



# THE POTENTIAL OF UNBUILT GROUND: GREEN WAYS IN MUMBAI AS A DRIVE OF URBAN TRANSFORMATION.

**Helly Dobariya**

Architect, Rajkot, Gujarat

Arvind Bhai Patel Institute of Environment Designing. [ A.P.I.E.D ]

**Himali Chingale**

Architect, Pune, Maharashtra

S.B.Patil college of Architecture and Design

*Private interests are cutting the town into a muddled jumble so as to profit by flooding land costs. Presently, recommendations to redevelop the Mumbai Port have come underneath wild discussion as the town wrestles with an inconceivable opportunity to develop a more brilliant and extra supportable future.*

## Abstract

Waterfront development has always been attractive and vital part of City's development, and hot topic of discussion in urban development and planning of any city. The Urban development along with the coastal line of the city has its unique features that are shaped by the views, city's skyline, land usability and environmental factor along with social and community characteristics, cultural and traditional value and history of the city. Mumbai a thick, brilliant and muddled metropolitan region of 21 million occupants fills in as the budgetary, mechanical and delight capital of the nation. Mumbai struggles with extreme flooding, pollution, flora and fauna degradation, and anticipates a huge vary of local weather alternate impacts. As Mumbai grapples with these challenges, the town experiences great improvement strain amidst its fast financial and populace growth. Over the most recent 30 years Mumbai's eastern waterfront has produced improvement intrigue. Mumbai waterfront consist of 1100 acres of land now under- utilized, facet Mumbai City's eastern shore. Both Mumbai city and Mumbai port are dropping their regional and country wide dominance. The Waterfront share many of Mumbai's economic, social and infrastructural and surroundings concerns. Helly and Himali discuss about the special opportunity to address them via redevelopment and reinvention. This paper targets talking about complete strength plan for Eastern Waterfront which is partitioned into three components: Existing conditions, flexibility plan, and execution measures.

## Introduction

Water is a decisive force, fundamentally shaping the character of every place it encounters. The role of water in transportation, industry, sanitation and nutrition makes it the root of human settlements. Not only as cosmetics or commodities, but also to respect and praise the characteristics of water. Once the formal activities along the waterfront become complicated, user conflicts are likely to Share designated spaces and facilities. Evidence from around the world shows that the urban waterfront has become a battlefield where many interests and desires are intertwined. Therefore, for cities, this is very important to maintain its functional characteristics and the visual image of its waterfront area. To achieve sustainable development and environmental friendliness Urbanization urgently requires comprehensive land use planning and urban settlements. With proper consideration of creating and maintaining parks and gardens, roadside vegetation and other urban green spaces, UGS reduce air pollution and climate change, and provides various ecosystem services. Due to booming development, UGS has deteriorated severely The urbanization process in developing cities such as Mumbai. The focal point of this article is to apotheosis the many challenges in creating and maintaining UGS in the context of Mumbai. This review discusses a list of possible solutions and prospects for UGS in cities that aim to become smart and sustainable cities.

## Aim and objectives of the study

The main purpose of this research to understand the sustainable principles of Eastern Waterfront from a design perspective. Functional and management aspects.

The followings are the main objectives of the study.

1. Study the time evolution of Eastern waterfront based on the principle of sustainability.
2. Understand natural sustainability from the perspective of Urban Green Space.
3. Understand the sustainability of society from the aspects of function and management.

AREA	ACCESS POINT	TOTAL LENGTH	TYPE	CONSTRUCTE BY
Eastern Waterfront	Public direct access	27km	Promenade	In progress- HCP
Bandra Bandstand	Public direct access	0.61km	Promenade	B.M.C
Marine Drive	Public direct access	3.23km	Promenade	PVT Contractors
Haji Ali	Public direct access	1.16km	Promenade	N/A
Worli Sea Face	Public direct access	2.16km	Promenade	MHDA

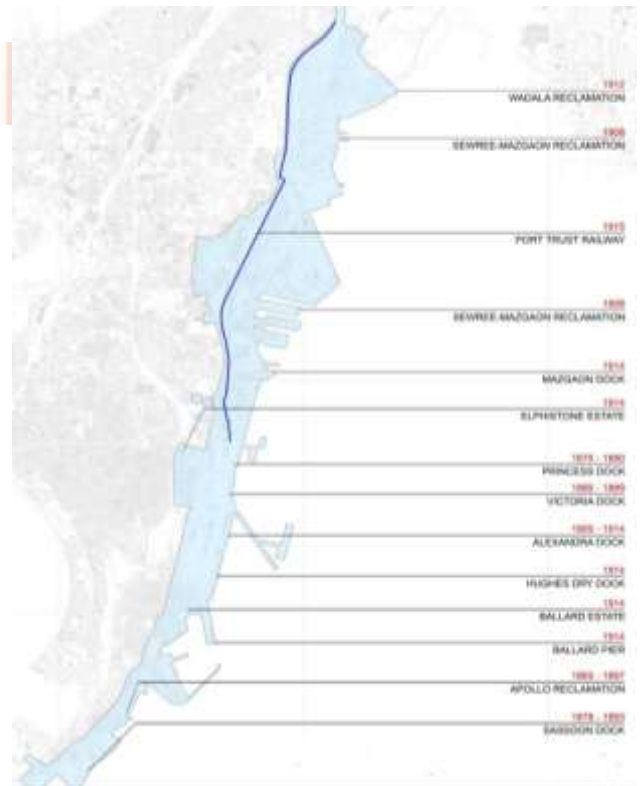
Source: (KARKHANIS, 2014)

Out of these five waterfronts promenades in Mumbai, Eastern waterfront was chosen as a result of its exceptional improvement plan.

This research relied heavily on site visits in the corridors and Surrounding communities, user perception surveys, and focus group discussions with key stakeholders. Stakeholder consultation has been conducted to evaluate the design, functionality and management aspects of the seaside. The stakeholders in the waterfront are those directly related to the space. Stakeholders. The identification was carried out after the initial site visit

### Eastern Waterfront- Introduction

The Eastern waterfront covers the 752.72 Hectors of land that stretches from Colaba to Wadala on East of city. This Waterfront is especially fascinating and of extraordinary significance, because of its position both in the topography of the city, just as the Metropolitan Region. Moreover, in the local development situations and projections of a 'Golden Triangle' interfacing Mumbai, Nashik, and Pune, the Eastern Waterfront would be basic for building up associations between the old place and the territorial triangle – the last currently containing new businesses, exceptional monetary zones, and farming fare zones. The potential and effect of the eastern waterfront to the whole city is monstrous as it is practically 4.5 times the zone of the Mills lands, is identical to 18 Oval maidens, 10 Chow patty sea shores or 21 Priyadarshini parks. Therefore, the research does not attempt to make recommendations on what may happen in the area, but only analyzes the existing resources and potential of the eastern Mumbai waterfront. The purpose is to share with the public potential role of Mumbai’s future eastern waterfront-perhaps the last potential large-scale planning opportunity, which will not only change the densest area of Mumbai, but also reconnect the city to the regional context

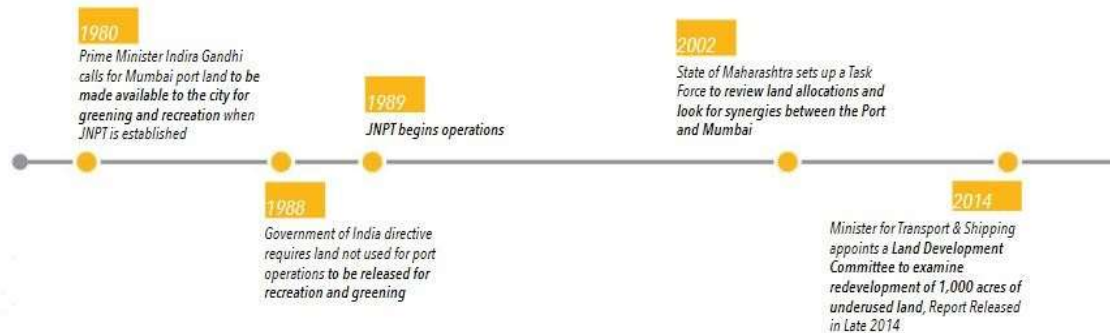


Source- Mumbai port waterfront and port land development report

### Evolution of Eastern Waterfront

The port land is owned by the Indian government and managed by the Bombay Port Trust Company (MbPT), which is an independent subsidiary of the government. The port itself employs more than 11,000 workers, some two of whom live in workers’ houses on site. In addition to workers, the terminal also has 14,000 informal settlements. With the movement of port development, some of these settlements (1,500 in total) have been demolished and not replaced.

1,800 acres owned by MBPT is valued at \$750billion  
 900 acres to become publicly available.  
 27km of new potential Waterfront



Source- UDRI Resource centre/ A study of the eastern waterfront of Mumbai

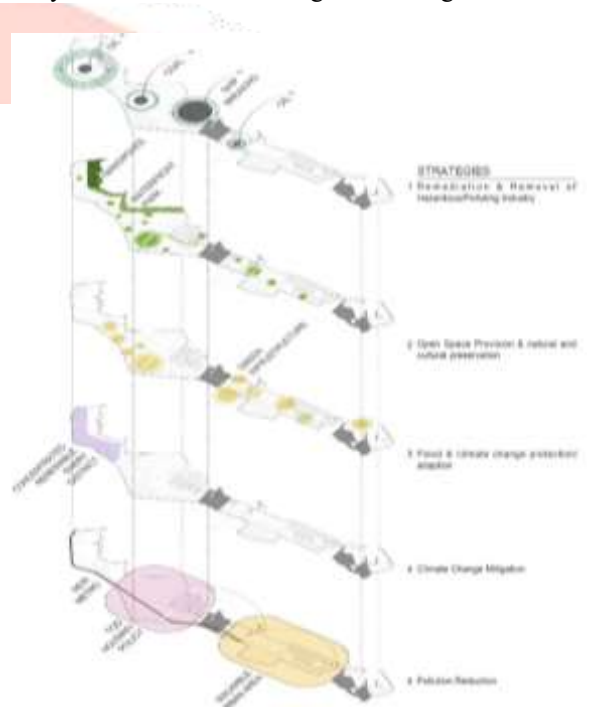
In 1991, a total of 600 acres of old cotton spinning mill land was opened in Mumbai for development. This is a tremendous chance to give the conveniences and affordable housing that the public needs. Environmental interests have also played a big role in shaping the public’s opinions on development priorities. Mumbai’s wharf area has now been renamed the "National Cruise and Tourism Capital", which requires a style that is more suitable for the company’s capital tastes. The 253-hectare "redevelopment site" of the project will use a grid plan to support the modernist conglomerate Manhattan Glitzkrieg decorated with a Ferris wheel inspired by the London Eye. The proposal explains why: Manhattan’s “iconic grid of straight streets is known as the bravest predictive behavior in Western civilization”

### The Dockland Development Plan

In December 2018, the Mumbai Port Trust-a special planning agency of 966.3 hectares in the city's eastern coastal area-issued a "Draft Development Plan" for public review. The plan aims to transform the waterfront into a "marine transportation and tourism hub."

The list of planned goals includes-in the general goals of sustainable development and public facilities-the clear purpose is to "release the commercial value of land and assets" and the flexibility to "meet market changes." The most controversial proposal in the plan is a reclamation park at sea, which was thrown away after almost all the land was used for port, tourism, commercial and residential purposes. Minus the regeneration park, the plan combines 72 hectares of open space, accounting for 8.6% of the total planned area

It is expected that the eastern waterfront will get one of the most available territories in Mumbai with the forthcoming Trans-harbor connect, CST-Panvel fast passageway, and the Metro-4A.



Source- Mumbai port waterfront and port land development report

The current land utilization of the eastern waterfront is very adjusted as it has blend of fishing networks, high and private structures, establishments and business structures. To understand sustainability factors related to urban waterfront management. We researched on some of the given principles of sustainability for the urban waterfront aquatic city –Venice [Moretti M. 2000] and divide it into physical and social factors.

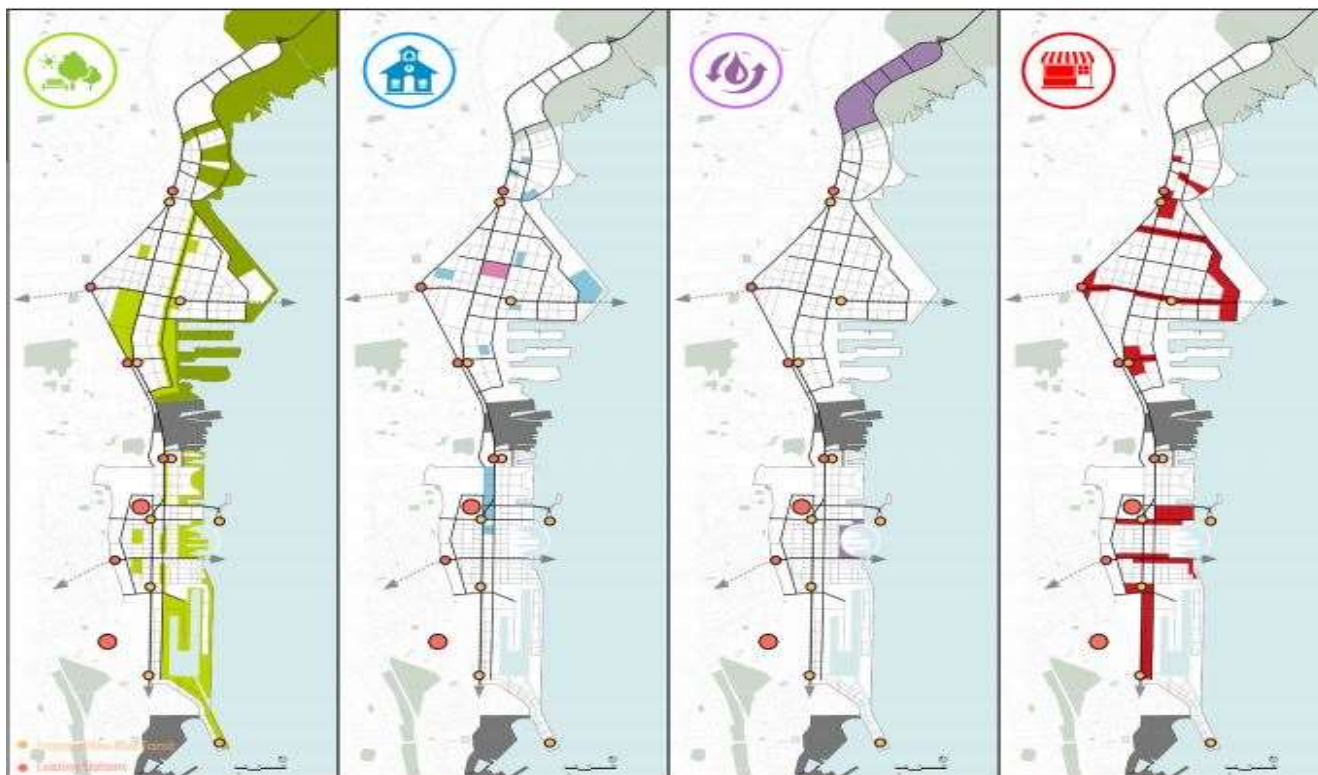
### Vision

Mumbai’s eastern waterfront will demonstrate resilience through INNOVATION, EQUITY, REGENERATION and PROTECTION. It will re-establish Mumbai on a global stage while embracing and promoting the city’s unique IDENTITY and serve as replicable MODEL of development.”



## OVERALL STRUCTURE OF WATERFRONT

A structure plan is employed in the Eastern Waterfront in order to guide future development, land use patterns, open space, and social and physical infrastructure.

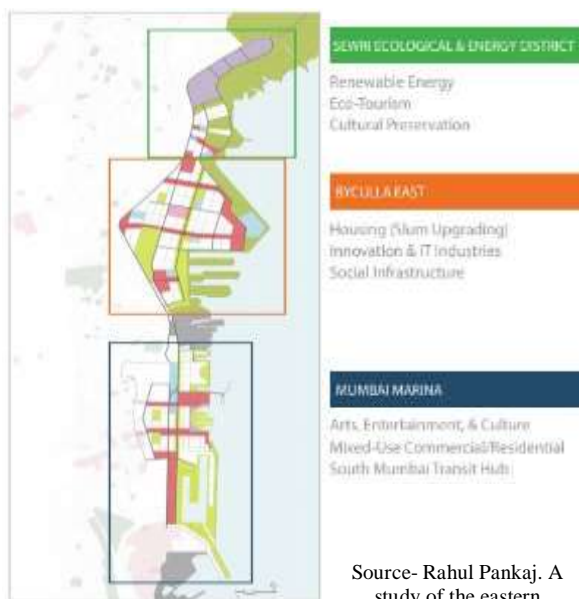


The green spaces are located in areas susceptible to flooding and contain highly polluting industry and contaminated land. The natural features serve the purpose of flooding.

The structure plan calls for a transition to more formal public facilities including schools, hospitals, and other public facilities serving the Eastern Waterfront and surrounding areas.

The structure plan calls for the removal of oil storage and hazardous industrial activities renewable energy production, especially in the north and south of the Eastern Waterfront

The commercial plan identifies commercial nodes and corridors to guide development in the Waterfront. These commercial amenities are essential for resilient development,



The Mumbai Marina District, the southernmost proposed district within the Eastern Waterfront area, addresses the global aspirations of Mumbai. Dynamic arts, entertainment, and cultural attractions can create a new global draw for visitors to Mumbai.

In the middle of the Eastern Waterfront, Byculla East presents an opportunity for a substantial growth in the housing stock of Mumbai, including new development, slum upgrading, and a framework for future organic growth.

In the northern part of the Eastern Waterfront area, the Sewri Ecological and Energy District provides an opportunity for renewable energy production, public utilities, eco-tourism, and protection of historic and cultural features.

Source- Rahul Pankaj. A study of the eastern

## Generating Alternative Redevelopment Features

In order to obtain a win-win result that most of the many stakeholders believe, the MBPT wharf area needs to be utilized and adjusted so that the services they provide can use the resources of Mumbai City and help revitalize its material, cultural, and social structure.

- Mumbai's first proposal proposes a rich visualization method for cruise-driven, entertainment and leisure-centric development by reusing the wharf area near the cotton green railway station to create an entertainment and recreation area that benefits residents and tourists. It outlines bridges and water connections across the bay to network the entire area
- The second strategy is to create a sustainable infrastructure area in the north part of the Sewri District. Since neither the Sewri District nor the Island City have adequate public infrastructure, the former industrial area will be redeveloped into a sustainable infrastructure area, providing renewable energy, water treatment, and waste management for the city.
- The third strategy is to build residential buildings close to the transit stops and create TOD, together with local public facilities and institutions.
- The fourth strategy is focused on EWS upgrading for the Koli Fisher Village. The intent is to achieve a balance between protecting local culture and integrating them with the new development to its south.
- Building the waterfront eco-trail is the final strategy. This trail will run north to south along the coast, connecting Byculla East to the sustainable infrastructure area in the Sewri District. The trail should provide access to the high-

## MAJOR CONCLUSIONS

It is observed that the current promenade is more sustainable than it was decades ago. On the beach, it has been completely transformed from a garbage dump into a functional space. Planning, design and management. The waterfront area has been fully promoted by the public. This helps speed up the planning process, the design elements implemented on the promenade aim to user. They enhance the function of the space. The activities on the promenade are based on these physical elements, it is the embodiment of the surrounding land use. The number of people flow varies with land use, the whole space and different time changes. Also observed the flow of people nearby Due to the limited visibility of the large water body of the Arabian Sea, the area of the mangrove reserve has been reduced. The waterfront promenade is also very popular with the citizens of Mumbai and is perfectly integrated with the urban structure of Mumbai. City. This happened because of people's acceptance and only because of the management. The waterfront area was determined through user perception surveys. Some problems based on physical infrastructure are: limited opportunities for biking, vendors and people carrying edible food entering, lack of proper storage and parking spaces Contrary to the promises originally made in the plan, fishermen have limited access to parks.

## References

**Dr.Ardeshir B. Damania , History of Mumbai ,**

-mumbainet.Com/city/history-of-mumbai/

-www.slideshare.com

**A citizen vision plan, redeveloping the Portland for a livable Mumbai, APLI**

**Mumbai organization,**

<http://www.slideshare.net/apliportlands/apli-mumbai-a-port-lands-initiative-bycitizens-to-reimagine-mumbai>

**Net case studies**

- [www.archdaily.com](http://www.archdaily.com)

- [https://archnet.org/archive/message\\_115835](https://archnet.org/archive/message_115835)

- [https://issuu.com/pennplanning/docs/mumbai\\_for\\_we](https://issuu.com/pennplanning/docs/mumbai_for_we)

- <http://www.udri.org/publication/study-eastern-waterfront-mumbai/>

**Waterfront development.**

- <http://www.udri.org/publication/study-eastern-waterfront-mumbai/>

- <https://www.researchgate.net/publication/264119400>

**Others**

-City, Space, + Globalization presents ways in which globalization affects the built environment of people in cities around the world. ... This life space is the neighborhood and community space of city residents. It refers to memory, to history, to tradition in the face of homogenizing global forces.

- <http://works.bepress.com/hdandeka/37/>

-A STUDY OF THE EASTERN WATERFRONT OF MUMBAI” Is Available For Reference At UDRI Resource Centre.

- <http://www.udri.org/publication/study-eastern-waterfront-mumbai/>

-Times of India, Mumbai, 16 March 2012 "Mumbai for Me: Bandra's 'democratic' sea-fronts are cosmopolitan"

-Karkhanis, N. K. (2014). Urban Commons: The case of Mumbai Waterfront, unpublished Master of Planning Thesis, at CEPT Universit, Ahmedabad, India