

Re-imagining Dharavi

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This essay by Killawala addresses the problems facing delivery of affordable housing in Mumbai. Through the examination of the Dharavi redevelopment plan, it sets up a critique of the current model of slum redevelopment. With almost a decade long stalemate since the inception of the project, it argues for an alternative model for redevelopment. It asks whether state be involved in the direct provision of housing rather than catering to speculative interests and creates parameters for this housing to be affordable to the end user.

The essay also examines the policy provision of FSI 4 for slum lands, questioning the viability of additional densities on an already stressed infrastructure. In conclusion, it prescribes a special status for affordable housing as an 'Infrastructure Project', wherein cost of land is notional, hence increasing the prospect of affording a dwelling for the poor.

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Paradox of Affordable Housing in Mumbai

What happens when a city not only grows, but grows on itself, creating new forms of congestion- requiring an immediate fix, in the form of large scale urban interventions? Much of this congestion is due to accretion, a layering of informal activities over time, in areas that once emerged on the periphery, but now in the heart of the city. Dharavi is a classic case of this. In the process of Northward expansion of Mumbai, Dharavi with its 525 acres finds itself in the heart of the megapolis, with possibly the highest real estate prices in India.

In a bid to make Mumbai a 'global' city, in 2004 an ambitious redevelopment plan was launched, wherein all of Dharavi was divided into 5 sectors. This plan painted a win- win scenario, wherein eligible slum dwellers will receive secure housing and amenities, while the middle class will gain new residential and commercial spaces, developers and government will make a profit, and an embarrassing chunk of land will be removed from the landscape of the city.

However more than a decade since this ambitious plan was launched, it has failed to get off the ground. In the context of such a stalemate, the Urban Design Research Institute (UDRI), a public charitable trust with a mandate in generating awareness on urban issues – launched 'Reinventing Dharavi',¹ an international ideas competition inviting fresh ideas and scenarios to challenge the status quo, providing alternative imaginations through which the process of redevelopment of Dharavi could be approached.

This essay is based on the competition entry by our team of Group Seven Architects, based in Mumbai. I discuss an alternative approach to Dharavi's future proposed by us, that considers the specific context of Dharavi while simultaneously addressing the larger issue of 'affordable housing' in Mumbai.

One of the recent publications of PRAJA Foundation, a non- partisan organisation, working towards people's participation for effective governance, serves as a good backdrop in expressing our team's concerns. The Report states, "Rs 28 lakhs is the average price of 269 square feet (25 sq.m.) dwelling in Mumbai, at this high price, a vast majority of people whose annual income is Rs 2.4 lakhs cannot afford this house. Considering that the accepted norm while financing homes is up to 4 times the annual income, this is nearly 12 times that, thus making even this basic house way out of reach for a vast majority of Mumbaikars."²

Since 1995, only about 2 lakh public housing units have been added to the stock while we need 11.36 lakh housing units as of today. In order to tackle with the urgency, and in the particular case of Dharavi, the government has provided private developers with an incentive of Floor Space Index (FSI) of 4 in exchange for free rehabilitation housing for eligible slum dwellers within the respective sectoral boundaries.

Is FSI 4 a Viable Solution to Scarce Urban Land?

Substituting a cheaper and a more readily expandable factor, capital, for land by building multiple stories – permitting a production of more floor space in desired locations has

become a policy norm for the government. As per the National Building Code, for dwellings of 25 sq.m., if we give a developer FSI 4 on a one hectare plot, we will need a further 6.4 hectares

Barring its sheer size, the reason why Dharavi stands out and is of interest to many planners, is its ability to produce user generated neighbourhoods.

of area for institutions, open spaces, and streets to service the population on this plot (Dharavi is almost 200 hectares). This provision in lieu of increased density is ignored in the Dharavi plan. Although this land falls under the purview of a special planning authority - DRA or Dharavi Redevelopment Authority, how much should the standards be stretched?

In the paper 'Working With the Market : A new approach to reducing urban slums in India',³ prominent city planners have argued that a rights based approach, funded by central subsidies cannot solve the problem of affordable housing. They refer to it as "short- cut to reforms through direct housing provision", claiming that these solutions are prohibitively expensive and instead suggest corrections, enabling a pro - market driven approach to make housing affordable. However, in our view, heavy investments from private sector do not translate into better planning or accountability towards citizens.

Barring its sheer size, the reason why Dharavi stands out and is of interest to many planners, is its ability to produce user generated neighbourhoods. However it's the neglect in basic sanitation and infrastructure that has led to the rapid deterioration of the larger settlement. Taking the above into consideration, a tower

block is certainly not the answer to a multitude of micro enterprises that operate within Dharavi.

To further compound the issue, an extensive coverage in media exposing the nexus between Maharashtra Housing & Area Development Authority (MHADA) officials and the developers - where large tracts of urban land as well as recreational grounds were handed over to developers at a low premium in exchange

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for higher FSI, furthering their profits, raised questions regarding the authenticity of these joint ventures. The cumulative effect of the above, leading to a trust deficit while involving private developers in large scale urban projects.

Without the incentive of additional FSI to generate a sale component and thus profit, no developer would be interested in the process of redevelopment, which brings us back to question of supply of affordable housing – who is to provide this housing and under what parameters? Gautam Bhan in an article in Hindu explains this conundrum, "Affordable housing when done best at scale, is done by the poor themselves, but is often inadequate and vulnerable both materially and legally (in terms of security of tenure), and secure housing built by the formal state and market actors is deeply insufficient in numbers, and almost entirely unaffordable for those who need it the most."⁴



Figure 1: Master plan of Dharavi along the lines of a street based system

We believe that the clues in solving this paradox, lay in the cost of the land itself.

Our simple provocation is to insist that the government owned lands should be proclaimed at zero value like in the case of any infrastructure lands reserved for roads, flyovers, public amenities, parks and so on. Let 'Affordable Housing' have the same status as an infrastructure project. Such an approach would create ample opportunities for slum dwellers to own/lease a house, at a price less than the cost of their existing illegal slum unit. Further, they could also be benefited by other amenities provided by local authorities, which previously were under the control of slum lords.

Dharavi: a 21st Century Factory to Live and Work

This was the title of our entry for 'Reinventing Dharavi' competition, as it was precisely this understanding of space that we intended

to take into the built environment. At the outset, our approach towards the process of redevelopment made two principle claims:

1. For the target density, the master plan proposal considered the existing population of Dharavi, which is 3,50,000 people to be housed over 5 sectors. Adding to this density would be unsustainable in terms of infrastructure required to support it.
2. There would be no role for the developer. The Dharavi Redevelopment Authority along with MHADA, shall be solely responsible for the facilitation and provision of all the required housing stock.

We proposed that barring a certain component of commercial space which would also be developed by the Dharavi Redevelopment Authority (DRA), there shall be no provision of housing stock put for sale in the real estate market.

Although in a project of this scale, many entry points could be justified e.g. sewage, sanitation, transport infrastructure etc. In lieu of the above arguments, we chose housing as the principal driver to trigger the process of redevelopment. The actual mechanism of graphic conversion, through the design of housing types, indicating the densities consumed, challenging the norm of FSI 4 was the principal concern of the proposal.

Further, it was imperative to design a street based system that would complement the configurations of the *Nagars* (districts) in order to sustain the live and work paradigm prevalent in Dharavi. One of the initial tasks of the layout was to valorise the primary roads, with an aim to allow for a restricted but well defined vehicular movement. A secondary

1.	TOTAL DRP AREA	24,03,000 sqm (590 Acres)
2.	Less: Lands under Nature Park + Power Station + Railways	5,01,000 sqm (120 Acres)
3.	Less: Road Network	3,74,000 sqm
4.	Less: Open Grounds Kabrastan etc	60,000 sqm
	Net DRP Area for FSI purpose	14,68,000 sqm
	Total Built Up Areas	26,30,000 sqm
	GLOBAL FSI CONSUMPTION	1.79

“WE DO NOT NEED 4 FSI ”

Table 1: Area Summary of the proposed plan for Dharavi

network formed through the consolidation of traces of existing streets, paved the way for a rich street based system (Figure 1).

We adopted the following strategies for the master plan; a cumulative effect of these strategies would give rise to new forms of nodes, enabling us to critically review their performance at the scale of the district.

A new service road was added parallel to the 60 feet road in order to segregate all commercial activity within the development. Here, ‘commercial’ referred to small studios and work spaces that were made available to the locals at an affordable price.

The proposal also tried to capture the aspirations of the youth of Dharavi. Would the subsequent generation of a potter, a weavers or a tanner want to join the family trade? What provision could the master plan make in order to accommodate their needs for new livelihoods? Along with the home based workshop, the plan takes into account the possibility of an individual to start a small

enterprise. A series of start-ups were integrated within a commercial block, where residents could have access to shared infrastructure within an office space. This commercial space would be developed by DRA, part of which can be sold at market rate, in order to fund the project.

Next we turned towards the rail corridor adjacent to the 90 feet road along the eastern edge of Dharavi. This area is heavily squatted right below the High tension lines, cutting across North - South, parallel to the suburban station of Sion. This area can be thought of as an asset to Dharavi rather than dividing it from the rest of the city. The proposal took into account a densification of the 90 feet road.

Through the proposal of housing Type D (stilt + 7 stories) the squatters would be re-housed and the land opened up could become an extension of the Mahim nature park, defining a softer edge on either sides of the railway corridor. The internal network of streets leading out from the development, all culminated into this park.

The Housing Types

The general guideline while proposing the housing types, revolved around maximising the available ground coverage. The resultant buildings would act as virtual envelopes, creating courtyards and open spaces within, generating the overall morphology of the plan.

All existing housing completed by MHADA or SRA (Slum Redevelopment Authority) were retained and integrated into the plan. **Table 1** summarises the cumulative impact of the master plan and the proposed housing types that would re-house

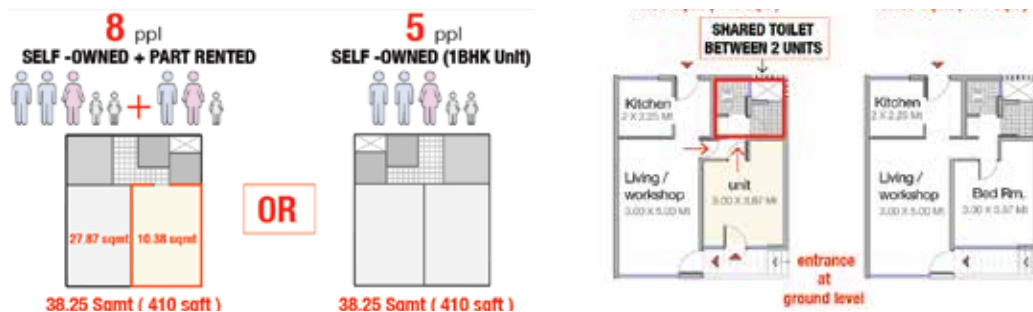


Figure 2: The Basic module of Type- A housing.

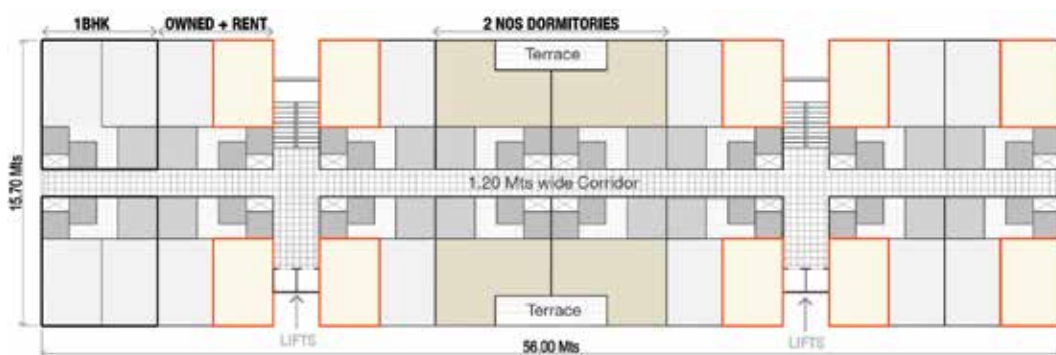


Figure 3: Developing a floor plate by repeating the module of Type- A

the existing population on the target density - challenging the accepted wisdom of FSI 4.

Housing Type- A

One observes two primary sources of income for a Dharavi resident. Home based workshop and rental income through the incremental expansion of the house.

Given the existing density, as well as the network of rental tenements operating within Dharavi, a basic unit with an area of 300 sq.ft. (28 sq.m.) was designed for a family of 5, to which an additional 110 sq.ft. could be added. This additional area could be rented or used for commercial purposes. An entire floor plate was generated through the repetition of this

module, offering varying patterns of ownership along the frontage of the block. **Figure 2**, **3** explains the basic module of this typology which is also most dominant. **Figure 4** explains the possible combinations of the module, while **figure 5** deploys the type at the scale of the district. In **figure 5**, one also observes the modulation of Type A to form the commercial block, positioned between the 60 feet road and the service road.

Since commerce drives Dharavi, the existing housing stock maximises the frontage to the street. Owing to this aggressive informal production of hutments, mobility into the interiors is restricted, here access is limited only to the transfer of goods. Our proposal

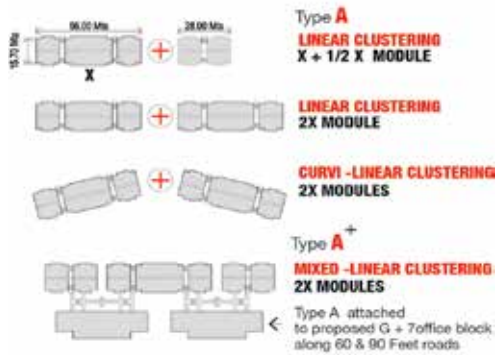


Figure 4: Type- A cluster combinations

responds to this condition, and is an attempt in opening up the interiors. As seen in **figure 5**, housing Type- A offers limited frontage along the main roads, however through its linear clustering, it channels people and goods along the interior of districts. Strategic areas along the periphery were designated as loading/ unloading areas, restricting the movement of delivery vehicles, hence allowing the interiors to be predominantly pedestrian.

While superimposing a new mobility network, the existing ‘Nagar’ boundaries get disturbed, but then again that is intended. For us, in the context of redevelopment, Nagar demarcations are notional boundaries. It is actually the existing religious structures, which play a key role in binding the community together. The proposal not only retains all religious structures but reinforces their presence with adequate landscaping, allowing them to be the principal markers of public spaces within the new districts.



Figure 5: Deploying Type- A typology at the scale of a Nagar (district).

Housing for Kumbharwada

Deep blocks of housing mark the southern edge of the sector along the 90 feet road. Within this sector is located Kumbharwada (potters’ enclave). Presently, the housing cluster along the edge of Kumbharwada acts as a barrier, offering little or almost no access to the interiors of the Nagar.

Our Strategy for this Nagar was two-fold.

1. Realigning the Edge

By realigning the edge of Kumbharwada along the 90 feet road, the proposal addresses the chaotic traffic caused due to the spill over of goods, accounted to the sale of ceramics. A variation within the deep housing block is effected, so as to provide effective clustering with adequate setbacks, providing a distinct character to the housing along the 90 feet road. After the necessary recommendations, this road becomes one of the major connector within the DRP, complete with parking bays, drop off points, pathways etc.

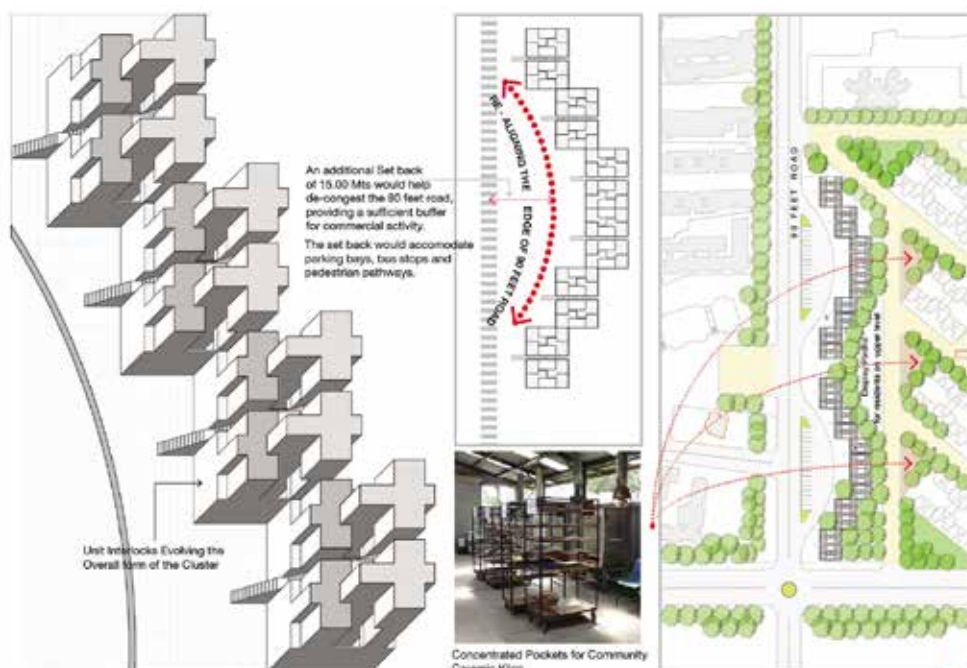


Figure 6: Realigning the street edge along Kumbharwada, the Potters' enclave

2. Opening up the Interiors

To open up the interiors of Kumbharwada, a network of 9 meter wide streets is proposed. This will facilitate access to the workshops where potters live in the interiors of the neighbourhood. Figure 6 helps in illustrating the same.

Conclusion

There has been a great deal of studies and research on Dharavi and its communities. In such complex projects, if cost of land continues to be the only metric to judge the 'value' of a solution, this research would go in vain. Following are some of the key arguments considered while offering an alternative model for redevelopment of Dharavi.

The Dharavi Redevelopment Project should be delinked from private developers. It should not be turned into a speculative real estate project, in the guise of providing free housing to existing slum dwellers

- Given a decade long stalemate in generating a consensus for redevelopment, we must recognise Dharavi as a 'social housing project'.
- The government should consider the Dharavi Redevelopment Project at par with any other infrastructure project such as roads, railway, health, education, water, power etc, where cost of land is notional and belongs to the government itself.
- The Dharavi Redevelopment Project should be delinked from private developers. It should not be turned into a speculative real

estate project, in the guise of providing free housing to existing slum dwellers.

- The finance model of DRP should be conceived on self contribution by existing occupants towards construction / development cost of the project. This would ensure a sense of belonging, hence their participation in the economic growth of the larger community.

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Notes:

¹ 'Reinventing Dharavi: An Ideas Competition' is about generating essentially new ideas, concepts and interventions for integration of urban uses – affordable housing, livelihoods, health and sanitation, recreation, education, urban design and urban planning, social and cultural activities, environment, governance, economics, amongst others in a sustainable manner. - From the competition website. <http://www.reinventingdharavi.org/>

² PRAJA, The state of affordable housing in Mumbai. http://www.praja.org/praja_docs/praja_downloads/Report%20on%20The%20State%20of%20Affordable%20Housing%20in%20Mumbai.pdf

³ Patricia Clarke Annez, Alain Bertaud, Bimal Patel and V. K. Phatak; 'Working With the Market: A new approach to reducing urban slums in India', Policy research working paper, 2010. <http://elibrary.worldbank.org/doi/abs/10.1596/1813-9450-5475>

⁴ Gautam Bhan, 'From slums to Neighbourhoods',

Hindu, 09 June, 2015.

<http://www.thehindu.com/todays-paper/tp-opinion/from-slums-to-neighbourhoods/article7296087.ece>



Figure 7: The Master Plan: proposed morphology of the housing types in Dharavi