

Ninth Prof. L. B. Kenny Endowment Lecture

Asiatic Society of Mumbai

4th March 2014

**URBANIZING INDIAN CITIES:
THE MUMBAI EXPERIENCE**

P K Das

**Architect – Activist & Urban Planner,
Mumbai**





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ILLUSTRATIONS

OPEN SPACES & ENVIRONMENT





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]	318	2.49	0.52%	
PLAYGROUNDS [P.G]	631	4.01	0.83%	
RECREATION GROUNDS [R.G]	603	7.18	1.62%	
ENCROACHED OPEN SPACE [on G, P.G.,R.G]	501	5.30	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)		262.20	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), Amenities (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.



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 at 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 'Citespace' (listing 600 nos.)

First publication - August 2011.

Prepared & Published by

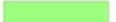
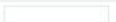
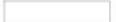
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'OPEN SPACES HELP SOCIAL NETWORKING'

TIMES NEWS NETWORK

Imagine being able to walk or cycle from Malad to Colaba or Chembur to south Mumbai along well-maintained walking-and-cycling tracks, with gardens and parks to view or rest in along the way. Maybe you could even stop by a beach. Sounds unreal, especially in a city like Mumbai, which offers an abysmal amount of open space to its 12.4 million residents.

But this is one of the longer-term goals of the Open Mumbai plan being promoted by city architect P K Das and his team, who seek to change the way Mumbai deals with open spaces. The plan may sound fanciful but a year of research, documentation, mapping and collating statistics has gone into developing a vision that seeks to place "people and community life at the centre of planning, not real estate and construction potential".

The team has mapped a variety of open spaces and other green zones across the city, in the bargain concluding that Mumbai sprawls across 482.7 square kilometres and not 437, as commonly cited. The team has concluded that an incredible 43%, or 208.2 sq km, of Mumbai includes green zones like gardens, playgrounds, encroached open spaces, no-development zones, lakes, wetlands and beaches. Much of this can be developed as public spaces or at least protected from land sharks; mangroves, for example, could have boardwalks for viewing or strolls.

The plan seeks to link neighbourhoods to parks, walking tracks, beaches and promenades. "It seeks to network open spaces in a way that enables and nurtures social networking. Disparate open spaces, disparate activity, disparate public life can be integrated into a comprehensive whole," Das says. "The quality of public spaces a city offers its residents is a reflection of the



WHERE'S MY PLAYGROUND? A bird's-eye view of the Andheri-Malad area shows high-rises and slums battling for space and just a small barren patch of land that could serve as a recreation area

residents' dignity and quality of life."

An example of how an area can be interlinked is in the Juhu Vision Plan, which seeks to integrate the beach with playgrounds, walking and cycling tracks. Authorities have already begun building tracks along the Irla Nullah with MPLAD funds given by Javed Akhtar.

Overall, Das's team calls for amendments and provisions to be included in the Development Plan and Development Control Regulations to facilitate a makeover in Mumbai. The plan calls for an Open Mumbai Board, made up of governmental agencies and citizens' groups, to prepare a comprehensive plan for developing open spaces, "thereby improving the quality of life and environment of the city".



After

Roadblocks cleared for Juhu 'city forest'



Before

After

Get the Plot

- In 2004, citizens started a battle to save an 18-acre Juhu plot earmarked as 'city forest'
- In Jan 2011, a delegation met civic chief Subodh Kumar
- In March 2011, Kumar approved a proposal to cancel Ronson Foundation's lease, which had been given on a caretaker basis
- In Aug 2011, BMC gave its nod to take possession of plot

This is a major win for residents who were fighting a losing battle since 2004. We hope this will restore the city forest as visualized

Ashoke Pandit | MEMBER, SAVE OPEN SPACES IN JUHU

save the plot on January 18, 2011, and met municipal commissioner Subodh Kumar. Citizens submitted a design plan, which was approved by civic authorities. The design plan includes growing a forest alongside the Irla nullah, building walking and cycling tracks, introducing cultural spaces such as a small amphitheatre, an art exhibition centre, children's play area and a garden.

First Pasta Lane walks up the garden path

The struggle was probably as long and difficult as the task to transform an encroached space into a lush garden. After a long court battle and follow-ups with the BMC and government agencies, First Pasta Lane of Colaba finally got a green lung.

It all began 23 years ago with a residents' movement against an eatery's kitchen, a godown and a garage that had encroached upon municipal plots earmarked as gardens and a recreational ground. The movement lost momentum later and was revived in 2008 when the First Pasta Lane Residents' Association, through an RTI query, found out that the eatery stood on a BMC plot.

Residents followed up with the BMC for over two years and the kitchen was demolished. Preparations to create the garden started in December 2009, said Vijay Advani, joint secretary of the First Pasta Lane Residents' Association.

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Residents followed up with the BMC for over two years and the kitchen was demolished. Preparations to create the garden started in December 2009, said Vijay Advani, joint secretary of the First Pasta Lane Residents' Association.



Before

It was a long-drawn battle for residents of Churchgate to get the authorities to take note of four acres of Cross Maidan that had turned into a no-man's land. The space that was encroached upon and rendered absolutely unusable became a sanctuary for residents in June 2010. Nearly four acres of Cross Maidan near Churchgate at one end of Fashion Street were thrown open to public.

For years, the patch had become a cradle for hutments and fences were broken. Residents recall it as a virtual "dumping ground".

The Organisation for Verdant Ambience and Land (Oval) Trust conceptualized the project's beautification. The plot now has a large expanse of trees, lawns, walking tracks and benches for seniors.

The Cross Maidan garden was handed over to the Oval Trust in 2006. At that time, it was discovered that the government resolution (GR) did not include more than an acre of the southern edge of the ground hawkers had encroached upon. "The process of getting another GR for that space took many years, and this area was handed over to the trust in October 2008. The entire procedure was lengthy but we kept going," said Nayana Kathpalia, one of the trustees of the Oval Trust.

Even after the plot was handed over to the government gave it without clearing the encroachments. In fact, even now there is a commercial office functioning in the garden which needs to be cleared," Kathpalia said.

It has benefited the whole community. Because of the kitchen, there was a lot of pollution. But now, we have a long stretch of open space, which is unusual in Mumbai. We have greenery and a garden. Neighbouring slum dwellers also use it

Dilip Mehrotra | A RESIDENT

Cross Maidan gets a clean, mean look



After

Cross-Over To Beauty

- For years, Cross Maidan remained encroached upon, its fences were broken and it was rendered unusable
- The maidan's beautification was conceptualized by the Organisation for Verdant Ambience and Land (Oval) Trust
- In June 2010, nearly four acres of the new-improved maidan were thrown open to the public
- The plot now has a large expanse of trees, lawns, walking tracks as well as benches for senior citizens

It took us years to get the govt to pay heed to this plot. Now, Cross Maidan garden must be taken as an example of how a haven can be created with consistent efforts. The govt must ideally do its work and then seek citizens' help

Nayana Kathpalia | TRUSTEE, OVAL TRUST

We used the ground as one of the venues for Kala Ghoda festival. A gate must be made at the Veer Nariman Road end to attract more visitors. The encroached ground is cleared. It is an example of how a dump yard can be converted into a green haven

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FROM RIVERS TO 'NULLAHS' TO RIVERS AGAIN





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CREEKS AND MANGROVES



INTERGRATION OF 'NULLAHS'

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 Washington-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 'retrieve 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 Shabana 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, Shabana

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' forums 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 Mariwalla 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 Palm Promenade at Carter comes from. Another corporator Vitamins, contributes to the tenance of Bandstand.

The seafront has grown into a buzzing cultural where concerts, yoga and taijans and plays are held. "T play every Friday, and in 2003 we will be organising concert and a carnival too D'Monte.

— UJJAYI

Monday
22-11-2002

Putting the fort back in Bandra

Herb Marlow

AFTER transforming the Bandra seafront, Bandstand residents are now getting down to restoring the glory of the Bandra Hill or Bandstand, from where Bandra got its name. We are talking about that sacred ground on which stands the once-majestic Bandra Fort.

A proposal to restore and re-green the hill has been sent to the state's Heritage Commission for its approval and work is expected to start soon. A year after work begins, we will be able to enjoy a stroll on the benches and even hold small programmes on the hill — exactly like the Carter Road Palm Promenade.

Proposed — not to mention the grand view of the two other hills of Mumbai — Worli and Nariman Point — from the hill.

Rajya Sabha Member of Parliament Shabana Azmi is directing her MP's fund at this project too, after having funded the promenade at Bandstand and Carter Road.

"The project cost is Rs 1 crore, of which Rs 20 lakh has been donated by Shabana Azmi's MP fund," says architect P K Das. "More may follow if needed."

Shabana has announced Rs 10 lakh from her MLC fund. We are happy with some more for the rest of the money."

The conceptualised project and is working with the Bandra Bandstand Residents Trust on it. Bandstand itself was not available for

The BBRT intends to restore the promenade of the seafront and the fort area. The hill used to have

developing the ruins of the former Bandra Fort.

Lighting and security cables along with sound system will also be taken up to prevent accidents on the hill. There is no provision for any gate and entry points are planned in such a way as to be defined by shrubs and other plantations. Though no entry fee will be charged, entry charges for the fort area will be restricted.

Permittees for the development of this land has already been received from the Maharashtra Municipal Corporation and the suburban collector.

The plan has received the principle approval from the Heritage Commission, from the Bandra Fort and the Carter Road, as well as a Grade II structure, was Arup Sarbadhikary.



DREAM A REALITY?
The improvements to the Bandra Fort area (left) that architect P K Das (right) has proposed, which will benefit the people who come to Bandra Fort to watch the sunset (right)

"Couples big put

TAXMEN (right), a resident of the fort, says that the seafront is a great place to watch the sunset. "It was very hot from the sun, but now it's a great place to watch the sunset and the seafront is a great tourist attraction," he says.

Bandra Hill finds the green up a sign representing the aged place. "We would also visit the school days. The government is up to the point," he says.

The fort's Band

Hur

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 seafront 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 architecture 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 Vashi 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 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 Sarbadhikary 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.

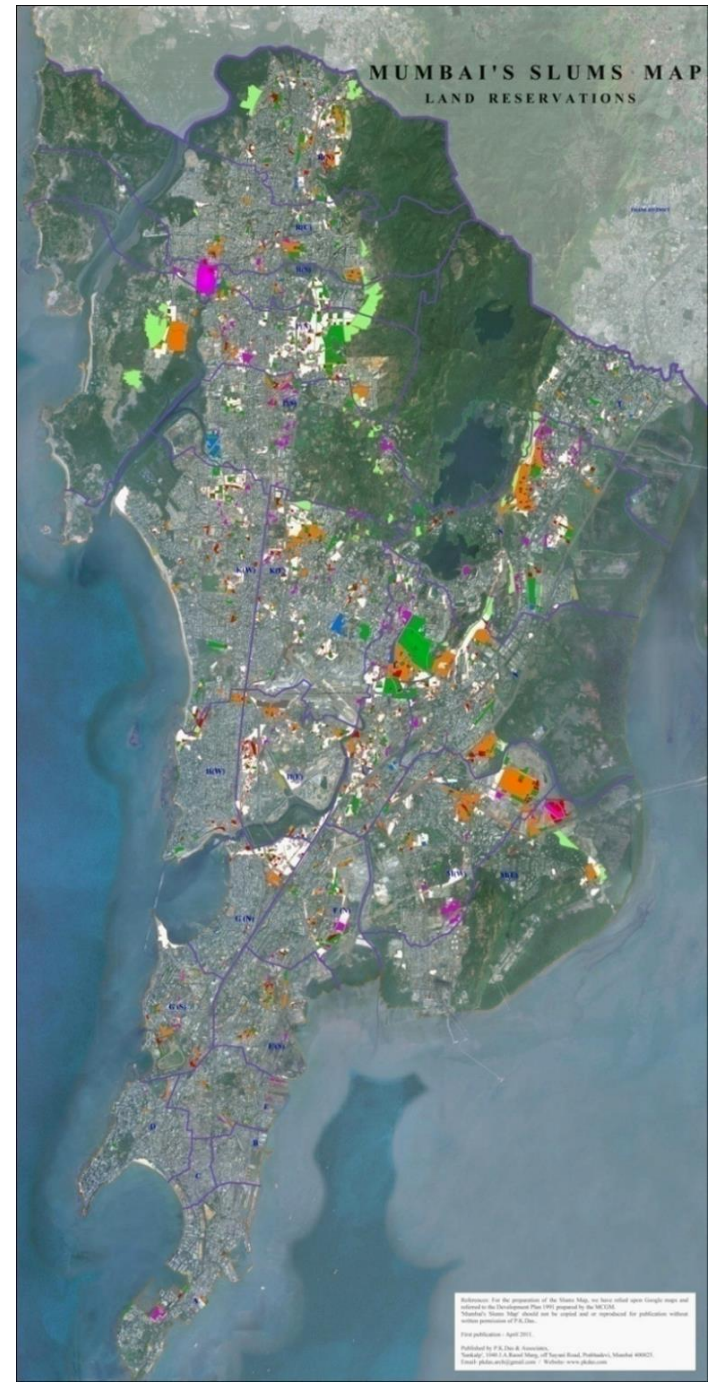
Work on the Juhu project will commence next month, according to Ms Azmi. It envisages sprucing up the beach as well as the "influence arcades", i.e. the Juhu-Tara Road and the seven axis roads leading to the beach, and creating a plaza around the Shivaji statue with proper sanitation facilities for both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

Several agencies, including the traffic police, the taxmen'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.

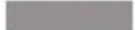
ILLUSTRATIONS

SLUMMING MUMBAI: AFFORDABLE HOUSING & SLUMS REDEVELOPMENT

MUMBAI – SLUMS MAP



MUMBAI – SLUMS MAP

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SLUMS ON HOUSING RESERVATION	6.07	14.36%	
SLUMS ON RESIDENTIAL RESERVATION	14.02	33.16%	
SLUMS ON COMMERCIAL RESERVATION	0.72	1.70%	
SLUMS ON INDUSTRIES RESERVATION	2.55	6.03%	
SLUMS ON AMENITY RESERVATION	2.37	5.61%	
SLUMS ON OPEN SPACE RESERVATION (RG,PG,G,P)	7.47	17.67%	
SLUMS ON NATURAL ASSETS (beaches, mangroves, etc.)	0.32	0.76%	
SLUMS ON NDZ RESERVATION	4.22	9.98%	
SLUMS ON RAILWAYS, AIRPORT AND PORTS	0.44	1.04%	
SLUMS ON SERVICES RESERVATION(Depots, Substations etc.	1.02	2.41%	
SLUMS ON DP ROAD RESERVATION	3.08	7.28%	
TOTAL SLUMS LAND AREA	42.28	8.75%	
MUMBAI'S POPULATION (as per 2011 census)	12.43 mn	100.00%	
SLUM- DWELLERS POPULATION (as per 2011 census)	6.53mn	52.50%	
Not to scale. Various reservations are as per the Development Plan. Population figures are approximate. This map to be read together with 'Mumbai's Slums Map -1'			

CHANDIVALI – A VISION OF HOPE



New township raises the bar for slum rehab

Asia's largest slum re-housing project in Chandivali 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 spanking new studio apartment in Chandivali, 15 km south of her ramshackle tenement bordering Sanjay Gandhi National Park.

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

On Tuesday, 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 unimaginative and shoddily constructed buildings that are the hallmark of slum rehabilitation projects, the Chandivali 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 succeeds, it could become a model for other

projects. The success 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 finance hub.

The Chandivali 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 A 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 Sumer Corporation, independent architect P.K. Das and NGO Nivara Hakk Suraksha Samiti.

Nivara 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 re-housing projects have been ridden with corruption on these two fronts.

madhurima.nandy@hindustan-times.com



PHOTO: MANGU PATIL/NT

UNLIKELY PARTNERS



Shabana Azmi
Member of Nivara Hakk Suraksha Samiti

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



Vilasrao Deshmukh
Chief Minister, Government of India

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 Nivara 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.



Ramessh Shah
Partner in Sumer Corporation, a 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

ASHA GIRI Gowami, 40, has never lived in a high-rise building. After 20 years of living precariously in a shanty town on the fringes of Sanjay Gandhi National Park, on Tuesday she finally entered her home.

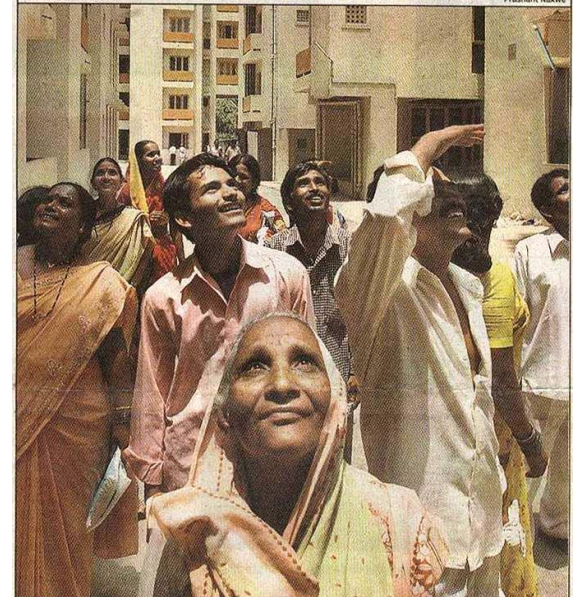
"This township was a dream for all of us and we have seen it develop from scratch," she said. An added surprise was that she was allotted a top-floor flat. "I have never lived at such a height before," she said, smiling. "I hope the wind doesn't blow us away!"

Gowami and her husband came to Mumbai 20 years ago from West Bengal. Her husband worked as a plumber and she sold bangles and other costume jewellery that she made at home. Will she eventually sell the house? "Never!" she replied emphatically. "We have struggled for years along with Nivara Hakk to get our own place. We would never give it up."

The new design

- A township spread over 45 acres in Chandivali
- Very close to the up-market Hiranandani Gardens in Powai
- 12,000 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 bonding
- 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 maidan
- Three parks

A NEW BEGINNING: Asha Giri Gowami in the balcony of her Chandivali flat.



NEW LIFE IN A HIGH-RISE: Slumdwellers who once resided in the Sanjay Gandhi National Park look skywards at their new multi-storeyed dwellings in Chandivali 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**



CHANDIVALI

यहाँ हमारे अपने घरों के साथ-साथ खुले मैदान और कई सामाजिक सुविधाएँ होंगी।

- वाड़ीकी रचना परिचित समूहों और सोसायटियों को कायम रखेगी।
- सार्वजनिक सहभाग और व्यवस्थापन नियंत्रण इस रचना का मुख्य हेतु रहेगा।
- इमारतें सिर्फ पाँच मंजिली होंगी।

हमारा नया शहर.....

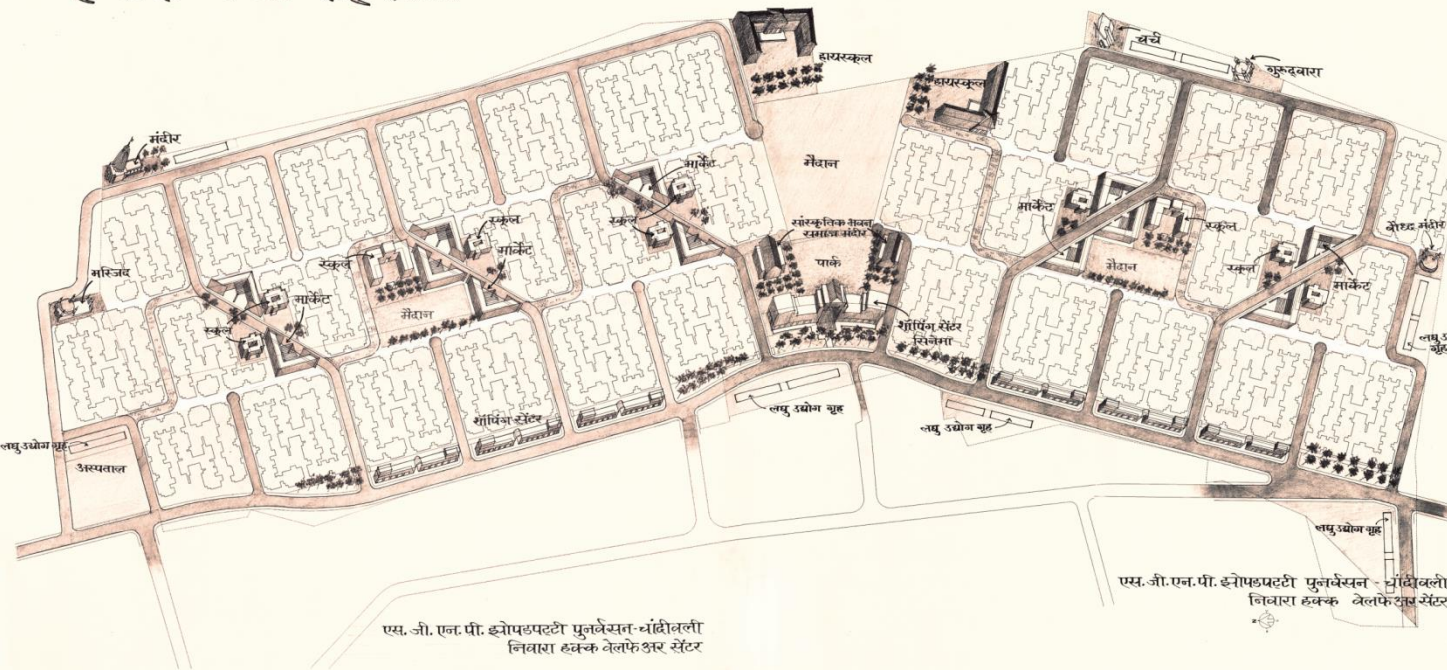
- एक बड़ा चार एकर क्षेत्र का मैदान शहर का केंद्रबिंदु होगा, इस के व्यतिरिक्त एक एकर के दो और खेल मैदान और हर वाड़ी में दो चौक होंगे।
- कुल सोलह स्कूल होंगे, जिसमें दो हायरस्कूल, चार सेकंडरी स्कूल और दस प्राथमरी स्कूल होंगे।
- दो अस्पताल और कई छोटे क्लिनिक और दवाखाने आरोग्य विषयक हर जरूरतों को पूरा करेंगे।
- दो बड़े सांस्कृतिक भवन और कई धार्मिक स्थल सामाजिक और सांस्कृतिक गतिविधियों को बढ़ावा देंगे।
- रोजगार उपलब्धी के लिए हमारे शहर में 250 लघु उद्योग बृह बनाये जायेंगे।

Total land area - 3,13,621 sq mt (77.47 acres)

Total built-up area - 6,58,604 sq mt

Density achieved - 550 units/ha

1. Houses -	18,362 (26.62 %)
2. Social infracture -	13.5 %
Primary schools	8
Secondary schools	2
High schools	2
Community halls	2
Women's welfare centres/creches	180
Balwadis	80
Society offices	60
Religious institutions	4
3. Facilities	8.6%
Markets	13 (800 shops)
Hospital	1
Consulting rooms	12
Clinics and polyclinics	6
Day care centre/nursing homes	6
4. Commercial development	6.1%
Shops, banks, post offices, communication centres, restaurants,Cinemas, Industrial estates etc.	19432.83 sqmt
5. Open spaces	15.03%
Central maidan	1 10,250 sqmts
Neighbourhood parks	3 2550x3 sqmts
Courtyards	60 450x60sqmts

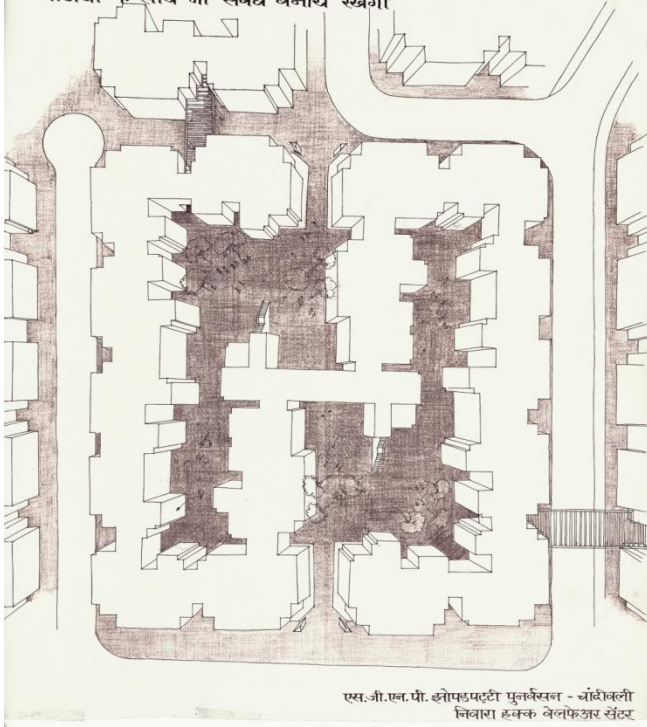


POSTERS FOR PUBLIC PARTICIPATION & DISCUSSION

CHANDIVALI

एक वाड़ी -

वाड़ी हमारे शहर की एक महत्वपूर्ण रचनात्मक अंग है. हम इनके सुनियोजित, सुरक्षित और खुले वातावरणमें साथ मिलके रहेंगे. बालवाड़ी, बालक केंद्र, महिला विकास केंद्र और सोसायटी ऑफिस जैसी हमारी आवश्यक जरूरतें अपने-अपने वाड़ी में ही पूरी होंगी हमारी वाड़ी हमारे शहर का अविभाज्य भाग होते हुये दुसरे वाड़ीयों के साथ भी संबंध बनाये रखेगी



एस.जी.एन.पी. इन्फोफार्मेटिक्स - चंद्रोक्ली
निवासा हक्क वेल्फेयर सेंटर

वेल्फेयर सेंटर-

हर वाड़ी में दो सोसायटीयों होंगी, जिनके लिये चार बालवाड़ी, दो बालक केंद्र, दो महिला विकास केंद्र और दो सोसायटी ऑफिस की सुविधायें उपलब्ध रहेंगी.

एक मध्यवर्ती इमारत एक पूल जैसिये संकुल के बीच खुले मैदान का दो चोंकों में विभाजन करेगी.

हर सोसायटी एक चोक का उपयोग लेगी जिसके आसपास सभी सार्वजनिक सुविधायें रहेंगी.



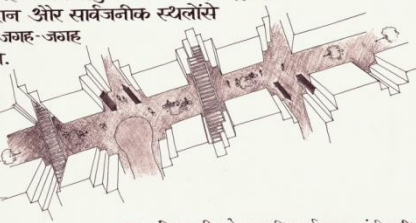
मार्केट-

कुछ वाड़ीयोंके बीच एक मार्केट बनाया जायेगा.इस तरह के पाँच मार्केट हमारे शहर में होंगे. जीनमें दुकानें, बैंक, पोस्ट ऑफिस और इस तरह की सुविधायें होंगी. दो प्राथमिक स्कूल मार्केट के पास होंगे, जिनके मैदानों की वजह से मार्केट के आसपास खुलापन रहेगा, मौड का एहसास कम होगा.

पदार्थ प्रणाली-

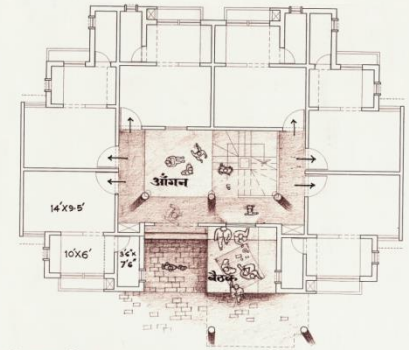
पदार्थ प्रणाली हमारे शहर का मुख्य घटक है, जिसमें वाहनोसे कोई रुकावट नहीं होगी. यह पदार्थ संकुलों को मार्केट, स्कूल, सांस्कृतिक भवन, खेलमैदान और सार्वजनिक स्थलोसे जोड़ते है. इन पदार्थों पर जगह-जगह वाड़ीयों के प्रवेशद्वार होंगे.

यह पदार्थ प्रणाली हमारे शहर को बच्चों और वृद्धों के लिये सुरक्षित बनायेगी और साथ ही साथ हममें एकता की भावना जागृत करेगी.



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मेरा घर



इस बिल्डिंग में मेरे घर के साथ-साथ और 33 घर होंगे. हर मंजिल पर 6 घर होंगे. बिल्डिंग में बैठक और आँगन भी होगा. आँगन के जॉइन्ट बिल्डिंग में उजाला आयेगा.



मेरे घर में एक कमरा, एक रसोईघर और एक संडास-बाथरूम होगा. इसका क्षेत्र 225 स्क्वे. फु. (कार्पेट) होगा. हर कमरे को बाहर से थोड़ा खिड़की होगी. रसोईघर के साथ बाल्कनी होगी, इसका उपयोग बैठने, कपड़े सुखाने और अन्य कामों के लिए होगा. बाल्कनी से घर में उजाला आयेगा और हवा खेलेगी.

Poster 1- Typical Cluster

Poster 2- Amenities

Poster 3- Typical House

POSTERS FOR PUBLIC PARTICIPATION & DISCUSSION

CHANDIVALI



ILLUSTRATIONS

DEVELOPMENT PLANS FOR CITIES



Include open space conservation in DP 2014-34: Experts

Karishma Goenka @karishmagoenka

The Brihanmumbai Municipal Corporation (BMC) has had recommendations from a number of prominent environmentalists on Thursday for formulation of the Development Plan (DP) for 2014-34 to ensure sustainability of natural resources and protection of green spaces in the city.

One of the major issues highlighted in the meeting was the loss of open spaces to development and encroachment. This led to a unified recommendation of strict monitoring and demarcation of the city's open spaces and green pockets.

Speaking on behalf of various environmental groups, architect and environmentalist PK Das highlighted the lack of proper boundaries for our natural assets. "It is important to not only map our natural assets, such as rivers, lakes, creeks and green pockets, but also maintain clearly demarcated buffer zones that are publicly marked to enable citizens to be vigilant about threats of encroachment and development," he said.

They also brought out loopholes in the classification of open spaces by the BMC that give way to wrong interpretation of the regulations set for them. Environmentalists present strongly opposed the No Development Zone (NDZ) tag given to most open spaces and mangrove areas. They suggested instead that they be termed as either buildable or non-buildable land to avoid misuse of the land.

"NDZ is land kept aside for future development as required. It does not provide for conservation of any of these open spaces. We do not want an NDZ tag, so that there are no loopholes or manipulation of regulations for encroachment of these areas for



A major issue highlighted was the loss of open spaces to development and encroachment, like on this Oshiwara playground

development," said Das.

In the BMC's land use classification, natural assets are listed under natural areas, water bodies and open spaces. Natural areas include forest, mangrove and hills, and open spaces include playgrounds, gardens, promenades and beaches.

Shweta Wagh, a professor at the Kamla Raheja Vidyamithi Institute of Architecture and Environmental Studies, pointed out that these classifications are regulated differently and there is no reason why beaches, which are part of the city's natural landscape, should be in the same slot as open spaces.

"A beach should be classified differently from open or natural areas and needs to be regulated with its indigenous inhabitants in mind, similarly, so does Arrey colony. These beaches are encroached upon at many places, by forcing local fisherfolk to move their area of work."

karishma.goenka@ndn.in

Greens stress decentralisation of solid waste disposal system

Karishma Goenka @karishmagoenka

Making a note of the increasing health hazards brought on by the city's sole dumping ground, which receives 7,800 metric tonnes of unsegregated waste every day, environmental recommendations for the 2014-34 Development Plan included decentralisation of the solid waste disposal system and incentivising segregation of waste at the household level.

"It would be a better idea to decentralise solid waste management instead of creating mega dumping grounds. Every planning unit or ward can have its own reserved land for solid waste disposal and can implement segregation of household waste more effectively. It can ensure biodegradable waste is recycled on site, decomposed and



Separate recycling facilities were suggested for construction waste

converted into fertiliser," said PK Das, architect and environmental activist, while listing the recommendations on behalf of various environmental groups.

The Deonar dumping ground is at its full capacity, with a mix of solid, household, biomedical and construction waste. Most of these give out dangerous fumes

and leak chemicals into our air and soil and, consequently run into our water. Separate recycling facilities were recommended to be provided for construction waste, which composes a large part of this solid waste.

Activist Rishi Agarwal said, "The dumping ground is a massive health hazard for the citizens. Almost 1,000 acres of land is affected by this ground through water, soil and air pollution. The most effective solution would be to incentivise segregation at source, along with informing and encouraging people to separate their waste."

Civic officials had earlier indicated that they might consider offering societies a 5% rebate on their property tax in the next annual plan if they segregated their waste at source.

Say Singapore model for water mgmt needed

Karishma Goenka @karishmagoenka

Environmentalists suggested that the new Development Plan of 2014-34 should include better management of the city's water resources and our sewage model should be modified on the lines of the Singapore water management model.

"Already a lot of money has been spent to treat sewage water, and still 90% of the water has not been treated. This outflow of sewage affects the health of our coasts. We should take a cue from the Singapore model of water management, where they treat water as a valuable resource. Their treated grey water is so pure, it is sold as drinking water in bottles," said Debi Goenka of the Conservation Action Trust.

Singapore was water dependent on Malaysia till the early 2000s, after which they decided to recycle and reuse their resources, finally becoming independent and recycling almost 100% of their water.

They insist on mandatory recycling of water and provisions for re-use of grey water for non-potable purposes.

Grey water is the waste water generated from showers and hand basins which can be recycled on site to be used for non-potable purposes, such as flush tanks.

They indicated how Mumbai's geographic location makes it self-sufficient in water resources, but, unfortunately all the streams and rivers that flow into the sea through the city are converted into gutters because of our sewage outflows that merge with these water bodies.

"We don't want an NDZ tag (for land), so that there's no manipulation of rules for encroachment of these areas for development."

—PK Das, architect

BANDRA BANDSTAND



AFTER

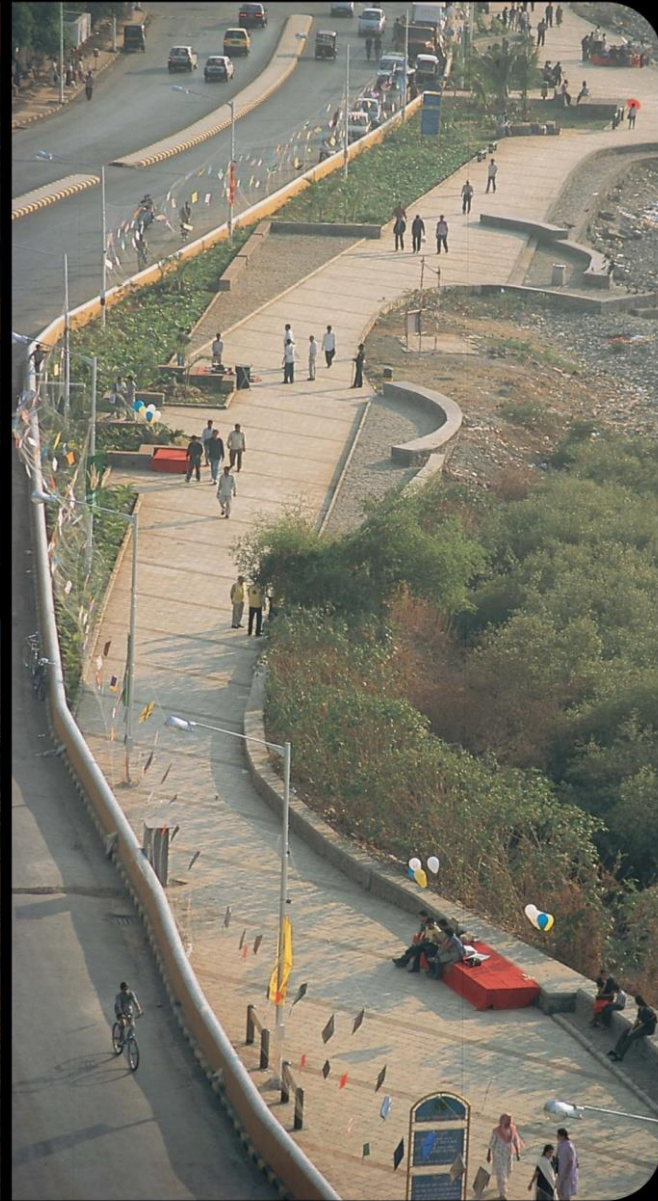


BEFORE



CARTER ROAD

BEFORE



AFTER

Juhugiri. Pyar se.

Double open space: add almost 3 Oval maidans
 Create 10 km tree-lined, flood-free walkway along Irla nala
 Inter-connect open spaces with institutions & amenities
 Re-align & integrate Metro rail network with public spaces
 Protect beach, improve access, enhance facilities
 Provide civic amenities for gaothans, re-develop slums
 Form a model for neighbourhood planning,
 participation & governance

Vision Juhu *Expanding public space*

Kamala Raheja Vidyavidyalaya Institute for Architecture • PK Das & Associates, Architects • Mumbai Waterfronts Centre

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IRLA NULLAH



SOCIAL, CULTURAL & PERFORMING SPACES



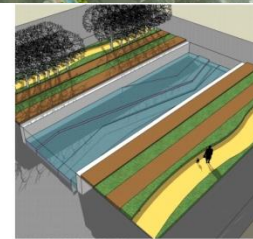
GARDEN



CHILDREN'S PLAY AREA



INFORMAL AMPHITHEATERS



WALKING & CYCLING TRACKS



IRLA NULLAH - BEFORE



IRLA NULLAH - AFTER

OPEN MUMBAI PLAN



THANK YOU