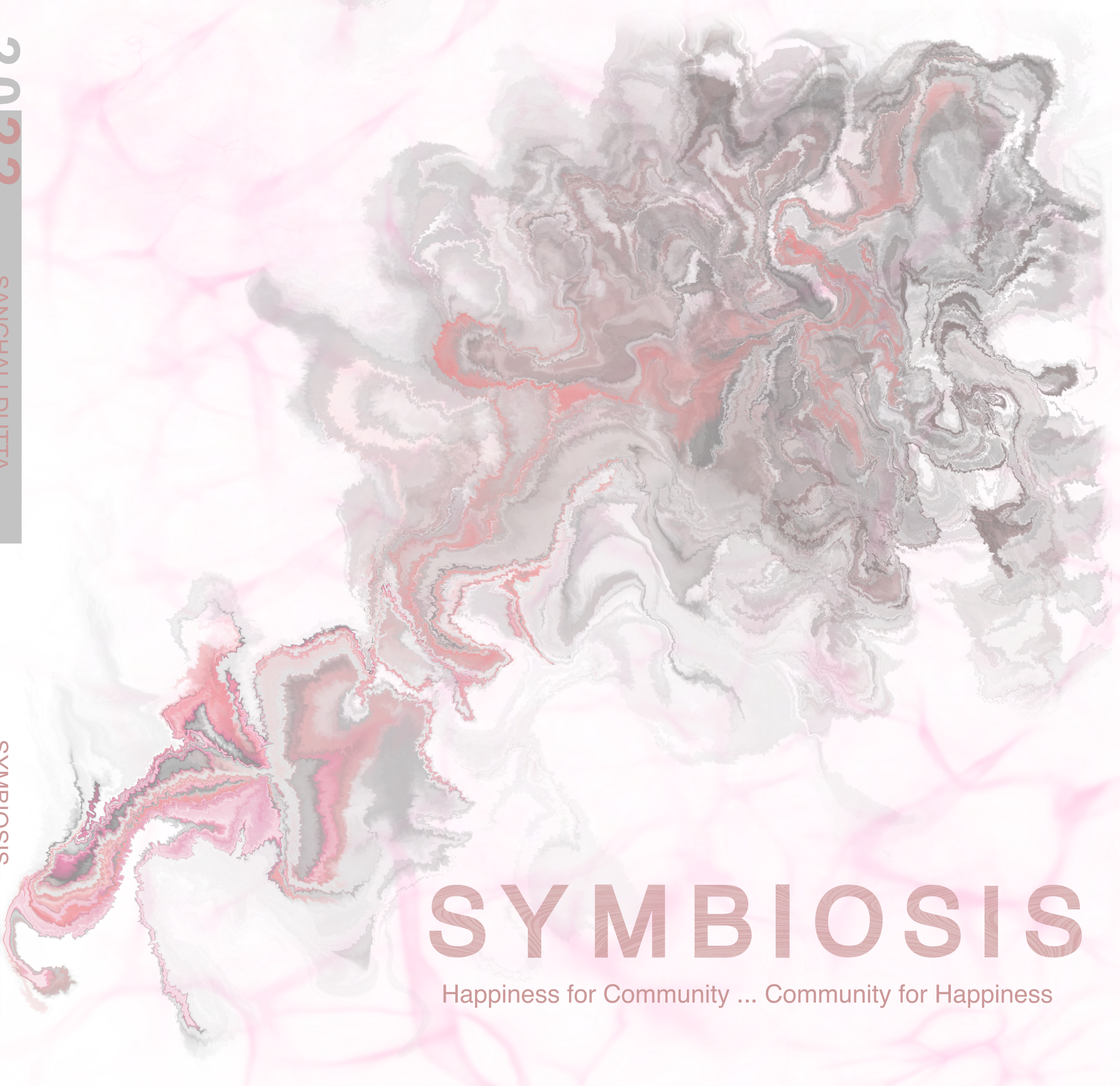


2022

SANCHALI DUTTA

SYMBIOSIS



SYMBIOSIS

Happiness for Community ... Community for Happiness



॥ वसूदैव कूटूम्बकम् ॥

“The world is one family.”

ACKNOWLEDGEMENT

This is my heartiest gratitude to everyone who has ever guided, supported me throughout this arduous journey and helped me to make it easy and successful.

To my committee chair, Prof. Kirk Hamilton, thank you so much for your constant faith in me and motivating and inspiring me towards the right direction. Thank you for your inspiring advice, feedback, and comments; these will help me throughout my journey towards the healthcare field.

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To my parents, a thank you would not be enough for all you love, care, sacrifice, and support. These are timeless, priceless, unlimited. You have made my endeavor successful.

To my best friend, partner, Pritam, thank you for backing me through all circumstances, no matter what. I can not imagine without your support how I could have succeeded.

To them, without whom a large portion of my heart will always be empty, my grandmother and brother. I love you and I miss you. May your soul rest in piece. I am dedicating my work to you. I wish you always shower your blessing and love on me.

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SYMBIOSIS

Happiness for Community ... Community for Happiness

Final Study Project

by

Sanchali Dutta

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INTRODUCTION

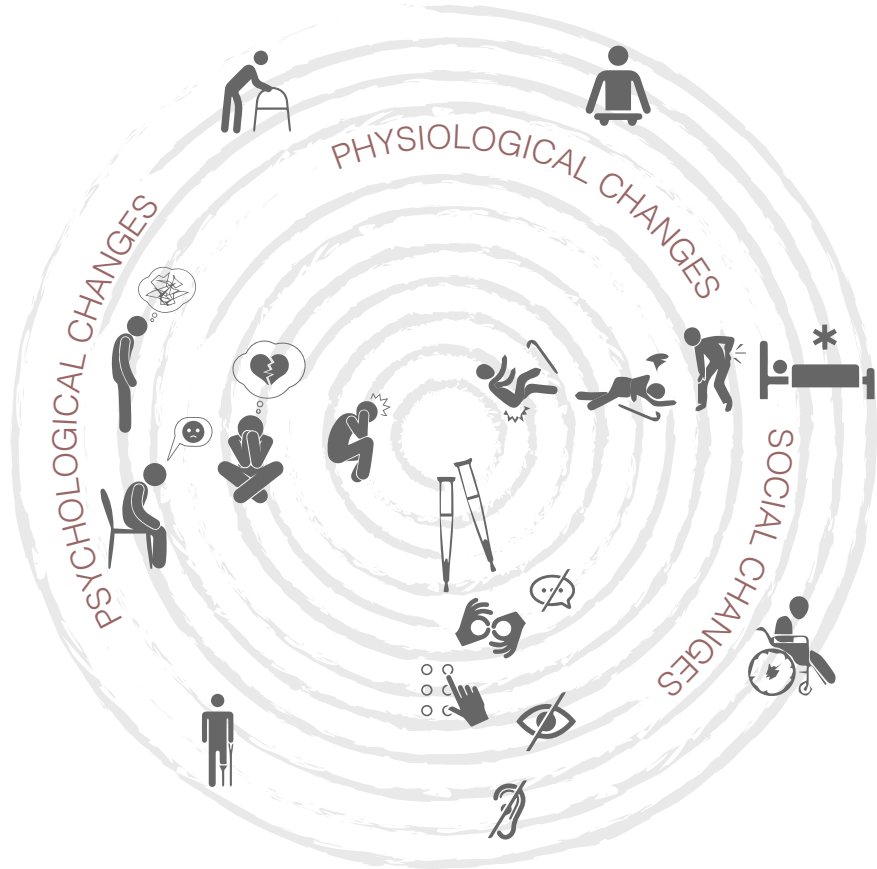
ABOUT PROJECT

Young and old being the feeble part of our family, requires extra help from everyone in the family and also in the society. Unfortunately often old people are outcast from the family because of over demanding need of care, forced to seek shelter in old age homes. On the other hand, many children who lose parents or are abandoned by their parents at a young age, share the same fate as the aged people. People require constant care when they become old, because of their gradual deterioration of their physical and mental health, loss of cognitive and sensing power. Sometimes they face significant psychological changes due to loneliness even if they are physically healthy and independent. Similarly lack of guidance, education, and care compels the orphaned, destitute children into aimless or misguided life, eventually affecting the overall advancement of the society as well. Instead, with proper help they can build a bright future for themselves and become a valuable part of the society, which they deserve and it is desired for the wellness of the society.

The Goal is to design a space by establishing the synergy between the Aged Community and the Young Orphan Community through a Symbiotic process. The design is about building an ecosystem following the intergenerational concept, where both the communities find their joy by living in harmony. The design focused on both the mental and physical health of the residents with the help of integrated indoor and outdoor activity, educational facilities with the living facility, allowing them to experience social inclusivity and acceptance through the interaction with the local community.



ELDERLY ...



UNSAFE
ISOLATE
OUT-CAST
UNSECURED

PHYSIOLOGICAL CHANGES

- Deterioration of sensory perception
- Declining cognitive power
- Loss of Musculo-skeletal power
- Age related diseases
- Mobility problem

SOCIAL CHANGES

- Deformed family structure
- Separation from family
- Loss of regular income flow
- Reduced social networks

PSYCHOLOGICAL CHANGES

- Develops depression
- Feels unsecured
- Feels isolated
- Loss of self confidence
- Lowers stress threshold
- No desire for social interactions

POOR ALONE ABUSED

139.6 million (10% of world's population) are elderly population all over India.

84% living with family
Abused 58% - 61%
20% negligible income
Almost 9.9% lives alone



ORPHAN ...



UNSAFE
ISOLATE
OUT-CAST
UNSECURED

PROBLEMS

- Lack of education, guidance
- Lack of proper cultural background
- High rates of mortality
- Lack of love and care
- Suffers from malnutrition

CONSEQUENCES

- Unable to establish in their career
- often involved in criminal activity.
- Creates socio-economic imbalance
- Hinders socio-economic growth
- Degrades physical, mental health

NEED

- Proper guidance
- Right education
- Boost mental and physical health
- Build socio-cultural values
- Learn to value their own existence

POVERTY
ILLITERACY
MALNUTRITION



Around 30 million children in India are orphan, among them approx 10% does not have education still now, around 35% suffers from malnutrition.



(In 2013, during bachelors, we, a group of college friends visited this slum orphan home at Cuttack, Odisha, India. We arranged some extracurricular activities for these children, and played with them, spent the whole day together, which they really enjoyed and happily participated in. The owner runs a tea stall and spends all his earning on this childrens' welfare. Later, after bachelors we helped him financially and architecturally as much as possible to run this facility efficiently.)



ANALYSIS

FALATOW JIGIYASO ORPHANAGE

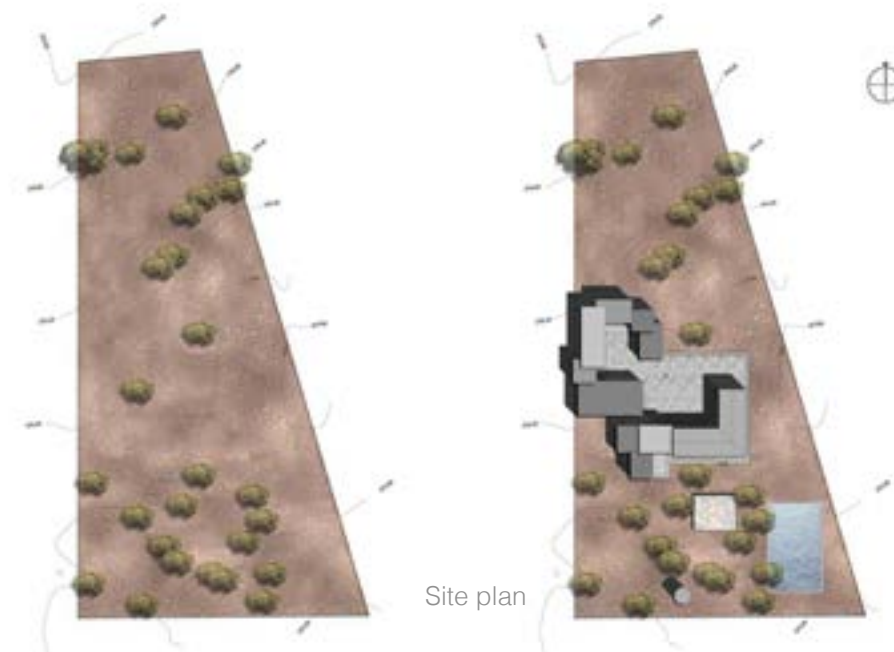
BAMAKO, MALI, WEST AFRICA



ABOUT:

- Area: 891 m²
- Year: 2012
- Climate: Hot and dry

- Situated at Dialakoroba (50 km south of Bamako) country of Western Africa, mostly in Saharan region, mostly flat and arid, river floods periodically.



Site plan

CHALLENGES:

- Extreme Weather
- Social
- Economic
- Environmental

SOLUTION:

- Reducing solar heat gain
- Improving thermal mass of the wall
- Natural ventilation



Floor plan



REDUCING SOLAR HEAT GAIN:

- Additional roof
- Extrarroof overlapped
- Protects from direct Solar heat gain

IMPROVING THERMAL MASS OF THE WALL:

- Walls thick, made with 'H' shaped hollow conc. block filled with Banco.
- Gabion cladding

NATURAL VENTILATION:

- Concept of passive cooling & stack effects
- Provided with vent-grill



HOUSING FOR ELDERLY

ALCACER DO SAL, PORTUGAL



ABOUT:

- Architect: Aires Mateus
- Year: 2010

- Residence for older people with moderate care needs in the rural town of Alcácer do Sal, 95 km south of Lisbon.

INSPIRING FACTS:

- Geometry
- Color
- Pattern
- Rhythm
- Harmony with landscape
- Contrast with urban fabric of Lisbon.

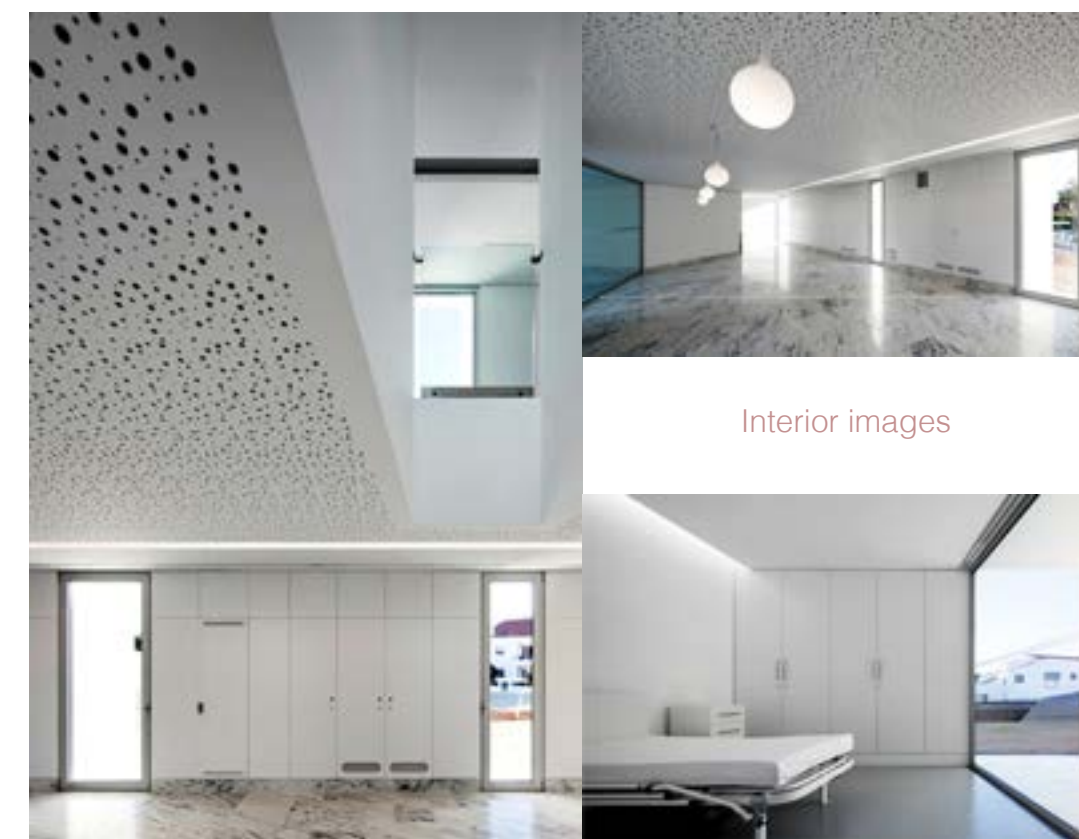
DESIGN:

The idea of designing is for social intervention by providing housing and support. He successfully utilized the site topography and designed the building form that harmoniously blending with the landscape.

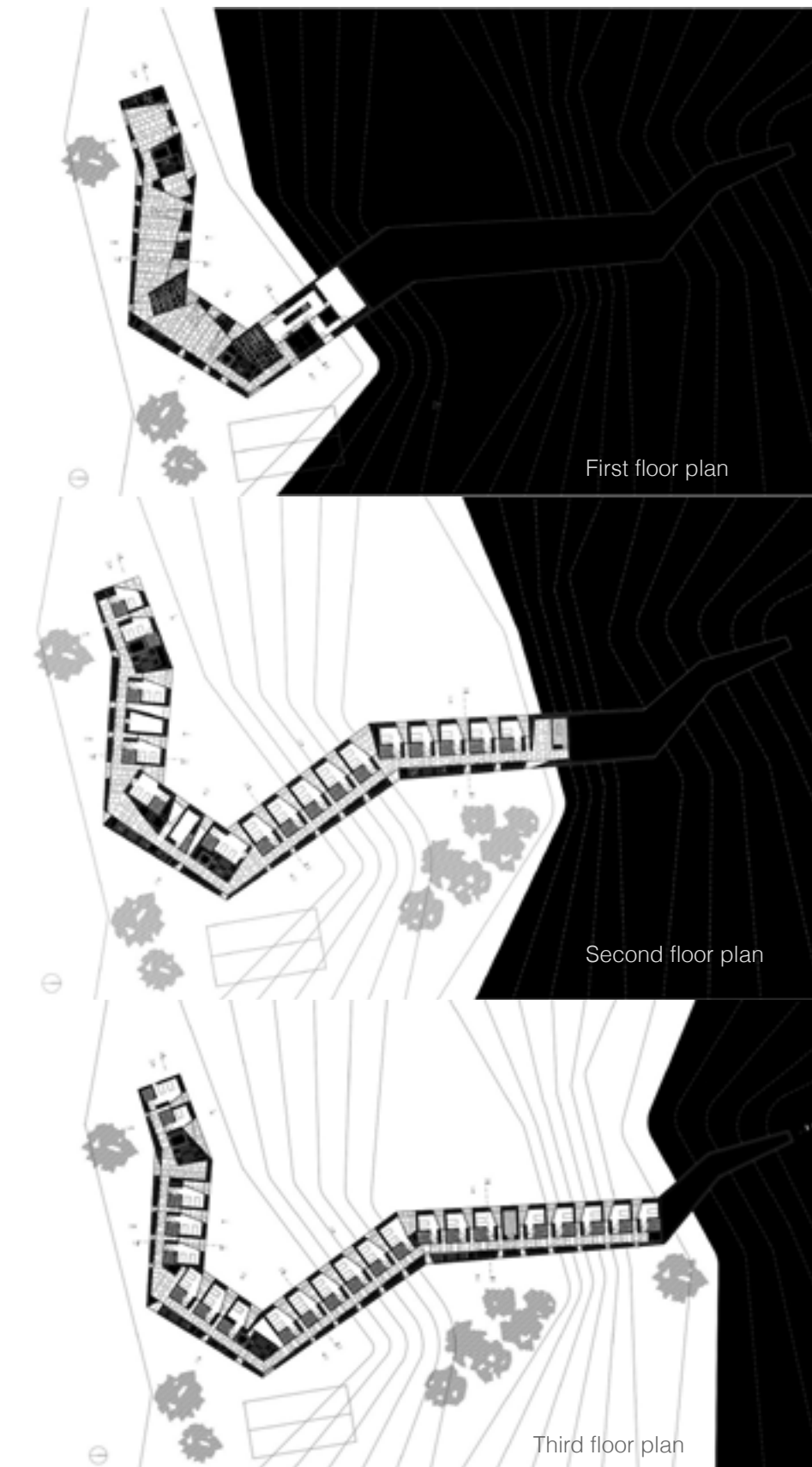


Site plan

There interior has playful monotone palate by spined marble floor and porous acoustic ceiling and the light is penetrating through double height pockets or full height windows.



Interior images



First floor plan

Second floor plan

Third floor plan

COMMUNITY ACTIVITY CENTER

TAMILNADU, INDIA



ABOUT:

- Architect: Made in Earth
- Year: 2016
- Area: 1080 sqm

- Built for NGO which takes care of the childrens in trouble, mostly abandoned, orphan, abused or destitute.

CHALLENGES:

- Hot and humid climate, lack of economy, land, and technical expertise.

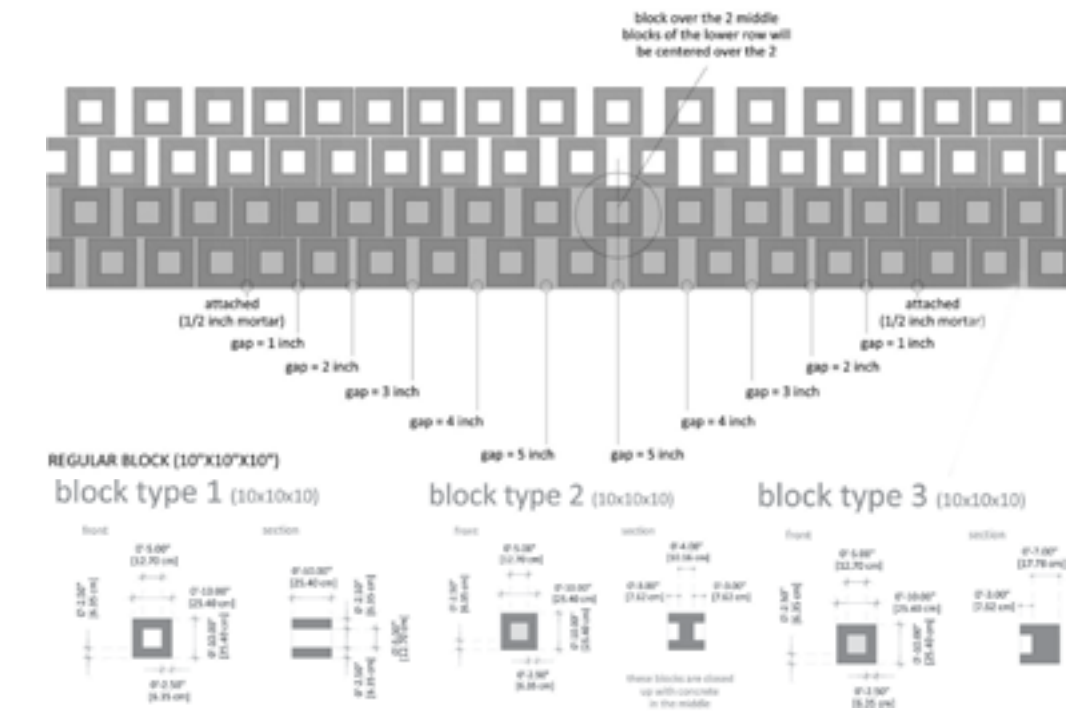
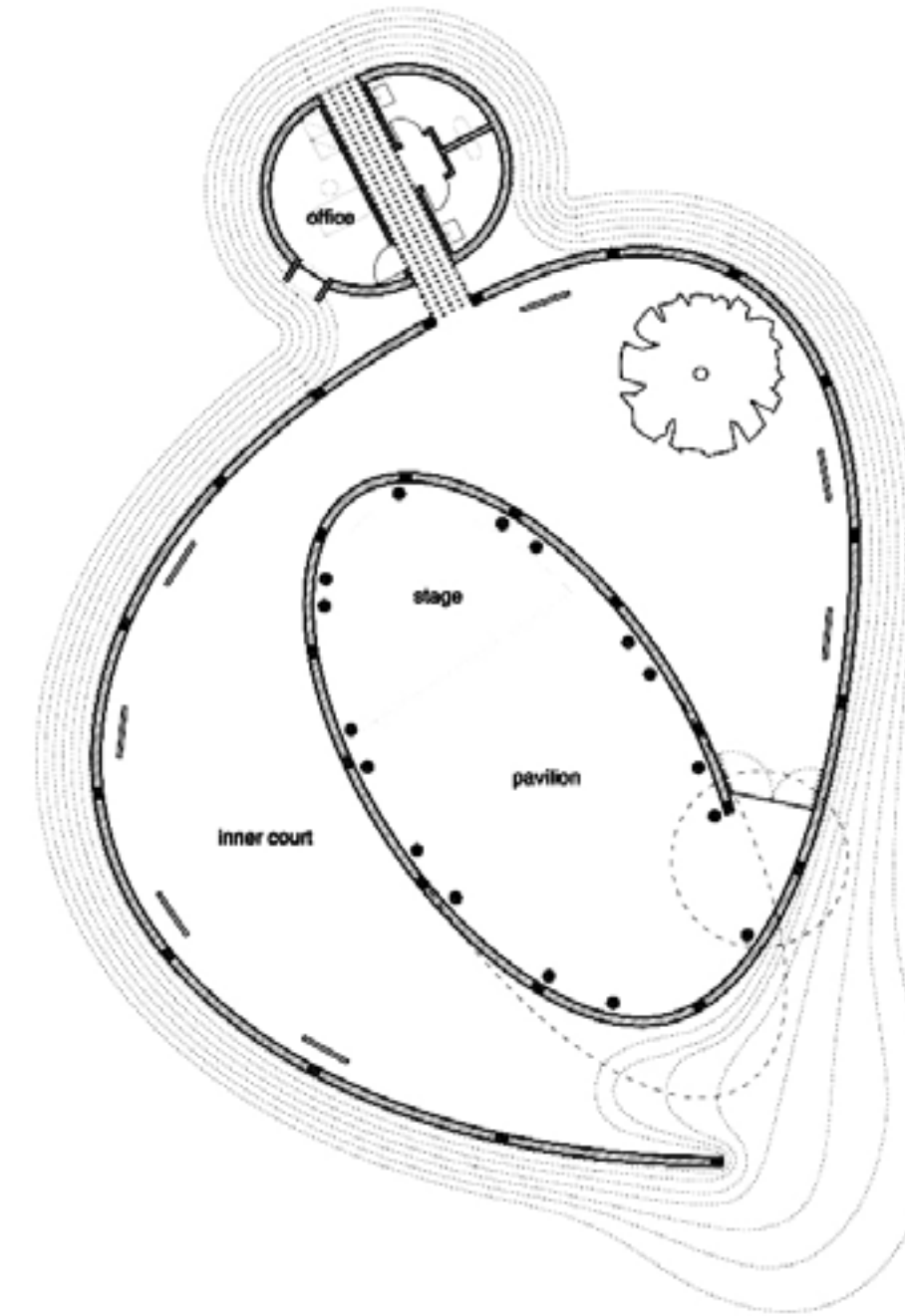
- So they used vernacular, standard local materials and construction techniques.

Rammed earth, Natural plaster, Natural paints, Oxide and lime flooring, Concrete hollow blocks.

INSPIRING FACTS:

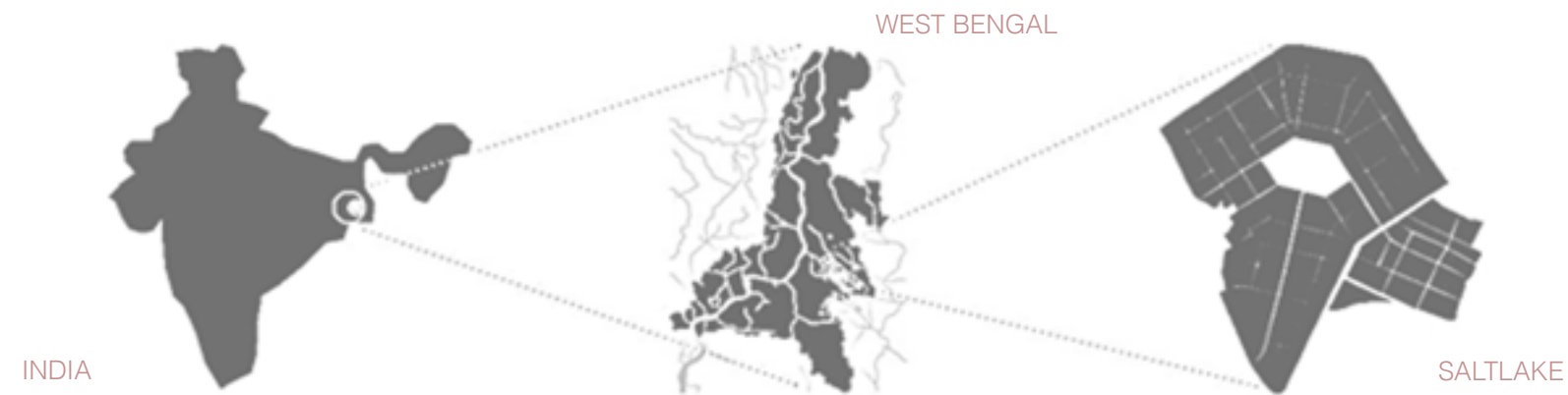
- Their goal is to provide a home, education, healthcare following till and through their employment age.

- Spread this small intervention to all over the region, and also to create more just and equitable society by building network.



SITE ANALYSIS

KOLKATA, WEST BENGAL, INDIA



INDIA

WEST BENGAL

SALT LAKE



DEMOGRAPHICS:

India, being second largest populated country in the world, this city Kolkata, itself has the population of almost 15.13 million and population density of 22,000 persons per sqm. Among them around 0.023% (350000 person) are elderly population. In general all over India 139.6 million people are elderly population, among which almost 20-25% people are suffering from various physical, mental, social situations. Moreover, according to UNICEF 29.6 million children all over India are orphans. Moreover, considering post-pandemic situation this demographics has been raised significantly.

ABOUT:

Salt lake – It is one of the satellite city of Kolkata, which is capital of West Bengal and also one of the Metro city of India, acts as the extended part of Kolkata.

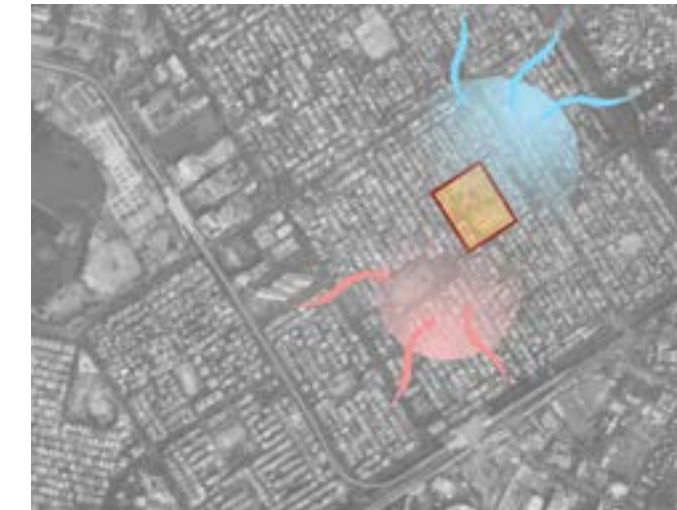
In this site the existing SOS children village is already falling apart especially after COVID-19 pandemic.



SUNPATH DIAGRAM



WINDFLOW DIAGRAM



EXISTING WATERBODY



ADJACENT VEGETATION



ROAD NETWORK



TRANSPORTATION AND CONNECTIVITY





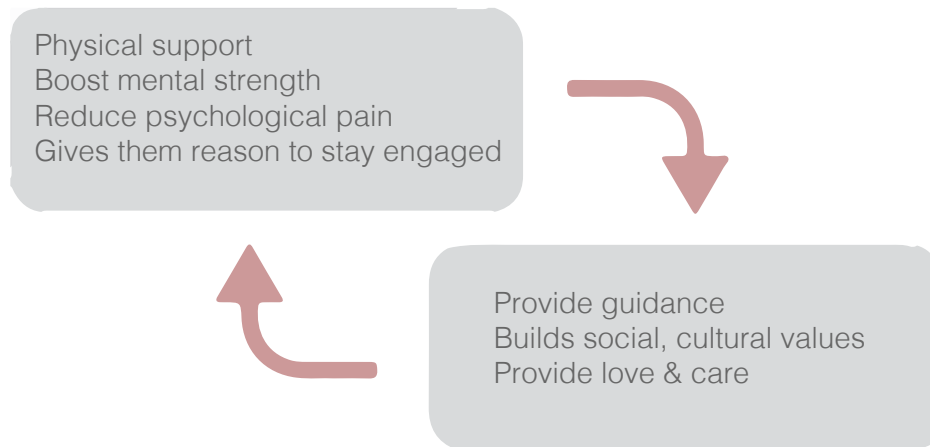
CONCEPT

PROGRAM



INTERGENERATIONAL CONCEPT

The system will build the stabilized process for both of them to lead in their life happily and meaningfully. It will help them to make their life socially and economically stable.



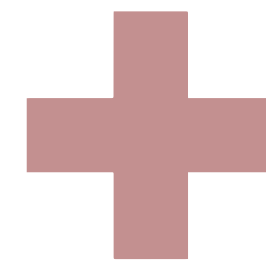
ACTIVE HEALTHY LIVING CONCEPT

PROMOTE HEALTHY, ACTIVE, SELF SUSTAINED SYSTEM

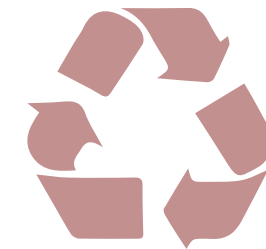
- The whole system would be self-sustained
- Promote healthy practice
- Help them to lead active living
- Financial stability will make them self-dependent

DESIGN APPROACH

Living Facility supported with staffs, attendants, facilities, for seniors and children along with the shared gathering spaces for both.



HEALTH



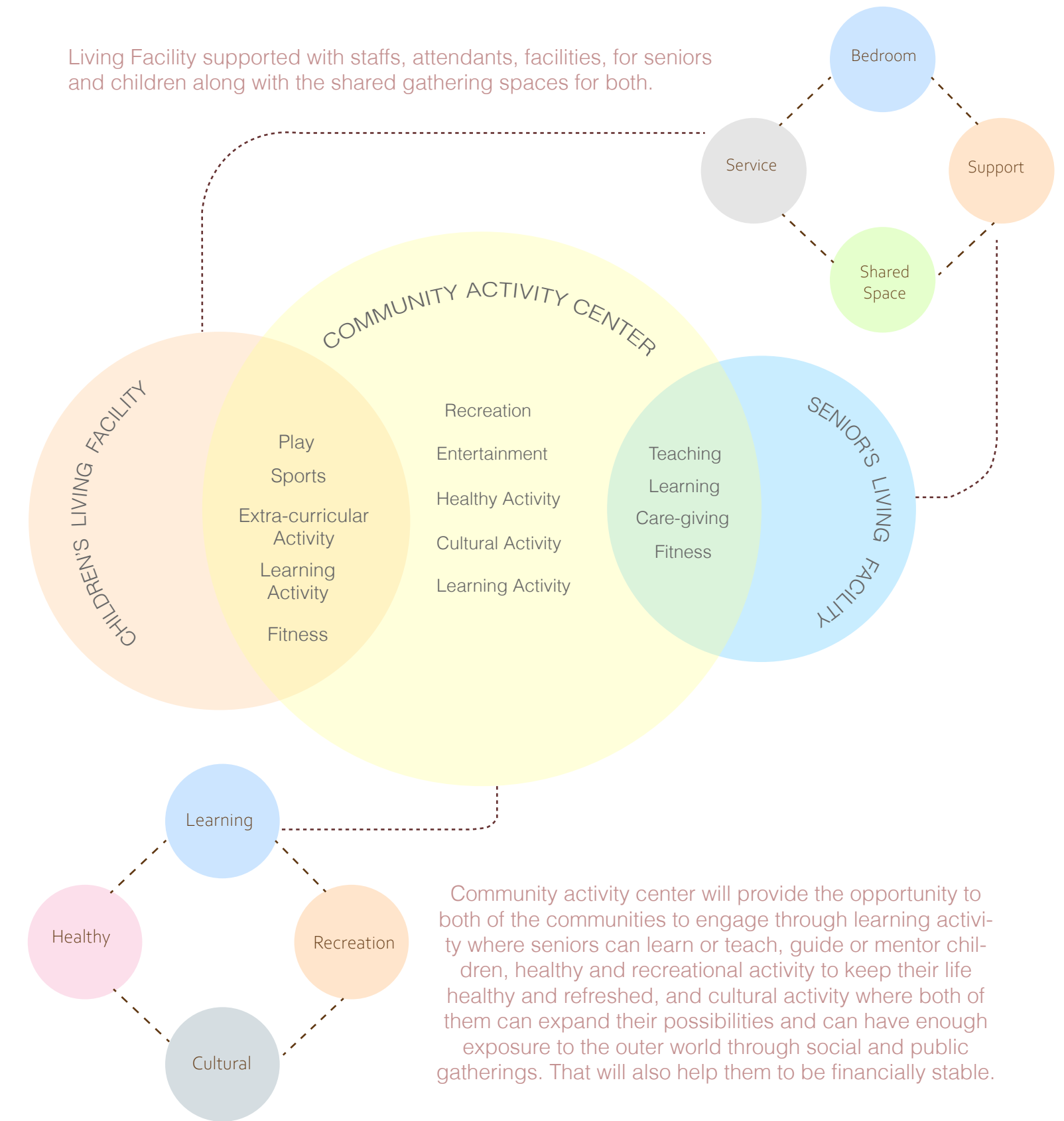
SUSTAINABLE



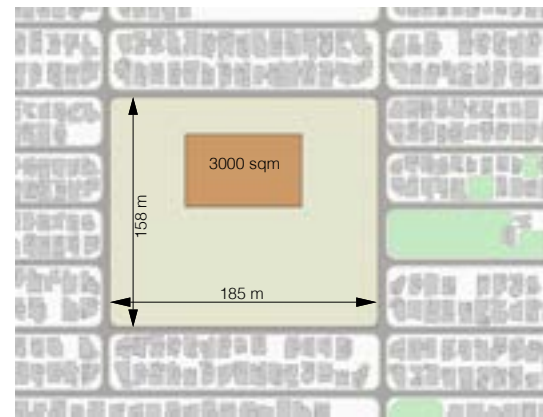
SOCIAL



COST EFFICIENT



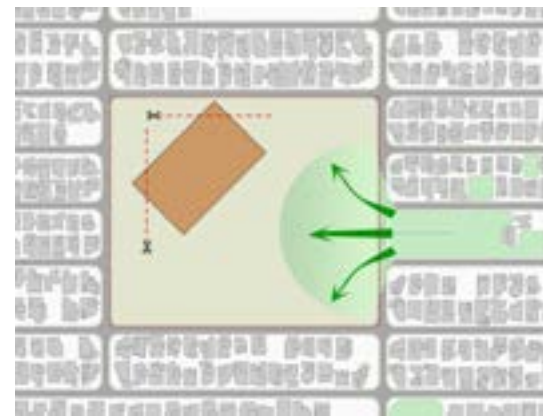
CONTEXT



FOOT PRINT



MAXIMIZING NATURAL LIGHT & VENTILATION



MAXIMIZING GREEN OPEN AREA



CONNECTING THE STREETS

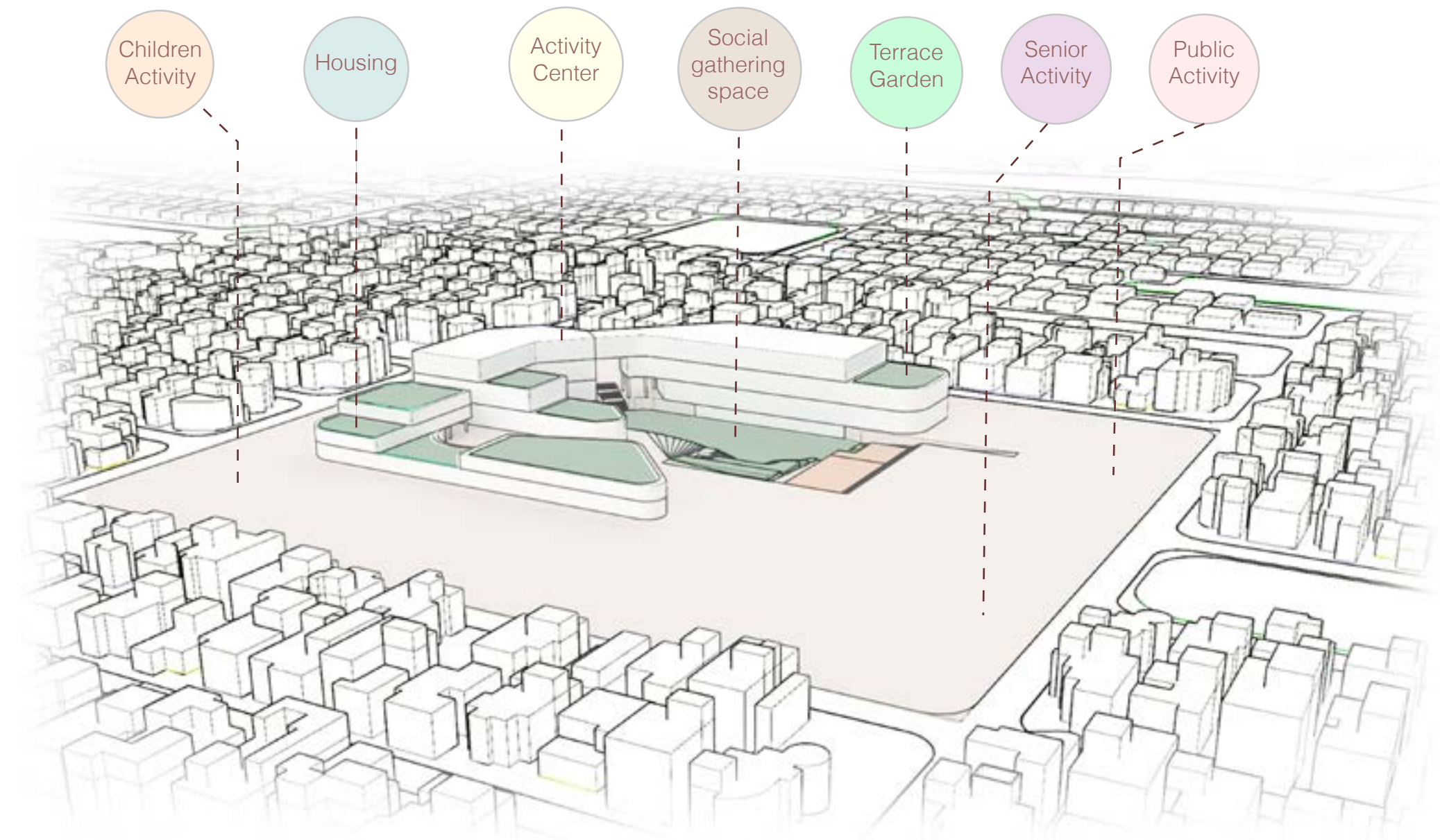


ARRANGING THE PARTS



FINAL FORM

ZONING



ACTIVITY CENTER



HOUSING



DESIGN

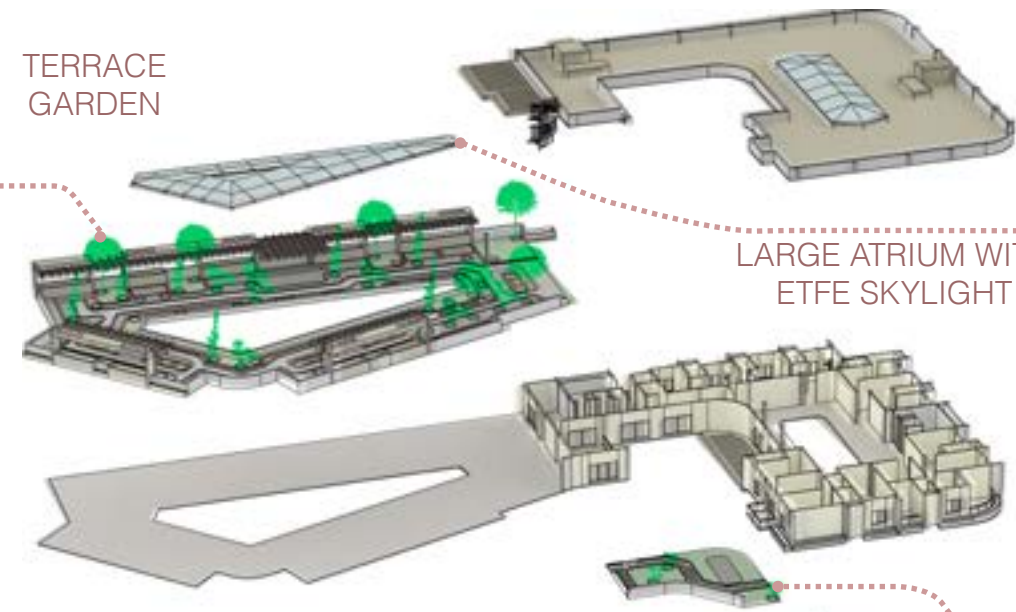
SITE PLAN



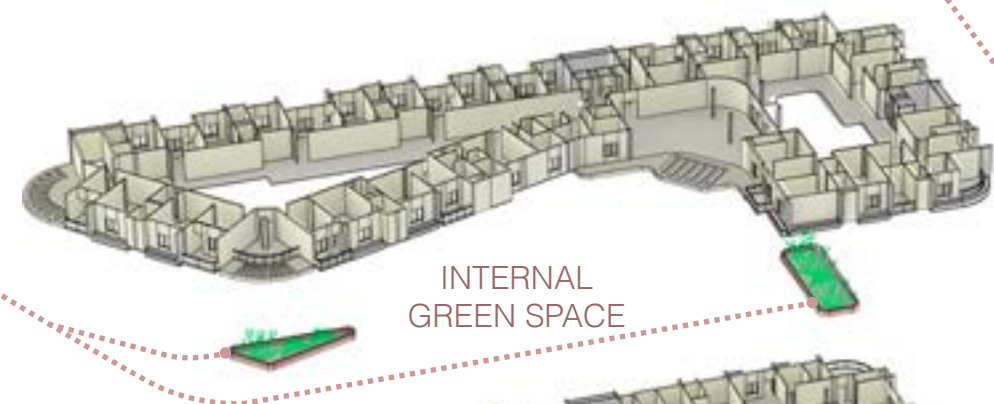
HOUSING



TERRACE GARDEN



LARGE ATRIUM WITH ETFE SKYLIGHT

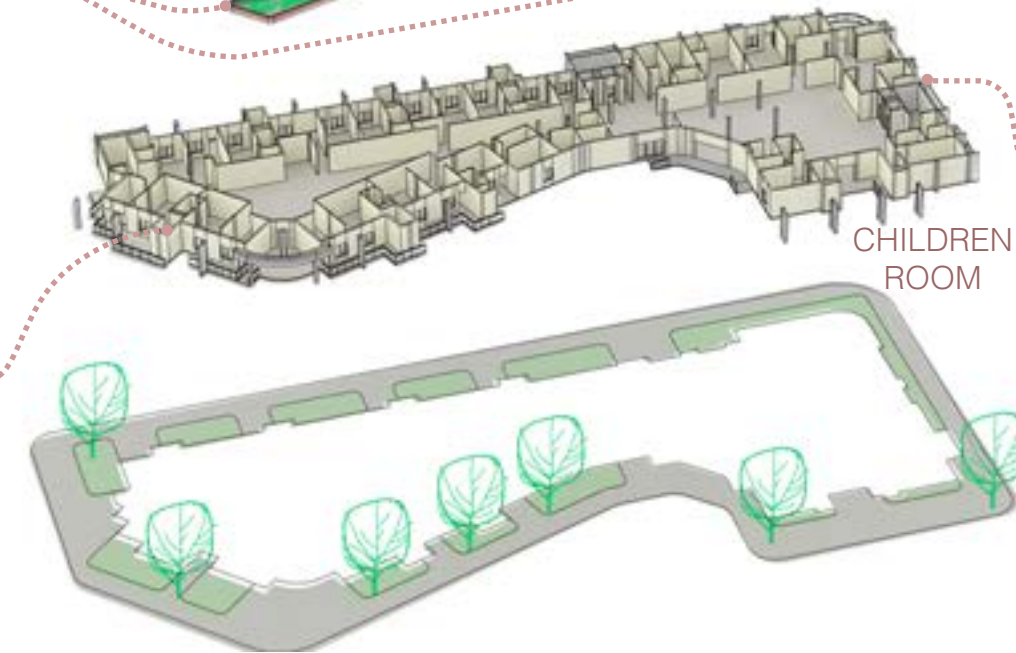


INTERNAL GREEN SPACE

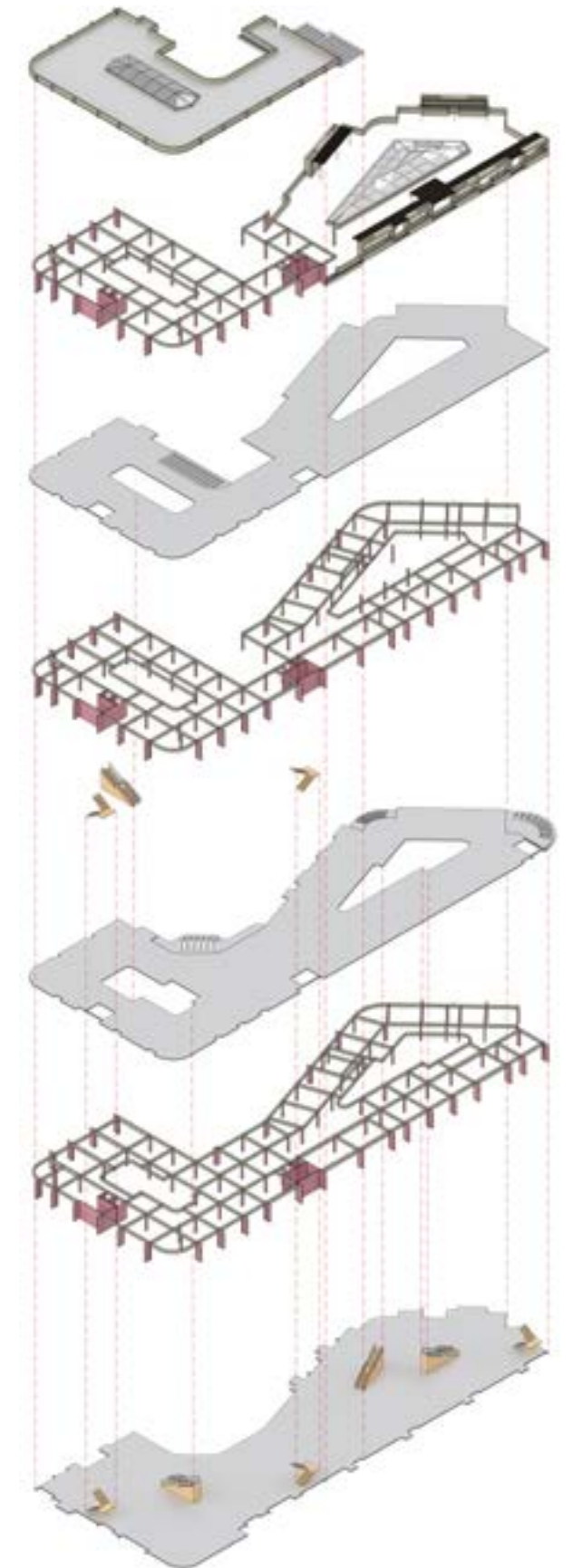
SHARED GARDEN SPACE FOR CHILDREN AND SENIOR



SENIOR ROOM



CHILDREN ROOM



HOUSING



HOUSING



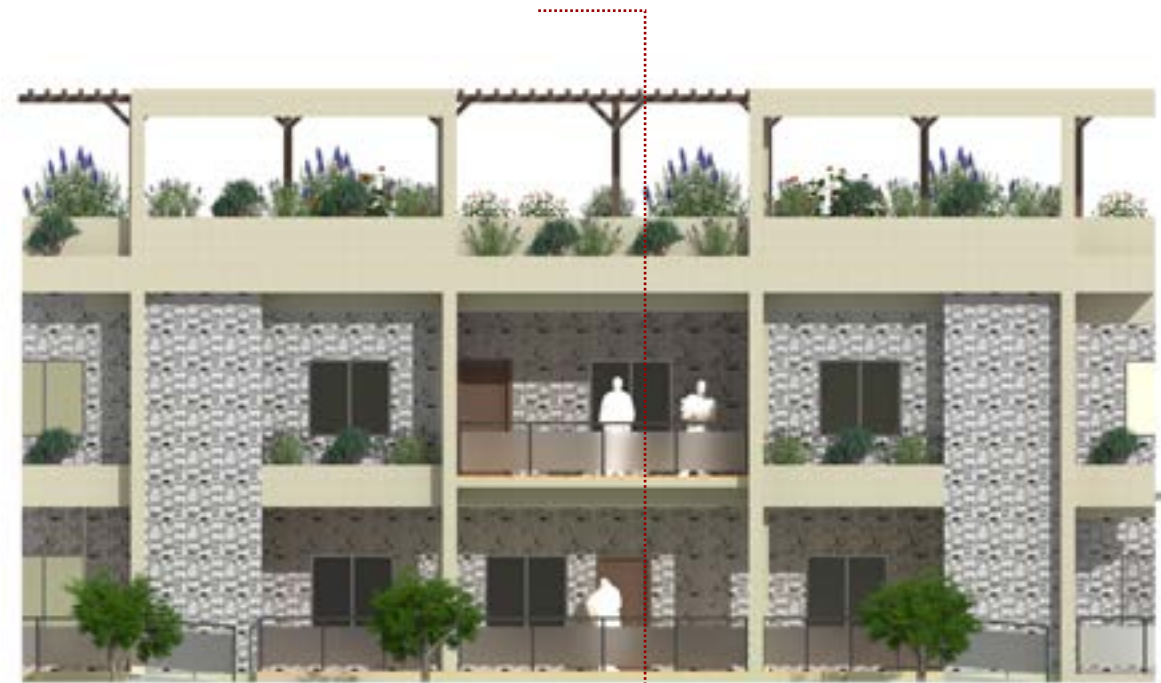
THIRD FLOOR PART PLAN



SECOND FLOOR PART PLAN



FIRST FLOOR PART PLAN



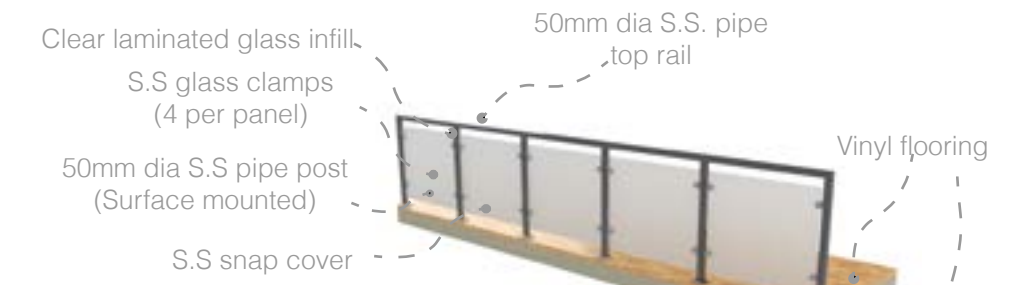
ELEVATION



VIEW



SECTION



BALCONY RAILING



BALCONY FLOORING

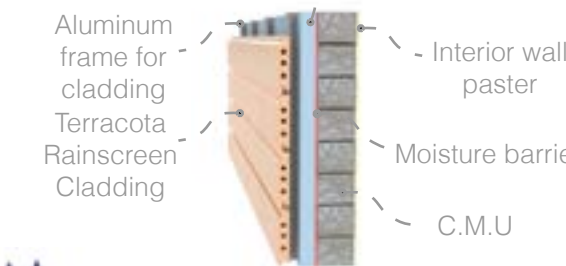
INTERIOR FLOORING



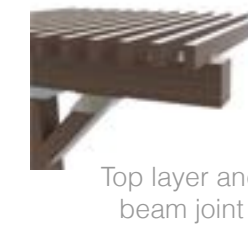
FALSE CEILING DETAIL



PLANTED ROOF DETAIL



WALL DETAIL



Top layer and beam joint



Wood post and beam joint



column and beam joint

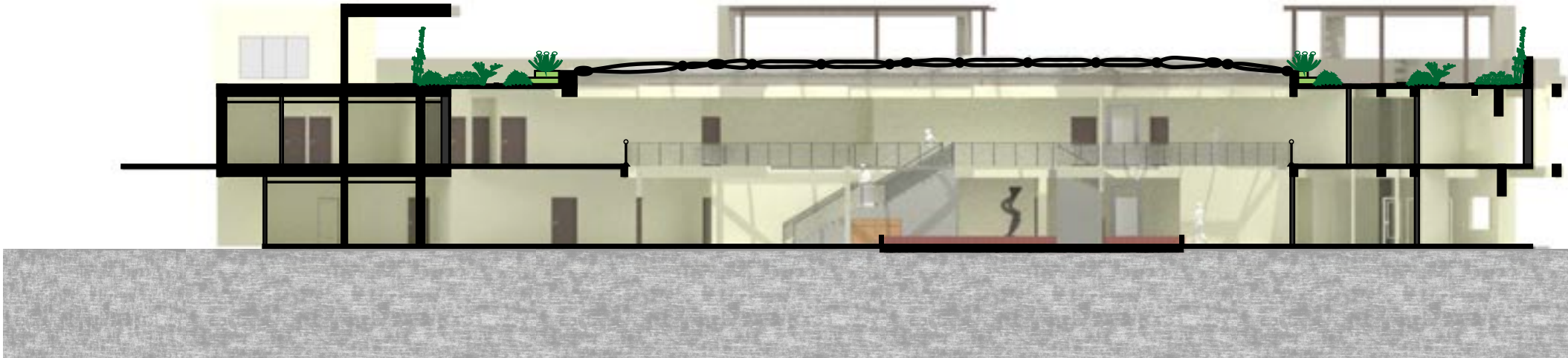
WOOD PARGOLA DETAIL

HOUSING

SECOND FLOOR PART PLAN



FIRST FLOOR PART PLAN



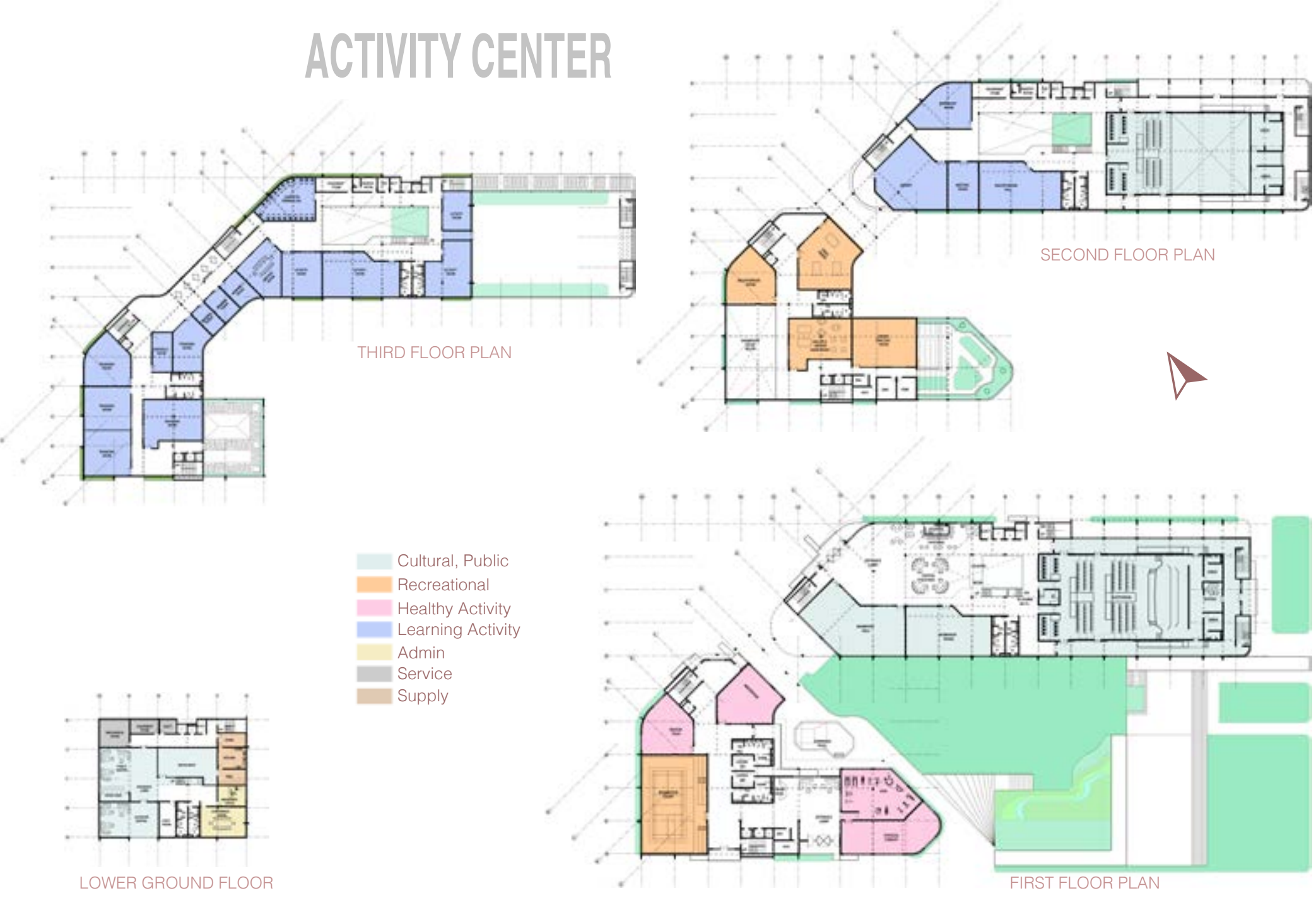
LONG SECTION



CROSS SECTION



ACTIVITY CENTER



LONG SECTION THROUGH AUDITORIUM



LONG SECTION THROUGH RECREATION

INDOOR ACTIVITY



GYM, PHYSICAL ACTIVITY - ACTIVITY BLOCK



BADMINTON COURT, RECREATIONAL ACTIVITY - ACTIVITY BLOCK

OUTDOOR ACTIVITY



OUTDOOR SENIOR ACTIVITY



OUTDOOR CHILDREN'S ACTIVITY

OVERALL VIEW



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॥ ॐ शान्तिः ॥

॥ PEACE ॥