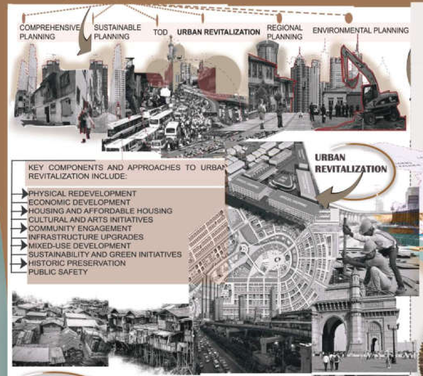
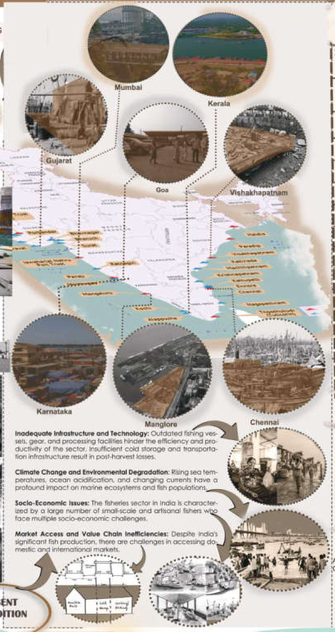
REVITALIZATION OF DOCKS :

AN APPROACH TOWARDS COMPREHENSIVE REDEVELOPMENT OF FISHING HARBOUR BY SOCIAL AND ECONOMICAL ASPECT

URBAN PLANNING



MAJOR FISHING HARBOURS IN INDIA



Inadequate Infrastructure and Technology: Outdated fishing vessels, gear, and processing facilities hinder the efficiency and productivity of the sector. Insufficient cold storage and transportation infrastructure result in post-harvest losses.

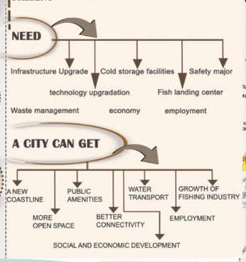
Climate Change and Environmental Degradation: Rising sea temperatures, ocean acidification, and changing currents have a profound impact on marine ecosystems and fish populations.

Socio-Economic Issues: The fisheries sector in India is characterized by a large number of small-scale and artisanal fishers who face multiple socio-economic challenges.

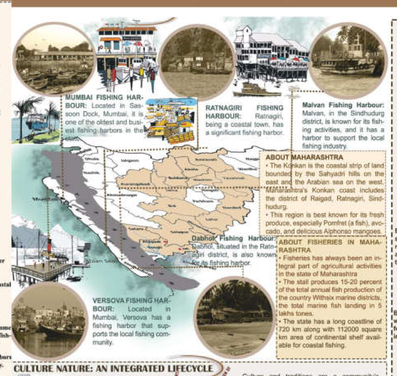
Market Access and Value Chain Inefficiencies: Despite India's significant fish production, there are challenges in accessing domestic and international markets.

TIMELINE

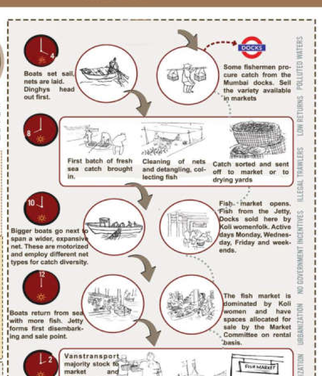
1940-1950	Historically, fishing has been an essential livelihood along the Indian coast for centuries, with fishermen using natural bays and estuaries as landing sites.
1947	Post-independence, there was a focus on modernizing fishing infrastructure. The Marine Products Export Development Authority (MPEDA) was established to promote marine product exports.
1950	The first modern fishing harbor, Visakhapatnam Fishing Harbor, was constructed in Andhra Pradesh.
1960	Kochi Fishing Harbor in Kerala was commissioned.
1961	EFFORTS WHERE TAKEN TO MAKE SASSOON DOCKS A FISH PROCESSING CENTER.
1966	Chennai Fishing Harbor in Tamil Nadu was established.
1970	Several other fishing harbors were developed along the Indian coast to support the growing fishing industry.
1980	Paradip Fishing Harbor in Odisha was inaugurated.
1981	Veraval Fishing Harbor in Gujarat was established.
1986	Kochi Fishing Harbor was expanded to accommodate larger vessels.
1990	Additional fishing harbors were constructed in various coastal states to meet the needs of the fishing community.
2000	Chennai Fishing Harbor was modernized and expanded.
2010	The Government of India initiated the Sagarmala Programme to develop and modernize port infrastructure, including fishing harbors.
PRESENT	Ongoing efforts continue to upgrade existing fishing harbors and build new ones to support the growing fishing industry.

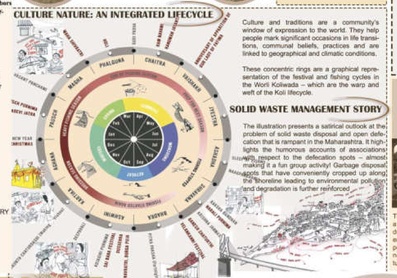


MAHARASHTRA FISHING HARBOUR



TIME LINE

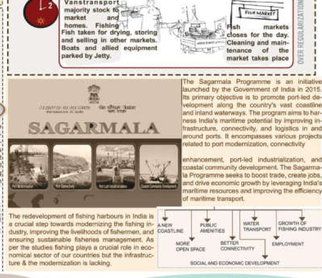




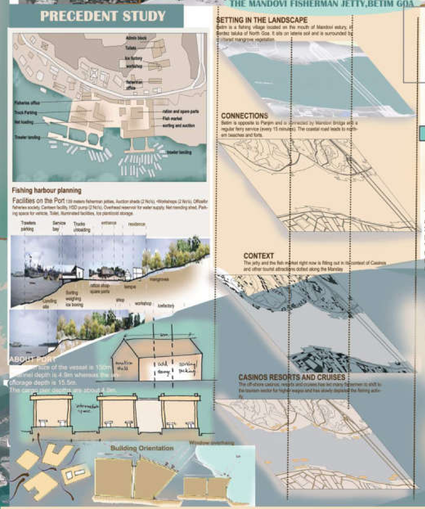
Culture and traditions are a community's window of expression to the world. They help people mark significant occasions in life transitions, communal beliefs, practices and are linked to geographical and climatic conditions.

These concentric rings are a graphical representation of the festival and fishing cycles in the Worli Koliwada – which are the warp and weft of the Koli lifecycle.

The illustration presents a satirical outlook at the problem of solid waste disposal and open defecation that is rampant in the Maharashtra. It highlights the humorous accounts of associations with respect to the defecation spots – almost, making it a fun group activity! Garbage disposal spots that have conveniently cropped up along the Shoreline leading to environmental pollution and degradation is further reinforced.



PRECEDENT STUDY



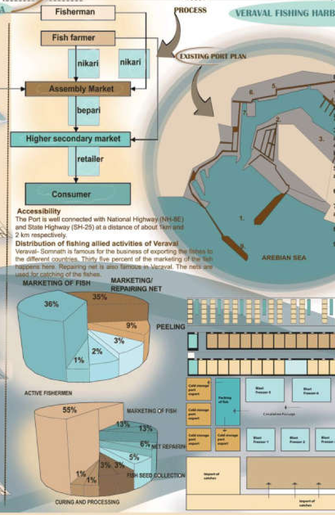
THE MANDOVI FISHERMAN JETTY,BETIM GOA

SETTING IN THE LANDSCAPE
Betim is a fishery village located on the mouth of Mandovi estuary, in Bardez taluka of North Goa. It sits on laterite soil and is surrounded by a mixed mangrove vegetation.

CONNECTIONS
Betim is opposite to Panjim and is connected by Mandovi Bridge and a regular ferry service (every 15 minutes). The coastal road leads to northern beaches and forts.

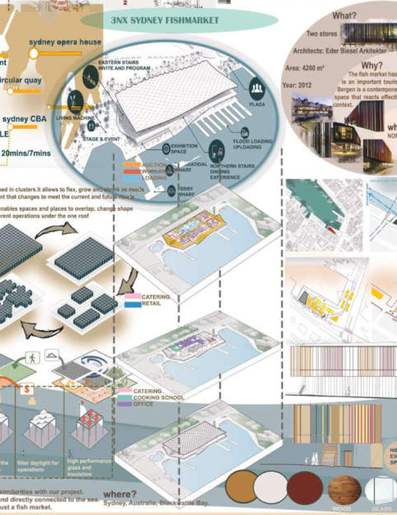
CONTEXT
The jetty and the fish market right now is flking out in front of Casinos and other tourist attractions lurked along the Mandovi

CASINOS RESORTS AND CRUISES
The off-shore casinos, resorts and cruises has led many fishermen to shift to the tourism sector for higher wages and has slowly depleted the fishing activities.

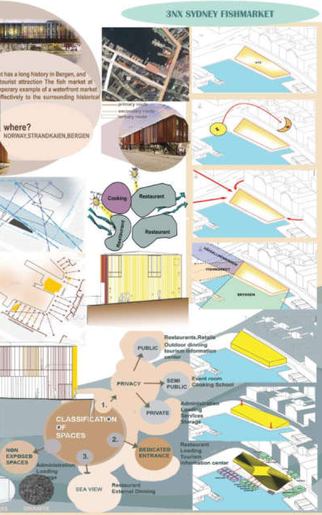


VERAVAL FISHING HARBOUR GUJARAT

3NX SYDNEY FISHMARKET



3NX SYDNEY FISHMARKET



1. PRE DESIGN (PROJECT PRELUDE)

APPASAHEB BIRNALE COLLEGE OF ARCHITECTURE

VANSHIKA ARVIND DESAI

FINAL YEAR B.ARCH
ARCHITECTURAL PROJECT II

COMPARATIVE MATRIX

SR.NO.	PARAMETERS	LITERATURE REVIEW CONCLUSION	LIVE CASE STUDY 1	LIVE CASE STUDY 2	NET CASE STUDY 2	NET CASE STUDY 3	NET CASE STUDY 4	CONCLUSION	DATA COLLECTION	DESINGN PROGRAM
		INTRODUCTION								
1.	NAME		**Mandovi fishermen jetty**	**Norway Fishing Harbour**	**Veraval fishing harbour**	**3NX Fishmarket**	**Oman Fishmarket**			
2.	CASE STUDY ASPECT		For studying the spaces, circulation and site surrounding,port export program me,temporal activities.	For studying the spaces, circulation and site surrounding,temporal activities.	For studying the spaces, circulation,activity linkage design aspects.	For studying the spaces, circulation,activity linkage design aspects,material used,design principles.	For studying the spaces, circulation,activity linkage design aspects,material used,design principles.	analyzing all the case studies and combing the activities		
3.	LOCATION: STATE CITY AREA	Loaction of all the area is nearer to the sea or river area where fishing is practiced and it may be away from the city	Goa,Panjim,Betim The Mandovi fishing harbour is located in Malim,Panjim,Goa, India.City Location North Goa. Panjim is a economical Capital of Goa where harbour is located. Half of the population is dependent for livelihood.	Norway,Bergen Bergen's fish market, known as "Fiskebrygge", is located in the heart of Bergen, Norway. It is situated along the waterfront in the city center, near the historic Bryggen Wharf.	Gujarat,Soamnath,Veraval Veraval Fishing Harbour is located in the city of Veraval in the state of Gujarat, India. Veraval is a coastal town in the Gir Somnath district of Gujarat, and the fishing harbor is situated along the coast of the Arabian Sea in close proximity to the city center	Australia,Sydney,Paramatti River. located in Pyrmont to an adjacent wharf in Blackwattle Bay in Sydney Harbour within The Bays Precinct. The new market is to be located on the water and a park, and across the promenade.	Muttrah is a coastal town in Oman, and it has a hot desert climate. The climate typically has scorching summers with very little rainfall and milder winters.	A location near by water front,fishing is practiced on daily basis.Analysis to be done in the area where redevelopment is necessary and should have the historical significance,which will be beneficial for the city	As per collected data under the sagarmala program the entire fishing harbours in maharashtra are going to modernize.mumbai is the first preference in that because of its history.	A location near by water front,fishing is practiced on daily basis.
		MACRO ANALYSIS								
6.	CLIMATE	Mainly the sites are located near the harbour area so humid climate is experienced	Goa's architectural response to its tropical monsoon climate includes vernacular houses with sloping roofs, central courtyards for ventilation, and features like louvers.	The climate of Bergen, Norway, influences the architecture of its Fish Market with sturdy, weather-resistant structures that may incorporate efficient insulation, large windows for natural light	Veraval Fishing Harbour in Gujarat, influenced by its coastal climate, features architecture with corrosion-resistant materials and designs emphasizing natural ventilation.	Sydney, Australia has a temperate maritime arch- climate characterized by means it warm summers (December- February) and mild winters (June-August).	Muttrah is a coastal town in Oman, and it has a hot desert climate. The climate typically has scorching summers with very little rainfall and milder winters.			
	SCALE OF PROJECT	It should be State level. City having the fishing backgroung and fishing is practiced on daily basis.	State level project. Promotes developing the economy of the Goa,having good connectivity.	State level project.	State level project.	National level Project	National level Project	It should be State level		It should be State level
3.	CONNECTIVITY	Road,Railways,Water.	Road,Railway,Water.	Road,Water.	Road,Railway,Water.	Road,Water.		Road,Railway,Water.		Road,Railway,Water.
	ACCESSIBILITY	Pedistrian,Vehicular,by boat	Pedistrian,Vehicular,by boat	Pedistrian,by boat	Pedistrian,Vehicular,by boat	Pedistrian,Vehicular,by boat	Pedistrian,by boat	Pedistrian,Vehicular,by boat		Pedistrian,Vehicular,by boat
	GEOLOGY	laterite formations, sedimentary rocks along the coast, rich mineral resources like iron ore.	complex tectonic history, featuring ports carved by glacial activity, extensive mountainous terrain.	laterite formations, sedimentary rocks along the coast, and influences from the Western Ghats	sandstone, which forms the Sydney Basin, containing sedimentary rocks.	oceanic crust, along with sediments and rocks, mountains like the Al Hajar Range				
		MICRO ANALYSIS								
	SITE AREA	Depending upon the location the area changes on a high level.	5 acres.A small scale harbour jetty where a small fish market is operated near by.	2 acres 2023.43sq.m Since it is retail market no sea shore connected small in scale.	7.5 acres A harbour with all the allied activities ect surrounded by the bay.	8 acres all 33,241.01sqm A retail market with water front area and fish selling market included in with auction hall	3 acres A wholesale market	depending upon the region and site area changes but they are almost above 5 acres.		Min 10 acres or more.
	SITE SURROUNDING		The Mandovi Fishing Harbour in Goa is situated amidst a picturesque landscape with the tranquil Mandovi River, vibrant local markets, and the charming old-world charm of Panaji city in its surrounding.	Bergen's Fish Market is set in the heart of the historic Bryggen Wharf, featuring colorful wooden buildings dating back to the Hanseatic period in Norway.	The Veraval Fishing Harbour in Gujarat is surrounded by the bustling activity of Veraval town, featuring a vibrant mix of coastal life, traditional markets	Near by area is old fish market,park,college,sports complex located in a neighbourhood	restaurant,cafes and a neighbourhood,the surrounding area of the harbour.				
	Average Footfall	As the harbour is used daily the min foot fall should be 500	1800 per day	1500 per day	1700 per day	2000 per day	1500 per day	Min 2000 footfall should be considered.	In region like maharashtra min 1500 footfall occurs daily.	Min 2000 footfall should be considered.
	LAND USE	Reserved area for fishing activities	Reserved area for fishing	Reserved area for fishing	Reserved area for fishing	Reserved area for fishing	Reserved area for fishing	Reserved area for fishing	Reserved area for fishing	Reserved area for fishing
	GREEN SPACE	Natural and medium	Natural having very low density			Natural having medium density	Natural having low density	Natural and medium		Natural and medium
10.									In region like maharashtra min 1500 footfall occurs daily.	Min 16000 footfall should be considered.
11.	User	Workers and the sellers are the fixed users	Workers,Tourist,Fisherman locaks community	Local Community,seller, fisherman	Workers,Tourist,Fisherman locaks community	Workers,Tourist,Fisherman locaks community	Workers,Tourist,Fisherman locaks community	Workers,Tourist,Fisherman locaks community	Workers,Tourist,Fisherman locaks community as per the site user may change.	Workers,Tourist,Fisherman locaks community as per the site user may change.
12.	Zoning Type vertical horizontal	mainly these are mainly spread horizontally more in our Indian context as it require low storey.	Here 80% spread is horizontal while 20% is vertical.	Here 80% spread is horizontal while 20% is vertical.	Here 70% spread is horizontal while 30% is vertical.	Here 40% spread is horizontal while 60% is vertical.	Here 40% spread is horizontal while 60% is vertical.	Mainly these areas are spread more horizontally.		It should be 40% spread is horizontal while 60% is vertical.
13.	Connectivity within site		Connected with the pathways and main function areas are interconnected.	Connected with the pathways and main function areas are interconnected.	Connected with the pathways and main function areas are interconnected.separate commections for import and export.	Connected with the pathways and landscape patches main function areas are interconnected	Connected with the pathways and landscape patches main function areas are interconnected	All the spaces should be interconnected with the pathways and main function areas should hace separate connection.		All the spaces should be interconnected with the pathways and main function areas should hace separate connection.
14.	Material used		concrete,aluminium,timber	concrete,timber	concrete,aluminium,timber	Glass,concrete,focks	Glass,concrete,aluminium	Reinforced concrete,steel, timber,etc should be used commonly used for fishing harbor construction, providing durability and strength .	Reinforced concrete,steel, timber,etc should be used commonly used for fishing harbor construction, providing durability and strength .	Reinforced concrete,steel, timber,etc should be used commonly used for fishing harbor construction, providing durability and strength .
15.	Areas specified for activity Truck road Width		9M one way	12M road	12M road	18M road	10M road	Min 12 M road must be provided	Min 18 M road must be provided	Min 18 M road must be provided
	Public Access road		Provided	Provided	Provided	Provided	Provided	Public access road must be provided		Public access road must be provided
	Number of parking		150 2 wheelers and 50 proper provision for 4 wheeler	200 2 wheelers and 50 proper provision for 4 wheeler	150 2 wheelers and 50 proper provision for 4 wheeler	417 total parking	280 total parking	200 2 wheelers,50 car and 10 truck parking should be provided.	small tempo 2.7 x 5.5 meters 4 wheeler 2.7 x 5.5 meters 2 wheeler 0.75 x 1.5 meters	200 2 wheelers,50 car and 10 truck parking should be provided.
	Finger jetties	Finger jetties are narrow extensions from a main dock used in harbors and marinas	2 holding capacity 20		finger jetties 100m in length each (8 no.)	2 holding capacity 14	3 holding capacity 12	Minimum 4 finger jetties capacity 20		Minimum 4 finger jetties capacity 20
	Gang way	A gangway is a movable bridge or passage that provides a temporary connection	2 M steel length		1.5m steel length	1.8m steel length 1.8mwidth 5m	1.8m steel length 1.8mwidth 5m	Minimum 1.8m steel length 1.8mwidth 5m	Assess the design and placement of finger jetties for berthing fishing vessels	Minimum 1.8m steel length 1.8mwidth 5m
	Ship repair	ship repair involves maintenance, restoration, or modification of ships to ensure their seaworth	Provided		Provided	Provided	Provided	Ship repair unit must be provided	600 to 1000 sq.m.	Ship repair unit must be provided area 800 to 1000 sq.m.
	Sorting or loading	Sorting or loading is mainly provided near the bay	Happnes in lower level	Happnes in on the harbour site.	Happnes near the bay	Happnes from the market directly	Happnes near the bay	should happen on bay area to achieve hygiene.	400 to 500sq.m	should happen on bay area to achieve hygiene 500 sq.m.
	Fuel Station		Provided		Provided	Provided	Provided	Fuel station are must near the harbour.	A small fuel station may need around 1,000 to 2,000 square meters.	1 or 2 depending upon the area
	Auction hall	Auction hall is a place where mainly auction is held in morning	Provided	Provided	Provided	Provided	Provided	Auctions halls must be provided.	min area 2500 sq.m	Auctions halls are core of design area 3000 sq.m.
	ice plant	ice plant is must for fish market	Provided		Provided	Provided	Provided	ice plant must be provided.	min area 1000 sq.m	min area 1000 sq.m
	Effulent treatment plant	An effluent treatment plant (ETP) is a facility designed to treat industrial wastewater or effluent.	Provided		Provided	Provided	Provided		50 Sq.m ideal area	50 Sq.m ideal area
	Sizing area drying area packing & store	separation of fish drying and packing and storage is done in this process.	Provided		Provided	Provided	Provided	these spaces should be interconnected with each other	these spaces should be near to the sea of area 400,400 and 1000 min.	400 Sq.m ideal area 400 Sq.m ideal area 1000 Sq.m ideal area
	net storage work space	a net in which fish is catched so the net storage is required.	Provided		Provided	Provided	Provided		required to provide near to catching area.	200 Sq.m 200 Sq.m
	Vender Zone selling space cleaning grocery stores public washroom staff swahroom	A vendor zone in a fishing harbor is a designated area where various vendors and businesses can operate to support the needs of the fishing community and harbor users.	Provided	Provided	Provided	Provided	Provided	these spaces should be interconnected with each other with separate wash room for public and working staff.		200 Sq.m 200 Sq.m 1000 Sq.m 100 Sq.m 100 Sq.m
	office spaces meeting hall workshop space		Provided		Provided	Provided	Provided	these spaces should be aside from the public zone		200 Sq.m 500 Sq.m 1000 Sq.m

DESIGN PROGRAME:

Location: Mumbai,Sassoon Docks Mumbai

Site Area: 28Acres

Oceanic Connection: This concept focuses on creating a design that celebrates the relationship between the fishing industry and the surrounding marine environment. The fishing industry section could feature architectural elements inspired by the ocean, such as wave-like structures and maritime motifs. The public area could incorporate open spaces and walkways that mimic the fluidity of water, connecting visitors to the natural landscape. An open theater could be positioned to overlook the sea, providing a stunning backdrop for performances and events. A restaurant with panoramic views of the waterfront would allow diners to immerse themselves in the coastal atmosphere. Additionally, a museum showcasing marine life and the history of fishing could further enhance the connection between the market and its surroundings.

Site Area: 28Acres

Sr.No.	Space	Number
1.	No. of vessels	150
2.	No. of fishermen	60-100
3.	No. of cooler workers	600
4.	No. of trucks on site	60
5.	No. of small tempos	50
6.	No. of cars	50
7.	No. of 2 wheeler	200
8.	No. of visitors	200

Fish Processing Industry

Sr.No.	Space/Activity	Description	No. Of User	No. Of Unit	Area (Sq.m)	Reference
	ADMINISTRATION					
1.	Reception	guidance or question queries			100	NIIC Part 3
2.	Waiting	Place for resting or to wait for before call.			100	NIIC Part 3
3.	General Office	A general office is a workplace where administrative, clerical, and managerial tasks are conducted to facilitate the smooth operation.			100	Neufert
4.	Chairman Office				20	Neufert
5.	OCWP Office				115	Neufert
6.	MbPT Office	Mumbai port trust office			230	Port regulation book
7.	Revenue Office	The revenue office burns with financial activity, where meticulous calculations meet strategic decisions.			100	Neufert
8.	EDI Department	EDI is the electronic exchange of business documents, such as purchase orders and invoices, between trading partners in a standardized format.			150	
9.	Meeting Room	A meeting room is a designated space equipped for gatherings and discussions			16	Neufert,time saver std.
10.	Conference Room	A conference room is a designated space equipped for larger meetings, presentations, and discussions	50	3	90	Neufert,time saver std.
11.	Pantry	A pantry is a designated area within an office where food and beverages are stored			12	Neufert,time saver std.
12.	Office Toilet (Male)		50	4WC 4UR 5WB	29	UDCPR
13.	Office Toilet (Female)		50	4WC 5WB	26	UDCPR
				Carpet	988	
				BUILT UP	1136	
	FISH PROCESSING					
1.	Net Store	A fishing net store is a retail establishment specializing in the sale of fishing nets and related gear, catering		2	60	Case studies and data collection.
2.	Hardware store	Storage unit for material			50	Case studies and data collection.
	Receiving unit	A receiving unit typically refers to a part of a larger system or process.			200	Port regulation book
3.	Grading unit	a grading unit is a specialized area or section where fish products are sorted and categorized			300	Case studies and data collection.
4.	Pre Processing				800	Port regulation book
4.a	Processing unit	A processing unit, in a general sense, refers to a component or section within a system			1200	Port regulation book
5.	Chill Room	A chill room is a designated storage space, typically within the food industry.		4	120	Case studies and data collection.
6.	Packaging Unit	products are prepared, enclosed, and sealed for distribution			500	Port regulation book
7.	Cold Storage	purpose of preserving perishable goods, typically at temperatures above freezing			550	Port regulation book
8.	Auto Room	a small room or entryway that serves as an intermediary space between two areas			100	Port regulation book
9.	Ice Manufacturing Unit	ice is produced on a commercial scale			1100	Case studies and data collection.
10.	Machine Room	A machine room is a designated space within a facility where various machines			400	Case studies and data collection.
11.	Wave House	A warehouse is a large, dedicated facility used for the storage of goods			50	Port regulation book
	Packaging material store				360	Case studies and data collection.
12.	Chemical Store	A chemical store is a facility or designated area where chemicals			125	Port regulation book
13.	Laboratory	A laboratory is a controlled environment where scientific experiments are conducted		2	155	Port regulation book
14.	Doctors Room				90	Port regulation book
15.	Utility Room				90	Port regulation book
16.	Workshop	space within a facility where practical work, training, are conducted.	100	2	260	Port regulation book
17.	Kitchen		25%		230	Neufert,time saver std.
18.	Cafeteria			600	720	Neufert,time saver std.
19.	Store Room	Used for Storage			170	Neufert,time saver std.
20.	BMS Room				75	
21.a	Locker Room	To store the essentials of workers	285		60	Neufert,time saver std.
b	Locker Room		210		52	
c	Locker Room		230		90	
d	Locker Room		480		90	
22.	Workers Toilet (Male)			6 W,C,5W,B,5UR	75	UDCPR
	Workers Toilet (Male)			W,C,8W,B,7UR	105	UDCPR
23.	Workers Toilet (Female)		350	7WC, 6WB	60	UDCPR
	Workers Toilet (Female)		350	6WC, 6WB	85	UDCPR
24.	Workers Rest Room (F)		20	2 Sofa Sets	45	UDCPR
25.	Workers Rest Room (M)		20	2 Sofa Sets	45	UDCPR
26.	Day Care Centre	provides care and supervision for infants, toddlers, and young children	450		950	Neufert,time saver std.
	Fuel Station			2 (2x10)	400	
				Carpet	9762	
				BUILT UP	11226	

Fish Market

Entry/Exit (Public): 2 on Main Road | 1 from Parking

Entry/Exit (Workers): 2 to Washing Area | 1 Direct

No. of Parking: 40 nos

Sr.No.	Space	Description	No.of Unit	Area	Reference
1.	General Store	Storage unit for material	1	50	Case studies and data collection.
2.	Office		1	30	Neufert,time saver std.
3.	Bank		1	110	Neufert,time saver std.
4.	Chemist		1	30	
5.	Washing and weighing Unit 1	Fish weighing and washing before it is sold	1	110	Case studies and data collection.
6.	Washing and weighing Unit 1		1	70	Case studies and data collection.
7.	Display Counter Rectangle	Counters where fish is displayed	50	250	Case studies and data collection.
8.	Display Counter Circular		4	60	Case studies and data collection.
10.	Circulation Space			800	Case studies and data collection.
			Carpet	1564	
			BUILT UP	1798	

Maritime Museum

Sr.No.	Space	Description	No.of Unit	Ar
1.	Lobby			18
2.	Ticket Counter			20
3.	Audio Visual room	Showcasing of different maritime goods for multimedia presentations, meetings, or educational purposes	1(56)	18
4.	Control Room	monitoring, control, and coordination of various systems and processes take place	1	35
5.	EHU		3	20
6.	AHU		3	20
7.	Workshop	space within a facility where practical work, training, are conducted.	1	17
8.	Toilet Male		4	30
10.	Toilet Female		4	30
			Carpet	2,2
			BUILT UP	30

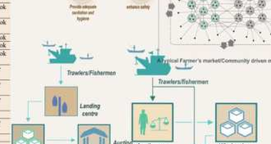
Restaurants and Shops

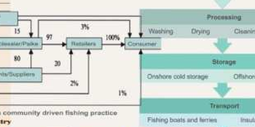
Sr.No.	Space	No.of Unit	Area	Reference
1.	Seating	Capacity 300	980	Neufert,time saver std.
2.	Food Preparation area	1	300	Neufert,time saver std.
3.	Cold Storage	1	12	Neufert,time saver std.
4.	Dry Storage	1	12	Neufert,time saver std.
5.	Staff Restaurant	1	12	Neufert,time saver std.
6.	Dish Wash	1	12	Neufert,time saver std.
7.	Office	1	20	Neufert,time saver std.
8.	Toilet Male	2 WC 5UR	26	UDCPR
9.	Toilet Female	5 WC	20	UPCPR
10.	Open Kitchen	1	40	Neufert,time saver std.
11.	Retail Shops	3	60	Neufert,time saver std.
	Carpet		1,322	
	BUILT UP		1520	

Services:

Sr.No.	Space	Area	Reference
A	Waste Management Plant		Port Regulation
1.	Collection and sorting	150	
2.	Store	75	
3.	Fish Waste	50	
4.	Paper Waste	50	
5.	Organic Waste	42	
6.	Toxic Waste	50	
7.	Offal Processing	110	
		577	
B.	Machine Room	400	NBC
C.	Generator Room	140	NBC
D.	Fire Control Room	20	NBC
E.	Surveillance Room	30	NBC
		590	
		1162	

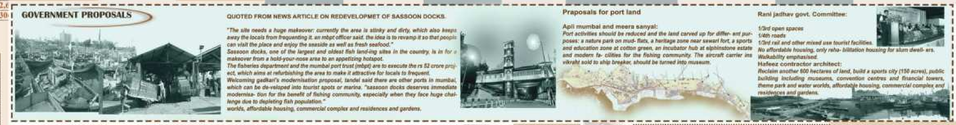
TOTAL BUILTUP AREA:18,744



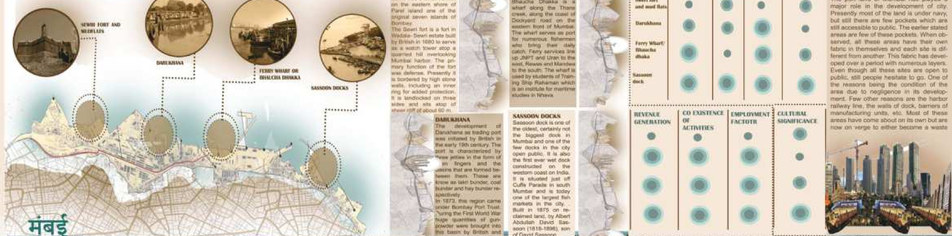


TIME LINE OF FISHING HARBOURS IN MAHARASHTRA

GOVERNMENT PROPOSALS

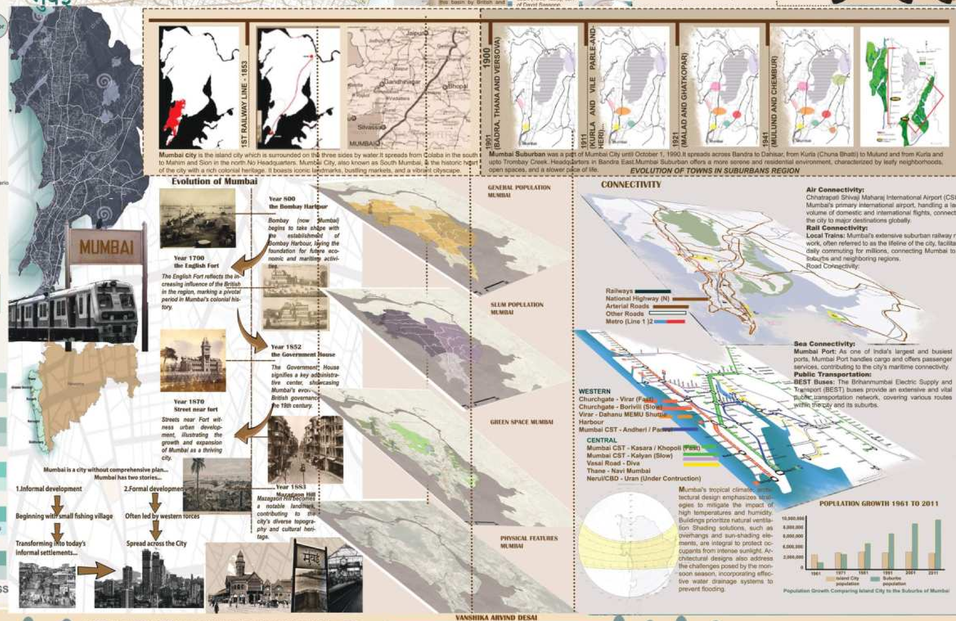


ANALYSIS OF DOCKS IN MUMBAI :



THE WESTERN EDGE V/S EASTERN EDGE

The port land of Mumbai has played a major role in the development of city. Presently most of the land is under navy, but still there are few pockets which are still accessible to public. The earlier stated areas are few of these pockets. When deserved, all these areas have their own fabric in themselves and each site is different from another. This fabric has developed over a period with numerous layers. Even though all these sites are open to public, still people hesitate to go. One of the reasons being the condition of the area due to negligence in its development. Few other reasons are the harbor railway line, the walls of dock, barrens of manufacturing units, etc. Most of these areas have come about on its own but are now on verge to either become a weak



VANSHIKA ARVIND DESAI

FINAL YEAR B.ARCH
ARCHITECTURAL PROJECT II

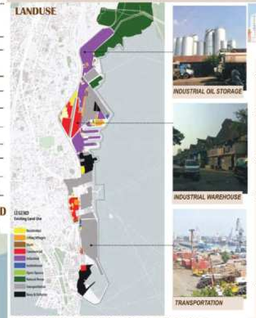
APPASAHEB BIRNALE COLLEGE OF ARCHITECTURE

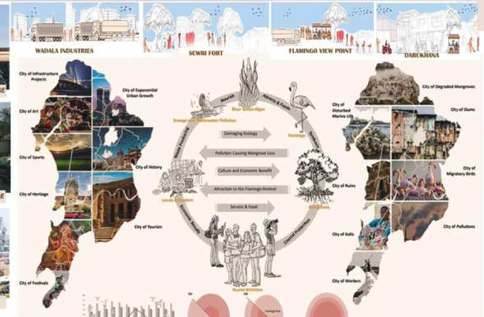
REVITALIZATION OF DOCKS : AN APPROACH TOWARDS COMPREHENSIVE REDEVELOPMENT OF FISHING HARBOUR BY SOCIAL AND ECONOMICAL ASPECT

2. PREDESIGN (MATRIX,DESIGN PROGRAMME,SITE JUSTIFICATION)

EASTERN WATERFRONT

LANDUSE

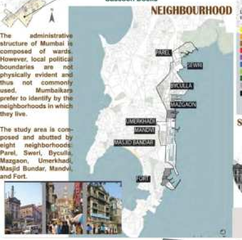




NEIGHBOURHOOD

The administrative structure of Mumbai is composed of wards. However, local political boundaries are not physically evident and thus not commonly used. Mumbaikars prefer to identify by the neighborhoods in which they live.

The study area is composed and abutted by eight neighborhoods: Parel, Sewri, Byculla, Mazgaon, Umerkhadi, Masjid Bundar, Mandvi, and Fort.



STORY OF MUMBAI'S MILL LAND DEVELOPMENT

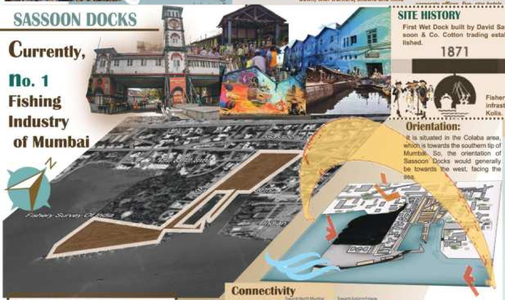
1982 mill strike — Girangaon, which supported a workforce of at least 2.5 lakh workers, shut down, with workers, chawls and mills — Spread across 240 hectares or 600 acres, the defunct mill land got revamped into luxury apartments, — Central Mumbai started to get a new landscape and skyline

IMPORTANCE OF MUMBAI PORT

Status: Largest major port in the country and Fourth largest port in terms of tonnage handling — 2. Geographical Location: Gifted with a natural deep-water harbour of about 400 square kilometres — 3. Historical Importance: Development of trade and commerce — Public Value: Valuable contribution to society, livelihood and job opportunities

SASSOON Ddocks

Currently, No. 1 Fishing Industry of Mumbai

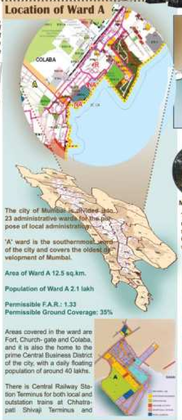


SITE HISTORY

Orientation:

It is situated in the Colaba area, which is towards the southern tip of Mumbai. So, the orientation of Sassoon Docks would generally be towards the west, facing the sea.

Location of Ward A



The city of Mumbai is divided into 23 administrative wards for the purpose of local administration.

'A' ward is the southernmost ward of the city and covers the oldest development of Mumbai.

Area of Ward A 12.5 sq.km.

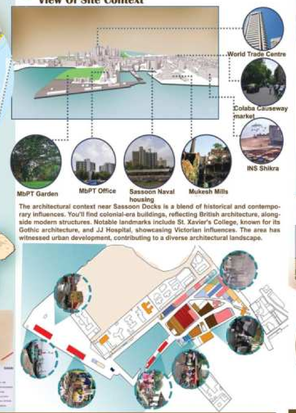
Population of Ward A 2.1 lakh

Permissible F.A.R.: 1.33
Permissible Ground Coverage: 35%

Areas covered in the ward are Fort, Church- gate and Colaba, and it is also the home to the prime Central Business District of the city, with a daily floating population of around 40 lakhs.

There is Central Railway Station Terminus for both local and outstation trains at Chhatrapati Shivaji Terminus and

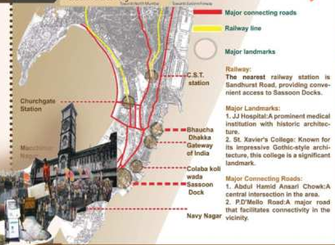
View Of Site Context



The architectural context near Sassoon Docks is a blend of historical and contemporary influences. You'll find colonial-era buildings, reflecting British architecture, alongside modern structures. Notable landmarks include St. Xavier's College, known for its Gothic architecture, and JJ Hospital, showcasing Victorian influences. The area has witnessed urban development, contributing to a diverse architectural landscape.

Connectivity

- Colaba Causeway, Colaba, Mumbai
- Built in 1871
- Built by Baghdadi Jew, Sir David Sassoon
- Owned by Mumbai Port Trust
- Site Area 80680 sam-20 acres
- Covered Area 21900 sqm-27%
- Major Fishing Harbour of Maharasthra
- Main fish loading and trading centre of South Mumbai
- 48,000 metric tonnes of fish annually
- 1,500 number of fishing vessels
- 450m Total Quay Length



Railway:
The nearest railway station is Sandhurst Road, providing convenient access to Sassoon Docks.

Major Landmarks:
1. JJ Hospital:A prominent medical institution with historic architecture.
2. St. Xavier's College: Known for its impressive Gothic-style architecture, this college is a significant landmark.

Major Connecting Roads:
1. Abdul Hamid Ansari Chowk:A central intersection in the area.
2. P.D'Mello Road:A major road that facilitates connectivity in the vicinity.

IN MUMBAI'S HEART, WHERE HISTORY WHISPERS LOW,
STANDS SASSOON DOCKS, WHERE STORIES FLOW.
ITS GATES, GUARDIANS OF A BYGONE AGE,
HOLD TALES OF FISHERMEN'S RESILIENT WAGE.

THROUGH RUSTED IRON, ECHOES OF THE PAST,
OF BUSTLING MARKETS, NETS FULL AND VAST.
WHERE SALT-SOAKED HANDS AND WEARY FEET,
WEAVED TALES OF SURVIVAL ON THE CITY'S BEAT.

AMIDST THE CHAOS, A TRANQUIL SIGHT,
WHERE BOATS DANCED GENTLY IN THE FADING LIGHT.
A HARBOR OF HOPE, WHERE DREAMS TOOK FLIGHT,
IN THE EBB AND FLOW OF DAY AND NIGHT.

YET TIME MOVES ON, AND WINDS OF CHANGE BLOW,
SASSOON DOCKS, A RELIC, BUT NOT IN WOE.

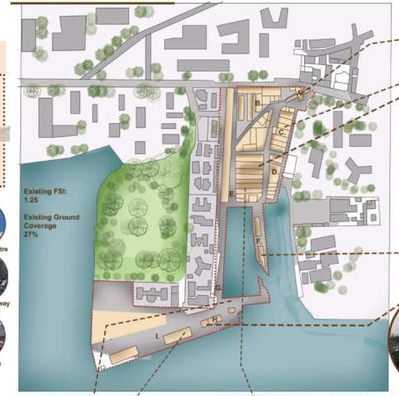
FOR IN ITS CONSERVATION, A NEW STORY BEGINS,
OF SOCIAL AND ECONOMIC GROWTH, WHERE PROGRESS WINS.

REDEVELOPMENT WHISPERS ON THE SALTY BREEZE,
A VISION TO REVIVE, TO EMPOWER, TO PLEASE.
WITH EVERY BRICK LAID, AND EVERY PLAN DRAWN,
A TRIBUTE TO THE PAST, A NEW DAWN IS BORN.

WHERE ONCE STOOD RELICS OF A FISHING LORE,
NOW THRIVES A HUB, BUSTLING EVERMORE.
A BEACON OF OPPORTUNITY, A SYMBOL OF PRIDE,
WHERE COMMUNITIES FLOURISH, SIDE BY SIDE.

SO LET THE GATES OF SASSOON DOCKS STAND TALL,
WITNESS TO HISTORY, EMBRACING CHANGE'S CALL.
FOR IN ITS REDEVELOPMENT, A PROMISE IS MADE,
OF A BRIGHTER FUTURE, WHERE HOPES CASCADE.

EXISTING SITE PLAN



EXISTING SITE SECTION

Water Tank
Area: 152 sq.m.
Age: 25 years
Material: RCC Structure
Condition: Good

The zone from the entrance till the basin displays a signifi cant character of the mils of 1880s being reused for other purposes now, primary activity being fishing industry. The use of structures in this district have changed in an inorderly mannert howev-er the elevational and structural ele- ments remain the same. Many buildings here ile abandoned. Scarcity in greenery and filth is observed around.

PEELING SHED
Area: 270 sq.m.
Material: RCC Structure with Metal Sheet Roofing / Terracotta Tile Roofing
Condition: Moderate: Need to be redesigned; Inadequate area

PEELING SHED
Area: 900 sq.m.
Material: Metal, Brick and Con- crete with metal sheet roofing
Condition: Poor: Need to be de- molished

PEELING SHED CLONED BUILDING MbPT OFFICE
Area: 450 sq.m. each
Material: Metal, Brick and Concrete; metal sheet roofing and steel fram- ing
Condition: Moderate; Improper plan- ning: Inefficient utilisation of space:
Haphazard arrangement; Exposed Services; Double Walls
Elevation: Control of Windows on upper level and shutters on lower levels
Can be considered to demolish in order to modernise fishing indus- try with proper planning services and maximum utilisation of space

This particular region lies on the later reclaimed land in 1990s with recent built spaces like the Bombay Port Trust Office and a water tank along with the Export Sheds where the export quality catchment is unloaded and dis- patched. This less accessed area lies inactive in the day- time inspite of a 450m coastline available to exploit con- sidering the nature of the precinct and users.

MARKET SHED
Area: 4009 sq.m.
Material: RCC Structure with metal sheet roofing and steel framing
Condition: Good

ANCILLARY STORES
Area: 240 sq.m.
Material: Temporary Structure made of Asbestos Sheet and Timber Doors and Windows and Steel Shutters
Condition: Poor: Need to be redesigned; Inappropriate placement

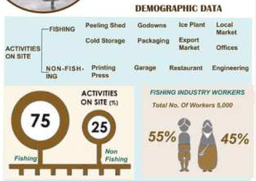
BPT OFFICE
Area: 300 sq.m. Age: 25 years
Material: RCC Structure
Condition: Poor; Vegetation growth on facade; Damaged Fenestrations; Inadequate Ser-vices
Features: Lack Planning: No unique elevational character

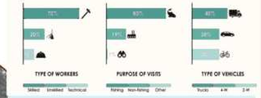
ENGINEERING OFFICE
Area: 880 sq.m.
Material: Metal, Brick and Con- crete with Brick Walls
Condition: Moderate: Need reno- vation
Elevation: Regular Pattern of Win- dows; Doors: In contrast with the structures in the precinct

SASSOON GODOWN
Area: 320 sq.m.
Material: Metal, Brick and Con- crete with Brick Walls Condition: Moderate; Need renovation
Elevation: Regular Pattern of Fen- estrations; In contrast with the buildings in the precinct

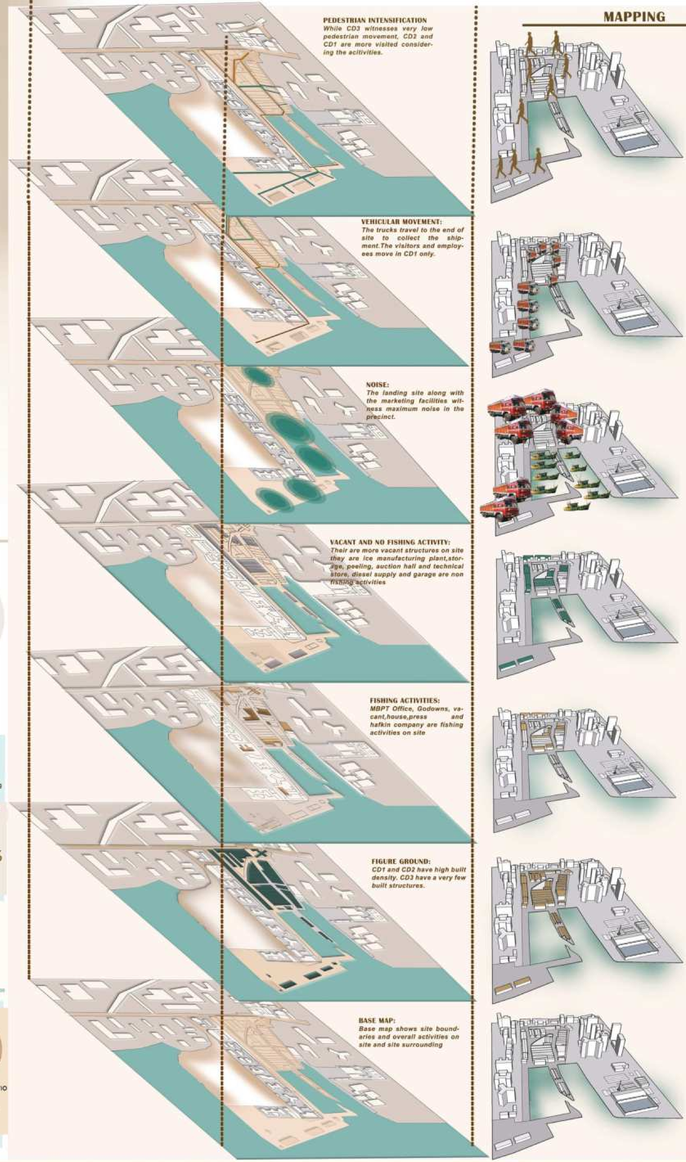
DEMOGRAPHIC DATA

ACTIVITIES ON SITE					
FISHING	Peeling Shed	Godowns	Ice Plant	Local Market	
	Cold Storage	Packaging	Export Market	Offices	
NON-FISHING	Printing Press	Garage	Restaurant	Engineering	





MAPPING



PEDESTRIAN INTENSIFICATION
While CD3 witnesses very low pedestrian movement, CD2 and CD1 are more visited considering the activities.

VEHICULAR MOVEMENT:
The trucks travel to the end of site to collect the shipment.The visitors and employees move in CD1 only.

NOISE:
The landing site along with the marketing facilities witness maximum noise in the precinct.

VACANT AND NO FISHING ACTIVITY:
Their are more vacant structures on site they are ice manufacturing plant,storage, peeling, auction hall and technical store, diesel supply and garage are non fishing activities

FISHING ACTIVITIES:
MbPT Office, Godowns, vacant,house,press and hatkin company are fishing activities on site

FIGURE GROUND:
CD1 and CD2 have high built density. CD3 have a very few built structures.

BASE MAP:
Base map shows site boundaries and overall activities on site and site surrounding

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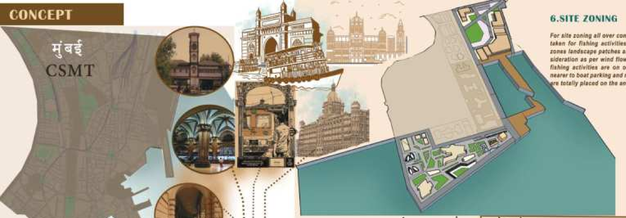
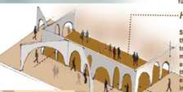
VANSHIKA ARVIND DESAI
FINAL YEAR B.ARCH
ARCHITECTURAL PROJECT II

CONCEPT



Victorian Gothic Architecture:

CSMT, formerly known as Victoria Terminus (VT), is an iconic railway station in Mumbai and a UNESCO World Heritage Site. Built in the late 19th century, it exemplifies Victorian Gothic architectural style, characterized by its pointed arches, turrets, spires, and intricate stone carvings. The station's façade is adorned with sculptures representing various aspects of Indian culture and history, reflecting the blend and fusion of British and Indian architectural motifs.

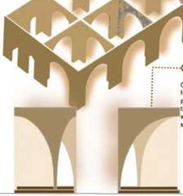


Historical Context:

Study the architectural context of the surrounding area, including traditional buildings and landmarks. Incorporate elements such as arches that are characteristic of the local architectural heritage to ensure harmony with the surroundings.

Passive Cooling Techniques:

Utilize passive cooling techniques, such as natural ventilation and shading, to minimize heat gain within the building. Arches can be strategically positioned to provide shading for windows and openings, reducing solar heat gain during peak sunlight hours.



Climate Analysis:

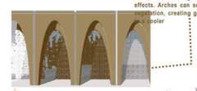
Conduct a thorough analysis of the local climate, focusing on factors such as sunlight exposure, prevailing wind patterns, and temperature variations. Understanding these climatic conditions will help determine the most effective design strategies for heat reduction.

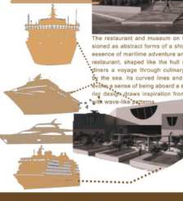
Architectural Form:

Integrate arches into the building's design in a way that enhances its overall architectural form and aesthetic appeal. Consider variations in arch size, shape, and placement to create visual interest and rhythm along the facade while maintaining coherence with the building's design language.

Vegetation Integration:

Incorporate greenery, such as climbing plants or vertical gardens, into the design to further enhance shading and cooling effects. Arches can serve as structural elements to support vegetation, creating greenery ways that contribute to a cooler





The restaurant and museum on the seafront, envisioned as abstract forms of a ship, encapsulate the essence of maritime adventure and exploration. The restaurant, shaped like the hull of a vessel, offers diners a voyage through culinary delights inspired by the sea. Its curved lines and porthole windows evoke a sense of being aboard a ship, while the interior design draws inspiration from nautical themes, with wave-like

Adjacent to the restaurant, the museum takes the form of a stylized ship's mast, rising towards the sky, symbolizing the spirit of discovery and navigation. Inside, visitors embark on a journey through

6.SITE ZONING

For site zoning all over considerations are taken for fishing activities,non fishing public zones landscape patches and the climatic consideration as per wind flow and sun direction. fishing activities are on one side of the site nearer to boat parking and nonfishing activities are totaly placed on the another side.

5.Landscape

As Mumbai is very humid region it is very much necessary to use plantation and green patches to make campus more lively and to create a breathful place so the community space covered by greenary is designed in the centre of the fishing activity part which plays a crucial role in the site.

4.Parking

Main consideration is taken for truck parking which is the main issue and on the site also internal port is created for truck loading and uploading and parking for different sectors is placed nearer to the blocks.

3.Zoning

Taking the design considerations Site is basically divided into two parts fishing activities and public activities. First part of the site is purely fishing zone and the site totally covered by the sea is public zone

2.Roads

Service road is provided all over the site and and internally four roads are connected creating a chowk road width is increased as per considering the previous studies and for the public activity part only internal pathways are provided so one can totally enjoy the space without interruption of the vehicles

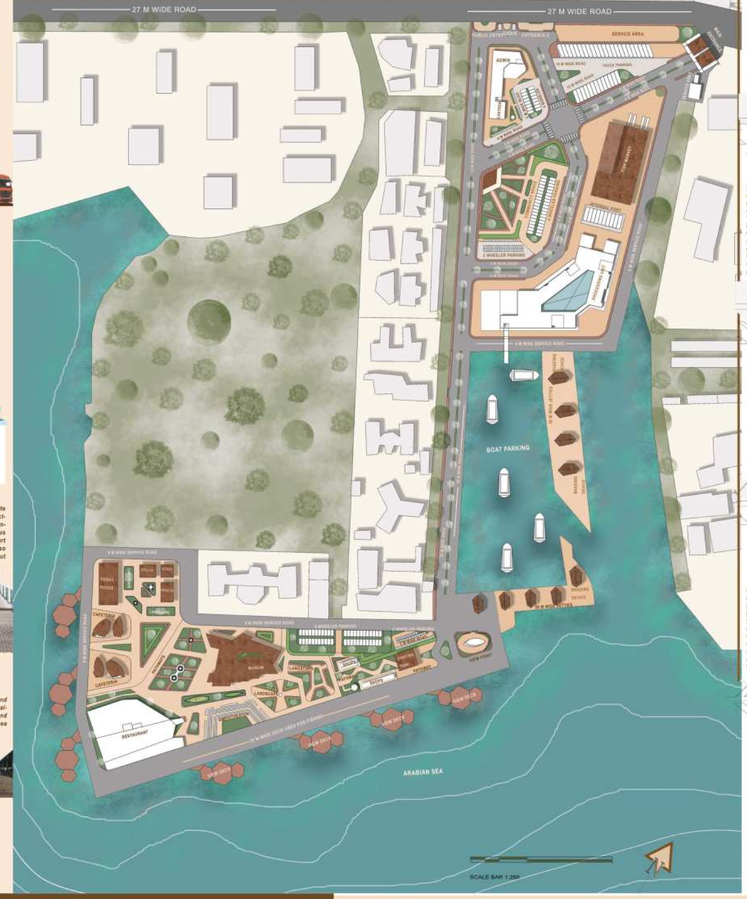
1.SITE

Site is having irregular shape and having north-south orientation.Basically site is divided into two parts or and connected through a road by the sea all-around the site.

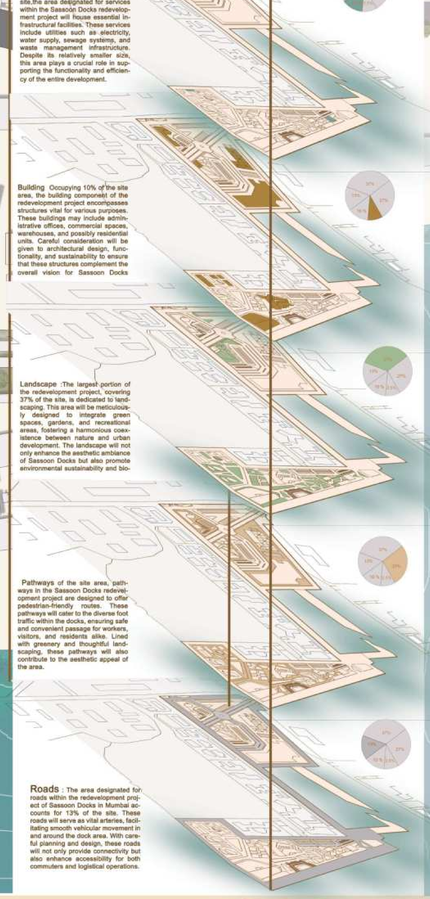
SITE SECTION

SITE VIEWS

SITE PLAN



AREA DISTRIBUTION



Services Accounting for 2.5% of the site,the area designated for services within the Sassoon Docks redevelopment project will house essential infrastructural facilities. These services include utilities such as electricity, water supply, sewage systems, and waste management infrastructure. Despite its relatively smaller size, this area plays a crucial role in supporting the functionality and efficiency of the entire development.

Building Occupying 10% of the site area, the building component of the redevelopment project encompasses structures vital for various purposes. These buildings may include administrative offices, commercial spaces, warehouses, and possibly residential units. Careful consideration will be given to architectural design, functionality, and sustainability to ensure that these structures complement the overall vision for Sassoon Docks

Landscape :The largest portion of the redevelopment project, covering 37% of the site, is dedicated to landscaping. This area will be meticulously designed to integrate green spaces, gardens, and recreational areas, fostering a harmonious coexistence between nature and urban development. The landscape will not only enhance the aesthetic ambiance of Sassoon Docks but also promote environmental sustainability and bio-

Pathways of the site area, pathways in the Sassoon Docks redevelopment project are designed to offer pedestrian-friendly routes. These pathways will cater to the diverse foot traffic within the docks, ensuring safe and convenient passage for workers, visitors, and residents alike. Lined with greenery and thoughtful landscaping, these pathways will also contribute to the aesthetic appeal of the area.

Roads : The area designated for roads within the redevelopment project of Sassoon Docks in Mumbai accounts for 13% of the site. These roads will serve as vital arteries, facilitating smooth vehicular movement in and around the dock area. With careful planning and design, these roads will not only provide connectivity but also enhance accessibility for both commuters and logistical operations.

MASTER PLAN

AREA CALCULATIONS		
GROSS PLOT AREA	99637 SQM (25 ACRE)	
OPEN SPACE (10%)	9963	
NET PLOT AREA	115599.5SQM (28.57 ACRE)	
PERMISSIBLE F.S.I	3	
PERMISSIBLE GROUND COVER 50%	42495	
PROPOSED GROUND COVER	19232 SQM	
PERMISSIBLE BUILT UP AREA	346911 SQM	
PROPOSED BUILT UP AREA	331448 SQM	
	AREA COVERED BY ROAD	12208 (13%)
	AREA COVERED BY PATH WAYS	27341 (37%)
	AREA COVERED BY LANDSCAPE	34837 (37%)
	AREA COVERED BY SERVICES	2400 (2.5%)
	AREA COVERED BY BUILDING	11208 (10%)

SOLAR PANEL
RECHARGE PIT
GAS GAS PLANT
UAG TANK
SOLAR PANELS
RAINWATER COLLECTOR
WATER HEATER PIPE
MANHOLE
INSPECTION CHAMBER
MAIN FRONT GATE
MAIN
SUB MAIN
DRAINAGE PIPE
UG TANK
UG STATIC TANK
GMR
SEPTIC TANK
STP
SOLAR STREET LIGHT
SOLAR STREET LIGHT
BOLLARD LIGHT
UP LIGHTS
FLOOD LIGHTS
CCTV CAMERA
DIGITAL
ELECTRIC CONNECTION
SPRINKLER
SMOKE DETECTOR
SENSOR
FIRE ALARM
EXIT SIGNS
FIRE TRUCK
FIRE HYDRANT
FIRE EXTINGUISHER
SHRAMIK BEAMS

FISH PROCESSING UNIT PLAN

The redevelopment of Sassoon docks in Colaba presents an exciting opportunity to optimize the efficiency and functionality of fish processing units within the harbor. The design of these units should prioritize seamless workflow and hygienic conditions to ensure the quality of the processed seafood. The layout will include designated spaces such as chill rooms for initial preservation, sorting areas for categorizing different fish species, drying zones equipped with appropriate ventilation, an ice plant for continuous supply of ice to maintain freshness, storage facilities for both raw and processed goods, and packaging units for final presentation. Additionally, an administrative area will be incorporated to manage operations effectively, while an auction hall will facilitate fair and transparent trading.

To accommodate workers, amenities like dormitories, restrooms, and locker rooms will be provided, ensuring their comfort and well-being. By integrating these elements into the design, the fish processing units will contribute to the revitalization of Sassoon docks while meeting the needs of the fishing industry and promoting economic growth in the region.

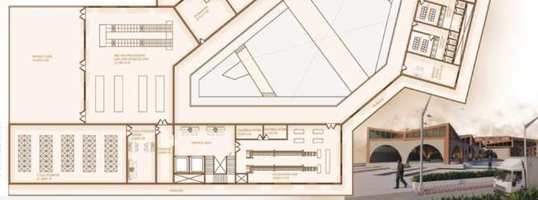
KEY PLAN

GROUND FLOOR PLAN

SCALE BAR 1:250

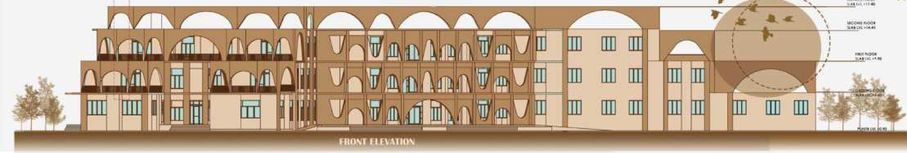
FIRST FLOOR PLAN

The fishing industry building stands as a testament to the rich maritime heritage of Sassoon docks, its architecture deeply incorporating cultural elements such as arches that echo the historic character of the surrounding area. These arches, reminiscent of traditional fishing structures and waterfront architecture, not only serve as aesthetic features but also provide functional benefits such as natural ventilation and illumination. Their graceful curves create a sense of rhythm and movement, harmonizing with the dynamic activities of the bustling harbor.

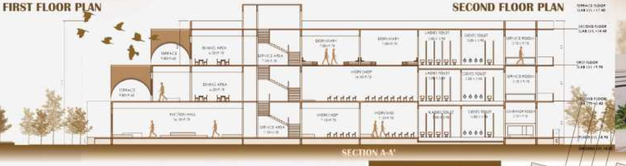


SECOND FLOOR PLAN

As visitors approach the building, they are greeted by a facade adorned with these arches, evoking a sense of nostalgia and reverence for the fishing traditions that have shaped the identity of the community. Inside, the spacious interiors accommodate various functions of the fishing industry, including storage, processing, and administrative operations, while maintaining a connection to the maritime heritage through design elements inspired by the surrounding context.

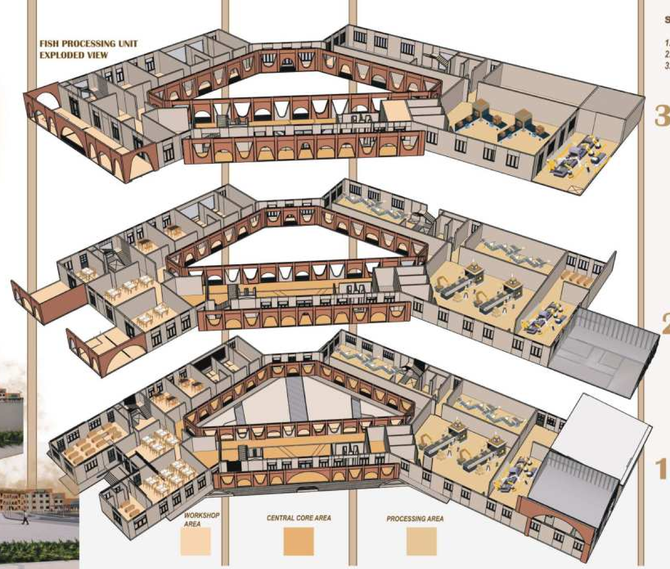


FRONT ELEVATION



SECTION A-A'

FISH PROCESSING UNIT EXPLODED VIEW



SHEET CONTENT

1.Fish Processing Unit Plan
2.Fish Market
3.Admin Block

3

5. **Fishing Industry (First and Second Floors):**
- Chill Room: Storage area for keeping fish at low temperatures to maintain freshness.
- Store: Inventory storage for equipment and supplies.
- Packing Store: Area for packaging materials and equipment.
- Ice Plant: Facility for producing and storing ice used in preserving fish.

Each area serves a specific function within the fish processing unit, contributing to the overall efficiency and **productivity of the**

2

4. Central Core (Admin Block):
- Administrative offices managing operations and logistics.The Central Core of the fish processing unit serves as its administrative hub, housing managerial offices, meeting rooms, a control room, reception area, IT infrastructure, and employee facilities. Here, administrative staff oversee daily operations, coordinate logistics, manage finances, and handle personnel matters, while meeting rooms facilitate communication and collaboration among staff and management.

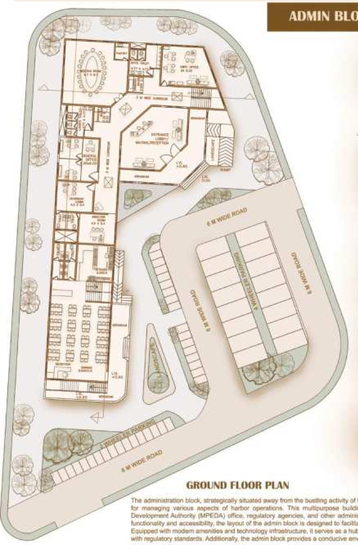
1

1. Workshop Area (Ground Floor):
- Workshop Space: Equipped with tools and machinery for repairing and maintaining fishing equipment.
- Canteen: A space for workers to dine and relax during breaks.
- Toilets: Facilities for personal hygiene.

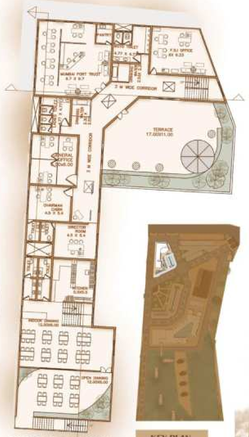
2. Auction Area (Ground Floor):
- Space for auctioning off fresh catches to buyers.

3. Rest Room and Dormitory (Ground Floor):
- Rest Room: A resting area for workers during breaks.
- Dormitory: Living quarters for workers who require accommodations.

ADMIN BLOCK

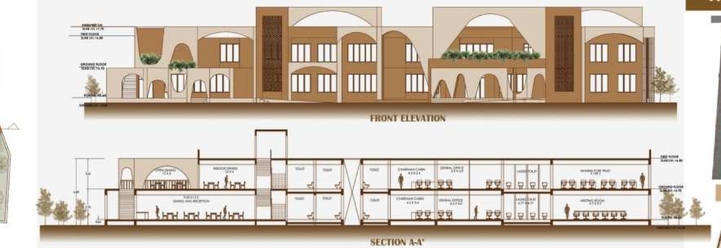


GROUND FLOOR PLAN



FIRST FLOOR PLAN

KEY PLAN



FRONT ELEVATION

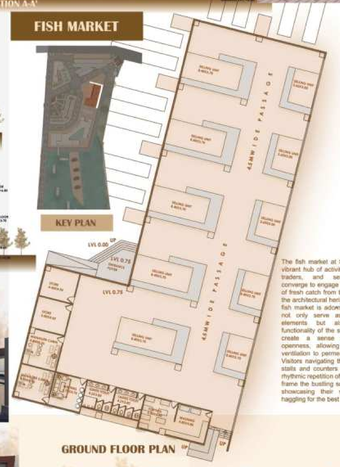
SECTION A-A'

SECTION B-B'

The administration block, strategically situated away from the bustling activity of the fish processing units within Sassoon docks, serves as the nerve center for managing various aspects of harbor operations. This multipurpose building houses essential departments such as the Marine Products Export Development Authority (MPEDA) office, regulatory agencies, and other administrative functions crucial for overseeing harbor activities. With a focus on functionality and accessibility, the layout of the admin block is designed to facilitate efficient communication and coordination among different departments. Equipped with modern amenities and technology infrastructure, it serves as a hub for processing permits, handling documentation, and ensuring compliance with regulatory standards. Additionally, the admin block provides a conducive environment for meetings, training sessions.

FISH MARKET

KEY PLAN



GROUND FLOOR PLAN

The fish market at Sassoon docks is a vibrant hub of activity, where fishermen, traders, and seafood enthusiasts converge to engage in the bustling trade of fresh catch from the sea. As a nod to the architectural heritage of the area, the fish market is adorned with arches that not only serve as distinctive visual elements but also enhance the functionality of the space. These arches create a sense of grandeur and openness, allowing natural light and ventilation to permeate the market hall. Visitors navigating through the aisles of stalls and counters are greeted by the rhythmic repetition of these arches, which frame the bustling scene of fishmongers showcasing their wares and buyers haggling for the best deals.

SECTION A-A'

EXPLODED VIEW OF MARKET

Framing for Roof:

Truss System: The roof framing consists of a network of steel trusses, engineered to support the weight of the roofing materials and distribute it evenly across the structure.
Strength and Durability: The framing is designed to withstand the high winds and occasional storms that Mumbai may experience, ensuring the structural integrity of the market.
Accessibility: Access points are incorporated into the framing design to allow for maintenance and inspection of the roof structure as needed.

Envelope of North Light Roofing:

Glass Panels: The north light roofing envelope consists of angled glass panels positioned to maximize natural light penetration into the market.
Aluminum Frames: Each glass panel is framed with aluminum frames for durability and weather resistance.
Sealing and Insulation: Sealing materials such as silicone are applied between the glass panels and frames to prevent water infiltration and maintain thermal insulation.
Ventilation: Vents or louvers may be integrated into the roofing envelope to facilitate natural ventilation, ensuring airflow and comfort within the market space.

Inside Arches:

Open Spaces: Inside the arches, the market opens up into expansive areas, creating a sense of grandeur and spaciousness.
Natural Light: The design of the arches allows natural light to filter into the market, reducing the reliance on artificial lighting during the day.
Ventilation: The open structure of the arches facilitates air circulation, ensuring a comfortable environment for vendors and customers.
Merchandise Display: Vendors utilize the space inside the arches to display their merchandise attractively, drawing the attention of passersby.

Walls with Arches:

Sturdy Construction: The walls are constructed from reinforced concrete or brick masonry to provide structural stability.
Arches Design: Arches are strategically placed within the walls to [illegible]
Aesthetic and Ventilation: The arches serve [illegible]

Columns:

Vertical Support: Columns are strategically positioned throughout the market to bear the weight of the roof and transfer it to the foundation.
Material Choice and Design: Columns may be constructed from concrete, steel, or a [illegible] requirements and architectural

FRONT ELEVATION

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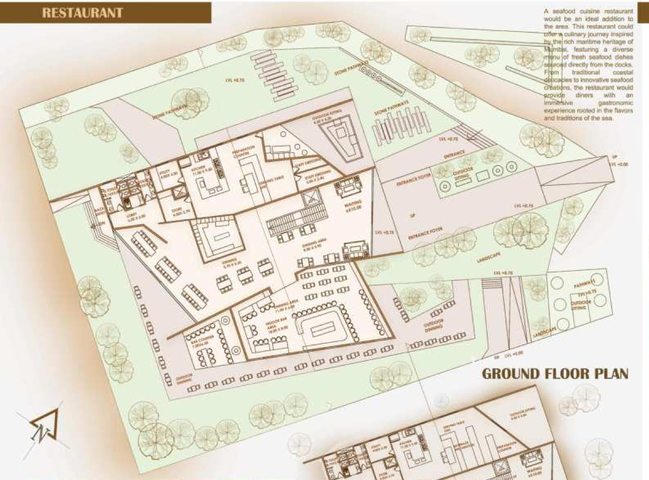
VANSHIKA ARVIND DESAI

FINAL YEAR B.ARCH
ARCHITECTURAL PROJECT II

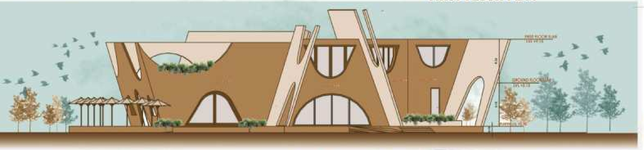
RESTAURANT

A seafood cuisine restaurant would be an ideal addition to the area. This restaurant could offer a culinary journey inspired by the rich maritime heritage of Mumbai, featuring a diverse menu of fresh seafood dishes sourced directly from the docks. From traditional coastal delicacies to innovative seafood creations, the restaurant would provide diners with an immersive gastronomic experience rooted in the flavors and traditions of the sea.



KEY PLAN

FIRST FLOOR PLAN



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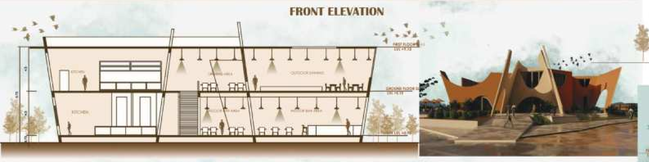
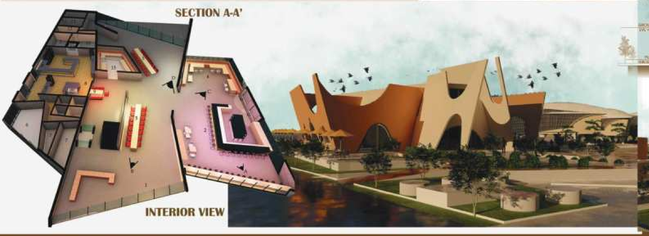


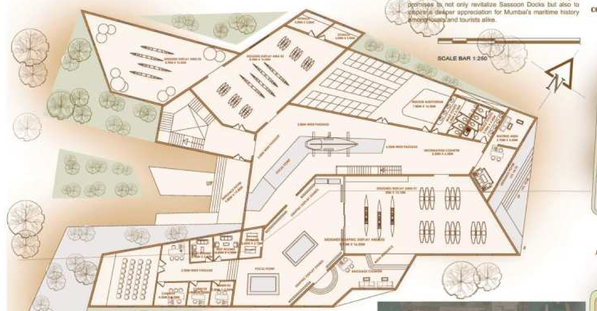
SECTION A-A'



INTERIOR VIEW

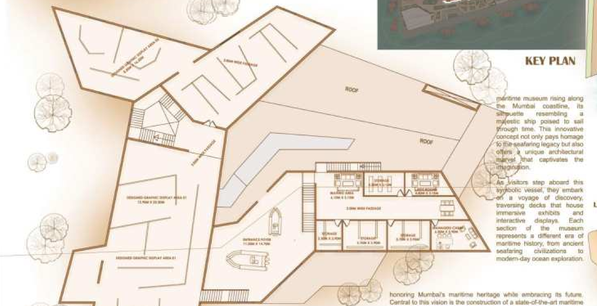
MARITIME MUSEUM

Museum location on the seafront will not only provide stunning views but also underscore the inseparable bond between Mumbai and the sea. This redevelopment project promises to not only revitalize Sassoon Docks but also to foster a deeper appreciation for Mumbai's maritime history among locals and tourists alike.



GROUND FLOOR PLAN

KEY PLAN



FIRST FLOOR PLAN

maritime museum rising along the Mumbai coastline, its silhouette resembling a majestic ship poised to sail through time. This innovative concept not only pays homage to the seafaring legacy but also offers a unique architectural marvel that captivates the imagination.

As visitors step aboard this symbolic vessel, they embark on a voyage of discovery, traversing decks that house immersive exhibits and interactive displays. Each section of the museum represents a different era of maritime history, from ancient seafaring civilizations to modern-day ocean exploration.

honoring Mumbai's maritime heritage while embracing its future. Central to this vision is the construction of a state-of-the-art maritime museum along the seafront. This museum will serve as a captivating gateway into the city's rich nautical past, showcasing artifacts, interactive exhibits, and immersive experiences that celebrate the legacy of seafaring in Mumbai. From traditional fishing practices to the bustling trade that shaped the city's identity, the museum will offer visitors a dynamic journey through time.

SECTION A-A'

FRONT ELEVATION

DETAILS IN SITE

COMMUNITY SPACE DESIGN

LANDSCAPE AREA DESIGN

The site landscape features inviting pergola structures strategically placed throughout, offering charming and shaded retreats for visitors to unwind and enjoy moments of tranquility amidst the bustling surroundings. These pergolas are adorned with lush greenery, climbing vines, and flowering plants, creating a serene ambiance while providing relief from the sun.

AMPHITHEATER

The stage area is centrally positioned, with integrated lighting and sound systems to accommodate a variety of productions. Surrounding the amphitheater, lush greenery and native plantings enhance the natural amphitheater setting, while pathways and seating terraces provide visitors to relax and enjoy the ambiance.

The amphitheater design at the heart of the site presents an opportunity to create a dynamic focal point for community gatherings and cultural events. Strategically nestled within the landscape, the amphitheater features tiered seating arrangements, a semi-circular or circular layout, providing optimal sightlines and acoustics for performances and presentations.

CAFETERIA

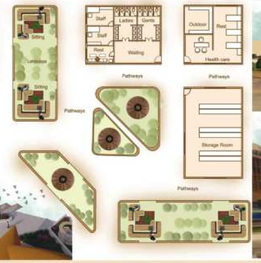
LANDSCAPE AREA DESIGN

In the landscape design for the project surrounding the maritime museum and seafood restaurant, various thematic patches would be meticulously curated to reflect the coastal ambiance and enhance visitor experiences. A Coastal Flora Garden would flourish with native plants, such as sea lavender and beach grasses, evoking the natural beauty of the shoreline. A meandering Seaside Promenade would offer panoramic views of the sea, adorned with seating areas and shade structures for relaxation. A Maritime Plaza near the museum entrance would feature nautical

SHOPPING AREA THROUGH ENTRANCE

BOATING OFFICE

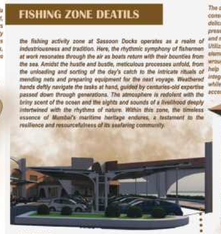
UTILITY



HEALTHCARE

FISHING ZONE DEATILS

the fishing activity zone at Sassoon Docks operates as a realm of industriousness and tradition. Here, the rhythmic symphony of fishermen at work resonates through the air as boats return with their bounties from the sea. Amidst the hustle and bustle, meticulous processes unfold, from the unloading and sorting of the day's catch to the intricate rituals of mending nets and preparing equipment for the next voyage. Weathered hands deftly navigate the tasks at hand, guided by centuries-old expertise passed down through generations. The atmosphere is rife with the briny scent of the ocean and the sights and sounds of a livelihood deeply intertwined with the rhythms of nature. Within this zone, the timeless essence of Mumbai's maritime heritage endures, a testament to the resilience and resourcefulness of its seafaring community.



The design of the entrance gate in conservation areas requires a delicate balance between preserving historical authenticity and meeting contemporary needs. Utilizing traditional architectural elements and materials, such as wrought iron, stone, or wood, can help maintain the aesthetic integrity of the conservation area while still providing functional access control.

MAIN ENTRANCE GATE:
The gate is in Conservation which reflects the architecture of the area and thus continues it to the future and so it stands tal This gate was built by David Sassoon in Early age and it reflects entire progress of Mumbai.

TRUCK PARKING:
Main problem of truck parking is taken into consideration and 40 truck parking is provided on site which is nearer to market and processing unit.

Because on site involves a lot of truck movement, it was crucial that optimized space management and logistical efficiency. By implementing designated truck parking area with clear lanes and signage, we were able to manage traffic flow and prevent congestion. Additionally, the installation of modern tracking and reservation systems allowed for better management of parking spaces, ensuring that trucks could access parking spots promptly upon arrival.

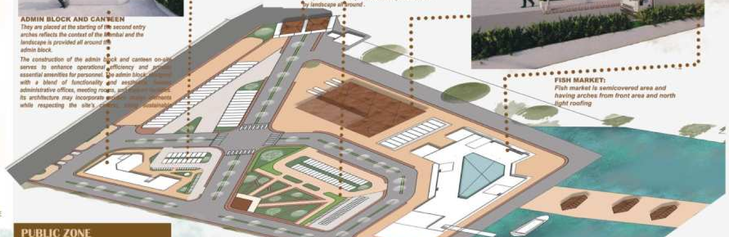
PARKING:
Car parking with solar roofing which can make building energy efficient and also the landscape covered from sides image shows parking for Car of admin block.

FISH PROCESSING UNIT

ADMIN BLOCK AND CANTEEN
They are placed at the starting of the second entry arches reflects the context of the Mumbai and the landscape is provided all around the admin block.
The construction of the admin block and canteen complex serves its enhance operational efficiency and provide essential amenities for personnel. The admin block, designed with a blend of functionality and aesthetics, houses administrative offices, meeting rooms, and essential facilities. Its architecture may incorporate modern elements while respecting the site's cultural heritage.

COMMUNITY AREA
•Community areas placed at the centre of the campus which is easy for accessibility and covered by landscape all around.

FISH MARKET:
Fish market is semicovered area and having arches from front area and north light roofing



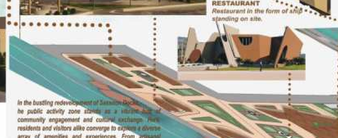
PUBLIC ZONE

PERGOLA
Pergola seating in public areas provides a perfect blend of comfort and aesthetics, offering people a shaded space to relax and enjoy the surroundings while adding a touch of elegance to the urban landscape.

UTILITY BLOCKS
Placed at one corner of the site and covered by arched wall from sides

AMPHITHEATER
Designed centrally in the public area

CAFE
Cafe designed in the shape of the boat along the sea side

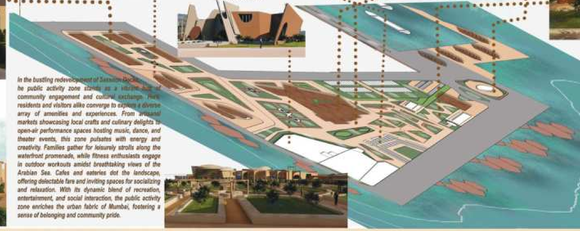


VIEWPOINT
The viewpoint in the redevelopment of Sassoon Docks offers a captivating perspective, blending the vibrancy of Mumbai's maritime culture with contemporary design.

The existing water tank on-site serves as a critical component of the infrastructure, providing a reliable source of water for various purposes. To optimize its functionality and ensure its longevity, thorough inspection and maintenance protocols should be implemented regularly.

MUSEUM

RESTAURANT
Restaurant in the form of ship standing on site.



In the bustling redevelopment of Sassoon Docks, the public activity zone stands as a vibrant hub of community engagement and cultural exchange. Here, residents and visitors alike converge to explore a diverse array of amenities and experiences. From vibrant markets showcasing local crafts and culinary delights to open-air performance spaces hosting music, dance, and theater events, this zone pulsates with energy and creativity. Families gather for leisurely strolls along the waterfront promenade, while fitness enthusiasts engage in outdoor workouts amidst breathtaking views of the Arabian Sea. Cafes and eateries dot the landscape, offering delectable fare and inviting spaces for socializing and relaxation. With its dynamic blend of recreation, entertainment, and social interaction, the public activity zone enriches the urban fabric of Mumbai, fostering a sense of belonging and community pride.

SHOPS
Entrance of the public area designed starts from the shops and landscape in between.

Incorporating fishing bays around the site perimeter offers a unique opportunity to integrate recreational and cultural elements while celebrating the site's heritage. These fishing bays can be thoughtfully designed with amenities such as side fishing piers, bamboo seating, and seating areas, strategically positioned to maximize the view and allow for ease in enjoying the waterfront. Signage with signage highlighting local fish species, fishing techniques, and conservation efforts can educate visitors about the area's marine ecosystem and the importance of sustainable fishing practices.

VANSHIKA ARVIND DESAI

FINAL YEAR B.ARCH
ARCHITECTURAL PROJECT II

REVITALIZATION OF DOCKS : AN APPROACH TOWARDS COMPREHENSIVE REDEVELOPMENT OF FISHING HARBOUR BY SOCIAL AND ECONOMICAL ASPECT

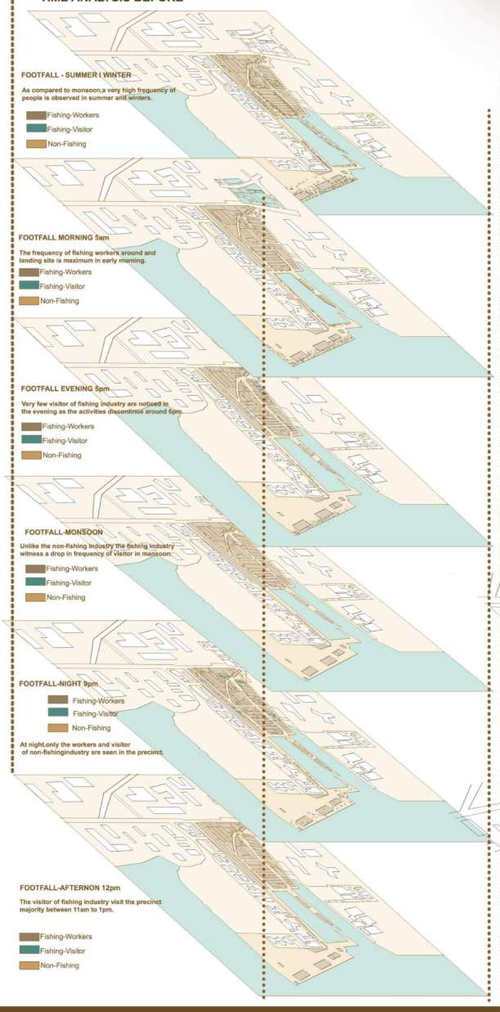
6. DESIGN (PUBLIC ZONE)

APPASAHEB BIRNALE COLLEGE OF ARCHITECTURE

POST DESIGN

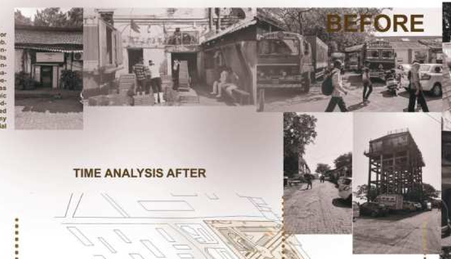
The before-and-after study of Sassoon Docks' redevelopment reveals a transformative journey marked by significant improvements across various facets. Prior to redevelopment, the site exhibited aging infrastructure, limited functionality, and minimal aesthetic appeal, hindering its potential as a vibrant maritime hub. However, post-redevelopment, Sassoon Docks underwent a remarkable metamorphosis, with revitalized physical infrastructure, streamlined operations, and enhanced environmental sustainability measures. The site now boasts modernized facilities, attractive landscaping, and improved accessibility, contributing to its emergence as a dynamic economic, cultural, and recreational destination. Moreover, the redevelopment has spurred economic growth, fostered community engagement, and positioned Sassoon Docks as a model for waterfront revitalization projects. Through collaborative efforts and strategic planning, the transformation of Sassoon Docks stands as a testament to the power of thoughtful redevelopment in revitalizing urban spaces and preserving maritime heritage.The before-and-after study of Sassoon Docks' redevelopment showcases a comprehensive transformation that extends beyond physical improvements to encompass socio-economic revitalization and environmental stewardship. Pre-redevelopment, the site faced challenges such as outdated infrastructure, limited economic opportunities, and environmental degradation. However, post-redevelopment, Sassoon Docks has emerged as a beacon of progress and sustainability. The modernization of infrastructure, including upgraded docking facilities and improved waste management systems, has enhanced operational efficiency and reduced environmental impact. Economic revitalization is evident through increased business activity, job creation, and tourism revenue, bolstering the local economy and fostering entrepreneurship. Additionally, community engagement initiatives, such as cultural programs and educational outreach, have strengthened social

TIME ANALYSIS BEFORE



TIME ANALYSIS AFTER

BEFORE



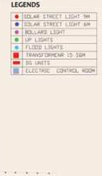
AFTER

SERVICES

WATERSUPPLY AND DRAINAGE

RAINWATER HARVESTING

ELECTRIC AND STREET LIGHT



LOAD CALCULATIONS FOR STREET LIGHTS

Street light

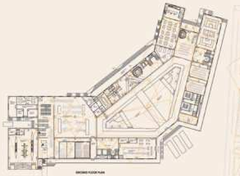
FOR SOLAR 9M LAMP
CONSIDER 120 WATTS PER LAMP SPACING 21 M
ASSUME 150 WATT AS AN AVERAGE LOAD PER LAMP
AND , TOTAL NO OF LAMPS 10
TOTAL LOAD = 150 X 10
= 1500W = 1.5 KWHOUR

FOR SOLAR 6M LAMP
CONSIDER 100 WATTS PER LAMP SPACING 14M
ASSUME 150 WATT AS AN AVERAGE LOAD PER LAMP
AND , TOTAL NO OF LAMP 17
TOTAL LOAD = 150 X 17
= 1750W 1.75 KWHOUR

FOR BOLLARD LAMP
CONSIDER 120 WATTS PER LAMP SPACING 4M
ASSUME 150 WATT AS AN AVERAGE LOAD PER LAMP
AND , TOTAL NO OF LAMP 53
TOTAL LOAD = 150 X 53
= 3500W 3.5 KWHOUR

FOR FLOOD LAMP
CONSIDER 150 WATTS PER LAMP SPACING 5-6 M
ASSUME 150 WATT AS AN AVERAGE LOAD PER LAMP
AND , TOTAL NO OF LAMP 42
TOTAL LOAD = 150 X 42
= 3500W 1.45 KW

FOR UP LAMP
CONSIDER 150 WATTS PER LAMP SPACING 5-6M
ASSUME 150 WATT AS AN AVERAGE LOAD PER LAMP
AND , TOTAL NO OF LAMP 100
TOTAL LOAD = 150 X 100
= 15000 W 15.0 KW

FIRE FIGHTING

SECURITY AND SURVELIANCE