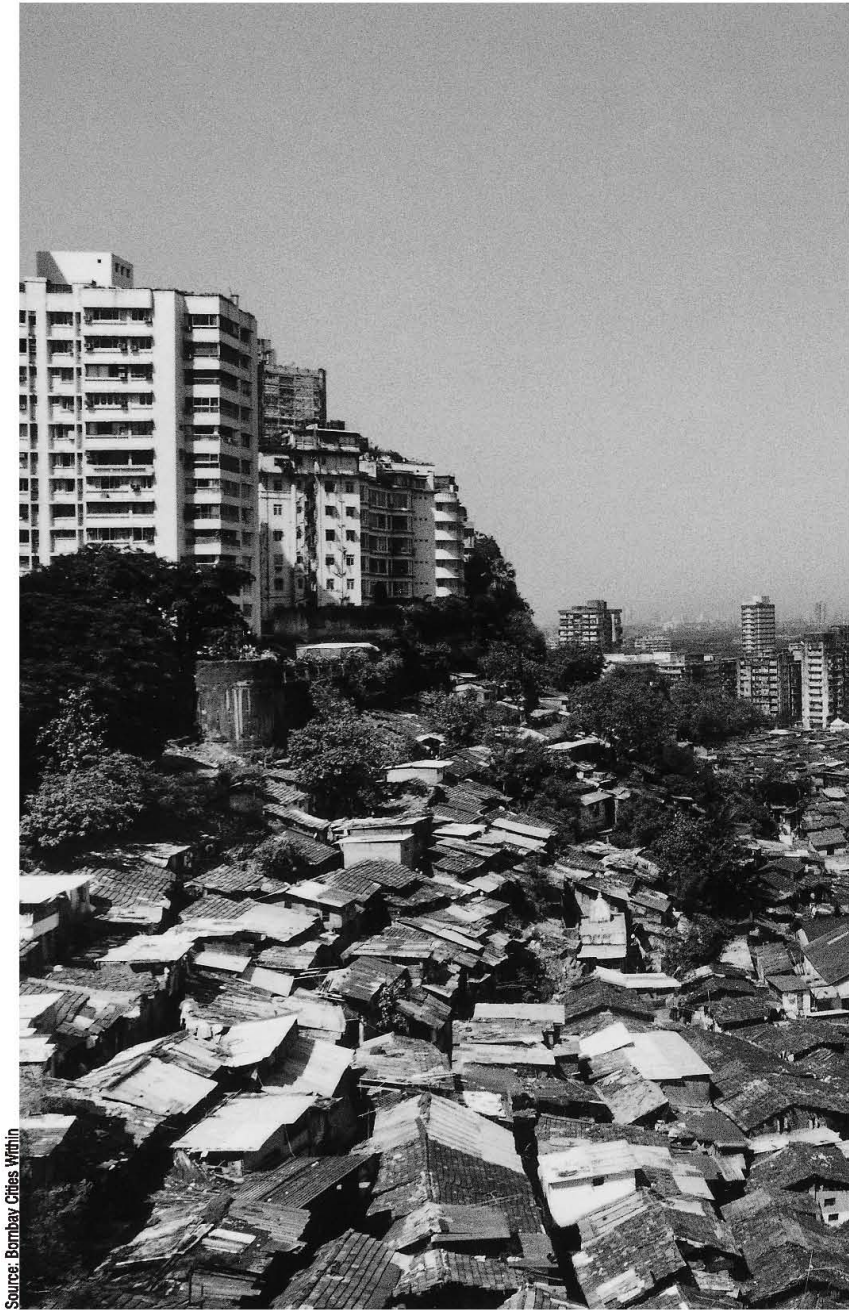


As a brief introduction I would like to point at the massive growth of India's population in general: while the census of 1941 revealed a population of 318.7 million, the latest census identified 1,012 million people in 2001.¹ This is documenting a growth of more than 300% within 60 years. Looking at India's urban population we find there are 285.4 million people living in urban areas out of which an estimated 100 million are considered as slum dwellers.²

Today 50 to 60% of Mumbai's 12 million³ inhabitants live in informal settlements on 16%⁴ of the city's land – we are talking about 6.5 million people. Mumbai thus has the status of having one of the largest populations of slum dwellers in the world. Consequentially Mumbai has earned colourful epithets such as 'Slumbay'⁵. In 1993 the Municipal Corporation of Greater Bombay (MCGB) estimated an equal number of slum dwellers in the western (2,227,300 slum dwellers) and eastern suburbs (2,170,730 squatters) but in regard to its total population, more slum dwellers live in the eastern suburbs (77.4%) than in the western suburbs (56.6%) and the least in the south, the island city (34.1% or 1,077,610 slum dwellers). As a total, the MCGB assumed a total of 5,475,640 slum dwellers in Mumbai, or 55.3% of its total population.⁶

Looking at the average size of slum houses, I found SPARC using 13.5 M² per family as the average existing site density. While one statistic claims 80% of all slum dwellers live in houses smaller than 100 ft² (or 9 m²)⁷ another states 67% of the city's slum dwellers lived in houses smaller than 161 ft² (15 m²)⁸ - this difference could be explained by reminding of the fact that slum houses often have lofts. These are four to five feet (1.2m to 1.5m) high and usually used for storage or sleeping, effectively doubling the total usable area.⁹

In my opinion, many slums in Mumbai suffer from similar difficulties. Inadequate or missing physical infrastructure is resulting in problems with electricity and water connections. Lacking sewer lines and toilet facilities in general, open drains and inadequate sanitation are some of the most pressing problems: until today many inhabitants don't have an alternative to squatting in the open, i.e. along roads, creeks or drainage channels, on beach fronts or behind rocks, depending on the available 'facilities'. Thus flooding especially during the monsoons implies severe health risks especially for children. Severely polluted water floods huts of slum-dwelling families who then struggle to store their belongings or to find a dry place to sleep.



Source: Bombay Cities Within

Why do people stay in such vulnerable conditions, exposed to health risks and lacking basic infrastructures as well as security for their children? The lack of affordable housing especially for lower income groups in Mumbai forces poor families to live in informal settlements where housing is cheaper. Housing in Mumbai is generally expensive. One reason is the city's physical restriction for expansion. Another one is the resulting property speculation: especially in the 1990s when economic liberalisation reforms invited many multinational corporations to set up their south Asian regional head-offices in Mumbai, its real estate rates belonged to the highest in the world.¹⁰ And while the average wage of a company worker is around Rs 2,000 and Rs 3,000 per month, a 10m² tenement easily costs around Rs 1,200 per month, in informal conditions. Regular housing is far more expensive and usually based on ownership. As people often stay where they find work, many slums grow in locations offering job opportunities. Due to usually meagre incomes and high expenditures for simple housing, families often cannot afford to pay for transportation to distant work places. So people live as close as possible to their work in accommodations as cheap or affordable as possible.

A step forward: the formulation of Slum Redevelopment Schemes

In 1991 the Slum Redevelopment Scheme (SRD) was formulated. This strategy involved the clearance of existing slums and their subsequent redevelopment at a higher density. The SRD aimed at attracting developers and builders of the private for-profit sector to redevelop slums by creating enough financial incentives to cross finance medium-rise apartment blocks for the rehabilitation of eligible slum families on-site, while allowing profit for the developer.

Therefore the government changed land development regulations and increased the allowable site density, measured in the Floor Space Index (FSI). The Floor Space Index is indicating the allowable floor space which can be built-up on a site. For example, if the FSI is 2.0 and a site has 100 m², the allowable floor space is 200 m². But "despite the State's enabling, its market-friendly policies, the slum dwellers willingness and an attractive profit incentive for developers"¹¹ the speed of implementation was slow.

With the election of a new government in 1995, promising the provision of 8,00,000 free houses for 4 million slum dwellers in the city, the next step towards the current policy was taken by creating a framework for the implementation of the election promise: the Slum Rehabilitation Authority (SRA) was created to function as a single coordinating authority after changing the Slum Area (Improvement, Clearance and Rehabilitation) Act of 1971. It incorporates executing agencies like private for-profit developers, public bodies, non-governmental organisations and cooperative housing societies of slum dwellers. Head of the SRA is the Chief Minister of the Government of Maharashtra, a senior bureaucrat is to preside as Chief Executive. To enable the SRA to redraft Development Plans or grant building permissions, the Bombay Municipal Corporation Act as well as the Maharashtra Regional Town Planning Act had to be adapted.

1 See www.censusindia.net

2 Changing the Rules. Sundar Burra

3 See www.censusindia.net

4 Changing the Rules. Sundar Burra

Dwivedi and Mehrotra, 1995 5

Squatters as Developers? Vinit Mukhija, 2003 6

Afzulpurkar, 1995 7

Sundaram, 1995 8

Squatters as Developers? Vinit Mukhija, 2003 9

Squatters as Developers? Vinit Mukhija 10

11 Economist, 1995

One major component is the definition of eligibility for a rehabilitation flat: all slum and pavement families able to prove their names were on the electoral rolls of 1/1/95 are eligible for a free 225 ft² or 20.90 m² (carpet area) tenement. Given eligibility and the start of a SRA supported redevelopment scheme, the involved private developer must deposit Rs 20,000 per project-affected family, the interest is meant to defray monthly outgoings for maintenance as well as municipal taxes. It is expected that developers make sufficient profit from the sale of extra residential and commercial units to provide both free tenements as well as Rs 20,000 per family.

A Green Agenda entering the field

While the slum redevelopment scheme in Mumbai has evolved as a local policy, the Coastal Regulation Zones (CRZ) were planned on the national level. They were initiated by the former Indian prime minister Indira Gandhi in 1981 but it was on 19 February 1991, that the Indian Government established the CRZ for all Indian states accessing the sea through the Ministry of Environment and Forests (MOEF).¹² The Central Government in Delhi requested all affected states to set up Coastal Zone Management Plans (CZMP)¹³ for all areas within 500 m of the High Tide Line if they were situated on sea shores or bays, sanctuaries, creeks, river banks or backwaters and mangroves. Three Zones have been introduced.

Affecting Mumbai at large: CRZ 2

The map shows clearly CRZ 2 is an important policy for Mumbai. While *no new construction* is allowed on any *seaward side* of existing roads or authorized structures, new construction on the *landward side* of existing roads or authorized structures is subject to existing local *Town and Country Planning Regulations*, including the existing Floor Space Index (FSI). Reconstruction of authorized buildings is subject to existing FSI norms, without change in use. Design and construction have to be consistent with surrounding landscapes.

In September 1997, the Chief Secretary of Maharashtra admitted practical difficulties to implement CRZ 2 in Mumbai. He asked the MOEF to reflect upon the new Slum Rehabilitation Scheme (SRS) and "therefore to consider slum redevelopment as the reconstruction of authorized structures"¹⁴ which the MOEF refused by September 1998. In addition, the MOEF demanded that CRZ 2 affected slums follow rules dating February 1991, *de facto* revolving all achievements of the Slum Redevelopment policy in Mumbai, especially for slums located on the landward side of existing structures.

¹² Installed in section 3(i) and 3(2)(v) of the Environmental Protection Act 1986 and in rule 5(3)(d) of the Environmental Protection Rules.

¹³ These Coastal Zone Management Plans (CZMP) were to be handed over to the MOEF. In August 1995, the Government of Maharashtra (GOM) forwarded their CZMP to the ministry although areas along river banks and creeks within the city of Mumbai had not been included. Thus the MOEF accepted the CZMP in 1996 only under the condition that the GOM would add missing areas along river banks, creeks and backwaters to the CZMP. This was completed by November 1998. The CZMP of Maharashtra finally was completed in January 2000.

¹⁴ Sundar Burra, 2003



Source: Rajesh Vora



Source: Rajesh Vora

Consequences

Slums on the landward side of existing roads considered for redevelopment in a Slum Rehabilitation Scheme (SRS) received a reduced project-FSI of 1.66 instead of the standard project-FSI of 2.5 (or even 3.0 in cases of high density on-site). As the project-FSI regulates built-up areas in projects and thus available built-up area for sale commercial and residential units, the new rules reduced possible profitability of slum redevelopment projects for investors.

Slums on the seaward side of existing roads were totally excluded from the possibility to access redevelopment or infrastructure such as sanitation. All progress in developing solutions for a more human urban development thus had been erased. The so called environmental protection for Mumbai's coastal areas ended up blocking the improvement of the urban environment, thus keeping the terrifying status-quo.

Strikingly, at the time of the implementation of the CRZ notification the Slum Rehabilitation Authority had already approved 58 slum rehabilitation schemes with a project-FSI of 2.5 – the CRZ were implemented just when the bigger portion of construction work had been completed in 19 of these 58 projects. Aware of this contradiction, the Slum Rehabilitation Authority requested the Government of Maharashtra in December 1998 to raise the issue with the MOEF and demand continuation of the previously guaranteed project-FSI of 2.5 for these specific projects. Finally in March 2002, the MOEF released a changed notification regarding to existing restrictions along creeks, riverbanks and backwaters. It then declared the distance from the High Tide Line to either be equal to the width of the creek or 100 meters.

Conclusions¹⁵

For cases of low site density (more than 20 m² per family) it should be possible to carry out feasible redevelopment projects with the current project-FSI of 1.66 – given there are not more than 500 rehabilitation units required per 10,000 m² – and given the incentive development rights (IDR) multiplier is 1.33 – latter is the case for Dharavi where site densities generally are higher than 500 families per hectare, or in a vital scheme: vital schemes could be important resettlement projects initiated by the City to free land for public purposes. A good example is the Mumbai Urban Transport Project (MUTP).

For cases of high site density (more than 500 families per hectare) it is currently not possible to form feasible CRZ redevelopment schemes within the project-FSI of 1.66 – thus in combination with current market rates for residential or commercial units, and with the rates currently expected for *transferable development rights* or for construction costs, it seems advisable to increase the project-FSI from 1.33 to 2.25 to enable feasibility.

There is no doubt that sensitive ecological zones along India's coast need to be protected. There is also no doubt that existing efforts in this direction need to be strengthened. But the Coastal Regulation Zones policy, in its current shape, unfortunately does not acknowledge that India's coast is too diverse to be grouped in four rough categories. The reality of India's urban coastal environment is not adequately reflected in the legislation. India's urban coastal

agglomerations need to be analysed in detail before establishing a general notification pretending to protect the coast and environment but de facto blocking environmental improvement.

The Municipalities should be enabled to decide whether redevelopment or other forms of development should be allowed on-site or not – and to which conditions. There must be precise case studies of the specific locations looking at environmental and ecological conditions, understanding existing informal settlements and people's organisations.

Why should slums located on the landward side of existing authorised structures within CRZ 2 receive this extra allowance of FSI for their redevelopment? Ignoring the fact that area upgrading leads to increased land values, environmental improvement (including better health and quality of life) for the whole city, redevelopment of these settlements is blocked due to the lack of feasibility and profitability. Consequentially investors are not encouraged to develop these zones. NGO-builders are cut-off from redevelopment lacking feasibility, too – as formal banks prefer guaranteed feasibility before disbursing loans.

Generally it is understandable that increased density within coastal areas needs to be treated with care, especially after 2004's Tsunami. But respecting the existing density within Mumbai which belongs to one of the highest in the world, and respecting the need for human living conditions – adequate sanitation, proper drainage, safe water, waste management – it is not reasonable to exclude informal settlements from redevelopment based upon a policy which is blind to the urban reality of Mumbai and the environmental issues on this ground.

All slums which are located on the water side of existing authorised structures are currently excluded from redevelopment and other physical improvements. They usually are situated within CRZ 3, on the boarder to CRZ 1 (close to the High Tide Line) in the north-western suburbs of Mumbai along the creeks in Manori or Madh. Or they may be located on the banks of creeks, rivers and mudflats or on the rocks towards the sea, behind formal buildings. As they are excluded from any development, it is unlikely that building permissions toilet facilities will be granted, too.

There is a need to work out a strategy to include these settlements in the City's development, too, especially as they often are situated in truly difficult areas, prone to flooding for example. A way forward could be, in the case of eligibility according to the Slum Rehabilitation Act, to either relocate the families in adjacent areas (if available) or in existing redevelopment projects with free capacities (where less than 500 rehabilitation units have been consumed per hectare). In the meanwhile, their right for human sanitation systems and adequate infrastructure must not be further neglected. The



Source: Rajesh Verma

construction of community toilet blocks and the implementation of people-driven waste management could be the first steps.

True commitment of all responsible authorities to work together towards a healthy urban environment for all inhabitants requires a focus on the possible instead of on politics. The *green agenda* CRZ should be redrafted in respect to the City's ground reality and its inhabitants' right for human living conditions - which in fact is the basis for a full-fledged ecological commitment to all inhabitants. As long as people suffer from their living conditions they have little understanding for the reasons why it is necessary to protect the coast, its mangroves and the sea. And at the same time they can observe existing rules and regulations are not by-passed and 'adapted' to the needs of a privileged few.

Context of this text

The focal point of my dissertation in 2004 was specific urban development processes in Mumbai based upon research I was involved with in 2001 when I had been volunteering in the Society for Promotion of Area Resource Centres¹ (SPARC), an Indian non-governmental organisation. More precisely, I focused on effects of the national Coastal Regulation Zones (CRZ) policy on the local slum redevelopment process in Mumbai.

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