

Reimagining Urban Food Space: Redesigning Shastri Bazar A Fruit and Vegetable Market at Raipur, Cg, India

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Abstract: Sabzi market is a place where there is a rapid change in space usage with time which need multi functional usable spaces in order to maintain space efficiency which is a need of modern era considering annual turnover per population growth rate.

The market is a place which identifies the social envelope existence and thus arrives the need to update it regularly and preserve it. Such an existing fruit and vegetable market of Raipur, Shastri bazar is losing its socio- physical identity. Thus an urgent need to cater the existing issues in the redevelopment program. I want to design this project with all facilities within the transitional space keeping in mind the local/ regional philosophy of how a market works.

The main objective of the project is to design a fruit and vegetable market to house the future need of the market hub for the city which caters the local and international standard of health, hygiene , population issues, social factors, systematic design that incorporates proper circulation of all kind of activities with sufficient storage.

Keywords: bazaar, ottas, vendors, redevelopment.

INTRODUCTION

Public places are like books, they can be read, and we have to understand their language. The street, the foot- path, the square, and the park are the grammar of the city: they provide the structure that enables towns to come to life, and to encourage and accommodate diverse activities.

Place making is a process by which people interactively create and recreate the experienced geographies in which they live. Place making inspires people to collectively reimagine and reinvent public spaces as the heart of every community. The four qualities that a public space should share are accessible, people are engaged in activities there, the space is comfortable and has a good image, and finally it is a sociable place.

When we talk about public places, the first image we get is of the “crowd “as a natural reflex of human mind. Any proposal of a public place gives space to the development of different activities that come along time.

Largely the places where the problems are most connected are the market areas. Upgrading fruit and vegetable market is one way to improve access to marketing opportunities in urban areas by creating a business hub and redesigning it to assist community planners, engineers and agricultural sales extension units to formulate and implement relevant market

improvement and future development plans. Shastri market, a fruit and vegetable market in Raipur city is an- other such space which is becoming detrimental to urban environment.

Updating the space with the redevelopment tools has become the need of the hour.

A market is a place that identifies the character of the social envelope existing at an instant of time. A place used daily by people from every status of society to fulfill their needs and demand. A social arrangement that allows buyers and sellers to discover information and

carry out a voluntary exchange of goods and services. It involves beneficial transaction of both parties. It in- fluences the urban, physical and social behavioral pattern. Thus it has

become a vital task to update all such spaces.

The type of issues includes designing markets that meet a community's social and economic needs, working with communities to identify their marketing problems, planning the site and layout and preparing a market development proposal undertaking simple, social and trading, feasible studies, looking in urban growth rate and consumption rate per day for constructing the market and managing and maintaining the market on urban scale with time. A walk through bazaar in any village, town or city in India would establish the fact that here art is a way of living. It is complex but a thoughtfully developed way that enthralls as we understand it better.

FEATURES OF A GOOD MARKET

- i. Provide a comfort to both seller and buyer
- ii. A design that promotes better and controlled movements for a better management system.
- iii. Prominent when it comes to climate and weather so that the seller and buyer can rely on it for their business.
- iv. Perishable items like fruits and vegetables have a short life time, the possible spoilage of the product due to its deterioration nature and retail demand uncertainty, creates unhygienic atmosphere in the market.
- v. A hi-tech market for fruits and vegetables is defined as a central site, often in a developing city, that serves as an adequately equipped place to meet the growing needs of consumers for quality food.

Shastri bazar is the biggest fruit and vegetable market located at the center of the capital city of Raipur, Chhattisgarh. A place convenient to its users because of its location.

NEED AND RELEVENCE:

- i. The consumer basket at Shastri baazar are continuously undergoing change in favour of healthy and hygienic place for purchasing.
- ii. The Present market is characterized by huge chaos in terms of stakeholders Chaos (buyers, retailers, laborers and vendors) and circulation chaos (pedestrian and vehicular); in addition to air and soil pol- lution created by rotten and stale unused fruits and vegetables thrown in and around the market.

iii. A sustainable market will organize the flow and rethink the planning of the wholesale cum retail market.

iv. The site is situated in a context where we need to understand its behaviour and how it can grow and expand according to the city needs. The site surrounds mixed use commercial places and lacks any sociable green place in the vicinity. So Creating an urban interactive hub with different shopping experiences and social gathering spaces will give the place a new identity.

FOCUS AND THRUST:

i. Weaving functionality with modernism without losing the essence of our organic Indian character.

ii. Design a self sustaining structure based on terms like solid/liquid waste and water management, including garbage collection and disposal.

iii. Provide a market-for retailers and farmers to display and sell their products directly to the consumers

iv. Creating a welcoming space where along with different shopping experiences, customers also get the freedom to enjoy other interactive user activities, making the place more neighborly and sociable.

AIM:

To provide a healthy, hygienic state of art, fruit and vegetable market that serves as an assembly and trading place for agricultural commodities at Shastri bazar in Raipur.

A model beneficial both to the farmers and consumers.

OBJECTIVES:

i. Identify the existing problems in terms of distribution of spaces, entry exit points, navigation inside and around the site, waste disposal and drainage, cleanliness and encroachments and resolve them.

ii. Identifying the modern technologies to redesign a traditional market for efficiency in handling of fruits and vegetables with emphasis on hygiene and cleanliness.

iii. Create maximum space for the purpose of loading, unloading and auction and studying ways to Resolve parking and traffic congestion

iv. Identifying the new ways to make the place self sustaining.

v. To understand the users {shopkeepers (wholesaler, retailer, vendor), purchaser} psychology.

vi. Creating an urban space that is versatile and inclusive in nature by following PPP criteria's.

vii. An urban hub that not just satisfies the shopping needs but also creates an interactive, neighborly experience for its users.

LITERATURE REVIEW

Wholesale Market, Australia

Melbourne market is victoria's wholesale fruit, vegetable and flower trading centre, one of six central fresh produce markets in Australia. Built facility on a 70 hectare site at epping. 1800 individual fruit and vegetable buyers, 120000sqm of warehousing space.

Proposed market epping is located in the outer northern suburb of epping and operate by Melbourne market authority. The existing market is located only 3 km from centre of the city of Melbourne.

Project objectives

- To develop the precinct into one that provides for value adding wholesale fresh food produce and flower trading, warehousing, packaging, logistics and distribution
- To develop a precinct that promotes and encourages best practice in sustainable design
- To facilitate a range of complementary uses which service, supply and support the markets operation
- To ensure that the operation, scale and character has minimal impact on the amenity of the surrounding area
- To develop a precinct that considers and manages the environmental, cultural and heritage values of the area
- To relocate the market into an innovative, safe and modern facility
- To maximise economic benefits to the State by ensuring that the wholesale market operations are efficient, competitive and accessible
- To ensure that the State's investment in the wholesale market provides value for money, is sustainable and is delivered within budget

Key Statistics

- The core market facility is located on approx 42 hectares (The equivalent of approx 13 MCG playing surfaces).
- The main Fruit and Vegetable market building is 53,000 m² with the same area again in external canopies providing for an extensive number of under cover loading and unloading bays. And will house 124 refrigerated trading stores.
- There is approximately 330,000 m² of external pavements surrounding the main Fruit and Vegetable building.
- The project includes:
 - 4300 tonnes of Structural Steel
 - 12,000 m³ of Concrete
 - 400 kms of electrical cabling

- 150,000 m² of Façade cladding materials
- 330,000m² of Asphalt pavements
- 70 KMS OF LINE MARKING
- Daylight through clerestory windows
- NFC Similar Concept without mezzanine offices
- Orientation of windows and shading provisions important. The F&V market Building and NFC building utilises stack ventilation, where high and low pressure zones are created by the buoyancy of warm air rising causing currents that bring cooler air in to replace the expelled air.

2. Supermarket Sanva Lake Park

The site of the resort consist of three clusters of large residential slabs of 21 stories high enveloping semi enclosed gardens. The public space plays a crucial role in the atmosphere of the area as a whole so a lot of consideration is going into creating a pleasant environment.

The landscaping is a key factor to the success; a large park-like corridor will connect the important parts of the masterplan. The Super Market can directly draw its customers from the large basement parking below the residential buildings. In addition delivery and logistics can now disappear underground as well. To mark the entrance to the underground domain we propose a pavilion that contains retail and cafes. At each corner the roof bends up to form a lively entrance to the 'estate'.

The triangular, all-sided building is topped by a stepped landscape: a seemingly natural rice paddy-like valley comes into being featuring several usable terraces. The green additional 'facade' will provide a great view for the neighbors in the surrounding high-rises.

Architects: NL Architects

Location: Sanya, Hainan Province, China

NL Architects Team: Pieter Bannenberg, Walter van Dijk, Kamiel Klaasse

Project Team: Giulia Pastore and Gen Yamamoto with Michaela Dlouhá, Michal Krejčík, Zhongnan Lao, Paulo Ricardo Dos Santos SousaSuper

Market Area: 2000 m²

Ancillary Spaces for the Super Market: 950 m² Ground Floor + First Floor: 1000 m²

Roof: 1580 m²

3. Market Hall Rotterdam

The **Markthal** (English: **Market Hall**) is a residential and office building with a market hall underneath, located in Rotterdam. The building was opened on October 1, 2014, by Queen Máxima of the Netherlands. Besides the large market hall, the complex houses 228 apartments, 4600 m² retail space, 1600 m² horeca and an underground 4-storey parking garage with a capacity of 1200+ cars.

The Markthal was designed by architectural firm MVRDV. The grey nature stone building has an archwise structure like a horseshoe. The building has a glass facade on both sides, these are made up

of smaller glass windows. The smaller windows are mostly squared and around 1485 millimeters wide. All of these are hung around a structure of steel cables, 34 metres high and 42 metres wide, which makes it the largest glass- window cable structure in Europe. Each facade has 26 vertical and 22 horizontal cables. The facade was designed and installed by Octatube

The inside of the building is adorned with an 11.000 m² artwork by Arno Coenen, named Hoorn des Over- vloed (Horn of Plenty). The artwork shows strongly enlarged fruits, vegetables, seeds, fish, flowers and insects.

An archaeologist next to a buried farm (in Rotta [nl]), at the site of The Market Hall.

The Markthal is built on top of a fourteenth-century buried village in the Polder of Westnieuwland. This polder was surrounded by water and dykes to protect the polder during high-tide. There were a few houses and farms in this polder, also at the site of the Markthal.

During the building of the Markthal, a tenth-century farm was found 7 metres under the ground. Within the house were two stoves and a few fireplaces. The farm was part of a village before Rotterdam, named Rotta, after the river Rotte. The inhabitants of Rotta were farmers, craftsmen and traders. Earlier, a small settlement from the fourteenth-century was found on the site.

Several foundations on the site are now exhibited next to the central staircases underneath the Markthal.

METHODOLOGY

DATA COLLECTION AND ANALYSIS

WHOLESALEERS:

There are in all 75 wholesale shops in the market. The average turnover per day is 1000 kg – 1500 kg the wholesalers pay the deposit amount and it is collected by the NMC upon every transaction they make with the farmers. The rent is deducted from the interest of the deposited amount

Requirement:

- i. They need large shops with an auction area. A small reserved area for office sitting.
- ii. Also a space is allotted for these people and the farmer to sleep in the afternoon hours.
- iii. Vegetable market does not need wholesalers to have highly sophisticated equipment's for quality analysis etc. but one or two weighing machines of different sizes will be sufficient.
- iv. Also some spaces for temporarily keeping the emptied jute bag and tokries of the farmer, which he will carry away later, is needed.
- v. Separate but smaller private storage facilities may be needed for these retailers. loading and unloading docks may serve the purpose.
- vi. Wholesalers need to have a separate vehicular parking area .
- vii. A easy to accessible canteen. Toilet facilities shall not be far away from the stalls since they find it difficult to leave the shops.

viii. They require proper services like bank , atm etc.

Wholesaler's habit:

They tend to throw the rotten vegetables on the site.

These people are not much literate , so they are least bothered about hygiene.

RETAILERS:

There are 447 retailers in the existing market. The average turnover per day is approx. 125 – 150 kg . Rent is collected by the NMC on the monthly basis. They are in direct contact with the consumer.

- i. They need some space to display their vegetable, a sitting area and a sleeping area for two.
- ii. A separate but smaller private storage facility is needed.
- iii. They also need electrical connection for fans , lights etc.
- iv. Easy access to drinking water facilities to regularly wet the fruits/ vegetables to keep them fresh.
- v. Canteen and toilet facilities.
- vi. They need some space to display their vegetable, a sitting area and a sleeping area for two.
- vii. A separate but smaller private storage facility is needed.
- viii. They also need electrical connection for fans , lights etc.
- ix. Easy access to drinking water facilities to regularly wet the fruits/ vegetables to keep them fresh.
- x. Canteen and toilet facilities.

Retailers habits:

They tend to throw the vegetables peels around the site .

Vendors are reluctant to occupy inaccessible and posterior places.

VENDOR:

There are almost 216 vendors in the market. The average turnover is 50 – 70 kg

They wanted elevated ottas /platforms to safe guard their commodities.

Proper disposal in order to have proper buying experience in the bazaar.

They demand for proper pathways.

After dark, proper lightning is important factor for vendors as well as buyers.

Proper services and facilities. [drainage, toilet, drinking facilities]

CONSUMERS:

The consumers are the last link in the chain. The study revealed that generally there are four kind of people who generally visit the market.

- i. Housewife's
- ii. Office goers
- iii. Elderly members
- iv. servants

Requirements:

The consumers need separate entrance (vehicular segregation) and adequate parking. Paved areas should be provided.

The ottas should be such designed that it provide ease to the customers.

Consumer habits:

- i. An average Indian spends approximately Rs.40 to Rs. 50 on vegetables every day.
- ii. Average time they spend in the market varies between 25- 30 min
- iii. Bargaining is an essential feature of this market which the shopkeepers have accepted.
- iv. They tend to purchase them all all at once since the environment of the market is unpleasant.
- v. People move around in he market with their vehicles in the market since no safe parking is provided.
- vi. They also carry their two-wheelers and bicycles to carry the extra load of purchase made.
- vii. Consumers display a tendency to buy from the vendors near to the entry point as far as possible.

SPACE ARRANGEMENT:

When designing retail outlets all national regulations (building and planning, fire, health and safety at work etc.) should be observed.

Basic dimensional guidelines give the minimum heights of spaces In shops and storage facilities as:

| | |
|--|--------|
| up to 400m ² retail floor space | 3.00 m |
| over 400m ² retail floor space | 3.30 m |
| over 1500m ² retail floor space | 3.50 m |

Ventilation ducts or other structures should not reduce the required clear room heights.

Site details and design proposal

Located in the centre of the Capital city, Raipur and being the main source of fruit and vegetable supply the present deteriorating conditions need to be resolved and redefined. The site is situated in a context where we need to understand its behaviour and how it can grow and expand according to the city needs. The site sur- rounds mixed use commercial spaces. The precinct lacks any sociable green space in the vicinity. So , Creat- ing just a spacious retail cum commercial market hub won't completely satisfy the need of the space.A more welcoming space where along with different shopping experiences , customers also get the freedom to enjoy other interactive user activities , making the place more

neighborly and sociable. It may create a new image of the space and bring back its loosing identity.

Design concept

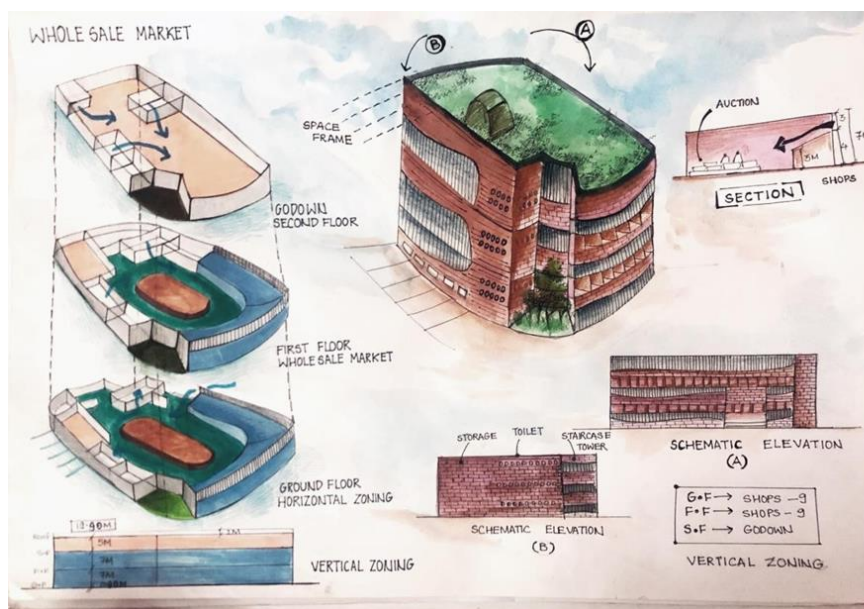
The design focuses on creating an in-between space between a mall and the bazars.

An urban interactive hub where customers not just have an amazing retail shopping experience but can also enjoy the voluntary workshops and interactions on the green roof.

The spaces are so designed that they are interconnected with each other and compliment each other.

The cafes and the park are directly connected to the inside retail market which is further connected to the green roof with workshops and open shopping markets.

THE PROPOSED DESIGN

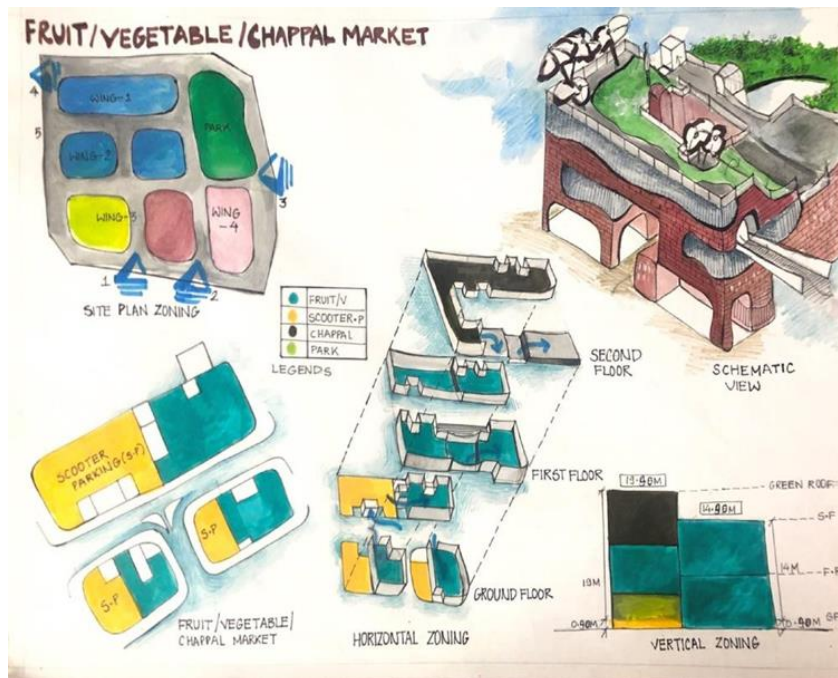
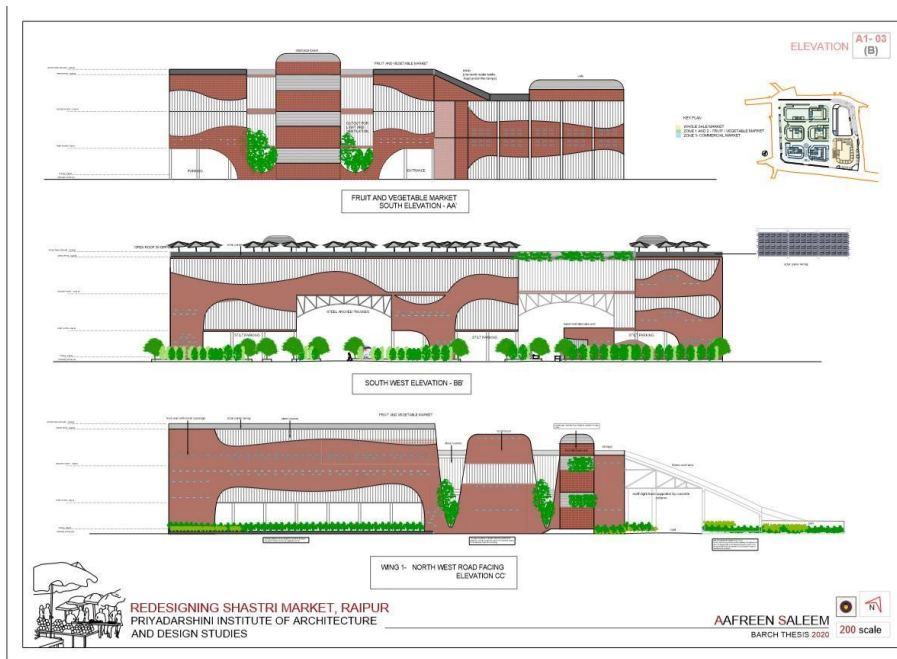


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SECTION DETAILS



Scanned with CamScanner



ELEVATION



ROOF VIEW

BIBLIOGRAPHY

- [1] <https://www.google.com/url?sa=t&source=web&rct=j&url=https://www.healthcaredesignmagazine.com/trends/perspectives/conceptplacemaking/&ved=2ahUKEwiAtafi2crpAhWOf30KHQyYB0EQFjAWegQICxAB&usg=AOvVaw0ks5Axm2gpRck-Yk2eSh4f>
- [2] <https://www.google.com/url?sa=t&source=web&rct=j&url=https://www.pps.org/article/what-is-plmaing&ved=2ahUKEwjCmOKk2srpAhUDcCsKHYuADugQFjAMegQIBxAB&usg=AOvVaw2AF FcpsetsenaKFZWCjRdo&cshid=1590261724490>
- [3] https://www.google.com/url?sa=t&source=web&rct=j&url=https://elevation.fandom.com/wiki/Machine_room_less_elevator&ved=2ahUKEwjV5vzd2srpAhWBe30KHZ3TBAgQFjAAegQICBAB&usg=AOvVaw3h4qX4EjikscH8Qk20IQOM
- [4] <https://www.google.com/url?sa=t&source=web&rct=j&url=http://smartcities.gov.in/upload/uploadfiles/files/Raipur.pdf&ved=2ahUKEwji7Hv2srpAhVSfSsKHa8nCqAQFjALegQICBAB&usg=AOvVaw3cEE-MjI8MHbJ5N8O7Dwqv>
- [5] https://www.google.com/url?sa=t&source=web&rct=j&url=https://www.irjet.net/archives/V3/i1/IRJETV3I178.pdf&ved=2ahUKEwjvx5qp28rpAhVDAcCsKHTIOA78QFjACegQICBAB&usg=AOvVaw05lchHdTbrD1nO9h_uI7UP
- [6] https://www.google.com/url?sa=t&source=web&rct=j&url=https://livingroofs.org/water-quality-rfallgreeroofs/&ved=2ahUKEwjavcbG28rpAhUDXSsKHdvwBl0QFjACegQIAxAB&usg=AOvVaw1GOd7kHTwy309E19_ZRD4Z&cshid=1590262008433
- [7] <https://www.google.com/url?sa=t&source=web&rct=j&url=https://www.slideshare.net/mobile/MohamedHashish10/underground-car-parking-ventilationsytem&ved=2ahUKEwi54Z2Q3MrpAhVLfisKHXDUB8EQFjAAegQIAhAB&usg=AOvVaw2u9dr0W25adelPcAPP6p6B>
- [8] <https://www.google.com/url?sa=t&source=wekb&rct=j&url=http://mohua.gov.in/upload/uploadfiles/files/Chap7.pdf&ved=2ahUKEwjW2e7e3crpAhUSSX0KHeJUDw0QFjAUegQIBhAB&usg=AOvVaw0VTb0NCS0W9ykVCnv3Sbzh>
- [9] <https://www.scribd.com/doc/51801049/vegetable-market-waste-apmc-biomethanation>