

Impact Assessment of Mumbai Coastal Road on Livelihood of Fishing Community, Mumbai, India

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Abstract:

This paper focuses on the impact assessment of a part of the imminent Mumbai coastal road along Mumbai's western waterfront on the livelihoods of the artisan fishing community along the alignment of this project.

Proposed Mumbai's coastal road project is set to connect Marine lines to Kandivali. The project is divided into two phases – North & South. It will be built on reclaimed land on the city's western waterfront. Surely, this project will alter its physical, social, and cultural landscape. This project is driven by broader political, social, and environmental processes while facing challenges like sustainability, climate change, and resilience. As the vicious loop of 'More cars and more roads', projects like these are promoting and becoming a symbol of modernity in the global south.

This study is aimed at analysing the project beyond its principle use as the transportation infrastructure and focuses on undesirable consequences on the livelihoods of fishermen and their hunting

grounds which will be eradicated by the proposed reclamation of land.

Developing between an association of structure and conflicting metropolitan regions, it examines the example of most excellent enclaving that have come to portray one more sort of safeguarded urbanism that obliterates the history, age-old customs, sustainable livelihood, and texture of metropolitan regions. The on-going study is set to clarify the practical impact of the project on the vocations and traditions of distinctive fishing communities off the west coast.

It aims to gather inferences and provide suggestions to minimize the adverse effects on fishing communities and safeguard such communities from similar projects.

Chapter 1: Introduction

1.a. Introduction-

Coastal Road is an 8-lane with 2 lanes reserved for BRTS and emergency vehicles, a 28.90 km long highway under construction that will extend along Mumbai's western coastline, connecting Marine Lines (Princess Street Flyover) in

the south and Kandivali in the north. The coastal road is expected to be used by 130,000 vehicles a day and is expected to reduce travel time between Southern Mumbai and the Western Suburbs from 2 hours to 40 minutes. The estimated cost of the project is Rs 12,000 crore (\$1.6 billion). It will be built on reclaimed land on the city's western waterfront.

The project is divided into two parts:

- Phase 1: The South End – From Marine Lines to Worli end of Bandra Worli Sea Link (BWSL). It is to be executed by the Municipal Corporation of Greater Mumbai – MCGM. It is 9.98 km in length. 50% of the work is already completed. The project is expected to complete by November 2023.
- Phase 2: The North End – From Bandra end of Bandra-Worli Sea Link (BWSL) to Kandivali. It is to be executed by MSRDC. It measures 18.92 km in length. It is construction is expected to commence in 2023.

Phase 1 of the project is under construction, which is from Marine Drive to BWSL, by BMC/MCGM. It consists of reclaimed land, elevated road, twin tunnels, stilt bridges, green spaces, a sea wall, and 3 interchanges for traffic dispersal. The project is roughly 19 km Phase 2 (northern section) will connect Bandra with Kandivali. Phase1 will have a total length of around 26 km. This includes 16 km of interchangers' length at three locations. This stretch is divided into three parts - from Princess Street flyover at

Marine Drive to Priyadarshini Park on Malabar Hill, from Priyadarshini Park to Baroda Palace (near Haji Ali), and from Baroda Palace to the Worli-end of the BWSL. After completion, Mumbai's sea coast will extend by 100 meters in the sea. The project aims to reduce travel time from the southern tip of Mumbai to the western suburbs. It is estimated that fuel consumption will reduce by 35%. The MCR project aims to create large patches of open green space on reclaimed land which is a rarity in Mumbai. Green zones are designed along the freeway on reclaimed land that are to be used for various public utilities like jogging & cycling tracks and gardens. Walking, jogging, and cycling on the promenade will bring a different perspective of comfort and greenery. 111 hectares will be reclaimed for the project. Out of which, 70 hectares will be landscaped to provide cycle tracks, promenades, amphitheatres, children's play areas, and other recreational spaces. The project will include 125 acres of gardens on reclaimed land along with MCR Phase 1. It is also planned to consist of underground facilities for parking over 1,856 cars. The interchanges planned at from Marine Drive to Girgaon Chowpatty should help dissipate traffic at major junctions. The entry and exit of these routes may result in jams in already crowded streets, especially at Haji Ali interchange. Managing these already present chokepoints and future

junctions will be crucial without resulting in bottlenecks. But still, concerns are being raised on the impact the project and its construction will have on marine life, the marine ecosystem, and the livelihoods of fishing communities along the alignment of the project. Environmentalists and fisher folks have opposed the project, fearing it might cause irreversible damage to marine life, biodiversity, and the ecosystem. The project is set to affect fish breeding areas at Haji Ali, Worli, and Priyadarshini Park.

The project is criticized for the following issues –

- It highlights the loss of livelihoods with an emphasis on the artisanal fishing communities that have lived in fishing villages along the project's alignment for centuries. Among all affected groups, the fishing community is the most impacted.
- It questions the reclamation of land from the foreshore that will lead to the destruction of fragile marine ecosystems.
- It is criticized as being a car-focused infrastructure where less than 4% of the population uses cars and the marginalized majority resides in slums with poor access to basic infrastructure and public transport.
- It is possible that coastal road interchanges could create bottlenecks at entry and exit to many city roads.

1.b. Aim-

Assessing the impact of the Coastal Road project on the livelihoods of fishing communities residing along the project's alignment.

1.c. Objective-

The main objectives of the study are-

- To analyse the existing situation of the Coastal Road project.
- To evaluate the impact of Coastal Road on the livelihood of fishing communities.
- To identify potential issues that affect communities.
- To take into consideration the opinions of communities affected/benefited by this project.
- To offer suggestions based on the current study.

1.d. Justification of Study-

- The project is set to affect the livelihood of the fishermen community.
- The community feels the infrastructure project is going to ruin their business.
- Objection to the 'narrow' width of the navigation span between two pillars. The BMC has proposed the width to be 60 m whereas the fishermen want it to be 200 m.
- The project will cut off their access to the traditional fishing areas.
- Due to different projects catch is already reduced and the coastal road might lead to more decline in daily catch in fishing.
- Not just a 'More cars more roads' project, there is much more to urbanism.

1.e. Methodology-

The methodology is based on literature reviews, site visits, surveys, primary and secondary data analysis. Study of phases of the project and its current development status. Analysis of project and its impact

on different sectors and communities. Specifically the paper tries to study potential of the project as well majorly focus on its adverse impact on community settled in its planned route.

1.f. Study Area-

The study deals with part of Phase – 1 of the MCR Project. Phase – 1 is 9.98 km in length from Marine lines to Bandra-Worli Sea Link and its impact on the fishing community in Worli.

The study focuses on the area from Haji Ali to Worli end of Bandra-Worli Sea Link. Study focuses on impact assessment of coastal road project on livelihood of fishing community in Worli area. Proposed MCR project in the study area is of around 4.35 kms. Land reclaimed is approx. 46 Ha, out of which 90% is complete. 50% of construction is already complete is scheduled to finish on November of 2022.

As development and major reclamation is done in this area and majority of Koli communities are present in this vicinity, the study area provides in-depth view on fishermen communities and how the project affects their livelihood and settlements. The positive and negative impacts of coastal road project with respect to existing Bandra-Worli Sea Link will be identified.

Chapter 2: Study & Data

2.a. Coastal Road-

Coastal Road is an 8-lane road (3+3+2) with 2 lanes reserved for Emergency vehicles and BRTS. It is 28.90 km in total length. It will connect Marine Lines to Kandivali. The road will pass along the western coastline of Mumbai.

Phase 1- The South End, will be from Marine Lines to Worli end of BWSL.

Phase 2- The North End, will be from Bandra end of BWSL to Kandivali.

Primary Criticism-

- Loss of livelihoods of artisanal fishing communities along project's alignment.
- Car focused Infrastructure 4% of population use cars.
- 50 Ha of reclamation land will lead to destruction of marine ecosystem.
- Lead to bottlenecks at interchanges and entry exits.

2.a.1. Coastal Road Phase-1-

It involves an 8 path street built on reclaimed land from the ocean, span on stilts, tunnels, ramps, elevated road, green spaces, sea wall, twin-tunnels under Malabar Hills and different dispersal schemes for traffic dispersal. The coastal road will be based on reclaimed land along the city's western waterfront. This will lead to permanent alterations in its landscapes. The essential goals are to decongest vehicular traffic, save time, lessen cost of drive, utilize reclaimed The essential goals are to decongest vehicular traffic, save

Sr. No.	Description	Phase-1	Phase-2
1	Total Length in km	10.58	19.22
2	Executed by	MCGM	MSRDC
3	Construction Commence	Oct 2018	2023
4	Construction Completed	50 %	-
5	Reclamation Area	111 Ha	32 Ha
6	Green Space Area	70 Ha	20 Ha
7	Lanes	3+3+2 Emergency	4+4+2 Emergency
8	Interchanges	3	7
9	CRZ Areas	IB, II, III & IVA	IA, IB, II, III & IVA

time, lessen cost of drive, utilize recovered land to give open space to the city and further develop air quality. land to give open space to the city and further develop air quality.

There are 3 interchanges in Phase-1 of MCR project-

- Amarson Garden Dispersal Scheme
- Haji Ali Dispersal Scheme
- BWSL- Worli end Dispersal Scheme

2.b. Study Area-

Study area deals with a 4.35 km long path of Phase-1, from Haji Ali to Worli end of Bndra-Worli Sea Link and Worli Koliwada area.

As major reclamation of land is done in this area, green spaces, proposed along the project, will be abundant. Green spaces are rare in Mumbai. This project will be a

2.a.2. Reclaimed Land-

Total of 111 Ha of land needs to be reclaimed for this coastal road phase-1. Around 90% of land reclamation is completed. Out of total 111 Ha of reclaimed land, 70 Ha of land will be reserved for public utilities like-Walking, Jogging tracks, Gardens, Promenade and Play area.

2.a.3. Current Development Stage-

great relief to traffic congestion along the west coast road, near Haji Ali and Bandra End of BWSL.

Majority of Koli fishing community is included in this study area so as to monitor and assess the impact of coastal road on their livelihood. It provides and in-depth view on fishermen communities and how this project affects their income and settlement.

2.c. Introduction to Koliwada-

Koliwada is a small coastal town in Worli, Mumbai. The Koli fish community, with authentic tribal fishermen and age old traditional fishing techniques has thrived for centuries. Koliwada has Bandra Worli Sea Link on one side and Worli commercial hubs and residential sectors on the other side. Worli Koliwada occupies a triangular land encompassed with water on 3 sides giving it the benefit for its great fishing occupation. The focal market road behaves like a principle spine that ties around the total town together.

Worli Koliwada is one of the seven unique islands of Mumbai; a metropolitan town is supplied with rich social, authentic and social importance. It is home to the Koli people group, the first occupants of Mumbai alongside the East Indians. Age old practices start promptly in the first part of the day with fishing boats venturing out onto the ocean and returning late around evening time by means of the associated Mahim Creek. The Worli Koliwada is a labyrinth of thin paths dabbed with old however pleasantly tucked little houses, many parading Portuguese engineering and bountiful fish markets. The bylanes take you through a culture walk exhibiting the lives and ways of life of the local Kolis and later pioneers. . Within tight and shared spaces, Kolis have infilled small market stands, crowding the narrow streets, but giving further purpose to lower levels of their homes. Inside close and

shared spaces, Kolis have infilled little market stands, swarming the limited roads, yet providing further motivation to bring down levels of their homes. Open spaces for celebrations, for example, Holi encompass the generally critical Worli Fort and expect to balance the density of built structures. The site showcases the lives and lifestyles of the native Kolis and more recent settlers. While the Kolis originally relied on fishing intake only, declines in annual catch have pushed the people to consider additional means of income. Since they are such spectacular, vibrant and colourful spaces, Koliwadadas could be our cultural showpiece on the tourist map of Mumbai.

2.d. Importance of Site-

Worli Koliwada is one of the earliest fishing villages in Mumbai. The land is where the native fishermen community or Kolis came to be settled. Worli Koliwada is one of the seven original islands of Mumbai; it's an urban village that's endowed with rich cultural, historical and social significance. End part of Koliwada also houses the Worli Fort, built by the British and now a heritage monument. Here, you will also get to see one of the most beautiful sights in Mumbai - a small, colourful fishermen village juxtaposed against the grand Bandra-Worli Sea Link on one side and the high-rise structures on the other - Worli being a prime commercial and residential location in Mumbai. That the Worli Koliwada, by its

strategic location, foregrounds this emergent skyline is both ironic and opportune. The Worli Koliwada is a maze of narrow lanes dotted with old but picturesquely tucked small houses, many flaunting Portuguese architecture and abundant fish markets.

Chapter 3: Study and Analysis

3.a. Coastal Road Benefits-

The main purpose of the project is to decongest the city's traffic and create more open spaces. The eight-path roadway will oblige 130,000 vehicles every day and lessen travel time between South Mumbai and the western rural areas from two hours to 40 minutes.

Mumbai left on a USD 1.8 billion coastal road project to ease gridlock and check how much harmful air poisons conceded into the environment.

If Travelling requires an hour now, it will just a short time, 12 mins. approx., after the construction of coastal road is completed. There will be no tolls, signals. Traffic will be consistent. One path will be devoted to emergency vehicles.

It will give genuinely necessary relief to choked, heavily congested traffic that has turned into a ugly reality of Mumbai's suburban city drive. The strain on traffic at street and rail will back out hugely. Be that as it may, most importantly, the upgraded network will work on expectations for

everyday comforts and assist with elevating financial development because of greater chance of simple association with numerous business centres of the city.

Likewise, it will bring about a saving of 34% fuel (350 tons) esteemed at \$100 million every year. In addition, the MCR will have a devoted path for transports and emergency vehicles like ambulances. Other than these, the upgraded framework through strolling ways, cycling and running tracks, an outdoors theatre and free parking garages at Amarsons, Haji Ali and Worli trades with a limit of 1,625 vehicles add to the up-sides.

On the ecological side, it will work on the circumstances with 70 hectares of green space and furnish insurance against beach front disintegration alongside a decrease in the carbon impression consistently. To wrap things up, the beach front street will be complementary.

3.b. Coastal Road Impacts-

3.b.1. Inefficient Mode of Transport

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- Car-based transport is inherently inefficient. Despite their high vehicular share, private cars account for a very small percentage of daily trips in Mumbai.
- The cost per km of moving one commuter on the road works out to 25 times more than on the metro. Thus MCR might prove to be most inefficient of all modes of transport.

3.b.2. Bad Public Investment Priorities –

- The city has put money mostly in car-oriented infrastructure, and more recently in Metro rail, while public bus and suburban rail systems have languished because of neglect and underinvestment.
- This is bad news, especially since Mumbai is one of the densest cities in the world, which makes it unsuitable for car-oriented transport system.

3.b.3. Public Health Threatening –

- Mumbai has car density of over 430 cars per km of road length, and 2,100 cars per sq.km. of urban area.
- Building more roads perpetuates traffic congestion and worsens air quality. This causes increase in vehicular pollution.

3.b.4. Widen Class Divide –

- City pushed unwanted activities and populations to the unfavorable northern and eastern parts of the city, retaining the favorable southern core and western shore areas for the middle and upper classes.
- The Coastal Road Project reproduces the south-north spatial structure, and does little to connect the western end to the central and eastern parts of the city. This means the project only serves car owners who live along the well-served western corridor, and does nothing for the rest of the city.

3.b.5. Social Inequality –

- Car-centric infrastructure in lower-income and middle-income cities benefits only a small percentage of commuters.
- The negative impacts of the projects, like loss of livelihoods, displacements, accidents and pollution, are borne by the low-income populations.
- Neglected and shrinking public transport, such as the BEST bus service tends to worsen inequality.

3.b.6. Costs Outweighing Benefits –

- As usually happens in mega-project planning, documents of the Coastal Road Project underestimate costs and overestimate benefits.
- It was initially estimated to cost Rs 300 crore and move 1,00,000 cars a day. It ended up costing Rs 1,600 crore and its average daily ridership stands at 32,312 cars.
- it will cost the city more to deal with additional traffic, it will harm public health by increasing traffic pollution, it will make us more vulnerable to climate change.

3.b.7 Symptoms to City's Planning Failures –

- The Coastal Road Project is an outcome of this failed planning system that deprives the many of their basic needs to provide extravagances to the few.
- Nothing in Mumbai is more undervalued than the lives of the poor.

3.b.8. Precarious Future –

- City planners are destroying natural systems and public spaces to build freeways for cars.
- Government are choosing toxic smoke over clean air, cement and steel over trees and birds, floods and devastation over leisure and opportunity, segregation and strife over empathy and equity.

3.b.9. Risk of Flooding –

This reclamation will push the boundary of the current coastline by at least 100 metres towards the sea, which could lead to change in tidal patterns, erosion of beaches and a blockage of the city's natural drainage systems along the whole western coast. This could put Mumbai at a high risk of flooding.

3.b.10. Impact on Livelihood of Fishing Community –

- At present, the boats pass between two pillars about 30 metres apart that support the Bandra-Worli Sea Link. Once the interchange comes at the location, the boats will have to pass again through four pillars. One strong wave, or a gust of sudden wind, can throw our small boats crashing against the pillars.
- With the reclamation work for the Coastal Road which began in 2018, the fisherfolk said they have already lost fish breeding spots. Small-scale fishermen of the Worli Koliwada are largely concentrated in the shallow waters. The rocky shore that has been reclaimed for this road was the most

fertile breeding zone and is completely lost.

- Report points out that the reclamation and construction noise is moving of fishes away from the bunder and the shallow water.
- Since the construction, there is a change in the tidal patterns, which has hindered the movement of the fish and has either pushed them deeper into the sea or towards the northern end— Mahim Creek, Dadar Seaface, Khar, Bandra. Now, fishermen have to invest more in diesel to take boats from bunder to Dadar and Bandra.

3.c. Socio-Economic Impact of Coastal Road-

Mega projects in the city quite often make net advantages for certain individuals and expenses for other people. The MCR has been contended as a public decent project. The Detailed Project Report (DPR) shows that however monetarily non-practical, the Coastal Road will have "societal advantages" as it will diminish vehicle operations costs, accidents, travel times, mishaps and pollution. This project lacks in 2 points: First: it neglects to represent the externalities of the project. Second: it does not consider and assess the adverse effects of the project which are bigger than the positives. The MCR will bring about the disturbance in neighbourhoods and loss of livelihoods of fishing communities along the coast. It will bring about an increase in pollution because of increase in

traffic, it will have immeasurable local and on bigger scale environmental effects. Also, the project will consume public assets to serve generally 1% privileged population of this city. The MCR is, thus, not a public welfare project. The project seems to be welfare only for the wealthy. Some have argued that the MCR project will have positive effects like availability of green spaces and decrease of pollution and health hazards. The issue is that there are now a significant number seriously utilized regular open spaces along the coast that will be used up to be replaced with promenades and parkway. An eight lane coastal road with uninhibited traffic is different than marine drive, where numbers of pedestrians outweigh vehicles. New promenades and parks will have disturbances and obstructions in view because of coastal road, making it unappealing. Poor use of utilization of the promenade in Bandra Reclamation shows the insufficiency of such projects. Entry to sea side area, available to thousands of people, will also be cut off due to construction of sea wall. This will provide nice views to drivers but not to the residents. Moreover, utilizing the coastal area for leisure and recreational functions instead of using them for productive use, render them unusable for needs of livelihoods of fishing communities. As the city is re-coordinated for the travel industry, recreation and diversion areas, communities that rely upon them are

pushed out from the city centre to be replaced by amazing waterfronts, amusement zones and vacation destinations. Besides, being on the edge of the city, the catchment region for the BRTS framework on the CRP will be very restricted.

3.c.1. Opportunity Costs

The city is predominantly in need of public spending to improve day-to-day environments, sanitation and drainage, basic amenities, public transport, medical services, education etc. These are disregarded on the grounds that they are redistributive measures. No assessment or reporting is done on these grounds. There are numerous options to work with the versatility of millions of workers along the western corridor that are more sustainable, more productive and more economical. The MCR is not one of them. Floods in 2005 brought about the deaths of 546 individuals, however regardless of being always powerless against flooding; the new drainage system lies inadequate, under development for right around 20 years. As per the 2011 Census, 1.13 million families (42.6%) in Mumbai live in "housing poverty" (Government coined term) residing in "unacceptable physical and social conditions." 72% of families in the city live in single room accommodations. Mumbai's health system is profoundly insufficient with a necessity of minimum of 199 new facilities according to National

Urban Health Mission (NUHM) standards. Government is focusing on improving living conditions of the city instead of its health infrastructure.

3.c.2. Socio-spatial Inequities

The MCR will not be financed by toll collection because it will have limited use. Toll collection will scarcely pay for maintenance, security and lighting. Assuming costs are increased on Bandra Worli Sea Link (Rs. 10/km), use of project will drop. The coastal road project seems like, large number of city dwellers spending their taxes on giving drivers a great ride around the city, while they experience a clogged and creaky public transport. Regardless of whether the project is based on 'users pay' standard, the result is a two-level system where the privileged gets improved and costly infrastructure and the poor need to manage with low quality facilities. It was argued that reclamation of land is justified since the worth of reclaimed land is about equivalent to the expense of reclaiming. Yet, the issue is that the expense of reclamation is socialized, but the advantage of reclamation is privatized.

3.c.3. Externalities

The MCR will have incalculable social and environmental costs because of its narrowly targeted benefits and irrationally high public investment. These costs will be borne by others: the disturbance to neighbourhoods and livelihoods of fishing

communities as expenses are borne predominantly by poor people, ecological impacts and pollution costs by current and future residents, the requirement for additional parking facilities and infrastructure as expenses for the city. Livelihood of more than 35,000 individuals rely upon fishing, many of them inhabited western coastline of the city. The MCR will lead to disruption, even stopping, of fishing activities in some areas. Likewise, reclamation and construction will also impact fishing activities. Destruction of mangroves will make the city more powerless against floods. This has been brought up by the DPR itself. It has been proposed that the coastal road will prevent disintegration of the coast and safeguard the city from rise in sea levels because of environmental change. As observed, both of these are a result of projects like the coastal road. Besides, both of these problems should be handled independently.

3.d. Impact on Livelihood of Worli Fishing Community-

3.d.1. Current population -

As per observation, out of current population of Koliwada community, around 20% of the population does not belong to fishing community (Local Kolis). Outsiders are generally migrants from other states or regions in search of jobs who resided in this area. As the rent in this particular region is low compared to

other South Mumbai sections, locals provide houses on rent for migrants.

3.d.2. Fishing Activity -

Due to current trends of urbanization, infrastructure development, there is severe impact on marine life, marine ecosystem around the west coast of Mumbai and several creeks in city. This inevitably has affected the livelihood of coastal communities, Kolis, residing along the coast. There is decrease in daily catch of fishermen by around 50% as their traditional fishing grounds fall directly under BWSL and other fishing grounds and breeding spots at Worli, Haji Ali and Priyadarshini Park will be destroyed under reclaimed land. After reclamation of land, the coast line will be shifted 100 m further into the sea, thus ruining their hunting spots and resulting in fishermen having to travel further away from shore to catch big fish making this more risky and loss prone mode of income as fuel costs outweigh income from fish selling. Because of the decline in the fish catch, fishermen are forced to go deeper into the sea. But some of their boats are quite small and they are not equipped for the deep sea. So during storms and cyclones, they get affected more. Fishing is becoming much more uncertain and much more risky. This led to Kolis families leaving their current community and shifting to other community.

3.d.3. Mode of Income -

Around 22% of families still consider fishing as a primary source of income as they wish follow their ancestors and traditions and in the hope that government will take their wants into consideration and help them. Many families are already considering changing their primary mode of income from fishing to other sources like, jobs in public/private sector, self-employed or renting houses to outsiders. During this time, many families built illegal houses on open plots which were previously used as drying area for fish or boats, other material storage space or barren lands. These houses were then rented by families to migrants who are in search of small budget house.

But due to MCR project, fishing activity is not deemed as reliable source of income by many families. Due to narrow spacing between columns of bridge, the passage of boats is much more dangerous, especially in rainy seasons, as boats might crash into columns or their footings or rip their fishing nets resulting in further loss.

3.d.4. Policy/Compensation -

There is no policy or provisions provided by the government to the families affected by this MCR project. Same was the case during construction of BWSL project. No consent, of Koli community, was taken into consideration during the approval phase of the project. And no families received any kind of assurity or

compensation from government, as Worli Koliwada community is most affected by these projects.

3.d.5. Resettlement -

Community is trying to avoid being classified by government as slums so as to avoid resettlement. Resettlement is a topic of debate among locals, as majority of the families are trying to avoid resettlement because of their illegal houses which won't be considered by government. Koli families find it difficult to shift from their current homes to new schemes as provided by government which will be around 200-350 sq.m. built up area. This will lead to destruction of their other illegal houses stripping families from their income from renting these spaces. No compensation will be provided to families for illegal houses.

3.d.6. Community led renovation and suggestions -

Families are ready to appoint their private consultants and develop the community, its infrastructure and services as a whole, which will result in families relocating in this community and might consider taking up fishing activity again. Community are not in complete opposing the project or any other development schemes as these are betterment of the city, relieve congestion and ease travelling. Their only aim is to suggest slight changes in designs of the project so as to minimize, not nullify, the adverse effects of fishing grounds, fishing activity and their

livelihoods. Compensation policies would also ensure minimizing project effect on fishing community in Worli. A small change in the design of the Coastal Link, to increase the gap between the columns, will help facilitate navigation of fishing boats to the shallow fishing area. However, the sad part is that the fishing community is never consulted before initiating projects impacting their livelihoods.

Chapter 4: Conclusion

Kolis in Mumbai are the city's earliest occupants, even when Mumbai was Bombay, Kolis fostered the shorelines and harbours. They are resistant to the metropolitan landscape of the city. On the contrary, Kolis are all around influenced by urbanization yet are differentiated from the remainder of Mumbai in their traditions, practices and social life.

On the left skyscrapers are seen dominating the city, and right below them is small but significant Koliwada, surrounded by water. These Koli settlements are representative of the variety that the local area carries with it. Fishing is the essential occupation of the Kolis, and keeping in mind that they are possessed in a city that prides itself as metropolitan; the Kolis for a really long time have supported their conventional livelihoods that are to a great extent driven by their reliance to fishing.

The relationship that the Kolis share with the ocean is multifold; it is one of

monetary reliance, strict importance, and it is social. Aside from fishing, which is their essential occupation, Kolis practice strict and social customs with the ocean that envision their set of experiences worked around water.

A critical danger to the environment has been the dubious beach front street project, that is wanted to interface South Bombay with rural regions like Kandivli, and is proposed to cut travel time by 70%. This undertaking has been contended in court by a few activists, asking the specialists to rethink how this will harm the previously vanishing biological system of the city. The contention for this is that it is intended to divert around 60,000 vehicles that movement to and fro consistently, lessening traffic and contamination brought about by something similar. Notwithstanding, the undertaking is generally viewed as a result of the arranging disappointment in the city, that has just expanded over the most recent couple of years. There is likewise vulnerability about whether there is an arrangement to restore the fishing towns that will definitely get dislodged by this turn of events.

It is troublesome, but not feasible, to reconsider the framework of Mumbai and incorporate Kolis as one of the essential food makers and accordingly important to the scene of the city. The Worli Koliwada, attributable to its amazing property status, has been managing inhabitants who are

'untouchables' with no recorded or contemporary comprehension of the local area, frequently denying Koli customs and merriments. But since these inhabitants offer rental pay to Kolis, it is a poisonous relationship that they can't escape. There is likewise a sluggish however certain reduction in the sharing of chronicled history inside families, since more youthful Kolis are presently creating some distance from fishing towards occupations that guarantee more significant salary. Supportable practices like sun-drying fish utilizing salt are vanishing in light of the fact that by and large, there were in excess of 30 assortments of the popular Bombay duck, and presently scarcely 15 can be found. Just Koli settlements where water contamination isn't as undermining still see this training, yet it is generally deleted by water issues in the city.

The insight of fish and the relationship with it has been emblematic of the Kolis and their insight into regular assets; how this is tended to by the city is disastrous. Kolis are much of the time backgrounds to the allure the city presents; frequently painted as in reverse and hence pushed to the edges, even in a real sense.

Chapter 5: Proposal

Government Proposed Policy -

Government has proposed a draft policy to provide compensation to fisherfolks affected by similar infrastructure projects along the creeks and coastal region.

According to draft policy proposed by Maharashtra government, 2% of total project cost is to be used for compensation to affected families. But families disagree with this as the it is assumed that only 1 member from each family earns an income, which is not true.

Revised Policy –

To propose a policy that will help families affected by infrastructure development projects.

Separate set of regulations to be provided to help fisher families affected by projects in CRZs.

Job assurity to atleast one of the family members should be proposed in this policy. Policy should aim to provide a certain percentage of cost of total product as the compensation to affected families. A smart identification card needs to be issued to fishermen in order to maintain no ambiguity in their numbers. Many families built illegal structures on open land, which was previously use for fish drying, and rented out properties to migrants / outsiders as the rents are low. During resettlement, these extra properties wont by counted. Due to this, families seem to disagree on resettlement on fishing community, and in-situ development can be carried out in order to promote development in Koliwada and improve standard of living. In-Situ resettlement will be considered as a priority in case of upliftment of such affected areas. Open ended draft policy for participation of

NGOs. Consulting various NGOs in Koliwada village to promote development, implement various activities and initiatives that might help in improving quality of life of families. Implementation of these suggestions might lead to continuation of existing settlement to carry out fishing activities without fear. It will also lead to continuance of fishing as a primary source of income for existing community and encourage the ones left to resettle here.

References-

- MCGM-Presentation-21-July-2017.pdf
- DNA-Bandra-Worli sea link-An environmental disaster that may destroy Mumbai
- India Water Portal-When development hampers livelihood
- Internet Geography-Why is Mumbai growing?
- Bentley-Mumbai Coastal Road
- TOI-The project that will change the face of Mumbai
- Mumbai Water Narrative-The Kolis of Mumbai
- Aljazeera-Will a new Mumbai road destroy fishermens livelihood
- Intian Times- Troubled waters-Coastal Road
- MCGM-qlcoastal1