নকব্দি কথা

A PLATFORM FOR NAKSHI ART AND ARTISANS

Submitted to the Department of Architecture in partial fulfillment of the requirements for the degree of

Bachelor of Architecture

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Department of Architecture Brac University September, 2023

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Declaration

It is hereby declared that

- 1. The thesis submitted is my/our own original work while completing a degree at Brac University.
- 2. The thesis does not contain material previously published or written by a third party, except where this is appropriately cited through full and accurate referencing.
- 3. The thesis does not contain material which has been accepted, or submitted, for any other degree or diploma at a university or other institution.
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Approval

The thesis/project titled "A Platform for Nakshi Art and Artisans, Jamalpur, Melanhado" submitted by Fariyana Hasan (18208008) of Summer, 2023 has been accepted as satisfactory in partial fulfillment of the requirement for the Bachelor of Architecture degree on (9.9.2023).

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Abstract

Nakshi Katha is a kind of embroidered quilt. Nakshi art work is done on clothing attire like kameez, saree, shawl and punjabi, it is also seen in bedsheets, light wrap etc. In the past it was made from old cloth, discarded sarees, dhotis, and lungis, kathas range from utilitarian quilts to exquisitely embroidered heirlooms. It is one of the oldest and notable handicrafts to represent the country's cultural heritage. Around 300 entrepreneurs and 4000 families are involved in making Nakshi kantha. Women of different places like Jamalpur, Bogra, Rajshahi, Faridpur, Jessore and Chittagong stitch the kathas with needle and thread. The women of the villages put their heart and soul to create the artistic patterns and design known as motifs. Jamalpur is one of the famous cities for Nakshi katha, Katha stitches and Nakshi related products and crafts. But day by day the crafts are in threat, the artisans are facing financial constraints and they don't even have a proper place to work, sell or showcase their work. Very few people know about the craft and appraise it. So, Bangladesh Handloom Board proposed a project to preserve Nakshi handloom and handicraft products under Melandaho Upazila of Jamalpur district. It will also empower and create employment opportunities, for both men and women as well as 'Nakshi' (design) entrepreneurs. Nakshi kantha has great demand outside the country too. The project will generate opportunities to show local and foreign visitors the cultural heritage of our country. It will also initiate its own market for these products which shall provide the artisans with fair prices.

Keywords: Folk Art, Handloom, Nakshi, Tourists, Public Space, Training, Weavers.

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Chapter 1: Project Introductions

From the ancient time the women of the villages produce embroidered quilts from recycling

worn-out materials such as sarees, lungis, and dhotis with hand embroidered artistic pattern. They stitched quilts for their family use known as "Nakshi Kantha". Through their artwork they

represented culture, their stories, nature, festivals etc. The quilts in Bengal represent cultural identity and folk art. The art of reflection in life, aspirations, and culture of the village women

shown in the artistic pattern of the needle work.

In villages when they marry off their daughters or when a baby is born, they give the bride or the

child Nakshi Katha as a tradition because of its unique design and creativity which also opens a

door for employment for women in rural areas.

In modern times Nakshi Kantha is sold all over Bangladesh and around the globe. Different

brands like Kumudini, Aarong are selling the crafts because of their unique stitches.

But the present scenario of the Nakshi industry is agonizing, the Nakshi art is dying day by day

due lack of awareness, unfair wages, lack of intuitional credit, lack of marketing, unfair completion, lack of infrastructure and organizational problems. Many talented and skillful people

are shifting to different businesses to make more profits.

Project Brief

Name of the Project: Nakshi Kotha (A platform for Nakshi Art and

Artisans)

Client: Bangladesh Handloom Board.

Site Location: Jamalpur, Melandha Upazilla.

Site Area: 8 acres

1

Project Rational

There are countable places where Nakshi katha weaving is an integrated part of women's life and Jalampur is the most renowned place for these artisans, more than 3 lacs people are directly or indirectly involved in Nakshi katha weaving. After the garment industry, the Nakshi kantha of Jamalpur will play a vital role in our country's economy. Many prominent brands buy Nakshi products from Jalampur because of its good recognition which is sold both locally and internationally. The government proposal of Nakshi Polli will provide raw materials at a cheaper price, use of local material like jute and give the artisans a permanent place to sell their products.

The location of the site is also chosen very wisely as it is the middle point of Jamalpur and Melandaha bazar. The project will provide civic facilities and spaces for the artisans to learn, sell and showcase their products, bring local and foreigners knowledge about the product and also save our cultural heritage. The artisans will be able to get fair prices for their crafts and create an interactive platform for the buyers and the weavers. The government has set a program list; Office Building, Convention Centre, Rest House, Community Area, Training Centre, Theme Park, Lake, Playground, Warehouse, Shops, Restaurant.

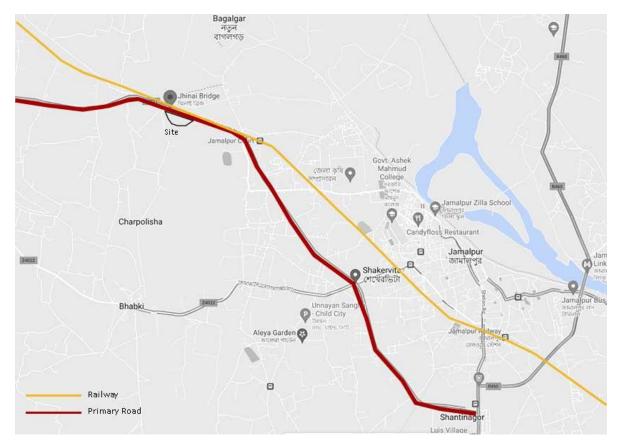
According to the program list there is a theme park and playground which is a bit extravagant according to the proposed budget and also not necessary, rather a dormitory would help students from different places to stay and learn hand on training in the training center.

Scope of the Project:

- 1. Observing and analyzing the artisans and how they work.
- 2. Site study and the surrounding context.
- 3. To know about their social, economical and cultural values and use them in the project.
- 4. To know about Nakshi art and how it can be improvised and used in other products and crafts.
- 5. Finally getting the knowledge about cultural heritage and making documentation of it.

Aims and Objective of the Project:

- 1. To escalate knowledge about Nakshi and art.
- 2. Creating opportunities for local artists and entrepreneurs.
- 3. To make a platform to showcase their crafts locally and internationally.
- 4. To make them more economically solvent.



Source: google Figure:1 site

Chapter 2: Literature Review

History and Historical Artifacts of Nakshi Kantha

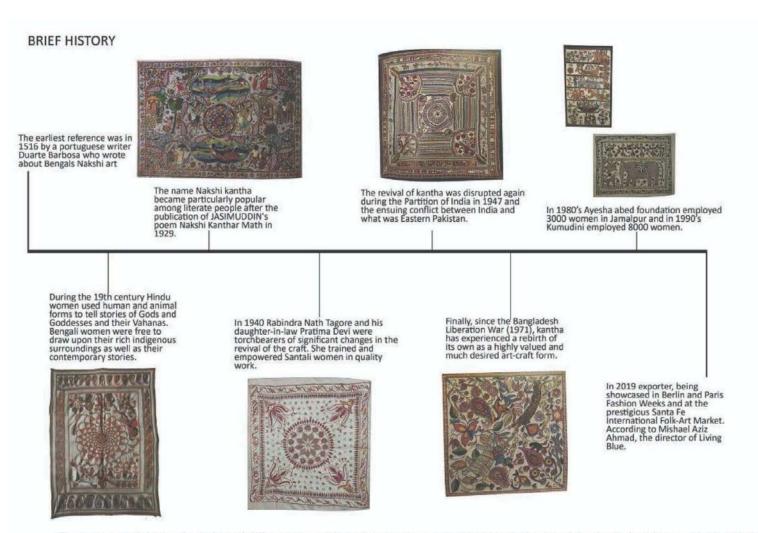


Fig: Famous Nakshi Kantha Exibits of different times (Photo Source: Zaman, N. (2018 May). The Art of Kantha Embroidery, p. 11-15, 101-104)

Figure: 2 Historical timeline of Nakshi Art

History of Nakshi Kantha

For centuries, women have been telling stories of the joys, sorrows and the dreams of the future. through Makshi Katha, with colorful patterns and designs embroidered. Makshi Katha tells the story of life in rural Bangladesh. Originally Nakshi Kantha was produced for family use only now it is produced commercially. The earliest book mentioned about Bengal Kantha was * Sri Chatitanya Charitamitra" by Krishnadas Kaviraj and it was written back five hundred years ago. Nakshi Kantha became popular after the poem "Nakshi Kathar Math" by poet Jashimuddin back in 1929. The demand of Nakshi craft both globally and internationally helped to bloom the business in the 90th century.

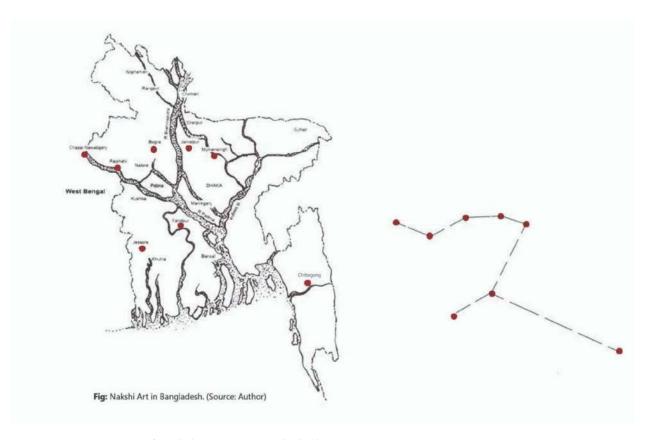


Figure: 3 Traces of Nakshi Art in Bangladesh

Connecting the existing traces of the places where Nakshi Katha is made

Kantha Art of Bengal

Running kantha, which is a straight running stitch and the original and earliest form of kantha. Running kantha can be further classified into that using figures and storytelling (nakshi kantha) or geometric patterns (par tola kantha).

Lik or Anarasi (pineapple) kantha is practiced in the Chapainawabganj and Jessore areas of northern Bangladesh. There are numerous variations of this form.

Lohori kantha or 'wave' kantha. This type is popular in Rajshahi (Bangladesh) and is divided into (a) soja (straight or simple), (b) kautar khupi ('pigeon coop' or triangle), and (c) borfi ('diamond') forms.

Sujni kantha; this type is only found in the Rajshahi area of Bangladesh. A popular motif is an undulating floral and vine pattern. It's worth noting that Sujni is also practiced in Bihar.

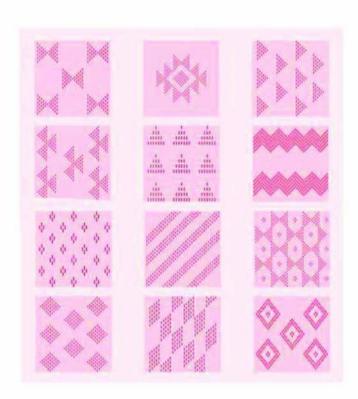


Fig: Different types of Kantha Stiches (Source: Zaman, N. (2018 May). The Art of Kantha Embroidery, p. 34)

Figure: 4 Different types Nakshi stitches

Entire Weaving Process

The production of Nakshi products is a very intricate process. Huge number of the population of Jamalpur is involved with the handloom industry but they are not certainly paid well. This project will give the weavers and the customers a platform for direct exposure, easy communication of weavers, designers, buyers and students and also provide a fair wage for the weavers etc. The weavers are increasingly losing touch with their own traditions in terms of materials, techniques, designs and aesthetics of their arts and crafts due to sudden changes caused by modern industrialization (Pereira, 2008). To accommodate learners from different regions and foreigners the project will play an important role.

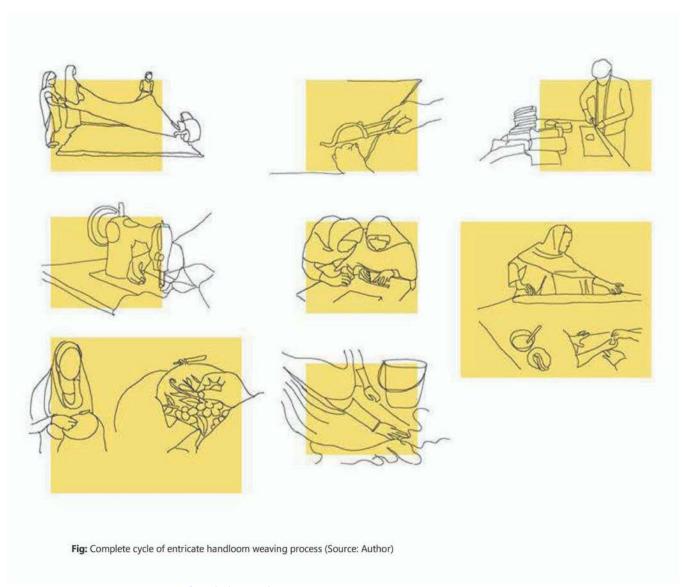


Figure: 5 Weaving process of Nakshi Katha

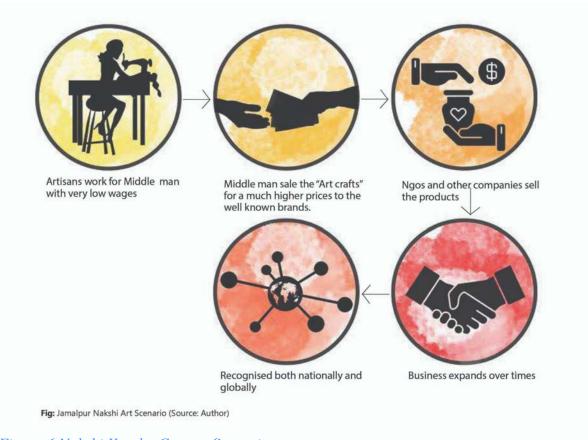


Figure: 6 Nakshi Kantha Current Scenario

Present Scenario of Nakshi industry in Jamalpur

Nakshi Artistry being one of our country's cultural heritage has been losing its recognition in the textile sector. Lack of awareness, marketing, intuitional credit, unfair wages and unfair competition have been major factors for the downfall of Nakshi Artistry. Despite having contemporary skills and high demands, artists are struggling to make enough money or profits due to the lack of marketing. Nakshi products do not have a centric platform for merchandising in Jamalpur, making it more difficult for vendors to sell their products. Artists associated with Nakshi Artistry are being paid less contemplating their craftsmanship and hardwork. Renowned Artisans buy Nakshi products wholesale at cheaper prices and sell these products for greater profit.

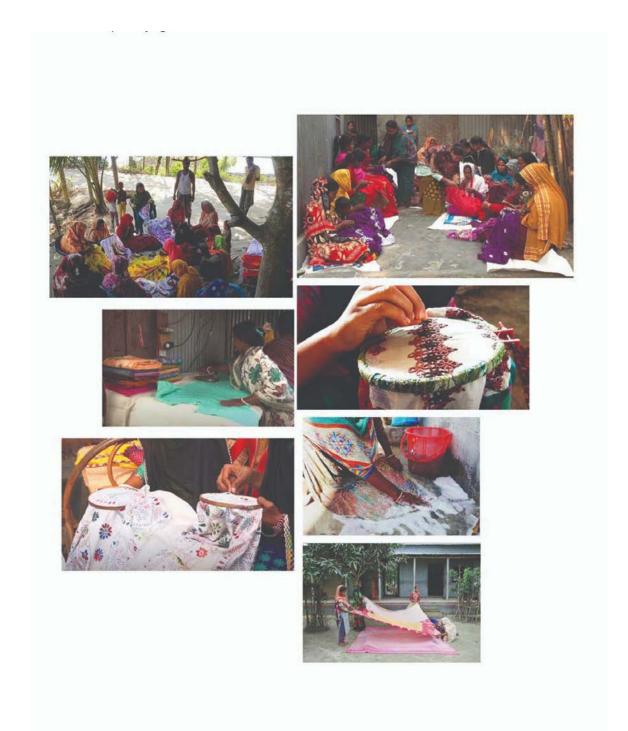


Fig: Current Scenario (Author)
Figure: 7 Nakshi Kantha Weaving

Chapter 3: Site study

3.1: Site Location

The site is located in Jamalpur district and Melandaha upazila, the site has an adjacent bridge known as Jhinai bridge and a railway recognised Jamalpur court railway. The site is close to Jamalpur bazar and Sadar upazila. It takes 6 hours to reach the site from Dhaka city. One can also travel by train, the station is only 1 km away from the site. The area of site is approximately 8 acres, with 30% open spaces, 15% water body, road and hard surface with 20% which is 65% of the site, the rest is built area is 2.2 acres.

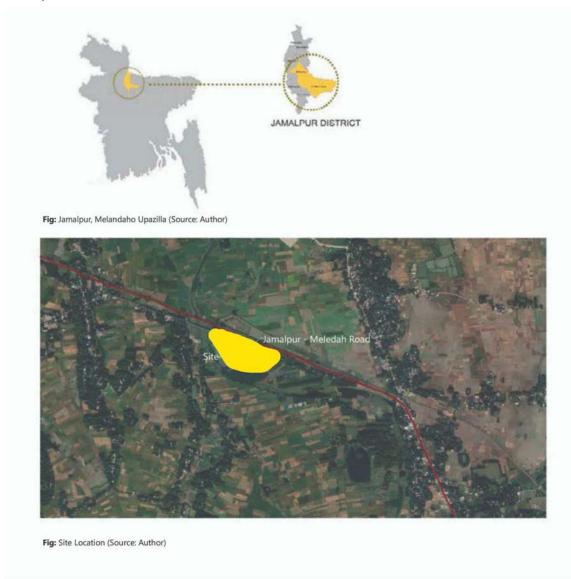


Figure: 8 Site Location

3.2 Surroundings

Majority portion of the site is cultivation land where they grow seasonal crops owned by the government. Few people also built temporary houses as the main land is vacant. Adjacent to the site there is also a small brick factory, where they make bricks from local material. There is also a river known as Jhinai nodi in the south which has already dried up to a great extent over the years.

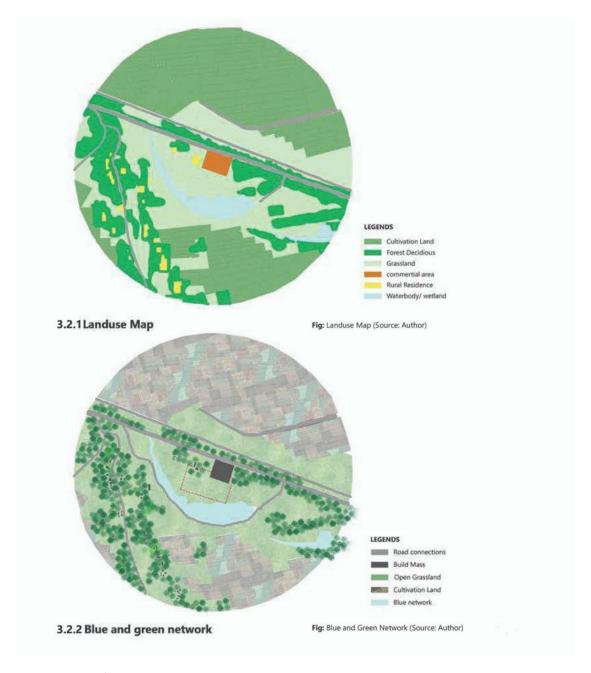
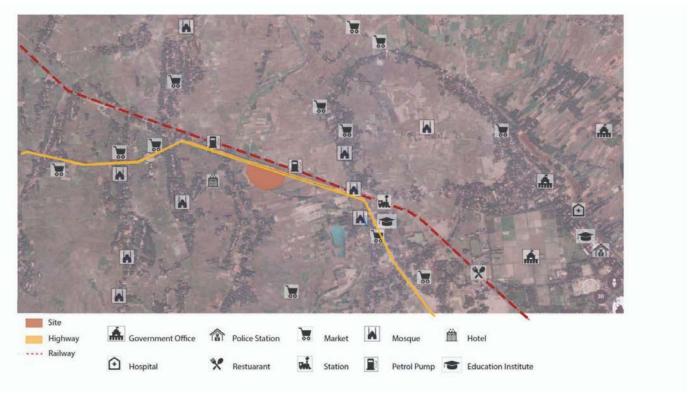


Figure: 9 Landuse map



3.2.3 Amenities

Fig: Amenities (Source: google earth Edited:Author)

Figure: 10 Amenities map

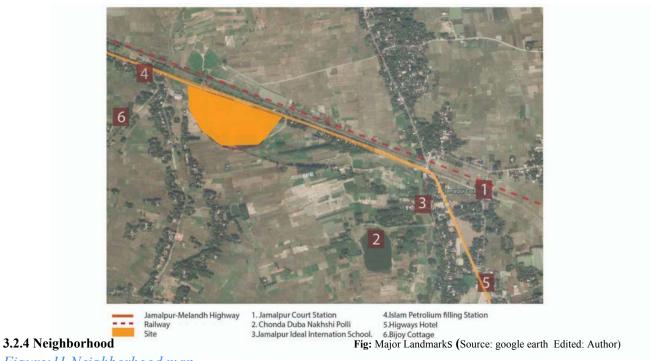
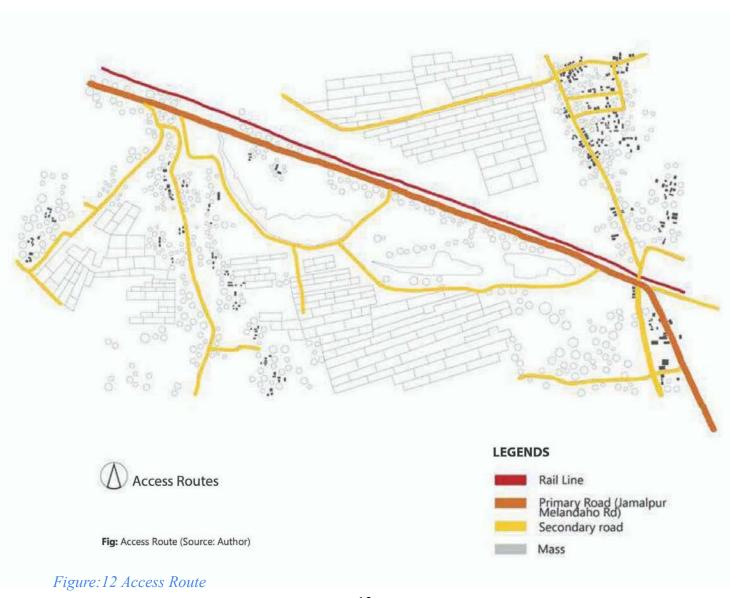


Figure: 11 Neighborhood map

3.3 Current Road Network

The site is accompanied by a 20° wide main road and a railway; the road is the main bypass of Jamalpur Sadar to Melandaha upazila. It only takes 15 minutes from the site to go to Jamalpur Sadar. There are also many secondary roads mainly used as pedestrian walkways to connect the site from one end to the other end of the site which helps local people from Jamalpur Sadar and Melandaho upazila to take a faster route to the site.



3.4 Housing study of Jamalpur

From the study we found that the rural housings have a similar and informal pattern. The functions and activities are all surrounded by the central courtyard. The entry of the house is from the pedestrian walkway and opens to a large courtyard. Courtyard is a multi functional space for the household members, toddlers play there, women of the houses spend their leisure time and also weave Nakshi Kathas. Courtyard is important for creating the art pieces. The courtyards also connect other households as well and they share the spaces for different activities, Trees are planted around the houses to create a buffer zone.

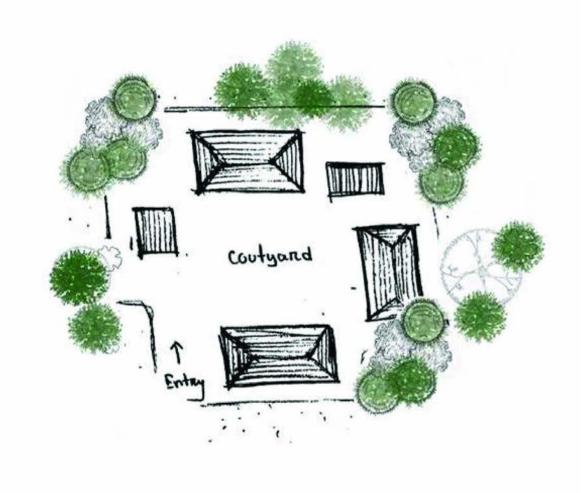


Fig: Nodi's House (Source: Author)

Figure: 13 Rural housing Study

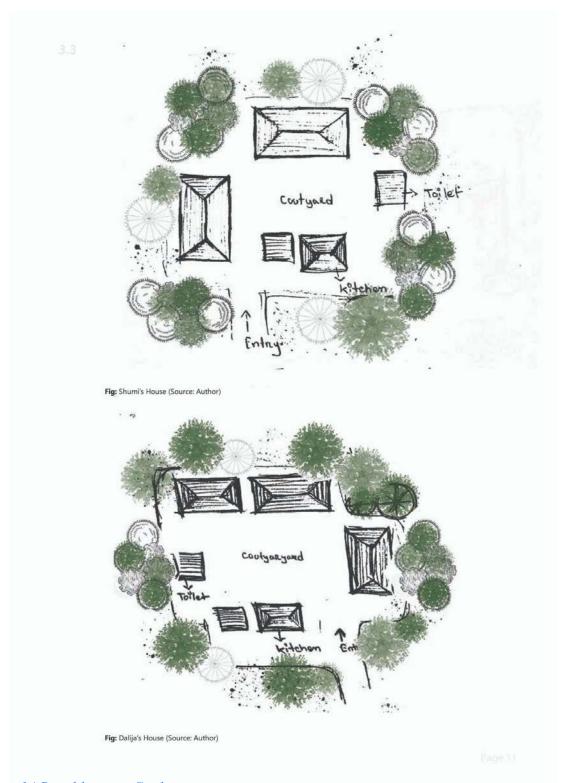


Figure: 14 Rural housing Study

3.5 Climate of Jamalpur

The climate in Jamalpur is warm and temperate. There is a lot of rainfall in the summer, and In the winter it is quite dry. The hot season lasts for 6 months, from March to September. The rainy period of the year lasts for 9 months, from March to November. The average annual temperature is 28.0 °C in Jamalpur. The rainfall here averages 67.59 mm. January has the least precipitation with 1.3 mm and May has the highest precipitation of 128 mm. May is also the warmest month of the year, it reaches a temperature of 31.8 °C and January has the lowest average temperature of 20.8 °C.

From the chart we can see that Jamalpur has a very tropical and moderate climate but experiences heavy rainfall from April to september.

Climate Graph

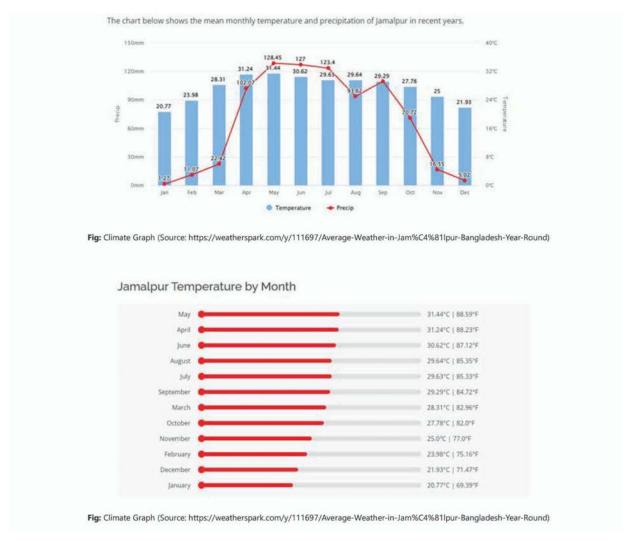


Figure: 15 Climatic Graph

Climate Analysis

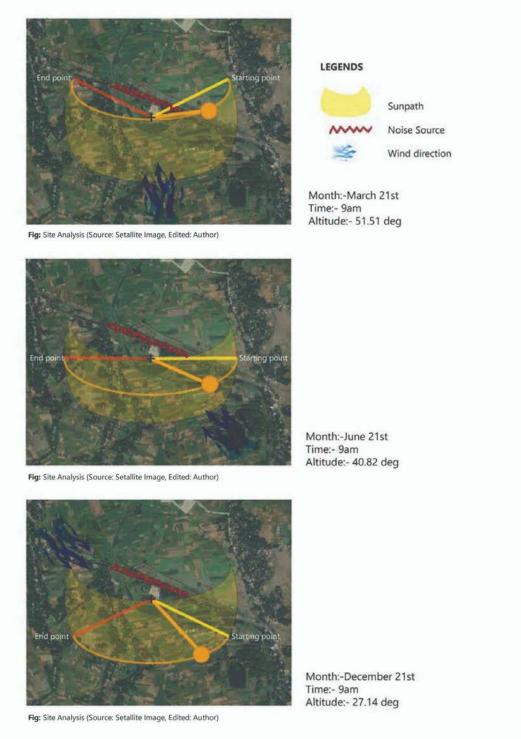
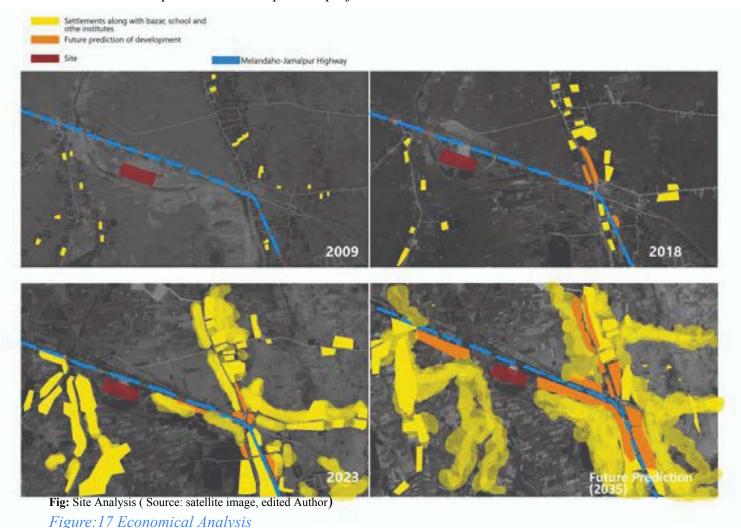


Figure:16 Sunpath

3.6 Site Analysis

Economical Analysis

Jamalpur is one of the largest producers of Nakshi crafts, it is also Jamalpur's local heritage so Nakshi art is more prominent in Jamalpur city than any other cities. It started with personal usage but to improve their economic solvency the women of rural villages started to sell their crafts. They sold their crafts through ngos or different companies because of the uniqueness in the stitches. The business flourished nationally and internationally but currently it is dying day by day due to lack of awareness, unfair wages, lack of intuitional credit, lack of marketing, unfair competition, lack of infrastructure and organizational problems. Despite the high demand of Nakshi art in Jamalpur there is no center or platform to display or sell these Nakshi Crafts. With future expansion on the highway, more people can contribute to saveth heritage, showcase their skill and earn fairprice with the help of the project.



18

Ecological Analysis

Connecting Waterbody 2023 There is a Government proposal to revive the lost connection between Jhinai nodi and Brahmaputra River which was an active water stream and people livelihood was based around the river. They Used The Water For irrigation and for fish livestock.

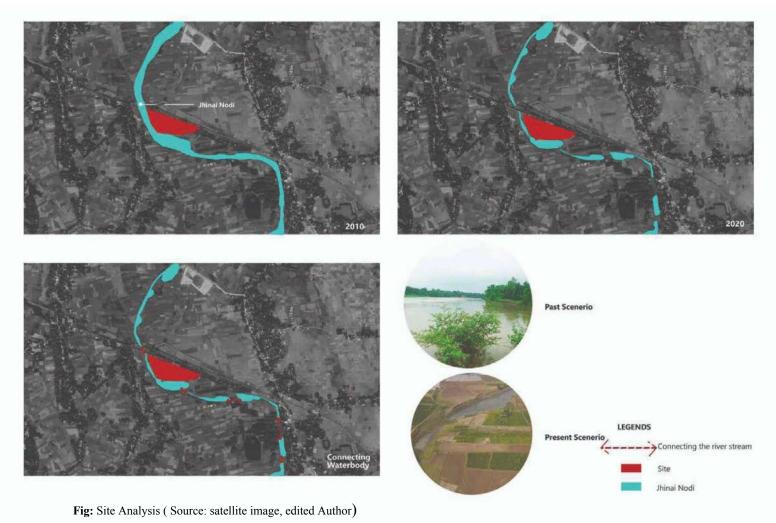


Figure: 18 Ecological Analysis

Cultural Analysis



Fig: Site Analysis (Source: satellite image, edited Author)

Figure: 19 Cultural Analysis

3.7 Green Connection

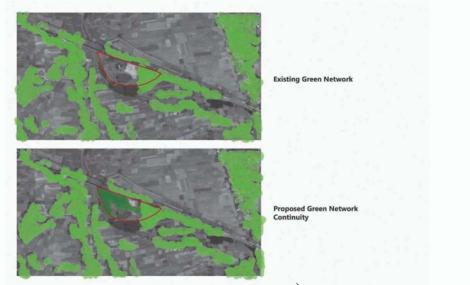


Fig: Site Analysis (Source: satellite image, edited Author)

Figure:12 Green network

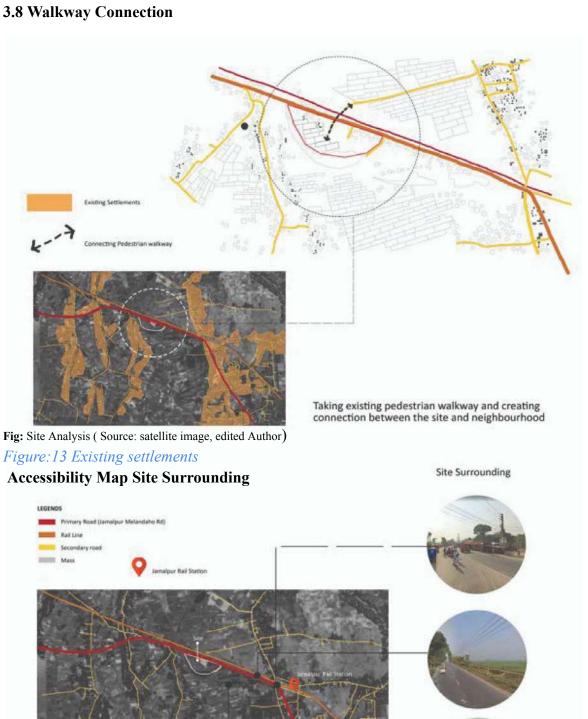
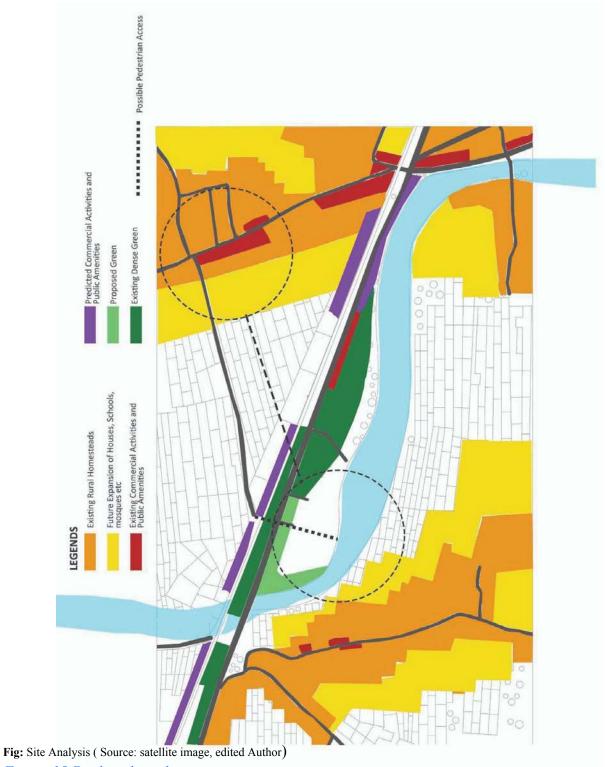
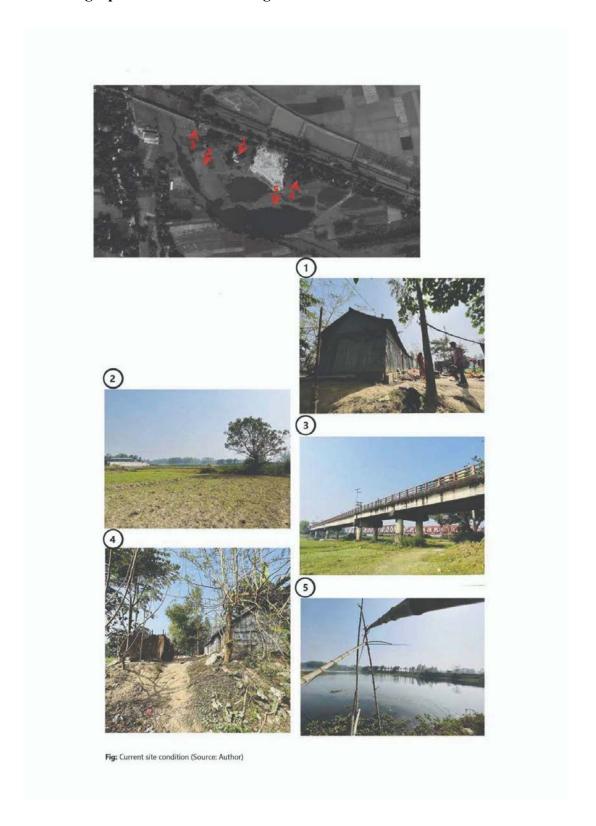


Fig: Site Analysis (Source: satellite image, edited Author)
Figure: 14 Site analysis

Predicted condition of the site surrounding after the completion of the project



3.9 Photographs of Site Surroundings



Chapter 4: Case Study

4.1 Friendship Center



Friendship center, Gaibandha

Fig: Site Location (Source: Satellite, Edited: Author)

4.1.1 Project Brief

It was designed by Architect Kashef Chowdhury in the year 2008-09 and completed in 2011. The client is the Friendship NGO, they work with the poorest in the country mostly in the riverine places known as Chars as people there have very limited access to public facilities. It has the facilities of its own training programs and people can rent meetings, training, conferences etc. as income generation for the center.





4.1.2 Site Surrounding and Micro Climate

It is located in the district town of Gaibandha, Bangladesh. This is a low lying area mostly used for agricultural purposes and is under threat of flooding if the embankment breaks. The site has other complications like being in earthquake prone zone and low bearing capacity of the structure because of silty soil. The flat land has small ponds, trenches and culverts to drain or hold the large amounts of water in the clayey soil.



Fig: Site Analysis (Source: https://www.dezeen.com/2013/08/21/friendship-centre-by-kashef-mahboob-chowdhuryurbana/)

Figure: 16 Sunpath diagram

4.1.3 Site Planning and Landscape detailing

The architect designed the center in such a way that it creates its own protection by building up the earth surrounding the site. The brick walls, arches and courtyards are protected from flooding because of the embarkation. The embankment has been constructed with a water run-off pumping facility. Number of outdoor pavilions are designed integrated with the landscape for a better learning process. Also the adjacent courtyards keep the surrounding temperature cool. The green roof is another important element.

The Centre is divided into two segments, the outer block for the offices, library and training classrooms and the inner block for the residential section which provide a harmony between the functions. At a time, 80 people can be trained here in four separate classrooms. Simplicity is the intent, monastic is the feel.



Figure: 17 Landscape detail

4.1.4 Local Architecture Character

The local architecture there is very simple — the temporary structures are built of bamboo, thatch and galvanized-iron sheets. More permanent structures are built on raised earth, on the edge of low-lying paddy fields. They are constructed of brick masonry, plastered and lime-washed. There were a few shops, some temporary, some permanent, lining both sides of the road. There were no other structures and had a lack of government buildings or any other infrastructure

4.1.5 Form and Function

The center in its forms and plan drawing has influences from Louis Kahn and The local hand-made brick construction has been inspired by the Buddhist monasteries. The interior spaces give a monastery feel too. The spaces are constructed of pavilions, courtyards, waterbody and greens, corridors that provide the luxury of light and shadow even in these extreme limitations. Large openings in the walls bring natural light and ventilation through the buildings, while a sequence of small courtyards and water bodies allow cool air to circulate. This center can also be an example of sustainable architecture; rainwater and surface run-off are collected in tanks and the excess water is pumped to an excavated pond which is used for fishery.

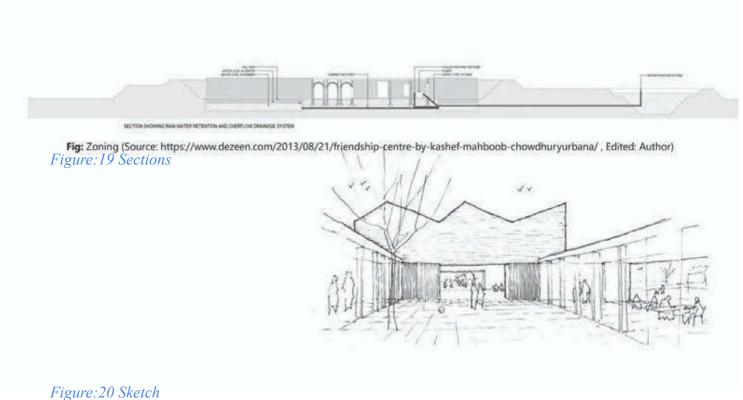


Figure: 18 Zoning

4.1.6 Structural system and sustainability

Mostly load bearing brick masonry with reinforced concrete is used as being in a seismic zone. The brick, used in the paving, steps, plinth, benches, half-walls and load bearing walls are locally made in a kiln 3.5 km away from the site.

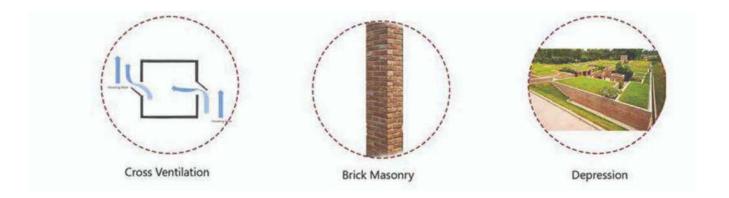
For the rainwater that falls within the footprint of the building, there are two large, deep tanks, which are located in between the building. These tanks are connected to the third tank on the site, for additional rainwater, but also used as a hatchery for fresh-water fish farming. Also, the sewerage system and septic tanks have been completely isolated from the drainage system.



igure. 20 sheten

4.1.7 Climatic response

There are three ways in which the building works well in this hot, humid climate and all of them are addressed in the building. The form, the layout of the rooms and courtyards, to the detailing of the doors and windows ensured cross ventilation to keep the building cool with passive airflow. Exposed brick masonry construction acts as a good insulator, yet allowing porous bricks to dry out after the dampness of the monsoon. The building is at grade, but because of the 2.4 meters depression it has many climatic advantages of being a subterranean structure.



4.1.8 Analysis

Taking an ancient example and turning the inspiration into a very modernist approach while designing. Not only use of sustainable material rather making whole architecture and its services sustainable. Unique way of addressing extreme climate. The Plan of the Ancient Monastery was the Architect's Inspiration.

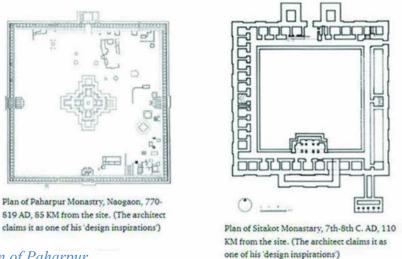


Figure: 21 Plan of Paharpur

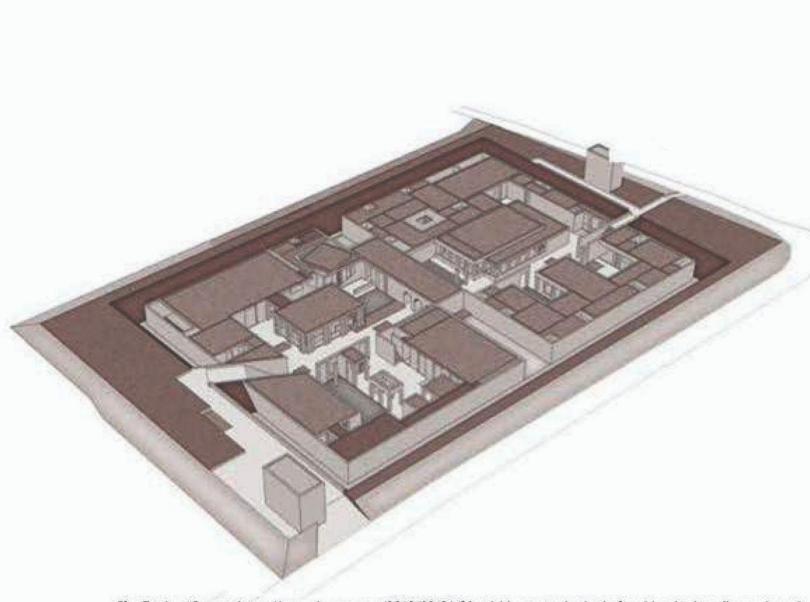
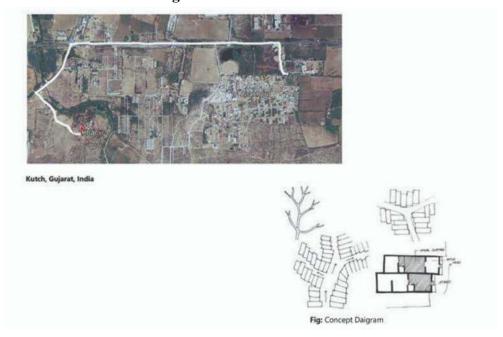


Fig: Zoning (Source: https://www.dezeen.com/2013/08/21/friendship-centre-by-kashef-mahboob-chowdhuryurbana/)

Figure: 22 Axonometric of friendship center

4.2 Khamir Artisan Village



4.2.1 Project Brief and Background

The project is designed for the people to celebrate their crafts, to promote the connection with the artisans by acknowledging their way of life and work, to promote and expand the traditional skills and knowledge of Kutch art, culture, heritage and national resources. People from different places come to explore the village and the crafts of kutch. There are many different types of artisan in the village; artisans of Embroideries, Leather Works, Lacquer Work, Rogan Work, Copper Bell making, traditional pottery, wood carvings etc. A massive earthquake put the community and their crafts and tradition in threat. Then architect Neelkanth Chhaya collaborated with the Hunnarshala Foundation to create a platform for the sustainable development of crafts, heritage and cultural ecology of Kutch.

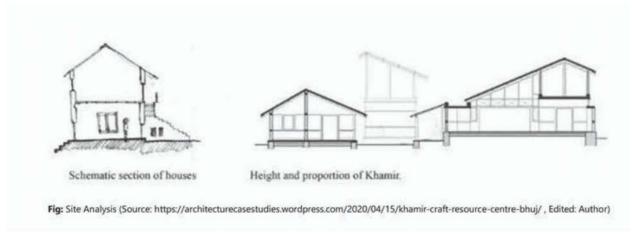
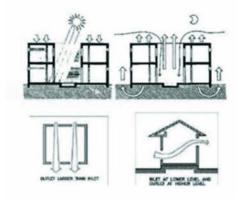


Figure: 23 Schematic section of Khamir village

4.2.2 Site surrounding and micro Climate

Khamir Artisan village is located in the outskirts of the city 10 km away from Bhuj, in Kutch, Gujarat. The mean temperature during summer months can rise up-to 31 deg Celsius and in winters the temperature drops to about 12 deg Celsius. The topography of the site is generally contour. The center is located in the V seismic zone.



4.2.3 Design with Climate

As the Kutch has a dry and hot climate the building must remain cool in hot summer and warm in cold winter. Windows are placed to take advantage of cooling breezes in summer, the use of light color for the external surface and the internal wall surface also keep the temperature low. Outlets at higher levels serve to vent out the hot air. Different techniques of smart structures such as puddled, Waddle and dope, rammed earth are used.



Fig: Site Analysis (Source: https://architecturecasestudies.wordpress.com/2020/04/15/khamir-craft-resource-centre-bhuj/, Edited: Author)

Figure: 24 Sunpath diagram of Khamir village

4.2.4 Form, function and horizontal circulation

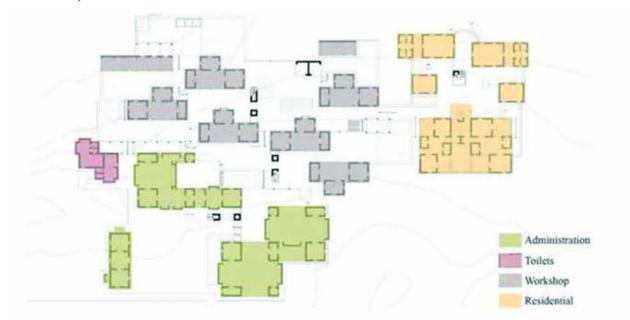


Fig: Zoning (Source: https://architecturecasestudies.wordpress.com/2020/04/15/khamir-craft-resource-centre-bhuj/, Edited: Author)

Figure: 25 Zoning of Khamir village

The plan is a simple modular orthogonal plan with such complex programs complimenting its surroundings in a low-rise clustered campus. The form and space has a fantastic interrelation between the indoor, semi outdoor and outdoor spaces. Multiple courtyards to provide natural light and air in the work spaces for the artisans. A geometry of addition and subtraction is seen in the arrangement of height and proportion. The plan has three main zoning based on functions; the workshop area, Administration and residential. The building mass is east west elongated to provide cross ventilation in maximum spaces to keep the area airy.

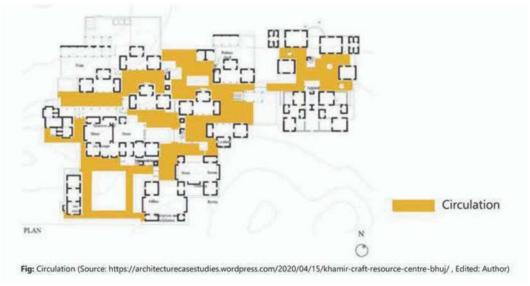
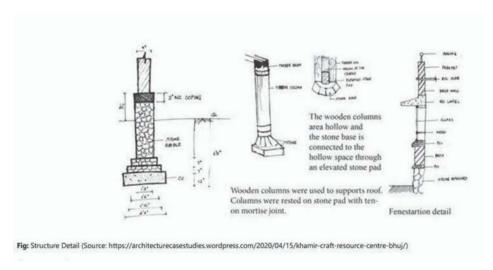


Figure: 26 Circulation of Khamir village



4.2.5 Structural system

Two meter deep foundation or meet with cement, concrete base. Deep rubble stone foundations hold up the ground floors up to the plinth level of all the buildings using stone available nearby. Unique art technology is used to make the walls like rammed earth, wattle and daub, lightweight metal and paneling. The walls between the steel columns are made of old frames and infield with wattle and daub, bamboo lattice covered in mud plaster with lime finish. The roofs are made with corrugated sheets covered with country Tiles.

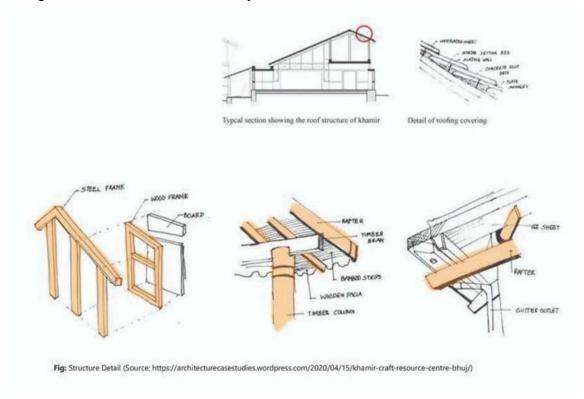


Figure: 27 Structural System of Khamir village

4.2.6 Design Detail

The climate of Kutch, Gujarat is similar to Jamalpur, Bangladesh. Planning layout of functions around internal courtyards is a very medieval technique for temperate and humid climates. A sense of inclusiveness is also necessary for the promotion of Nakshi Katha in this project as well. An important innovation that was done at this campus was that the walls on the 1st floor were made with Wattle & Daub panels. These panels were plastered with lime. On the ground floor all the construction is rammed earth



Figure: 28 Sections of Khamir village

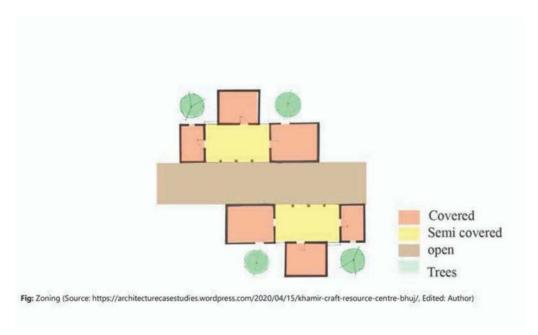


Figure: 29 Zoning of Khamir village

4.2.7 Analysis

The center is designed while respecting the context, it is a sustainable structure, earthquake resilient and is a resource center. It goes from open semi open and then closed space. It includes a lot of services like training accommodation. Use of local available materials, use of vernacular architecture in the morning way. The complex circulation moves through a service of progressions and pauses.

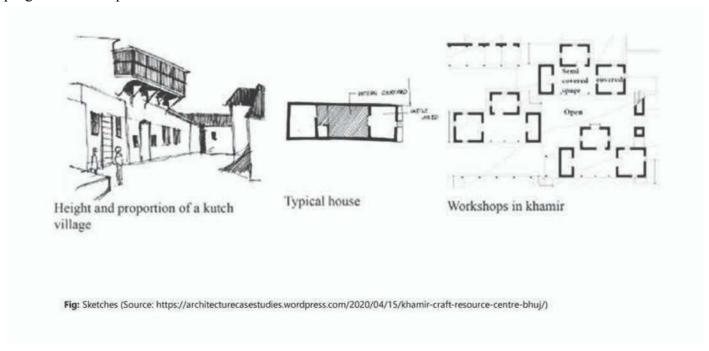


Figure: 30 Zoning of conceptual sketches

4.2.8 Project Photographs





Craft Archive

Craft Facility



Artisan

Guest Accomodation

Fig: Photographs (Source: https://thinkmatter.in/2019/05/15/khamir/)

Chapter 5: Square Feet and Area for program

Funtions	number of user	Required area per person (sq/ft)	Sq/ft
Multipurpose Hall			
Space required	1200	01 10	12000
Storage			200
Cafeteria			
Sitting Area	80	25	2000
Kitchen			700
Storage			300
Outdoor space for kiosks			1000
washroom (female and male)		4 30	120
Total			4200
Administration			
Reception (lobby and waiting)	90		200
Admin Office		36	999
Account Section	2		24(
Conference Room	16		900
Information and Resource Center	100		3000
Total			2000
Research and Design Center			
Material Treatment Lab		5	2000
Research Lab		6 200	1200
Material Archive			800
Fabric Analysis tab	,	150	909
Chemical Testing Lab		150	009
Total			9200
Workshop			
Admin Director and etriff area			2000

Design Studio *3	50 students per room	10	1500
Sewing and cutting Area	90	8	200
Finished Good storage			2000
common space	400		1000
Total			6500
Dormitory and guest Accomodation			
Entry			100
Trainee Bedroom	100 (2 people per room)	250	12500
Guest Bedroom	30	300	4500
Common Toilet	4	30	120
Common Area	-		400
Cafeteria			
Entry			09
Dinning Area	40	20	1000
Serving Counter			40
Kitchen			300
Storage			200
Toilet	2		09
Total			19200
Display And Sale Center			
Display center			7000
Sale center			7000
Total			14000
Circulation 30%			20000
Total			00000

Chapter 6: Concept and Form Generation

6.1 Bubble Diagram

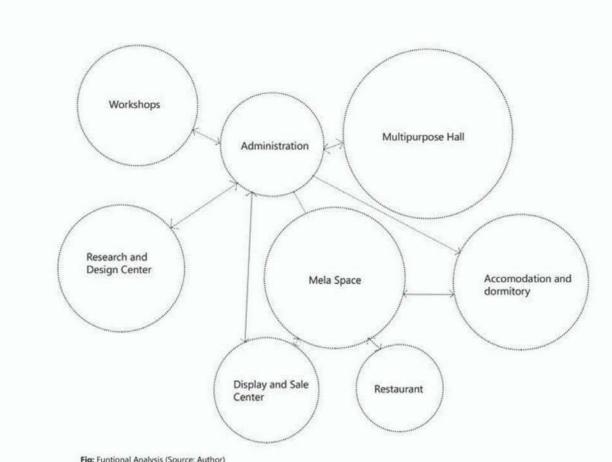


Fig: Funtional Analysis (Source: Author)

Area Coverage

Land aera: 8 acre

Open spaces: 25%

Water Body: 15%

Road and Hard surface: 20%

Total 60% of 8 acre

So, build space 3 acre from 8 acre which means build aera 40% of land

aera.

6.2 Concept Development



The main design concept was inspired from the Nakshi stitches and design. In Nakshi kantha the center circle is done first after that the whole design is finished based on the center circle. The idea was to connect all the functions with the center as an integrated part. The center of Nakshi kantha also represents the artisans life, joy, festival or happiness which is incorporated in the design as 'Mela Space'. Mela space is the platform where the artisans can showcase their work and also sell their products to the local and foreign people.

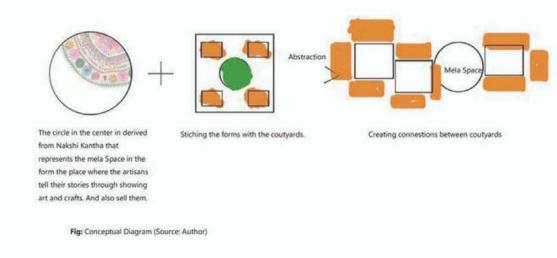


Figure: 31 Design concept development

6.3 Planning Principal

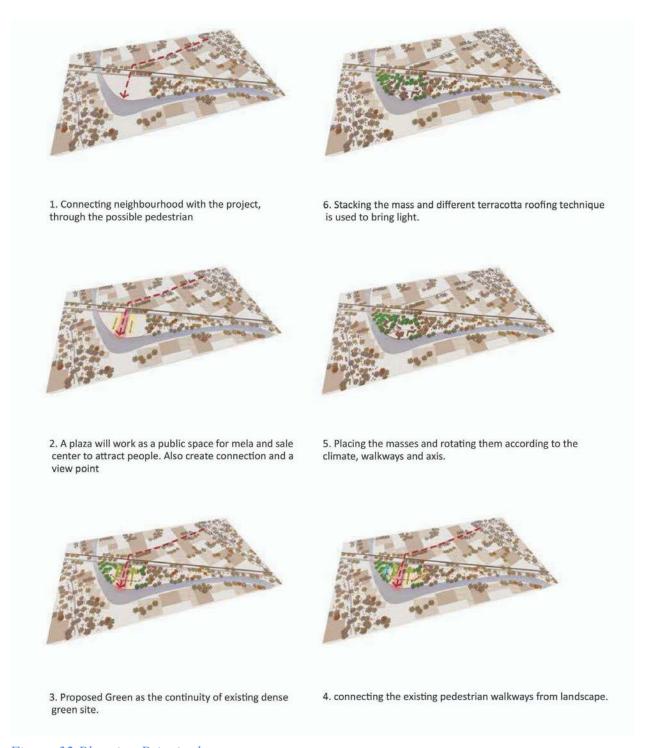


Figure: 32 Planning Principal

6.4 Zoning Diagram

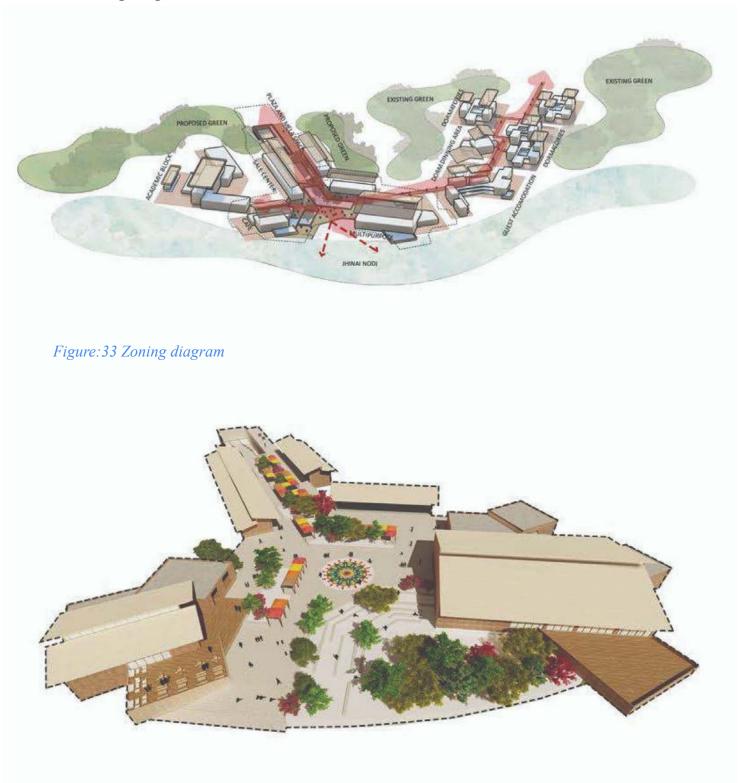
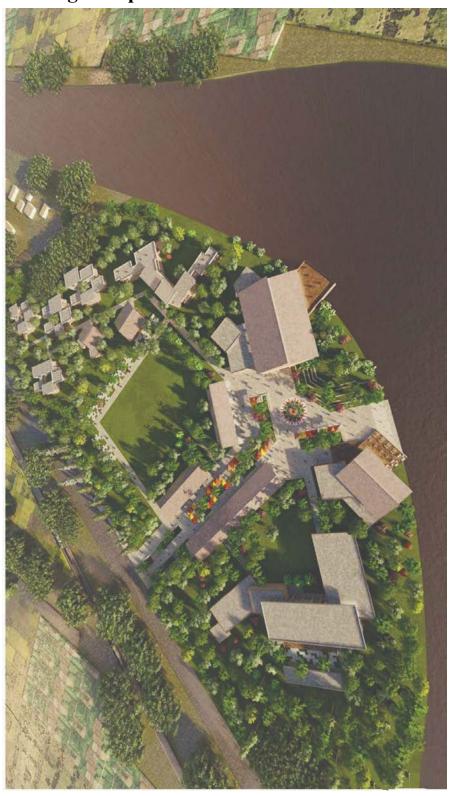


Figure: 34 blowup of Mela Space

Chapter 7: Design Proposal and Solutions



7.1 Floor Plans

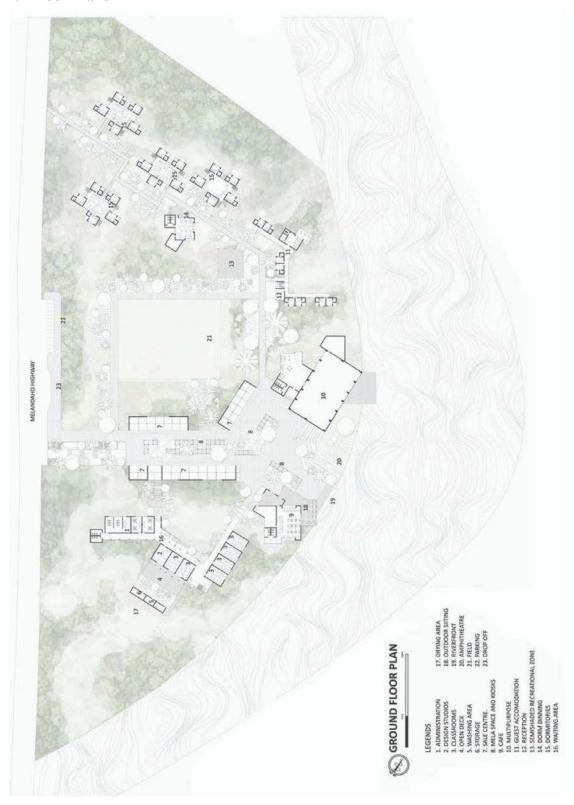


Figure:35 Ground floor plan

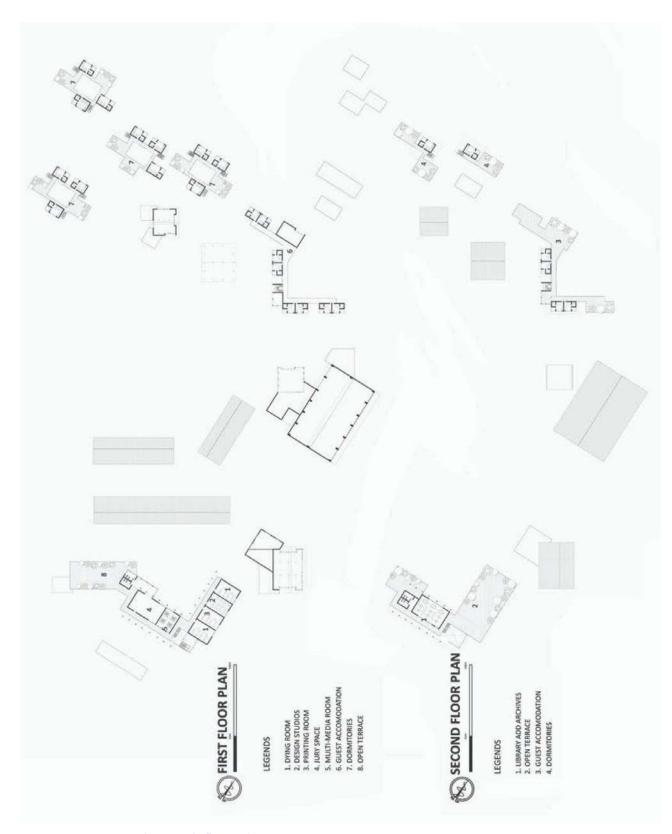


Figure: 36 First and second floor plan

7.2 Sections

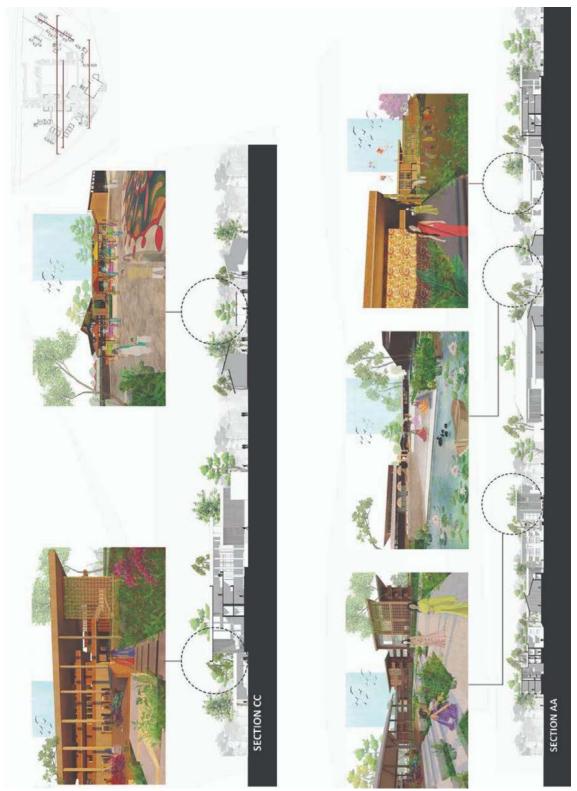


Figure: 37 Sections

7.3 Sections and Elevations



Figure: 38 Sections and Elevations

7.4 Render Images



View from the Ghat

Figure: 39 View from the ghat



Mela Space

Figure: 40 Mela space



View from the Cafe

Figure:41 View from the cafe



Guest Accommodation and Recreational Zone

Figure: 42 Guest accommodation and recreational zone



Dormaties and Dinning

Figure: 43 Dormitories and Dinning



Courtyards inside the Dormitories

Figure: 44 courtyards inside the dormitories



Training Centre

Figure: 45 training center



Open Deck with the Design Studios for the Weavers

Figure: 46 open deck with design studios for the weavers

Chapter 8: Conclusion

Nakshi Art is one of the oldest folk Art of Bengal which has had its events of downfalls and intrusions whilst its revival periods. Almost ceasing it to the trough of recognition and loss. Nakshi Art was brought to limelight by two organizations, Ayesha Abed Foundation and Kumidini after the Liberation War of 1971. Around 4000 women of Jamalpur have an income source and livelihood out of Nakshi products. There has been a notable increase of demand of Nakshi Products globally and regionally. This project will give a platform to weavers, entrepreneurs and buyers for interactions while buying and selling the products.

References

- 1. Ahmed, M. (2001) SEMIOTIC STUDY OF THE MOTIFS IN NAKSHI KANTHA Millennium: Challenges and Opportunities, Asian Affairs, Vol., No.01.
- 2. Ahmed, P. (1997) The Aesthetics and Vocabulary of Nakshi Kantha.
- 3. Ghosh, S.K. (2005). Handloom Industry on the Way of Extinction: 'An Empirical

Study over the Predominant Factors'. BRAC University Journal, Vol. 02, No. 02.

- 4. Haque, R. (2019) Stitched in time: The saga of Nakshi Kantha.
- 5. Islam, K. & Hossain, E. (n.d.). AN ANALYSIS OF PRESENT SCENARIO OF HANDLOOM WEAVING INDUSTRY IN BANGLADESH.
- 6. Islam, M.K. & Hossain, M.E. (2012): "AN ANALYSIS OF PRESENT SCENARIO OF

HANDLOOM WEAVING INDUSTRY IN BANGLADESH" Volume 03, Number.01. 7. Liton, M.R.I. & Islam, T. & Saha, S. (2016). "Present Scenario and Future Challenges

in the Handloom Industry in Bangladesh. Social Sciences" Vol. 5, No. 5, [pp. 70-76].

- 8. Parker, E. (2018) Steps towards Sustainability in Fashion: Snapshot Bangladesh, edited by Hammond, L., Higginson, H. and Williams, D., London College of Fashion and Fashioning an Ethical Industry.
- 9. Satya, S. (2006) Handlooms Seek Direct Marketing, Facts For You.
- 10. Sobhan, R. (1989). "Employment & social issues in the Formulation of policy for the

Handloom Industry". The Bangladesh Development Studies, Volume XVII, No. 2&1.

11. Zaman, N. (2018 May) The Art of Kantha Embroidery.