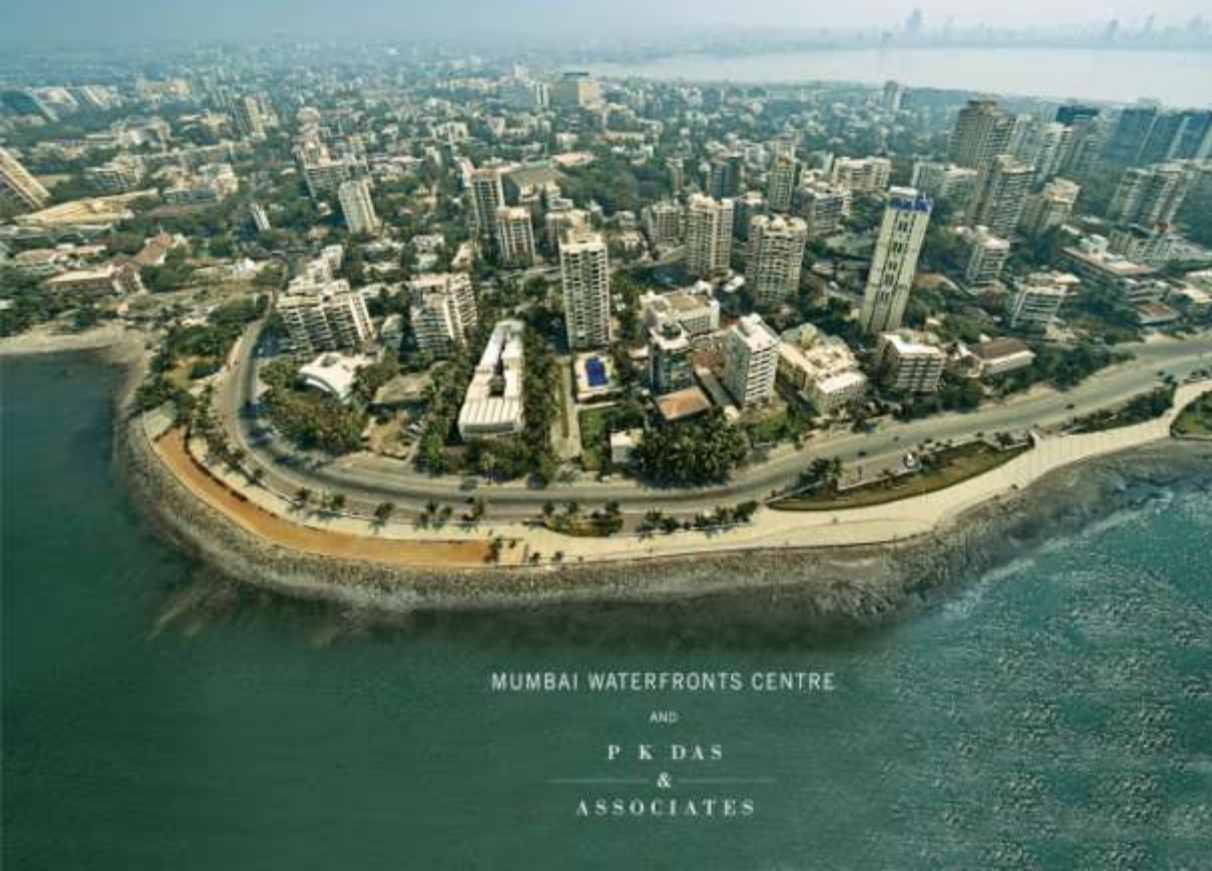


OPEN MUMBAI

Re-envisioning the city and its open spaces



MUMBAI WATERFRONTS CENTRE

AND

P K DAS

&

ASSOCIATES

‘OPEN CITIES’

GLOBAL LIVABLE RESILIENT CITY NETWORK

**Rockefeller Conference Centre,
Bellagio**

November 7, 2012

KEY OBJECTIVE

To establish 'Open Cities' :

- **That are livable and resilient for the achievement of social and environmental justice**
- **Achieve integrated planning and development, as opposed to exclusive, individual , disparate, conflicting and anarchic growth**
- **Undertake urbanisation of cities in order to ensure equal access by all to human development needs**

CENTRAL IDEA

- **Physical Planning and Architectural activism route:**

Physical planning and architecture are effective democratic tools for social change and for the achievement of social and environmental justice

KEY INSTRUMENTS

- **Expanding Public Open Spaces along with the integration of ecological assets**
- **Generating Affordable Housing and carrying out comprehensive Slums Redevelopment**
- **Promoting Accessible Social Amenities- Education and Healthcare**
- **Achieving Sustainable Mobility**
- **Undertaking Participatory Area redevelopment Plans & Programmes**

‘OPEN CITIES’ IDEA

- **Cities are shrinking, being increasingly closed, exclusive and fragmented.**
- **Development works are disparate, often conflicting & contrary to one another.**
- **Land and assets are increasingly colonized for private profit at the cost of larger public good.**
- **Sadly Most people consider urbanisation to be synonymous with city building & city building being synonymous with construction turnover.**

- More and more people are marginalised from the benefits of 'development'. We realise a state of under-development in many of our cities- lack of housing, services, amenities and infrastructure.
- Development of many cities have been counterproductive to Human Development interests.
- Natural assets are abused and misused. Environment is least valued as it has no measured financial turnover.
- Evolving new urban governance approaches

‘WALKING & CYCLING’

A key ‘Open Cities’ idea

- **A metaphor for establishing sustainable cities.**
- **Inclusive cities that provide access to the benefits of redevelopments to all.**
- **Walking and cycling opposes our increased dependency on motorised transportation.**
- **Integration of Planning and Architectural endeavors with democratic rights movements.**
- **Fragmented Cities: Cities are increasingly fragmented and barricaded. This is leading to anarchic developments. Walking & cycling challenges this trend.**
- **Physical networking of cities by walking & cycling facilitates social networking**

‘OPEN CITIES’

THE CASE OF MUMBAI

‘OPEN MUMBAI’

As Mumbai expands, its public spaces are shrinking. The democratic 'space' that ensures accountability and enables dissent is also shrinking, very subtly but surely.

The city's shrinking physical open spaces are of course the most visible manifestation as they adversely affect our quality of life. Open spaces must clearly be the foundation of city planning.

Similarly, access to housing, social amenities and infrastructure are sharply polarising the people living in cities thus, leading to social and cultural unrest.

An 'Open Mumbai' ensures our physical and democratic well-being.

Through this plan, we hope to generate dialogue between people, government, professionals ... and within movements working for social, cultural and environmental change.

It is a plan that redefines land use and development, placing people and community life at the centre of planning — not merely real estate and construction potential.

A plan that aims to create non-barricaded, non-exclusive, non-elitist spaces that provides access to all our citizens.

A plan that we hope will be the beginning of a dialogue to create a truly representative 'Peoples' Plan' for the city.





EXPANDING PUBLIC SPACES

An 'Open Mumbai' plan that redefines the 'notion' of open spaces to go beyond gardens and recreational grounds — to include the vast, diverse natural assets of the city, including rivers, creeks, lakes, ponds, mangroves, wetlands, beaches & the incredible seafronts.

A plan that ensures open spaces is not only available but is geographically and culturally integral to neighbourhoods and a participatory community life.

‘OPEN MUMBAI’ PLAN OBJECTIVES

- **Mapping of open spaces**
- **Preparing neighborhood plans**
- **Expanding and networking public open spaces**
- **Conserving natural assets & protecting eco-sensitive borders**
- **Preparing a comprehensive waterfronts plan**
- **Establishing walking and cycling tracks**
- **Promoting social, cultural and recreational opportunities**
- **Evolving and facilitate participatory governance practices**
- **Democratising public spaces**
- **Undertaking necessary amendments in the DP and DCR.**

MAPPING OF OPEN SPACES

Being aware of these spaces



MUMBAI'S OPEN SPACES MAP

INDEX		Nos.	AREA-SQKM	%	SIGN
GREATER MUMBAI BOUNDARY	(A)	482.74			
WARD BOUNDARY					
RAILWAY STATIONS & PROPERTY		9.41	1.94%		
AIRPORTS, DEFENCE, PORTS		14.55	3.01%		
MAJOR ROADS & HIGHWAYS		30.00	6.21%		
GARDENS [G] & PARKS [P]	718	2.49	0.52%		
PLAYGROUNDS [P.G.]	633	4.01	0.83%		
RECREATION GROUNDS [R.G.]	603	7.18	1.62%		
ENCROACHED OPEN SPACE [on G, P.G., R.G.]	501	3.50	1.09%		
ENCROACHED SPACE ON N.D.Z.		4.80	1.00%		
FISH DRYING YARDS	5	0.16	0.03%		
LAKES, PONDS & TANKS	23	7.06	1.46%		
CREEKS, RIVERS AND NALAS		13.14	2.72%		
WET LANDS [includes salt pans]		8.01	1.66%		
MANGROVES		61.42	12.70%		
BEACHES	10	1.44	0.29%		
PROMENADES	6	0.12	0.02%		
HILLS, FORESTS & NATIONAL PARK		53.60	11.10%		
N.D.Z. [excluding hills, mangroves, wetlands]		39.50	8.18%		
TOTAL AREA	(B)	262.70	54.40%		
Balance land area for development of					
Housing (5 categories as per DP),					
Industrial (6 categories as per DP),					
Commercial (2 categories as per DP),					
Utilities (34 categories as per DP),					
Services (15 categories as per DP)					
	-(A) less (B) =	220.54	45.60%		

Not to scale

Various reservations are as per the Development Plan.

Names & listing of the R.G.s, P.G.s, G.s & P. are not fully available.

N
I

Comprehensive mapping of the open spaces of Mumbai has been carried out by P.K.Das & Associates, Planners & Architects. Open spaces include the various Development Plan reservations - Recreation Grounds (RG), Play Grounds (PG), Parks (P) and Gardens (G). It also includes the diversity of natural assets like hills, forests, lakes, rivers, water bodies, creeks, mangroves, wet-lands, salt pans, beaches and rock formations, which together provide a distinct geographic character to the city, considered here as a part of the open spaces structure. Also promenades and coastal gardens have been included. Encroachments on all the above categories of open spaces have been marked too. Layout RG's and public spaces in railway stations, markets and public amenity buildings are considered by us as significant open spaces but have not been documented here.

Preparation and publication for the first time of such a comprehensive Open Spaces Map of Mumbai is drawn for the purpose of Re-Visioning Mumbai with open spaces as the basis for the city's planning and development. A Vision Plan draft with this objective is presently under way, along with detailed ward maps and listing of 1552 available open spaces. This process will culminate in exhibitions to facilitate public participation and dialogue. The idea is to ensure that the open spaces are conserved and protected from all forms of building construction activity. This map includes a ward based listing document of open spaces.

Limitations and Assumptions : This map has been prepared from a comparative study of the Development Plan and the google maps which are not to date. Road areas are approximate too, considering the total length as 2050 kms. This map does not distinguish between the different encroachments on various land use reservations. Reservations for swimming pools as in the D.P. have not been included in this map. Certain RGs, PGs and Gs have been developed in parts with clubs & other related buildings. These have not been distinguished in our mapping.

References: For the preparation of the Open Spaces Map, we have relied upon Google maps and referred to the Development Plan 1991 and 'know your ward' documents, prepared by the MCGM, various A-Z maps, the listing of reserved open spaces - RG, PG, P, and G, by the MCGM Garden Department (listing 700 nos.) and 'Breathing Space' a survey document by 'Citispace' (listing 600 nos.)

First publication - August 2011.

Prepared & Published by

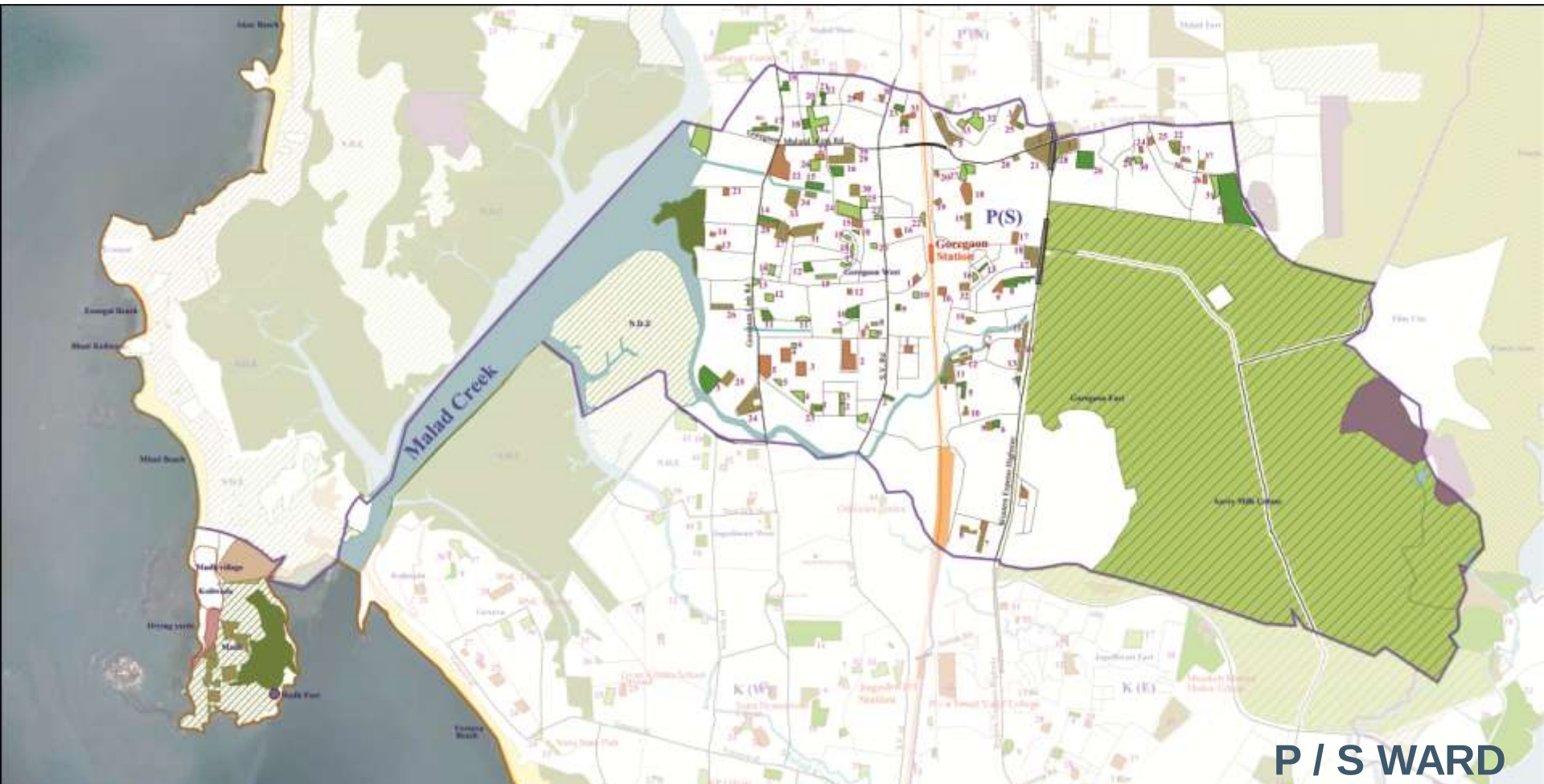
P. K. Das & Associates, Planners, Architects and Designers.

'Sankalp', 5th floor, Plot No 1040, Off Sayani Road, Prabhadevi, Mumbai 400025.

Email - pkdas.arch@gmail.com / Website - www.pkdas.com

MAPPING OF OPEN SPACES

WARD BASED



AREA NETWORKING

Mumbai, like any other global city, is an amalgamation of a diverse set of neighborhoods, each with distinct identities, opportunities, strengths and weaknesses.

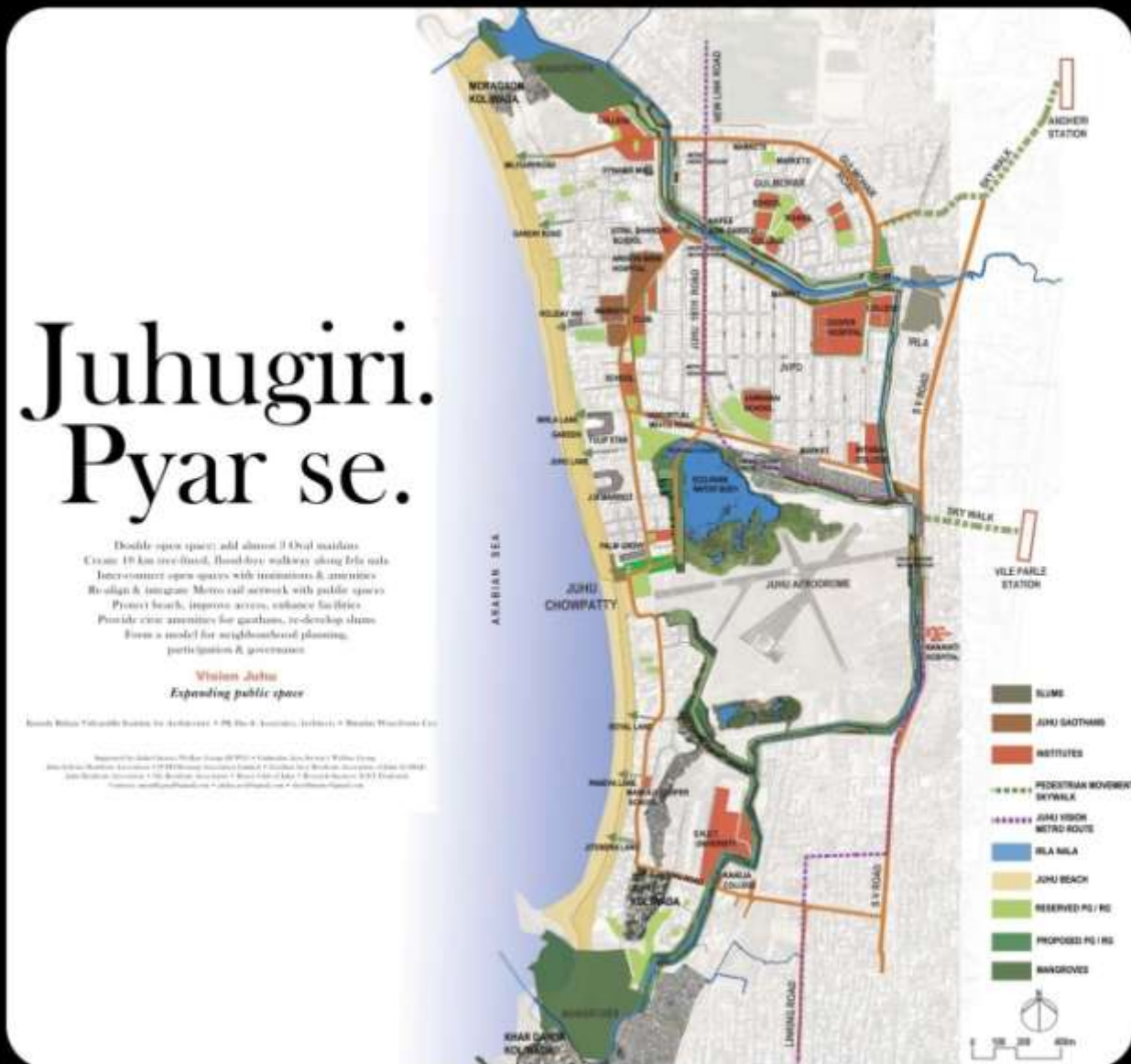
Neighborhood planning which focuses on individual neighborhoods, without losing sight of the city at a macro level, empowers local residents and leads to quicker development, as seen in the case of 'Vision Juhu'.

The aim? To develop contiguous open spaces by interconnecting various areas open to the public.

A 'Green Spine' including walking and cycling tracks that nourishes community life, neighborhood engagement and public participation.

AREA NETWORKING: VISION JUHU

A public interest poster



PROPOSED NETWORK PLAN FOR JUHU

VISION JUHU : Networking the area



‘OPEN MUMBAI’ PLAN ELEMENTS

The Integration of Ecological Assets

- **Vast Seafronts**
- **Beaches**
- **From Rivers To Nullah's To Rivers Again**
- **Creeks and Mangroves**
- **Wetlands Conservation**
- **Lakes Ponds and Tanks**
- **Integration Of Nullah's**
- **Parks and Gardens**
- **Plots and layout RG's**
- **Historic forts and Precincts**
- **Hills and forests**
- **City Forests**

**DEMOCRATISING PUBLIC SPACES
&
POPULARISING PLANNING AND
ARCHITECTURAL PRACTICES
& THEIR INTEGRATION WITH SOCIAL
MOVEMENTS**

INCREDIBLE SEAFRONTS: PROMENADES AND PLAZAS



BANDRA BANDSTAND





CARTER ROAD

BEFORE



AFTER



GATEWAY OF INDIA PLAZA



BEACH CONSERVATION AND NOURISHMENT



JUHU BEACH



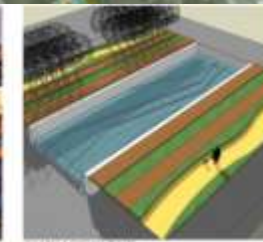
AFTER

BEFORE





IRLA NULLAH (Drains)



IRLA NULLAH (Drains)



AFTER



BEFORE

FROM RIVERS TO 'NULLAHS' TO RIVERS AGAIN





Avenues And Promenades Along Rivers					
Sr No.	Name	Location	Area (sqm) Of the river	Area(sqm) Of the proposed development	Total Area(sqm) Of river alongwith development.
1	Mithi River	Originates from the overflow of Vihar Lake, flows through Arey Milk Colony, Powai, Saki Naka, Kurla, Kalina, Vakola, Bandra-Kurla complex, Dharavi and Mahim and meets the Arabian sea.	998164.2	1217897	2078164.2
2	Oshiwar a River	Starts from Sanjay Gandhi National Park and meets in Arabian Sea at Versova Creek	284280.5	48545.26	716280.5
3	Dahisar River	Originates from Tulsi lake in Sanjay Gandhi National Park and meets the manori Creek	161248.4	88277.71	821248.4
4	Poisar	Borival West	57067.75	78996.69	327067.75
Total area of avenues and promenades along rivers			1500761	1433717	3942760.85
			1.5 sqkm	1.43 sqkm	3.94 sqkm

MITHI RIVER



AFTER



BEFORE



CREEKS AND MANGROVES



Avenues And Promenades Along Creeks					
Sr No.	Name	Location	Area (sqm) Of the creeks	Area(sqm) Of the proposed development	Total Area(sqm) Of creeks alongwith development
1	Malad Creek	Located at the west of Malad west and continues till Malad Marve Rd.	2990463.00	117000	3107463
2	Creek Near Mankhurd	Located at Mankhurd	1013750.32	207000	1220750
3	Creek Near Mulund East	Mulund East	113050.41		113050.41
4	Creek at sewri		70857.89		70857.89
5	Manori Creek		4415577.90		4415577.90
6	Creeks near Ghatkopar	Ghatkopar East	370069.56		370069.56
7	Creeks near Vikhroli		202920.72		202920.72
8	Creeks near mulund		70392.71		70392.71
Total area of avenues and promenades Summary Areas of Mangroves			9247083	324000	9571082
			9.25 sqkm	3.24 sqkm	9.57sqkm

Total Area Of Mangroves61.72 Sqkm
 Total Area of boardwalks along mangroves..... 0.197 Sqkm
 Total Area of mangroves along with boardwalks.....61.917 Sqkm

MALAD CREEK



AFTER

BEFORE





WETLANDS CONSERVATION



Avenues Along Wetlands		
Sr No.	Name	Area (sqm)
1	Wetlands	8.01 sqkm
2	Avenues	0.66 sqkm
Total development area		8.67 sqkm

SEWRI WETLANDS

AFTER



BEFORE





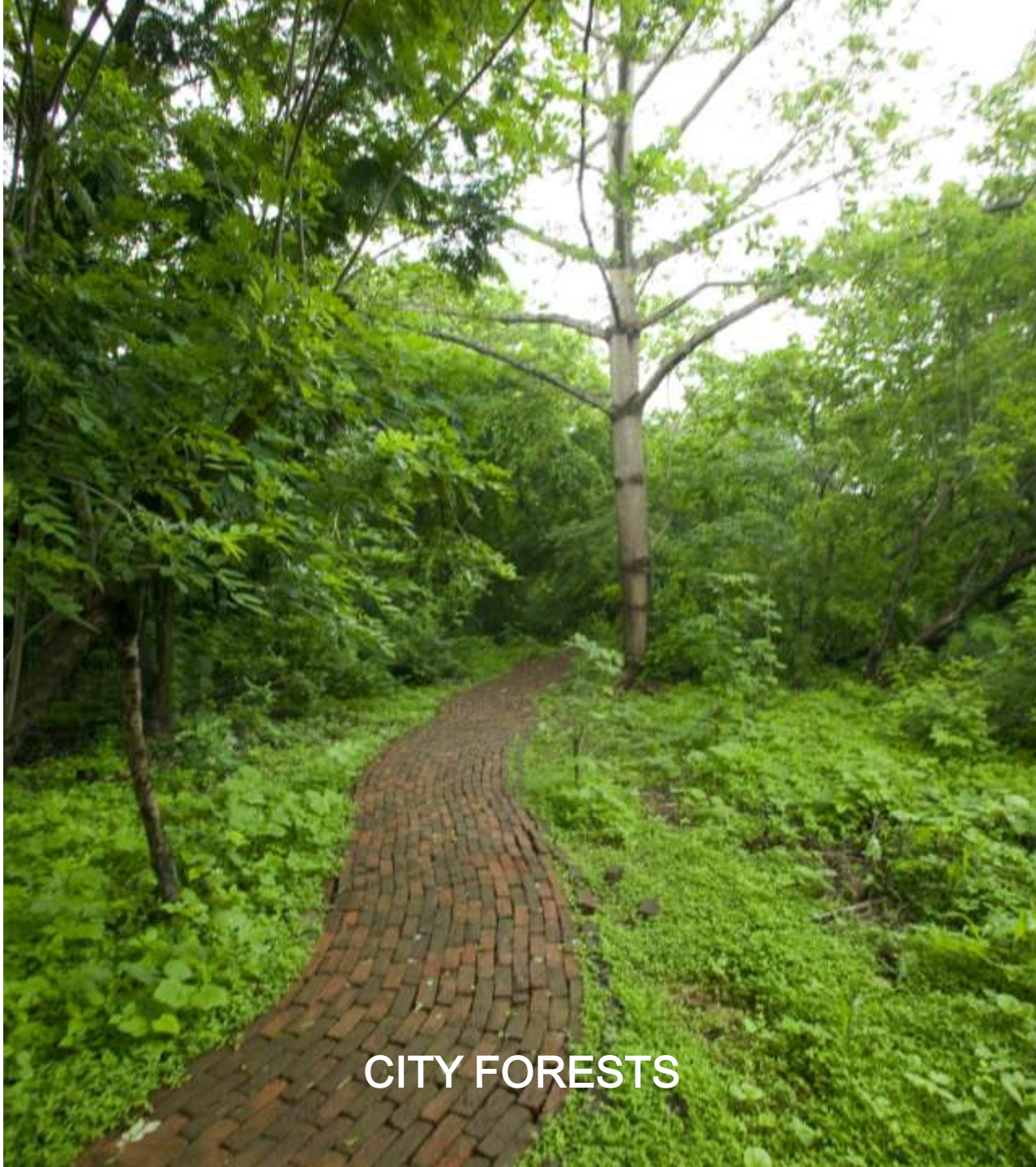
HISTORIC FORT PRECINCTS

BEFORE



AFTER





CITY FORESTS



City Forests			
Sr No.	Name	Location	Area (sqm)
1	Juhu Forest	Juhu, Beside Irla Nala	29687.60
2	Mahim Nature Park	Mahim	18826.32
3	Mumbai Port trust Garden	Near Colaba Causeway Rd	49398.43
4	Veer Jijabai Bhosale Udyan	Dr. Bhasaheb Ambedkar Rd, Byculla E, Mumbai-27	216936
Total area of existing city forest			0.31sqkm
5	Proposed city forest at Goregaon West	Goregaon West	1300000
6	Proposed city forest at Chembur West	Chembur West	200000
Total area of proposed city forest			1.5 sqkm
Total area of city forest.			1.8 sqkm

'OPEN MUMBAI PLAN'

Re-Envisioning the city



‘OPEN CITIES’ THE CASE OF MUMBAI

**SLUMS REDEVELOPMENT,
AFFORDABLE HOUSING
& ACCESSIBLE AMENITIES**

SLUMS REDEVELOPMENT AND AFFORDABLE HOUSING INTEGRATION

THE CASE OF MUMBAI PART - 2

Presentation to Shri. Prithviraj Chauhan
Honorable Chief Minister of Maharashtra

NIVARA HAKK
&

P K DAS
..... &
ASSOCIATES

31st AUGUST 2012

Part-1 was presented in May 2011

WAY FORWARD

KEY OBJECTIVES

1

Mapping of slums

2

**To Undertake Master Planning of
Slums land (A RAY Objective)
along with a modified SRA Scheme**

3

**Promote Social amenities along with
Affordable Housing stock**

4

**Notify slums land reserved for
Affordable Housing (A RAY Objective)**

MUMBAI SLUMS LAND MAPPING



Excluding Dharavi and Airport Slums

Slums occupied land area = 37.46 sq. kms

**i.e. 7.76 % of total area of Greater
Mumbai of 482.74 sq.kms.**

**or 15.32 % of total tenable land area of
244.50 sq. kms**

**Slum-dwellers Population is 52.5% i.e. 6.53 million
Slum-dwellers Rehab Population as on date is 4.67 million**

Average Slums Density is 300.05 Ten./Ha

MUMBAI SLUMS LAND



MUMBAI SLUMS LAND



‘DEVELOPMENT’ ANARCHY

Present SRD policy is leading to further Slumification of the City

33(10) Project



HANUMAN NAGAR, KANDIVALI

33(11) Projects



MUTP Rehab, MANKHURD



CHEMBUR



INDIABULLS, PRABHADEVI

‘DEVELOPMENT’ ANARCHY

Projects under 33(7) & 33(9) D.C. Regulations too are causing similar damage to the city as the SRD projects



ALTERNATIVE - CHANDIVALI

AREA PLANNING SCHEME TO ANARCHY

Absence of Regulations



Density (Tenement / ha) = 560
No. of floors = G+7

Ground Coverage = 40%
F.S.I. = 2.5

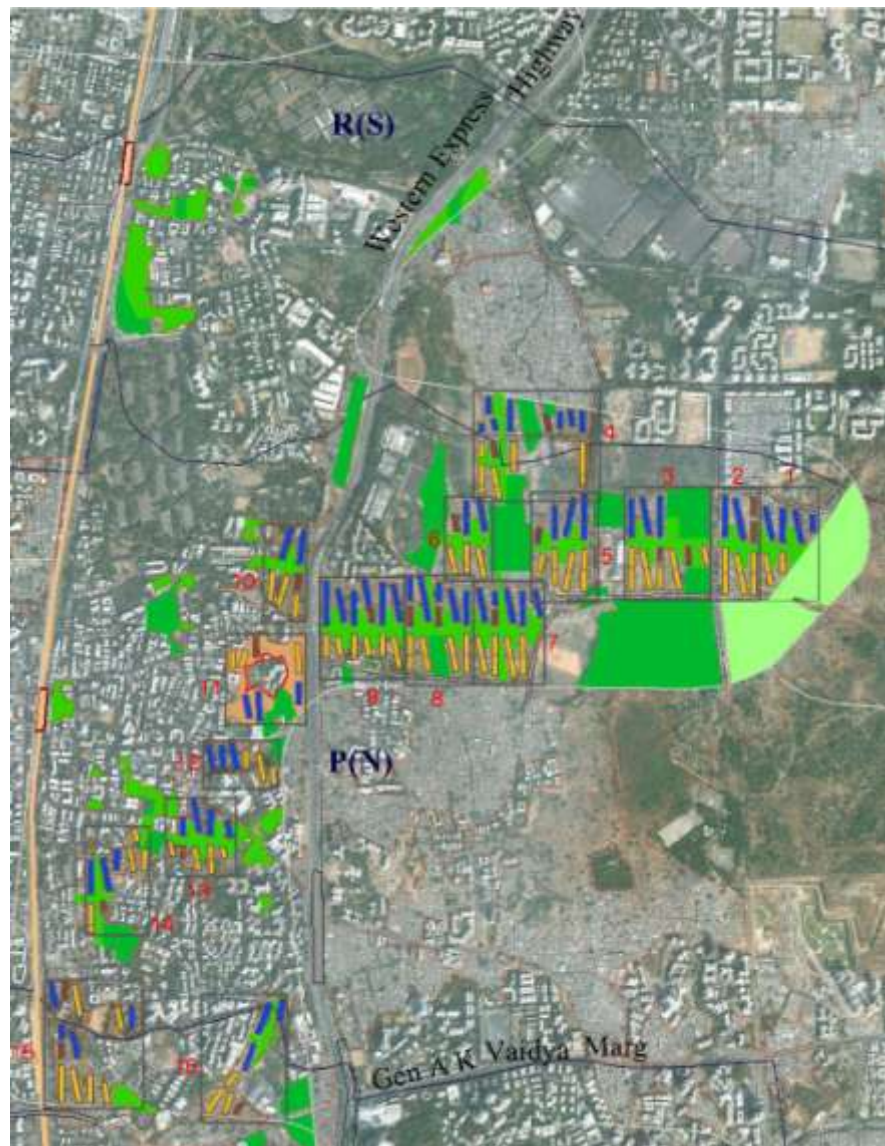
ANARCHY



ALTERNATIVE - CHANDIVALI



M.P. ZONE- 9 BLOCK PLANNING



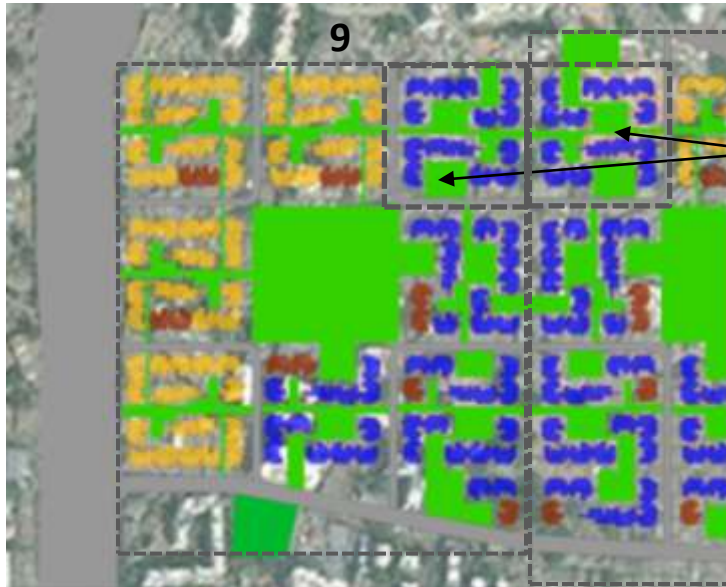
Block Nos.	Block Area (sq.m.)	Block Area (ha)	Rehab Units	Sales Units	Rehab Population	Sales Population	Population	Density (pph)	Tenements per ha
1	58,197	6	2102	901	10,512	4,505	15,017	2580	516
2	73,429	7	2653	1137	13,263	5,684	18,947	2580	516
3	158,827	16	4586	1965	22,930	9,827	32,757	2580	516
4	150,193	15	4290	1838	21,448	9,192	30,639	2471	494
5	135,336	14	3195	1369	15,977	6,847	22,824	2471	494
6	120,899	12	1980	848	9,899	4,242	14,141	2471	494
7	95,067	10	3434	1472	17,171	7,359	24,531	2471	494
8	76,162	8	3548	1521	17,741	7,603	25,344	2471	494
9	138,018	14	3636	1558	18,181	7,792	25,973	2471	494
10	48,410	5	1749	749	8,744	3,747	12,491	2580	516
11	52,038	5	1880	806	9,399	4,028	13,428	2580	516
12	125,646	13	1343	576	6,717	2,879	9,596	2580	516
13	57,587	6	2080	892	10,402	4,458	14,859	2580	516
14	56,360	6	2036	873	10,180	4,363	14,543	2580	516
15	88,660	9	3203	1373	16,014	6,863	22,877	2580	516
16	46,939	5	1696	727	8,478	3,634	12,112	2580	516
		123			217,056	93,024	245,688		

Note: Population based on 2011 Slum Population Census.

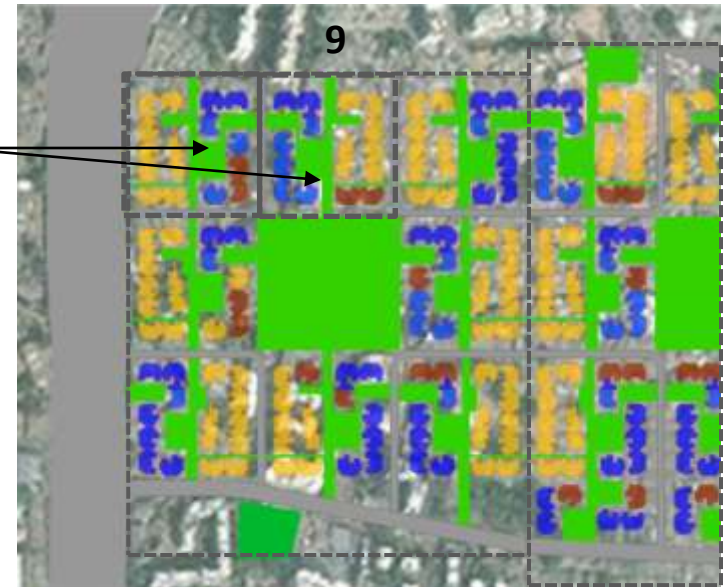
Legend

 Rehab	 Layout RG
 Sales	 NDZ Reservation
 Amenities	 Open Space Reservation (RG, PG, G, P)

M.P. ZONE – 9 TYPICAL UNIT DEVELOPMENT SKETCH



Option - 1



Option - 2

Typical 1 ha.

Block size -
300m x 350m

Planning Assumptions

F.S.I.	– 3.0
Ground Coverage	– 40%
Layout RG	– 15%
Amenities	– 10% (included in Ground Coverage)
Work places	– 5% (Buildable reservation)
Transportation	– 15%
Services & utilities	– 10%
Setbacks	– 20%
	100%

	Open Spaces - 35%	- 34,585 sq.m. = 3.46 ha
	No. of Rehab Units	- 3569
	No. of Sales Units	- 1530 (includes 15% amenities & work places)
	BUA of Amenities & work places	- 37,796.57 sq. m.
	Rehab Unit area	- 25 sq.m. (BUA = 30 sq. m.)
	Sales Unit area	- 60 sq.m. (avg. BUA = 70 sq. m.)
	Population	- 25,495 persons
	Density	- 2601 persons per ha - 520 tenements per ha

SLUMS REDEVELOPMENT DENSITY

Excluding Dharavi and Airport Slums

Existing Slums Density	→	Under present SRA Scheme for Rehab	→	Under proposed Master Plan for Rehab
300.05 Ten./ha		Up to 1250 Ten./ha		516 Ten./ha (under F.S.I. – 3.0) 464 Ten./ha (under F.S.I. – 2.5)

Under the Present SRA Scheme
Slum dwellers presently occupying 15.32% of the tenable land area get squeezed to approx 1/3rd the area, i.e to 5.1% of the total tenable land area, subjecting them to oppressive and undesirable conditions.

A COMPARATIVE

NOW – PRESENT SRA SCHEME



33(11)



33(10)

**Systematic
Destruction &
Slumification
Of the city.
Lack of light,
Ventilation, privacy,
& Open space,
Ugly jostling cityscape,
No amenities &
conveniences.**

AFTER – MASTER PLANNING & A MODIFIED SRA SCHEME



Option – 1
Slums In-situ Improvement Scheme



Option – 2
Demolition & Reconstruction Scheme

Illustrations

Demolition & Reconstruction Option

**G+7 buildings, open
Spaces, desirable
Set-backs, amenities,
Work places,
Conveniences,
a Sustainable Cityscape**

RE-ENVISIONING THE CITY

BORN OUT OF PEOPLE'S MOVEMENTS

These plans and proposals are essentially rooted in ideas of conservation, restoration, recycling, re-planning and re-structuring existing realities and their spatial transformation.

Rather than mega projects with large-scale displacements and enormous revenue burdens, this approach is based on more pragmatic and people-oriented alternatives.

Firstly, we believe that all re-developments should recognise and respect existing realities as part of the planning and urban development process.

Public open spaces as the basis of planning are an effective means to achieve these objectives. Such an approach engages citizens, leads to better quality life and ensures a more 'democratic', more equitable city.

By achieving intensive levels of citizens' participation we wish to engage and influence governments to devise comprehensive plans for public spaces.

CAMPAIGNS AND AWARDS

TOI July 18 Sunday . 1999.

MUMBAI

Winds of change sweep across Mumbai's vandalised waterfronts

By Gunwanthi Balaram

MUMBAI: "In a city gasping for breath, it is quite dreadful," observes British architect and 'Bombay boy' Pierre d'Avoine, "that Mumbai's greatest open spaces, its waterfronts, are being so vandalised that its people can derive little benefit from them." Treated as dumping grounds for debris, garbage and sewage, or as free sites for encroachment, several of Mumbai's waterfronts are actually shunned by its residents. So, it is heartening to find some citizens' groups and architects launching joint initiatives to nurse their bit of waterfront back to life—as in Bandra, for instance.

Walk along the Bandra waterfront now, and you will find that the dramatic black rocks along the old Band Stand are rising from the debris, as it were, as are the mangroves off Carter Road. What's more, a new promenade is being constructed along these contours of seafont so people can take a brisk walk and get a breath of fresh air.

The Bandra project, on which work started a couple of months ago, is part of architect and housing activist P.K. Das' masterplan for the restoration of the city's waterfront. Drawn up over two years ago, the masterplan looks at the phased rejuvenation of three types of waterfront areas—public spaces like beaches and waterfront promenades; native settlements like fishing villages; and seaside heritage precincts like the Worli, Mahim, Bandra and Vasai forts.



CITIZENS' WALK: The landscaped promenade at Bandra Band Stand, master-planned by a local architect, will involve citizens' participation in its execution and maintenance

To begin with, he is sensibly tackling public spaces. These include 14 independent schemes estimated to cost about Rs 1 crore each to execute. Committed to the rules of the coastal regulation zone, the architect is anti-reclamation and believes instead that "it is important to stop the abuse of our existing waterfronts and work within the existing realities to progressively restore and preserve their natural beauty".

His restoration projects envisage the creation of landscaped walkway, pedestrianisation, seating, lighting, security, drainage, planting of suitable trees and shrubs and the installation of plaques on the history of the waterfront/ neighbourhood. "Above all, they involve citizens' participation in execution and maintenance."

The Bandra scheme is being executed under the supervision of a team of local residents' associations with an initial grant from Rajya Sabha MP and actress Shabana Azmi. She has donated Rs one crore from her MP's constituency development fund to the Bandra-Juhu waterfront development programme—Rs 30 lakhs each for Carter Road and Band Stand and Rs 40 lakhs for Juhu.

"We will mobilise donations to carry on the upgradation work, and collect a small monthly maintenance fee from our 1,200 members to maintain the promenade. There will be no entry fee and everybody is welcome to use the promenade," says Arup Sarbhadikary and Ka-

mala Soni of the Bandra Band Stand Residents' Association. "Impressed by the work so far, new sponsors are coming forward," adds a Carter Road resident.

"I'm thrilled, my faith in the abilities of the local citizens' groups and the architect of the scheme has been vindicated," says Shabana Azmi. "Such localised initiatives are the best alternative to large grandiose plans which move away from citizens rather than draw them in. They also cut across class barriers," maintains the MP, adding that she intends to continue to support them in every way she can.

Work on the Juhu project will commence next month, according to Ms Azmi. It envisages sprucing up the beach as well as the 'influence areas', i.e. the Juhu-Tara Road and the seven axis roads leading to the beach, and creating a plaza around the Shivaji statue with proper sanitation facilities for both hawkers and visitors.

Several agencies, including the traffic police, the taximen's and hawkers' unions, residents' groups and the National Airport Authority have been consulted on the issue and have agreed to cooperate in the Rs 2.4 crore project, adds Mr Das. The plans for the Dadar-Prabhadevi waterfront have also been cleared by the BMC, and the architect and local citizens' groups are discussing how best to implement the programme. "Hopefully, it will all come together. It's hard work, but very rewarding," he says.

A community effort scripts a success story

THE development of the seafront at Carter Road and Bandra Bandstand has won international recognition, with the receipt of this year's award instituted by the Westminster-based Waterfront Centre for Waterfront Development Projects. Selected among entries from all over the world, the award recognises the efforts of an entire community to 'retrive its waterfront for the public'.

A few years ago, the 4.5-km stretch of the Bandra seafront was little more than a dumping ground, sewage disposal area and thickly peopled by encroachers. It was P.K. Das, an architect by profession and also among the architects of the save-the-waterfront scheme, who took up the cause of the depleting open spaces in Mumbai and conducted an extensive study of Mumbai's waterfronts. Soon, the Bandra West Residents' Association (BWRA), the Bandra Bandstand Residents Trust (BBRT), P.K. Das & Associates and Member of Parliament Shashina Azmi came together to save the Bandra seafront. What



Bandra Bandstand after the redevelopment work

followed is a classic success story of citizens' civic efforts.

"We felt we needed to do something to protect our water-fronts," says Darryl D'Monte, president of BWRA and noted environmental activist. "So we got together and forged a partnership." Das handled the architectural inputs, Shashina

Azmi contributed nearly Rs 1 crore from her MP's (local area development) funds and the residents took up the cause as one they all held dear.

That was perhaps when the mission's success was assured — For the first time, different organisations pitched in together. The govern-

ment in the shape of the MHADA and the private citizens' forum worked in co-ordination to restore the picturesque coastline at Bandstand and Carter Road. The results of the redevelopment efforts are in plain sight — palm trees, amphitheatres, a children's park, an art court.

Having re-designed the facade, there was still the question of maintenance. That's where Harsh Marwala of Marico Industries contributed his bit. Marico Industries has so far spent almost Rs 25 lakh towards the beautification drive and planted more than 30 species of palm trees. That's where the name Palm Promenade at Carter Road comes from. Another corporate, U.S. Vitamins, contributes to the maintenance of Bandstand.

The seafront has gradually grown into a buzzing cultural centre, where concerts, yoga and tai-chi sessions and plays are held. "There's a play every Friday, and in January 2003 we will be organising a major concert and a carnival too," says D'Monte.

—UJJAYINI DAS

100

Putting the fort back in B

Sanjiv Menon

THEY are re-creating the Bandra seafront. Bandra residents are getting involved in creating the glory back to the seafront.

Lighting and security along with the seafront will also be taken up by the government. The plan is to provide for any possible security points are planned in such a way as to be defined by the seafront and other structures. Through the seafront will be changed, every structure for the seafront will be changed.

Permission for the development of this land has already been received from the Maharashtra Municipal Corporation and the Maharashtra Government. The plan has received the principle approval from the Maharashtra Government, since the Bandra Fort or the Castello de Aguiar is a Grade II structure, says Sanjiv Menon.

The plan has received the principle approval from the Maharashtra Government, since the Bandra Fort or the Castello de Aguiar is a Grade II structure, says Sanjiv Menon.

The plan has received the principle approval from the Maharashtra Government, since the Bandra Fort or the Castello de Aguiar is a Grade II structure, says Sanjiv Menon.

The plan has received the principle approval from the Maharashtra Government, since the Bandra Fort or the Castello de Aguiar is a Grade II structure, says Sanjiv Menon.

The plan has received the principle approval from the Maharashtra Government, since the Bandra Fort or the Castello de Aguiar is a Grade II structure, says Sanjiv Menon.



HE CHANGED THE WAY MUMBAI LIVES

The city is his workshop

THROUGH HIS SLUM redevelopment and revamping of various public spaces he hopes to make the city more habitable for all, P.K. Das tells **Sayli Udas Mankikar**

A YEAR AGO, Carter Road was a run-down and filthy street in Bandra. It had one lane, with a ribbon of litter running alongside. Today, it is a beautiful promenade that has changed the look and feel of the locality, which is home to a range of people, from Bollywood stars to fishermen, to artists, joggers, young men and anyone looking for a pleasant place to take an evening stroll.

That might not seem like asking for much, but in a city that has just 3 per cent of an acre of open space for every 1,000 residents, as opposed to the 4 acres per 1,000 residents that international guidelines say are needed for healthy living, it is a huge improvement.

P.K. Das is the man behind the new look road. This architect took the idea of re-developing the promenade to the Carter Road Residents' Association, which was enthusiastic about his vision. He then obtained funds from actress and parliamentarian Shabana Azmi's MP fund. The 51-year-old Das has been passionately using his architectural expertise and working with citizens' groups and civic agencies to convert neglected areas into open public spaces.

The Bandstand promenade, the garden along the Dadar-Prabhadevi beach, the feet at Bandra beach end, the redevelopment of Gateway of India — all these projects followed with Das's name appearing in both citizens and administrative agencies. The 150 civic projects he has to his credit, apart from a few commercial ones that help him earn his daily bread, include slum re-housing projects, re-doing a stadium and even a museum. "The city is my workshop," he said.

But all along, his quest has been for "collective," "inclusive" development, he says. Development by and for all sections of society.

This impulse comes from his early days. One first came from Maharashtra to Mumbai in 1972 to study architecture at the JJ School of Arts. Then a 17-year-old middle-class lad, he was deeply isolated by the huge contrasts in wealth that characterised the city. He himself moved between the worlds of wealth and poverty — he studied in top-notch Mumbai, while his hostel was sandwiched in between the slums in Bandra's Kala Nagar.



P.K. DAS

AGE: 53
OCCUPATION: Architect, housing activist
DESIGNATION: Proprietor, P.K. Das & Associates, Architects

HOW P.K. DAS CHANGED MUMBAI'S OPEN SPACES

■ **Dadar-Prabhadevi beach gardens:** These two gardens along the Dadar beachfront belong to the civic body. They used to be filled with garbage and they got revamped this year. Along with the municipal corporation, Das developed the Suez Canal—visiting Udayan and the Raj Prasth Udayan by bringing each garden with a promenade, walking track and amphitheatre.

■ **Gateway of India redevelopment:** The Rs 5 crore project is meant to revamp the three-acre spread around the monument by opening up the plaza area. It also involves constructing a food plaza and several toilets in the area. The next phase includes developing the adjacent area from Radio Club to Regal Cinema.

■ **The Rs 1.5 crore Juhu Beach redevelopment plan** is an initiative funded by the Juhu Citizens Welfare Group and envisioned by Das. Some of its plans include revamping two gardens, introducing a beach-cleaning mechanism. About three-fourths of the project has been completed.

My quest has been for collective, inclusive development — for and by all sections of society.

P.K. DAS, architect

This could not stomach the physical living conditions of millions of people and wanted to do something about it.

To start with, he became informally associated with a self-help project, the redevelopment of Juhu. Juhu slums in Bandra, one of the first public slum rehabilitation projects in the city.

Today, he is engaged in some of the world's largest slum rehabilitation projects. One, with the Nisam Habib Sarraf, a housing rights group, is for

more than 20,000 families from the Borli National Park slums; another is for 80,000 families in slums near the airport.

He is also involved in planning the housing for more than 25,000 emergency staff — the lowest-paid municipal employees in Mumbai.

Das has simultaneously extended the purview of his vision to comprehensive area-planning projects. He has put forth a plan for developing the Juhu area and

Nariman Point, which are both under consideration by the civic authorities. The idea is to survey and study the area and re-work the existing area plan, while keeping the character of the place in mind. The aim is to make more spaces available to the public.

His involvement in these large civic projects has also put him on a committee that is preparing the so-called 'Mumbai Concept Plan', an initiative of the government of Maharashtra. Among

other things, the plan will look at the carrying capacity of each area in the city and consider whether it can be further developed.

But for Das, who calls himself 60 per cent urban architect and 40 per cent city activist, this is not the end. It is the beginning in a long journey to create a more habitable Mumbai for all.

ask@hindustantimes.com

New township raises the bar for slum rehab

Asia's largest slum re-housing project in Chandivli gets its first occupants

Madhurima Nandy
Mumbai, May 1

SAVITA RAO is looking forward to a good night's sleep after three decades of disturbed slumber. She has just moved into a sparkling new studio apartment in Chandivli, 12 km south of her ramshackle tenement bordering Sanjay Gandhi National Park.

"Every night, we would sleep in fear that a leopard would jump up over our children," said Rao, 45, who lived on the edge of the forest.

Dr. Tanding Rao and other families were re-housed as part of a slum upgradation scheme. Some of them turned emotional, their eyes glistening with tears as they accepted keys to their flats in a 45-acre township that raises the bar for slum rehabilitation projects.

Instead of the unimpressive and shoddily constructed buildings that are the hallmark of slum rehabilitation projects, the Chandivli township has been designed from the bottom up, with the socio-economic needs of low-income groups in mind (see 'The new design'). In the past, poor design has contributed to slum dwellers selling out and moving back to shanty towns.

If the township, second, it could become a model for other

projects. The scheme of slum upgradation is critical for improving the deplorable living conditions of half the city's residents, and a prerequisite for Mumbai becoming a world-class financial hub.

The Chandivli slum re-housing project is also the largest in Asia. By the end of the year, twelve thousand families will move in equivalent to one-fourth the population of the city's K ward, consisting of Colaba, Cuffe Parade and Fort. In ten days, one third of them will have shifted.

The township is unique also because groups usually at loggerheads with one another have collaborated: the government, builder Saurer Corporation, independent architect P.K. Das and NGO Nirvira Hakk Suraksha Samiti.

Nirvira Hakk initiated the project eight years ago after environmental groups took legal action to get the slums removed on the grounds that they were encroaching on the park. The NGO has been closely involved with the project to ensure that the quality of construction is good and that the allocation of flats is fair and transparent, its activists said. Other slum rehousing projects have been riddled with corruption on these two fronts.

madhurima.nandy@timesofindia.com



MULTI-STOREY APARTMENT

The new design

- A township spread over 45 acres in Chandivli
- Very close to the up-market Nermandani Gardens in Powai
- 17,000 housing units spread over 15 clusters, with 16 buildings in each cluster
- Four buildings in a sub-cluster, which open out into a courtyard to enable community building
- No dormitory-type corridors, but two flats on each side for good ventilation
- A small foyer in every building, in an effort to create more communal space
- Well lit and ventilated flats
- Nicely tiled bathrooms
- Drying balconies
- Central kitchen
- Three parks

A NEW BEGINNING: Anja Gid Gidwani in the balcony of her Chandivli flat.

UNLIKELY PARTNERS



Shabana Azmi
Member of Nirvira Hakk Suraksha Samiti

This township is an example where an NGO has helped the government, slum dwellers and the developer to come together to build a township.



Vikram Dheer
Chief Minister of SRE

The township shouldn't become an improved slum. Workshops should be held to make sure that residents take appropriate care.



P.K. Das
Architect and member of Nirvira Hakk Suraksha Samiti

We tried to design the township in a way that would preserve the communal life that people are used to in slums.



Bishesh Shah
Partner in Saurer Corporation, a local construction firm

It's a very important project for me. I spent three-and-a-half years from morning to night on the site. It is a one-of-a-kind project in India.

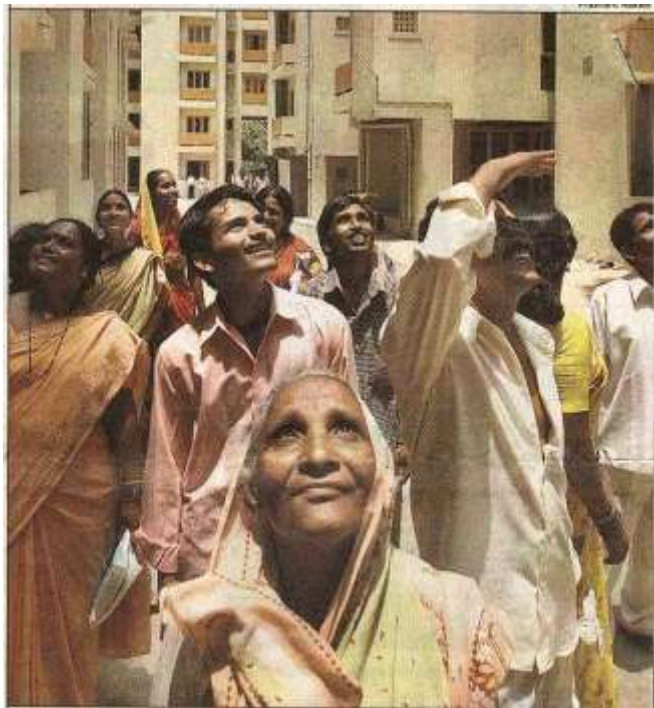
'I'll never give this house up'

Madhurima Nandy
Mumbai, May 1

ANJA GID GIDWANI, 45, has never lived in a high-rise building. After 26 years of living precariously in a shanty town on the fringes of Sanjay Gandhi National Park, on Tuesday she finally moved her home.

"This township was a dream for all of us and we have seen it develop from scratch," she said. An added surprise was that she was allotted a top-floor flat. "I have never lived at such a height before," she said, smiling. "I hope the wind doesn't blow us away!"

Gidwani and her husband came to Mumbai 26 years ago from West Bengal. Her husband worked as a plumber and she sold bangles and other ornate jewellery that she made at home. With the constantly sold the house. "Never," she replied emphatically. "We have struggled for years along with Nirvira Hakk to get our own place. We would never give it up."



NEW LIFE IN A HIGH-RISE: Slum dwellers who once resided in the Sanjay Gandhi National Park look skywards at their new multi-storeyed dwellings in Chandivli on Tuesday. The 30 families were the first of a group of 4,142 households which will be shifted in the next ten days. Reports and more pictures on P 5

PLACES

A seaside changes

JUHU BEACH was an eyesore until a few citizens took the initiative to clean it up, says **Bhavika Jain**



• Juhu Beach has gone from sooty and dirty to well-planned and beautiful, thanks to the efforts of a citizens' group.

NOT 90 long ago, whenever anyone mentioned Juhu Beach, the image that would come to mind was a stretch of sand, sea and rock pock-marked with litter. That was before 2008.

Then, a group of citizens came together and determined to transform the beach and change its image. As a result of their efforts, more than 20,000 square metres of land were cleared up by hawkers and others who converted into eight small gardens. But that was just the beginning.

Besides shifting stall owners and others who had encroached on the beach and planning the eight gardens, the Juhu Beach Beautification plan, an initiative floated by the Juhu Citizens' Welfare Group, included re-seeding the

hawkers and putting in place security measures and a beach cleaning mechanism.

Of these, the biggest challenge was to shift the hawkers who were doing thriving business and to clean up the garbage strewn everywhere. "We needed to change all this, so we drew up a plan with the help of P&D, the architect," said Hansel D'Souza, president of the citizens' group.

But they hit a roadblock right at the beginning. None of the authorities were ready to take on the onus of being responsible for the state of the beach.

"Five different authorities, including the collector, the municipal corporation, the maritime board, the police and the airport authority had stakes riding on the beach clean-up, but none of them took care of it," said Adolf D'Souza, diva

corporation of Juhu. Consequently, the citizens themselves became the custodians of the beach.

Then, there was resistance from the hawkers. But that hurdle too was crossed.

Today, the hawkers are very happy about the changes. "We have also benefited," said Vishwanath Yadav, a stall owner, echoing the sentiments of his colleagues, who have all been shifted to a demarcated food court on the beach.

"We have running water to wash our vessels, and the size of our stalls are also big."

Then, when the group tried to introduce measures to keep the beach clean, it encountered resistance from people who were staying on the beach in huts and from religious groups who regularly performed ceremonies on the beach.

The beach is now more spacious and much cleaner. Things like horse rides and merry-go-round carts are no longer there. The new parking lots help minimise traffic jams.

AKSHI THAKUR, a teacher who visits the beach regularly

But group rallied to, "how we ourselves have taken the responsibility to clean the beach after a function," said Adolf D'Souza.

Then, little by little, the citizens' group got their plans implemented.

Over the past year, the beach has been completely transformed, with the implementation of a beach-cleaning

plan through an "outsome-based contract", where the municipal corporation pays the contractor only if it is satisfied that the beach and right gardens are clean.

Currently, 40 stalls stand in the hawking plaza; there are toilets for visitors, two car parks for vehicle owners, a waste management system and a garbage disposal system by compost waste on the two sides are few beach citizens — mainly retired people and housewives — monitor the beach area, while others look after the administrative affairs, including raising funds and dealing with the relevant civic authorities.

More than half a lakh visitors now come to the beach every day, attracted by its idyllic environment — a result of this remarkable citizens' initiative.

■ bhavika.jain@hindustantimes.com

JUHU BEACH

PLACE: Juhu

- Juhu Beach has a head start.
- It has eight new scenic roads.
- It has eight new gardens. These include a beach park, a senior citizens' park, a children's play area, a picnic spot, yoga and exercise parks, a coconut grove and an open play ground.
- It has a garbage disposal system.
- The beach-cleaning mechanism within the municipality to pay the contractor only if beach is kept clean.
- It has security guards for the gardens.

Mangroves safeguard Mumbai from erosion and floods. But they fall prey to land-grabbers. A look at efforts to save them

Vigilant citizens battle to PROTECT THE PROTECTORS



Over the years, the mangroves of Mumbai have been under constant threat. The city's expansion has led to the destruction of these vital ecosystems, which are crucial for the city's defense against erosion and floods. Despite the efforts of vigilant citizens, the mangroves continue to be lost at an alarming rate.

Mangrove Forests
Mangrove forests are found in coastal areas where saltwater meets freshwater. They are characterized by their unique root systems and ability to thrive in saline environments. In Mumbai, these forests are primarily located along the coast, providing a natural barrier against the sea.

Protected by Law
The mangroves of Mumbai are protected by the Mangrove Conservation and Management Act, 1987. This law prohibits the destruction of mangrove forests and mandates the preservation of existing ones. However, enforcement of this law has been inconsistent, leading to significant loss of mangrove cover over the years.

Mapping the Mangroves
A detailed map of the mangroves in Mumbai is available, showing the extent of the forests and the areas under threat. The map highlights the importance of these ecosystems and the need for their protection.

Locals go green: Some battles won, others lost



Locals go green: Some battles won, others lost

The fight to save the mangroves of Mumbai is a continuous one. While some battles have been won, others have been lost. The success of these efforts depends on the vigilance of the citizens and the support of the government.

Success Stories
In some areas, the mangroves have been successfully protected. For example, the mangroves of the Worli area have been preserved, thanks to the efforts of the local community and the government.

Challenges
However, in many other areas, the mangroves have been lost. The pressure of land development and the lack of enforcement of the Mangrove Conservation and Management Act are the main reasons for this.

State yet to notify chunk of coast's mangroves

The state government has yet to notify a significant portion of the mangroves along the coast of Mumbai. This is a major concern for the conservationists, as these areas are at risk of being lost to development.

Open Mumbai: Let's Expand Public Spaces, is a series of vision plans for a cleaner, greener, better planned Mumbai, mounted by architecture firm P. K. Das & Associates and the Mumbai Waterfronts Centre, currently on display at a city gallery.

Das, Chairperson of the MWC, tells us what it will mean to you if the plans are ever sanctioned to be translated into reality.



Juhugiri. Pyar se.



PROPOSED NETWORK PLAN FOR JUHU

PK Das, chairperson, Mumbai Waterfronts Centre, at his Pashadevi office with a vision plan for Juhu that will be part of the exhibition. PK SANTOSH NIGAM

'A CITY IS A COLLABORATIVE ENDEAVOUR'

Open Mumbai: Let's Expand Public Spaces, is a series of vision plans for a cleaner, greener, better planned Mumbai, mounted by architecture firm P. K. Das & Associates and the Mumbai Waterfronts Centre, currently on display at a city gallery. Das, Chairperson of the MWC, tells us what it will mean to you if the plans are ever sanctioned to be translated into reality.

What inspired the vision plan for Open Mumbai? Let's expand public spaces? How long have you been toying with the idea?

The inspiration comes from the condition of Mumbai. The quality of life is deteriorating, and as the city expands, public space is shrinking. Therefore, it is important to have a positive change. We have been working on it for 15 years. Whether it is in Bandra Bandstand, Carter Road or any of the numerous other projects which we have been working on, it has been a transformation in the making. During the last one year, these individual efforts have come together. Lessons learnt from various citizen's movements have been a part of have culminated into this exhibition.

How can the project be executed? The project has 2 principle parts — Part 1 is about the areas in which the changes have already been

implemented — Juhu Beach, Carter Road, Bandra Bandstand and Gateway of India — and our learnings from these projects. Nearly 50 per cent of the envisioned plan therefore has already been completed. Part 2 of the project is built on the strength of these learnings. The second phase proposes similar simple ideas that can be executed in other areas. These innovative projects which are grounded in reality.

What is the fundamental guiding principle for the project?

The basis of the project is conservation, renovation, recycling and replanning. It is important to understand that we are speaking of integrating the project within the existing realities of the city. It is not a mega project, but a combination of small and doable projects. The attempt is to double our open public spaces. We are attempting to create nearly 500 kilometres of green open spaces, which will be utilised as walking and cycling tracks. These spaces will be dotted with gardens and water parks. These spaces will not operate in a silo; they will all be removed to each other, creating a vast network of green open space that extends from Andheri to Chembur, from Malad to Colaba. It will connect all parts of the city and will facilitate social networking in the real world. The rationale is to have people enjoy and truly identify with the city. It is important to democratise Mumbai's open space.

Will large-scale changes need to be made to the layout of the city itself? Will it extend to changes in residential areas as well?

The plan we have put together does not displace, it does not call for major replacement of populations. It just requires small reconfigurations in the plans of certain city pockets. At the exhibition you can see a model of a similar reconfiguration in the Ahu area plan we have proposed. We do not look at projects from a top-down perspective. We look at cities from the bottom-up, where each area plan reflects the identity and sense of its residents. Over the years each neighbourhood in Mumbai has developed its own identity. Our aim is to preserve this individuality. Therefore the plan necessitates the need for personalisation of neighbourhoods.

How has the Government responded to your vision?

They have been extremely supportive. Chief Minister Prithvi Raj Chavan was extremely moved, especially since this was the first time he saw Mumbai the way we see it. Some important bureaucrats were present during the inauguration and he had an immediate discussion with them on how they can take it forward. Uddhav Thackeray has already brought together corporators to take this up with proper plans chalked out, replace with deadlines. So the ball has already started rolling. I am hoping that the support continues.

How long would a project of this magnitude take to get executed? How much will it cost?

The complete budget is Rs 2,500 crore, which for a project of this magnitude is actually quite less. The maximum period for its execution is

about 10 years.

A lot of work which you have done exemplifies a successful marriage of social development and architecture. If this project were sanctioned would it be your greatest challenge and achievement?

(Laughs) I am sure that if we achieve this it would be a great achievement for everybody in Mumbai. But it is important to understand that a city is a collaborative endeavour. No one person can consider anything in its own personal accomplishment. Anantya Sen once said that 'it is public action that influences governments'. And this is an ideology we have worked with for all these years. Bandra Bandstand's redevelopment was a public initiative. It was started without the government's support. Over the last couple of years, the city's population has dropped from 12.5 crore to 11.8. I hope it is a flash in the pan as I don't want population to drop in Mumbai. I wish for it to stabilise. I would never want to have people leave the city thinking they would be better off elsewhere.

At NCMA, Mahatma Gandhi Road, Near Regal Cinema, Fort TILL: Saturday, April 7, Tuesday to Sunday, from 11am to 5pm TICKETS: Indians — Rs10; Foreign Nationals — Rs150; Students/Children — Rs1 CALL: 22681969 LOG ON TO: www.ngmaindia.gov.in

Mumbai's natural assets include four rivers that, among other functions, serve as natural drains for rainwater. Years of neglect and misuse have narrowed them into stinking nullahs. Is another disaster, like 26/7, waiting to happen?

We need to rescue our rivers now



RIVER OF MUMBAI Storm and garbage problems on the banks of the River Worli, while on the opposite bank, greenery has been restored. The right is view from an area just above the river where the nullah was constructed and left to drain and pollute in the monsoon days.



2000-06
2012

Photo: Bala / ian

Rs 790 cr later, Mithi's bitter tale persists



FOUR RIVERS COURSE THROUGH MUMBAI

ALL OF THE CITY'S RIVERS ORIGINATE IN THE VEGDANT NATIONAL PARK AND FLOW INTO THE ARABIAN SEA

FLOW CHART

Flow Chart	Location	Area (sq km)
Mithi	Worli, Colaba, Bandra, Kurla, Vashi, Mira, Thane, Vasai, Dahisar, Mira, Thane, Vasai, Dahisar	10.1
Colaba	Colaba, Worli, Bandra, Kurla, Vashi, Mira, Thane, Vasai, Dahisar, Mira, Thane, Vasai, Dahisar	1.1
Worli	Worli, Colaba, Bandra, Kurla, Vashi, Mira, Thane, Vasai, Dahisar, Mira, Thane, Vasai, Dahisar	1.1
Bandra	Bandra, Kurla, Vashi, Mira, Thane, Vasai, Dahisar, Mira, Thane, Vasai, Dahisar	1.1

TRACKING THE MITHI

Length: 17.5 km

Discharge: 100 cusec

Flow: 100 cusec

Flow: 100 cusec

Flow: 100 cusec

Flow: 100 cusec

Flow: 100 cusec

Flow: 100 cusec

Flow: 100 cusec

Flow: 100 cusec

Flow: 100 cusec

Flow: 100 cusec

Flow: 100 cusec

Flow: 100 cusec

Flow: 100 cusec

Flow: 100 cusec

Flow: 100 cusec

Flow: 100 cusec

Flow: 100 cusec

Flow: 100 cusec

Flow: 100 cusec

Flow: 100 cusec

Flow: 100 cusec

Flow: 100 cusec

Flow: 100 cusec

Flow: 100 cusec

Flow: 100 cusec

Flow: 100 cusec

Flow: 100 cusec

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Call for Mumbaiers to join fight to restore the city's rivers and nullahs and for the BMC to reserve space for public use on either side of the channels

WE CAN HELP FLOAT HOPE FOR RIVERS



RIVER OF MUMBAI Storm and garbage problems on the banks of the River Worli, while on the opposite bank, greenery has been restored. The right is view from an area just above the river where the nullah was constructed and left to drain and pollute in the monsoon days.

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Call for Mumbaiers to join fight to restore the city's rivers and nullahs and for the BMC to reserve space for public use on either side of the channels

WE CAN HELP FLOAT HOPE FOR RIVERS



RIVER OF MUMBAI Storm and garbage problems on the banks of the River Worli, while on the opposite bank, greenery has been restored. The right is view from an area just above the river where the nullah was constructed and left to drain and pollute in the monsoon days.

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

Photo: Bala / ian

**Let's Build 'OPEN CITIES':
Livable & Resilient**

THANK YOU