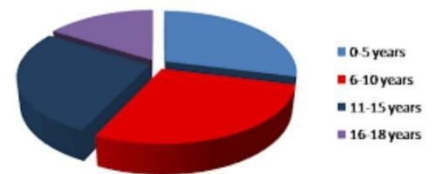
Orphans are the children who have lost their parents in an accident, through disease, natural calamities and man-made causes.

The number of orphans and abandoned children in the world is increasing day by day due to natural/man-made destructions.

While it is not possible to prevent children from becoming orphans and vulnerable, so much can be done to reduce factors causing orphanhood.

Childhood refers to the period of childhood and adolescence, the first 18 years of human life are not only a period of physical development but also definable as a period of sociological interaction with psychological effects.

CHILDREN IN DIFFERENT AGE GROUPS



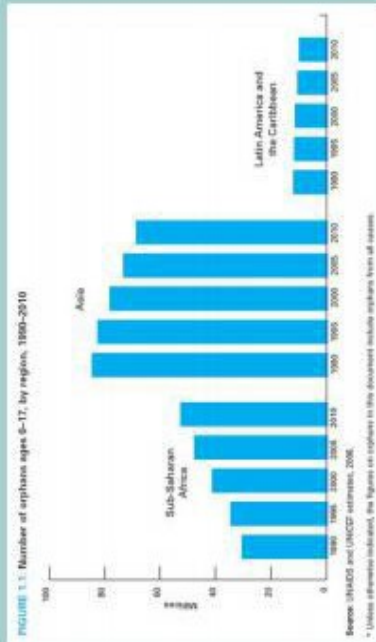
ADULT CHILD RATIO IN INDIA



Population Study:

- ORPHANS
- According to UNICEF almost 10,000 children become orphans everyday and there are 140 million orphans in the world where millions are not included in the statistics.
- One child dies every 3 seconds as a result of poverty, hung, and some similar cases which causes an average of 10,000 children mortalities everyday.
- The data shows that most of the countries where the situations is most worrying are in Sub Saharan Africa and South Asia.
- Total population of orphans in the world is 140 million children, 15.1% million live in Asia.
- In Asia 8 million live in orphanages in which 80 % are not orphans.
- In India 1.8 lakh children live in childcare institutions and 3.7lakh need of special care.
- Indian states with highest population of orphans are Tamilnadu followed by Karnataka, Kerala, Maharashtra, Andhra Pradesh.
- Tamilnadu has the highest number of abandoned children, more than 50,000 minors are orphans between the age of 0-6 years old and from the age of 7-18 years old, living in 1647 homes where 1550 are abandoned and the boys being 17.2% more than girls.

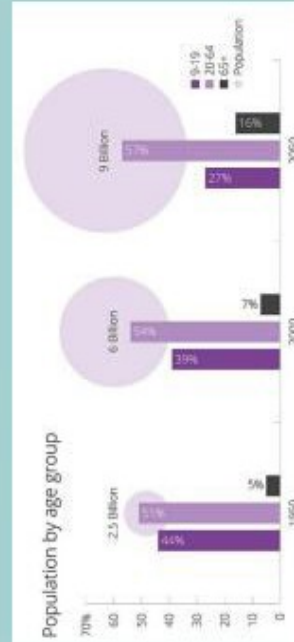
- OLD AGED
- The population's aging phenomenon is occurring worldwide. We say phenomenon because all population pyramids are reversing, which means birth rates are steadily decreasing over the years, and at the same time, life expectancy has been increasing. Thus, the elderly population is growing at a faster rate than children.
- India is with the second largest percentage of elderly people population.
- Tamilnadu stands in third position with 151 old age homes in India.
- (10.4 % population)



Increase in proportion of 60+ population over decades

Region	1950	2010	2050
World	8	11	22
More developed regions	15	22	32
Less developed regions	6	9	20
Asia	7	10	24
China	8	12	34
India	5	8	19

Source: WHO World Report on Ageing and Health 2015



OLD AGE HOME:

What is an old age home?

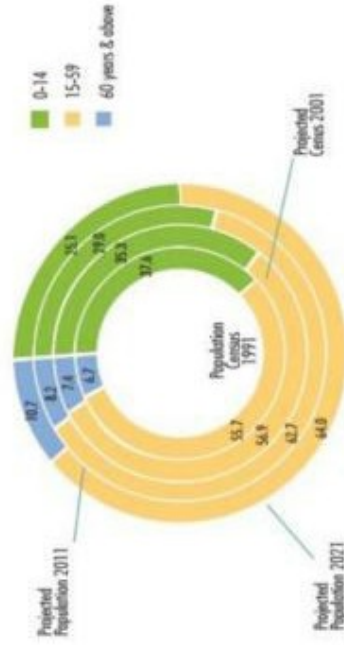
- An old aged home is a home or shelter for people above the age of 55 who are abandoned, lost, physically challenged and poor.
- A retirement home sometimes called an old people's home or old age home, although old people's home can also refer to a nursing home is a multi-residence housing facility intended for the elderly.
- Retirement home: Typically, each person or couple in the home has an apartment-style room or suite of rooms. Additional facilities are provided within the building. This can include facilities for meals, gatherings, recreation activities, and some form of health or hospital care.

DESTITUTE WOMEN:

- When you think of the word destitute, which means poor or lacking other necessities of life, think of someone who is in desperate straits.
- A very, very tight budget is poor.
- Living on the streets are destitute.
- A widowed women, women without any support, unmarried women above the age of 30-58 years.
- Destitute essentially means not having something. When you're destitute in the sense of being poor,



Age Distribution of Population in India over decades



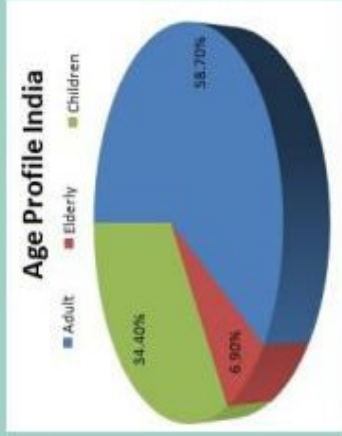
INTRODUCTION

- Newborn 0-6 years old
- Kids 6-12 years old
- Teenagers 13-19 years old
- Kids with single parent (Semi orphans) Upto 19 years old



Target groups

- Destitute Women - above 30- 58
- Individuals above 50 years old
- Old people who are abandoned above 58 years old



Why orphanage and old age home?

Need for combining both the target groups:

- The missionaries, old age homes and orphanages are not being noticed in our society.
- Orphans or abandoned children become vulnerable and defenseless, those children without access to safe and healthy environment grow up to become problematic adults, leading to other serious social problems.
- The intention is to have a place where the children and the elderly can co-habit and provide a homely environment for each other.
- The way of living, cramped and sophisticated places, feeling of not belonging, scared to interact, the social behavior and physical and mental changes and moods are not considered.
- The main purpose of providing an orphanage and old age home is the elderly voluntarily help the institution with providing care and education.
- Orphans or abandoned children become vulnerable and defenseless, those children without access to safe and healthy environment grow up to become problematic adults, leading to other serious social problems.
- Old aged people may have lost their family in some calamities or their children would have abandoned them, or their children had to leave them for care while they are away from home, the elderly people expect love and care.
- The two target groups are abandoned and are in need of love and affection, when they start living together in one community, the children and the old people will be loved as their own family.
- a family, orphans and homeless children can grow up in a caring and happy environment.

SYNOPSIS:

Aim: To provide a habitable space for the orphans, young destitute women and the abandoned old people.

To provide a self-sustaining community with a calm, healthy and an active environment.

Objective:

- To design linking spaces or connecting spaces that act as a healing space.
- To provide an active environment with independence and privacy and creating a communicable space between the three groups.
- To provide recreational spaces to keep them healthy and happy
- To provide learning and growing spaces to keep them engaged.
- To provide interactive spaces to enhance their emotional and social living.
- Providing a sense of community between the residents by including clusters of residences and shared common rooms.
- To provide activities that make the community self-sustained.

Methodology:

1. Initial study about the topic:

Understanding and exploring the topic .

2. Data collection :

Source:

Primary data collection:

Live case study
Secondary data collection

Literature case studies
Books

Research documents:

Research paper
Articles
Journals

3. Data formatting :

Qualitative data : Through research paper and case studies that explore its parameter and understanding the spaces.

4. Data analysis :

Qualitative data analysis : Through research paper

and case studies, books and articles.

Descriptive analysis:

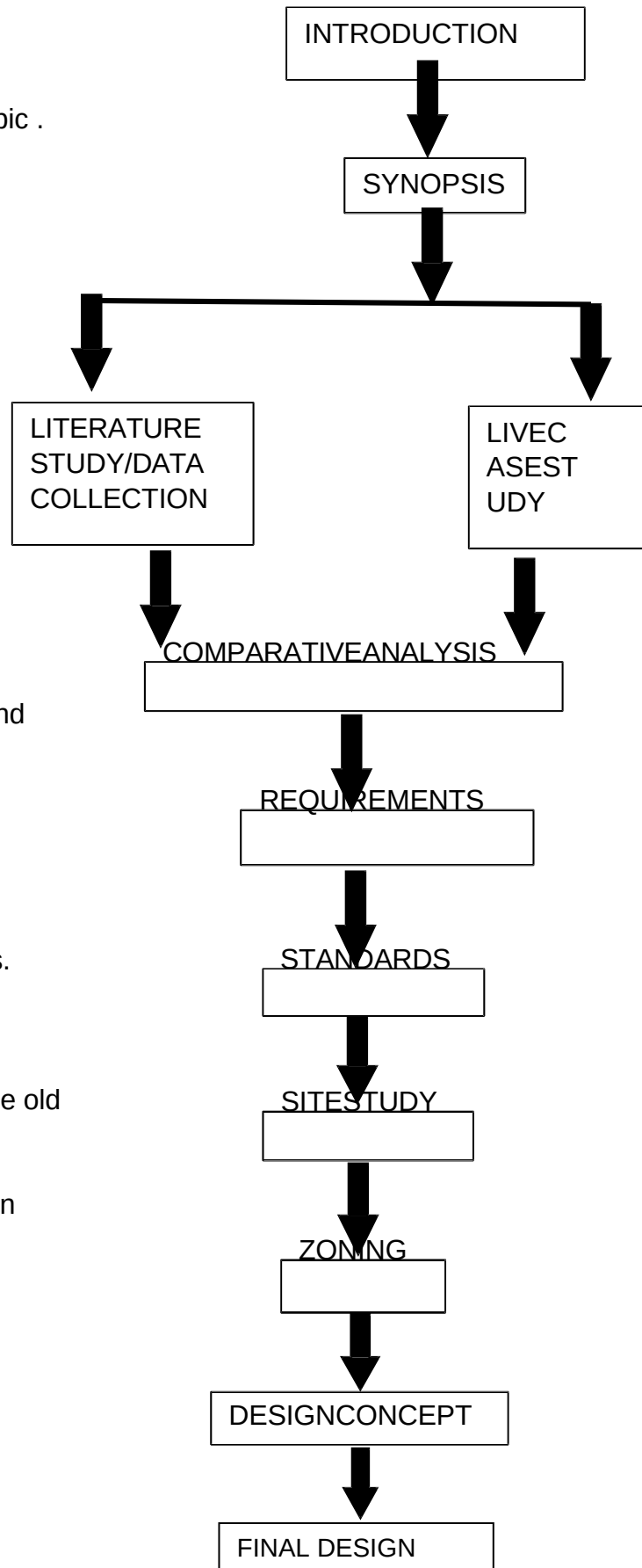
Exploring the.

Understanding the philosophy of architects involved in designing the old age homes and orphanages.

Comparative analysis:

Identification of various parameters in the building.

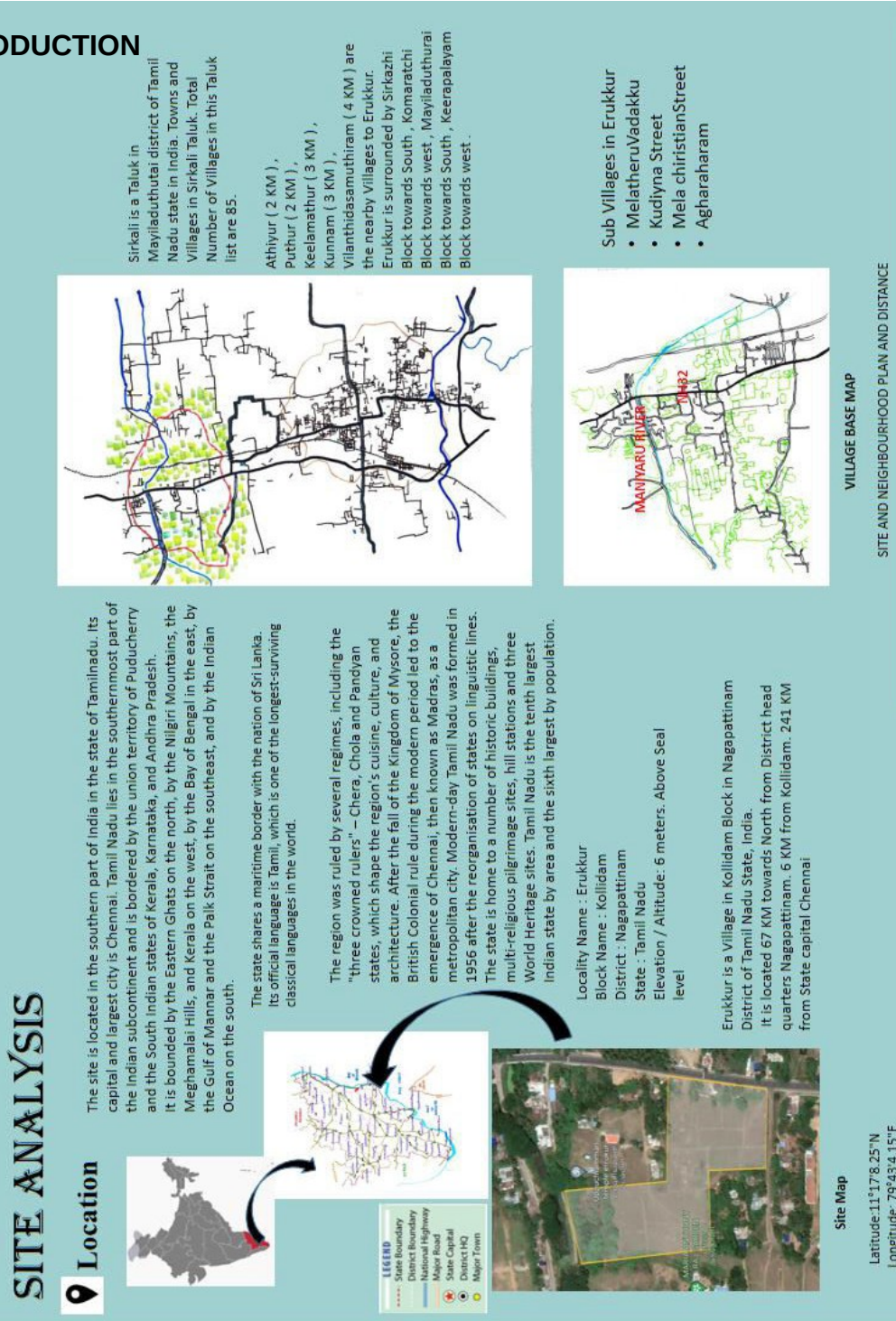
Sort the elements into categories



CHAPTER 2

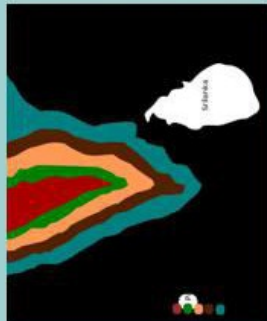
SITE STUDY AND ANALYSIS

2.1 INTRODUCTION



SITE ANALYSIS

History and Culture



Erukur Local Language is Tamil.
Erukur Village Total population is 3190
Number of houses are 823.
Female Population is 50.5%.
Village literacy rate is 75.3%
Female literacy rate is 35.2%.

Census Parameter	Census Data
Total Population	3190
Total No of Houses	823
Female Population %	50.5 % (1612)
Total Literacy Rate %	75.3 % (2403)
Female Literacy rate	35.2 % (1123)
Scheduled Tribes Population %	0.0 % (0)
Scheduled Caste Population %	35.5 % (1135)
Working Population %	39.0 %
Child(0 -6) Population by 2011	302
Girl Child(0 -6) Population % by 2011	45.7 % (138)



The process of producing foods, vegetable, crops by cultivating land is known as agriculture. About 80% of people are involved in agriculture as their occupation. ... But now people use modern equipment and technology for agriculture. They also use chemical fertilizers, seeds improve etc to make production well.



The two main important type of occupation of the people in Erukur is farming and fishing

Fishing is an important secondary source of income to some farmers and a primary occupation in small fishing villages.

The growth of the site in 30 years, the land use changes, the vegetation, the process of pattern



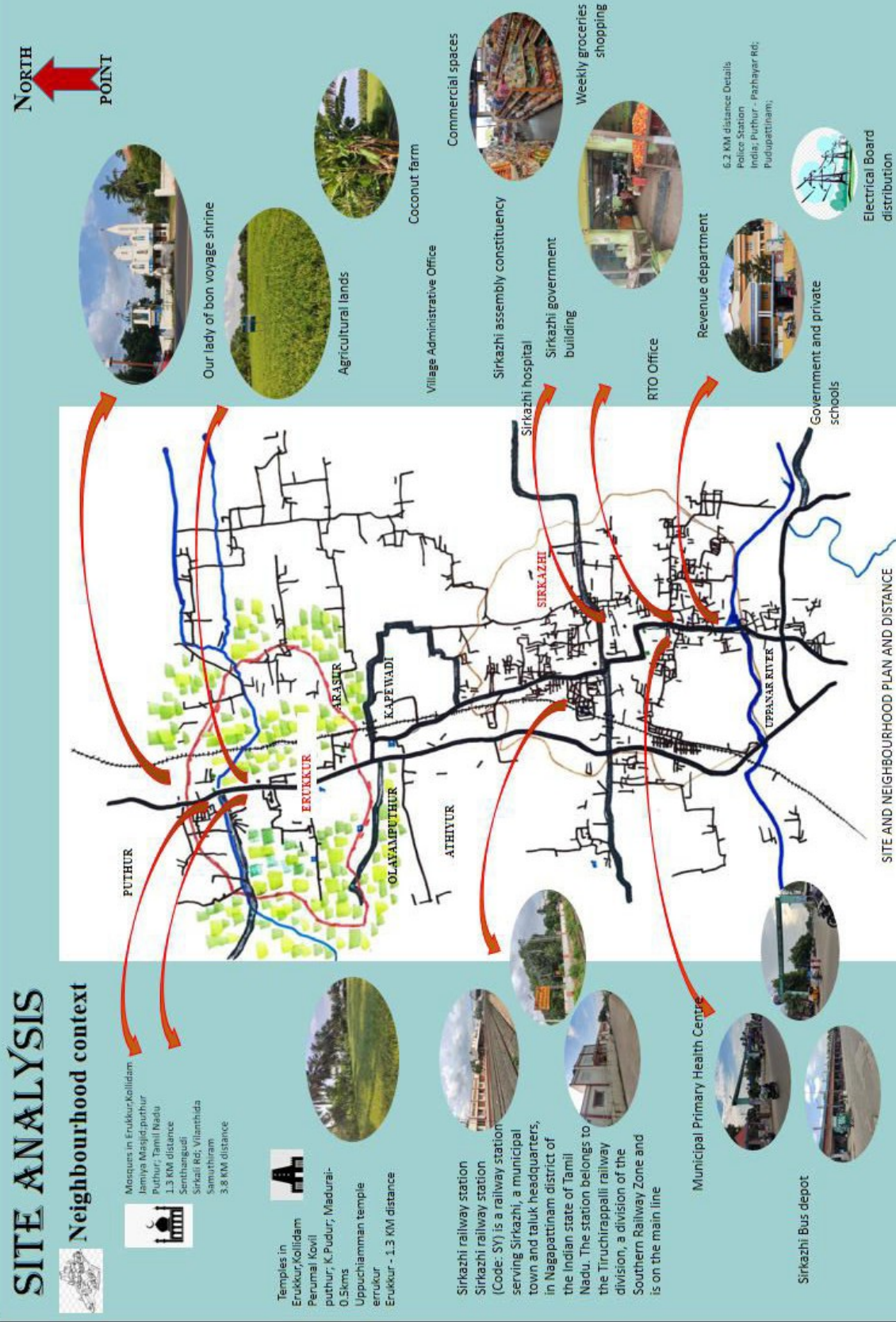


Plate6

SITE ANALYSIS



Site Justification:

- Located in a calm and residential and agricultural neighborhood.
- Hospitals are within 6km which is 10 mins away.
- 2 schools are present near the site.
- The site has 3 side access.
- The climate is not too hot or too rainy it has a moderate climate.
- It has a flat land with sandy soil good for construction.
- Site has more vegetation helps to protect it from external noise and helps to block the visual.
- Transportation facilities are within 5km-2 mins of traveling from the site.
- Good place to have a missionary.
- Missionaries happens in affected area which needs help.
- The site neighborhood villages are deep inside even without electricity and proper houses.
- The areas nearby are tsunami affecting
- Rural setting with more homeless people on the roadside and public spaces in and near the village.
- School , playground & market is nearby
- Site is located between Chidambaram, Mayiladuthurai, Sirkazhi, Kumbakonam, Nagur, Velankanni which is a temple town
- Dense vegetation helps with less noise.
- A water body is present close to the site and connecting internal road of 3m wide which runs with good fresh water throughout the year.



N



Govt Health Centers near Erukur

- 1) V.Pudur , V.Pudur,HSC , Manthavelli st, V.Pudur ,
- 2) Kunnam , Primary Health Centre, MAIN ROAD ,
- 3) VISHNU HOSPITAL , , main road, kollidam , kollidam bus stand



Schools in Erukur

Pums Erukur
Address : erukur , kollidam , nagapattinam , Tamil Nadu . PIN- 609108 , Post - Puthur (SRK)

Colleges near Erukur

Poompuhar College- Melaiyur-poompuhar
Arc.vishwanathan College- Near Mayiladuthurai

Railway In.

Best College Of Education- Main Road maliyam
A V C College(autonomous)- Mannampandal mayiladuthurai



Parks and Recreational Places in Kollidam

Sirkazhi T.K
5.5 KM distance Details
K S Tamilmani Garden
Puthur

5.7 KM distance Details
Vallampadugai Park
Chennai - Nagapattinam Hwy; Vallampadugai.



HOW TO REACH Erukur

By Bus
Sirkazhi bus depot, 10 mins travel
Puthur Bus stop, 5 mins travel.



HOW TO REACH Erukur

By Rail
Arasur Rail Way Station , Sirkazhi Rail Way Station
are the very nearby railway stations to Erukur.



Bus Stops in Erukur,Kollidam,Arasur

Arasur; Tamil Nadu 609108; India
2.3 KM distance -Puthur Bus Stop
Puthur;Chidambaram;Tamilnadu; Sirkali Rd; Kasim Nagar; Puthur;
2.3 KM distance -Arasur Bus Stop
SIRKAZHI; Old NH;
Arasur 2.4 KM distance
Thirumailadi Bus Stop
Puthur - Pazhayar Rd; Thirumailadi;
3.3 KM distance



Police in Kollidam

Police Station Anaikkaran Chathiram
Anaikaran Chathiram; Nagapattinam; NH-45A; East Coast Road; Mayiladuthurai;
Mayiladuthurai: 6.2 KM distance
Kollidam Police Station
Chennai - Nagapattinam Hwy; Kollidam.

ERUKKUR POST OFFICE STREET , House
Erukur,Kollidam,Nagapattinam 0.73 K.
M.

AirPorts Near By Erukur
Civil Airport
138 KM near.

Tourist Places Near By Erukur , Nagapattinam



- Seerkazhi
- Chidambaram
- Mayiladuthurai
- Thirumanancheri
- Navagraha Sthalas

GOVERNMENT HIGHER SEC SCHOOL ,
SchoolCollege
Agani,Sirkazhi,Nagapattinam 4.03 K. M.

Plate7

SWOT

STRENGTHS:



- Calm area with easy access all the basic needs:
- The site has dense vegetation protects from any sound pollution.
- The site also has a flat land easy for construction.
- Site has sandy soil which is good for construction and farming.
- Maniyaru River never dried up.



OPPORTUNITIES:



- Site is located in the center of a temple towns.
- Site has access to Nh32 which connects many pilgrimages.
- Site is visible and attracts people and there will be more visitors



WEAKNESSES:



- Slow developing area.
- Some neighbourhood villages still do not of electricity.
- Road connectivity.



THREATS:



- Cyclone affecting area

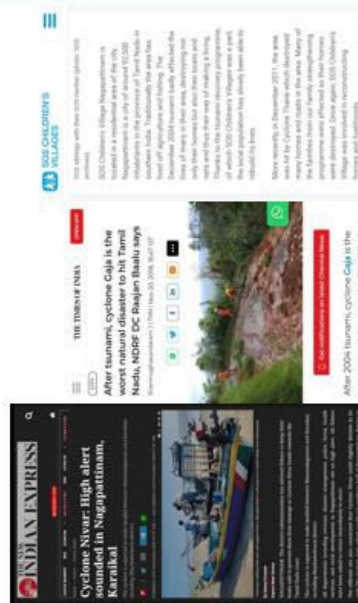
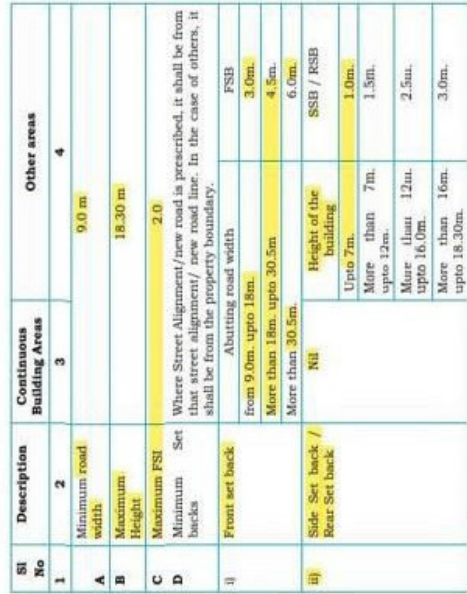
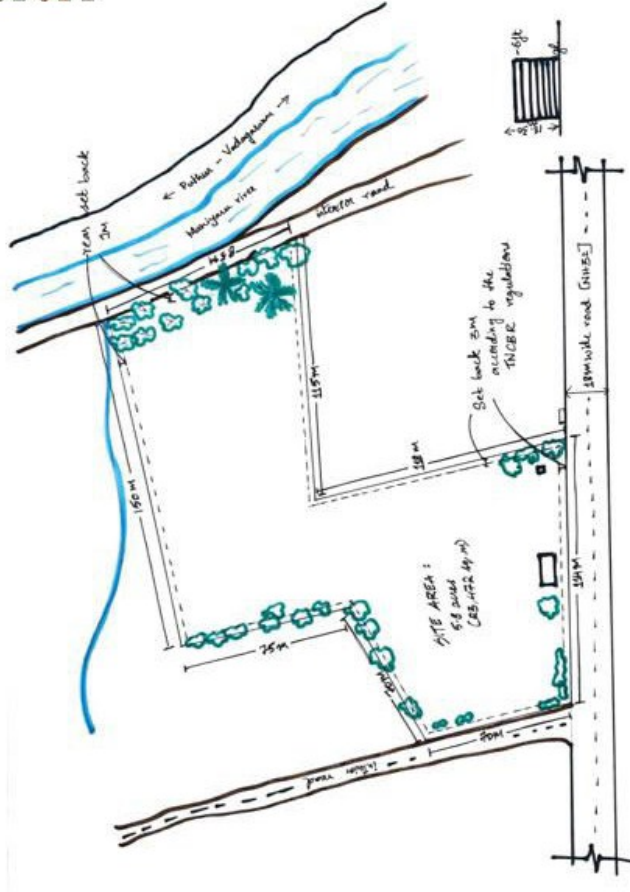


Plate9

SETBACKS:



Sirkali is a Taluk in Nagapattinam district of Tamil Nadu state in India. Below is the list of Towns and Villages in Sirkali Taluk. Total Number of Villages in this Taluk list are 85.



SITE ANALYSIS

Natural Physical Features:



Vegetation: The site is covered with variety of trees and plants which some of them provide shade and cool breeze. These trees act as a barrier and stops the noise from entering the site.



Soil type: Sandy soil



Sandy soil

- There is no unequal settlement problem.
- Cushion effect in the foundation during earthquakes.
- During the rainy season the water will drain out easily.
- No swelling or more shrinkage during extreme seasons.



Man Made Features:



Motor- for water

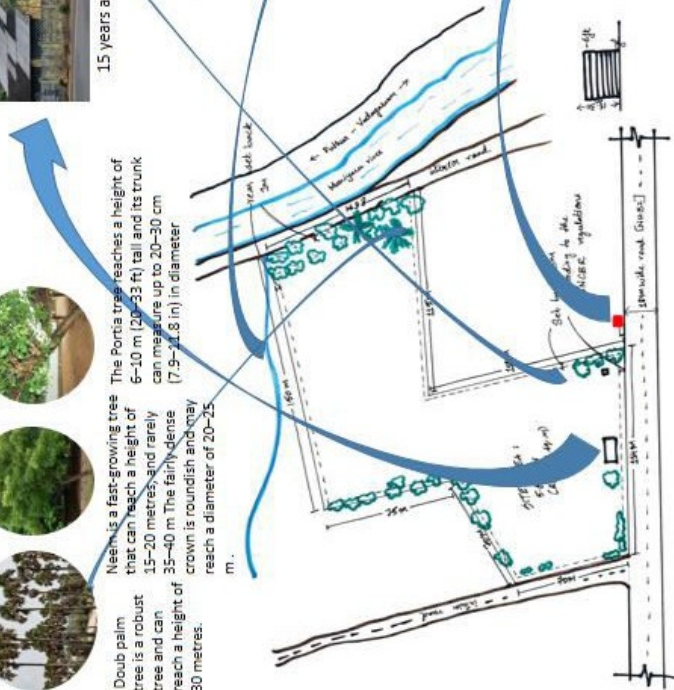
15 years abandoned building



Irrigation Canal runs behind the site, which also helps to get rid of the excess water in the site during rainy seasons,

Utilities:

WATER FACILITIES : GROUNDWATER AND TRANSPORTED WATER. THERE IS A TRANSFORMER NEARBY THE SITE.



The Portia tree reaches a height of 6-10 m (20-33 ft) tall and its trunk can measure up to 20-30 cm (7.9-11.8 in) in diameter.

Neem is a fast-growing tree that can reach a height of 15-20 metres and rarely reach a height of 35-40 m. The fairly dense crown is roundish and may reach a diameter of 20-25 m.

Double palm tree is a robust tree and can reach a height of 30 metres.

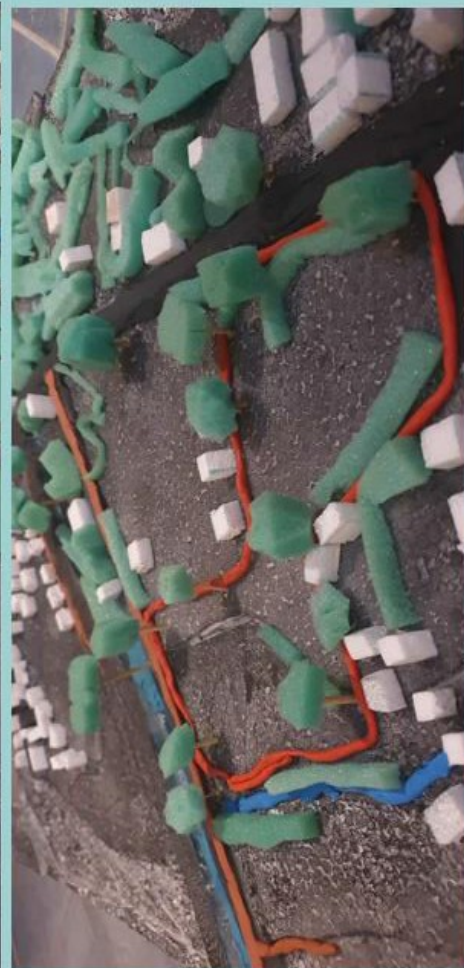
The banyan reaches a height up to 30 metres (100 feet) and spreads laterally indefinitely.

Common Name: Chakkarak el
Banana/Maximu m
Height: 3 Meters
Pot Size: Min 24" width x 36" height
widths of 80 feet.

Mango trees are deep-growing from 5 to 10 m (16 to 33 ft) tall that attain heights of 90 feet and widths of 80 feet.

Soil type: Sandy soil

SITE DOCUMENTATION:



NORTH ELEVATION



NORTHWEST TO SOUTHEAST ELEVATION



SOUTH ELEVATION



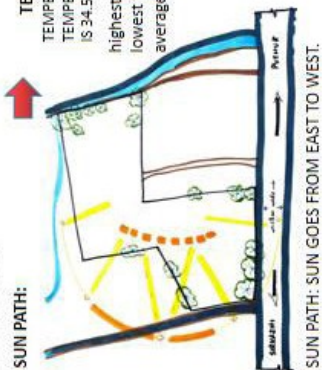
THE SITE HAS A GRADUAL SLOPE OF 0.5 M TOWARDS THE CANAL

Plate12

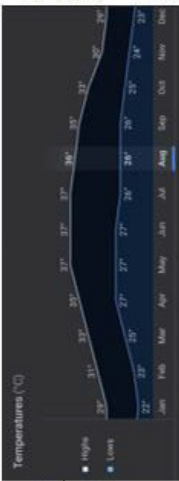
SITE ANALYSIS

Climate:

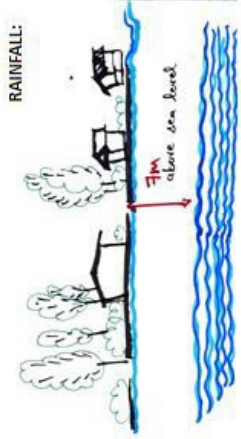
SUN PATH:



TEMPERATURE:
TEMPERATURE IN ERUKKUR
IS 34.5 Degree Celsius.
highest temp :37 deg C
lowest temp :22 deg C
average temp :
34.5 deg C

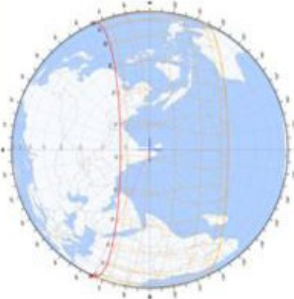


Rainfall:
• highest rainfall:33.1mm
• lowest rainfall:13mm
• average rainfall:120mm
The site is 7.5m above sea level.



- Computation path of the sun for:
- Kollidam Main Road, Erukkur, Sirkazhi, Mayiladuthurai, Tamil Nadu, 609108, IND

- 29 Aug 2021
- 06:08 UTC+5.5>|<
- Solar data for the selected location
- Dawn: 05:39:45
- Sunrise: 06:00:55
- Culmination: 12:12:04
- Sunset: 18:23:04
- Dusk: 18:44:13
- Daylight duration: 12h22m9s
- Distance [km]:151.088.255
- Altitude: 1.20°
- Azimuth: 80.64°
- Shadow length [m]: 335.27
- at an object level [m]: 9



Geodata for the selected location

- Height: 9m
- Lat: N 11°47'43.5"
- Lng: E 79°42'53.43"
- UTM: 44P 359735 1248953

- Solar data
- Mar Equinox: 20.03.2021 15:07 IST
- Jun Solstice: 21.06.2021 09:01 IST
- Sep Equinox: 23.09.2021 00:51 IST
- Dec Solstice: 21.12.2021 21:29 IST
- Declination: 9.342°
- Right Ascension: 10h 30m 48.17s

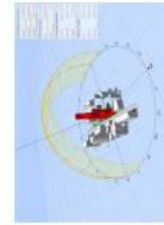
WIND DIRECTION:



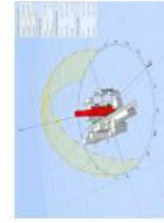
Humidity: 75%
Wind : 4.99 mt/sec
towards S



Dec Solstice:
21.12.2021 21:29 IST



Sep Equinox:
23.09.2021 00:51 IST



Jun Solstice:
21.06.2021 09:01 IST



Mar Equinox:
20.03.2021 15:07 IST



• WIND DIRECTIONS: PREDOMINANT WIND
DIRECTION IS FROM SOUTH EAST TO NORTH WEST
IN ERUKKUR.

• AVERAGE WIND SPEED IS MORE THAN 4.99 meters

SITE ANALYSIS

TRADITIONAL ARCHITECTURE:



STREET PLANING:
THE STREETS ARE PLANNED
ACCORDING TO THE CASTE,
RELIGION AND OCCUPATIONS.

THINAI SPACE:
THINAI / VERANDAH AREA
PROVIDED IN THE MAJORITY
OF HOUSES AS A PART OF
FOLLOWING THE CULTURE
AND AS AN INTERACTION
SPACE OR AS A SIT OUT.

SLOPED ROOF:
SLOPED ROOF IS THE COMMON TYPE OF ROOFING USED HERE, BUT SOME ARE ADOPTING TO FLAT
ROOFS FOR HOUSEOLD PURPOSE LIKE DRYING THE CLOTHES AND FOR KITCHEN PURPOSES,



WALL TILES AND DADO WALLS
ARE USED AS A DECORATIVE
MATERIAL TO AND AN
ASTHETIC LOOK TO THE
BUILDING VERY FEW HOUSES
USE THIS ELEMENT.

SUNSHADES AND SUN
BLINDERS ARE PROVIDED TO
CUT DOWN THE RADIATION.

TINTED GLASS WINDOWS:
THE CLORFUL TINTED GLASS
WINDOWS ARE PROVIDED IN
THE DIRECTION OF MORE
SOLAR RADIATION TO CUT
DOWN THE EFFECTS.



CENTRAL COURTYARD:
MOST OF THE HOUSES HAVE
A CENTRAL COURTYARD
SPACE. HOUSES THAT CAME
IN THE LAST 10 YEARS
DOESN'T HAVE COURTYARDS.

COURTYARDS ARE USED AS
INTERACTION SPACE, FOR
SUNLIGHT AND VENTILATION
AND ALSO AS RAINWATER
STROING AREA OR AS A
SMALL WATER BODY.

ARCHITECTURAL ELEMENTS:

- SLOPED ROOFING
- CENTRAL
COURTYARD
- TERRACOTA/
ATHANGUDI
FLOORING
- SUNSHADE/
SUN BLINDERS/
TINTED GLASS

FLOORING MATERIALS:
THEY USE DIFFERENT FLOORING
MATERIALS THAT ARE LOCALLY
AVAILABLE.

- TERRACOTA TILES
- ATHANGUDI FLOORING
- RED OXIDE FLOORING
- CEMENT FLOORING
- NATURAL STONE FLOORING
- GRANITE FLOORING

LOCALLY AVAILABLE MATERIALS ARE COST EFFECTIVE AND SUITABLE TO
THE CLIMATIC CONDITIONS.
NATURAL AND NATIVE MATERIALS KEEPS THE FLOOR COOL ALL THE
TIME EVEN WHEN THE TEMPERATURE IS HIGH OUTSIDE.



SITE ANALYSIS

Materials:



Locally available, there are brick chambers nearby the area.

A brick is a type of block used to build walls, pavements and other elements in masonry construction.



A brick is a type of block used to build walls, pavements and other elements in masonry construction. Jalis cut down heat: Jalis are a green tool that can help you reduce the energy load of cooling and the costs associated with it. The apertures in the jali efficiently lessen the ingress of heat in the daytime. They also block the entry of direct sunlight, making for pleasant interiors.

FLY ASH BRICKS



Available in Neyveli

They are light in weight and hence are very suitable for multi-floored buildings. ...

Fly ash bricks absorb less heat and considering the Indian climate, it makes it better when compared to clay bricks.

From the cost front, it requires less mortar during construction.

CEMENT BLOCKS



CEMENT SHEETS



Terracotta Roof Tiles



lifespan of these tiles is 50 years or longer,

GRANITE:



Puthukottai, Mduria, Krishnagiri



20 MM METAL - Jelly
Dhindivanam availability

Terracotta Flooring Tiles:

- The material can withstand a lot of stress and also resists breaking and chipping very effectively.
- It is not affected by the erosive action of the elements, resistant to fire and water, and can last for years without any degradation. Besides, terracotta is also resistant to mould and bacterial growth.



Athangudi tiles give a smooth finish as they are prepared on a glass plate. Even so, they offer a non-slippery surface, ideal for installing in all parts of the home.



SITE ANALYSIS

VERNACULAR ARCHITECTURAL MATERIALS:

Masonry structures are the oldest structures. These are structure built by using masonry units with mortar. The masonry units may be:

- Clay Bricks
- Concrete Blocks
- Structural Clay Tiles
- Stone masonry

BRICKS:

Brick is a solid unit of building having standard size and weight. Its history traces back thousand years (almost 7500 BCE). Clay bricks made of fired clay. The composition of clay varies over a wide range. Usually clays are composed mainly of silica (grains of sand), alumina, lime, iron, manganese, sulfur, and phosphates, with different proportions. Clay bricks have an average density of 125 pcf. Bricks are manufactured by grinding or crushing the clay in mills and mixing it with water to make it plastic. The plastic clay is then molded, textured, dried, and finally fired.



Uses of Bricks

1. As a Structural Unit

Since the clay bricks or burnt bricks are strong, hard, durable, resistive to abrasion and fire, therefore, they are used as a structural material in different structures:

- Buildings
- Bridges
- Foundations
- Arches
- Pavement (Footpath, Streets)
- Brick Flooring

2. As an Aesthetic Unit/Surface Finish

Bricks can be used in different colors, sizes and orientations to get different surface designs. As an aesthetic material bricks can be used:

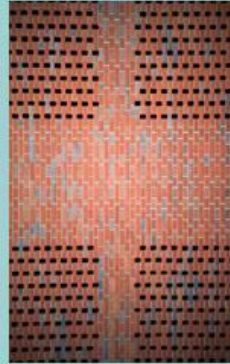
- In Pavements
- As Facing Brick
- For Architectural Purposes

ENERGY-EFFICIENT MATERIAL: Bricks are energy efficient. Material, thermal mass is the ability of a material to absorb and retain solar heat energy, smoothing the temperature over time, making the daytime cooler and night time warmer. The high thermal mass of brick helps to significantly reduce heat inside the building.

The Fascinating Benefits of the Jali

Architecture Design: Curtilament of Heat

Summer is unpleasant in most parts of India. This is where Jali steps in to cut down on the five-digit current bill. The apertures in the Jali allow the ingress of heat during the day. By blocking the direct entry point of sunlight, Jali makes a pleasant interior. Jali architecture is a boon for abodes in both hot-humid and hot-dry climatic regions.



Orchestration of Light

Jalis serve as great replacements or accompaniments for windows by blocking off the glare while welcoming the called for filtered daylight, without obstructing the view of the outside world. Perforated screens could be paired with shades, curtains, or louvers to control the light that seeps through. They are recommended for spots where the sun is the brightest. Jali could also be used as a roofing material in home gardens, porches, and courtyards.



Stimulation of Air

Before understanding the role of jali architecture in the stimulation of air movement, it's necessary to grasp the science of air movement. In a mild breeze, the air particles flowing inside the house through small apertures gain momentum. As air emerges from the apertures, it expands and cools. Jali plays a vital role in acting as a panel that controls the compression and release of cooled air inside the house. In simple terms, Jali is the mechanical version of an air-conditioning compressor.

Concealment of Space

One of the greatest benefits of Jali is the ability to see through without being seen. However, that's hugely subject to the size of the apertures and the amount of light they transmit. These perforated screens are often used in the exteriors of houses, as windows, partition walls, skylights, door panels, railings, and more. They are best for hiding bathroom piping and ventilation systems.

3. As a Fire Resistant Material

Advantages of Bricks

- Economical (Raw material is easily available)
- Hard and durable
- Compressive strength is good enough for ordinary construction
- Different orientations and sizes give different surface textures
- Very low maintenance cost is required
- Demolishing of brick structures is very easy, less time consuming and hence economic

Disadvantages of Bricks

- Reusable and Recyclable
- Highly fire resistant
- Produces less environmental pollution during manufacturing process
- Time consuming construction
- Cannot be used in high seismic zones
- Since bricks absorb water easily, therefore, it causes fluorescence when not exposed to air
- Very Less tensile strength
- Rough surfaces of bricks may cause mold growth if not properly cleaned
- Cleaning brick surfaces is a hard job
- Color of low quality brick changes when exposed to sun for a long period of time

VERNACULAR ARCHITECTURAL MATERIALS:



Rat trap bond is a brick masonry method of wall construction, in which bricks are placed in vertical position instead of conventional horizontal position and thus creating a cavity (hollow space) within the wall. Architect Laurie Baker introduced it in Kerala in the 1970s and used it extensively for its lower construction cost, reduced material requirement and better thermal efficiency than conventional masonry wall, without compromising strength of the wall. The original post appeared on Earthbound Architecture Website and has been reproduced with the permission from the author.

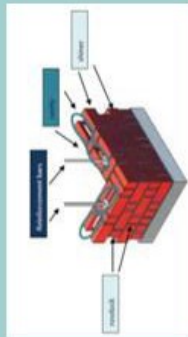
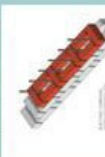


CONSTRUCTING BRICK WALL USING RAT TRAP BOND

- Rat Trap Bond - iStudio Architecture
- Constructing Brick Wall using Rat Trap Bond
- The bricks are placed in vertical position, so that 110 mm face is seen from front elevation, instead of the 75mm face (considering brick of standard size 230 X 110 X 75 mm). Since width of wall remains 230mm, an internal cavity is created. This is where approximately 30% Material (brick and mortar) is saved and thus overall construction cost is reduced. Cavity provides effective thermal and sound insulation. This makes rat trap bond energy and cost efficient building technology.

POINTERS

- Rat Trap Bond Corner Junction Details
- Bricks should be of good quality with consistent size and straight edges
- First layer (bottom) and last layer (top) of the wall should be solid (without cavity).
- Layer at sill and lintel levels of opening and sides of opening should be solid (without cavity) for fixing frames.
- Reinforcement bars can be put in vertical cavities at corners and around openings to improve earthquake resistance.
- Reinforcement bars can be put in horizontally to make lintels and to improve earthquake resistance.
- Electrical conduits and plumbing pipes, with prior planning, can be put inside cavity for better aesthetics.



BRICKS CAN BE USED TO CREATE UNIQUE STRUCTURES WHEN EXPOSED THEY ARE EYE PLEASING.



ADVANTAGES OF USING RAT TRAP BOND

- Rat Trap Bond Brick wall with window opening
- Requires approximately 25% less bricks and 40% less mortar than traditional masonry
- Reduced material requirement results in considerable cost saving
- Strength of wall is not compromised, it remains same as traditional masonry wall.
- Cavity induced in wall provides better thermal insulation, resulting in cooler interiors during summer and warmer interiors during winter.
- All vertical and horizontal reinforced bands, lintels (for standard size openings), electrical conduits are hidden inside wall, resulting in better aesthetic appearance without plastering (exposed brickwork).
- Walls constructed using rat trap masonry can be used as load-bearing as well as a thick partition wall.
- Rat-trap bond when kept exposed, creates aesthetically pleasing wall surface and the cost of plastering and painting may also be avoided.
- In case of more structural safety, reinforcement bars can be inserted through the cavity until the foundation.

DISADVANTAGES OF USING RAT TRAP BOND

- Due to the formation of cavities in the masonry, the building does not provide good sound insulations.
- Skilled labor is required to construct this type of masonry.
- Frequent cleaning of external surface required if not plastered.
- Special care and attention to be given while designing and constructing rat trap bond masonry.



To keep your building shaded, consider planting trees or other greenery around the outside of your home. These plants will keep the sunlight from directly hitting your brick walls, and — as an added bonus — provide you privacy during the day. It is especially good to plant around windows, as windows are poor insulators, and direct sunlight on exposed windows will heat your house faster.



VERNACULAR ARCHITECTURAL MATERIALS:

Reinforced concrete

The filler slab is based on the principle that for roofs which are simply supported, the upper part of the slab is subjected to compressive forces and the lower part of the slab experience tensile forces. Concrete is very good in withstanding compressive forces and steel bears the load due to tensile forces. Thus the lower tensile region of the slab does not need any concrete except for holding the steel reinforcements together.



Thermal insulation

The air pocket formed by the contours of the tiles makes an excellent thermal insulation layer. The design integrity of a filler slab involves careful planning taking into account the negative zones and reinforcement areas.

Patterned ceilings

Filler slabs provide aesthetically pleasing patterned ceilings. In most houses, the filler material is left open without plastering to form aesthetic design symmetry but some residents prefer to cover the space with Plaster of Paris coating.

Thus the filler slab as the roof has the following advantages:

- Consumes less concrete and steel due to reduced weight of slab by the introduction of a less heavy, low cost filler material like two layers of burnt clay tiles. Slab thickness minimum 112.5 mm.
- Enhances thermal comfort inside the building due to heat-resistant qualities of filler materials and the gap between two burnt clay tiles.
- Makes saving on cost of this slab compared to the traditional slab by about 23%.
- Reduces use of concrete and saves cement and steel by about 40%.



Therefore in a conventional RCC slab lot of concrete is wasted and it needs extra reinforcement due to added load of the concrete which can otherwise be replaced by low-cost and light weight filler materials, which will reduce the dead weight as well as the cost of the slab to 25% (as 40% less steel is used and 30% less concrete).

The filler slabs also result in fewer loads getting transferred to the load-bearing walls and the foundations. The air gap in between the tiles makes it a good heat insulator and the ceiling looks attractive as well.



Terracotta Roof Tiles



Advantages of Terracotta Roof Tiles

Terracotta and concrete tiles do not warp or decompose the way asphalt tiles will on a roof. In addition, the colour of the terracotta tile is fade proof. Tiles of terracotta also stand up better under sunny, rainy, windy, snowy and icy weather conditions. The insulating ability of these clay tiles is high, so homeowners can save money on utility bills all throughout the year. Both types of roof tiles require low maintenance.

Considering the fact that the lifespan of these tiles is 50 years or longer, the tiles are well worth the additional investment. To provide a comparison, homeowners may need to replace an asphalt roof 2 to 3 times during this same period of time. Concrete tiles are less expensive to install than terracotta tiles to list another advantage for concrete tiles.

Tinted glass

- Tinted glass provides privacy and reduces the glare of the light entering the room, and provides a comfortable environment.
- As they are available in various different colours, they provide striking visual effect and increase the architectural view of the structure.
- It allows less solar heat to penetrate as compared to normal float glass and thus helps in reducing air conditioning costs up to some extent.
- They also block some amount of UV rays, unlike float glass which allows penetration of UV rays.



- It can be easily used in the form of tempered glass, laminated glass, safety glass, and insulated glass units.
- Tinted glass can be made reflective from the exterior by coating it with a silver oxide layer. Reflective tinted glasses are very commonly used in glass facades of business centres, as they provide privacy to the interiors of the structure.
- It can be combined with low-e glass to give attractive look along with thermal insulation properties.

Terracotta Flooring Tiles:

- The material can withstand a lot of stress and also resists breaking and chipping very effectively.
- It is not affected by the erosive action of the elements; resistant to fire and water, and can last for years without any degradation. Besides, terracotta is also resistant to mould and bacterial growth.

Terracotta Flooring Tiles:

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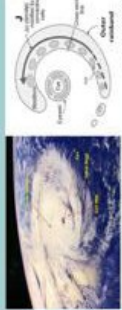
Athangudi tiles are basically cement tiles like mosaic, but unlike the machine pressed and produced mosaics, they are handmade over glass surfaces. During the early days of their production, they were patronised more by the rich, being a costlier option and newer technology in those days.

Commonly available in red, blue and yellow, Athangudi tiles come in countless designs. They do not need any polishing or extra maintenance; just the regular sweeping and swabbing is sufficient. These tiles are eco-friendly (as cement and iron oxides are natural derivatives) and long lasting.

Athangudi tiles also possess added health benefits. They aid in preventing joint pains and protect our feet from heel fissures. They are suitable for any kind of conditions and hence can be used both indoors and outdoors.

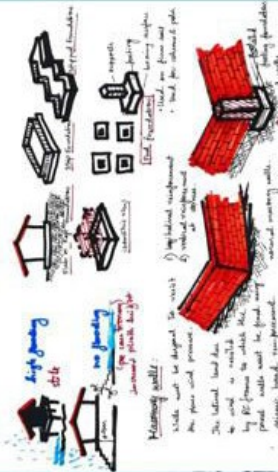
CONCEPTUAL DESIGNING

CONCEPT AND FORM:



The main parts of a tropical cyclone are the rainbands, the eye, and the eyewall. ... Air spirals in toward the center in a counter-clockwise pattern in the northern hemisphere (clockwise in the southern hemisphere), and out the top in the opposite direction.

THE IS A CYCLONE PRONE AREA THE PLANNING AND DESIGNING WILL CONSIDER THE CHALLENGES THAT WILL BE FACED BY THE BUILDING.



BRICKS:



- THE IMPORTANT FACTOR CONSIDERED WHILE SELECTING THE MATERIAL IS THE AVAILABILITY OF MATERIALS NEAR THE SITE LOCATION AND THE WORKABILITY OF THE LABOURS.
- THERE IS A BRICK CHAMBER IN THE VILLAGE AND IT IS THE LOCALLY AVAILABLE MATERIAL.
- BRICKS CAN BE USED FOR MANY PURPOSES. FOR WALLS, AS SHADING DEVICE, FOR ARCHES, DOMES, PLANTER, ETC.,
- INSPIRED BY THE PRINCIPLES OF LAURIE BAKER AND ALL THE ELEMENTS, MATERIALS AND THE CONSTRUCTION TECHNIQUES ADOPTING SOME OF THE ELEMENTS INTO THE DESIGNING.
- USING HIS PRINCIPLES THE WHOLE DESIGN CAN BE ACHIEVED BY LOW COST MATERIALS AND AT THE SAME TIME IT CAN BE A SUSTAINABLE STRUCTURE.

ARCHITECTURAL PRINCIPLES:

- COST EFFECTIVENESS
- USE OF LOCALLY AVAILABLE MATERIALS
- RESPECT FOR NATURE- save natural resources
- AVOIDANCE OF ENERGY INTENSIVE MATERIALS
- ELIMINATION OF REDUNDANT DETAILS
- WASTAGE MINIMIZATION
- SPATIAL PLANNING
- Keep it simple
- Know your site well
- Services play an important role
- Create unique buildings
- Explore local materials and workmen
- Be a minimalist
- ECO- FREINDLY
- SUSTAINABLE ARCHITECTURE

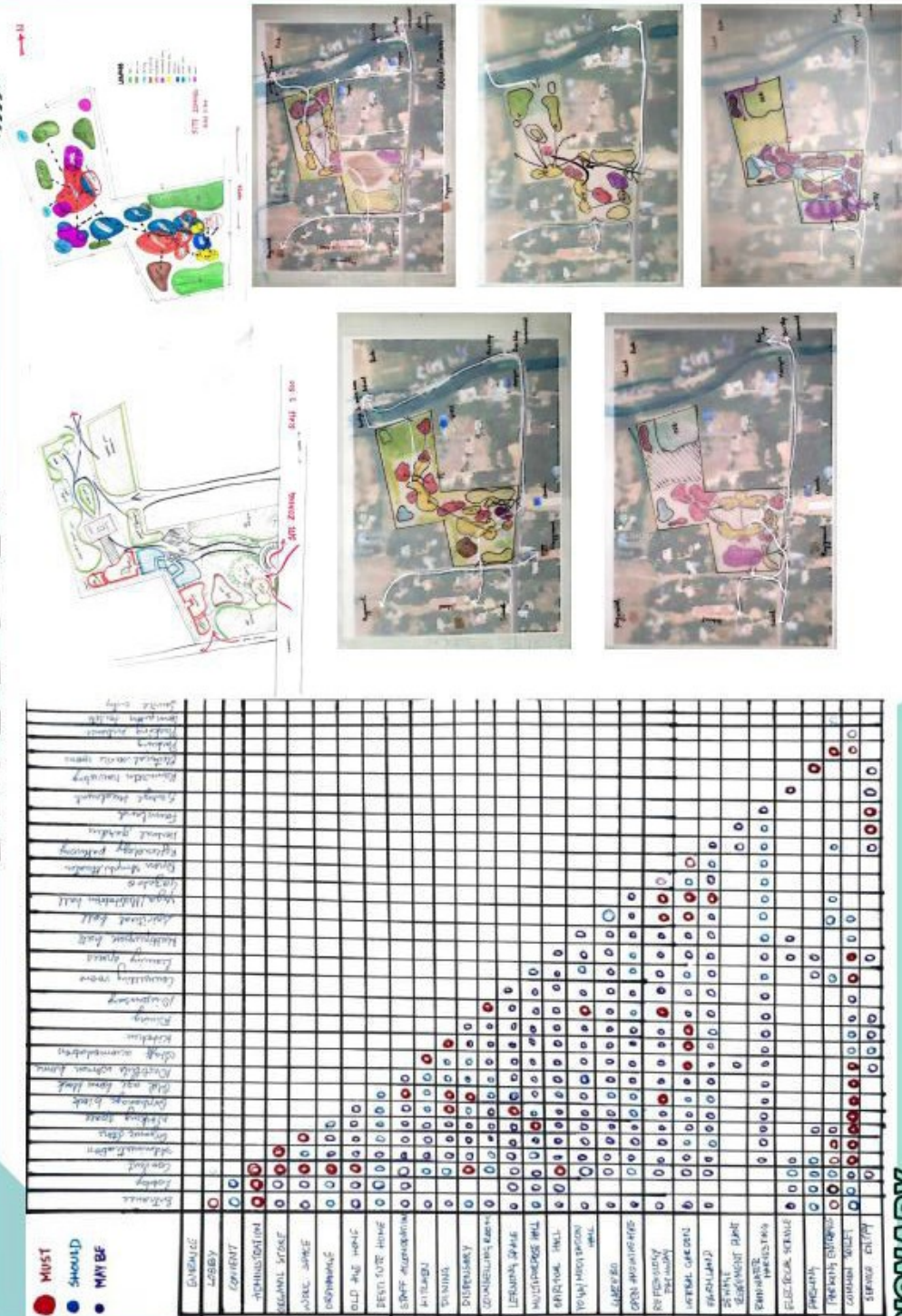


Construction techniques and innovative methods and the architectural elements used by Laurie Baker

1. THE RAT TRAP BOND
2. FILLER SLABS
3. ARCHES AND DOMES
4. TERRACOTTA ROOFING AND FLOORING
5. FRAMELESS DOORS AND WINDOWS
6. BRICK JALI WALLS OR PERFORATED BRICK ARCHITECTURE
7. CURVED WALLS
8. LATTICED BRICK WALLS
9. USE OF DISCARDED BOTTLES, INSET IN WALL
10. LETTING TREES LIVE AND BUILDING WITH MUD
11. OVERHANGING EAVES.

- DESIGN CONSIDERATIONS:
- To design linking spaces or connecting spaces that act as a healing space.
- To provide an active environment with independence and privacy and creating a communicable space between the three groups.
- To provide recreational spaces to keep them healthy and happy
- To provide learning and growing spaces to keep them engaged.
- To provide interactive spaces to enhance their emotional and social living.
- Providing a sense of community between the residents by including clusters of residences and shared common rooms.
- To provide activities that makes the community self-sustained.
- To explore the colour theory and psychology to provide a homely environment.

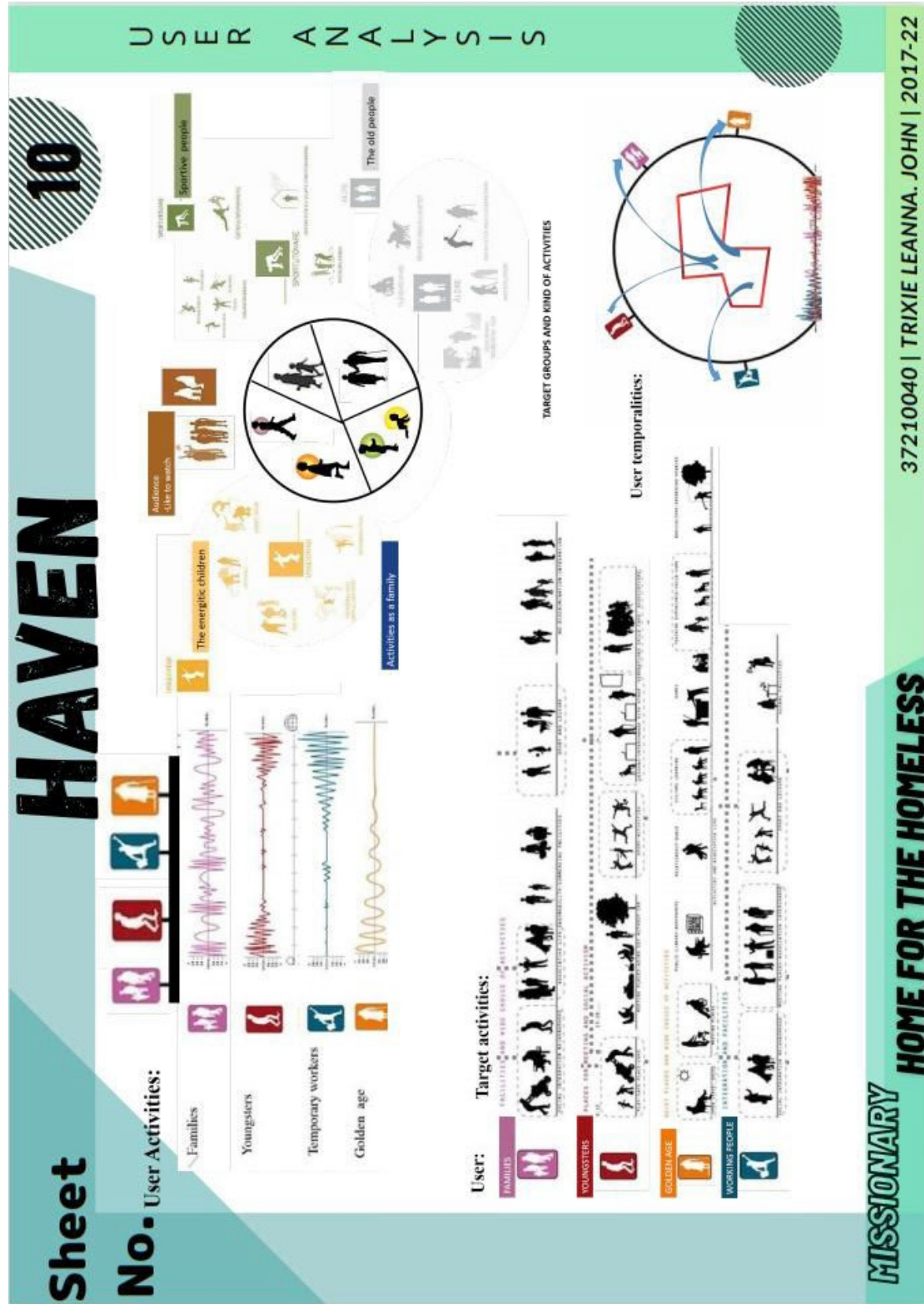
SITE PROX-M-ITY & NON-ZG



MISSIONARY

HOME FOR THE HOMELESS

37210040 | TRIXIE LEANNA. JOHN | 2017-22



3.2 SOSCHILDREN'SVILLAGE-COLLOMARIKHULANA

TEMPERATURE STUDY:

S VILLAGE:

SOS children's village, Collomari Khulana

Owner: SOS children's villages international

Architect: Khaled Ali and Uttam K Saha

Consultant: Consecrated Ltd.

Project manager: ahs Rahaman

Covered area: 8acres

Period of construction: October 1982 to 1986

This was the third SOS children's village established in Bangladesh. The total built area is 22,25,55 sq. ft. The architect attempt to build almost totally with locally available materials. But due to the negligence of the contractor and the obstinacy of the client, all building materials except the clay tiles of the roof had to be transported from Dhaka, or imported from abroad.



Fig. 6.1.1.2 Each Para has individual ones Fig. 6.1.1.3 Director's family house



- Social center is located near the Administrative block.
- Here SOS trained General village women.
- SOS also gives clinic system to general people.



Lead hearing wall structure. 2" inground brick wall. Fig. 6.1.1.4

1. Family house
2. Director/Assistant. Director's House
3. Co-workers Home
4. Aunt's and Guest room
5. Administrative block
6. Workshop and garage

Ventilation:

Cross ventilation
Mechanical Ventilation is also used here

Administrative block:

The Administrative block is located near the entry of the site.

Aunts and Guest house:

Cottage: Cottage which includes guest houses and study Corner is located at end of the village.



Fig. 6.1.1.5

Director House:

The director's house is located deep in the interior of the residential zone, giving him a commanding view of the whole residential zone.

Family house:

- The village is arranged in groups of family houses. But the houses stand back-to-front and the cohesiveness of the group is therefore somewhat lost.
- There are four clusters of the family houses (Para) in the villages. The family houses are clustered in four numbers which creates one Para. There are 16 family houses.

Roof:

- Pitched roof used here. Double roof is used to control the temperature of the family house
- 4" concrete roof used here. The pitch roof derived it's from the Chowchilla of the rural huts of the Bengal



- The SOS international prepares a new for the care of parent less and abandoned children's.
- The SOS international gives them mother, brother and sisters and home and also community protection.



3.3.SOSCHILDREN'SVILLAGE-PUDHUCHERY

LITERATURE STUDY:

SOS children's village Puducherry

Location : puducherry
Project type: socially relevant
Client: sos children's villages of india
Year of completion: 2007
Built up area: 50,000 sft
Plot area: 9 acres

"the kattumaram at the entry, symbolizes the connections of the sea to the site and the people..."

the village located in an 8 acre property, has 15 family units along with the kindergarden, medical facility and the village director's residence... the family units are arranged along a meandering walkway that resembles a street in the local villages...



The design has been evolved based on the following **respecting, understanding and translating the context** that it is set in

cultural and traditional architecture of the area
local climate and site conditions

the design is taken from a **typical rural home with a thinnai/entrance verandah** in the front complete with a bench and a slot to keep a lamp, **a central courtyard** which brings in light and ventilation, with kitchen gardens extending behind.

- The homes have a community space in the front where the kids come together to play in the evenings.
- The structures are made of locally available stone and bricks as a composite wall which gives a good thermal insulation. the overhanging roofs and the traditional double grooved tiles laid on the precast rcc rafters protects us from harsh sun and rain.
- A "kattumaram, a local fishing boat made of logs tied together, at the entry, symbolizes the connections of the sea to the site and the people and a pergola with green cover made out of waste steel, casuarina poles used during construction, greets one to the village.



3.4 SOSCHILDREN'SVILLAGE -

LITERATURE STUDY:

SOS VILLAGE:

SOS Children's village, Rajshahi

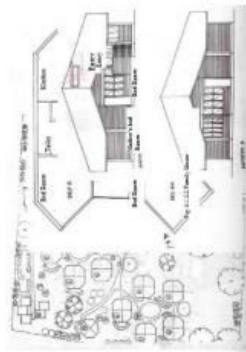
Owber: SOS children's villages international

Architect: Khadem Ali

Covered area: 5 acres

Period of construction: 1979

Location: Terokhadia.



Ventilation:

Cross Ventilation, mechanical Ventilation also used here.

Administrative block:

Administrative block is located block is located near the entry of the site.



Multipurpose hall:

Multipurpose hall is located in the center of the village. Multipurpose hall use for kindergarten students.

Plan of SOS village at Rajshahi.



Family house:

There are three clusters of family houses (Para) in the village. The family houses area clustered in five numbers which create one Para. There are 15 family houses. The whole village is built as village concept. Here is 15 family houses in which 150 children's live.



Structure:

R.C.C frame Structure, 5" exposed brick wall.

Roof:

Pitched roof used here. Double roof used for control the temperature of the family house. 4" concrete roof used here.

Social center:

Social center is located near the administrative block. SOS trained General village women. SOS also gives clinic system to general people.



Economic: The village of SOS at Rajshahi is not a tropical orphanage, single unit family unit is built like a residence. So the cost is more than barrack type hostel building But this single unit built for homely environment.



Community house and cottage:

Community house ND cottage includes guest house, aunts house and study corner is located in between two clusters of family houses.



The SOS international prepared a new for the care of parent less and abandoned children's. The SOS international gives them mother, brother and sisters and home and also community protection.



3.5 AYUDHAM SOCIETY FOR OLD & INFIRM

AYUDHAM SOCIETY FOR OLD AGED AND INFIRM

A very good initiative to combine old aged people and orphans to have mutual understanding, learning and sharing. Space with plenty of open space for old aged to relax and kids to play



Location: Khanpur, Delhi
 Architect: Vinay & Chaddha & Praveesh Ghai
 Year: 1993
 Site area: 1 acre
 Style: Group house in brick and concrete
 Status: Completed



DESIGN PROGRAM:

- Admin office
- OPD
- Meditation hall
- Kitchen
- Dining hall
- Rooms
- ST hall - Dine for children
- Multipurpose hall
- Toddlers area
- Computer room
- Lawn with stage
- Physiotherapy room
- Guest rooms
- Library

Located in an eco friendly green space with less pollution is one of the advantage of the site.

The main thing to notice is here that the old aged people living there render their service by teaching the kids who stay there. Inter relation of covered spaces, semi open spaces and open spaces is achieved in the design.






Meditation space with proper lighting and ventilation



Indoor meditation space

Aim:
 To provide a peaceful environment for the old people along with medical facility and learning space and stay for abandoned & E.W.S kids where they can be mutually benefited.

Circulation:
 Both vertical and horizontal circulation is seen throughout the building. And there is connectivity between the old aged and kids also.




Physiotherapy centre





Stay/study area for kids & library





Character of interaction spaces and connecting spaces.

Plate27

3.6 SOSCHILDREN'SVILLAGE -

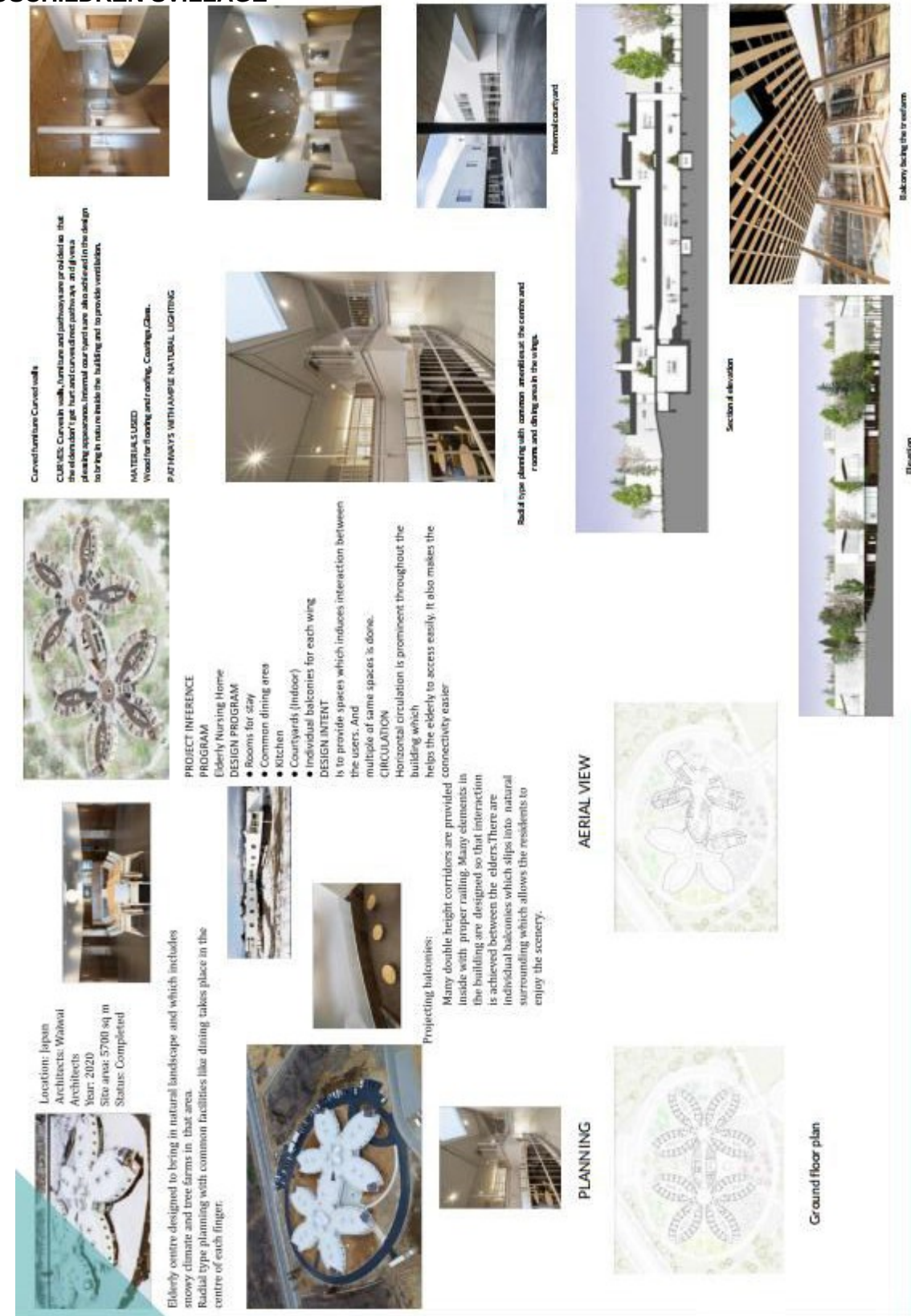


Plate28

3.7 NOOMODO ORPHANAGE



Modules

Location: West Africa
Architect: Francis Kéré
Year: 2016
Site area: 4000 sq m
Style: Modular courtyard building, a clustered small village
Status: Completed




Noomodo lies 2 km outside the village mimicking the nearby residence with a small communal outdoor space at the centre and surrounded by rooms.



Architecture in this building is sensitive to the needs and the privacy of the users and also maintaining the security for the kids and control for the staff.



Connecting space between modules





Play space



Barrel vault



Double envelope roof systems.

DESIGN INTENT
Mimicking the nearby residential compounds and providing a stay quarters with shared spaces and a common communal open courtyard at the centre of each building.

CIRCULATION
Horizontal circulation is prominent throughout the building which helps the admin to take careful attention of the children.



PROJECT INFERENCE PROGRAM
Orphanage

DESIGN PROGRAM

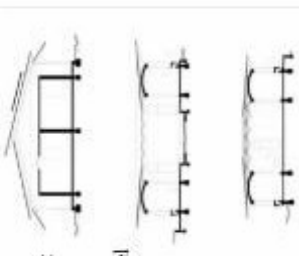
- 5 Courtyard buildings
- Shaded open dining hall
- Administration rooms
- Workshops
- Storage
- Changing rooms



Communal courtyard

Solar panels MODULES:

Concept of double envelope roofs are seen to minimize heat and bring in more natural ventilation. Space frames and steel roofings are mostly used.





Aerial View



Cluster type planning which facilitates interaction and monitoring children will be easier



3.8 STUTIRAMYA

Stuti Ramya

Sneha Niketan
Home for the orphan and old



Location: Mysore
Architect: Oswald Veigas
Year: 2020
Site area: 1 acre
Status: Completed



- This project is located in a very calm area in the outer part of the Mysore.
- There are internal ramps and 2 lifts provided inside for easy access for the elderly people.
- Most of the rooms are provided in the ground floor with attached toilets.



Design Program:

- | | |
|--|--|
| <ul style="list-style-type: none"> • Reception • Common dining room • Ramps within the building • Rooms in ground floor and first floor • Sick room with attached toilets • Nur-sin room • Old men's room • Old women's room | <ul style="list-style-type: none"> • Ground floor: Reception • Elderly people rooms, Dining, prayer, • Common toilets • Sick room, • Nursing room |
|--|--|

Ground floor:

Reception

Elderly people

rooms.

Dinning

Common toilets.
prayer.

Sick room.

Nursing ro

First floor:



Girls dormitory rooms

Boys dormitory rooms



3.9 MISSIONARIES OF CHARITY-VELOANKANNI

18

HAVEN

Sheet
No.

Plate31

Missionaries of Charity Convent:
Nirmala Shishu Bhavan and Nirmala Anbu Iliam



Location: Velankanni, Tamil Nadu
Architect: (sisters designed)
Year: 1984-87
Site area: 1.23 acres
Style: Dormitory house in brick and concrete
Status: Completed

Missionaries of Charity is a Catholic religious congregation established in 1850 by St. Mother Teresa and spread all around the world.

Motto:

"A member of the congregation must adhere to the vows of chastity, poverty, obedience, and the fourth vow, to give 'wholehearted free service to the poorest of the poor.'"

Missionaries care for those who include refugees, former prostitutes, the mentally ill, sick children, abandoned children, lepers, people with AIDS, the aged and convalescent. They have schools that are run by volunteers to teach abandoned street children and run soup kitchens as well as other services according to the community needs. These services are provided, without charge, to people regardless of their religion or social status.

Velankanni, is a Special Grade Panchayat Town in Nagapattinam district in the Indian state of Tamil Nadu. It lies on the Coromandel Coast of the Bay of Bengal, 350 km south of Chennai (Madras), 12 km south of Nagapattinam, and 33 km southeast of Thiruvaiyur.

The town is home to one of the most visited Roman Catholic Latin Rite shrines called the Basilica of Our Lady of Good Health.

Velankanni has been chosen as one of the heritage cities for the Heritage City Development and Augmentation Yojana (HRIDAY) scheme of the Government of India.

The town was among the worst hit by the tsunami caused by the 2004 Indian Ocean earthquake.



• Chapel



Circulation



Accommodation
Circulation space
Courtyard
Dinning
Wash area



SITE:



Terrace



The terrace is used for many purposes.

- Cylindric drying area
- Kitchen purpose
- Chimney outlet
- Solar panels for sustainable living
- Shade area which acts as an intercession point.

MISSIONARY

HOME FOR THE HOMELESS

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4.1 COMPARATIVE ANALYSIS & INFERENCE

Sheet

No.

HAVEN

COMPARATIVE ANALYSIS OF THE CASE STUDY:

Case Study:	Aayudham- old age home and infirm	Sneha Niketan - Old age home	Saturation-Aomori nursing home	Noomido Orphanage	Missionaries of Charity- Nirmala shishu bhavan and Anbuillam	Inference
Location	Kanpur, Delhi	Mysore	Japan	West Africa	Velankanni,	
Site Proximity	Located in a pollution free eco friendly environment	Located within 2km way from the city, calm neighborhood	Located in the main island	located 2km away from the city	Located in a calm area	Preferred site location is away from main city but with hospital within 5-6km radius
Architect	Vijay, K. Chadha & Praveesh Ghal	Oswald Velgas	Waivai Architects	Francis kere	-	
Year	1993	2020	2020	2017	1984-87	
Program	Old age and orphanage	Old age home	Nursing home	Orphanage	Orphanage and old age home and home for Destitute women	
Site area	1 acre	1 acres	5700sq.m	4000sq.m	7017sq.m	
Style	Group housing in brick and concrete	Contemporary	Contemporary	Mimicking the nearby village (sustainable way)	Dormitory style	Spaces with simple and effective planning
Design Intent	Simple planning with shared spaces and combined spaces for 2 user groups.	Has interaction spaces	Shared spaces with separate rooms	Modular courtyard building	Simple planning of spaces	Community types with many open interaction spaces
Architectural Planning	Providing a peaceful environment with all facilities and Ens kids and they can be mutually benefited.	Planning with many sustainable techniques and active ageing activities	Radial type planning	Creating a stay area and communal courtyard to increase interaction between kids	well planned spaces	Neat and simple planning with an active environment and integrating vegetation
Climate	Extreme climate	Moderate	Snowy climate	Tropical	Hot humid	
Materials used	Brick , concrete and steel	Porotherm clay hollow block	wood, coating and glass	Clay Bricks, metal roof, steel space frame	Brick, concrete	Materials to be chosen according to climate , availability and sustainability
Circulation	Both vertical and horizontal is seen throughout the building with proper connectivity	Proper lighting	Mostly horizontal circulation	Horizontal circulation throughout site	Horizontal circulation occasionally vertical circulation happens	User friendly circulation with less vertical circulation
Day lighting	Proper design of letting natural light inside the building but with too much glare	Good lighting	Naturally lit spaces	Natural lighting is prominent	Ample amount of natural light enters the building	Maximizing natural ventilation and minimizing artificial lighting
Vegetation	Proper Plantings of green spaces	Proper vegetation	No vegetation	No planned vegetation only few existing vegetation on site	Planned vegetation	Gardens to be provided according to the needs of the user like sensory, hobby, gardens.
Color theory	Proper design of letting natural light inside the building but with too much glare	no colour theory	Colour theory is used in the walls for easy identification of spaces	No colour theory followed	No colour theory	Common facade and colour theory to be used
Form	-	-	-	-	-	

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HOME FOR THE HOMELESS

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HOME FOR THE HOMELESS

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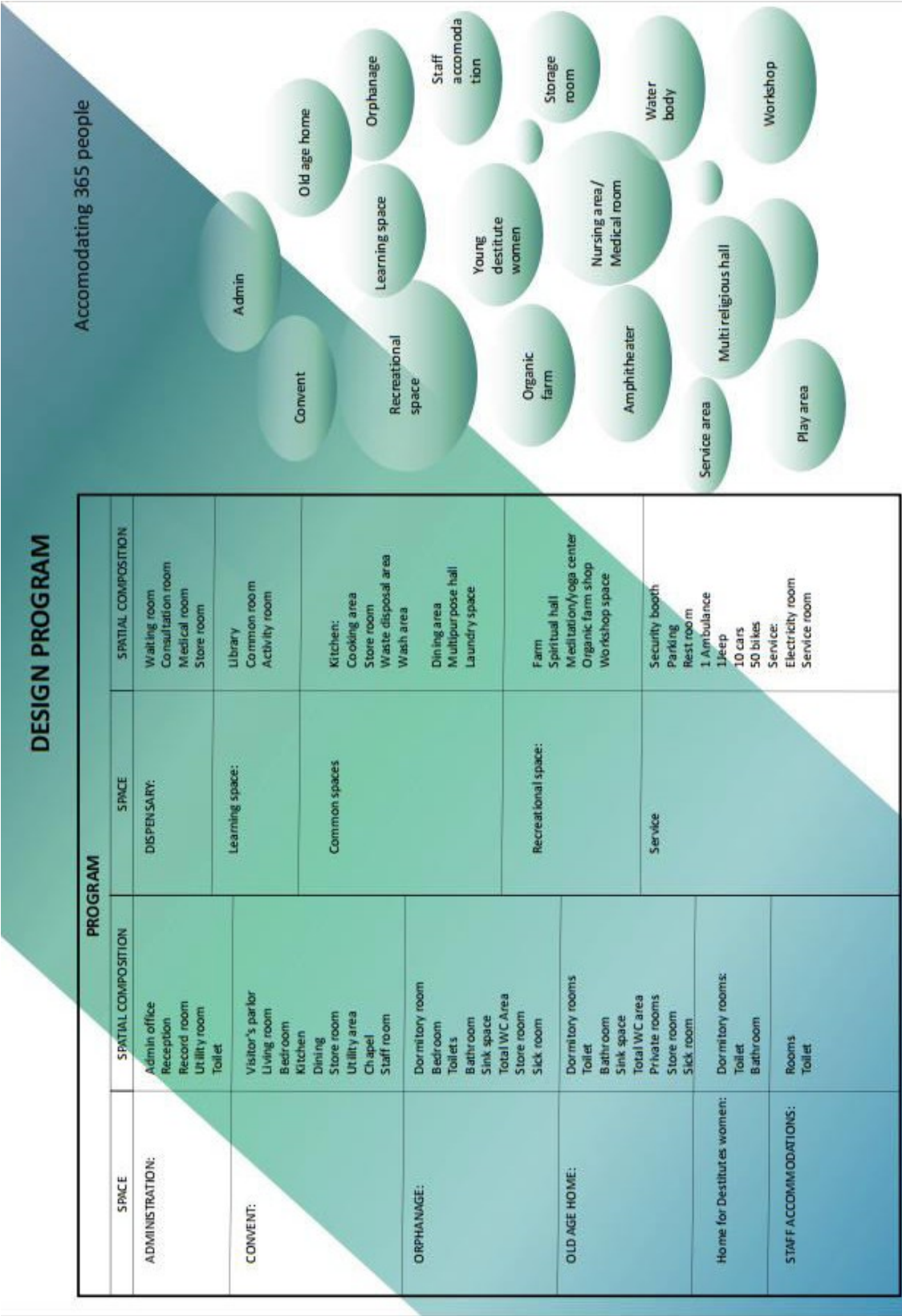


Plate33

AREA STATEMENT

SITE AREA	23,47,25sq.m	5.8 acres
BUILT UP AREA	7,673sq.m	1.896 acres
CIRCULATION AREA	1,282sq.m	30 % of the built up
TOTAL BUILT UP AREA	9,975sq.m	2.465 acres
GROUND COVERAGE 35%	8,215.2sq.m	2.03acres
OSR	2,347sq.m	
FARM AREA	7,354.8sq.m	
FSI 2.0	46,944sq.m	1.817 acres

Main Program:	Area in sq.m
Convent:	349.5sq.m
Administration	100sq.m
Housing Accommodation:	
Orphanage	1305sq.m
Old age home	707.2sq.m
Destitute home	59.5sq.m
Staff accommodation	240sq.m
Kitchen	72sq.m
Dining	292sq.m
Recreational & Religious space:	
Organic farm shop	100sq.m
Learning space	80sq.m
Parking	340sq.m
Landscape:	7,354.85sq.m
Farming	4046,.8sq.m
Garden and circulation	2500sq.m
Play area	650sq.m

Total no. of users: 365 people	Design Type
Orphans : 200 people	Dormitory type
Destitute women: 35 people	Dormitory type
Old aged : 100 people	Dormitory type and individual
Staff : 20 people	Individual type

TNCD BR Regulations:

Sl. No	Description	Continuous Building Areas	Other areas
1	2	3	4
A	Minimum road width		9.0 m
B	Maximum Height		18.30 m
C	Maximum FSI		2.0
D	Minimum Set backs		Where Street Alignment/new road is prescribed, it shall be from that street alignment/ new road line. In the case of others, it shall be from the property boundary.
i)	Front set back	Abutting road width	FSB
		from 9.0m. upto 18m.	3.0m.
		More than 18m. upto 30.5m	4.5m.
		More than 30.5m	6.0m.
ii)	Side Set back / Rear Set back	Nil	SSB / RSB
		Height of the building	Upto 7m. 1.0m.
		More than 7m. upto 12m.	1.5m.
		More than 12m. upto 16.0m.	2.5m.
		More than 16m. upto 18.30m.	3.0m.

SPACE	AREA PER PERSON	NO.OF USERS	NO.OF ROOMS	TOTAL AREA In sq.m	SPACE	AREA PER PERSON	NO.OF USERS	NO.OF ROOMS	TOTAL AREA In sq.m
ADMINISTRATION:									
Admin office		5	1	100sq.m	STAFF ACCOMMODATIONS:		20	20	3000sq.m
Reception		1	1	40	Individual Quarters				
Waiting area		1	1	14	Rooms			20	
Record room		2	1	24	Toilets				
Utility room		1	1	5					
Toilet			5	12	DISPENSARY:				
					Waiting room	0.65	5	1	87sq.m
					Consultation room	0.65	3	1	24
CONVENT:									
Visitor's parlor		5		389sq.m- 400sq.m	Nursing room		2	1	15
Living room		10		24	Drug room		1	1	9
Bedroom		10	10	20	Store room		1	1	15
Kitchen		1	1	24					
Dining		10	1	15	Learning space:				
Store room		1	1	9	Library	0.8	100	1	80
Utility area		1	1	9	Common room		100		502
Chapel		10	1	24	Activity room				
Staff room		1	1	24					
					Common spaces				100
ORPHANAGE:									
Dormitory room		25	8	1305sq.m	Kitchen	0.85	6	1	5.4
Bedroom	5	25	1	125	Cooking area	0.85	1		9
Toilets		5	8	9	Store room	0.65			5.25
Bathroom		5	8	13.5	Waste disposal area				10.8
Sink space		10	8	7	Wash area		1		
Total W/C Area					Dining area				365sq.m
Store room		1	1	24	Multipurpose hall				500sq.m
Sick room		3	3	45	Laundry space			5	200sq.m
					Counselling room				75
OLD AGE HOME:									
Dormitory rooms				717sq.m	Recreational space:				4046
Toilet			4	480	Farm				340
Bathroom				14.22	Spiritual hall				200
Sink space				32	Meditation/yoga center				100
Total W/C area				6.6	Organic farm shop				35
Private rooms					Workshop space	0.85	15	1	
Store room				80					
Sick room				24	Parking				340sq.m
				45	Security booth				20
					1 Ambulance				20
Home for Destitutes women:									
Dormitory rooms:		7	5	59.5-60sq.m	1 Jeep				20
Toilet				25	10 cars		10		200
Bathroom				29.5	50 bikes		50		100
					Electricity room				15
					Service room				50

Plate35

CHAPTER
5FINALDESIG
N

5.1 SITE PLAN

Haven

21

S I T E P L A N

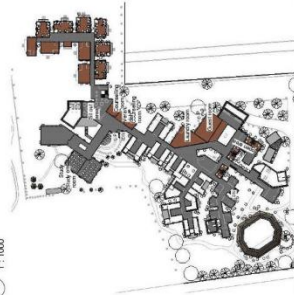


LEGEND

- Admin and Convent
- Public access/Visitors movement
- Common area
- Old age home
- Destitute women
- Orphanage
- Play area
- Staff accommodation



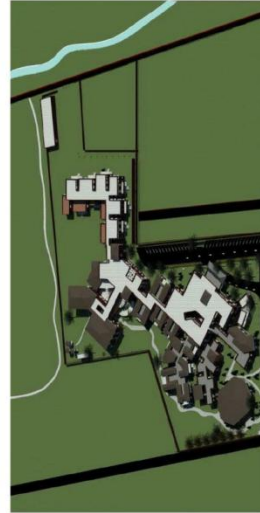
2 3 Ground floor plan
1:1000



3 4 First floor plan
1:1000

Site plan with heirarchy of spaces

SITE AREA: 23,472 sq.m (5.8 acres)
PLOT COVERAGE: 41.5%
OSR: 10% (2347.2 sq.m)
CIRCULATION: 30% of built up area (2286.75)
FSI allowed: 2.0 (46,944sq.m)
FSI achieved: 0.4 (9,948 sq.m)



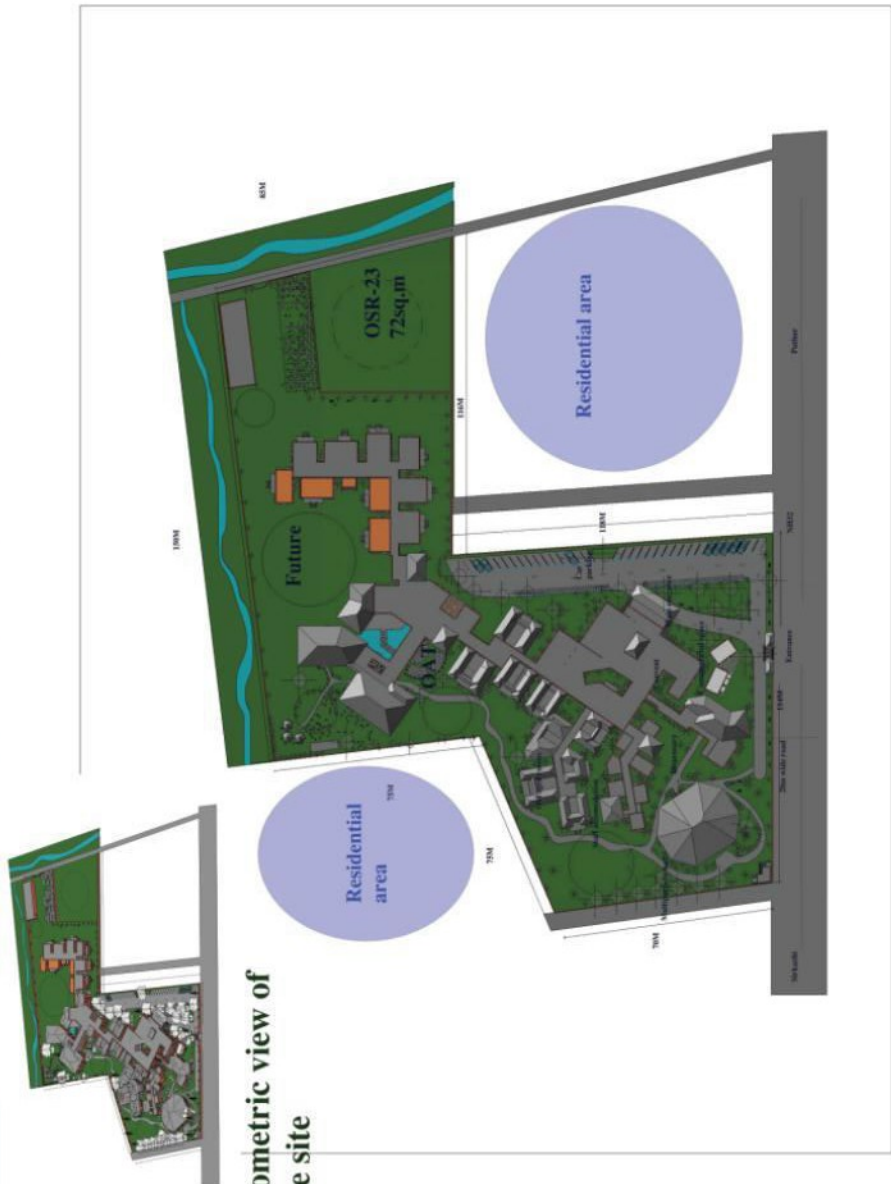
Missionary

Home for the homeless

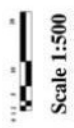
22

HAVEN

Sheet
No.



Isometric view of
the site



Scale 1:500



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MISSIONARY
HOME FOR THE HOMELESS

Plate37

5.2 FLOORPLAN

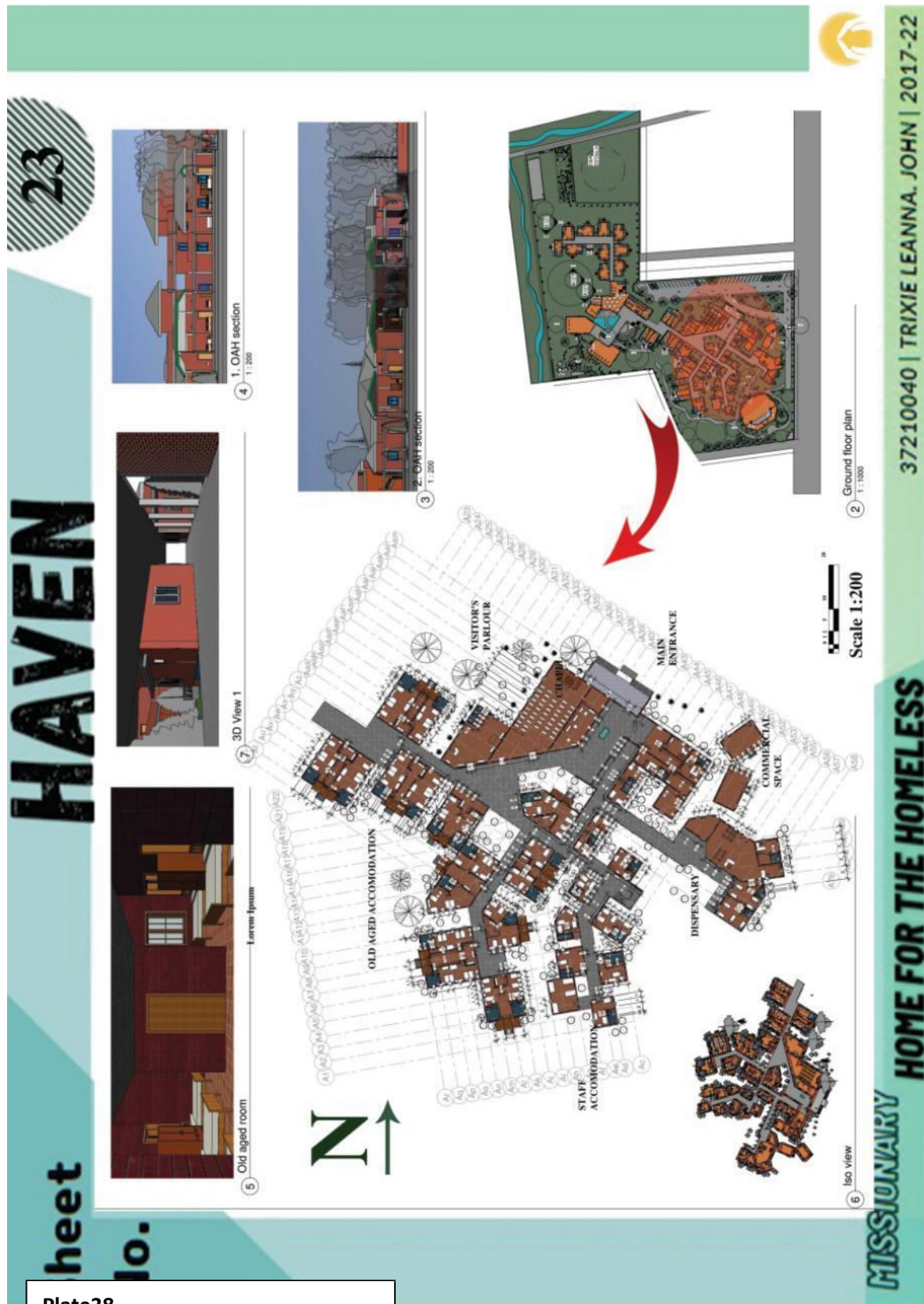
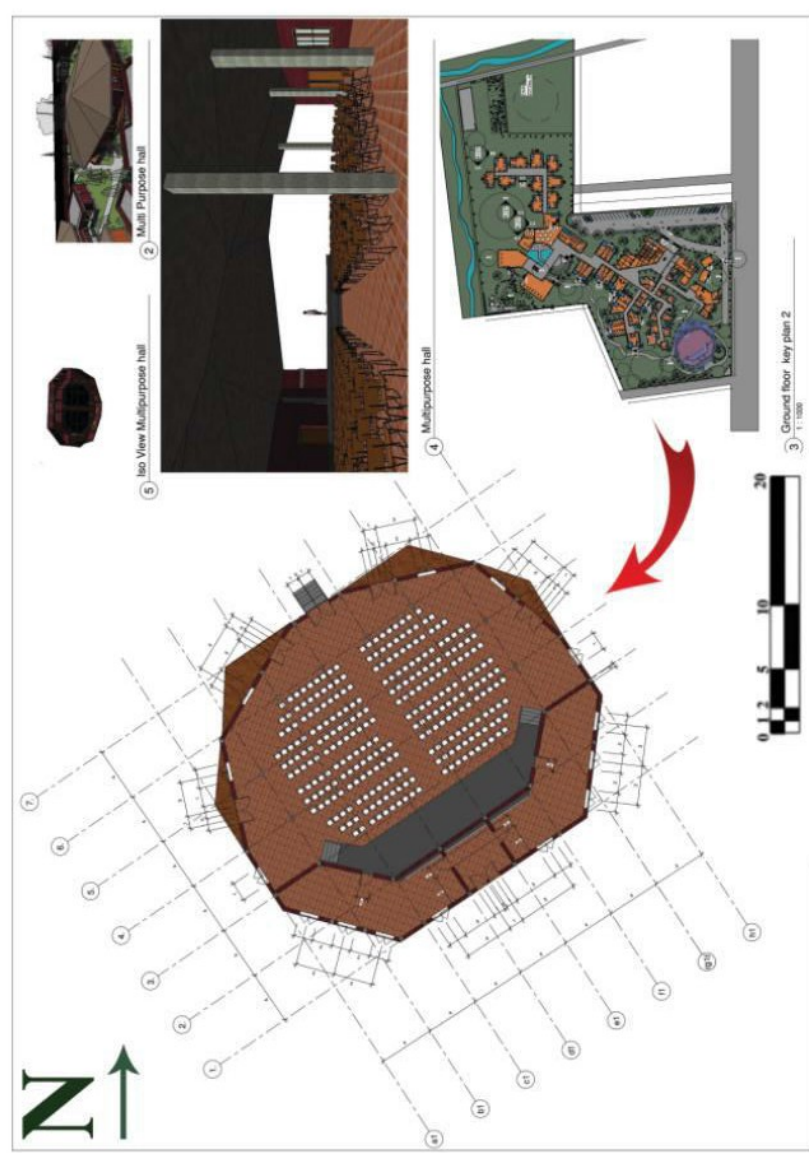


Plate38



Scale 1:200

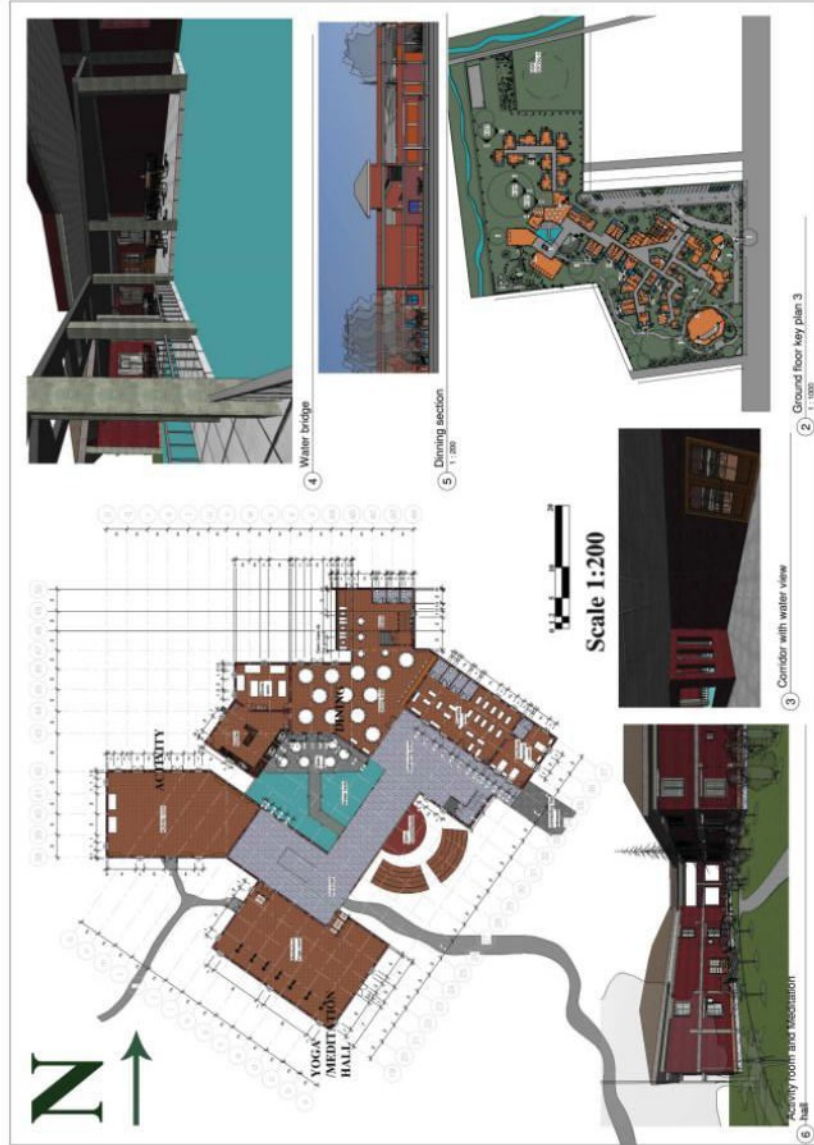
MULTIPURPOSE HALL

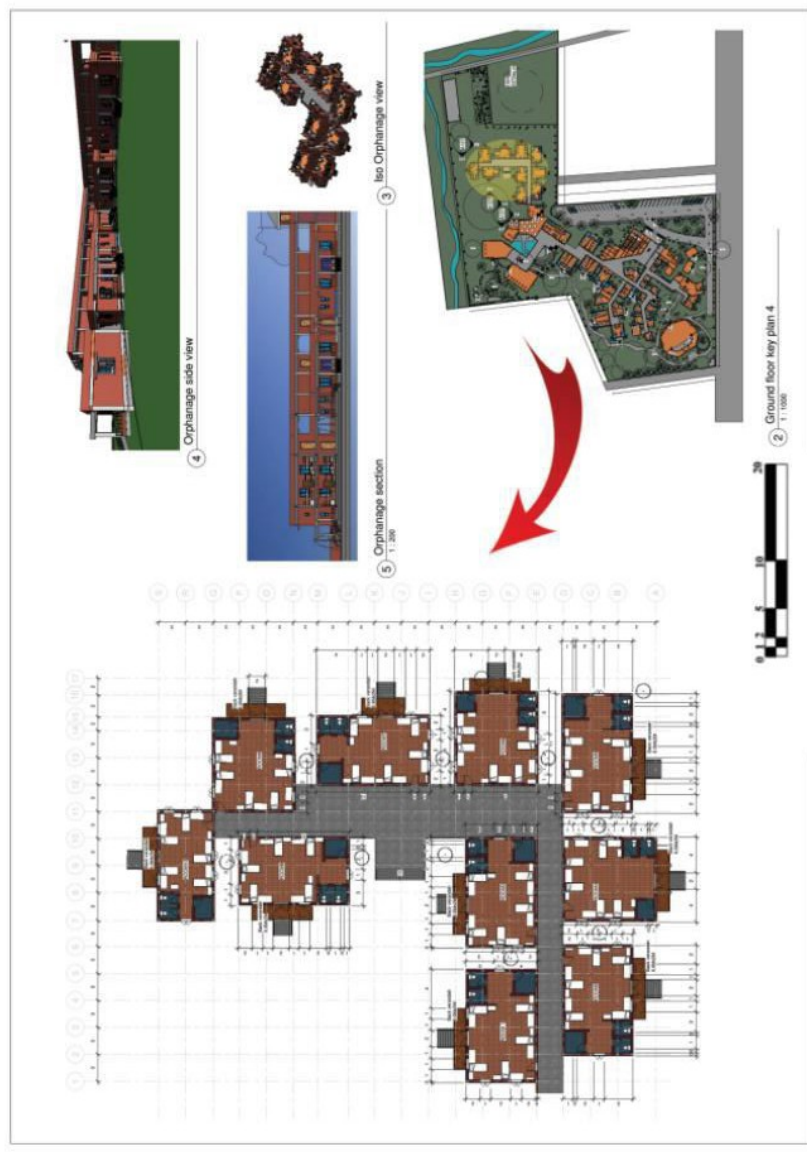
3 GPP Multipurpose hall 4

MISSIONARY
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Scale 1:200

ORPHANAGE

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HAVEN

Sheet
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MISSIONARY HOME FOR THE HOMELESS

Plate42

5.3 ELEVATION

Sheet
No.

HAVEN

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Plate43



1 Elevation 9 - d
1 : 200



2 Elevation 9 - a
1 : 200



5 Elevation 7 - a
1 : 200



3 Elevation 8 - b
1 : 200



4 Elevation 7 - b
1 : 500

Elevation

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HOME FOR THE HOMELESS

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5.4 SITEVIEWS

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Haven



VIEWS

Missionary

Home for the homeless

37210040\ Trixie Leanna John\ 2017-22 Batch

5.5 SITE ELEVATION



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