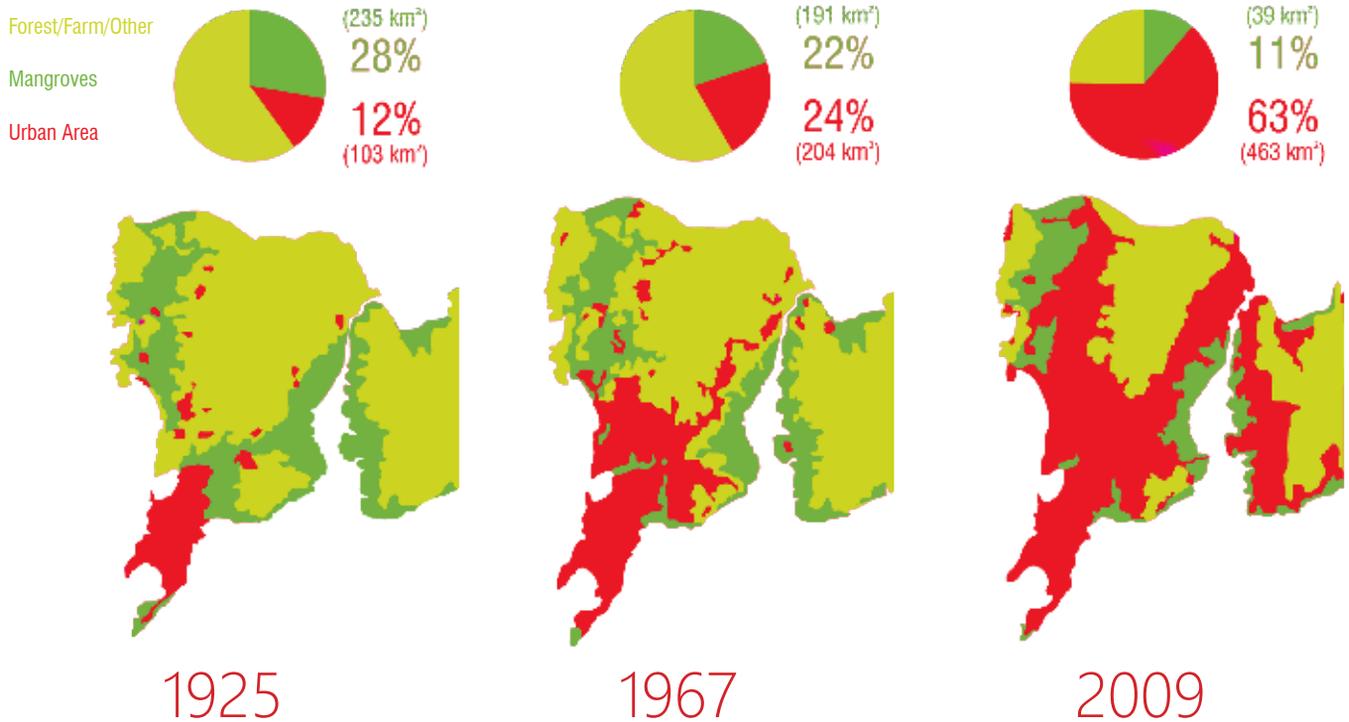# PLAY !

Tactics & strategies for public spaces in Mumbai's informal city

Observer Research Foundation
Ideas and Action for a Better India

Written by
Sourav Kumar Biswas

Forest/Farm/Other

Mangroves

Urban Area

(235 km²) 28% 12% (103 km²)

(191 km²) 22% 24% (204 km²)

(39 km²) 11% 63% (463 km²)

1925   1967   2009

Land-use change Data from Dr. Hrishikesh Samant
*Graphics by author*

The purpose of this essay is to highlight an often overlooked aspect of planning for public spaces in Mumbai. The dominant conversation focuses on preserving open spaces against incessant urbanization in form of protected parks, gardens, and maidans. But with more than half the city living in informal settlements, our imagination for maximizing genuine access to public spaces should account for other models of place-making that can weave public spaces into the rich fabric of home-grown neighbourhoods.

By exploring successful examples of interventions around the world that improved lives without displacing communities, I hope to make the case for a more imaginative approach towards social inclusion in Mumbai. The essay will highlight the practices within informal settlements as well as the challenges for housing and policy-making in Mumbai to finally propose a vision that places the playground at the very heart of inclusive development.

Foreword

How Placemaking Can Bring Smiles, Sparkle and Social Inclusion to Mumbai's Informal Settlements

by Sudheendra Kulkarni
Chairman - ORF Mumbai
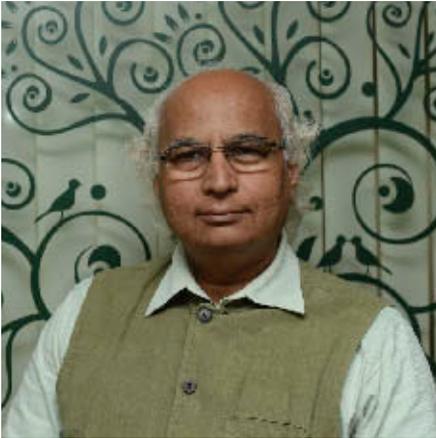
Can one visualise a city or a town without public places and neighbourhoods? Family life happens at home. But our social life unfolds when we step out of our private spaces. The common areas outside our homes where we meet our neighbours, the marketplace where we buy the things we need, the public transport that we use, even the private transport that uses public roads and other infrastructure, the parks and maidans that we see and occasionally use for recreation or for just spending a little quiet time with nature - all these define how individuals become 'citi'zens. Not in the bedrooms or drawing rooms does a city live. Its heart beats in its public places, in its network of numerous neighbourhoods. Much of city life is street life.

Therefore, the quality of public places is a big determinant of the quality of our lives. If there is beauty and harmony - natural or man-made - in public places, we are bound to absorb a little bit of that each day. If there is vibrancy of community life in public places, we feel connected to the fellow dwellers in our city.We begin to belong more and more to the city, Mumbai in our case, when a few minutes of watching cricket at Azad Maidan after a hard day's work at office, or the look of a nice sculpture at a newly created park on Cross Maidan,or a sunset experience at the redeveloped ocean-front near Bandra Reclamation or the fabulously renovated Bhau Daji Lad Museum inside Byculla Zoo leave a favorable impression on us.

Create a thousand more pleasant possibilities of this kind in public places, and enable Mumbai's millions to experience them daily, and we can actually imagine that it has been transformed into a happier city for all.

This is what the art and science of Placemaking promises - and delivers. Placemaking enhances the look, feel and functionality of public places through creative design interventions. It maximises social interactions, increasing the intrinsic worth of such interactions for citizens, thereby reducing the city's impersonal character. It succeeds in doing so because it seeks to integrate beauty, through public art and design, into civic spaces. The more beautiful - and more functional for more people - a public place is, the more it adds to the quality of life of individuals and collectives.

In *Creative Placemaking*, a White Paper prepared for The Mayors' Institute on City Design, US architects Ann Markusen and Anne Gadwa write:

"*In creative placemaking, partners from public, private, nonprofit, and community sectors strategically shape the physical and social character of a neighborhood, town, tribe, city, or region around arts and cultural activities. Creative placemaking animates public and private spaces, rejuvenates structures and streetscapes, improves local business viability and public safety, and brings diverse people together to celebrate, inspire, and be inspired.*"

We in Mumbai - and in urban India in general - need to adopt the principles of placemaking at two levels

urban planning, architecture, and conservation. At one level, we should create new iconic public places and simultaneously take better care of those old places which have already become a part of our proud urban heritage.

However, at another level, we should vigorously explore possibilities of placemaking in the vast expanse of informal habitats in our city, which have grown with very little application of formal principles of urban planning and architecture. A majority of Mumbai's population lives in slums. These are informal settlements in which the basic priority of securing living space has pushed out other priorities that have to be met for making the place livable in a holistic sense. And yet, innovative design interventions can considerably enhance the quality and functionality of the little public spaces that exist in these highly crowded informal settlements. These are small-scale, low-cost and community-driven interventions, with some assistance from socially committed design professionals. Moreover, since the dividing line between the private place and the public place in informal slum settlements is thin, any effort to expand the footprint of the arts and design at the center of community life in these settlements will yield much greater benefits in people's private and public lives.

This, indeed, is the subject of a highly innovative project that Sourav Kumar Biswas has presented in this booklet. Sourav, a young architect who worked as a Fellow at the Observer Research Foundation Mumbai

before leaving for Harvard University to pursue higher studies, has shown in this report that placemaking is not some elitist concept valid only on a large and expensive format in the formal parts of the city. It can also bring sparkle, colour and joy to public places in the informal parts of Mumbai. Illustrating this, specifically, by developing a vision parts of Mumbai. Illustrating this, specifically, by developing a vision for the playground in Mumbai's slums, he says:

"*The purpose of this essay is to highlight an often overlooked aspect of planning for public spaces in Mumbai. The dominant conversation focuses on preserving open spaces against incessant urbanisation in the form of protected parks, gardens, and maidans. But with more than half the city living in informal settlements, our imagination for maximising genuine access to public spaces should account for other models of place-making that can weave public spaces into the rich fabric of home-grown neighbourhoods.*

By exploring successful examples of interventions around the world that improved lives without displacing communities, I hope to make the case for a more imaginative approach towards social inclusion in Mumbai. The essay will highlight the practices within informal settlements as well as the challenges for housing and policy-making in Mumbai to finally propose a vision that places the playground at the very heart of inclusive development."

Sourav's study develops from a nuanced perspective that acknowledges slums as a reality of Mumbai's urban landscape and therefore considers measures to improve the quality of life for the majority of its population leading to their social inclusion. I have no hesitation in saying that his essay marks an important effort in adapting the concept of placemaking to the specific conditions of urban India, Mumbai in particular.

For ORF Mumbai, urban renewal is one of the principal areas of study and advocacy. Our work in the field of placemaking is steadily expanding. In this context, it gives me great pleasure to present this essay to the public-spirited citizens of Mumbai as well as to policy-makers at the national, state and city levels. We urge them to give serious consideration to the ideas and suggestions contained in this essay, and initiate suitable action for their implementation. Although the specific focus of this Essay is the playground in slum settlements, Sourav has articulated many larger possibilities in his vision of placemaking in our informal cities. If these possibilities are actualised, through an imaginative partnership between governments, elected representatives, design professionals and the communities, there is little doubt that the outcome will be enriched livability in Indian cities for all their citizens.

- July 2013

Content

Minimum Space in Maximum City

1.1
M² PER PERSON

OPEN SPACES PER PERSON (m²)
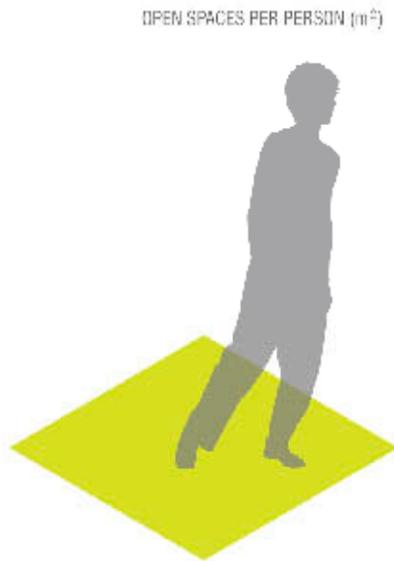
Data source for image:
Open Mumbai by P.K.Das
Graphics by author

Mumbai 1.1 •
Tokyo 3.96

UDPH Standard 10-12

Chicago 17.6

New York City 26.4

London 31.68

With a population growing towards 14 million, Mumbai's citizens inhabit a compressed urban condition within a dense landscape of harsh social and economic divides. As one of the most densely populated cities in the world, the public domain is further compromised by a lack of public spaces.

A citizen of Mumbai gets 1.1 square metre of open space against the international standard of 11 square metre per person. Only 6 percent of the total land in the city is made up of open public spaces. Out of this, 45 percent is partially or completely encroached upon.[1] These encroachments become a center of contention when the Municipal Corporation of Greater Mumbai (MCGM) drafts a Development Plan (DP) every 20 years. This archaic planning approach struggles to keep up with the rapid rate
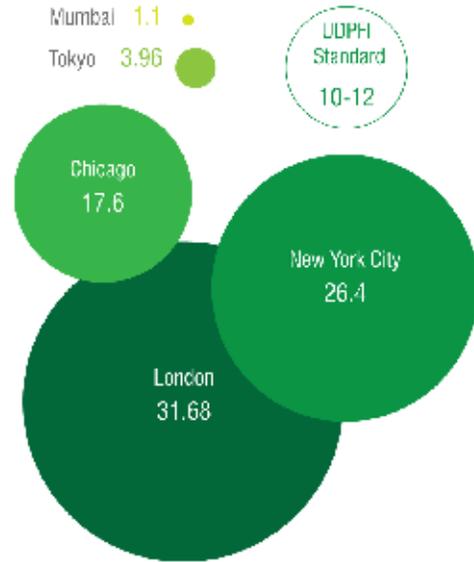
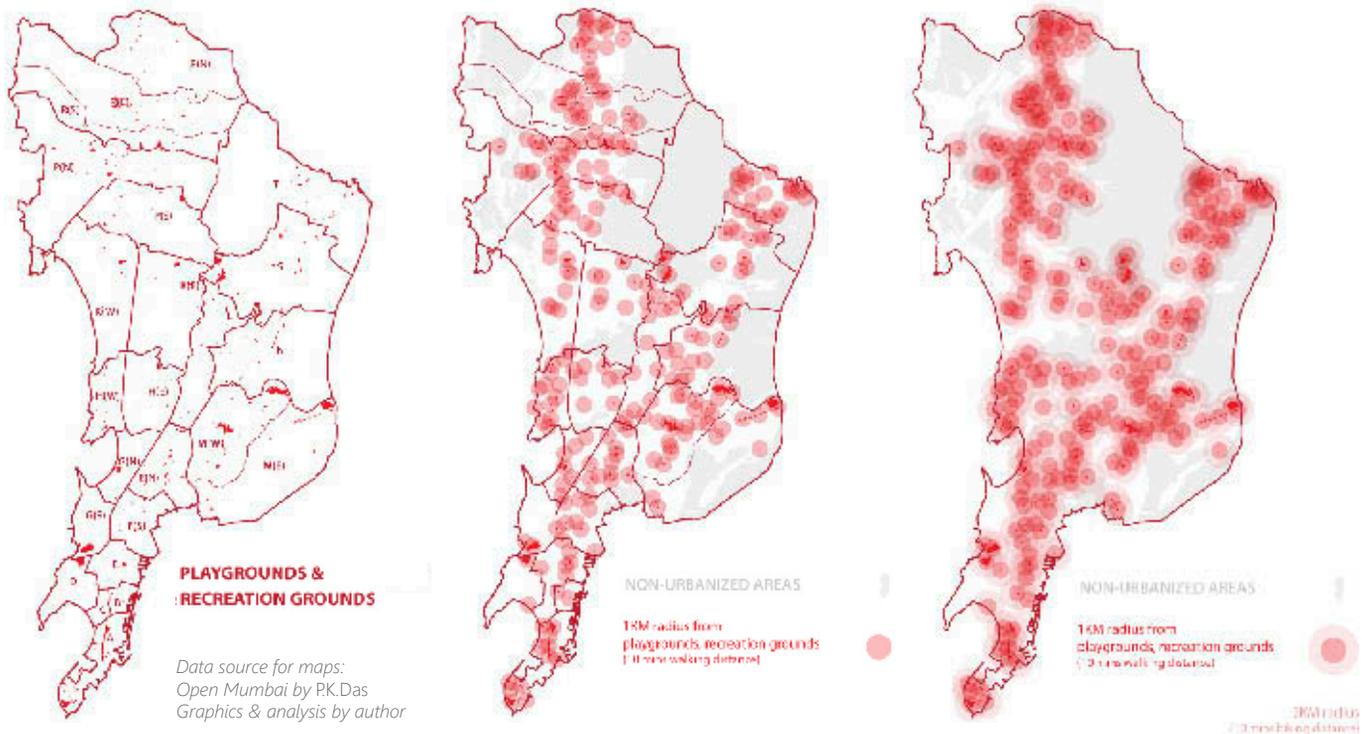of urbanization and as a result, the MCGM fails on two important counts - to provide affordable housing solutions and plan for adequate public spaces.

The urban fabric of Mumbai is thus characterized by two forms of ad-hoc growth. One fueled by squatters who cannot afford formal housing and are compelled to live in self-built organic settlements that are densely packed and infrastructurally under-served. The second, more dominant growth pattern is driven by private developers who are filling in the void left by the lack of planning, with shopping malls, office plazas and gated communities. While these are packaged into well-designed modules, they plug-in to the city in a similarly ad-hoc manner with little regard for infrastructure or open spaces. These trends compromise the health as well as the democratic rights of Mumbaikars.
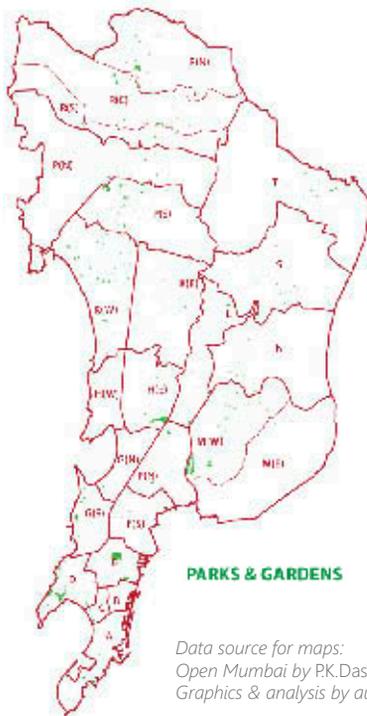
PLAYGROUNDS &
RECREATION GROUNDS

Data source for maps:
Open Mumbai by P.K.Das
Graphics & analysis by author

NON-URBANIZED AREAS

1KM radius from
playgrounds, recreation grounds
(11 mins walking distance)

NON-URBANIZED AREAS

1KM radius from
playgrounds, recreation grounds
(3 mins walking distance)

2KM radius
(3 mins walking distance)

The exercise of democracy depends upon having a *public* commons where people can gather as citizens - squares, *maidans*, or a park. Public spaces also enrich lives by providing sites for festivals, celebrations, expressions of community identity, or simply a space to breath at leisure. As the dramatic events at Tahrir Square in Cairo and Gezi Park at Istanbul have demonstrated, these places are symbols of civic participation that offer an important platform to articulate our public voice.
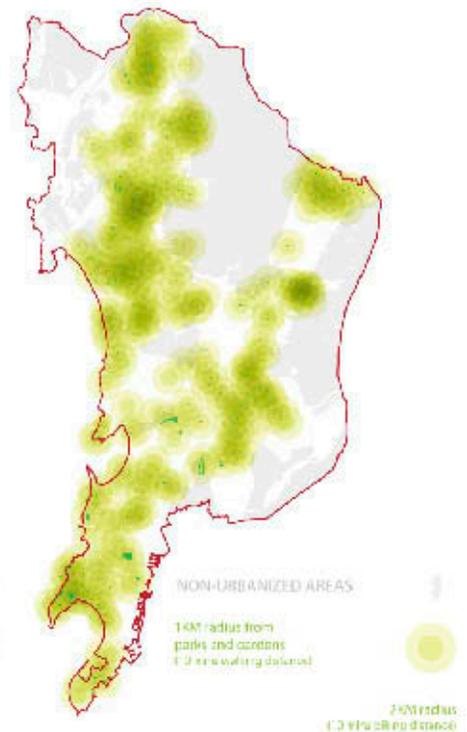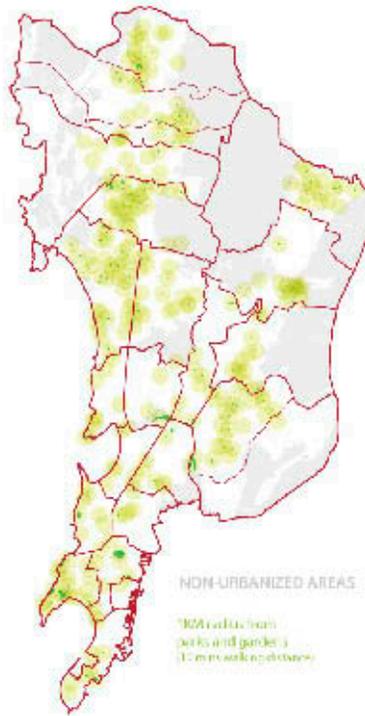
Public spaces become primary sites for human exchange by bringing many different people, activities, and government functions together. The health of our communities, economy, and democracy depend on such exchanges. A society where people of all income levels meet in public spaces is a more integrated and socially healthier one.[2] For Mumbai, the lack of

a healthy public domain is particularly unfair to its urban poor. The rich and middle-class can always depend on private clubs and bigger homes. But the poor only have their local streets to socialize. Since most of Mumbai's poor, or more than half the city's population live in informal settlements, any genuine attempt to improve the public domain has to account for strategies specific to these neighbourhoods. This essay will provide an introductory overview of the importance of public spaces in informal settlements, relevant tactical and strategic precedents from the developing world, as well as identify preliminary opportunities and strategies to implement a vision for Mumbai's informal city.

Public spaces may not seem like a priority considering many informal settlements lack basic necessities like clean water, sanitation, and health care. But

PARKS & GARDENS

Data source for maps:
Open Mumbai by P.K.Das
Graphics & analysis by author

NON-URBANIZED AREAS

1KM radius from
parks and gardens
(10 min walking distance)

NON-URBANIZED AREAS

1KM radius from
parks and gardens
(10 min walking distance)

2 KM radius
(20 min walking distance)

the process of designing great public spaces here is important, because they allow many issues to be addressed at once. The problems of the informal city are multi-sectoral - which means most issues are interlinked and the problem of water, for example, cannot be solved in isolation with other issues like sanitation and health, which is also linked to education. By adopting a systemic and community-oriented approach towards the design of public spaces, the spaces may also become sites for the delivery of important services related to sanitation, health, and education.

In its simplest form, however, public spaces encourage play. Open spaces like playgrounds, maidans, and even well-paved traffic-free streets bring joy to the most vulnerable and important citizens of Mumbai - the children of the informal city.

" Whatever space and time mean, place and occasion mean more...

...A city that has no room for the child is a diabolical thing. "

- Aldo van Eyck
Dutch architect who built more than 700 playgrounds across Amsterdam after the end of the Second World War.

Mumbai &
the **Informal City**

9 million residents of the Informal City inhabit population densities of 200,000 person/sq.km and above.[3]

Five clusters of informal settlements in Mumbai have a population of 1 million or more.[4]

DEVELOPMENT PLAN ZONING
ON SLUM LANDS

Housing + Residential	Open Spaces + Reserves	NDZ
48%	18%	11%

1% of slums are on mangrove + wetlands

	Industrial + Commercial		Roads + Ports
	13%		10%

Data source for graph:
Open Mumbai by P.K.Das
Graphics by author

Informal settlements occupy less than 10% of Mumbai's land mass but house close to 60% of its population.[5] While some of these informal settlements, like Dharavi, have evolved into thriving mixed-use districts, many settlements have unhealthy urban conditions characterized by overcrowding, unpaved roads, open sewage, inadequate access to water, sanitation, poor quality in housing, and insecure residential status.

There are severe institutional and infrastructural gaps that have excluded a majority of Mumbai's citizens - close to 9 million city residents - who are compelled to inhabit in self-built informal structures. While state institutions continue to work on Development Plans that have left 'slums' unmapped, the 'informal city' rises as a very result of public-private institutional failure. Without any government support or market-driven solutions, result of ad-hoc self-development results in the informal city. This development reinforced by a thriving network of local contractors and micro-entrepreneurs.

Panorama from Govandi Station
Taken by author

Railway Lines

Informal Settlements
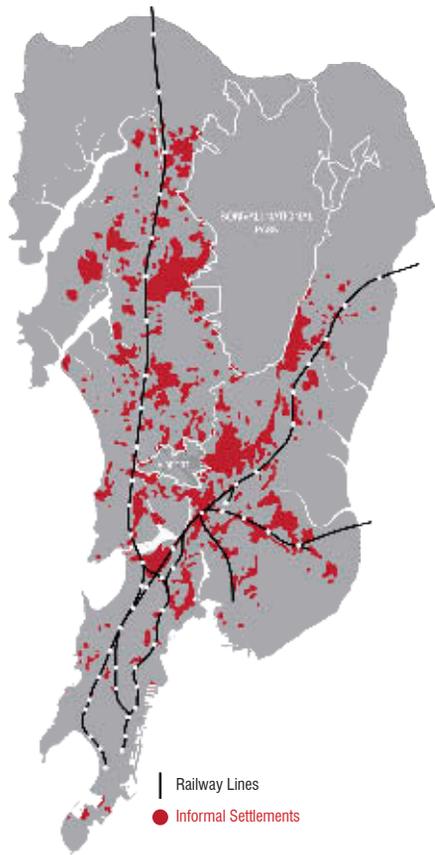
Data source for map: Open Mumbai by P.K.Das
Data source for graph: Govt. of India Census
Graphics by author

Slum
Percentage
Non Slum

CITY POPULATION (in Million)

1961 1968 1971 1976 1981 1984 1991 1996 2001 2011

PLAYGROUNDS & GARDENS
NON-URBANIZED AREAS

2KM radius
[16 mins walking distance]

2KM radius
[' 0 mins walking distance]

NON-URBANIZED AREAS

1KM radius from parks, gardens,
playgrounds, recreation grounds
[10 mins walking distance]

SLUM AREA [estimates from 2011 survey]

1KM radius from parks, gardens,
playgrounds, recreation grounds
[10 mins walking distance]

> " Squatting is both the possiblity and the limitation of housing failures. "
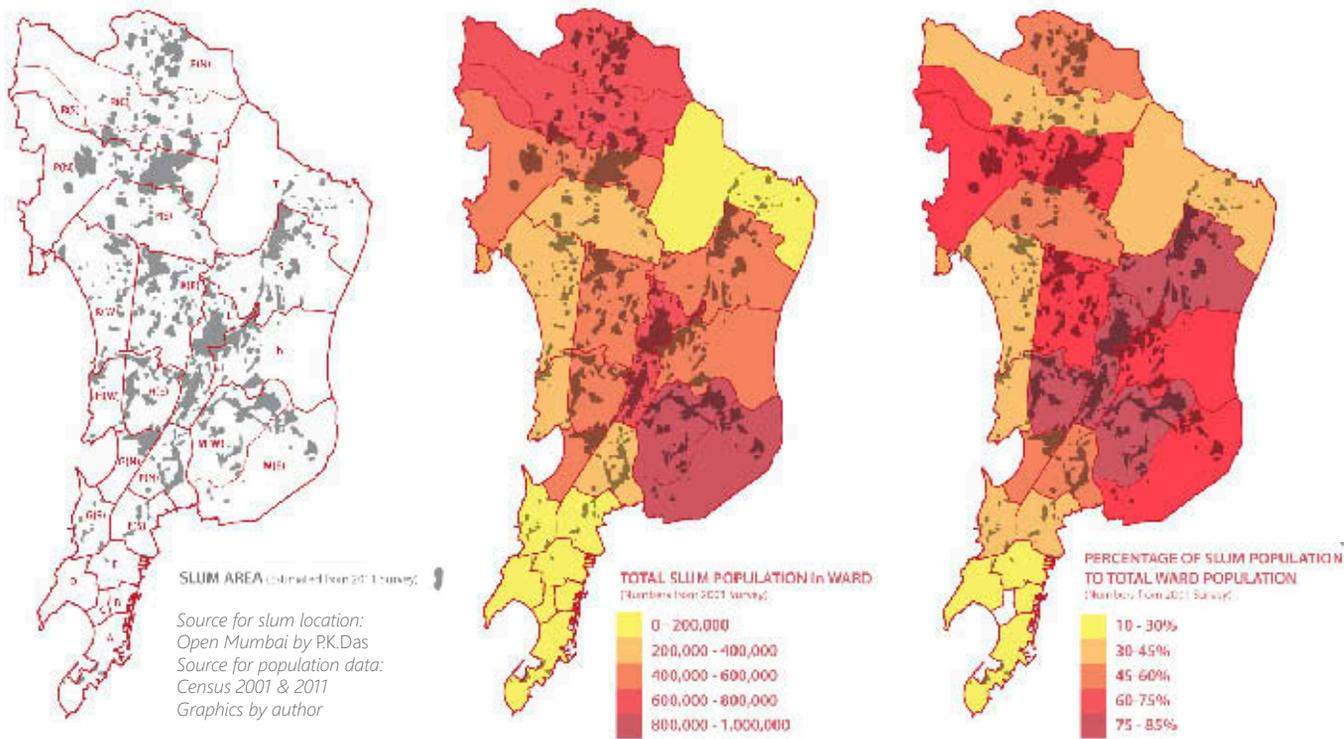>
> – Alfredo Brillembourg & Hubert Klumper, *La Polemica Torre David*

> " If I cannot help solve the problems of the multitude, then why am I an architect? "
>
> – Arqui 5, Architects of Caracas' *Project for Urban Integration*

However, the informal city is integral to the way Mumbai operates. Dharavi is home to India's largest, albeit unregulated, plastic recycling center, collecting over half of the city's waste.[6] Dharavi has also generated industries that have a total turnover of Rs. 3000 Cr.[7] Low wage service jobs that the upper and middle-class depend on - cooks, drivers, cleaners - are members of the informal economy. In Mumbai, two-thirds of the work force operate in the informal economy.[8] This includes road-side vendors, shopowners, contractors and labourers. Excluded from the formal banking system, the majority of these wage-earners have little choice but to live as squatters.

Compounding the socio-economic marginalization is a fundamental misunderstanding of why the squatter population exists and how their efforts at city-build

SLUM AREA (estimated from 2011 survey)

Source for slum location:
Open Mumbai by P.K.Das
Source for population data:
Census 2001 & 2011
Graphics by author

TOTAL SLUM POPULATION in WARD
(Numbers from 2001 Survey)

0 - 200,000
200,000 - 400,000
400,000 - 600,000
600,000 - 800,000
800,000 - 1,000,000

PERCENTAGE OF SLUM POPULATION
TO TOTAL WARD POPULATION
(Numbers from 2001 Survey)

10 - 30%
30-45%
45-60%
60-75%
75 - 85%

ing may hold lessons for intelligent policy decisions. Policies regarding squatters barely acknowledge how the people and the community improvise around institutional failure with creative solutions.

Settlements have evolved an urban typology which ensures the survival of small studios, factories, residences, shops in a mosaic of urban forms. This typology exemplifies many of the qualities that make up strong urban environments: low-rise, high-density, mixed use.[9] They are home to well-functioning public spaces, and heterogeneous communities that promote safety by channeling "eyes on the street." These areas are a result of optimal utilization of space and efficient use and reuse of materials for construction. They are easily adaptable to changing user needs and the livelihood activities of the community.

Informal settlements could rightly be called a mixed-use neighbourhood, more accurately than developments planned and programmed for that purpose: Mixed-use developments in India typically quarantines one use from another whereas residents of the informal city blend uses in an ad hoc fashion.

Categorizing all the settlements in the informal city as 'slums' does a grave injustice to both the complexities of Mumbai's housing and labour problems but also discounts the transactional benefits of the tight-knit social networks within this urban form. Informal settlements offer a 'foot in the door' for many hopeful migrants to the city. Institutional efforts to improve access to credit, education, and livelihoods within these areas re-inforces the informal network's ability to help more families out of poverty

Hand-drawn images from "Typologies and Beyond - Slum Settlement Studies in Mumbai" by Collective Research Initiatives Trust (CRIT)
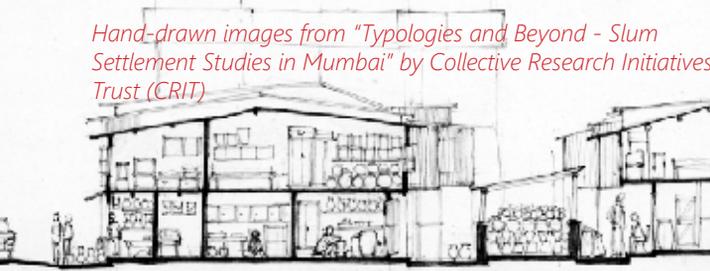
Kumbharwada *in Dharavi is uniquely configured around the live-work lifestyle of the potter community. The livelihoods of many communities depend on such live-work typologies*
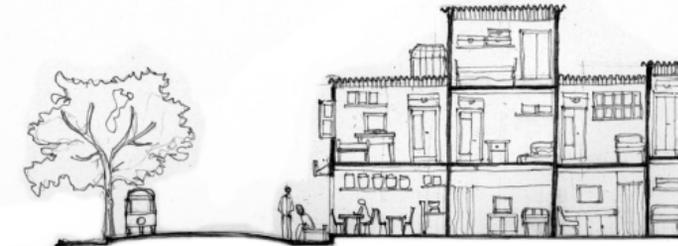
Bharat Nagar *in Bandra-Kurla Complex along the Mithi River*

# A Thousand
Informalities
The politics of definition

The 'formal city' grows within the regulations of a planned framework following the legal codes and norms. 'Informality' is defined in terms of social exclusion, either through the absence of state intervention or economic activities outside the regulated framework.[10] The 'informal city' has many gradients of informality, coping with different levels of access restricted by very specific political and economic situations.

In Maharashtra, the 1971 Slum Redevelopment Act highlights the following characteristics that define a 'slum' area - "source of danger to health, safety or convenience to the public", "inadequate, or no basic amenities", "being insanitary, squalid", "dilapidation". "narrowness of streets", "lack of ventilation, light."[11] Many of these characteristics are purely subjective and open to interpretation. Nevertheless, even with ambiguous definitions and processes, settlements are constantly being

Dharavi

Shivaji Nagar

All satellite images from Google Earth

'identified', 'notified', and 'rehabilitated' as slums.

Government surveys consist of documenting the status of water supply, street lighting, drainage, footpaths, roads, building layouts and environmental problems. Depending on the report of the survey by the District Collector, and the subsquent approval by the Housing Department, a settlement may be identified as a slum and marked for demolition.[12] Thus, the informal city is defined by a series of procedures that seeks to categorize neighbourhoods as diverse as Kumbharwada, Behrampada, Jari Mari into one term - slum. This leads to a one-size fits all approach towards the redevelopment of the informal city. Focusing on the dichotomy of slum v/s non-slum also prevents the imagination of pragmatic collaborations between formal institutions and informal social networks.

Within the informal city, there are multiple social, economic, and urban relationships that can hardly be understood by the macro-scopic tools used by planning authorities. Satellite images, top-down development plans do not register the rich spatial and programmatic connections that are revealed through cross-sections drawn by Prasad Shetty from CRIT (Images shown on the edges) or by simply taking a walk down the narrow alleys.
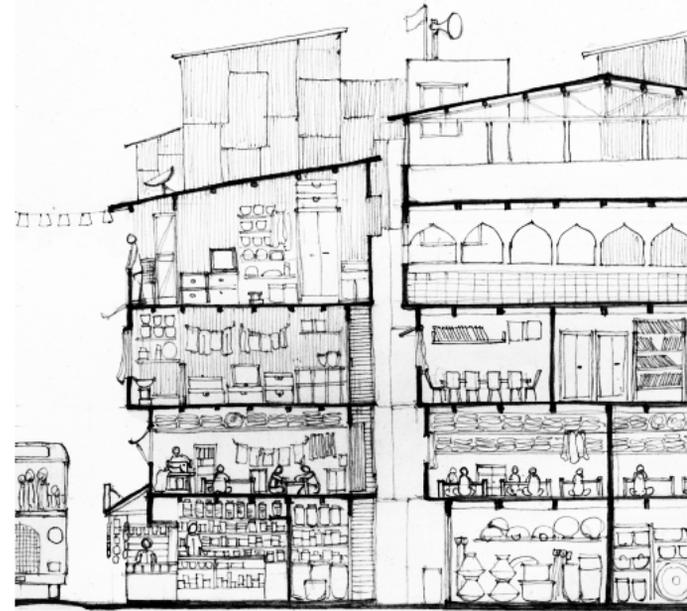
Behrampada *in Bandra East consist of 4-storey mixed-use structures that layer residences on top of textile mills with sewing units and clothing retail shops on the ground level*

Darukhana *in Reay Rd precariously sits near the Eastern waterfront on Port Trust land*
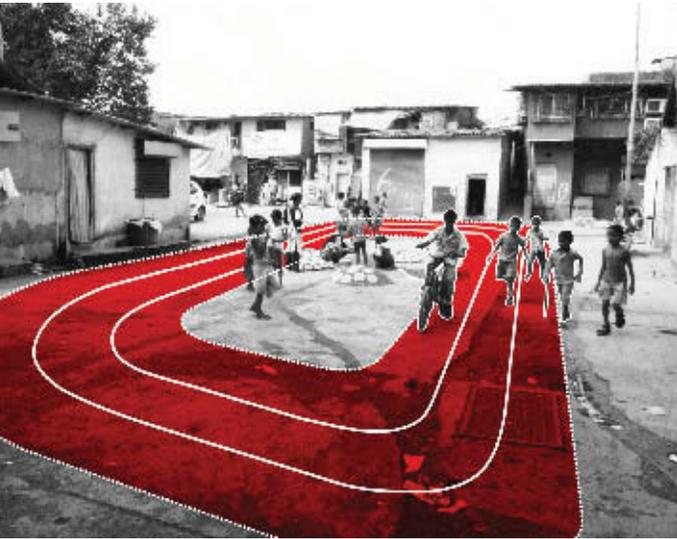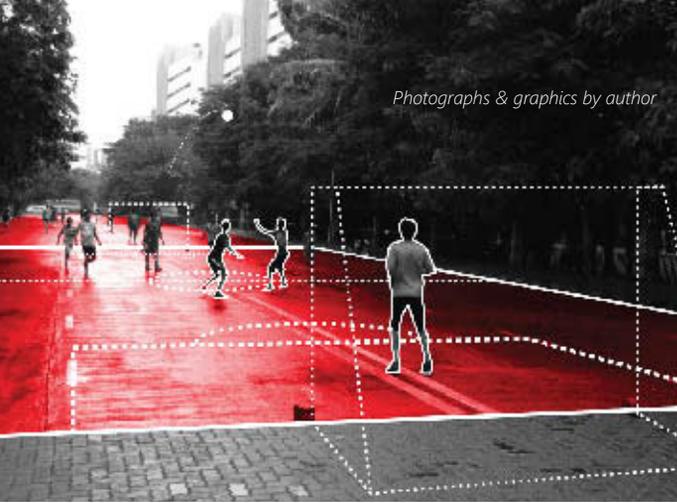

Jari Mari

Golibar

Malvani

All satellite images from Google Earth

Practices

Improvising for **PLAY** within a compressed urban fabric

By the conventions of urban planning, 'public space' translates to a park, or a plaza. In Mumbai however, the streets are truly the public spaces, and people are out all day, every day: selling, begging, trading. People make their living on the streets, some living their lives out on the street. The street as a public space becomes more relevant in informal settlements, where in the absence of traffic, the entire street is used for all kinds of activities. Even narrow alleys provide spaces for chatting with neighbours. The combination of mixed uses, and slow, minimal car traffic encourages residents to turn every residual space into a playground or a 'public square'. On weekends, children in settlements with paved streets run free around the entire neighbourhood. Having safe and adequate places for that activity is as vital as water, sanitation, or electricity.

In the informal city, every square foot will have multiple uses throughout the day. So it was no surprise to find that big events like a gathering for a festival or marriage take place within the streets and courtyards by simply demarcating space with a bamboo structure covered in sheets. My observations during my weekend visits in Dharavi, Shivaji Nagar, Malvani, Bharat Nagar, and Khar Danda revealed patterns of use that should convince us to rethink the concept of public spaces to go beyond the restricted parks and gardens model bounded by iron gates. Instead, walkable, compact

> " We are not clear about what constitutes an ideal environmental for a happy human being. One common measure for how clean a mountain stream is, is to look for trout. If you find the trout, the habitat is healthy. It's the same way with children in a city. Children are a kind of indicator species. If we can build a successful city for children, we will have a successful city for all people. "
>
> – Enrique Penalosa, *Former Mayor of Bogota, Colombia*

and dense mixed-use neighbourhoods offer richer moments for public interaction. It was interesting to note that the street grid of site-service resettlement colonies like Shivaji Nagar and Malvani served more places to turn into playgrounds. The open spaces around the toilet blocks are all turned into playgrounds. Any project that embarks on expanding spaces for play and community interaction can benefit from a more fluid understanding of public domain. However, the fact still remains that many settlements struggle to even improvise for public activity due to unhygienic conditions, lack of paved streets, or overcrowding. The main argument of this essay is that play spaces for the children of the informal city deserve more consideration as part of a development policy.

Children become the next generation of adults, and will ultimately reflect the conditions of life they currently experience. Playgrounds liberate the 'wild thing within' but all forms of play help children develop their abilities, teaching them personal responsibility, and to thrive as a member of a team or community. Playgrounds increase civic engagement and solidarity.[13] Playgrounds should be understood as a means to an end. They can act as a device to attract mothers and families living in vulnerable areas into a space where they can experience social services and other exchanges. It is not radical therefore, to suggest that the design of playgrounds and public spaces within informal settlements may be the most powerful form of social inclusion.

PLAY | Scenes from Dharavi, Malvani, Khar Danda & Shivaji Nagar

A thin sheet separates an improvised banquet hall for a community event from the trash-infested sewage channel in Shivaji Nagar. Down the street, a similarly patterned sheet creates a pop-up kitchen for a party that will take over the street. A tiny chawk in Khar Danda sets the stage for a marriage gathering. Any linear stretch found along alleys become

cricket pitches while courtyards, and wider paved streets offer space for football and cycling. Shaded spaces maintained by Mitra Mandals offer room for activities ranging from a small chess game to community events. In the informal city, there are many forms of public spaces and the public domain is dynamically defined within the interstices of the existing fabric. The vibrant moments of play within areas that lack the formal infrastructure to do so, suggest there is much to learn from but also demonstrates how much the tactical and strategic improvement of these spaces would improve lives.

All images photographed by author

Children in the Informal City
Learnings from UNESCO's 'Growing Up In an Urbanizing World' study

The United Nations adopted the Convention on the Rights of the Child in 1989. According to the Convention, children have a right to a voice in decisions that affect their lives; and the guidelines specifically note that this right extends to decisions relating to their living environment.[14] To specifically understand how children can be genuinely involved into participatory design processes, UNESCO carried out a study to understand how children, specially low-income adoloscents, deal with the challenges of living in the city.

'Growing Up In an Urbanizing World' (GUIUW) is the second iteration of the 'Growing Up In Cities' study led by the prominent urbanist Kevin Kynch in 1977. The study would form the basis for planning and executing improvements with the youth themselves. The project combined multiple disciplines with experience in social research as well as urban planning and design - involving anthropologists, architects, geographers, planners, psychologists, educators and community organizers or social workers. The project pursued a series of questions relating to urban children's well-bring, including how they used their local environments, what kind of places they valued, and their own ideas for improving the environment.

The work was based on observation, mapping and interviews that engaged the children in photo-documentation, producing their own experiential maps, and leading explanatory walks. The study spanned eight cities around the world and researchers found remarkably

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Indicators of Children's Environmental Quality
(from *The Growing Up In an Urbanizing World* project)[16]

Positive Social Qualities
Social integration
Freedom from social threats
Cohesive community identity
Secure tenure
Tradition of community self-help

Positive Physical Qualities
Green areas
Provision of basic services
Variety of activity settings
Freedom from physical dangers
Freedom of movement
Peer gathering areas

Negative Social Qualities
Sense of political powerlessness
Insecure tenure
Racial tensions
Fear of harassment and crime
Boredom
Social exclusion and stigma

Negative Physical Qualities
Lack of gathering places
Lack of varied activity settings
Lack of basic services
Heavy traffic
Trash / Litter
Geographic isolation

> " The story of Sathyanagar is about young people making their way in the world as best they could, in spite of the failure of the official adult world to meet their basic needs. In doing so, they were fortunate to live in a community that possessed a number of advantages, some apparent and some perhaps invisible to the eyes of its adults. "
>
> – from the GUIUW study in Bangalore[14]

similar characteristics that led to childen feeling "sustained" or "marginalized". It seemed directly related to the quality of *culture* surrounding them.[15]

A key finding, according to Chawla who led the research effort is "that beyond a generally acceptable level of health and welfare, increased material prosperity does not seem to affect children's sense of satisfaction with their environments. Out of the eight case studies Chawla's book presents, children's sense of satisfaction was greatest in Sathyanagar, a self-built settlement on the periphery of Bangalore, India; and in Boca-Barracas, a working-class district of Buenos Aires. In both places, children were accepted participants in a vibrant cultural framework. They were also relatively *free to move around within a protected space*. By contrast, a sense of alienation was prevalent among children in research sites in the U.S., Britain and Australia. Children in those places complained of boredom, *lack of safe unstructured play space* and general marginalization within the arena of public life."[16] *[emphasis added]*

The study attributes this surprising finding to a concept of 'paradoxical poverty' which means even in areas of low material resources, a rich cultural and social life of the community contributes to the well-being of the children. Some of the most positive physical qualities cited in the study depends upon freedom from physical dangers, and freedom of movement supported by a diversity of activity settings and peer gathering areas. As mentioned before, the typology of informal settlements contributes to create such an environment better than planned developments marred by sterile rigidity. Planners and architects in India should seek to learn from the walkability and *playability* of its informal settlements to devise new design solutions that weave interventions and infrastructures strategically into the socially rich fabric.

> " Even though these children lived in deprived environments, they gained a strong personal identity and sense of belonging from the cultural richness and social density of their daily lives. This shared identity with the neighbourhood and community helps explain the impressive ethical development of these children...For children, experiential richness in urban neighbourhoods is not readily correlated with income levels. "
>
> – from the GUIUW study in Buenos Aires[15]

Current slum rehabilitation schemes uproot children from the social capital of informal settlements into towers that lead to geographic isolation and a sense of social exclusion. In most situations, these schemes lose the sense of safety around unstructured play without improving, and often jeopardizing, the community's access to more resources and better opportunities. Similarly, the physical indicators from the study can become a key benchmark in evaluating which informal settlements should be redeveloped, relocated or simply retrofitted. By accounting for the physical and *social* qualities of an existing settlement, we gain a more holistic insight into the benefits and shortcomings of a settlement vis-a-vis the current mode of rehabilitation.

Envisioning an alternative development paradigm for Mumbai -
How variations in the city's urban fabric can lead to a child-friendly city

At the heart of Mumbai's agenda for development lies the aspiration to become a 'world-class' city. In this narrative, the informal settlements of Mumbai housing the poorest inhabitants of the city, are seen as blots on the city that need to be removed in our quest to improve living standards for all. Any objective measurement will reveal the low standard of living in most of the settlements. Standard of living is determined by measurable factors like infant mortality rate, poverty index, unemployment rate, literacy rate, among others. Most of these social indicators depend on improving the health and opportunities for children and the youth. Without a doubt, significant investment and effort needs to target informal settlements to improve these indicators.

However, the current paradigm of development ignores many of the social and cultural advantages, highlighted in the previous section, that informal settlements have to offer. Apart from fostering a rich and resilient social ecology, the urban form of informal settlements have

textbook-qualities that enhance the 'quality of life'. Urbanists like Jane Jacobs and comtemporary planners have determined the following characteristics in urban form that are found in cities with the highest quality of life: 1.Priority for pedestrians. 2.Buildings no higher than six stories. 3.Buildings oriented towards the street. 4.Active street life created by mixed uses.[17] These qualities characterize the much celebrated car-free cities of Venice as well as Mumbai's own neighourhood of Dharavi! Venice has relevatively few gardens and parks, but the complete absence of cars makes it safe for children to play anywhere, even in the middle of the street.[18] The entire city serves as their playground, thus offering a more stimulating environment than designed parks and playgrounds. People in the West have realized that auto-dominated development has eroded the vitality of public life. Learning from these failures, cities like Bogota, Beijing, Shanghai, Copenhagen, and Vienna have began integrating pedestrian districts, serviced by public transit, as a new model for urban development.[19]
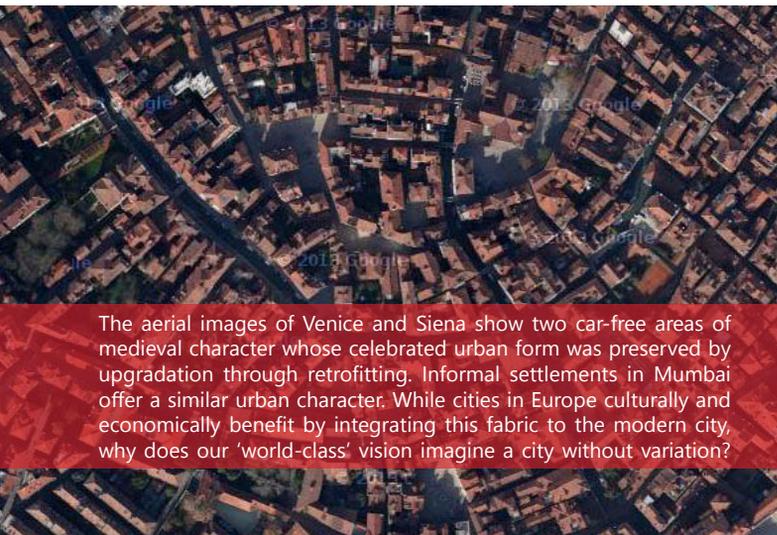
The aerial images of Venice and Siena show two car-free areas of medieval character whose celebrated urban form was preserved by upgradation through retrofitting. Informal settlements in Mumbai offer a similar urban character. While cities in Europe culturally and economically benefit by integrating this fabric to the modern city, why does our 'world-class' vision imagine a city without variation?

Yet our imagination for the future of a developed city is characterized by wide swathes of road, high towers, and a sterilized urban fabric that neatly categorizes residences from shops and public spaces.

Many settlements around Mumbai have organically developed urban spaces that respond to the human scale. Once we can overcome the infrastructural deficiencies and reconfigure settlements towards livable densities, they are truly ideal spaces for fostering community among adults and kids. The urban fabric of home-grown and incrementally developed settlements have similar characteristics to Europe's medieval cities which are cited as some of the most livable areas.

The side-by-side jostling of temples, carpentry shops, restaurents, boutiques, schools, salons, groceries, roadside hawkers and residences found in Mumbai's settlements creates the vibrancy of a mixed-use neighbourhood that planners are rarely able to replicate within designed neighbourhoods. That this mixed-use is built close to the ground and opening out onto the street, establishes a level of safety not often found in Mumbai suburbs and definitely missing from the slum rehabilitation projects.

The urban form of Dharavi has more in common with European cities celebrated for their walkability and livability, than the proposed Redevelopment Plan. A truly inclusive development plan integrates infrastructure within an urban form that serves the community's needs.

All satellite images from Google Earth

A development model that seeks to replicate the advantages of community interaction and safety will choose to preserve numerous aspects of the settlements' urban form rather than wiping them out entirely. The focus of such a development paradigm lies in identifying existing infrastructures and creating strategic institutional collaborations - public, private, or non-profit - to improve the community's standard of living.

Dharavi, for example, has an existing network of schools, community centers, and hospitals. There are a number of open maidans that are ill-equipped to accommodate the demands of Dharavi's children. The children improvise well with the lack of public spaces by spilling out their activities on the streets and reclaiming unused corners into 'public squares' and 'playgrounds'. There are a number of tactical ways to supplement these practices and spaces. But only a strategic agenda to create a network of public spaces can turn improvised moments of play into a tight-knit environment for growth and learning. By intelligently redesigning the residual spaces, assigning permanently pedestrian streets to strategically connect these spaces and organizing essential services around public spaces, we can move towards a development paradigm that puts community first. If successfully implemented, we may transform Dharavi into one of the most ideal neighbourhood for children in the city!

Such a vision provides a compelling counter-narrative to the 'world-class' Dharavi Redevelopment approach that turns Dharavi into another generic suburban development with wide, fast-moving avenues and achieving density by uprooting residents from the ground into tall towers. We ought to imagine more diverse and inclusive development strategies that reconcile the standard of living with quality of life.
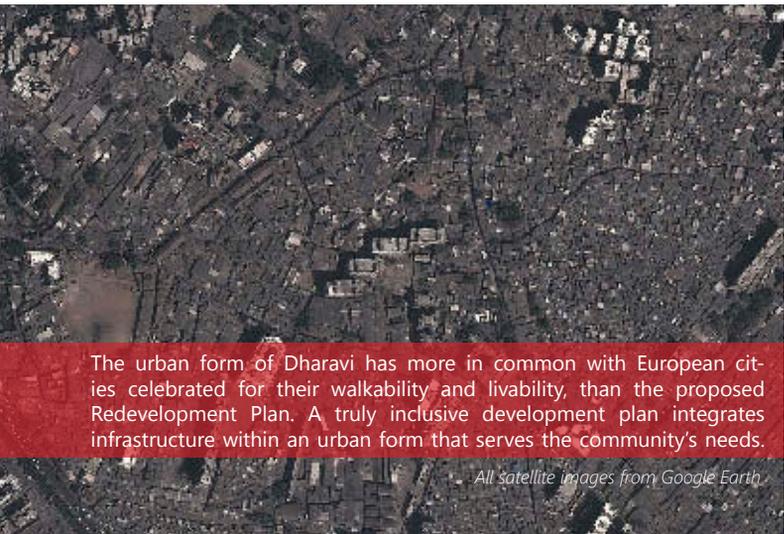
Tactics

> " [Tactics] are clever tricks of the 'weak'...[A tactic] takes advantage of 'opportunities' & depends on them...It must vigilantly make use of the cracks that particular conjunctions open in the surveillance of the proprietary powers...It creates surprises in them. It can be where it is least expected. "
>
> - Michel de Certeau
> *The Practice of Everyday Life*

Tactical urbanism is essentially how the informal city is built - step-by-step, piece-by-piece. In this section, 'tactics' will be defined as the act of finding opportunities within the fabric of existing structures to improve the practice of everyday life.

Improving the livability of cities begins at the street, building or block scale. Incremental, small-scale improvements go a long way towards developing a sense of community identity and belonging. Even within the dense and complex environs of informal settlements, there are ample opportunities and residual spaces that can be transformed through simple but good design. The innovations highlighted here work squarely within the material, logistical, and skill constraints of the community.

The tactical projects highlight easy-to-implement projects that are small but transformative. These projects may involve an 'expert' input at first, but the initial success ought to be replicated by the community without any institutional support or expert knowledge. This approach allows a network of local actors to test new and simple concepts that are likely to succeed. The following examples demonstrate that local networks are able to

Images source: Design Other 90 Network

Favela Painting Project: Two artists worked with local youth to transform a favela and its community center

Lighter, Quicker, Cheaper
(from Project for Public Spaces[20])

Lighter, Quicker, Cheaper projects quickly translate a community's vision into reality and keep momentum moving. Ideas can be efficiently implemented, assessed, then tweaked and customized based upon a community's response. A group of individuals can transform underused spaces into exciting laboratories that citizens can start using right away and see evidence that change can happen. These interventions build a shared understanding of a place that goes far beyond the short term changes that are made.

achieve a lot towards the improvement of their own areas. By defintion, 'tactics' operate outside the realm of the institution and are used by constituents with less agency and resources. For Mumbai, tactics are a pragmatic way to intervene in a city where institutional stasis has only led to inaction. If the informal city lies outside the 'jurisdiction' of the municipality due to lack of services and oversight, they are also ideal spaces to experiment with a more purposeful tactical urbanism - one that introduces a simple but catalytic insertion into the urban fabric, or the reclamation of residual space with intelligent design. It is important that the interventions can be execute by individuals, a collective, or non-profit organizations with little institutional support. If the community and the collective can bring together more resources, it may be possible to network the tactical interventions towards a larger strategy that represents a phased but deliberate approach towards real change.

The point of starting small is to demonstrate successes without depending on bigger stakeholders or a change in policy. However, these successes can make a very strong case to policy-makers for greater allocation of resources towards in-situ self-development. In the end, a tactical project is about *making* something – even something temporary – that will change how a place works and is perceived. Once that change has been made, the challenge is to figure out how it can be made permanent.

Favela Painting Project — Rio

Favelas ring Rio de Janeiro's hillsides, and many of their residents still experience clashes between police and the gangs that control the neighborhoods. In 2007, Jeroen Koolhaas and Dre Urhahn, of the Dutch partnership Haas&Hahn, created the Favela Painting Project to bring art and beauty to the built environment. Haas&Hahn were successful in driving international media attention to the need for improvements. In 2010, they employed local youth to paint murals over 7,000 square meters (75,000 sq. ft.) of the public square, thirty-four surrounding houses, streets, and the interior of a popular samba studio in the Santa Marta settlement.[21]

Images source: Design Other 90 Network

Ashar Macha — Dhaka

Korail, a slum in Dhaka, Bangladesh has a rapidly growing population of 12,000. Public space is rare and children here are forced to play in the narrowest of open spaces. Collaborating with Korail's Pervez family, Architect Khondaker Hasibul Kabir designed and built the Platform of Hope to give Korail's children a safe and clean place to play. The 5.5x11 meter platform extends over the local Gulshan Lake with a bridge connecting it to a community garden. Families also gather on the platform to discuss local problems, facilitating change in their surroundings. The platform and garden have generated hope for a cleaner and greener Korail.[22]

Images source: Design Other 90 Network

Garden in a Sack   Nairobi

Following the 2008 post-election violence in Kenya that destroyed food markets and caused food prices to soar, the French NGO Solidarités International designed the low-cost urban gardening system. Garden-in-a-Sack. The gardener fills an empty sugar sack with soil and manure and uses small stones placed down the center for drainage. Holes are cut in the sack to plant vegetable seedlings, such as kale, spinach, and onion. The sack gardens have many benefits, including improved food security, diet diversification, development of social cohesion, and the empowerment of women and marginalized groups.

The gardening system is targeted toward 20,000 households throughout Nairobi's slums. Sixty communities throughout Nairobi have now adopted this technique with over 55,000 individuals using Garden-in-a-Sack. By using Garden-in-a-Sack, a household can on average harvest enough vegetables to provide for four meals a week. Additionally, forty of the communities using Garden-in-a-Sack have been able to sell excess vegetables earning them modest incomes.[23]

Image source: Urban Agriculture Magazine

Kibera Public Space Project


Images source: Design Other 90 Network

Kounkuey Design Initiative (KDI) is a nonprofit design firm formed in 2006 that designs and builds physically, economically, and socially sustainable public spaces in informal settlements. KDI developed Productive Public Spaces (PPS), which use unoccupied waste spaces to address the problems within communities such as inadequate sanitation, environmental hazards, and income generation.

In Kibera, a major slum in Nairobi, Kenya, KDI converted a former waterlogged dumping site located on a highly polluted Ngong River tributary. The PPS features amenities and opportunities for microenterprise. For example, community refuse is turned into compost for sale to urban farmers and pavilions double as drying racks for water hyacinth that are woven into baskets and sold at market. The space also houses a public park, playground, rainwater-fed water tap, and a new bridge across the tributary that shortens commute time.

Several other community-based sites along the same river form a network that creates a larger watershed

Barrio Public Space Project

and settlement-scale impact. The second PPS space includes a sanitation centre that replaced toilets that drained into the river and set up a playground and park. The third site is at the bottom of a steep slope, into which sewage and waste drain. In response to residents' needs, the site provides flood control and improved drainage. It includes toilets, a water tap, playground, daycare, meeting hall, and a women's health clinic expected to serve 500–800 residents.[24]
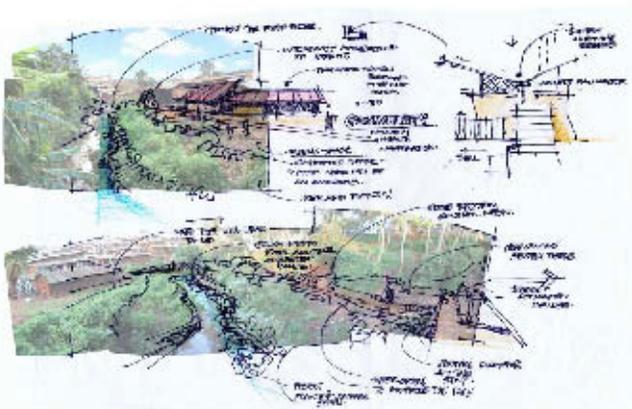
In Caracas, Venezuela more than 80% of the population lives in informal settlements, called "Barrios." Sucre, one of five Caracas municipalities, contains some of the largest and densest barrios in Latin America. Petare, the densest parish in Sucre, has 10 inhabitants for every square meter and La Dolorita, another Sucre parish, contains 5.88 people for every square meter. Due to overcrowding and lack of space, these barrios have no safe, clean, and adequate public green spaces. In Sucre, there is only 1.67 m^2 of green space per person, well below the required 10 m^2 each person should have access to. Within La Dolorita there is only .01m^2 of public green space per person.

Seeing the dire need for inviting, green community spaces in Sucre, the Barrio Public Space project reclaimed dilapidated public spaces throughout the La Dolorita barrio. The design of the Barrio Public Space Projects seeks to unify the community's children and adolescents, redrawing real local spaces that can be endowed with activities to meet the need of the area's citizens. The development strategy was to produce low cost, low maintenance, comfortable, high impact, and high quality spaces - places where children could play, teens could meet, and adults could talk.

The architects of the project collaborated with the Oficina de Programas Especiales de Muncipio, or the Office of Special Municipal Programmes, in setting up the network of public spaces that integrated the informal sectors of the barrios and the urban system. In reclaiming these public spaces it was necessary to understand that the inhabitants of the barrios have more pressing needs that they try to meet, decreasing

Caracas

> ❝ Public architecture is symbolic of how society views itself. That's how people want to view themselves – in beauty and dignity. It's something that empowers them. ❞ – Architects of Barrio Public Space

the focus and prioritization of public space.

In understanding this, a feasible solution to rapidly tackling the lack of public space was made. The economic and environmental circumstances of the community also had to be taken into account, ensuring that the space could be affordably created and maintained. For instance, due to water scarcity in the area, the architects were forced to limit the number of plants introduced to the refurbished project land areas.

With the amount of foliage minimized, the landscapes lacked natural color. To make up for this the architects painted the space's facades with bright colors and simple designs. Local artists and students also established their presence through their own murals. One of the parks, located in the Los Bloques sector of La Dolorita, was built on a site with several abandoned buildings. This space was chosen because it was otherwise conducive to delinquency and illegal practices. The site is representative of the other Barrio Public Space project parks, with brightly colored murals, playground equipment for children, and open space for adults to convene.[25]

Images source: Design Other 90 Network

Strategies

"For me, political work has always had a major pedagogical connotation...Parks and libraries, schools, the science park, the botanical gardens, centres for reading and music. All this revolved around education understood in a broad sense. We have built new symbols, new spaces, where social mobilization can take place around architecture as a powerful social expression."

- Sergio Fajardo
Former Mayor of Medellin

As developing countries around the world hit unprecedented rates of urbanization, many city governments in Asia, Africa, and Latin America struggle to accommodate the needs of a growing migrant population within formal, institutional mechanisms. Thus, self-built settlements have become the fastest-growing urban typology in the last decade. Today, more than 30 percent of the urban population live in slums. In developing countries, where rates of urbanization are highest, the percentage can be more than double.[26] It is therefore no exagerration to suggest that we are living in a 'planet of slums'.

In the face of such insurmountable growth, the governments of cities like Rio de Janeiro, Sao Paulo, Caracas and Medellin have taken a pragmatic approach towards the presence of informal neighbourhoods or 'favelas' - a nuanced approach that brings services to the favelas instead of demolishing them. However, this pragmatism took hold only after a long history of slum clearances, public housing projects and sites-and-services schemes. Current approaches towards favela redevelopment can be characterized as 'urban acupuncture'.[27] Such a strategy aims to minimize displacement while improving conditions in the area by focusing on the

Libraries, parks, and stair-plazas are some components of Medellin 's strategy to integrate their informal cities

essentials: infrastructure, public services, and spaces.

As a result, the most innovative efforts to address informal settlements are demonstrated by cities in Latin America. We are seeing the rise of spectacular museums in marginalized neighborhoods, cable-car and escalator systems in remote settlements, and library parks and vertical gymnasiums in depressed settlements. Fundamental to this strategy is a belief that the favelas represent the hopes of many to gain a foothold into the city and find a path out of poverty. Thus, favelas are seen as integral components in the development of an inclusive city that can provide opportunities to the poorest to the best of the government's ability.

The pragmatism of this approach lies in the fact that infrastructural upgradation costs considerably less than the total demolition of existing settlements and the subsequent delivery of social housing. By dedicating itself solely to the delivery of services and infrastructures, more resources are channeled towards the quality of the final product. In Medellin, this resulted in the most iconic library within one of the poorest

favelas. By channeling resources towards a network of catalytic interventions and innovative infrastructural additions, the projects reveal a sophisticated approach towards the design of public institutions and a multi-sectoral attitude towards the design of infrastructure that integrates the delivery of essential services with the expansion of public spaces.

Comprehensive development projects that integrate housing, sanitation and social policy are understood as a broader effort towards maximizing the 'right to the city'. These projects empower self-construction as a legitimate way for building city systems. Neighbourhood upgradation is therefore seen as a collaboration with local networks partnering up in the effort to improve the community.

By citing these examples as a precedent for Mumbai, the hope is for the city's governing bodies to be both, pragmatic in limiting their scope of intervention to delivering services rather than comprehensive resettlement solutions, and visionary in taking on the task of embarking on a truly inclusive development strategy.

Images source: Urban Think-Tank

Limited land and high crime rates in the dense informal settlements and slums of Caracas make it unsafe for children to play and participate in sports. In seeking to give informal settlement communities safe places of recreation, local architects at Urban Think-Tank created the Gimnasio Vertical (Vertical Gymnasium) prototype, a prefabricated construction system that transformed a rundown soccer field into the four story Chacao Vertical Gym in the La Cruz barrio.

The vertical structure of the gym provides a recreational and cultural events facility without encroaching into surrounding properties. The Vertical Gymnasium congregates numerous sport activities in the same space in order to meet the necessities of both serious athletes and the general public. The design features facilities for various sports, including volleyball, martial arts, track and field, weight lifting, and basketball. Constructed in 2003, the gym built up on the original 1,000 square meter soccer field and contains a dance studio, weight room, running track , rock-climbing wall, open-air soccer field, and basketball courts.

The first of its kind, the popular gymnasium attracts 15,000 visitors a month. The La Cruz gymnasium has helped to reduce crime in the barrio by over 30% by offering a safe, open space that nurtures fair play, tolerance, and a civic community through sports competition. Another Vertical Gym was built in the Barrio of Santa Cruz del Este in 2006. The challenge for this gym was to introduce the prototype to new sustainable technological designs.

> **"**What was once an abandoned basketball court was transformed into a fitness complex with basketball courts, a dance studio, a running track and an open air soccer field! We took a cue from barrio residents themselves who find innovative ways to expand, and mobilized upwards.**"**
>
> *- Urban Think-Tank, Architects of the Gimnasio Vertical prototype*

The new prototype incorporates the use of recyclable materials, wind towers, solar panels, and rain water collection. The Vertical Gymnasium has also been introduced in the barrio Los Teques. The Los Teques gym is a new iteration of the original Urban Think-Tank prototype. This location is designed according to international standards of sport activities for people with reduced mobility and includes a 50-meter long swimming pool and seating for 500 spectators.

Another vertical gymnasium in Ceiba incorporates a library and metrocable station and the El Dorado gym includes space for informal vendors. Based on the initial Chacao design, Urban Think-Tank has developed a building system kit of the prototype parts, which allows flexible design and construction. Stacked volumes are reassembled and programmed for different locations in response to local needs.[28]

Integral Urban Project

Image source: GUTTLAB

Images source: Design Other 90 Network
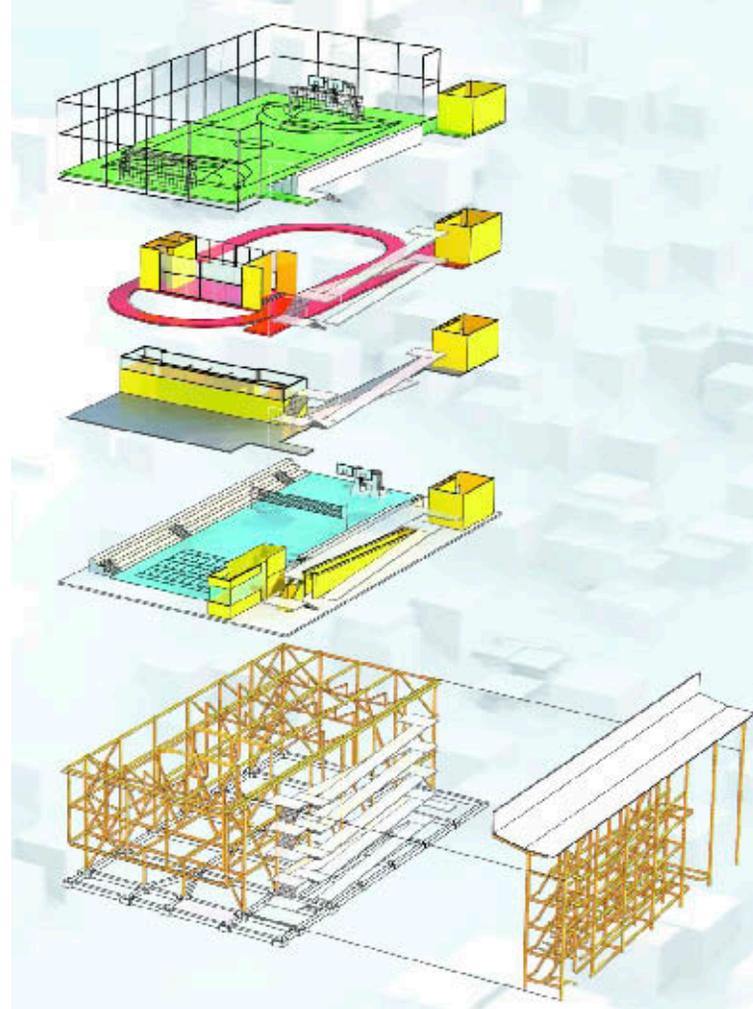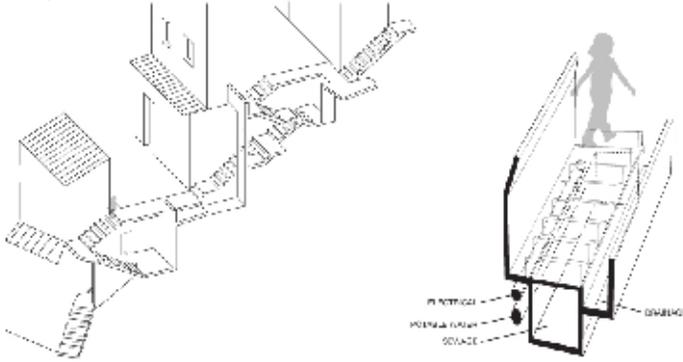
The city of Caracas is situated in a valley, and its informal settlements ring the steep mountain slopes surrounding the central city. La Vega is one of the largest, with a population of 95,000 living within 3.9 square kilometre.

Working with the San Rafael-Barrio Unido community in La Vega, a team of architects, engineers, a road designer, and a geologist assessed the settlement's conditions. The architects, Proyectos Arqui5, concluded that the vertical typography (with steep slopes higher than 50% or 2:1 run-to-rise) was the determining condition, limiting accessibility, services, and public spaces.

Based on community-established priorities, the team devised the Integral Urban Project to help solve the main challenges. First, a new road system was designed, with one main road around the top hills and a secondary road connecting smaller streets, which allowed better access to public transportation and circulation. The existing pedestrian walkways were a series of resident-built stairs, narrow in width, with variable step size, no handrails, high slopes, and no stairs higher up the hill. To connect neighborhoods and improve residents' daily commute, the team designed a network of stairs which incorporated basic services such as electricity, drainage, sewer, gas, and water. Every spare space was integrated into walkways, and public landings inserted at intervals acted as new spaces for social interaction. Most important, families were able to remain in their homes, which was critical to maintaining social cohesion.[29]

Diadema Reurbanization

Diadema, near São Paulo, is an industrial city with close to 400,000 residents that has successfully upgraded—or, in the words of former mayor José de Filippi Jr., "reurbanized"—its informal settlements. In the early 1980s, three out of ten Diadema residents lived in favelas, and by the 1990s, homicides had increased 49 percent from previous years. In 1983, 30 percent of Diadema's population lived in slums. Those living in Diadema's slums had no land tenure security, their land was subject to flooding and landslides, and there was no sanitation. During this time only 20 percent of the streets were paved, and the district had the highest infant mortality rate in all of Brazil.

Following the mayoral election of 1983, which put in place representatives of the Workers' Party, the Slum Upgrading Project took place. The goal of the project was to turn the informal settlements of Diadema into part of the legal city giving the residents an official address, a citizens' right that recognizes their social identity. As the Workers' Party held six consecutive terms in the Mayor's office, the homicide rate has dramatically reduced over the last 30 years. By 1996 infant mortality and unemployment rates had drastically decreased and 90 percent of the streets had been paved.

The determining factors in the success of the Slum Upgrading Project was the political and administrative party continuity and the administration's involvement and discussion with active participants from the community. The initiative took into account what development had already occured in the community. The adminstration reorganized, restructured, and "reurbanized" the slums from what was already there,

*Images*Instituto Diadema de Estudos Municipais, 2011.

"
We understand that the right to housing goes beyond the plot, the access to basic sanitation and the building itself: it should be directly connected to the right to the city, which must be understood under the broader scope of sustainability, democracy, equity and social justice.

- Marina Amaral, *Diadema and the Informal City*
"
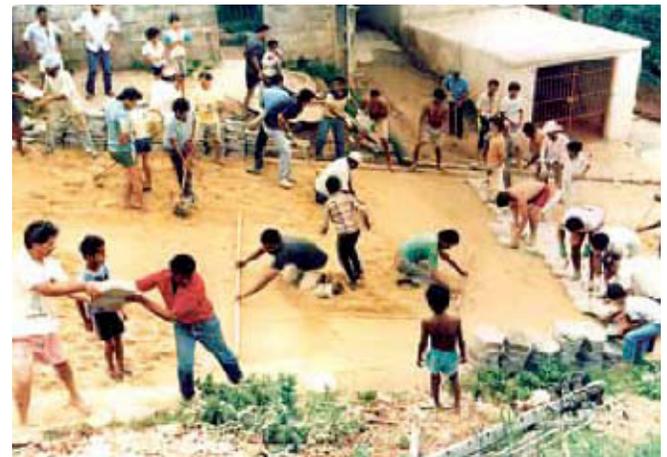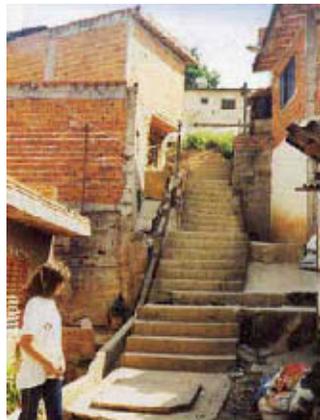
allowing the residents to remain in their homes. The initiative set up a democratic housing policy that encouraged popular participation, administrative decentralization, and discussion regarding property rights and the state's obligations. Through the Slum Upgrading Project the Real Right of Land Use Concession was created. The Concession allowed the residents to continue living in their present dwellings for 90 years.

All improvement efforts focused on social and physical inclusion through participatory budgeting and planning. The community helped determine priorities for the annual budget, "distributing resources in a democratic way." The community also had a voice in reurbanization meetings with architects, engineers, and social workers from the Housing Secretariat, suggesting upgrades and approving projects on work, part of which was performed by community members themselves.

Households located in unsafe locations were cooperatively relocated into new housing built in partnership with the municipality. As a result, of the 90-year "right to use" granted by the municipal land-tenure program, residents felt encouraged to improve their homes and neighbourhoods. Residents widened and paved narrow streets and built clean water and sanitation access to the neighborhoods. State-of-the-art hospitals such as the Quarteirão da Saúde, completed in 2008, provide quality healthcare to the city's poorest residents, and community health agents deliver aid to the most vulnerable residents. Today, only 3% of Diadema's residents live in favelas.[30]

Project for Urban Integration

> " The first step toward quality education is the dignity of the space. When the poorest kid in Medellin arrives in the best classroom in the city, there is a powerful message of social inclusion...We reject the paradigm that, when it comes to the poor, any little thing will do. "
>
> - Sergio Fajardo
> *Former Mayor of Medellin*

Medellin has become a poster-child for urban transformation and a model of inclusive social development for developing cities around the world. Yet, a little more than a decade ago, Medellin struggled with high crime-rates and drug-related violence. In 1992, the city was ranked as one of the most dangerous cities in the world. Medellin set an important precedent for planning with a holistic social development agenda. While traditional planning in India operates on a 'fire-fighting' mode where specific solutions are devised for problems as and when they crop up, Medellin devised a city-wide agenda that utilized architecture and planning as a tool for social development.

Crucial to the success of the Medellin's transformation was the presence of three visionary mayors - Luis Perez (2000-2003), Sergio Fallardo (2003-07), and Alonso Salazar (2007-11). Under the administration of

San Javier Library Park
Photo credit: Quilian Riano

Images source: Municipality of Medellin

Mayor Sergio Fajardo, many important interventions came up in the poorest neighbourhoods of Medellin. Central to his development model, was the agenda to make Medellin "the most educated." Fajardo implemented projects that reflected his interest in improving the education system through new schools and libraries parks with high architectural value, symbolizing a "New Medellin." His aim was to recover the marginalized areas of the city through 'Social Urbanism,' which means addressing the injustices of traditional urban development and the culture of violence plaguing the most vulnerable constituents would via cultural development and infrastructural improvements.[31]

The topography of Medellin limits the space for development requiring innovative alternatives to solve problems of mobility. For example, the "Metro Cable" came from the need to connect informal settlements in the upper parts of the city with the metro system at the lower valley near the river. This reduced the travel time from more than one hour down to just ten minutes. Another project that highlights efficiency in mobility is a network of public electrical escalators at the most inclined parts of the commune. These public infrastructures help connect informal settlements to sources of livelihood while transformative public institutions are placed at the nodes of these mobility solutions.

A development strategy can only be holistic if the public institutions are strategically connected by infrastructure. The successful implementation in Medellin can be credited to both the well-designed institutional hierarchies as well as strategic public-private partnerships founded on robust grassroots network. The implementation of the city's urban development is headed by an over-arching

IThe iconic España Library
Image source: Municipality of Medellin

Urban Development Corporation of the Municipality of Medellin. This organization has become extremely important to design, manage and imple ment various urban and architectural plans through joint inter-sectoral and interagency coordination. Specific plans are executed through the Integral Urban Project, the Land Use Plan and the Master Plan for Green zones. The Master Plan has created a "Structuring Axis" for macro projects that become catalysts to smaller public space projects and infrastructure interventions around a specific area.[31]

At the local level, businesses, community organizations, and universities also worked together to fight violence and to modernize Medellin. Transportation projects are financed through public-private partnerships; engineering firms have designed public buildings for free. In addition, Medellín is one of the largest cities to successfully implement participatory budgeting, which allows citizens to define priorities and allocate a portion of the municipal budget. Community organizations, health centers, and youth groups empowered citizens to declare ownership of their neighborhoods. Thus, the transformation of Medellin has been achieved through a concerted effort of city-level agencies as well as empowered local networks.

Lessons from Latin America

It is naive to imagine that the success of projects listed above will easily translate to the context of Mumbai. However, informal cities around the world struggle with similar issues of access to infrastructure and opportunities, although in varying degrees. In this regard, the successes in Latin America is a valid source of inspiration even if there are fundamental differences in the governing structures and the political will. That infrastructural interventions have mollified a climate of fear by reducing serious social issues of crime, drugs, and other forms of violence should be encouraging to India's development agencies. Unfortunately, the biggest fear of slum residents in Mumbai are the demolition bulldozers from the government itself.

In India, the dominant state attitude towards settlements is antagonistic. This leads the state to simply identify and notify settlements for demolition or 're-development' based on the very outdated notions that the Latin American states have eschewed. The success of a city-wide slum upgradation project depends on the key understanding that not all settlements can be handled the same way. The most vulnerable ones need to be identified and relocated, nascent proto-slums need a comprehensive development strategy, but some neighbourhoods have developed an ecology of socio-economic networks and home-grown solutions that can not only be preserved, but utilized towards a self-development strategy. Institutional awareness of nuanced ground realities is the foundation on which a progressive policy for redevelopment stands. Favelas in Latin America have been fortunate to benefit from the efforts of successive governments to understand their context and bring relevant services to them.

It is also important to set up the social and political frameworks behind the architectural and infrastructural interventions. A truly inclusive development model couples good ideas with sound social and economic policies. In the case of the Diadema Reurbanization, the success of the neighbourhood upgradation depended on a financial strategy that ensured existing residents could afford to stay on. Medellin's Urban Integration Project operated under a social agenda to improve accessibility to sources of education, livelihood and public space. The problems of the informal city are complex and therefore require solutions that can be sustained over a long period of time. The neighbourhood of Diadema needed the continued support of three progressive governments, while the city of Medellin found many committed networks operating under an effective mayor. Unfortunately, Mumbai has neither the political will or a political authority to replicate the Latin American model easily.

The city mayor is politically weak by design. The political structure in Mumbai is notoriously ineffective as various authorities like the city municipality, the metropolitian development authority and the state government jostle for control without the guidance of a strong city-level authority. Top-down projects have a poor track record in reconciling the gaps between the formal and informal city. While the principles of development in Latin America are more relevant to the future of Mumbai's informal city than our wishful imaginations of a 'slum-free' Shanghai or Singapore, the strategies to implement similar successes here will be radically different. Mumbai needs a new set of principles to guide a truly inclusive development model.

Design Principles
for [re]Development

The examples of tactics and strategies from the developing world make a strong case for design interventions that work within the social and spatial fabric of informal settlements. For Mumbai, I will make the case for two design principles that can guide the success of similar interventions here. The first principle - Child-friendliness - operates as an indicator to evaluate current conditions and devise tactical, strategic, and policy solutions towards the health and well-being of children. The second principle - Homegrown Networking - calls for the implementation of development strategies by utilizing the skills and networks within the community via new forms of institutional-grassroots collaborations and design solutions that operate within the fabric of the neighbourhood.

1. Child-friendliness

India has the highest number of below five death mortality, ranks number one in death due to diarrhoea and respiratory diseases indicative of the living conditions in a child's life.[32] Lack of sanitation, poor waste management and unhygienice drinking water within informal settlements increases children's vulnerability to these diseases and impedes their growth and development. Child-friendly spaces refer to environment specially designed for children which they can use easily with no risk to their health or life. For Mumbai, a vision towards child-centric design emphasizes the need to radically improve the infrastructure for sanitation, health and education.

Children are most vulnerable to the environmental and health risks associated with congestion, open defecation, and dirty water, yet they are the most overlooked constituents and never considered stakeholders in the planning process - participatory or otherwise. Child-friendliness is a comprehensive indicator for identifying the vulnerability and unhealthiness of informal settlements - creating a standard that accounts for lack in physical factors without overlooking the social factors that also play an important role in their well-being. The adoption of child-friendliness as a central mandate for policy-making also allows us to identify the weaknesses of existing slum rehabilitation policies. Current rehabilitation schemes uproot children from the social capital of their communities into spaces that lack diversity, safety, and opportunity.

A child-centered city, according to canonical urbanist Chrisopher Alexander, would provide a diversity of housing typologies that suits every variation of family make-up.[33] Ideal city neighbourhoods that are safe for children are typically diverse multi-use environments where restaurants, markets, playgrounds, and schools fill in urban spaces and the roads are free of fast-moving traffic. Children's cities should offer a balanced level of density, in which people interact with the natural world as frequently as they interact with one another. This density sweet spot remains closer to the ground. As discussed before, all these characteristics are present in most informal settlements.

However, the lack of basic services and infrastructures that lead to trash-filled streets in some of Mumbai's settlements nullify the potential for these sites to become nurturing environments for growth and play. By placing children as the focus of our planning and design processes, we will be designing for those who are the most vulnerable. In doing so, we will have devised solutions that are guaranteed to meet the needs of the young as well as the old and everyone in between. A neighbourhood that improves the ability of children to move and play freely while growing up without health risks is also one that is safe for women and accessible to the old. Thus, child-friendliness is a universal design principle that can make our cities great for everyone is.

2. Homegrown Networking

If child-friendliness is a principle that acts as a compass to determine how holistic and inclusive a development solution actually is, home-grown networking is the means with which those solutions can be implemented. In a city where governing bodies and formal structures have failed residents of the informal city so badly, home-grown networking is a move towards creating grassroots-institutional collaborations that weigh heavily towards the ability and ingenuity of local actors.

The very existence of the informal city is both a testament to institutional neglect and the ingenuity of grassroots network which enables the informal city to function. From housing, to water connections, to credit, to livelihoods - many essential services that are not delivered by formal institutions - are offered by local contractors, micro-entrepreneuers, informal lenders, and the informal industry. Not all the informal networks are wholly beneficial - providing services at a marked premium (private lenders, and private water-tankers for example) or job opportunities that are wholly exploitative. However, the informal network for housing is the only reason more than half of the city can afford to live in the city! These networks are the most familiar with the legal, logistical and material boundaries of any neighbourhood. Therefore, the success of public space interventions within the fabric of informal settlements and even the successful implementation of an alternative development strategy requires extensive conversations with these local actors.

In Mumbai, through a combination of local intervention by private contractors, civic involvement and public interventions, a majority of unplanned settlements have access to water and basic sewerage and roads. A comprehensive development strategy based on retrofitting will be logistically impossible without collaborating with local contractors. The next section will highlight the role of local networks in providing housing. It will demonstrate why collaborating with home-grown networks is key to the success of inclusive development strategies and why these local actors are the most important stakeholders after children.

Home-Grown Inc. and the SRA

How the informal network of micro-entrepreneurs thrive in the vacuum of a dysfunctional state policy

Affordable housing shortage in urban India: 27 million units [34]

Affordable housing units built by the government between 1997 - 2002: ~500,000 units [34]

Self-constructed units built informally between 1997 - 2002: 8.5 million units [34]

Any conversation on 'public space' in the informal city is already a step ahead in acknowledging their rights to the city. But the current government and the public perception of the informal city does not favour such a view. The stigmatization of 'slums' is the biggest obstacle towards any meaningful intervention within the informal city. As previously emphasized, the informal city exists in gradients of informality. Not all settlements can be defined by their "illegality", lack of urban services, precarious construction methods, or "free" places to live. Moreover, they cannot be defined as communities of misery or chronic poverty. Yet 'slums' are identified, notified, and demolished everyday.

'Slums' are often identified through active lobbying by communities, landlords or developers. Today, it is profitable to declare a site as a slum as such sites get a higher FSI of 4 (to be consumed on redeveloped site) against the base FSI of around 1.33 in the rest of the city. The fact that 'redevelopment' in Mumbai is hardly democratic or successful is exemplified by the Slum Redevelopment Authority (SRA).

SRA's Slum Rehabilitation Scheme allows private developers to provide 'free' housing to 'recognized' slum dwellers (who can prove residence prior to 1995). Developers are allowed to sell extra units at

Panorama of demolished hutments along Vakola Nullah at Bharat Nagar | Photographed by author

market rates on the redeveloped sites and are further granted 'transferable building rights' which allows them to transfer the extra FSI to more lucrative market zones. It operates on the assumption that the profits from extra FSI will incentivize private bodies to tackle Mumbai's affordable housing shortage entirely. This kind of privatization has led to a complete lapse in accountability.

Projects built through the SRA scheme are some of the most shoddily built structures that are often abandoned because of the sub-standard construction, lack of infrastructures and access to jobs. The current scheme allows redevelopment by relegating the urban poor to the peripheries of the city. This indirectly aggravates poverty by imposing increased transportation on unskilled and informal workers.[35]

The failure of successive governments over the decades to provide for the housing needs of the middle and lower income groups is the single biggest cause of the the rise of informal settlements in the city today. The solutions for affordable housing offered by the state is not only based on flawed assumptions but is further compromised by institutional dysfunction. Given the pattern of rampant corruption that has historically compromised public space proposals and affordable housing projects, there is little reason to believe that the same governing processes that led to the rise of the informal city can alleviate its problems. With more than half the city living in self-built housing, is it more realistic to work with the prolific members of the informal network or hope that the government finally wakes up to its social housing mandate?

> " The freedom to make and re-make our cities and ourselves is, I want to argue, one of the most precious yet most neglected of our human rights. "
>
> - David Harvey, *"The Right to the City"*
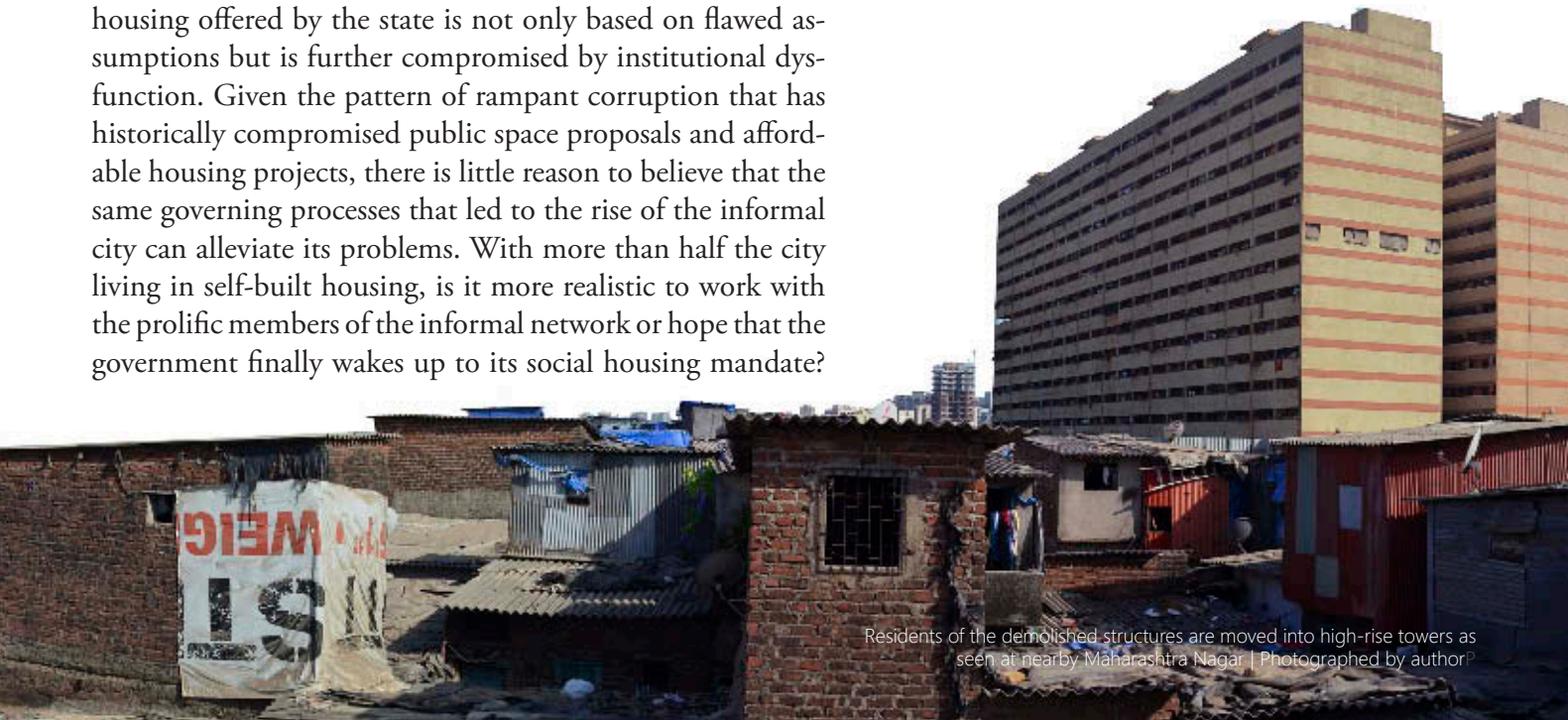
Residents of the demolished structures are moved into high-rise towers as seen at nearby Maharashtra Nagar | Photographed by author

> **"** In many countries in the world, squatters are a majority in the city. I believe that these neighbourhoods are the neighbourhoods of the future. That doesn't mean that they have to stay without public services. It means that we have to find a way of bringing public services into these communities. **"**
>
> - Robert Neuwirth, *Shadow Cities*

Number of units planned under SRA scheme: 2 million

Number of units built: ~400,000

Area offered by SRA to 'slum' household: 225 sq ft

Homegrown settlements can range between 200-1,000 sq ft accounting for household size, live-work lifestyles, and flexibility to rent out or expand.

Local Contractors at work in Bhandup | Image source: URBZ

According to a former MMRDA Chief Planner, for the median income of Rs 12,000 a month in Mumbai, affordable tenements should sell at or below Rs 600,000 which is 48 months of median household income. As property rates around Mumbai have more than doubled in the last 5 years, a formal housing solution within the Greater Mumbai area becomes more distant for the urban poor. Thus, residents in home-grown neighbourhoods depend on local contractors to replace their self-built shacks with brick and concrete houses. Many settlements like Dharavi, Shivaji Nagar and Bhandup, have developed ingenious informal networks of local entrepreneurs, contractors, and labourers to ensure the delivery of raw materials and the subsequent construction of a 2 to 3-storey concrete structure. Local contractors are able to raise a three-story walk-up apartment within 28-40 days for a price range of Rs 250,000 to Rs. 600,000. Even MHADA houses for Low Income Groups are priced at Rs 10L and above. In the private market, not even apartments in the far-flung areas of Dombivili or Kalyan are priced at less than Rs. 10L.
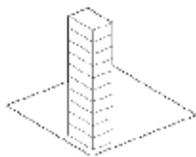
As with all informal networks, the system offers the flexibility to pay in installments. The contractor will charge part of the total amount before the foundation is built and then ask for small installments when the columns go up, then the walls, then the next floor, and so on. Large investments in the informal city are almost always made incrementally due to lack of a formal credit system. These transactions dispel the notion that 'slum residents' demand free housing when

> " The residential tower is a lazy architect's answer to density. My interest is in 'cities for people' not 'cities for developers'. "
>
> - Jan Gehl, *"Cities for People"*

in fact considerable investments go towards their homes. Demolishing their investments and offering a one-size-fits-all solutions to every household is not doing anyone a favour. Residents in informal settlements always pay for their space, whether in the form of rent, or through investments towards their own home. They often pay a premium for basic services like water and will not hesitate to contribute towards a more quality housing solution. At this point, however, only local contractors offer quality housing at a price they can afford.
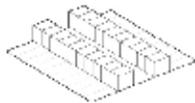
Quality control in home-grown housing is ensured more through social controls rather than a regulatory framework. Since contractors are a part of the community, his business depends on the trust and recommendation of his local clients. This makes his operation more accountable than the state or any private developer. The local contractor, is therefore, a key actor within the community, aware of the legal restrictions, the material and logistical limitations, as well as the technically skilled members of the neighbourhood. Any meaningful intervention within the fabric of informal settlements has to engage the local contractor. Yet, very few government institutions engage with this key stakeholder.
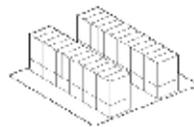
High-rise tenements at Lallubhai Compound, Govandi
Photographed by author

Image source: GUTTLAB
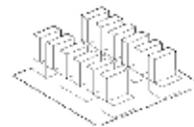

Tower
non-expandable
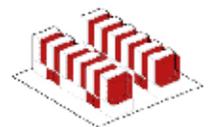greater than 2 leaks.

Single Family
insufficient density

Row Houses
expansion impedes on light and air
insufficient density

Two Levels
rowhouses stacked on garden flats

Porosity
allows expansion
maintains density

Expandability
future additions

As urban India reels under an affordable housing shortage, informal networks emerge as the most prolific builders of affordable housing. Yet, the current conversation on 'slum' redevelopment dismisses the ability of many neighborhoods to produce their own solutions.

Having said that, we also have to accept the limitations of self-built neighbourhoods to provide for everyone. Neighbourhoods that are under-served by the municipality are rarely able to organize solutions for sanitation, sewage and solid waste themselves. It is however, possible to leverage the communities' ability to self-build as an asset to embark on infrastructural projects enabled by new forms of institutional support and access to capital. The challenge is to find an inclusive and accountable framework that can empower grassroots network to improve public services through a more beneficial collaboration with state agencies.

This way, we can move away from a development strategy where the government funds and delivers a complete system for free, towards a strategy that engages the residents of the informal city as collaborators and investors in their own development.

OVERVIEW OF CONSTRUCTION PROCESS.

Documentation of a locally constructed house in Bhandup shows the completion of a 3-storey walk-up apartment in brick and concrete within 60 days - a construction pace that will amaze most architects.[36]
Image produced by: Rahul Srivastava and Matias Echanove from URBZ

DAYS
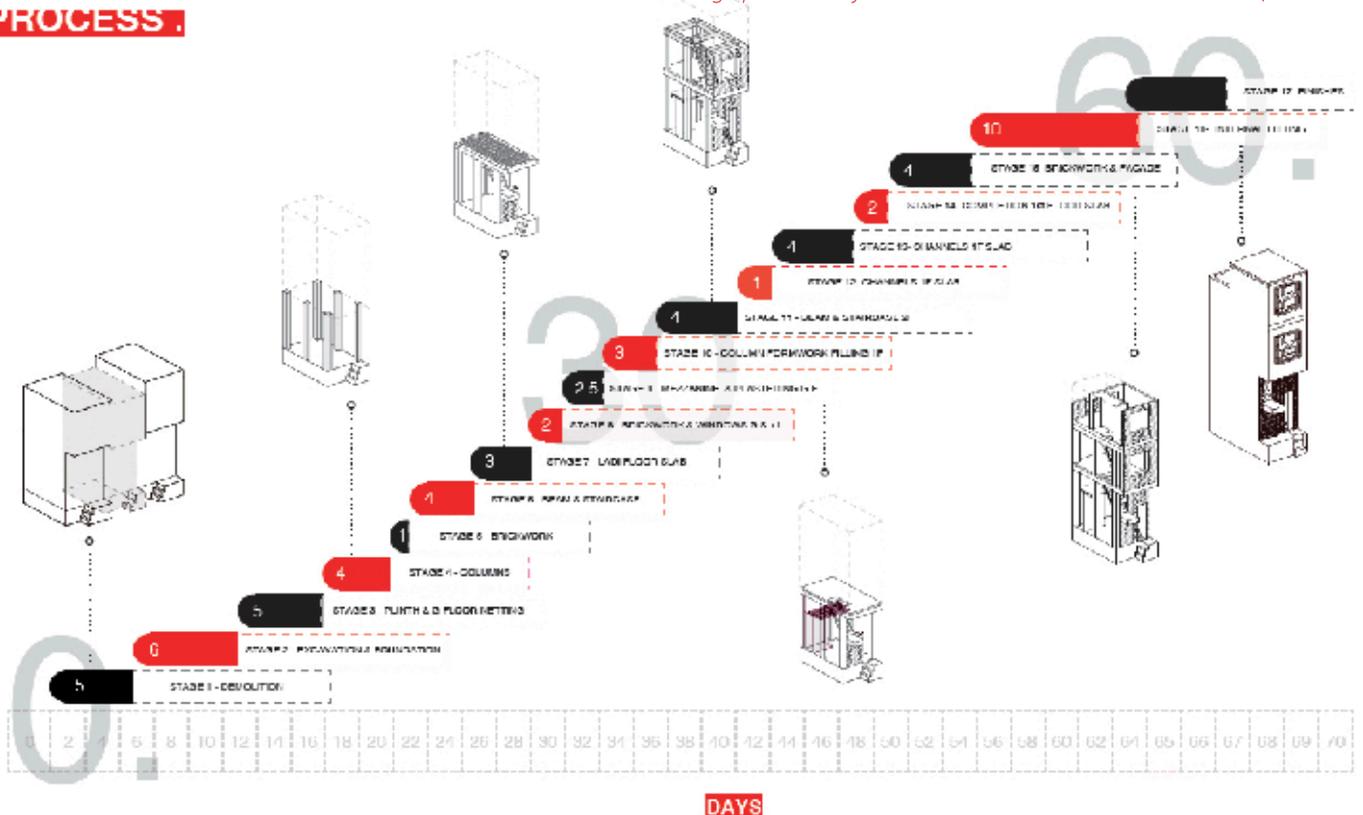
Bridging the gap by meeting in the middle

ELEMENTAL is a for-profit company with a social interest in the development of housing, public space and infrastructure. Elemental is renowned for their approach to social infrastructure as a 'public investment rather than a public expense.'[37]

Their first project in Iquique, Chile involved rehousing 93 squatter families on the same plot of land that they had occupied for the last 30 years. A government subsidy of $7,500 (Rs. 4,35,000) per house was meant to cover land, infrastructure and construction costs. Since the site was in the city-centre, the land was expensive. Instead of choosing to relocate to the suburbs, Elemental spent most of the subsidies on the land and built a system of half-built row houses. They concentrated on building the essentials of a house - the load bearing structure and roof, kitchen and bathroom. The inhabitants could fill in the voids to complete the house as and when their needs and funds grew.[37]

Such an approach utilized the community's tradition of self-building as an asset. This allowed the government, architect and the community to literally meet in the middle to build an affordable housing solution together. People were able to double the built-area of

36 sq.m for only $1,000 (Rs. 58,000) each. Five years later, houses in the project is valued at $20,000 (Rs. 1.1Cr) By prioritizing an incremental model of development, the families found shelter at a price they could afford, in a place they desired, and ended up adding value to a minimal structure - both monetarily, socially, and aesthetically.[37]

By building exactly half the structure and allowing space for expansion, the project replicated the flexibility the residents in informal settlements depend on. Fundamental to the success of projects like this, is the flexibility and buildability of the row-house typology. Towers offer the least amount of flexibility and require the most up-front investment. They are also more expensive to maintain resulting in non-functioning elevators, trashed stairwells and corridors, eventually leading to abandonement or resentment. Mixed-use neighbourhoods comprising of 2 to 4 storey buildings organized as a pedestrian district with smaller roads and a hierarchy of public spaces is the most ideal typology for lower-income housing. Housing units in such a development allow for a 'meet-in-the-middle' approach towards construction and maintenance. This urban form also happens to be more child-friendly.

# Design **Opportunities** to expand Public Spaces

Design interventions within spaces where the community gathers to collect water can link public space projects with issues of water collecting and potential rain-water harvesting projects

'Mitra Mandals' (also pictured above and below)provide shaded raised platforms for communal activites but have the potential to be much more significant.

● *Existing and potential playgrounds in Dharavi*
● *Existing and potential parks*
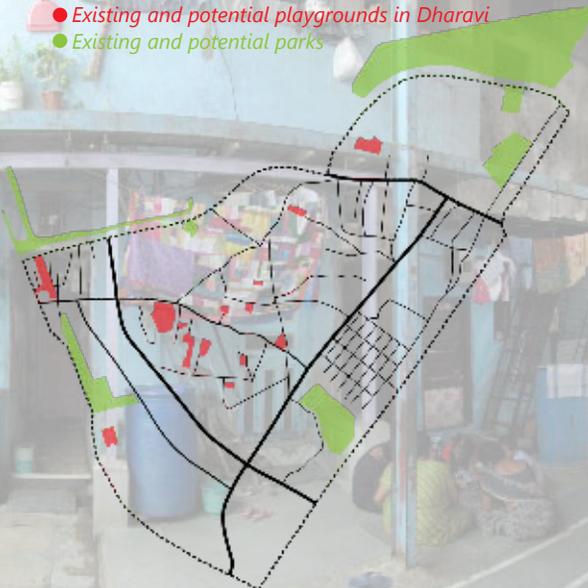
The map highlights current open spaces and residual areas that have the potential to create a network of playgrounds and parks within Dharavi

Residual spaces in front of toilet blocks, neglected spaces between buildings and alleys offer a rich opportunity for tactical interventionsl that enhance existing patterns of use. Furthermore, existing playgrounds and maidans which lay in pathetic conditions can be redeveloped into a strategic network of public spaces that are inter-connected by pedestrian trails. These networks can help improve the education institutions as well as the delivery of social services.

Courtyards in front of toilet blocks offer the opportunity to integrate sanitation with public space projects

With missing equipment, construction debris, and unimaginative spaces, playgrounds in Dharavi [below] and Shivaji Nagar (pictured above) deserve a much needed redesign considering how many kids use it everyday.

All images photographed by author

Way **Forward**

Charting alternative development
strategies through
hybrid collaborations & **participatory design**

" Communication has been a relevant factor for us. We speak in the same level with the families, the users of our housing projects, without paternalism, without false expectations and at the same time, transmitting trust and telling them that we have a professional knowledge which would help them in their problems "

- Alejandro Aravena
Executive Director of ELEMENTAL

Development strategies for the informal city cannot be formulated by institutional thinking that operates outside of 'informality'. The informal city is a harshly negotiated terrain defined by improvisation and temporality. For institutions and professionals to be relevant in this context, on-ground action is key - connecting with the community, networking with key local actors and linking grassroots efforts to the right stakeholders at all levels. The best way for the designer-planner to understand the context is to act first - in whatever scale or scope possible - and engaging in research via feedback and iterative design - which is a design process that learns by doing and builds upon previous mistakes and successes. Such a process produces ample opportunity for community engagement and creates the need for evolving different kinds of local collaborations to build, learn, and re-build.

The first challenge is to find simple and meaningful interventions that require little to no institutional support - this could range from a simple insertion, to mock-ups, or participatory design exercises *[pictured next page]* - and incrementally moving from tactical interventions to strategic agendas to influencing policy for existing and new developments. The final section will discuss what an ideal policy for new developments may be.

[Left to Right] Participatory planning techniques from an ELEMENTAL project in Chile, the Yerwada slum upgradation in Pune by Prasanna Desai and the and the Sangli slum development project

Initial tactical interventions can be a result of playful interactions to scope out the needs and the desires of the children in the neighbourhood. Richer iterations of the initial public space interventions will evolve through local networks - contractors, community organizers, non-profits, and citizen organizations - collaborating with a multi-disciplinary research-design team. The design process has to meaningfully integrate ideas from children, so multiple interventions can be networked towards a larger educational and developmental agenda. Once the initial network has been laid out, local actors should move towards more institutional collaborations so the public spaces can become sites for essential public services. The successes of the intermediate design projects developed with child-friendly principles and implemented through home-grown networking can inspire policy that incentivizes institutional support towards self-improvement and child-development. The hope is that local actors empowered to become important stakeholders who can channel govermment funds towards the maintenance of public spaces and the delivery of public services in a more accountable and responsive manner.

From **Tactics** to **Strategy** to **Policy**

1. Cross-disciplinary design network
A design collective that identifies and engages with local networks to implement tactical interventions from the scale of a swing to a large playground

2. Inter-generational participatory process
A design process that involves the children and youth of the community to develop a strategic agenda for the improvement of an area's kid-friendliness

3. Community-based ownership
A project maintenance and improvement model that empowers community-based organizations to link public spaces with essential services

4. Development with diversity
A development policy that encourages a diversity of typologies built around a network of public spaces and incentivizes collaboration with home-grown networks to build affordable communities

1. Establish a cross-disciplinary network for the design of public spaces -
Fostering collaborations between 'experts', institutions and grassroots networks

The essay began with the premise that playgrounds are essential spaces for bringing together the community and at the heart of any truly-inclusive development is the accessibility to safe and diverse spaes for play. The first step towards this ideal is improving the scope of play within the existing fabric. After generations of disillusionment, it is important to engage the children of a neighbourhood in a design process for improved play spaces. Only the implementation of a project can help rally the community to support a larger development agenda that places their children at its center.

To achieve this, Mumbai needs a design collective that can demonstrate the successes of multi-disciplinary collaborations not merely through presentations and discussions but through pilot projects. Such a collective should be able to engage with a diverse audience, involve local stake holders, and engage relevant government officials. It is vital for the production and design of the new spaces to be home-grown - that is, engaging the community and its children in a participatory design process and continuously collaborating with local networks to see the idea through to construction.

The collective needs to assess the skill-sets within the local network and identify sources for potential political or economic support. The scope of the project should be intermediate in order to have the right impact within a small period of time. The process should quickly move from ideas towards concrete collaborations responsible for prototyping, testing, financing, implementing, and maintaining. The ambition of this inter-disciplinary and *inter-generational* collective should be produce as many successful site-specific interventions in order to influence the policy-makers to institutionally fund and support the creation of transformative and of well-designed public spaces and social infrastructures within the informal city.

Crucial to the evolution of the collective however, is to learn by doing. To this end, research, design and building are part of a learning loop that feed into each other. It is important for members of the design collective to operate as 'reflective practitioners'[38] - learning from mistakes and successes and leveraging their expert knowledge in a co-ordinated effort with grassroots know-how. The most successful projects that can emerge from this collective will be ones that can be built by the children themselves.

[Above] Youth in Chicago work under the guidance of Public Workshop *to build a pavilion with bamboo and plastic ties.*
[Below] Rockwell Group *designed a set of play blocks that engage kids in building an imaginative playground for themselves.*

2. Engage the youth to contribute to the community's development vision -
Designing with inter-generational participatory processes

A crucial step for moving towards a child-friendly city is to implement child-oriented design processes. This is fundamentally different from expert studies of child-friendly practices for city-planning based on environmental determinism, that however well-intentioned, lead us back to the same mistakes that affect children's lives adversely. Children are keenly aware of their surroundings - including the strengths and shortfalls of their social and physical context. A genuine research-driven design project with children creates makes the entire community more responsive to the needs of the young population. The very act of seeking opinion from children develops fosters self-esteem and civic responsibility. According to child development studies, children develop a sense of their own identity around ten to fifteen years old.[39] By giving their opinions a chance, the future citizen re-inforced with the belief that their opinion matters.

An interactive, participatory research projet will establish a baseline to evaluate young peoples' conditions and learn from their insights. For a design collective, this means identifying local community leaders working with children and building inter-generational research groups. The diversity of the group will help understand the community in terms of resources and risks perceived by . More importantly, they should reveal what young people feel about their environment and what they want to see. The intuitive techniques used in UNESCO's 'Growing Up in an Urbanizing World' study cited earlier in the essay are worth replicating in Mumbai. Techniques include "having children draw and talk about the area where they live,"

"child-led tours" - where the young people indicate 'good' and 'bad' aspects of their area, "child-taken photographs" which may be displayed in public spaces where the larger community can become engaged.[40] These mapping projects, if well executed, will create the right environment to start exchanging ideas for a project that is easily executed. The projects can range from a simple building exercise, to a re-imagination of residual spaces or even entire neighbourhoods.

The youth are capable of more than we imagine, if only we let them. UNESCO's study culminated in many successful children-led action projects. Young people in Buenos Aires, for example, planned their own radio station from which they broadcast on-going investigations into community issues. In a high-fear neighbourhood of Oakland, California, the children have created a model for improving the apartment courtyard where they play and which they will help to construct. In Melbourne, they are planning to re-open a community centre and will help plan a new public open space. In Johannesburg, the children in an innercity squatter camp have already shared their research results and priorities with the mayor and leading planning officials, and hope to collaborate on a comprehensive community plan for the new site where they will be resettled.[41]

The success of these short-term projects is only a step in consolidating an inter-generational network that can lobby for and support a strategic agenda for the creation of child-friendly spaces and a child-friendly neighbourhood.

3. Empower Mitra Mandals to maintain public spaces & oversee the delivery of services - Replicating the success of Triratna Prerarna Mandal across the city

Mitra Mandals are best described as neighbourhood community clubs often found in informal settlements. They are informal networks sponsored by the community, local political parties, or religious organizations. In most settlements, they are assigned small raised and shaded platforms that provide basic but much-needed communal spaces. These places should be considered as potential sites for transformation. While they are currently tasked with maintaning simple communal spaces or toilet blocks, the success story of Triratna Prerarna Mandal (TPM) should compel us to imagine a much stronger role for Mitra Mandals as partners in the development of public spaces and the delivery of public services.

In 2002, the residents of the Khira Nagar slum in northern Mumbai organized to register 'Triratna Prerana Mandal' as a 'community based organization' (CBO) under a World Bank funded, municipality-led slum sanitation program. TPM would be in charge of maintaining a toilet block with 21 toilet seats, seven urinals and two bathing facilities, built by the municipality and meant to serve about 15,000 slum residents who live without individual toilets, and the additional workers who come to work in Khira Nagar's garment businesses. Since that day, through a pay-per-use system in the toilet block and small membership fees from local residents alone, the CBO has come to generate enough funds to hire permanent caretakers to clean the toilets, and to construct a rainwater storage tank that meets the water demands for cleaning, flushing, and bathing. Over time, through state grants, TPM has installed

Outside TPM with community leader Dayanand Jadhav | Photographed by author

a solar panel that provides power for the toilet block along with the CBO office, a computer training center, and the community kitchen built on top of the block. They have taken charge of garbage collection and recycling in the slum and a nearby middle class neighborhood and are also managing a nearby gymnasium that supplements the local school. Now they have plans in the works to adopt the redesign and maintenance of an adjacent maidan.[42]

TPM has flourished into a thriving self-sufficient entity, filling gaps in slum services that the municipality struggles to fill. TPM is a compelling example of how locally-based CBO's can provide essential services with more accountability creating a vital link between alloted funds and on-ground delivery. Local CBO's should therefore be considered as committed stewards of existing and newly created public spaces to ensure continued maintenance and to establish these sites as important nodes for the delivery of public services - such as sanitation, waste management, education, and beyond.

Image source: Google Earth

Aerial image of Charkop, Sector 1&2, Kandivali (E)

Courtyards and playground of Charkop
Photographed by author

Charkop is a planned neighbourhood in the northern suburb of Kandivali. The area is a mixture of residential towers sold at market rates, co-operative apartment housing for middle income groups, and 1 or 2 storey row-houses for house lower-income groups. The low-income housing was made possible through the Saha Griha Nirman program.

The low-income houses are clustered around a central courtyard *[pictured to the left]*, providing enough space to the densely packed rowhouses for play, communal activities, and neighbourly conversations. The roads along these houses are low on traffic while bigger avenues line the edges of the development ensuring traffic flow around a highly pedestrianized are within which the low-income housing is built. Such a planned configuration retains the human-scale and density of social interactions found in organic settlements for the demography that depends on it.

A large playground lies at the center of each planned sector *[bottom image]*. This central gathering space

includes cricket pitches, a gymnasium, and a shaded platform for performances and other communal activities. In this space, children from all households, irrespective of income levels, can play together. The Charkop model comes closest to the kind of new developments Mumbai needs - a neighbourhood with adequate public spaces that accommodates mixed-incomes through mixed typologies.

The Charkop model provides a good template for how we may design future developments or resettlement colonies for neighbourhoods that were identified as too vulnerable for retrofitting. However, even the affordable housing units in Charkop are still out of reach for the poorer sections of the low-income group. By adopting the 'meet-in-the-middle' strategy inspired by ELEMENTAL, we may be essentially re-introducing site-and-services principles set upon a more sensible financial strategy. The biggest strength of sites-and-services is that it allowed residents to self-build on top of state-provided plinths with basic water, sewage and power connections. This was an affordable solution but less practical when taking Mumbai's land prices into account. This resulted in sites-and-services schemes located far from job centers and access to mass transit. The allotment of sites was also plagued by corrupt practices. Eventually, this strategy was replaced by the SRA scheme that incentivized developers to build for the poor.

Mumbai cannot expect to accommodate the diverse needs of all its citizens without a diversity of solutions. A hybrid model based on mixed typologies similar to Charkop allows high-rise residential towers sold at market rates to subsidize 'meet-in-the-middle'-type affordable row houses. Financial tools in the form of credit or price control can ensure affordability, even in desirable areas. In this model, local contractors are incentivized to build the way developers are today. As discussed earlier, these informal private networks are more accountable than big private developers. The success of an inclusive development strategy is thus, dependent on our ability to imagine newer forms of public-private collaborations where the state engages grassroots micro-entrepreneurs as well as private developers. When the state will develop the political will to do so is anyone's guess. The first step for changemakers is not to lobby for change through research and debate. The first step is to..

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! The residents of the informal city act everyday - negotiating with the system as outsiders, improvising around the shortcomings of public-private institutions, and incrementally improving their lives. If designers, architects, and planners hope to be relevant in this context, the first step is to act - to make the effort to improve the immediate well-being of the residents through small interventions and proposals. Such proposals have to be necessarily tactical, executed with little to no institutional support. This approach initiates an action-based design research process that leads to larger projects with a strategic agenda. The end-goal is to change policy by demonstrating real change. But the first step places the onus on changemakers. Change, in this case, does not depend on political will, but on self-reliance and ingenuity.

Images photographed and edited by author

The images above shows the introduction of the **redswingproject** to parts of Dharav, Mahim Koliwadi, and Behrampada. The project is the author's attempt at introducing spontaneous play in unexpected places by installing swings. The swings sparked the imagination of the children and encouraged them to imagine future possibilities for **PLAY!**

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About
The Author

Sourav Kumar Biswas is a candidate for Masters in Landscape Architecture at Harvard University. He studied architecture at the University of Texas at Austin, with professional and research experience in Doha, Auroville, Dallas, and Mumbai. In Mumbai, he has worked with the BMW Guggenheim Lab as a Program Consultant, taught at the Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies (KRVIA) as visiting faculty, and worked as a designer at DIG Architects and Serie Architects.
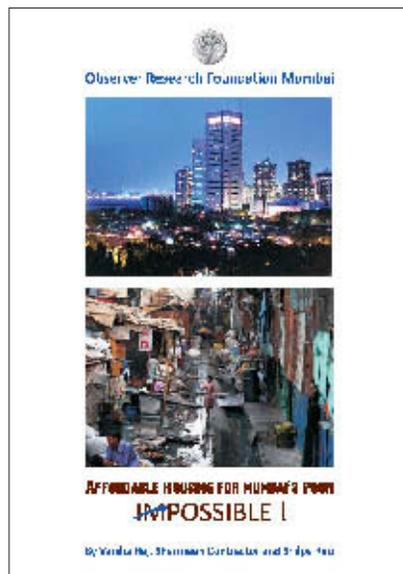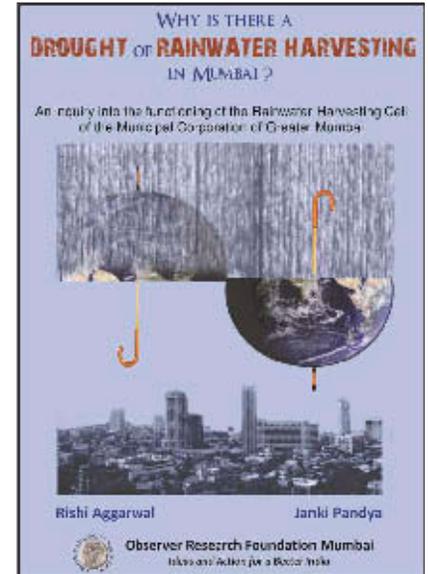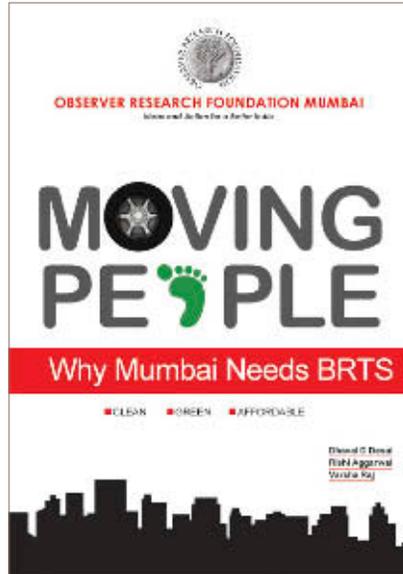
Observer Research Foundation Mumbai

Observer Research Foundation (ORF) is a multidisciplinary public policy think tank started in Delhi in 1990 by the late Shri R K Mishra, a widely respected public figure, who envisaged it to be a broad-based intellectual platform pulsating with ideas for nation-building. In its journey of over twenty years, ORF has brought together leading Indian policymakers, academics, public figures, social activists and business leaders to discuss many issues of national importance. ORF scholars have made significant contributions towards improving government policies, and have produced

Beginning 2010, ORF Mumbai has been re-activated to pursue the foundation's vision in India's financial and business capital. It has started research and advocacy in six broad areas: Education, Public Health, Urban Renewal, Inclusive and Sustainable Development, Youth Development and Promotion of India's Priceless Artistic and Cultural Heritage. It is headed by Shri Sudheendra Kulkarni, a social activist and public intellectual who worked as an aide to former Prime Minister Shri Atal Bihari Vajpayee in the PMO. ORF Mumbai's mission statement is: **Ideas and Action for a Better India.**
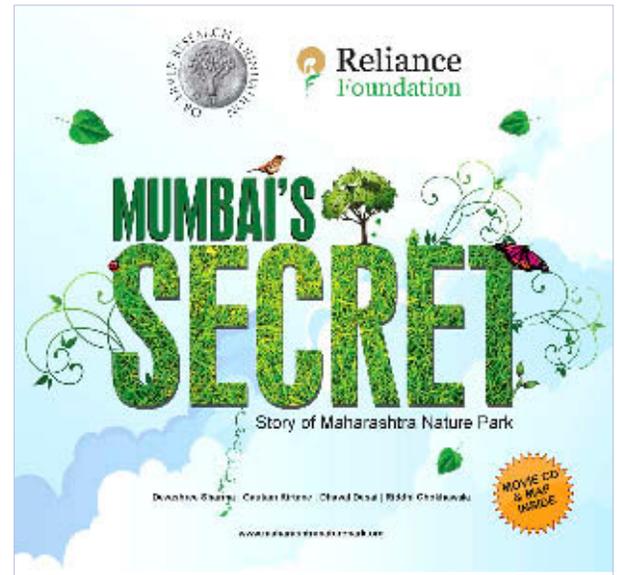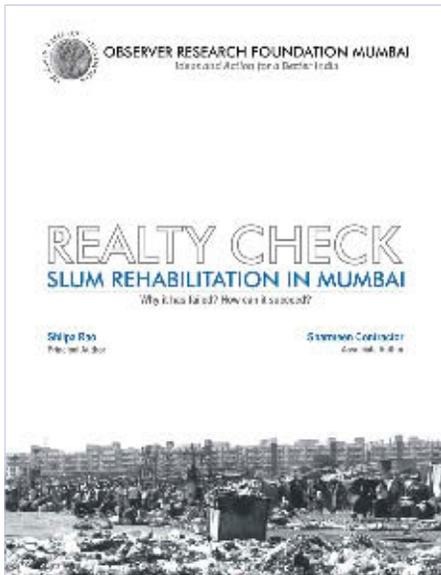
ORF Mumbai's Ongoing Initiatives

- ORF Mumbai has launched a bulletin called **SanitatioNow** as part of its commitment to the goal of 'Sanitation for All'. The Mahatma Gandhi Centre for SanitatioNow is soon to be launched, dedicated to research, advocacy and leadership training in sanitation in particular, and in general, to eco-friendly and holistic development of slum communities in urban India.

- ORF Mumbai has facilitated the creation of the **Mumbai Transport Forum**, a broad-based platform of transport experts, academics and advocacy groups working towards improving the public transport systems of Mumbai.

- ORF Mumbai has collaborated with Ratan J. Batliboi Consultants Private Limited (RJBCPL), one of India's top architects and town planners, to initiate projects for the revitalisation of Mumbai's freedom movement heritage. The project is based on the tenets of **'Place-making'** – a term for creative redevelopment of multi-use public places.

- In the area of public health, ORF Mumbai is working for a sustained **campaign for TB control in Mumbai** through public-private-people partnership that will rigorously debate, advocate and act on the core solutions which can realistically and significantly reduce TB burden in Mumbai over the next decade.

- A key endeavour of ORF Mumbai is in the sphere of **women's safety**, for which, it has forged healthy partnerships with the MCGM's Savitribai Phule Gender Resource Centre and the Mumbai Police.

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Observer Research Foundation Mumbai
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NKM International House, 5th floor, 178 Backbay Reclamation
Babubhau Chinai Marg, Mumbai 400 020, India
Tel: (+91 22) 6131 3800 Fax: (+91 22) 2288 6264
Website: www.orfonline.org