

চক চত্বর

**Redevelopment of Chawk bazar market complex as an impressionistic
memory lane, Chawk bazar, old Dhaka.**

A thesis submitted to the Department of Architecture.
in partial fulfillment of the requirements for the degree of
Bachelor of Architecture

By
Athena Rahman
18208007

**Department of Architecture
BRAC University
September 2023.**

© 2023 BRAC University
All rights reserved

Declaration-

It is hereby declared that-

1. The thesis submitted is my/our 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.
4. I/We have acknowledged all main sources of help.

Student's Full Name & Signature:

Athena Rahman

Student Full Name: Athena Rahman

Student ID: 18208007

APPROVAL:

The thesis/project titled - “**চক চত্বর** Redevelopment of Chawkbazar Market Complex as an impressionistic memory lane, Old Dhaka” Submitted by Athena Rahman (18208007) of Summer, 2023 has been accepted as satisfactory in partial fulfillment of the requirement for the Bachelor of Architecture degree on (9.9.2023)

Examining Committee:

Supervisor:
(Member)

Mohammad Habib Reza, PhD
Associate professor, Department of Architecture
Brac University

Supervisor
(Member)

Mohammad Faruk, PhD
Associate professor, Department of Architecture
Brac University

Supervisor:
(Member)

Iftexhar Ahmed , PhD
Associate professor, Department of Architecture
Brac University

Supervisor:
(Member)

Mohammad Zillur Rahman
Lecturer, Department of Architecture
Brac University

Departmental chairperson:

(chair)

Zainab Faruqui Ali. PhD
Professor, Department of Architecture
Brac University



চক চত্বর

Redevelopment of Chawkbazar Market Complex as an impressionistic memory lane, Old Dhaka

Abstract-

This original township is the glory of history, heritage and heritage sites; however, unplanned urbanization in the evolution of time has led to old Dhaka facing problems of dilapidated buildings, narrow roads and inadequate civic amenities.

Chawk bazar has great significance for its age-old identity for low-priced items, suitable location to trade and transport and a significant hub for commercial importance for local wholesale buyers across the nation.

With changes of time, this marketplace has grown organically, due to excess user demands, commercial development of the city, and economic regeneration, without considering the need of preserving its distinct character, cultural values, or any safety measures. This project addresses the need for a new approach to the redevelopment of the market to alleviate the current issues, considering the surrounding urban fabric.

The aim of this project is to redevelop the market by regenerating the functions, considering the existing market conditions, and providing adequate facilities for the users by maintaining the original fabric and keeping the existing few of the built forms. By designing in such a way where the existing built forms get merged with the new proposed market containing- different types of formal and semi-formal marketplace for hawkers and vendors, Pocket spaces for breathable interaction, working with the threshold of new and old. Additionally, preserving the intimate character of the existing marketplace into the new , such as- scale. Lastly, connecting bold path way a part of heritage walk that will lead the visitors

Keywords: Redevelopment, conservation , wholesale ,existing built-form, civic space, open spaces.

Acknowledgement-

I am grateful to my parents & my elder sister who supported me to pursue this degree. I can't thank enough to my studio instructor Dr. Mohammad Habib Reza sir, Jalal Ahmed sir, Zillur Rahman sir and Naim A kibria sir for the constant guidance and support in the design process. I would like to thank, Dr. Mohammad Faruk Sir, Dr Iftekhar Ahmed sir and BKS Inan sir, Rahat M Niaz sir for having faith in me and inspire me to become a good designer in these five years.

Secondly, this would not have been possible without my mentors and juniors. Thanks to Tarannum apu for her immense love and support. Thanks to Adhora apu for all her love, concerns and help towards me.

This thesis project of mine got into reality because of Sherhan, Rayeda, Zurana, Moin and Fariha, Mursaha, Adib and Samia, Tanzil's joint effort. I am forever grateful to all of them.

Lastly, In my entire journey of undergrad life there have been days with a lot of hardships, sleepless and hopeless nights. Thanks to my classmates and friends - Afreen, Ruaida, Monishita, Sabah, Sunny, Fariha, Sumaiya, Rahmah and Fariyana, Ananna, Sowda, Maliha and Ahnaf for being there through thick and thin. Additionally, I am grateful to all those well wishers who truly wished well. This would not have been possible without the mercy of Almighty Allah.

Table of Contents:

Contents

Abstract-	v
List of Figures.....	viii
List of Acronyms:.....	x
Chapter 1: Introduction.....	1
Chapter 2 : literature review	7
Chapter 3: Site Appraisal.....	9
3.1: location-	9
3.2 study of context through street activity	16
3.3:Loading and unloading of the goods.....	24
3.4 study of micro climate and ecology-.....	29
3.5: Tourism analysis:.....	33
3.6: chronological study of east side	37
3.7: Architectural details	42
3.8: Movement analysis-.....	45
3.9 : SWOT analysis -.....	50
Chapter 4 : case studies	51
4.1: Dadfa Community Mall.....	51
4.2.: Santa caterina, Barcelona, Spain by EMBT	58
4.3: Nikolsky rows public space, Russia by Katarsis ab-.....	62
4.4.: City center , salt lake, Kolkata by Charles Correa-	63
Chapter 5: programs	69
5.1 : program appraisal -	69
5.2sqft chart-	70
Chapter 6 : Concept &Form generation	75
6.1 conceptual sketches.....	75
6.2: Conservation of the existing	79
6.3: Path generation.....	81
6.4: Idea generation of the form	82

6.5: Form generation in urban context:.....	83
Chap 7 : Design proposal and solutions-.....	86
7 .1: floor plans-.....	88
7 .2:Sectional axonometric view to understand zoning -.....	89
7 .3 sections and elevation-.....	92
7 .4 Climatic consideration-.....	94
7 .5 Achieving the same scale -.....	96
7 .6 Rendered images-.....	97
7 .6.1 A story of new and old-.....	98
Chapter 8 : conclusion-.....	102
References.....	103

List of Figures

Figure 1 - historical timeline of now chawk bazar.....	6
Figure 2 site location.....	9
Figure 3 site condition.....	10
Figure 4 wholesale items category.....	11
Figure 5 wholesale items category in gf.....	12
Figure 6 -shop type 1.....	13
Figure 7 - shop type 2.....	14
Figure 8 shop modules in street front analysis- author.....	15
Figure 9 busy streets of east chawk circular rd.....	17
Figure 10 busy streets of west chawk circular.....	18
Figure 11 This street section shows the chaotic yet systematic staggered shops and floors functioning for many years.....	19
Figure 12 sahi mosque road and it's activity.....	20
Figure 13 the puthi books selling point at Chawkbazar.....	21
Figure 14 an overall hawkers and vendors occupancy at west of the site.....	22

Figure 15 an overall hawkers and vendors occupancy at east of the site	23
Figure 16 transportation of the goods.....	24
Figure 17 types of movers and transporters/ loaders.....	25
Figure 18 existing market condition.....	26
Figure 19 business pattern.....	27
Figure 20 existing zoning	28
Figure 21 ecological analysis	29
Figure 22 density & street pattern of Chawk bazar.....	30
Figure 23 blue and green network.....	31
Figure 24 average yearly temperature.....	32
Figure 25 average yearly daylight	32
Figure 26 average yearly precipitation	33
Figure 27 tourism analysis.....	34
Figure 28 Bara katra & choto katra current state, image source- author, google.....	35
Figure 29 showarighat image source - google.....	36
Figure 30 the builtform of east	38
Figure 31 chronological change , analysis – author	40
Figure 32 landuse pattern	41
Figure 33 details around the site.....	42
Figure 34 hand drawn details analysis- author	43
Figure 35 perceiving scale of Chawk bazar	44
Figure 36 walking proximity	46
Figure 37 frequently used path on the ground floor by movers/ traders/shopkeepers	47
Figure 38 vehicular proximity and congestion point.....	48
Figure 39 types of vehicle	49
Figure 40 images of Dadfa	51
Figure 41 spaces and people interacting to.....	53
Figure 42 circulation plan.....	54
Figure 43 climate responsive design	57
Figure 44 sectional analysis – author	58
Figure 45 master plan	59
Figure 46 plan and circulation.....	60
Figure 47 envelop and shell idea.....	61
Figure 48 an unused space within a project, to offer something to the public seasonally	62
Figure 49 city center case analysis	63
Figure 50 city center case analysis	65
Figure 51 plan study	67
Figure 52 learnings from the case studies	68
Figure 53 program appraisal.....	69
Figure 54 decision sketch 1	75

Figure 55 decision sketch 2	76
Figure 56 decision sketch 3	77
Figure 57 decision sketch 4	78
Figure 58 conservation	81
Figure 59 generating path	81
Figure 60 Idea generation	83
Figure 61 form generation	86
Figure 62 Ground floor plan	87
Figure 63 floor plans	88
Figure 64 floor plans	89
Figure 65 spot sections	90
Figure 66 axonometric views	91
Figure 67 climatic consideration	95
Figure 68 existing and design intervention	97
Figure 69 celebration at CHAWKCHATTER	100
Figure 70 rendered images of chawkbazar activity	102

List of Acronyms:

RAJUK: Rajdhani Unnoyon Kortripokkho

Chapter 1: Introduction

1.1: Location

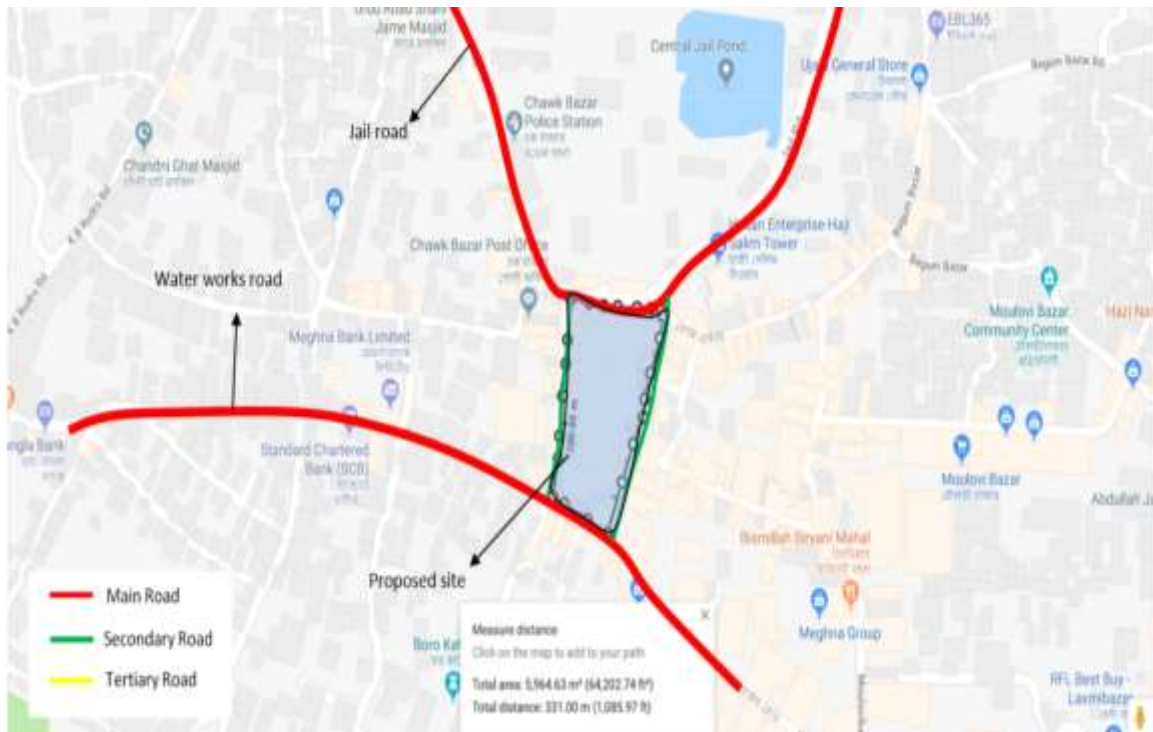


Figure 1 site

1.2: aim and objective of the project-

- Improve and integrate the commercial, recreational and environmental conditions of the Bazar, respecting the contextual characteristics of the area
- creating a breathing space for the densely populated commercial center
- increasing urban connectivity and facilitating the flow of shopping
- Keeping the inherent character of Chawkbazar alive .
- redesign the marketplace in a planned way so it can be turned into a meeting place for the community.

1.3: Project brief-



Source- Rajuk

The site is situated in old dhaka near the river Buriganga. In this process (urban redevelopment of old dhaka), the best use of land is ensured. For example, new buildings were constructed in the urban redevelopment project area by removing old, dilapidated buildings. As a result, adequate open space is created through vertical development of land where parks, playgrounds, civic amenities, wide roads etc can be provided. Similarly, in the brief rajuk explained-Chawkbazar after analyzing their needs and identifying dilapidated hazardous buildings (mostly commercial use) will be rebuilt into the same use. The wholesale jewelry, clothes, plastic, toys, decoration etc markets are the attraction for rest of the retail shop owners. The food market around shahi mosque is widely famous for its Iftar bazaar and plays a role in the micro economy.

But all of this needs a new platform or in a new way. As the adjustments of narrow space and constant risk factors made them move several times, few entrepreneurs/ locals think it is best built again.

According to Rajuk, the main goal of this project is to maintain their identity or activities and the urban fabric at any cost. Urban Redevelopment Scheme must ensure that the common people in the said project area are the main beneficiaries. In addition, the proposed civic benefits in the project area should be provided to monitor the needs of the people living in the area and based on the appropriate standards of urban planning

TITLE: URBAN REDEVELOPMENT OF CHAWKBAZAAR

SITE: CHAWK BAZAR, OLD DHAKA

CLIENT: RAJUK

TOTAL AREA: approx 2 acre

Existing built area approx : 200000 sq ft

Design intervention : 210700 sqft

URBAN REDEVELOPMENT:

Urban redevelopment is a process by which an area with unplanned, densely populated, inadequate civic amenities can be made a planned area with adequate civic benefits by incorporating the views of the residents of the area on the basis of their needs and consensus.

This original township is the glory of history, heritage and heritage sites; however, unplanned urbanization in the evolution of time has led to old Dhaka facing problems of dilapidated buildings, narrow roads and inadequate civic amenities.

Urban redevelopment could be a way to overcome these civic problems through planned urbanization while maintaining the uniqueness of old Dhaka. This project

The chawkbazar business hub is renowned for wholesale trading of cosmetics and jewelry. The tannery business has already been relocated to Savar from Hazaribagh, Swarighat fish market to different parts of the capital and over the last two decades a new wholesale kitchen and commodity market has grown in Karwan Bazar. The other businesses are also going to move away from old Dhaka to pave the way for its renovation so that it can be made livable in a planned way and business can be expanded as well. So, chawkbazar is also the process of wanting something new.

1.3.2 Programs-

A Mixed use complex-

- a. Retail/ wholesale shops
- b. Civic facility for the neighborhood
- c. Redevelopment of market place (hawkers area)
- d. Shop employees dorm
- e. Workshops and showroom
- f. Bank and office space
- g. Service and amenity



Source- Rajuk



Source- Rajuk

- Reconstruction, realignment and structural updating of existing buildings and infrastructure.
- Preventive measures to deal with other natural disasters including earthquakes, fire accidents.
- Provision of adequate civic amenities.
- Open space creation with adequate parks, playgrounds.

1.4: project rationale-

1.4.1:Paradigm shifts in business-

Once people used to come to Dhaka, especially to Old Dhaka, known as a business hub, for their required goods but now this feature is going to see a paradigm shift. During the Mughal dynasty, some 400 years ago, after the establishment of the old town it quickly turned into a key business hub and the backbone of the economy of this part of Indian continent. Being densely populated area with the growing number of traffic, unplanned residential buildings, congested roads, deteriorating sewage system and counterfeit products the city is now losing its old grandeur as a business hub.

Business post article-says the drastically changed supply chain, dealer-to-door product shipment by big industries, and the booming of the e-commerce sector during the Covid-19 pandemic have forced traders and customers to move away from this old business hub. Experts say people are also moving away from Old Dhaka as they can now choose quality products from diversified wholesale markets and shopping malls throughout the country due to an increase in their disposable income.

In addition, Until just a few decades ago, the sprawling Old Dhaka with 11 wards under Dhaka South City Corporation's eight police stations lived up to its reputation as the heart of the city but it is now gradually losing its image as a commercial hub rather than history .It consists of eight metropolitan police stations - Hazaribagh, Lalbagh, Chawkbazar, Bangshal, Kotwali (Dhaka Sadar), Wari, Sutrapur and Gandaria. Hence, to stop the hazardous sprawl and informal structures.

1.4.2: A brief timeline-

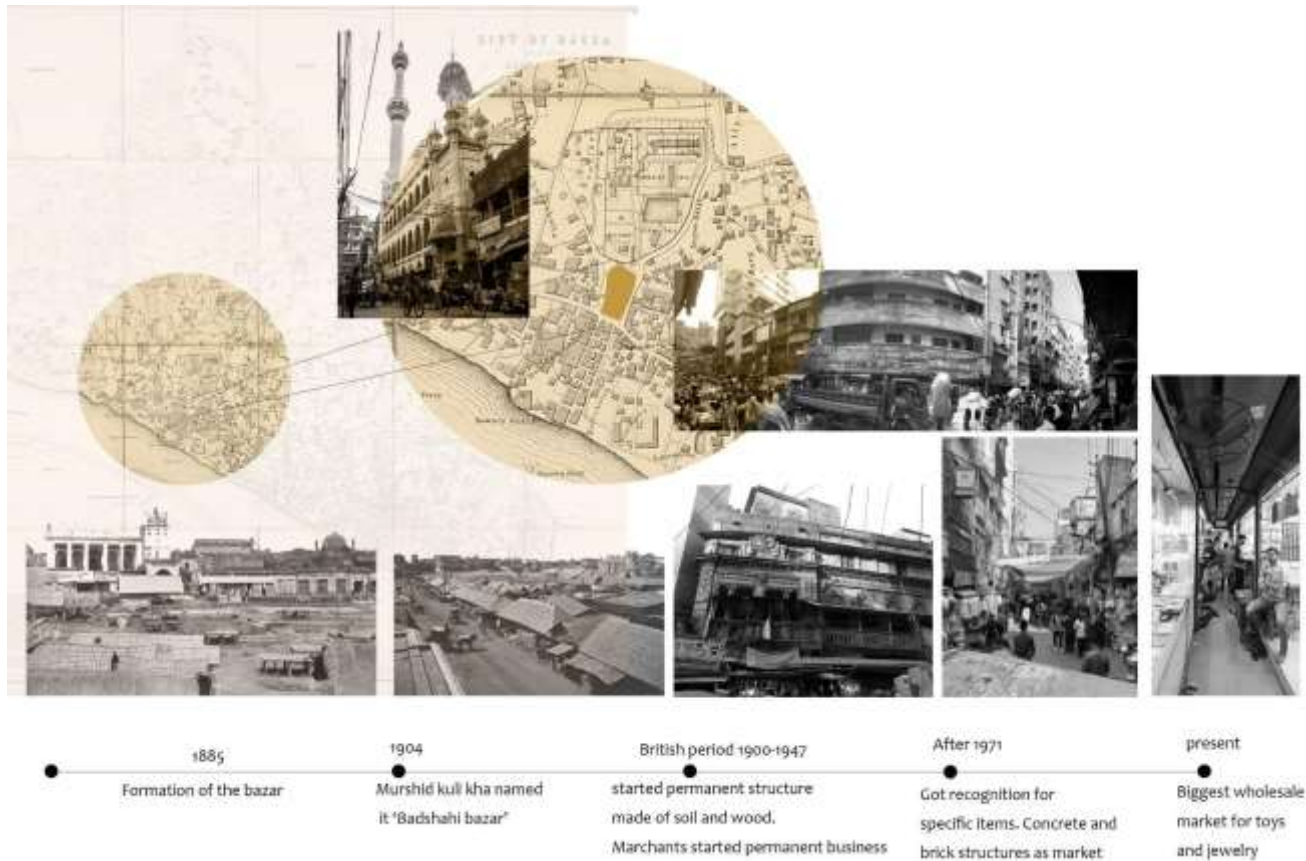


Figure 1 - historical timeline of now chawk bazar

After the Sen Dynasty came to an end with Ballal Sen's son Laxman Sen being defeated by Ikhtiar Uddin Mohammed bin Bakhtiar Khilzi, Dhaka was successively ruled by the Turkish and Afghan rulers under the Delhi Sultanate before the Mughals arrived in 1608.

For a time, Turkish and Afghan rulers reigned the area from the early 14th century until the late 16th century. An Afghan fort (formerly known as Old Fort of Dhaka) was built at that time. Subahdar Ibrahim Khan Fath e Jahangir (1617–1624) began the construction of the fort (at the premise of Dhaka central jail). Rebel prince Shah Jahan defeated and killed him in 1624 and when he entered Dhaka along with the government. After the Mughal headquarters moved it was transformed into a bazaar. The use of this land was always commercial and administrative. The fort was later converted to Old Dhaka central Jail in 1820 by the British.

The ancient chawk bazar which once was a traders place during mughal period for the elites. It transformed into a wholesale and retail market during the British period. It was famous for all the fine and updated items that were available that time. This was also the market for purchasing foreign goods.

Over time, the bazar didn't fade away its glory and turned the entire area into a market place and small

workshops/ factories for crafted items. Recently Chawk bazar is famous for its 400 year old trend of iftar bazar and items such as jewelry, plastic items, toys and various items for a good wholesale price. The original chowk / plaza field has sprawled into a dense neighborhood of vibrant color, culture and history and economy.

Chapter 2 : literature review .

2.1: Mughal Bazaar-

A bazaar or souk is a market place consisting of multiple small stalls or shops especially in the middle east, the Balkans, north africa and india . However, temporary open markets elsewhere, such as in the West, might also designate themselves as bazaars. The ones in the Middle East were traditionally located in vaulted or covered streets that had doors on each end and served as a city's central marketplace, street markets are the European and North American equivalents. The term bazaar originates from persian, where it referred to a town's public market district. The word “bazaar “sometimes was used to refer to the network of merchants, traders, travelers and craftsmen who work in that area.

The term souk comes from Arabic and refers to marketplaces in the Middle East and North Africa.

The traditional souk was not just a market but an economic institution, a communication network & a way of life. (The History & Heritage of the Souk, 2023)

According to researchers the existence of bazaars or souks dates to around 3000 BCE. indications suggest that they initially developed outside city walls where they were often associated with servicing the needs of “caravanserai”. As towns and cities became more populous, these bazaars moved into the city center and developed in a linear pattern along streets stretching from one city gate to another gate on the opposite side of the city. The houses turned into shop houses, the alleys became covered with items to sell and to address the heat they introduced covers making a tunnel like a street. Over time, these bazaars formed a network of trading centers which allowed for the exchange of produce and information. The rise of large bazaars and stock trading centers in the Muslim world allowed the creation of new capitals and eventually new empires. For example delhi’s Meena bazaar , isfahan

2.2: Bazar to market-

Markets have been the center for social and economical gathering for ages. Over a period of time, the concept of markets has changed in its space quality and arrangements and construction technology. The existence of the concept of marketplaces was developed in around 3000 BC in the form of Bazaars. The word bazar originated from Pahlavi (middle iranian) word- baha-char meaning the places for prices. Recently, a popular theme of farmers market is a practice in the western world where the trade for farm to home is given a scope. for example, according to in site architecture's article on farmers market- A great farmers' market has the power to strengthen neighborly bonds by providing a regular, informal meeting place where trust can be developed. It helps build pride when residents see a vibrant market teeming with shiny, happy people carrying bouquets and baguettes. It helps incubate new businesses, providing low-overhead for niche retailers to form strong local customers by gaining trust. And it will only happen if they can establish a storefront business through these market spaces.

2.3 Urban spaces and modern day shopping malls -

According to research- Urban public spaces in shopping malls could be identified as a better alternative space for public parks and playgrounds from the youth perspective (Sunari, Peiris, 2020). In a tight space like old Dhaka, finding spaces for all ages is difficult. Finding shopping malls with activities of old Dhaka are even hard. Hence, a space with urban activities that too represents the local essence is also welcomed in the site , Chawkbazar.

2.4 Conservation of the existing condition -

A project in Singapore done by Woha architects proved that old buildings can be merged down with the new builtform for the sake of heritage value. According to them- heritage buildings in china town once was a shop house now turned into gazette conservation area, it comprises two conserved buildings – a villa and a shophouse. The design strategy aims to play up contrasts between the 'old' and the 'new'. In the two conserved buildings, new free spanning roofs are rebuilt in timber, to reveal high volume, column-free showroom interiors true to their original form and architecture. Furthermore, they tactfully removed parts of the existing party wall down and introduced new staircases to open up, connect and mediate the different levels across the 3 developments as an integrated showroom. The whole project radiated the original value even more with surprising new spaces for the luxury shop.

Chapter 3: Site Appraisal

3.1: location-

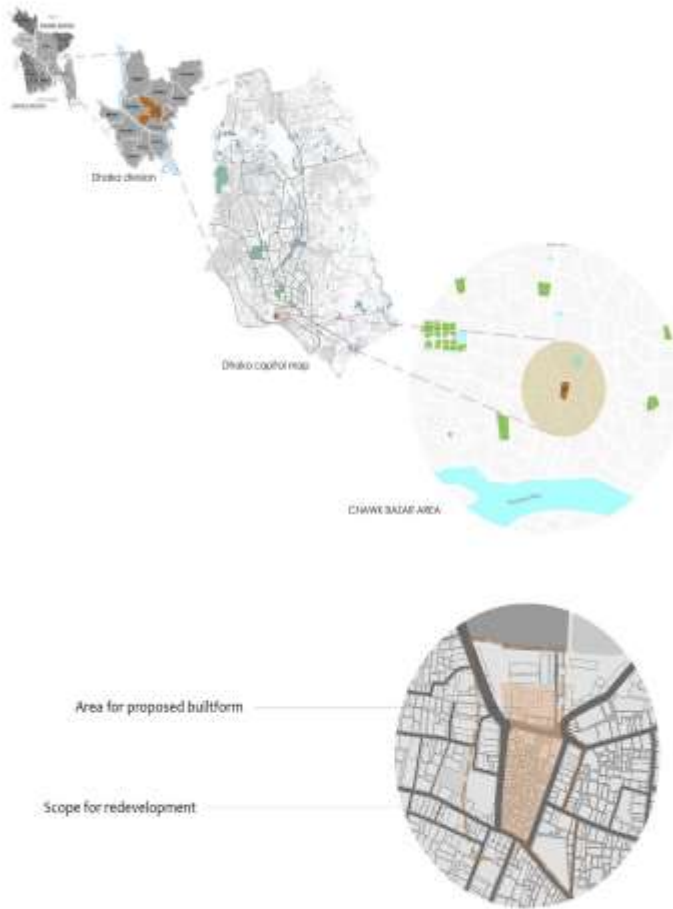


Figure 2 site location

3.1.2 : diagram for figure ground and shadow study



Figure 3 site condition

3.1.3: shops and the category of the selling items -

Along with the sprawl of built form, the number of items increased too.

The items now sold in chawkbazar are mostly jewelry, toys, leather products, garments, crockeries and many household items. It is considered as one of the central hubs for imitation accessories for women, locally made toys. Along with that chawkbazar is also famous for few food companies running more than 50 years. Such as Bombay sweets and Alauddin sweets.

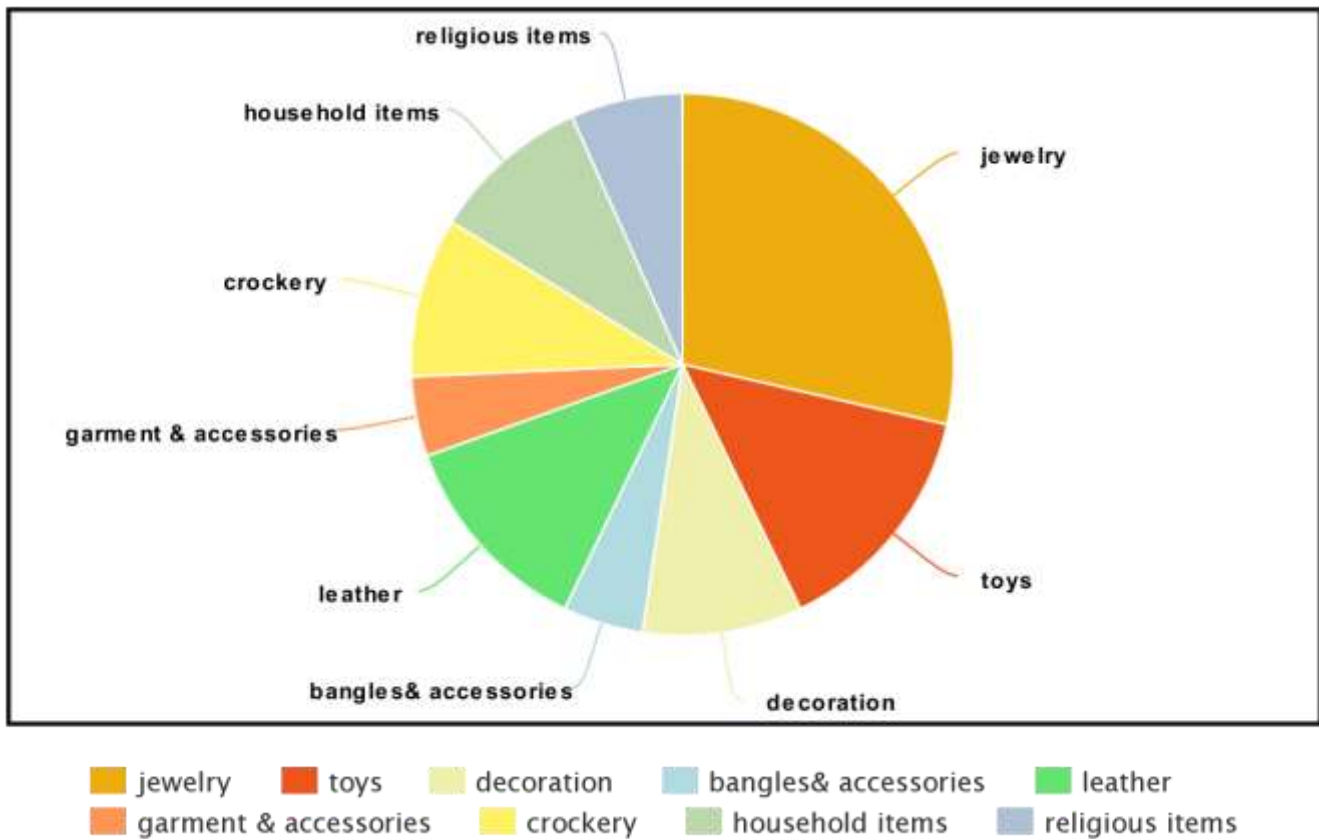


Figure 4 wholesale items category



Figure 5 wholesale items category in gf

3.1.4: Shops module-

3.1.4.1 large module shops-

There are two types of large shops. corner and original . The large corner which is roughly $L \times W \times H = 10' \times 4.3' \times 9'$. And it generally happens when a column falls in the corner giving a sense of two opening sides. Another one where originally the building was designed to allocate those shops. Those come in various sizes.

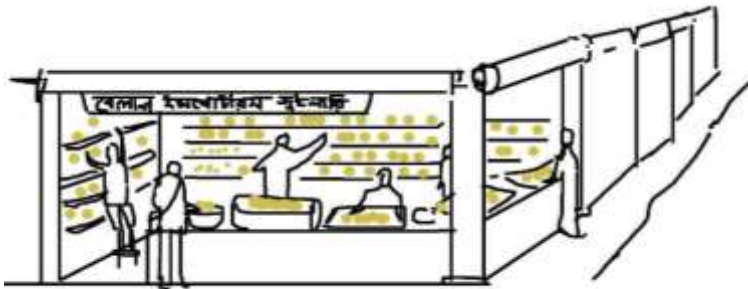


Figure 6 -shop type 1

3.1.4.2 shared wall module shops-

In Chawkbazar, the relation of function and its required footprint maintains a relation. There are two or three types of shared wall shops. mostly is $L \times W \times H = 2.5' \times 2.5' \times 9'$ (approx). There is either one owner of the plot and 2 shop owners . Or, one owner of the shop and plot divided by two successors. These small shops are conducted on the corridor by the shopkeeper.

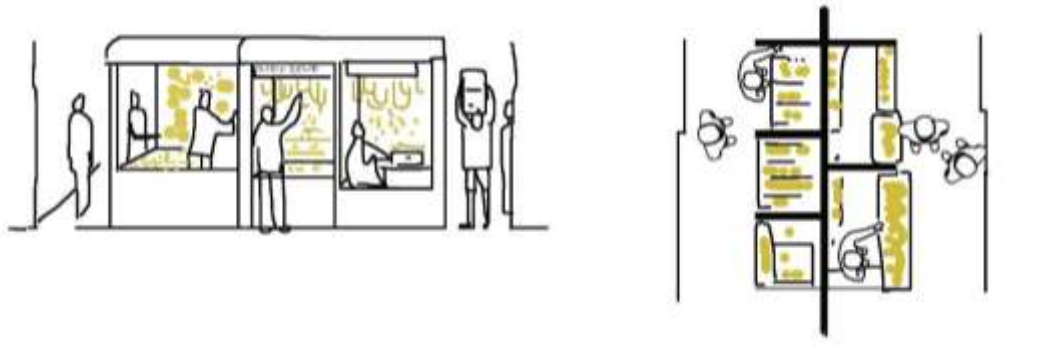
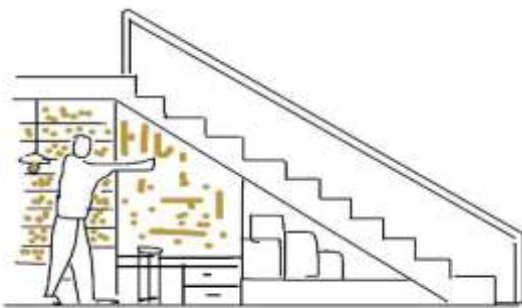


Figure 7 - shop type 2

3.1.4.3 Under staircase shops-

an interesting fact about shop owners finding space that will boost the selling in these mega business hubs. Many small businesses are the ones who took advantage of spaces that are unused. The space under staircase landing is perfect to set up a small temporary yet formal shop .



3.1.4.4 informal shops-

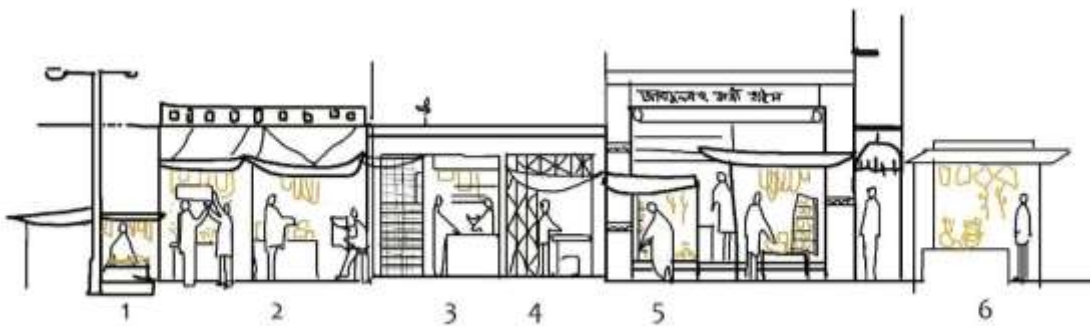
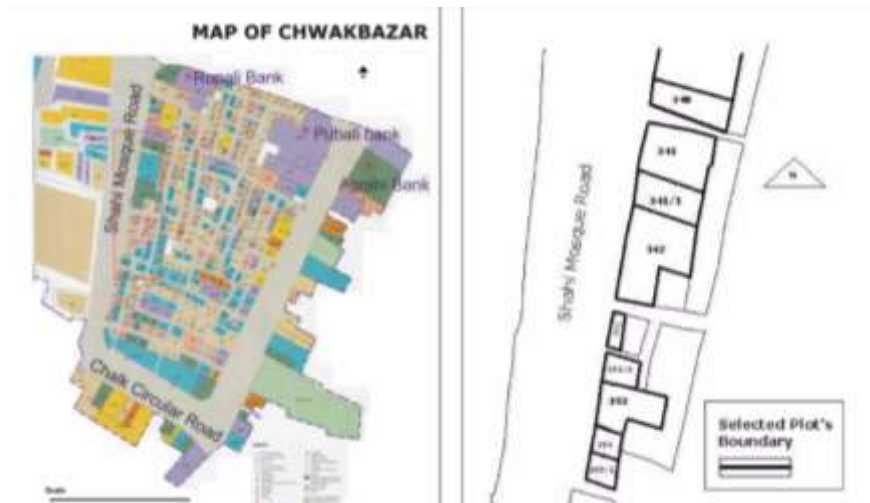


Figure 8 shop modules in street front analysis- author

1. Sprawl of the original formal shop. During festivities, loading and unloading and peak hour.
2. In front of a closed gate for staircase, generally temporary stay
3. The shops in front of a closed building, generally semi permanent stay
4. In Front of a big modular shop , sometimes not shaded and temporary stay
5. Semi permanent stay, proper shading devices and furniture to set up the shop.



source:Analysis from Physical and Socio-Economic Perspective USAI

Shops that are beside the main road attract the customers and indicate the items. Keeping the front shops in hand in competitive situations indicates the shops hold ancestral positions. From famous bakery shops to 50-year-old bangle shops runned by 3rd generation. The image below is showing an analysis on a few shops which were established between 1972 - 1986. These nearly 30+ years old shops are as it is and got identity from chawkbazar. For example, Bombay sweets ltd.

3.2 study of context through street activity

3.2.1 street activity (east side)

Chawkbazar has significant number of religious/ cultural/historical traits. Whatever happens it is the streets that serves people. The study of chawk circular road (both east and west) portrays the cultural acitivity.



street vendors on the edge



vehicle movement



labourer & passer by for business purpose



Figure 9 busy streets of east chawk circular rd

3.2.2 street activity (west side)

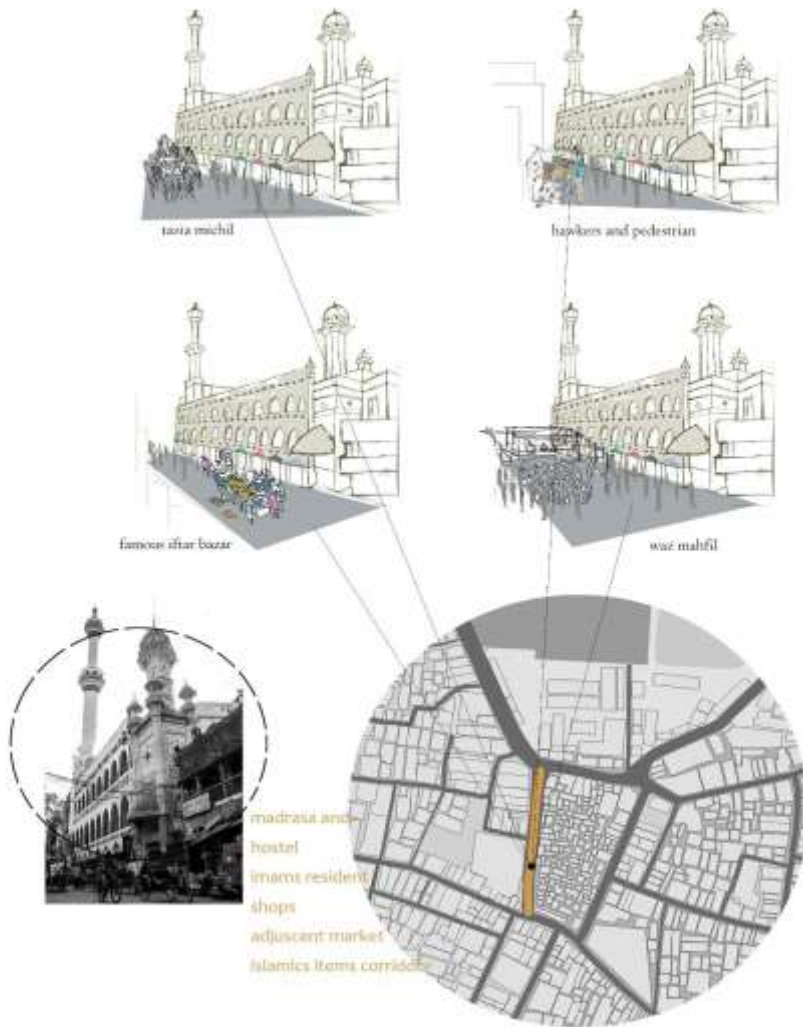


Figure 10 busy streets of west chawk circular

3.2.3 Street section analysis-

street sectional analysis



Figure 11 This street section shows the chaotic yet systematic staggered shops and floors functioning for many years.

3.2.4: The street where the culture & religion brought the economy _

The shahi mosque from where the famous iftar bazar happens. The mosque itself has shops on the ground floor that serve the community. The category of shops says that during eid festivities- perfumery, religious books, praying cap, praying mats, tasbih, sweets and bakery, bangles, clothes were must needed items. And the fig. Shows the lane where these items can be found.



Figure 12 sahi mosque road and it's activity

3.2.5 Identifying the lost cultural economy zone

During the 1860s, a brisk trade of punthis developed in Chawkbazar's famous Ketab Patti. The publishers, traders and readers of these punthis were predominantly Muslims. According to Professor Abdul Qayyum, more than 100 Islamic punthi titles were published in Dhaka between 1863 and 1900- a report by Samsudouza Sajen.



Figure 13 the puthi books selling point at Chawkbazar

3.2.5 street hawkers and vendors placement modules -

One of the most vibrant things to see, in chawkbazar the informality of vendors and street hawkers has their own style. They tend to find such a space for example, it could be in the off center of the road to sell their items.

3.2.5.1: setting up shop on edge/ recess spaces of pedestrian access-



Figure 14 an overall hawkers and vendors occupancy at west of the site



Few shops are seen to set up in front of a closed shop during the holidays. Or some of them set up themselves before rush hour to secure the spot. In Fact some vendors targets after the marketplace is closed for the day

3.2.5.2: Extension from the permanent structure-



Figure 15 an overall hawkers and vendors occupancy at east of the site

A salesman setting up a shop of sunglasses to a famous bangles store, the accessory items that are lucrative to retail customers are always hanging on the edge. They portray these popular items in a rack, stand or even in hands and often call out customers to seek attention.

3.3:Loading and unloading of the goods

3.3.1: the laborers of Chawkbazar-

The main reason for the recent chawkbazar being a vibrant crowded area for business purposes is because of the movement of the laborer. Majority of the people seen walking with boxes in their head or mobile on the hand because they are continuously loading goods and distributing them in the shops. As wholesale items come in bulk amounts. The others are the entrepreneurs who keep track of their items and deal with the laborers on that very street of chowk circular road.



Figure 16 transportation of the goods

3.3.2: types of laborers carrying goods-

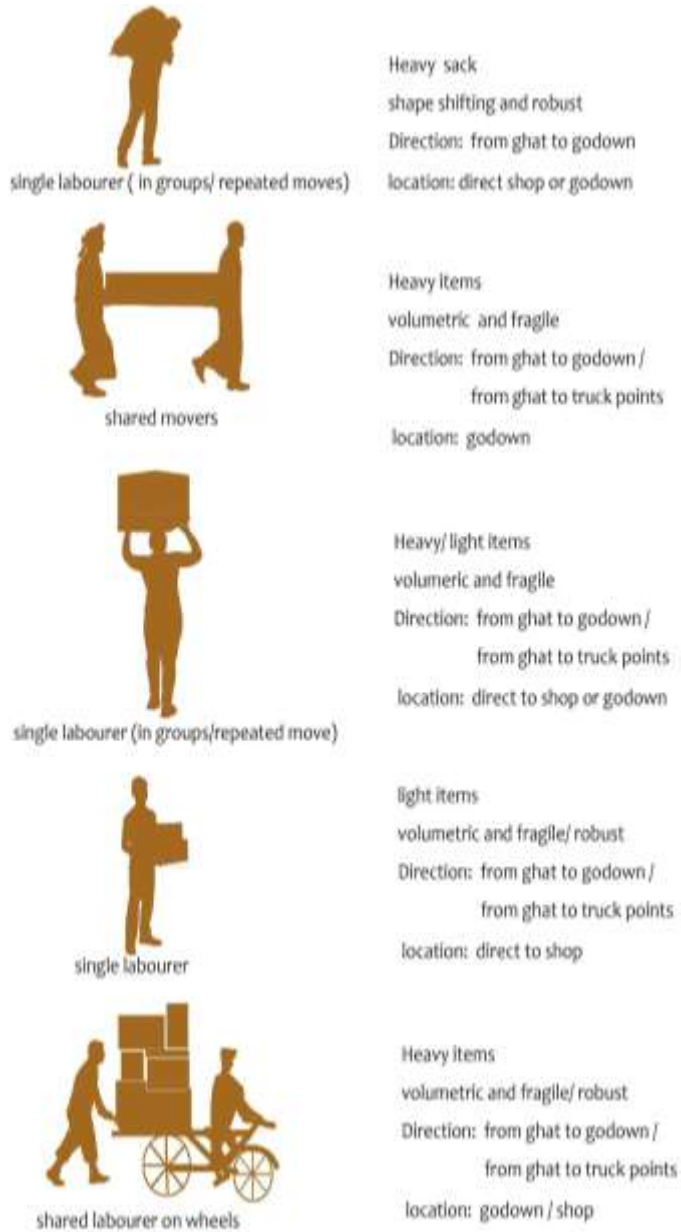


Figure 17 types of movers and transporters/ loaders

3.3.3: pattern of the ground floor markets -



fig:17

Figure 18 existing market condition

1. Setbacks are Blocked for rain water and heat .In case of fire no smoke venting outlet is there.
2. Most shops are organized in a double loaded corridor style .
3. The setbacks eventually turned into a path for horizontal spreading/ extensions of shops .
4. Every possible space has been utilize to set up a shop

3.3.4 Typology of goods in the ground floor -

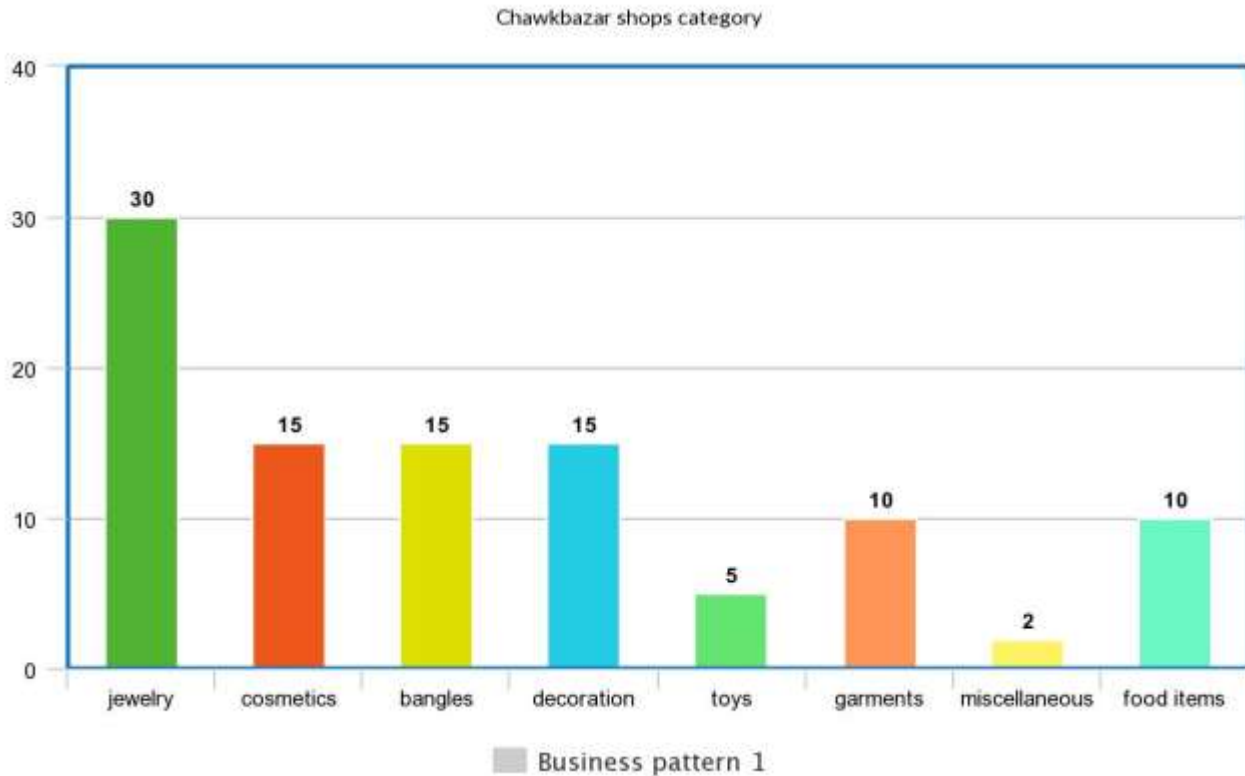


Figure 19 business pattern

In this following chart the business pattern is shown.

The above chart shows the variety of goods that are sold in chawkbazar and is famous for its jewelry section. Which is Higher in percentage. lowest is toys and miscellaneous items which were seasonal items at the time of data collection. The constant products and shops are in the stronghold of the jewelry salesman's association.

3.3.5 zonal occupancy rate in the site area-

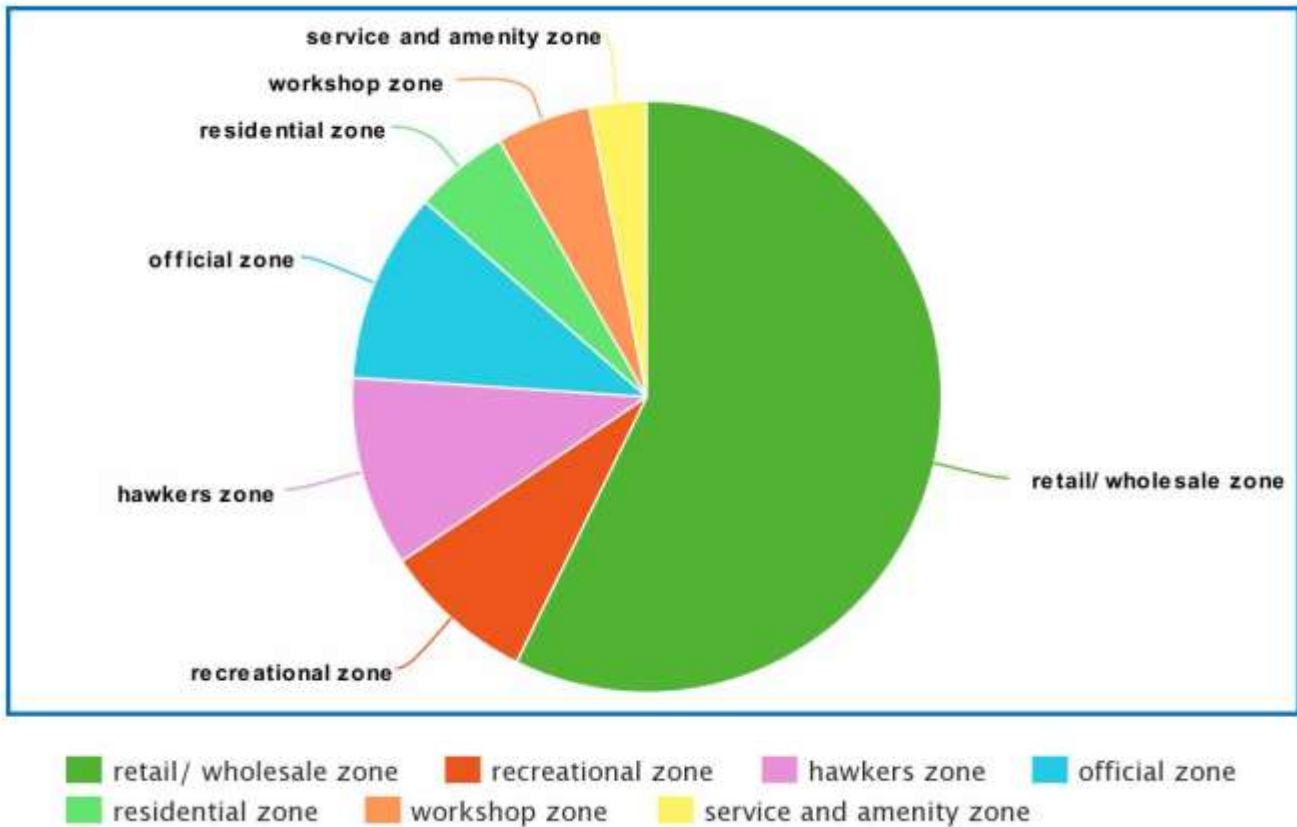


Figure 20 existing zoning

The chart in fig 2 shows the percentage of different zoning in the total site. Retail and wholesale shops occupy the most space. Offices and services are mostly seen on the 3rd to 4th floor. The rest is in ground floor

The residential and workshop goes into the same category as craftsmen who work in a room during the day and take shelter at night.

3.4 study of micro climate and ecology-

A bigger portion near the site has been considered to be redesigned. Hence the green and blue belt around the site might react to it. As well as the micro ecology.

3.4.1 ecological analysis:

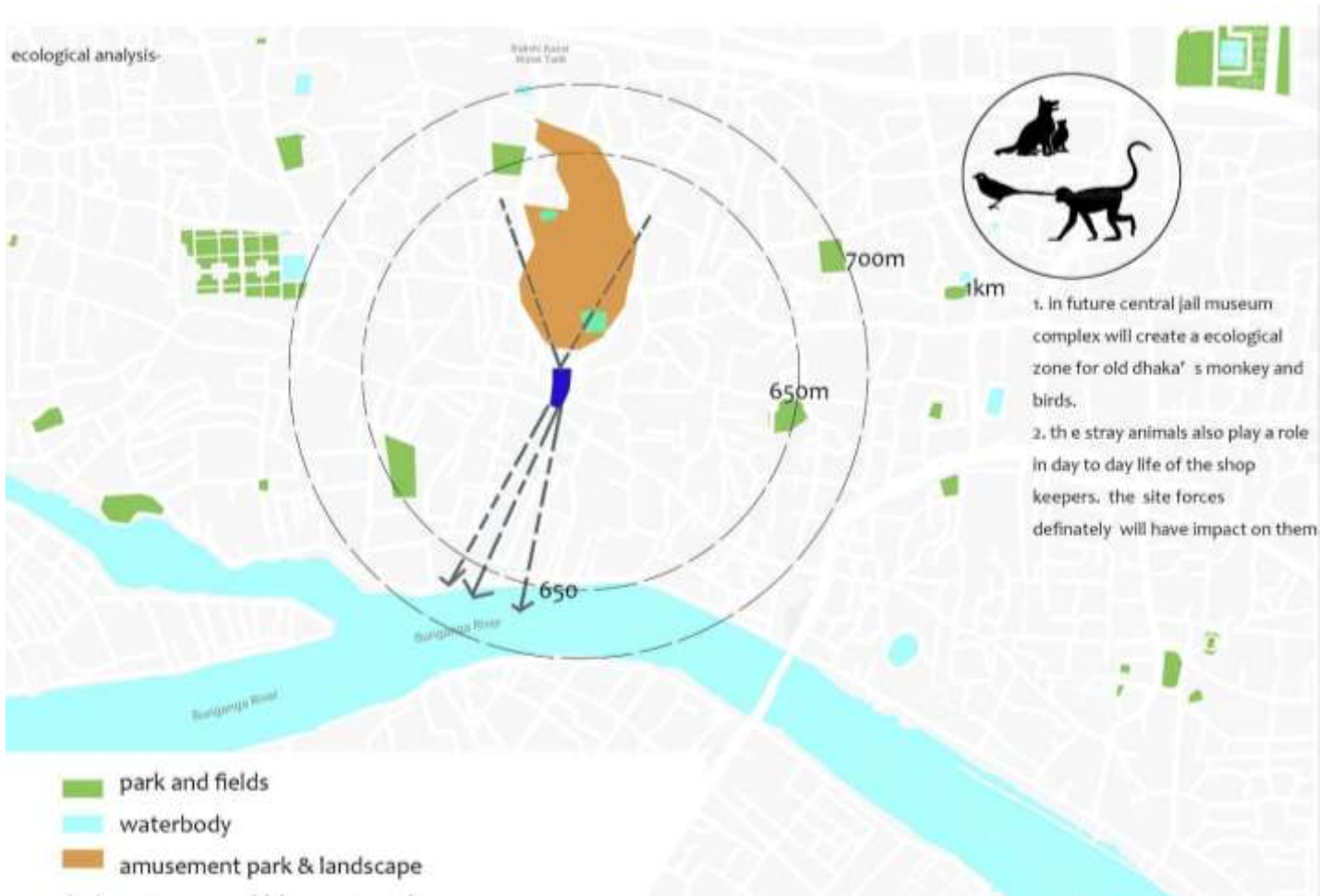


Figure 21 ecological analysis

3.4.2: Geographical condition:

the builtform around Chawk circular road remained same from 1859 to 2020. The density is what indicating the busy sprawling and unplanned structures

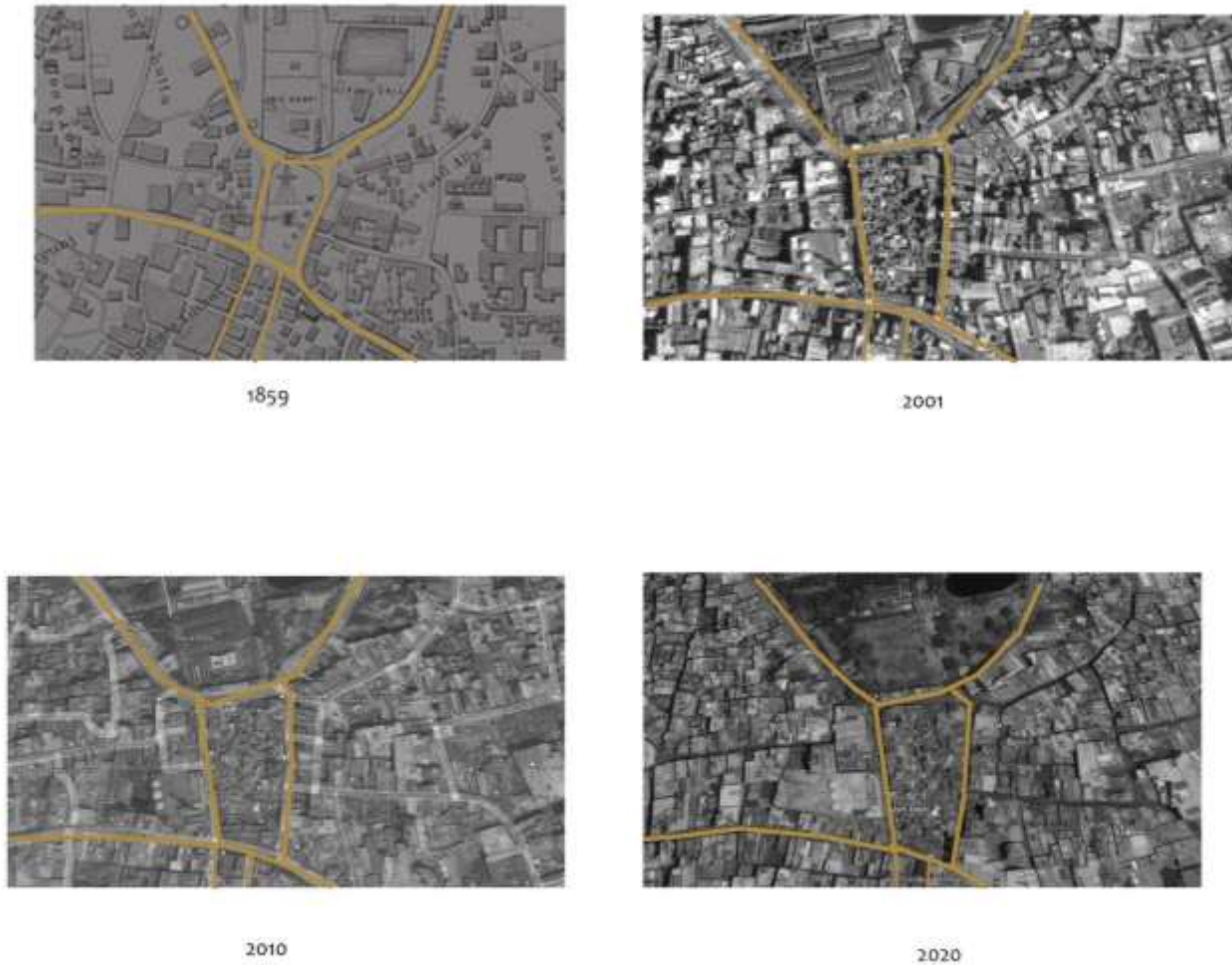


Figure 22 density & street pattern of Chawk bazar

3.4.3: Existing green and blue network:



Figure 23 blue and green network

3.4.3: Temperature and precipitation rate and daylight data:

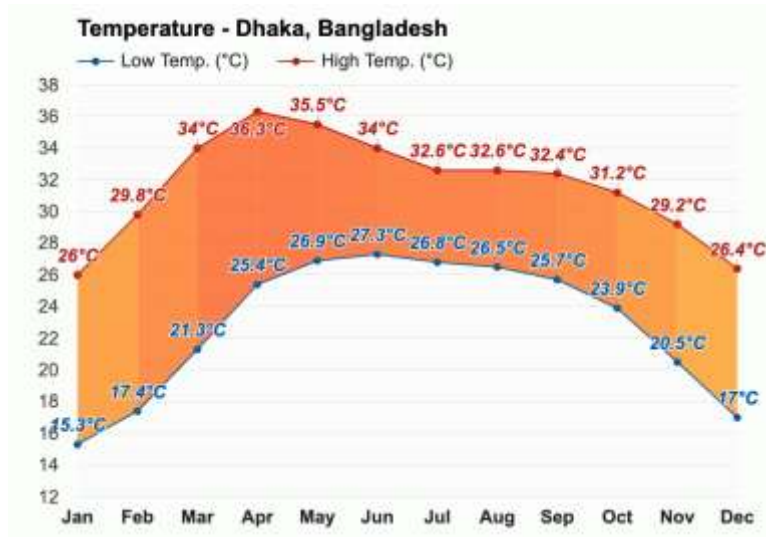


Figure 24 average yearly temperature.

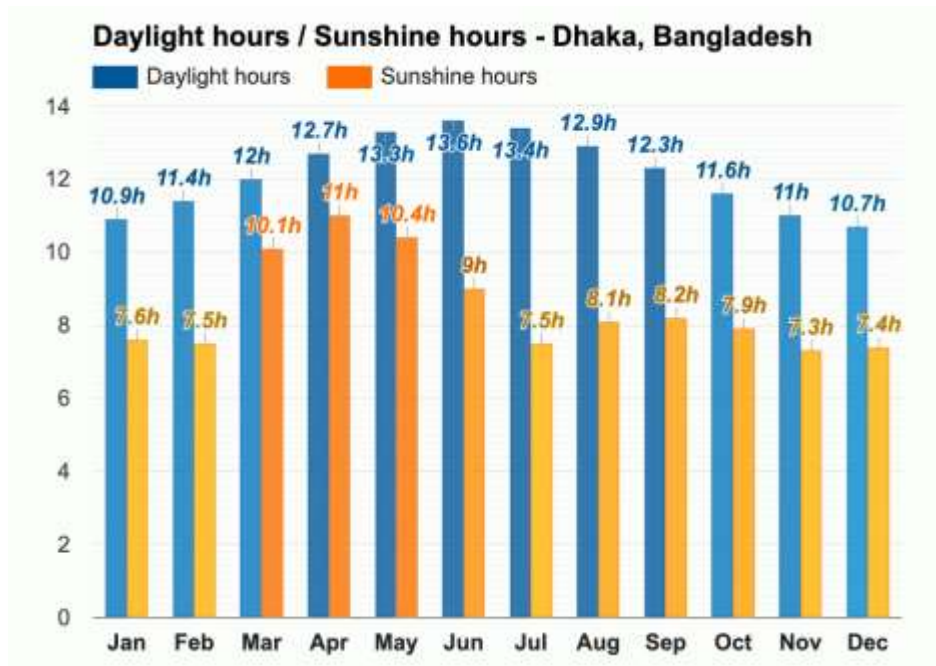


Figure 25 average yearly daylight .

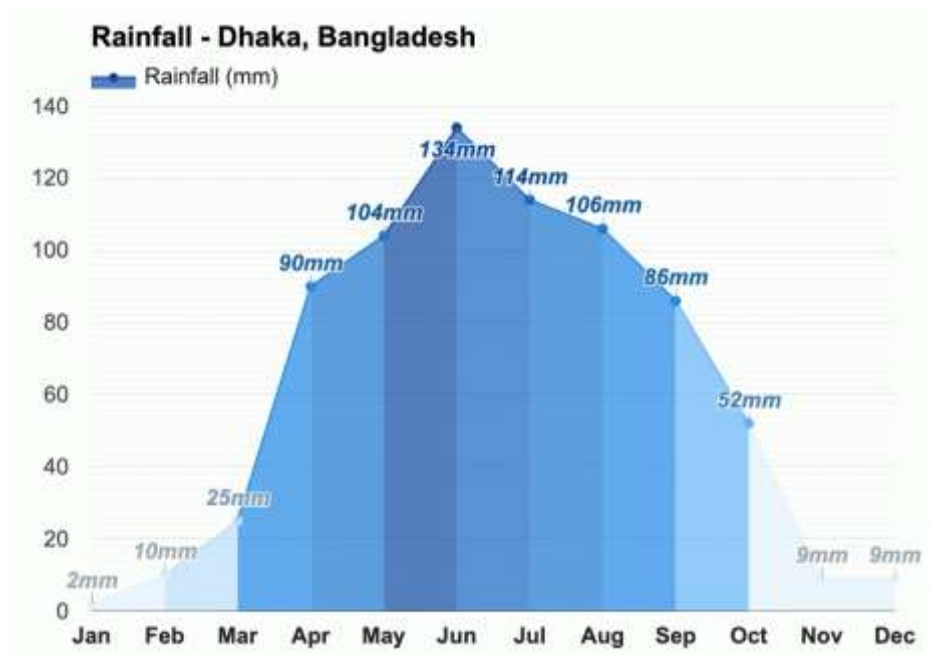


Figure 26 average yearly precipitation

Source: <https://www.weather-atlas.com/en/bangladesh/dhaka-climate>

3.5: Tourism analysis:

The route of chawkbazar falls under A heritage walk. Old dhaka is a fascination for many foreigners and culture/ history enthusiasts. In fact, many students from architecture schools around the world participate in studies related to old dhaka. Hence many travel agencies, urbanism research groups and conservationists arrange heritage walks. And the points always collide with the chowk circular road as a media from old dhaka to new dhaka.

The true charm of Old Dhaka lies in the alleys. It is in the curiosity and friendliness of the locals, the festive smell of biryani from numerous street-side restaurants, the liveliness of numerous rickshaws, horse-carriages and other vehicles and the vibrancy of colorful saris hanging from the terraces. Climb through the steep, narrow and confusing stairways -- with niches/alcoves on the walls that once housed candles and statues of gods -- to reach the peaceful rooftop bounded by splendid, old railings.

According to the daily star news the heritage walk consists of-, the walk will lead to the Buriganga waterfront through a very chaotic, colorful spice market, Armenian church near Farashganj to Ruplal House, a magnificent 19th century building now occupied by various businesses. Ahsan Manzil to shakhari bazar to historical significant site bahadur shah park and beauty boarding and etc.



Figure 27 tourism analysis

3.5.1: Bara katra and choto katra :

The only trace of Mughal caravansarai. During the Mughal period, Dhaka was a port city. Large merchant ship could enter into the Buriganga river. This was the major trading connection between Indonesia and Dhaka. So, it was a major hub for import and export. Bara Katra was mainly used for customs clearance and resting space for merchants and travelers.

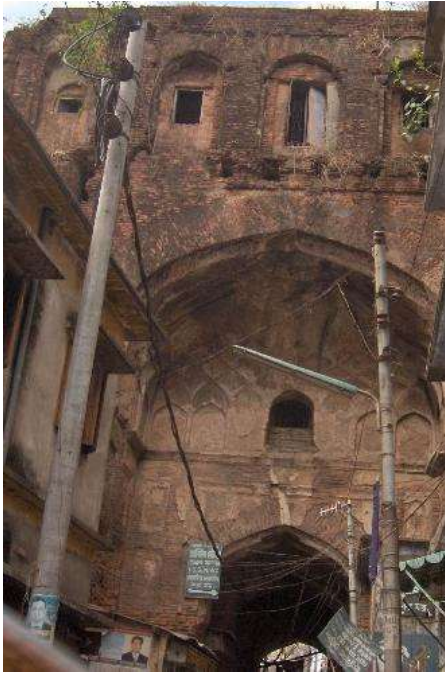


Figure 28 Bara katra & choto katra current state, image source- author, google

3.5.2 :Showari ghat:

One of the largest wholesale fish market and boat/ launch station to transport in waterways. A very crowded and vibrant place that connects the Showarighat lane/ Debidash lane to Chawk bazar.



Figure 29 showarighat image source - google

3.5.3: Central jail of Dhaka revival:

Dhaka Central Jail was the largest jail in Bangladesh, located in the old section of Dhaka, the country's capital. The jail has been used to house criminals as well as political prisoners, especially during the language movement of 1952, 6 points movement to liberation war of 1971. Now its been turned into a cultural/ historical recreational zone after the jail authority shifted permanently.



Image Source- form 3 architects

3.6: chronological study of east side

3.6.1: change of the urban fabric over time -

The site has an east side of chowk circular. Each buildings has now, at least 3 stakeholders. The one who owns the plot, the shop owner and the shopkeepers who invested in the business. Over time, to fulfill the demand the extension of 1 room shop to 5 storied building happened. The potential area or approach point for the proposed market.

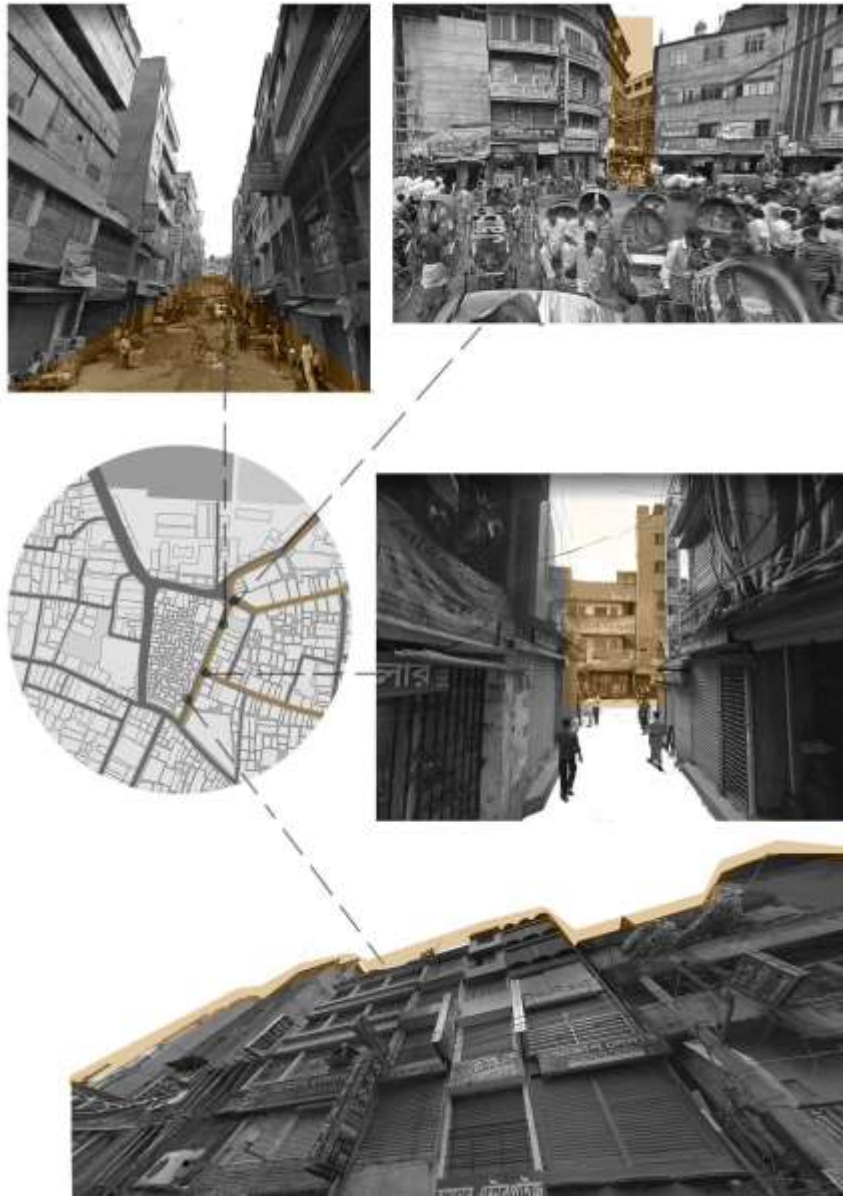
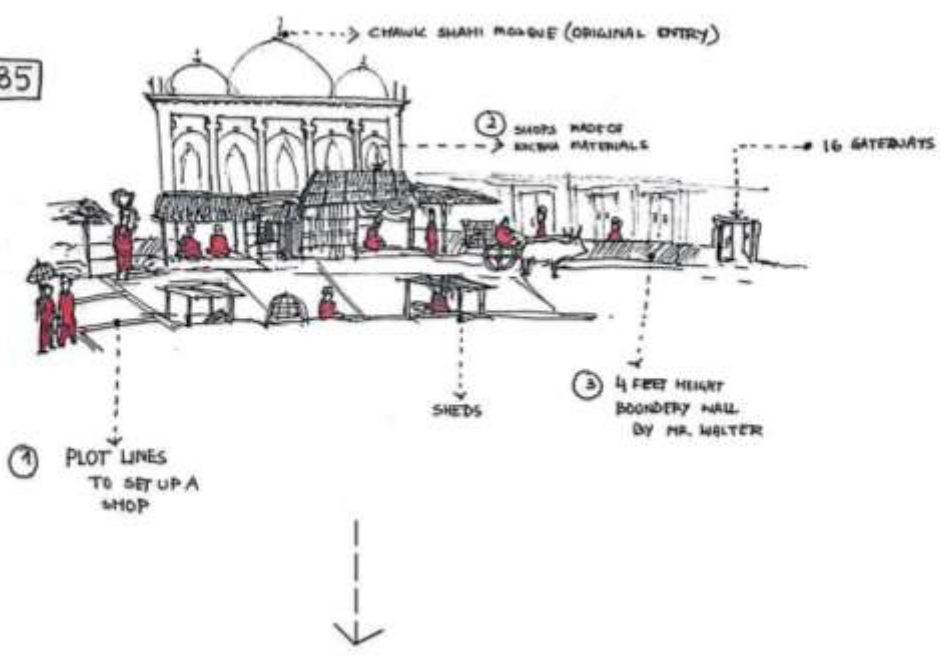
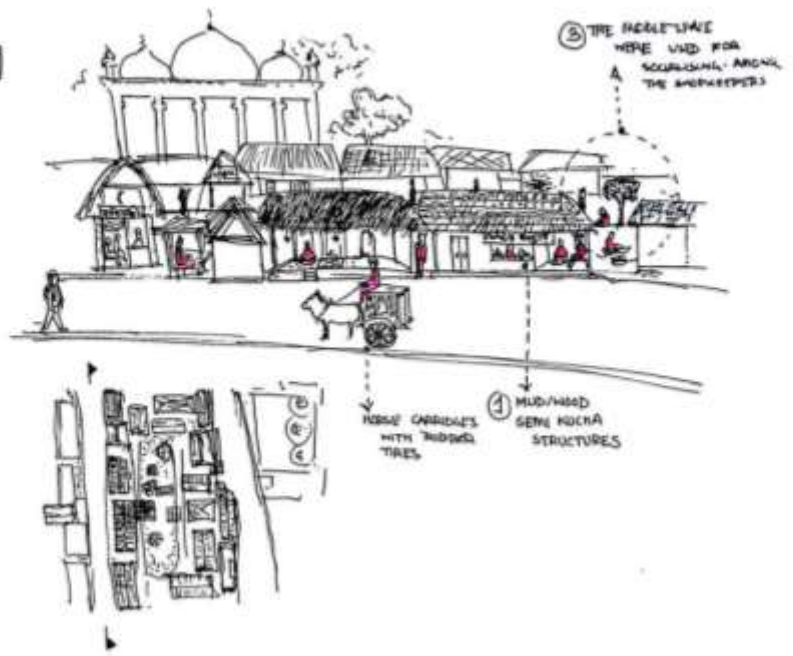


Figure 30 the builtform of east

1885



1904



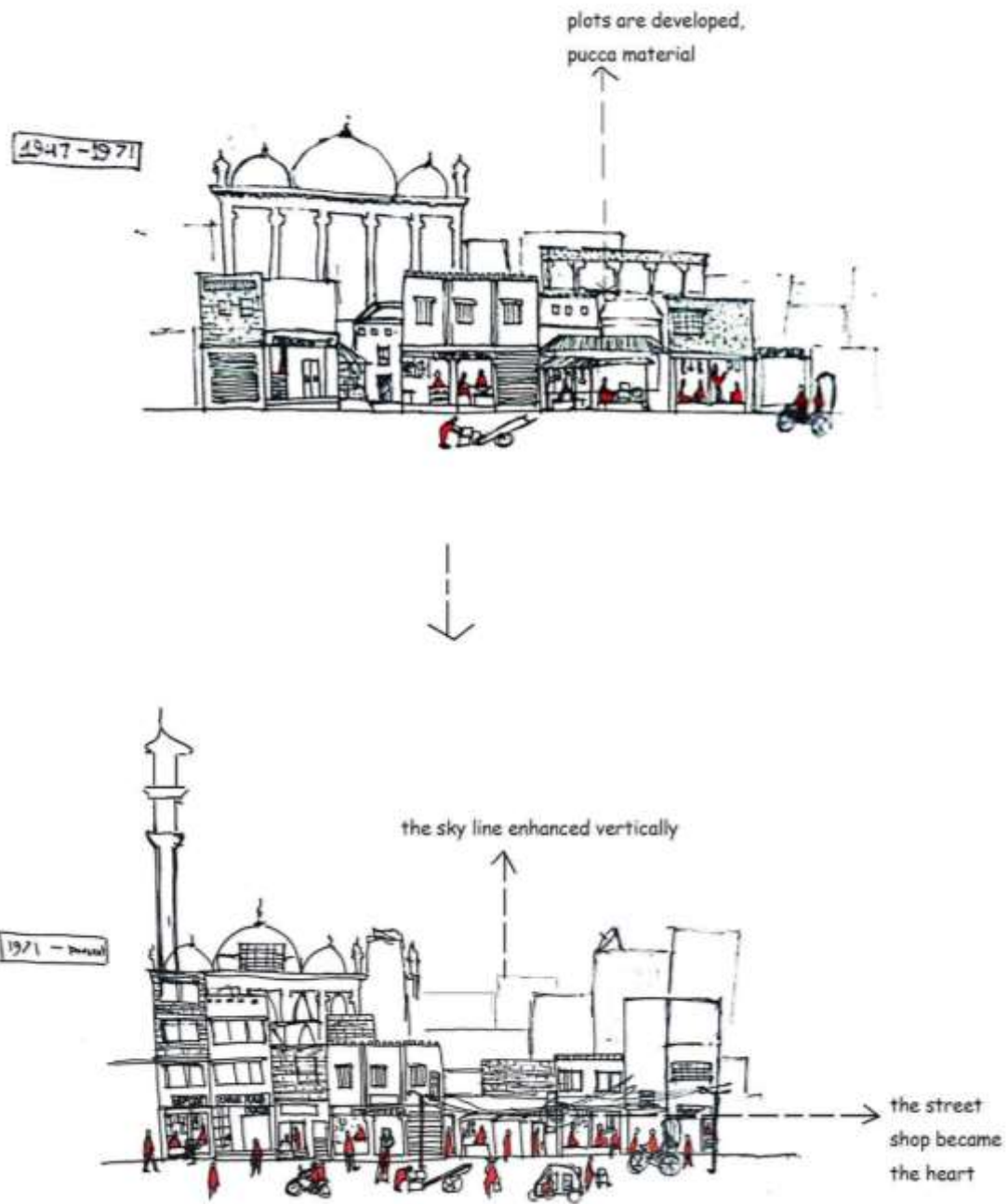


Figure 31 chronological change , analysis – author

land use pattern:

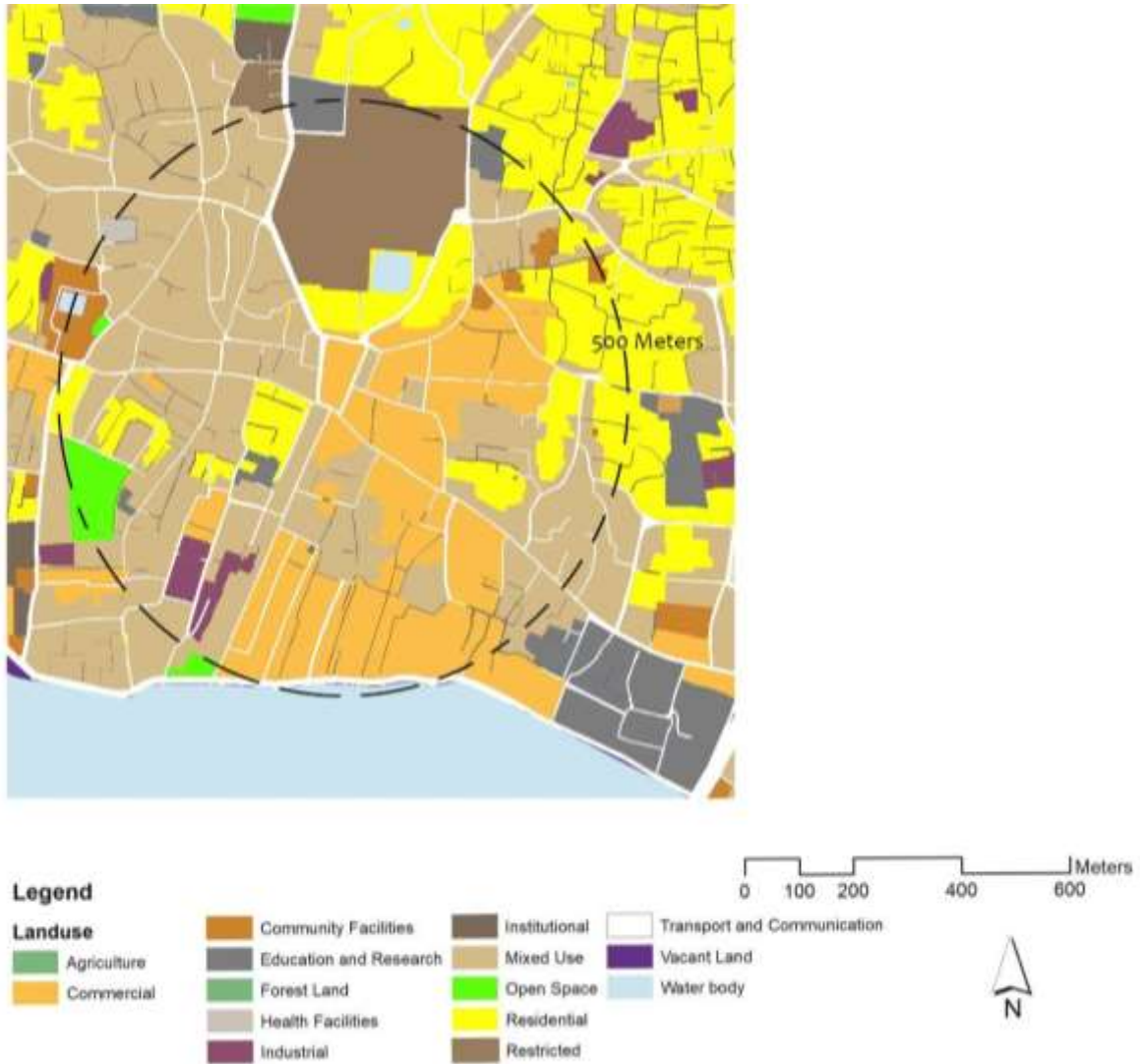


Figure 32 landuse pattern

The pattern strictly shows the commercial use . yet, the mixed use on east side mostly refers to residence/ commercial use .

3.7: Architectural details

3.7.1 facade details around the site-

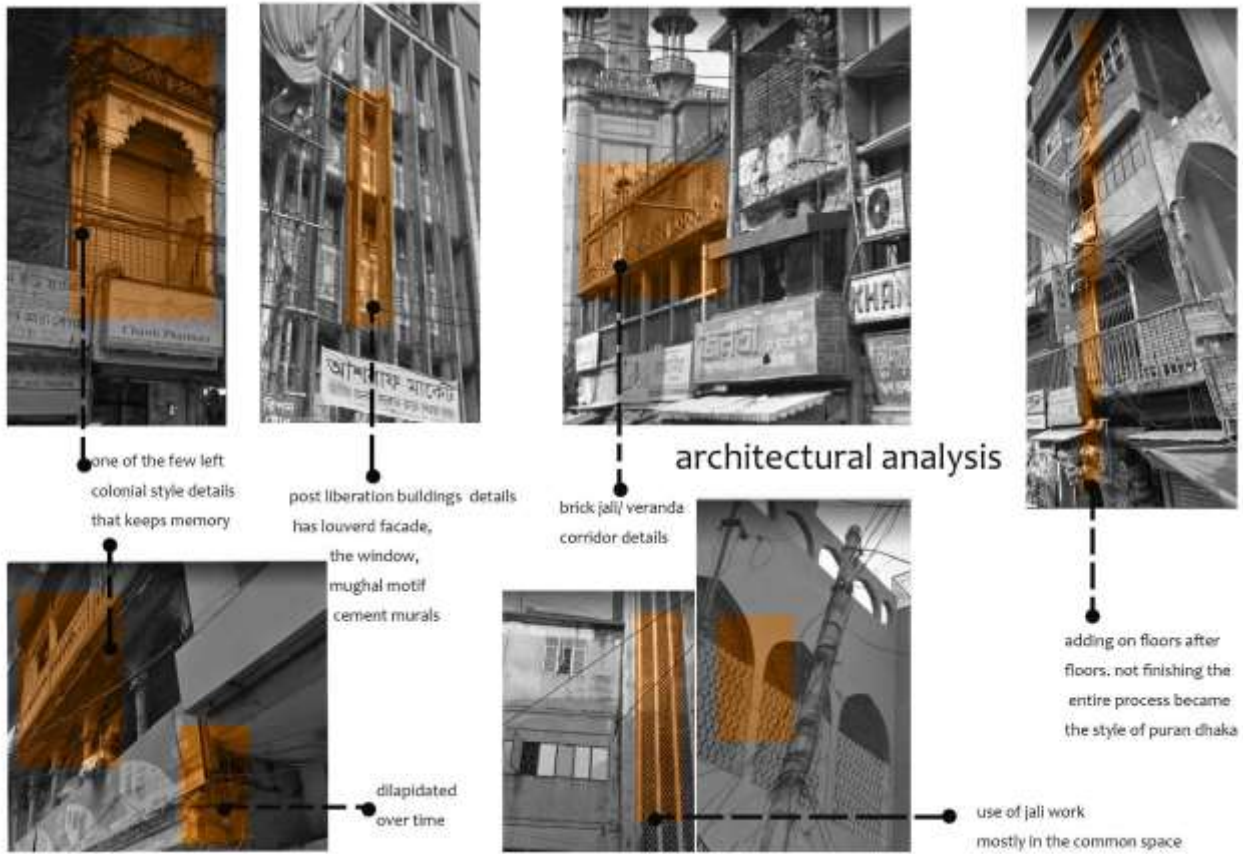


Figure 33 details around the site

THE DETAILINGS OF CHAWKIBAZAR

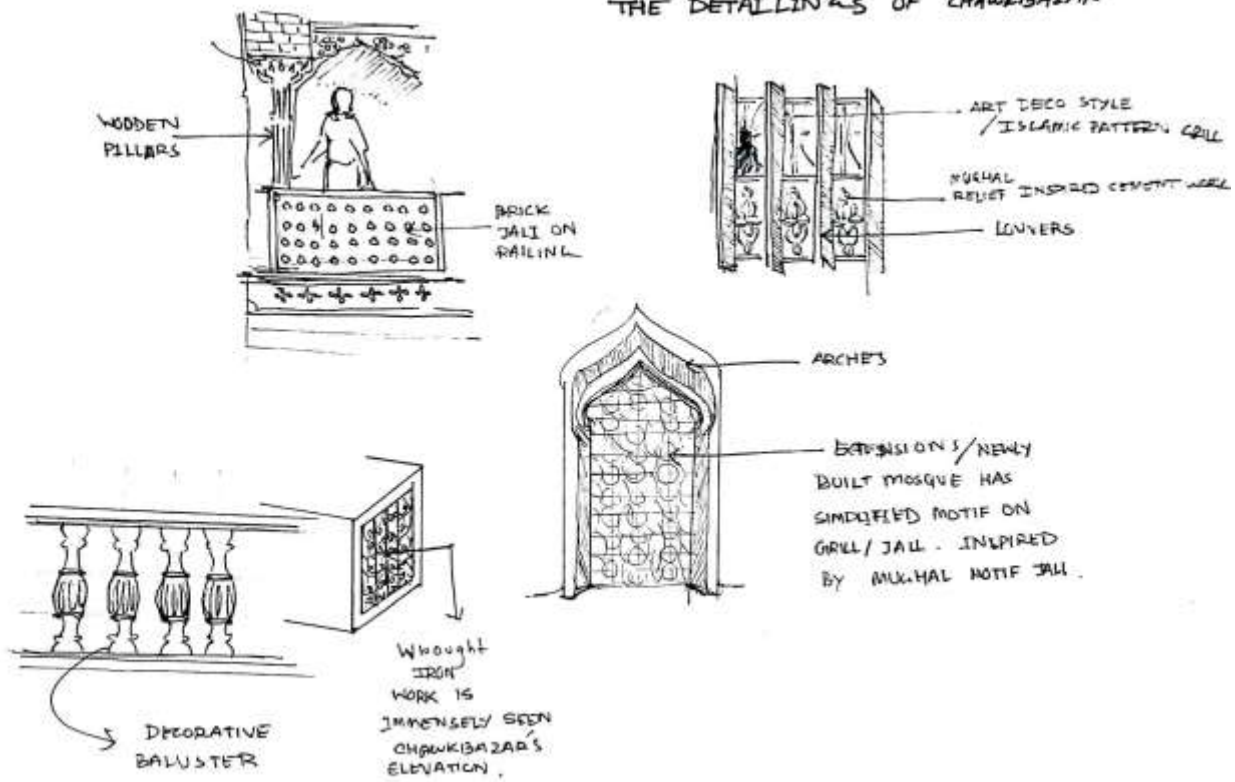


Figure 34 hand drawn details analysis- author

3.7.2: scale of chawkbazar:

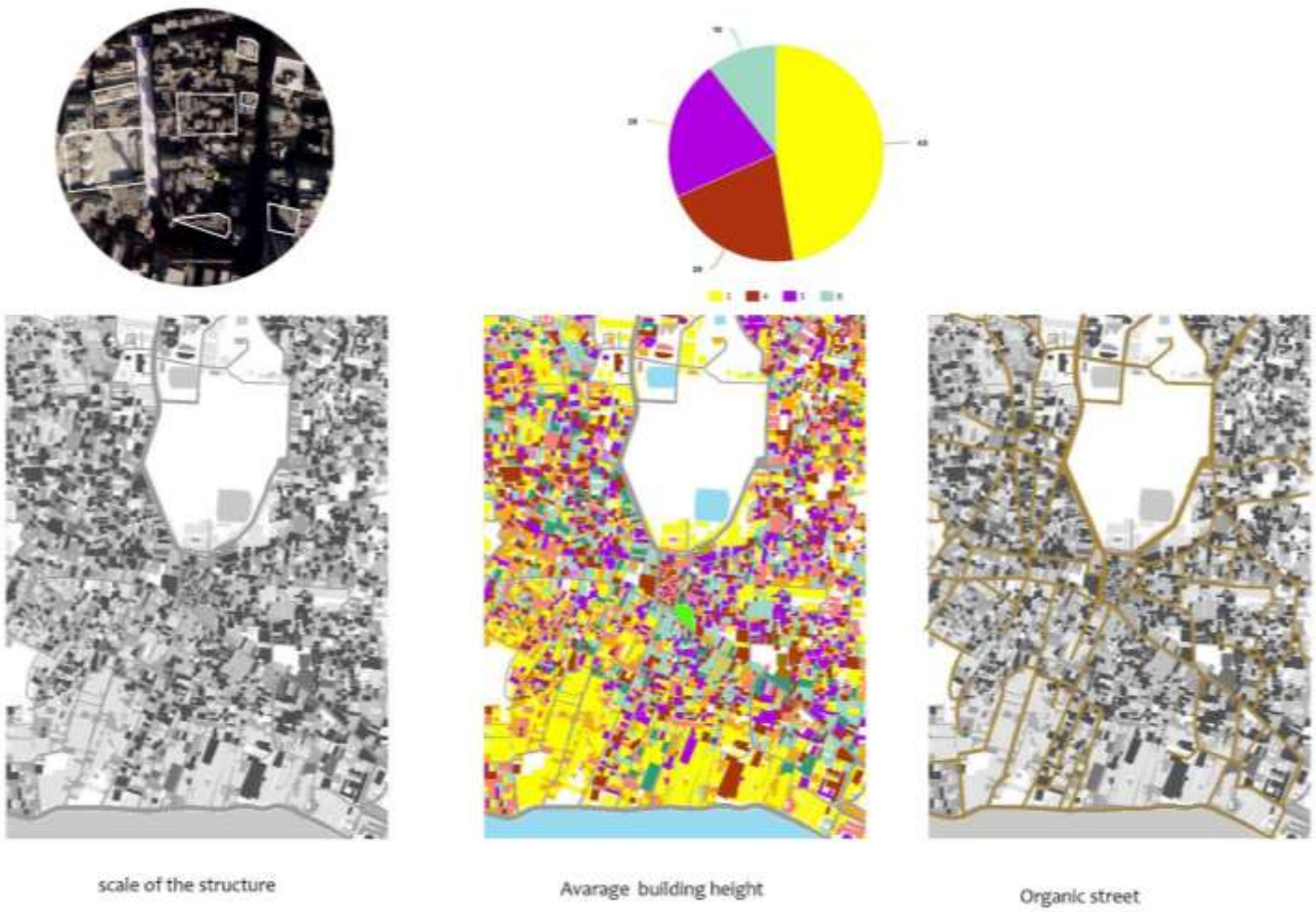
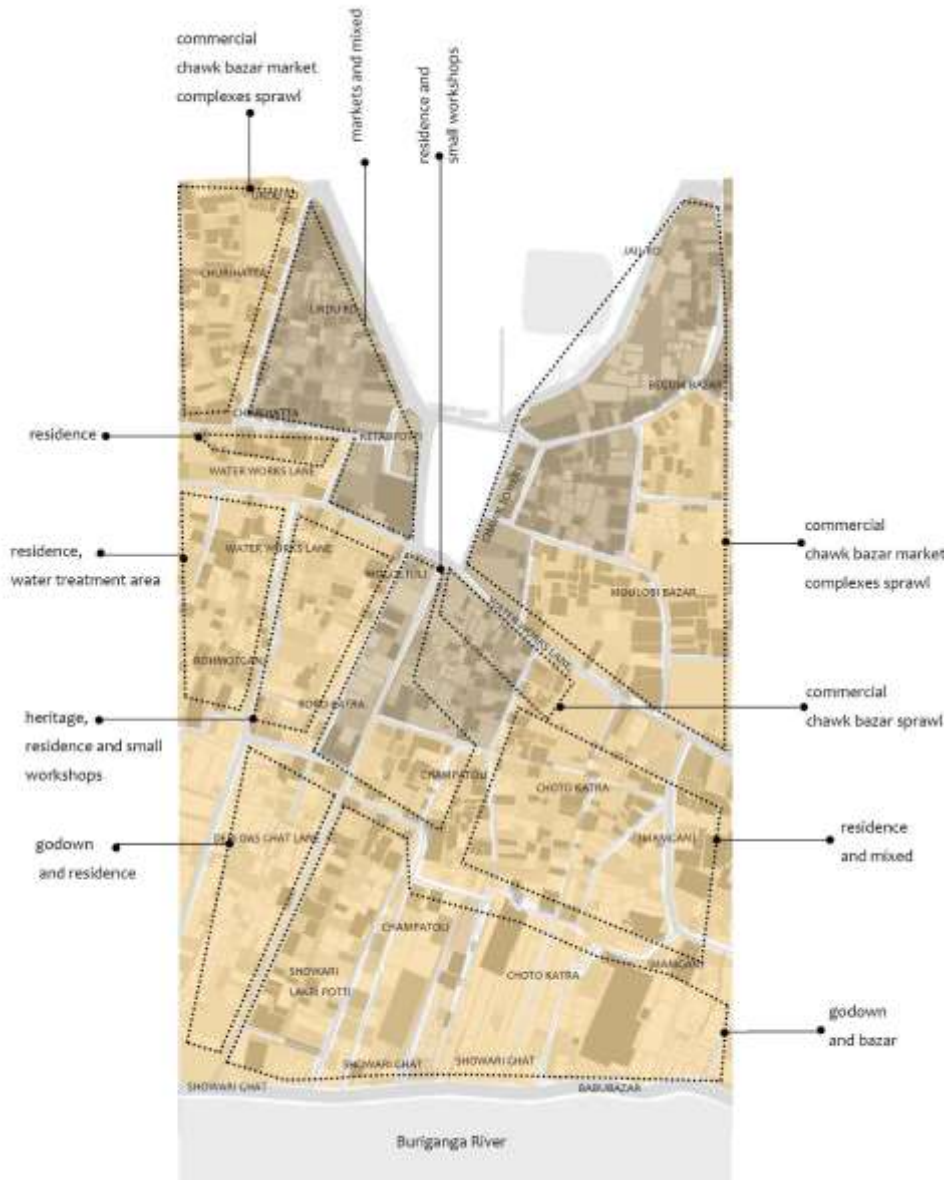


Figure 35 perceiving scale of Chawkbazar

3.8: Movement analysis-



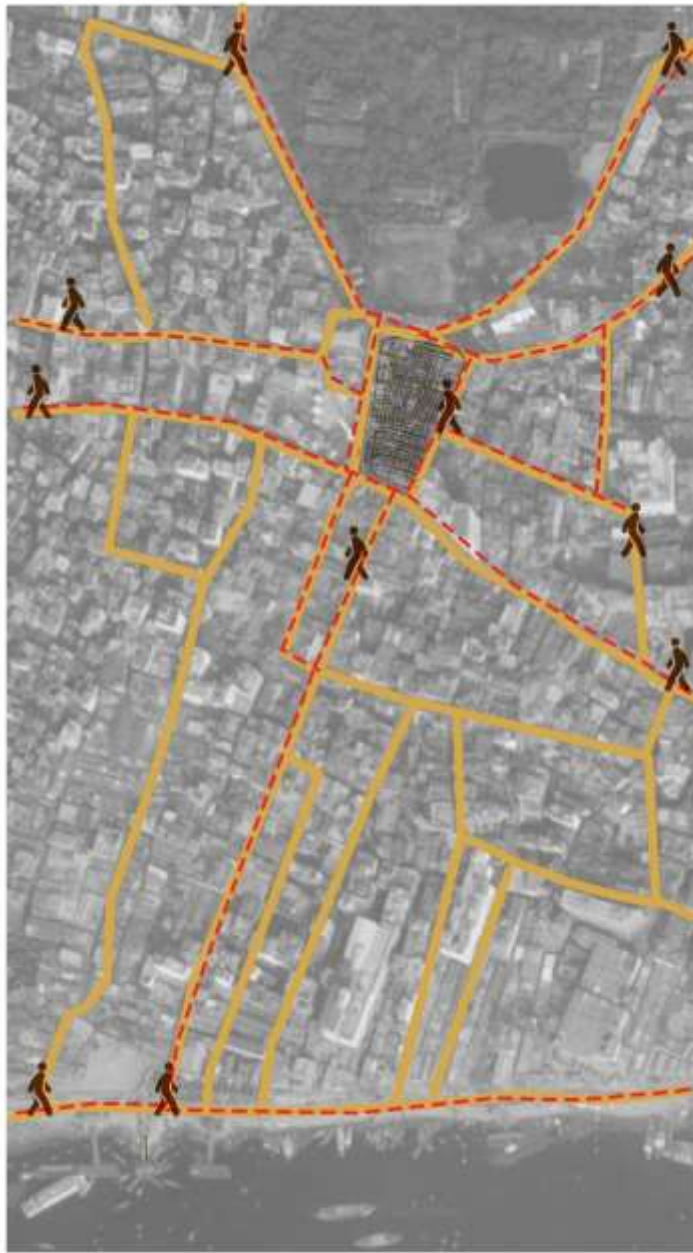


Figure 36 walking proximity



Figure 37 frequently used path on the ground floor by movers/ traders/shopkeepers

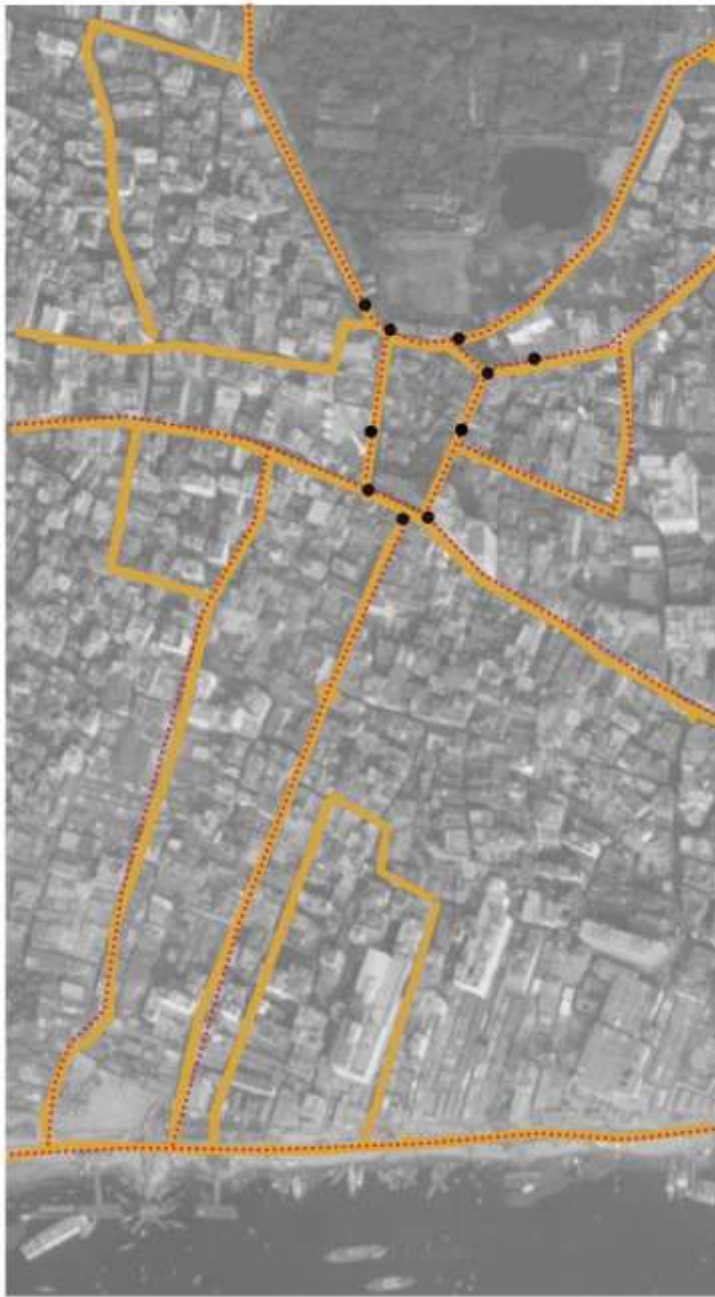


Figure 38 vehicular proximity and congestion point

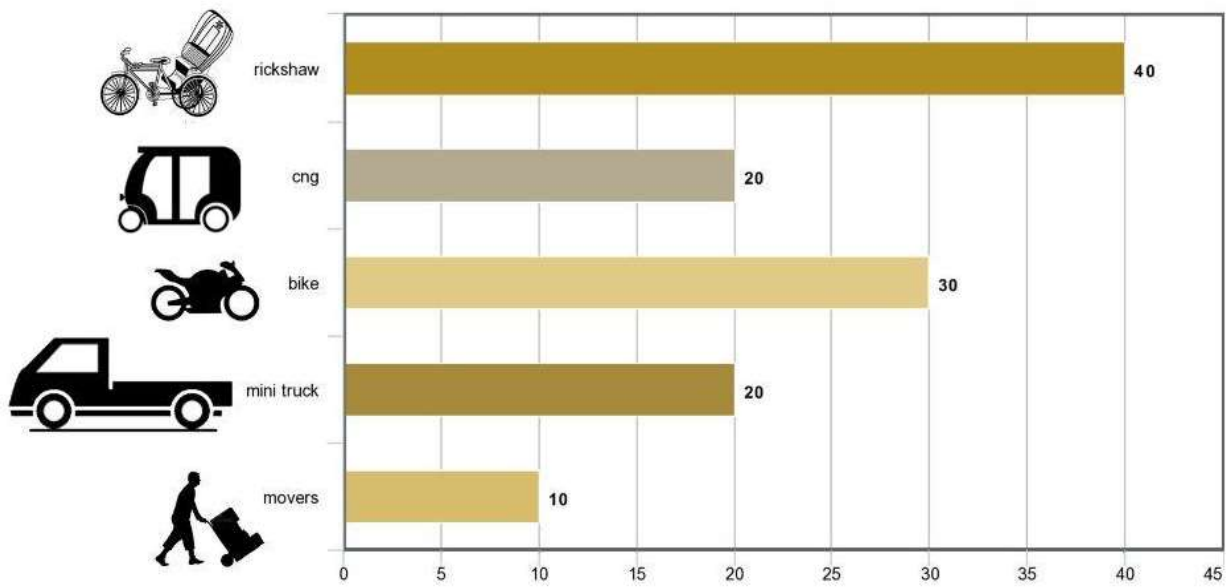
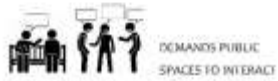


Figure 39 types of vehicle

The above chart shows the entry number of different kinds of vehicle in the chawk circular road in approx 5 minutes time frame.

3.9 : SWOT analysis -



VULNERABLE STRUCTURES



RISK OF FIRE HAZARD



IMPROPER VENTILATION SYSTEM



TRAFFIC CONGESTION

Chapter 4 : case studies

4.1: Dadfa Community Mall

The original space was a fresh fruit market. The previous landlord was a buddhist nun who left this space for any expenditure for a period of 10 years. Both sides along the neighborhood area are also a kind of market. Ultimately this is the main goal of the project to sustain the way of culture to be run along with the communal activities by preserving more than 655 of green space and keeping them as permeable areas. It also enacts a community lung for the surrounding residential area and 12 schools in Sla salle.



Figure 40 images of Dadfa

4.1.1: zoning



4.1.2: Axono sections

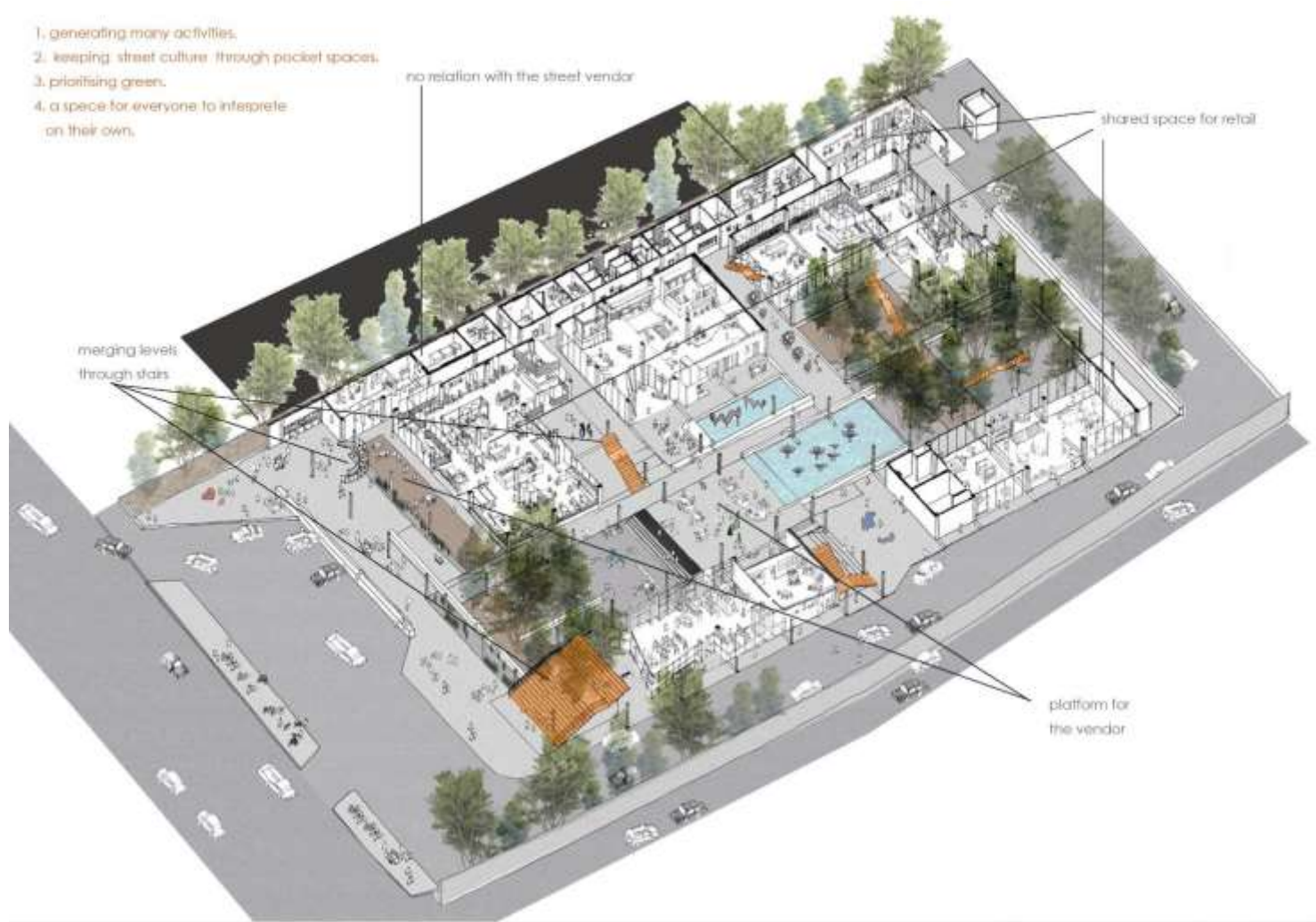


Figure 41 spaces and people interacting to

4.1.3: circulation study-

- RENTED SPACE
- ADMIN/ SERVICE SPACES AWAY FROM PUBLIC
- CONNECTING PUBLIC THROUGH CIRCULATION AND SHOPS IN THE MIDDLE
- COURTYARD SPACE TO CONNECT VERTICALLY

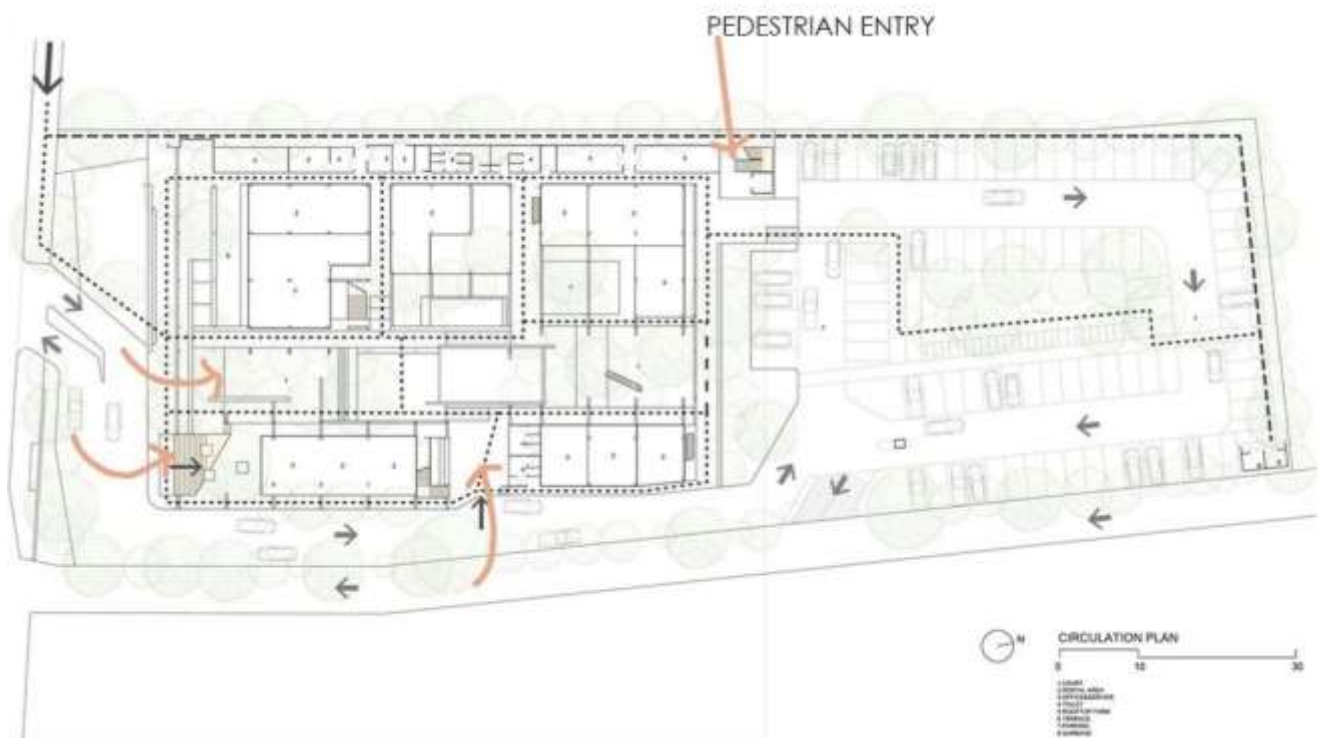
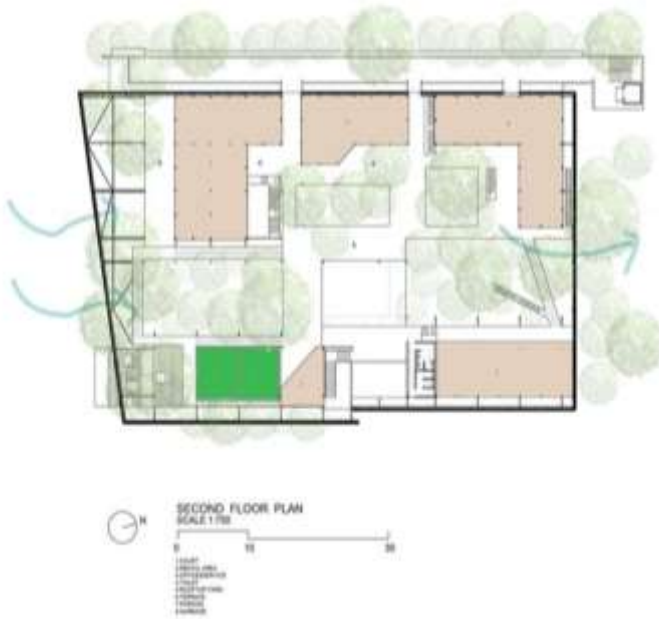
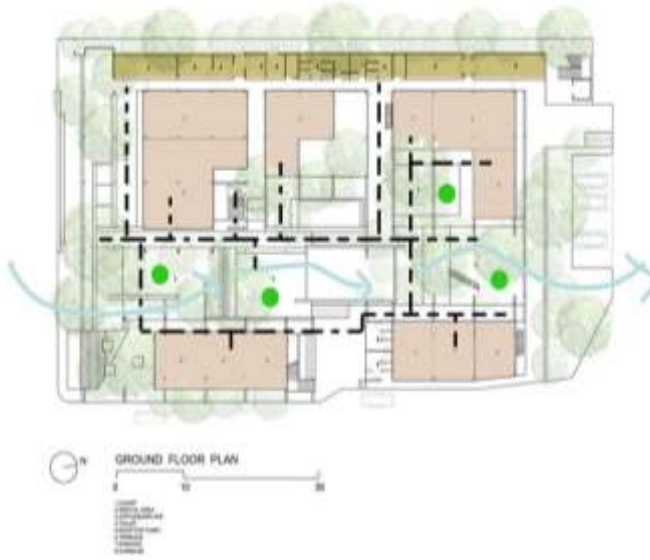


Figure 42 circulation plan

4.1.4: plan study-





the concept was to create the ground floor
marge with wild plants act as sanctuary for the
landscape that was missing on
the original space. the iron beams and aluminium
panels were also collected for reuse.



4.1.4 climate consideration and material-



Figure 43 climate responsive design



. Souce - archdaily

1. The main material specification is wood, steel prior to blending the design of raw material with the nature of raw concrete finished.
2. The tarnish and deterioration of material will allow the material to be seasonal changed.
3. No texture coating or chemical treatment on the material surface is required.
4. The steel rooftop uses a small concrete column with 3 x 3 m clear space at a different angle, creating a connection between space and surrounding green space
5. The additional roof and cover can be administered for the future expansion.
6. A distinguishing pattern is being used to create such a modular, then this pattern resembles a typical 'khid' pattern which is similar to a Thai locally made traditional mat. It also acts as a screen to protect from sun and rain over west- east direction.
7. At night the facade perforation also mimics the silhouette which reminisces the old way of life of this area.

4.1.5 section study-



Figure 44 sectional analysis – author

4.2.: Santa caterina, Barcelona, Spain by EMBT

This was the first covered market of the city, officially inaugurated in the year 1848. In the postwar years the market supplied not only the city but also those of the surrounding towns. The proposal for the rehabilitation of the old santa caterina market, located on Ciutat vella district of Barcelona, involves action on the urban fabric adjacent to the existing structure that rationalizes its location. At the same time, the intervention intends to blend and confuse with the original structure. Both purposes are achieved by the realization of a new deck which envelops the structure and extends it beyond the perimeter of the first construction. The essence of this project is based on the design of its cover, which starts from the metaphor of an immense sea colored by the memory of original fruits and vegetable market.



Figure 45 master plan

Souce - archdaily

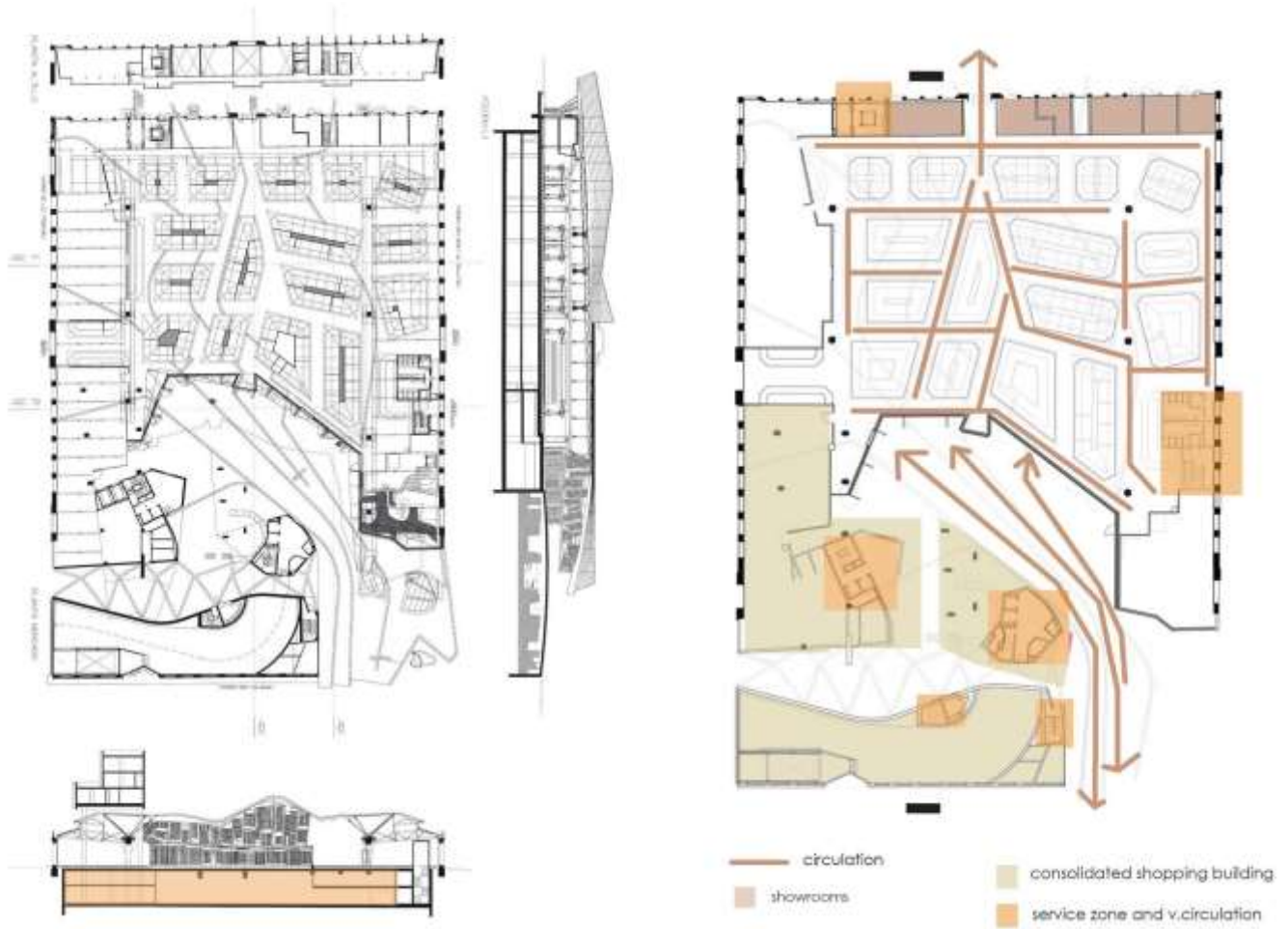


Figure 46 plan and circulation

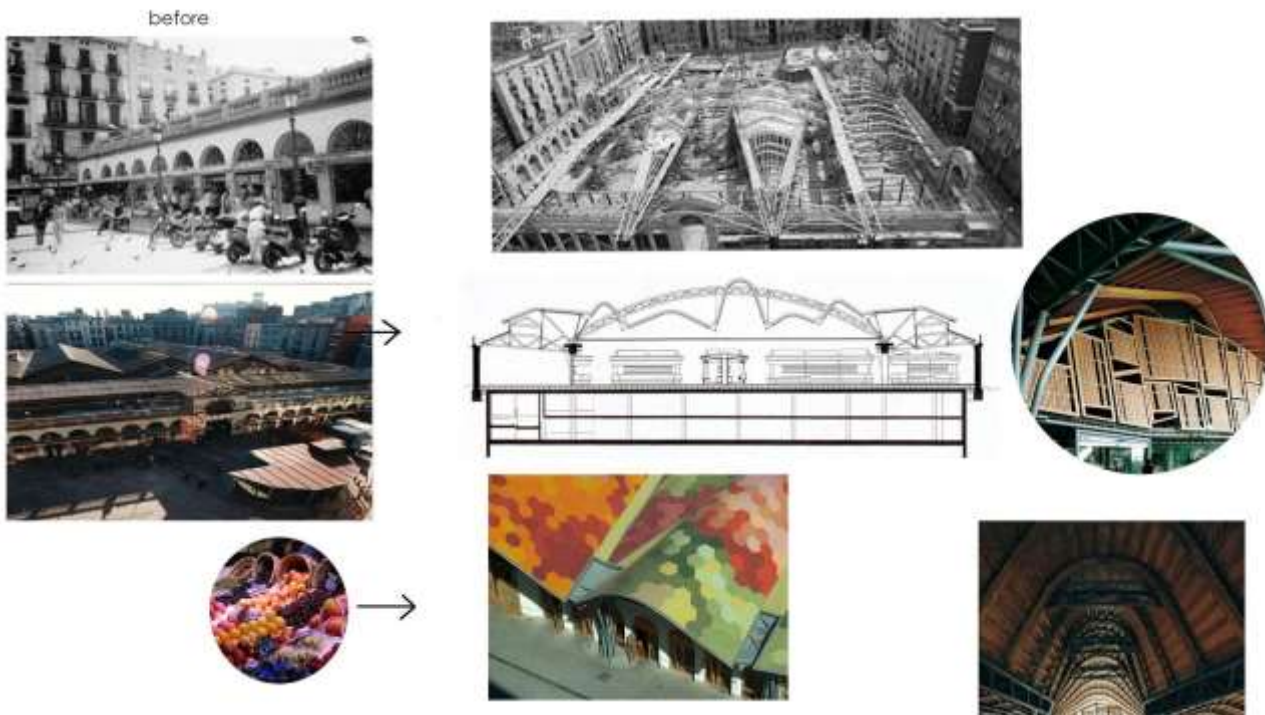


Figure 47 envelop and shell idea

The market structure of Santa caterina consists of a set of irregular wooden vaults, some triarticulate , byrticulates, which are supported by a steel beams section and variable guidelines, supported in turn, in beams and concrete pillars. A set of three large arches with more that 40 meters of light centrally hold the triangulated steel beams to prevent their fall.

4.3: Nikolsky rows public space, Russia by Katarsis ab-

A unused space turned into makeshift public space The owners of the building made up their minds to turn the private courtyard into a new center of the historic district of Kolomna and develop it as a pop-up public space. Its use may vary in accordance with a seasonal scenario, whether it is winter or summer. The objects require minimal intervention to alter their function.

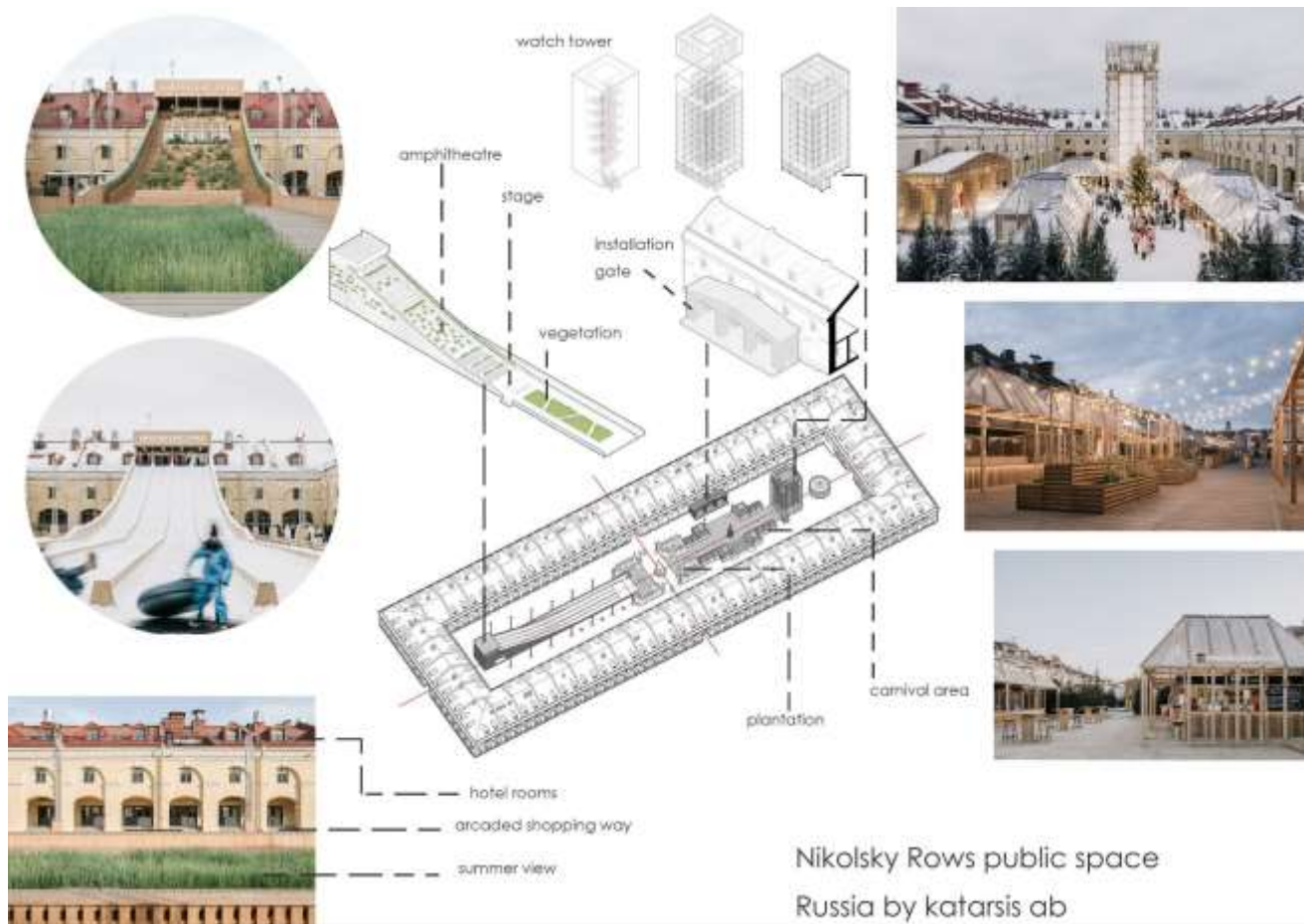


Figure 48 an unused space within a project, to offer something to the public seasonally

It is an ensemble within an ensemble. The composition of the renovated courtyard, with its symmetry and a rigid structure, is in line with the principles of the Neoclassical building that surrounds it and serves as motel at the 1st floor and arcaded shops on the ground floor. The objects themselves are stylistically different to create an eclectic character so typical of traditional Russian winter fairs. The prevalent use of wood brings the space together visually. All structures are temporary and can be quickly assembled or disassembled according to season/ occasion/ festivals

4.4.: City center , salt lake, Kolkata by Charles Correa-

This is a vibrant new city center , a shopping complex which is basically a civic center dedicated to public gathering, activities for all groups of people – the programs are energized through the interaction of the many diverse activities it contains. There is a wide spectrum of land-uses, ranging from apartment houses and office buildings, to restaurants and shops.



a contemporary approach but keeping the essence of shopping in new market area consisting plaza

Figure 49 city center case analysis

The elements that unify all these diverse uses are the pedestrian streets that traverse from one end of the site to the other, climaxing in an open-air kund (plaza) at the focal point at the center of the main plaza. From this plaza, steps connect down to the pedestrian streets between the buildings at the Northern end of the site. Facing south, at the other end, are the apartment houses. The non-air-conditioned market is in the form of a series of stepped-back terraces, so as to increase cross-ventilation.

The air-conditioned shopping center is organized around a central atrium- and anchored by the presence of two large Department Stores at either end.



conceptually bringing back shops with strong pathways ,
relation to indoor outdoor



fulfilling the need of new kolkata through grand double
height spaces in the mall section

Figure 50 city center case analysis



the scale is similar to cities context



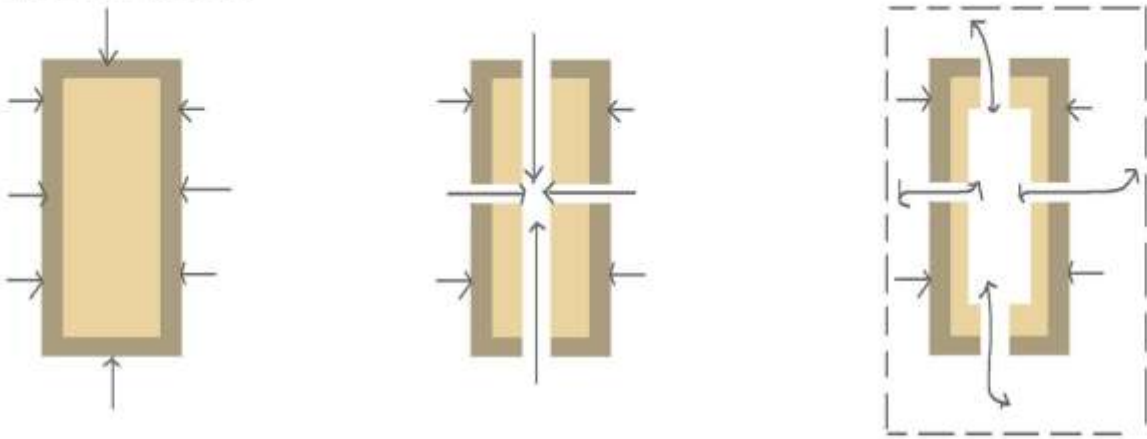
The core inspiration of this project reflects the original new market of kolkata. Which was cherished by the residents of this new extension of this mega city. The scale, the ambience and the shopping spree, is what was replicated in this project. The habit of gossiping over tea, spending family time and buying clothes in bulk during festivals makes Kolkata a joyous city. Which is why this air condition mall contains those small spaces to accommodate coffee kiosks, a central plaza that leads in every direction and benches for a tired shopper. The details in this mall projected the activities of ordinary people of Kolkata . Which is portrayed in the above images.



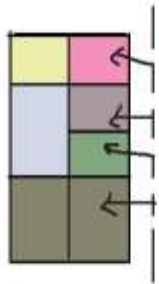
Figure 51 plan study

In this master plan, the designers have arranged a simple pedestrian spine and it starts from a central plaza that distributes visitors towards every program. The service areas are covered yet available at convenience. Combining shops, a multipurpose hall for any occasion, a multiplex, offices and apartments, this City Centre in the heart of Salt Lake City in Kolkata, provides community and public spaces that is both covered and open-to-sky, that are at the scale of the city, and open to all its citizens.

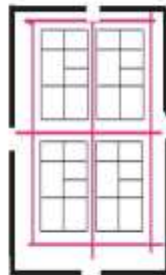
1. To make it permeable-



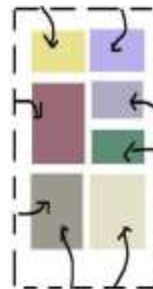
2. shared space for retail shops-



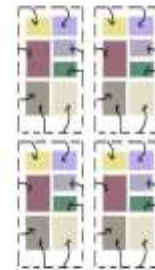
shop modules with individual wall /partition and access costs much and separates viewer from options.



clusterd of them creates long corridor



shared space in large hall space gives shoppers visual options.



the items are zoned into category . the placement can be shuffled

Figure 52 learnings from the case studies

Chapter 5: programs

5.1 : program appraisal -

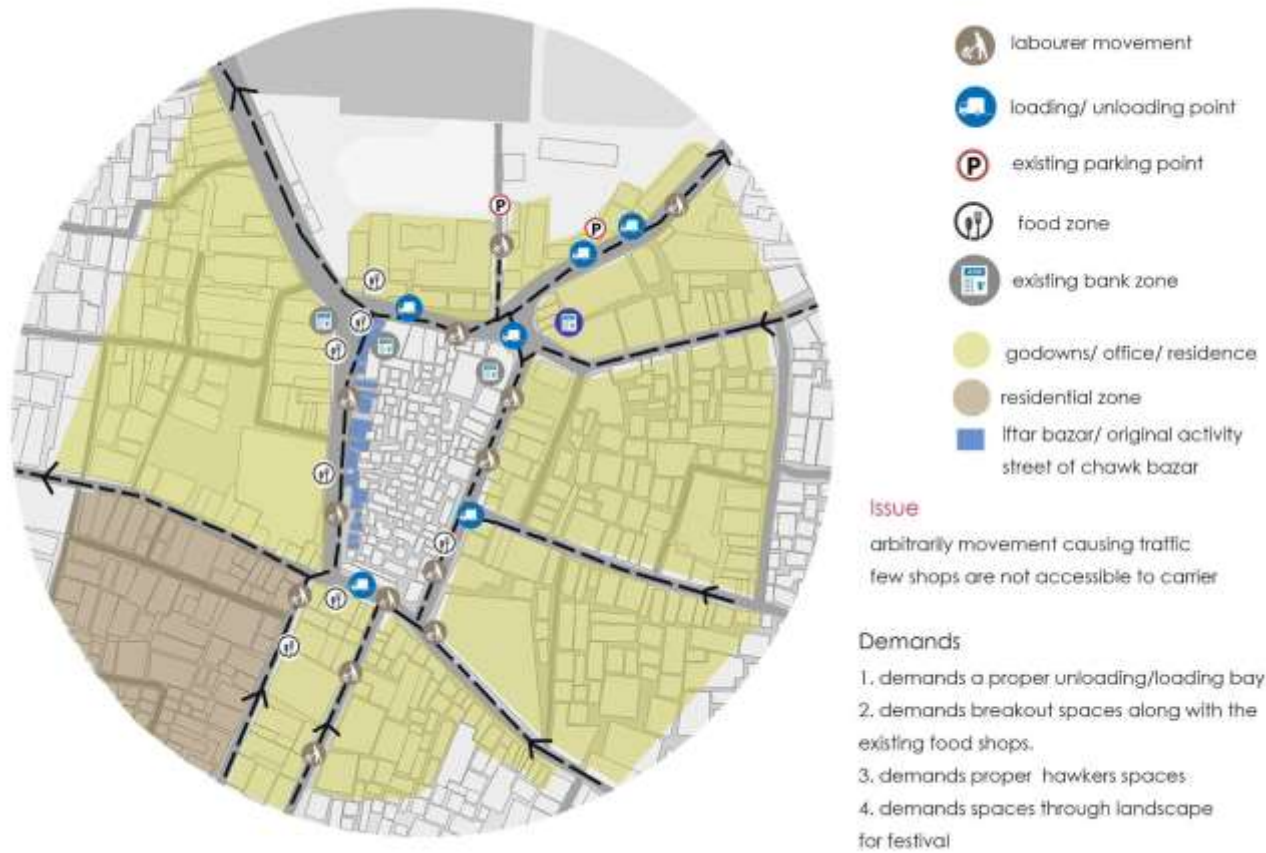


Figure 53 program appraisal

5.2sqft chart-

programs	quantity	dimension	Area per unit(sqft)	Total area (sqft/sqm)
Jewellery	80	9'x 9''	81 sqft	6480 sqft
cosmetics	40	9' x 7.5'	67.5	2700
bangles	15	5'x5'	25	375
decoration	20	15'x 10'	150	3000
garments	10	15'x 10'	150	1500
toys & celebration	10	10''x5'	50	500
leather	10	5'x5'	25	125
miscellaneous	20	5'x5'	25	500
				total=15000 sqft
showroom	20	10' x 10'	100	2000
Workshop/ assemble room	20	10'x10' (20' 10')*2		2200
				total= sqft

programs	quantity	dimension	Area per unit(sqft)	Total area (sqft/sqm)

Back packers hotel Art gallery	Each 1			7500
Pocket spaces for hawkers/ seasonal vendor	Apprx 30	6 sqft each		180
Seasonal shops/ Festival items	shared	20' x 20'	400 per platform	2000
				total=9680

Retail/ wholesale ground floor
Market place + recreational

admin / office block

programs	quantity	dimension	Area per unit(sqft)	Total area (sqft/sqm)
Food shop/ seating+kitc hen/ /Food prep /storage	2 type 2-3	20'x10' 60' x 10'	200+600	1600 sqft
Juice / snacks shop/ break fast	5	10' x 5'	50	250
Urban terrace/ Landscape				4000
Multi purpose space	1	80' x 50'		4000
Book club	1			2000
Exhibition space				total= 9750

programs	quantity	dimension	Area per unit(sqft)	Total area (sqft/sqm)
Bank space	4			17000

Small office	10	25' x 30'	750	7500
Were house office	15	1 unit for 10 shops (5' x 5')=25	250	3750
committee office	1			400
				total=27400

Recreational space

Dorm for the shopkeepers and craftsmen

programs	quantity	dimension	Area per unit(sqft)	Total area (sqft/sqm)
----------	----------	-----------	---------------------	-----------------------

4- 5 Bed	5	25' x 18'	450	2250
Common toilet	1	26x12= 312		312 sq ft
Dining hall	1	30'x 45'		1350
Convenient shop	1	25'x 27'		675
				total=4695

Service zone

programs	quantity	dimension	Area per unit(sqft)	Total area (sqft/sqm)
parking	20	32' x 32' 4 car space		5500 aprx
toilet/ lavatory	1 in each floor	26x12= 312	312 sq ft *2	1248 for 2 floor
meter/ generator room	1			350
Loading bay	2	30' x 6'		360
Vertical circulations Fire stairs				
				total=10598

Chapter 6 : Concept & Form generation

6.1 conceptual sketches

After the thorough study on the context and behavior of the site, the initial design may require some bold decisions and lines that will lead the proposed market into a massing. Chawkbazar is a place of sentiment and economic phenomenon. Their needs are something that will keep the original essence but something better to boost up their economy.

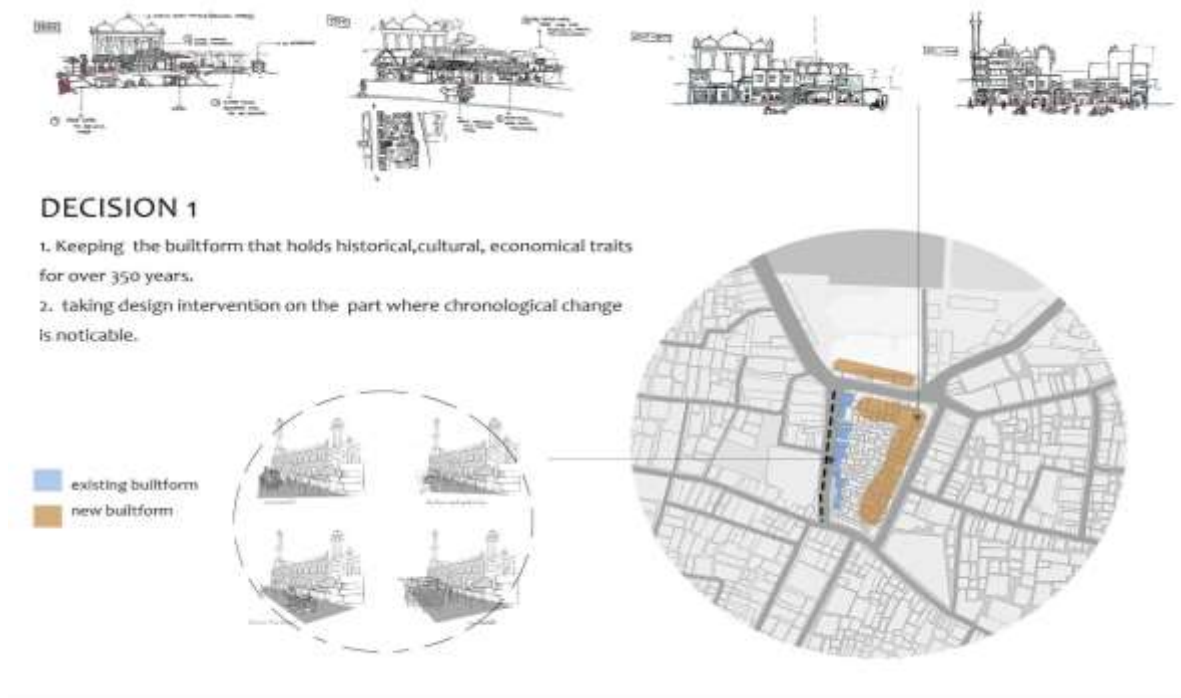


Figure 54 decision sketch 1



DECISION 2

1. RE-THINKING the in-accessible plots and creating a diversion for the movers
2. CONNECTING the whole neighborhood with the new builtform

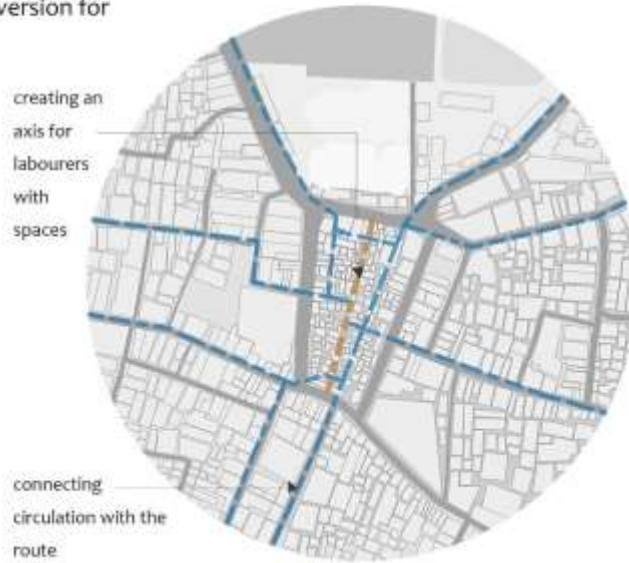
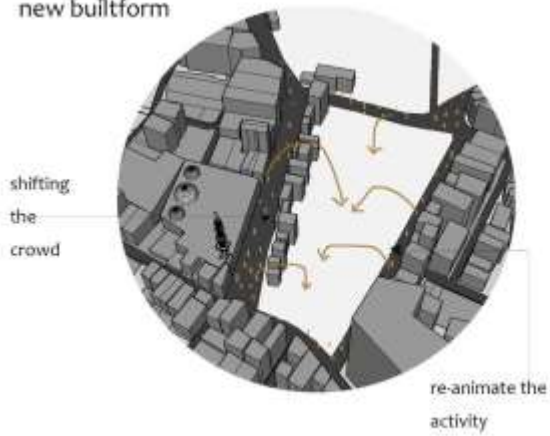







Figure 55 decision sketch 2

DECISION 3

1. proper goods transportation facility
2. decluttering chawk circular rd to avoid arbitrary truck parking.

-  parking
-  loading unloading bay
-  goods collecting
-  Truck movement towards parking and loading bay
-  labourer movement

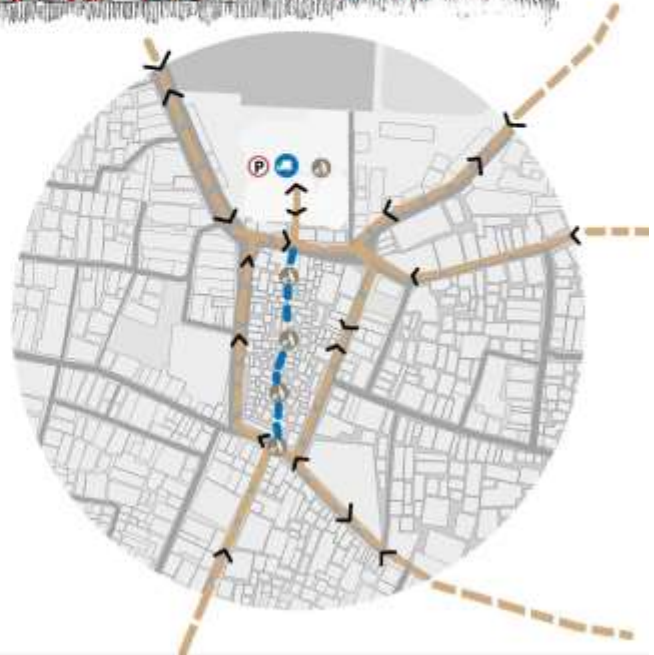
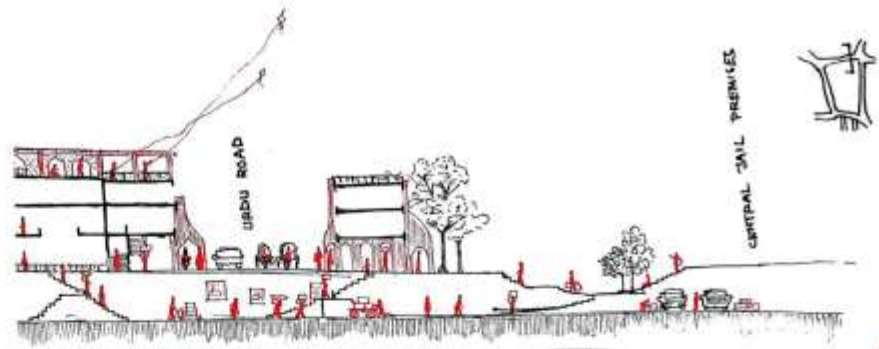
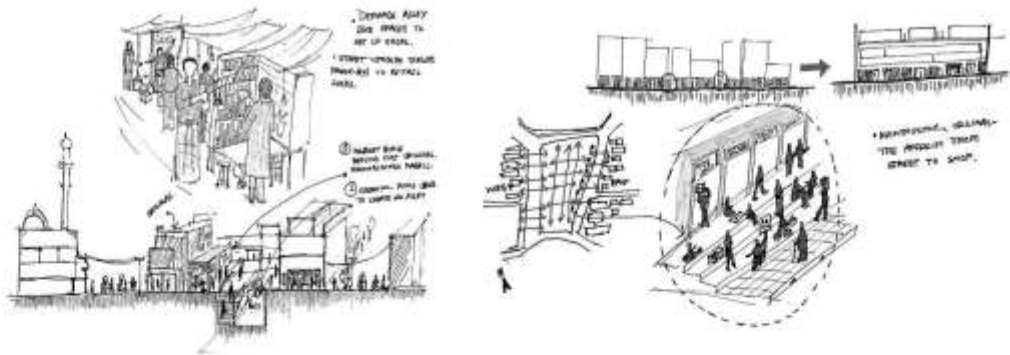


Figure 56 decision sketch 3



DECISION 4

1. creating POCKET SPACES as hawkers arena and marketplace for the micro activity
2. new shops ADAPTING original fabric and maintaining relation

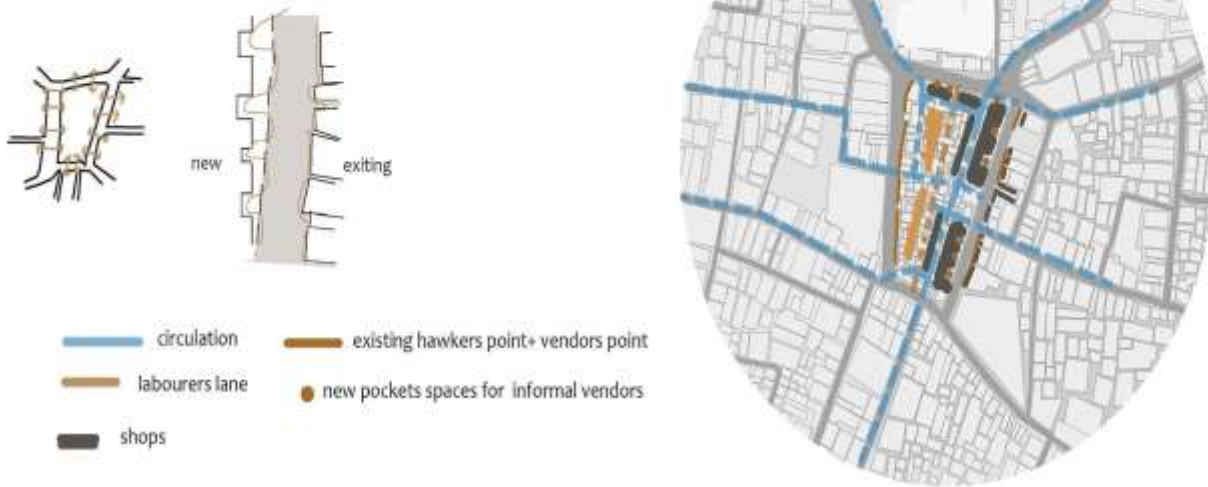
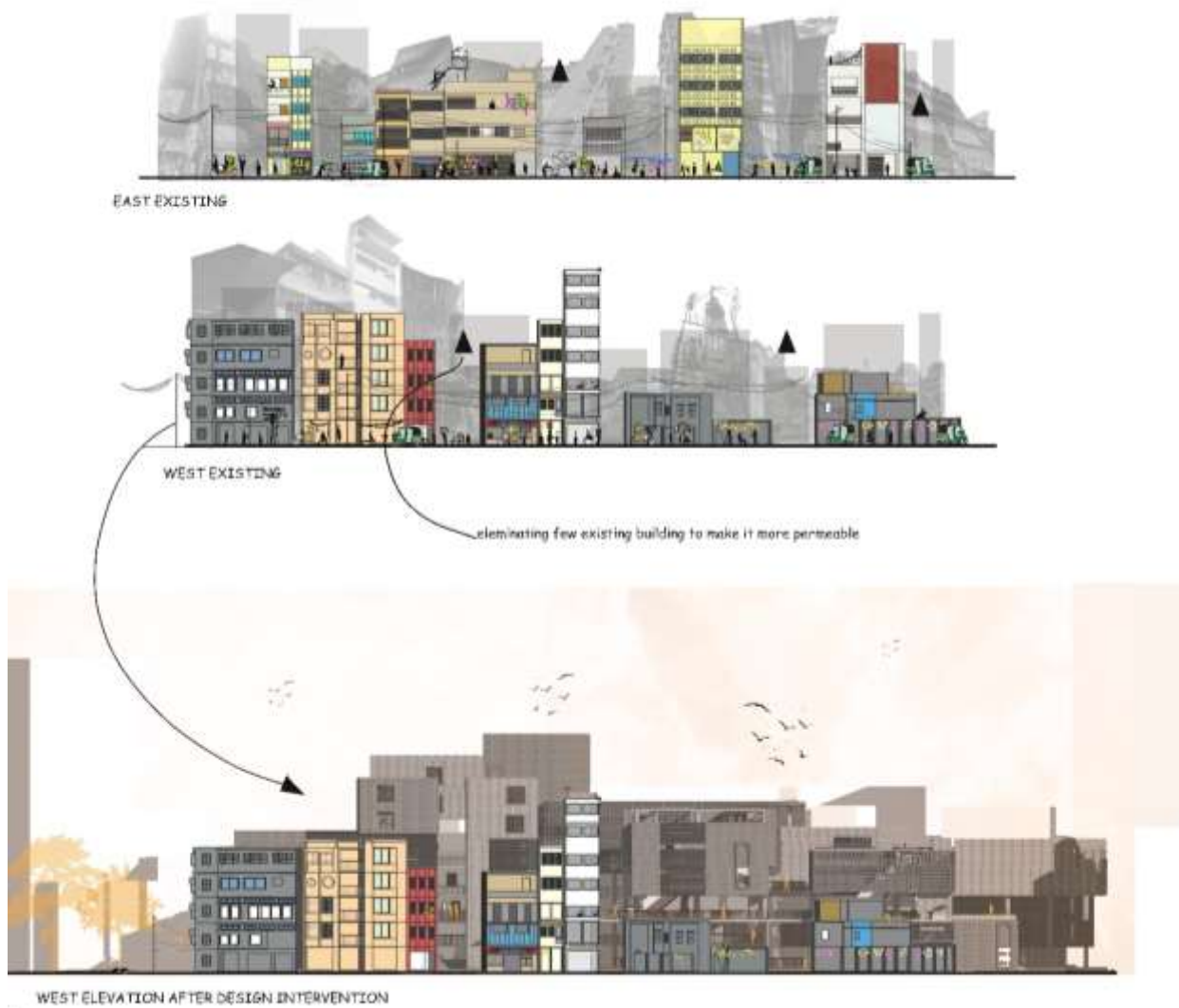


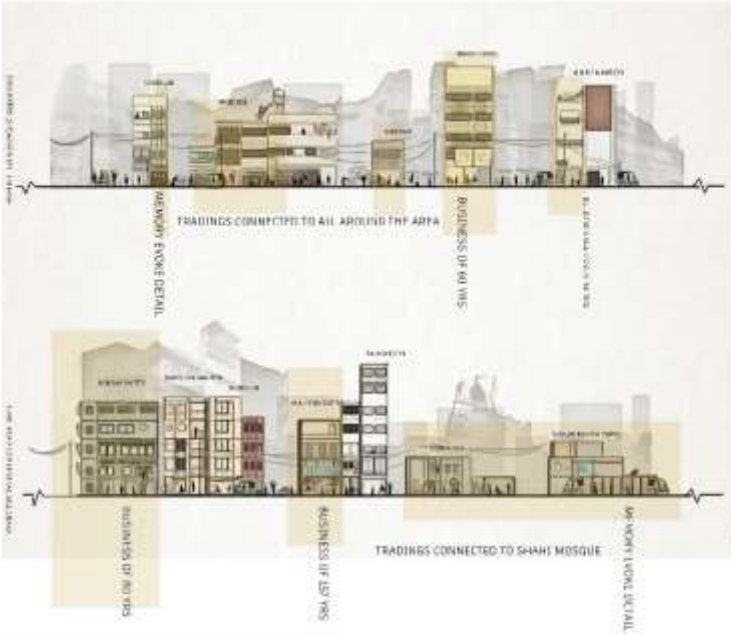
Figure 57 decision sketch 4

6.2: Conservation of the existing

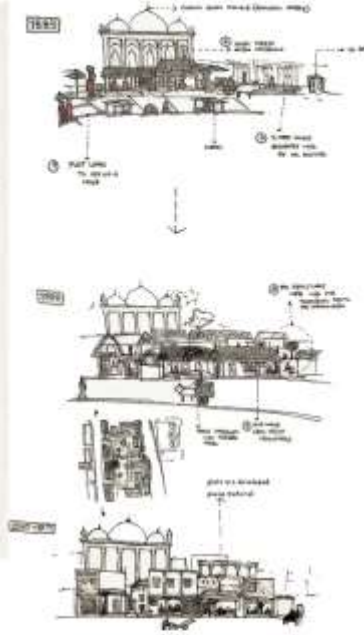
The above study and literature indicated the possibility of a design solution where old and new built form can co-exist.



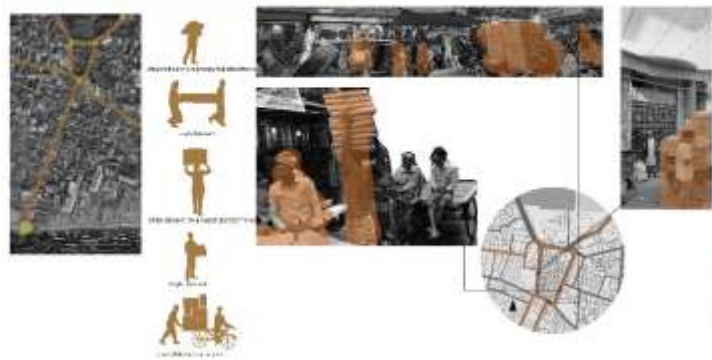
CONSERVATION OF THE EXISTING



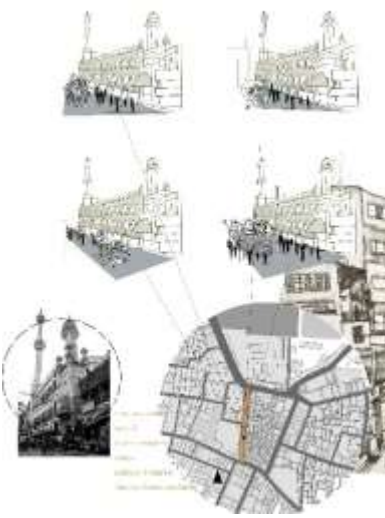
SKETCH OF CHRONOLOGICAL UNDERSTAND



TRANSPORTING THE GOODS IN CHAWKBAZAR



study of street activity (west side)



THE ACTIVITIES IN SHAHI MOSQUE

- STREET
- IFTAR BAZAR
- TAZIA MICHIL
- MUHARRAM PRAYERS
- WAAZ MAHRIL
- STREET SHOPS



study of street activity (east side)

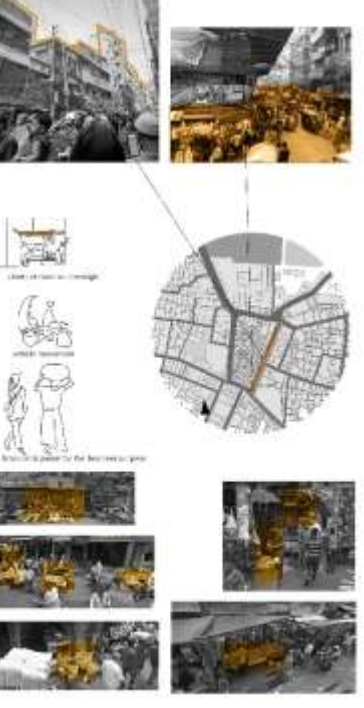


Figure 58conservation

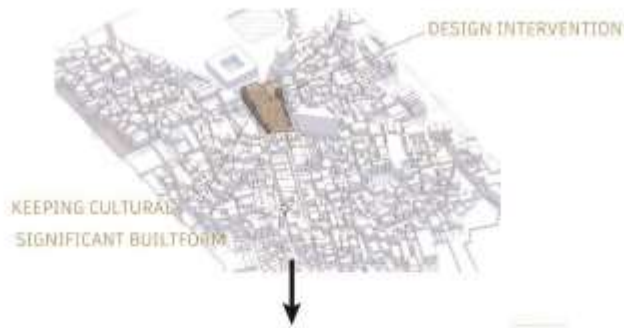
6.3: Path generation



Figure 59 generating path

6.4: Idea generation of the form

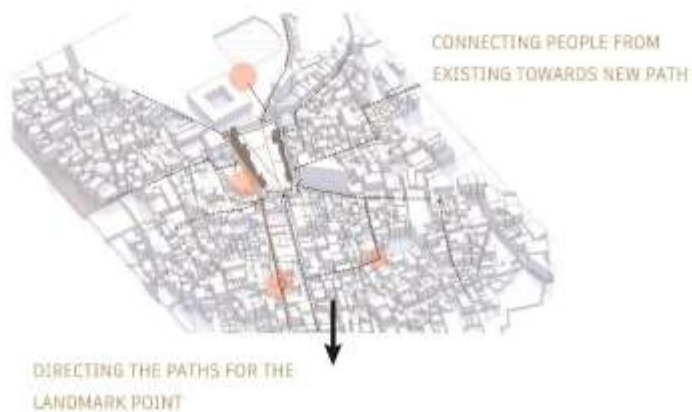
1. A MEMORY LANE



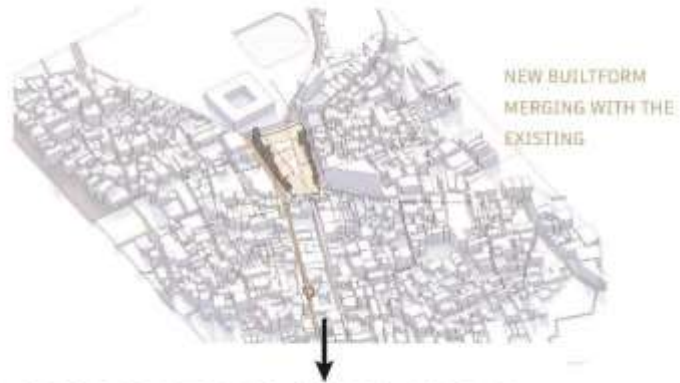
2. CENTRAL MEET UP SPACE



3. CONNECTING CONTEXT



4. CONNECTING THE NEIGHBOURHOOD



5. GENERATING ACTIVITIES

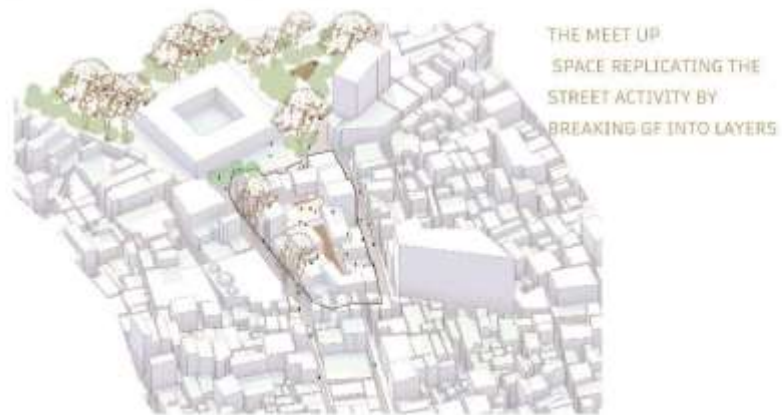
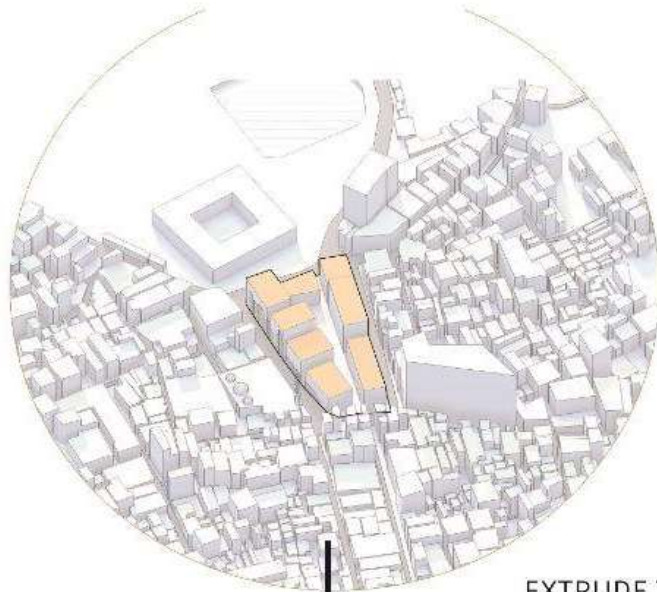
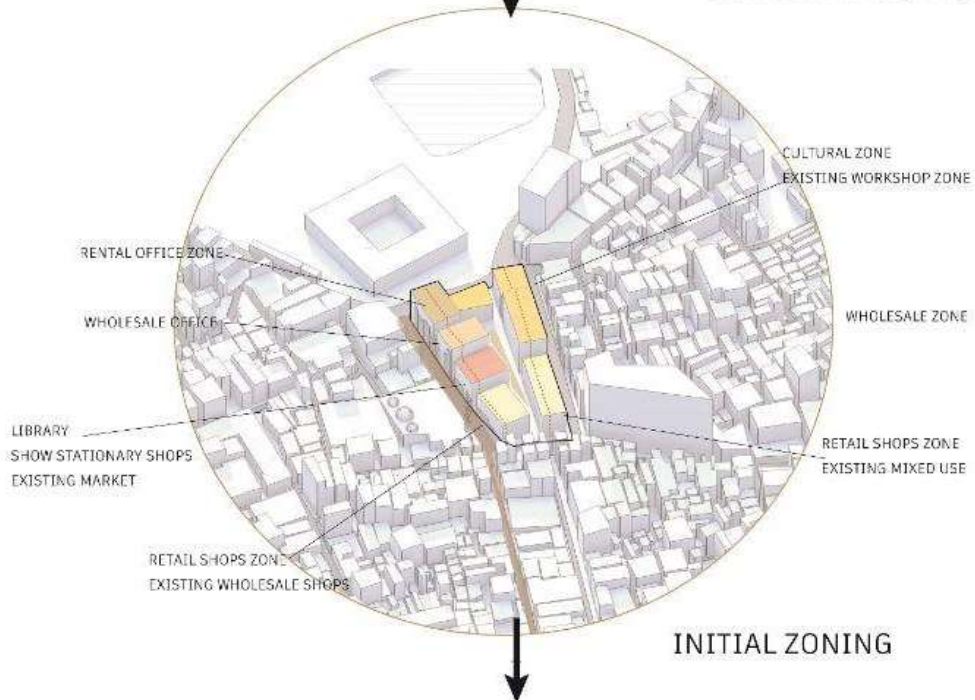


Figure 60 Idea generation

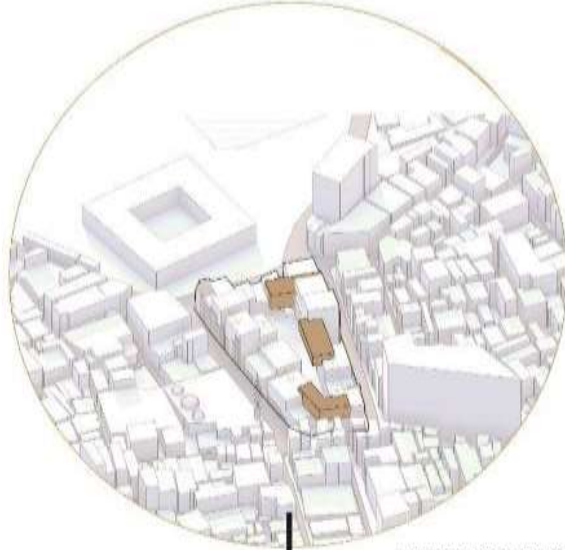
6.5: Form generation in urban context:



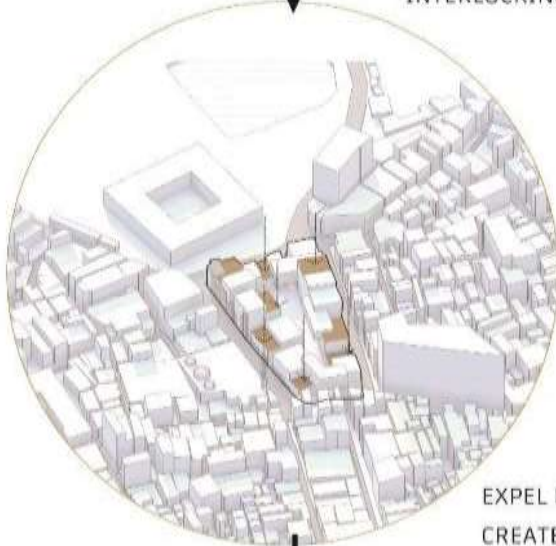
EXTRUDE THE SPACE



INITIAL ZONING



INTERLOCKING THE SPACE



EXPEL DOWNWARD TO
CREATE TERRACES

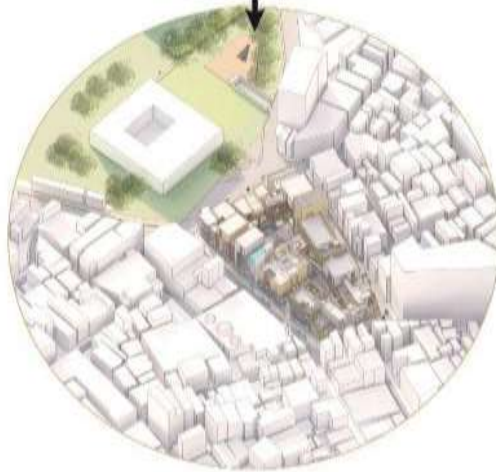


Figure 61 form generation

Chap 7 : Design proposal and solutions-





Figure 62 Ground floor plan

7.1: floor plans-



Figure 63 floor plans

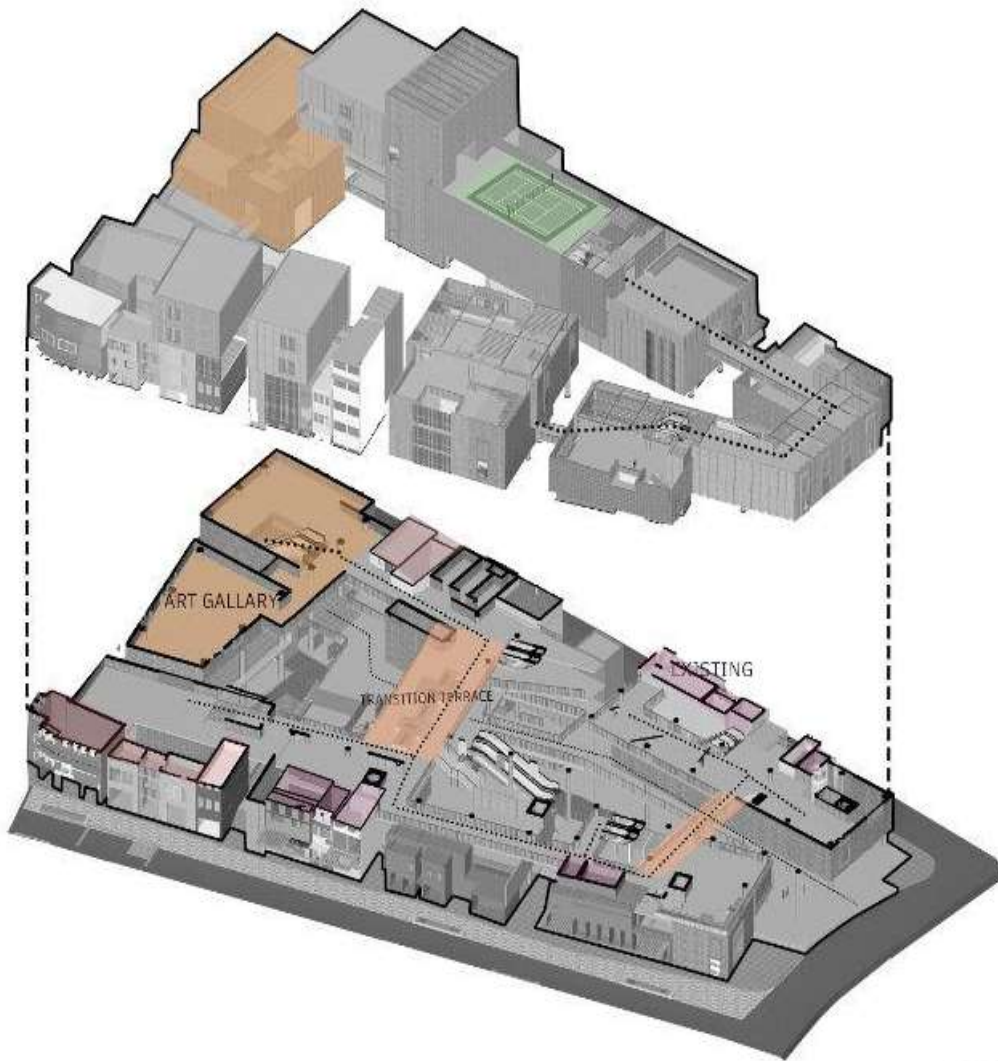


Figure 64 floor plans

7.2:Sectional axonometric view to understand zoning -



Figure 65 spot sections



SECTIONAL ZONING OF TRANSITIONAL CONNECTING TERRACE

Figure 66 axonometric views

7.3 sections and elevation-



WEST ELEVATION



EAST ELEVATION



SECTION AA'



FLIXIBLE LOUVER CURTAINS FOR
MAKESHIFT SHOPS



VERTICAL LOUVERS ON EAST & WEST
FOR VENTILATION AND SHADING



PERFORATED ANGLE BRICK FOR
VENTILATION & SUNCUTTING

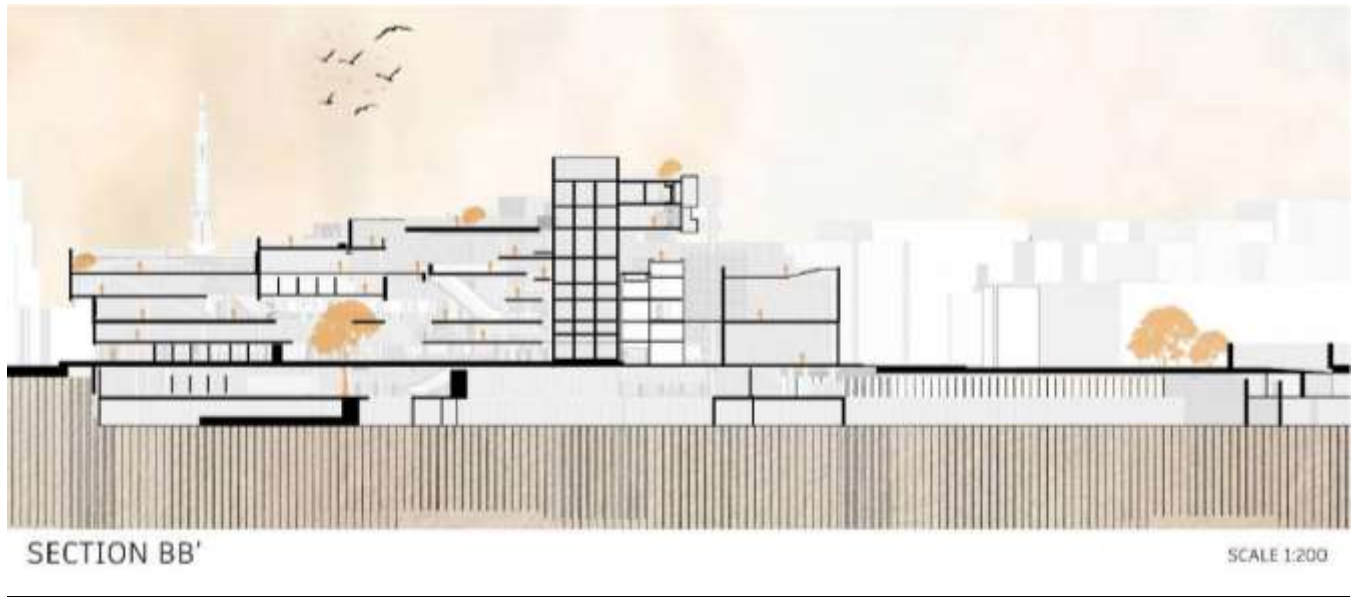
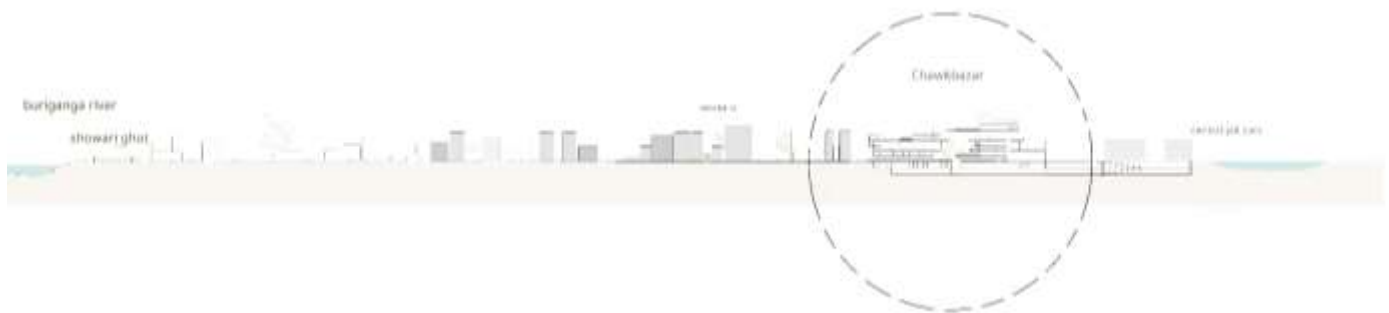
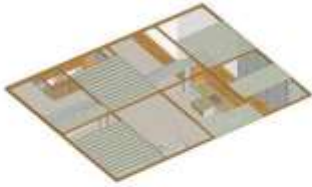


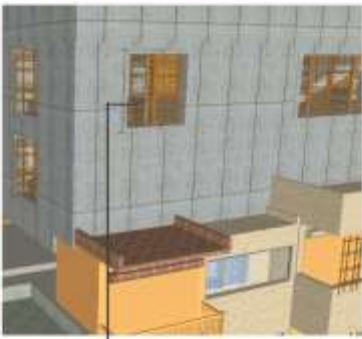
Fig:69- sections



7.4 Climatic consideration-



FLIXIBLE LOUVER CURTAINS FOR
MAKESHIFT SHOPS.



THE WINDOW IS CONTEMPORARY "KHORKHORI JANALA"
WITH FULL HEIGHT WINDOW WITH PIVOT CONTROLL.



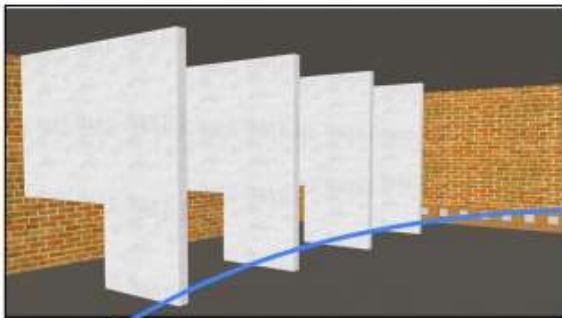
VERTICAL LOUVERS ON EAST & WEST FOR VENTILATION AND SHADING



PERFORATED ANGLE BRICK FOR VENTILATION & SUNCUTTING



45 DEGREE ANGLE ON THR BRICK ACTS RAIN AND DIRECT HEAT.



SHOPS VENTILATION

Figure 67 climatic consideration

7.5 Achieving the same scale -

EXISTING NORTH ELEVATION



DESIGN INTERVENTION NORTH ELEVATION

Figure 68 existing and design intervention

7.6 Rendered images-



7.6.1 A story of new and old-







Figure 69 celebration at CHAWKCHATTER



Figure 70 rendered images of chawkbazar activity

Chapter 8 : conclusion-

Old Dhaka has always mesmerized us with its details, lifestyle, activity and the cultural-historical traits. Nowadays, it is losing the charm to the commercial approach. People over there wants to carry both the heritage and the commercial value of their property. It is a challenge to keep a balance between the new buitform and the existing . Hence this project aims to create a maximum space keeping the old, connecting the existing with the new, multiple pocket hawker spaces, multi purpose spaces,a bit of green and many terraces activities with wholesale -retail shops.

References

- 1 Sultana. A., Kadir.S, Shakil.S.,Nabin.MHH(2013) Analysis from socio- economy perspective. [.Image of Chawk Bazar an Analysis from Physical and Socio Economic Per...](#)
2. Waliullah. H.R. (2022). Old dhaka losing its grandeur as trade hub!. The busines post
- 3.<https://www.baytalfann.com/post/the-history-heritage-of-the-souk>
4. Anonymous (2017) In site architecture, Community By Design: The Farmers' Market as a Civic Space
5. Haider. MH.(2014) A walk down history lane . The Daily star
- 6.Sunari, G.,Peiris, V. (2020) Assessment of Urban Public Spaces within shopping malls: Youth Perspective in the City of Colombo
- 7.McMahon, M (2019) what is a souk? cultural world. Org
- 8.Sajen, S. (2022), How partition impacted the Dhaka book trade. The daily star