A 21st Century Factory to Live and Work

07

SHORTLISTED

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The team bases their ideas on the premise that this is a social housing project and not a real estate one. It proposes four different housing typologies for different areas in Dharavi and an integration of social amenities, without densifying Dharavi. Residents are expected to finance their own construction with external funds for infrastructure alone. MHADA and the DRP is expected to work with communities directly with no involvement of the developer. The jury found the master plan and housing ideas well defined and worked out however aspects of governance, livelihood sustenance during redevelopment and other key aspects were missing.
PREMISE

"Why can’t Mumbai be the next Shanghai?" was a development agenda proposed by one of the recent Governments of Maharashtra. Rather than reaching out to concerned stakeholders in understanding issues specific to the city of Mumbai, authorities are continuously lured into the superficial imagery of other cities.

Transformations effected through such skewed visions, followed up by weak policy decisions, have only been exploited by developers, resulting in mass commercialisation clubbed with unsustainable densities in large scale urban projects. Such a trend has adversely affected the housing delivery mechanism of authorities, which now favour the developer in selling urban visions in the guise of making profits, with hardly any concern to user needs or to the overall benefit of the city.

The ongoing redevelopment of the Parel Mills as well the Slum Rehabilitation Scheme seems to present an ideal example of this recent trend that seems to have engulfed the housing delivery mechanism of Mumbai.

In view of the above contextual frame, Dharavi seems to be yet another large urban parcel that has fallen prey to this recent trend of redevelopment. However, the initial plans prepared by Mukesh Mehta, evidently pro-developer, were successfully rejected by the local community and NGOs.

The future of Dharavi lies in its ability to offer a better neighbourhood to the communities within it and a new public domain to the city of Mumbai. Yet, this is still locked up in negotiations with local authorities.

Along with its informal, highly networked means of production, Dharavi not only caters to the immediate demands of the city, but has also successfully established a global market for its indigenous goods. It is precisely this unique quality of entrepreneurship that sets it aside from other informal settlements within the city of Mumbai.

So how can a plan capture this form of industrial urbanism? What kind of housing typologies could be deployed, wherein a reasonable amount of privacy and workplace could coexist?

GUIDING PRINCIPLES

- It must be recognised that all slum housing is “social housing” and that the DRP is a representative project of the woes of all existing slums of Mumbai city.

- The Government should consider this DRP proposal at par with any other Infrastructure projects such as roads, rails, health, education, water, power, etc. where the cost of land is notional and belongs to the Government itself.

- The DRP should be de-linked with all private developers - it is not a speculative real estate project, pretending to provide free housing to existing slum dwellers.
GOVERNANCE

The above contextual frame would call for a direct involvement of governing authorities i.e. Dharavi Redevelopment Authority as well as MHADA in engaging with the community to facilitate as well as provide the necessary housing stock as part of the Dharavi Redevelopment Plan.

The intention is to eliminate the role of the developer. Barring certain components of commercial space (which would also be developed by the Dharavi Redevelopment Authority), there shall be no provision of housing stock put up for sale in the real estate market.

FINANCE

The Government should consider this DRP proposal at par with other infrastructure projects such as roads, railways, health, education, water, power, etc. where the cost of land is notional and belongs to Government itself.

The finance model of DRP is conceived on self-contribution by existing occupants towards construction/development costs of the project - thus the existing occupants will have a stake in economic growth along with a sense of social inclusion.

<table>
<thead>
<tr>
<th>Cost of Construction for 50 dwelling units (28.7 sq m each)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Transit cost of existing residents - rentals (50 x INR 10,000 x 30 months)</td>
</tr>
<tr>
<td>2 Site development and Infrastructure (2,000 sq m x INR 1,000/ sq m)</td>
</tr>
<tr>
<td>3 Building construction cost (2,000 sq m x INR 14,000 sq m)</td>
</tr>
<tr>
<td>4 Establishment and finance cost (2,000 sq m x INR 1,200/ sq m)</td>
</tr>
<tr>
<td>Sub-total</td>
</tr>
<tr>
<td>Contingencies</td>
</tr>
<tr>
<td>Total Construction cost</td>
</tr>
<tr>
<td>Rate: INR 25,000/sq m or INR 10,00,000 per dwelling unit</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Recovering Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Initial contribution by each resident per unit (50 units x INR 2,50,000)</td>
</tr>
<tr>
<td>2 Site development and infrastructure (2,000 sq m x INR 1000/ sq m)</td>
</tr>
<tr>
<td>Total</td>
</tr>
<tr>
<td>Plus: Maintenance corpus by resident (50 units x INR 25,000 each)</td>
</tr>
</tbody>
</table>
PLANNING

The proposed master plan considers the current population of Dharavi i.e. 3,50,000 people over five sectors as the absolute density target to be achieved. Additional density to the already congested Dharavi would be unsustainable.

The plan retains existing SRA schemes, religious structures, institutional buildings and works within the existing road network.

Nagar demarcations are notional boundaries, whereas religious structures play a key role and are sought to be strengthened as public spaces in the new districts.
Type A
Offers limited frontage but linear clustering channelises people and goods along the interior of districts.

Type B
1. Realigns the edge of Kumbharwada along the 90 Feet Road to address the traffic caused by the spill over of goods. This road becomes one of the major connectors within the DRP, complete with parking bays, drop off points, pathways etc.
2. Opens the interiors of Kumbharwada through a network of 9m wide streets.

Type C
The G+4 type C walk-up apartments are adopted in Sector 2. They segregate access for ground and upper level units, making a clear distinction between internal community spine and market street. Type C is also used to negotiate the edge along Koliwada with an intent to influence the Kolis to maintain a low-rise built type within their area.

Type D
This proposed typology negotiates the railway edge.

The master plan proposes four housing typologies located in specific districts each with their own local planning implications.
Final Phase 2030
Location plan of housing typologies

PHASING

Phase 1: 2018  Phase 2: 2022  Phase 3: 2026
<table>
<thead>
<tr>
<th>Type</th>
<th>Blocks of G + Storey</th>
<th>Ground coverage</th>
<th>Total built up area</th>
<th>Density</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A</strong></td>
<td>146</td>
<td>1,32,000 sq m</td>
<td>1,208,000 sq m</td>
<td>175,000 people</td>
</tr>
<tr>
<td><strong>B</strong></td>
<td>07</td>
<td>4,200 sq m</td>
<td>13,900 sq m</td>
<td>3,400 people</td>
</tr>
<tr>
<td><strong>C</strong></td>
<td>398</td>
<td>26,000 sq m</td>
<td>144,900 sq m</td>
<td>24,500 people</td>
</tr>
<tr>
<td><strong>D</strong></td>
<td>40</td>
<td>26,000 sq m</td>
<td>480,000 sq m</td>
<td>65,000 people</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>BUA of A + B + C and D TYPE</strong></td>
<td><strong>1,854,900 sq m</strong></td>
<td><strong>267,900 people</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type</th>
<th>Ground coverage</th>
<th>Total built up area</th>
<th>Density</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Commercial</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>(A+ Along 60 Feet Road)</td>
<td>2,200 sq m</td>
<td>18,000 sq m</td>
</tr>
<tr>
<td></td>
<td>(Compound 13)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Industrial</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>(Compound 13)</td>
<td>17,000 sq m</td>
<td>36,000 sq m</td>
</tr>
<tr>
<td></td>
<td>(Compound 13)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SRA structures</strong></td>
<td></td>
<td>720,000 sq m</td>
<td>65,000 people</td>
</tr>
<tr>
<td></td>
<td>(Total built up area)</td>
<td></td>
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**Proposed housing / Commercial / Industrial + Existing structures : 2,628,900 sq m (~26.30 lakhs sq m) 332,900 people (Density ~3.3)**

**Total built up area**

1 | Total DRP Area | 2,403,000 sq m (590 acres)
2 | Less: Lands under Nature Park + Power Station + Railways | 501,000 sq m (120 acres)
3 | Less: Road Network | 374,000 sq m
4 | Less: Open grounds, kabrastan etc. | 60,000 sq m
**Net DRP Area for FSI purpose**
| Total built up areas | 1,468,000 sq m 2,630,000 sq m
**Global FSI consumption** 1.79
Housing Type A: Self Owned and Rental

Two primary sources of income for a Dharavi resident are observed as follows:

1. Home-based workshops
2. Rental income through incremental expansion of the house

Based on this observation, the following housing types are proposed:

1. Rental for employees of home-based workshop
2. Rented to the same family they had been living with prior to redevelopment
3. Rented as a commercial unit

In most cases the additional area will be acquired from the DRP through a microloan, however the family may wish to hold onto a basic size of 300 sq ft in which case the additional area will be rented by DRP for commercial activity until the family can afford to acquire the same.
Organising Within a linear Cluster, access through corridor at upper levels.

5 ppl
Dormitory for migrant labour

Addressing existing densities of migrant labour within Dharavi

Dormitories could be integrated within the housing block to house a migrant worker who otherwise falls short to meet the requirements for compensation. Dormitories are owned by DRP, and the individual worker or his employer would pay rent for the same to DRP.

Key Plan

Concentration of Type A units.

**Type ‘A’**

<table>
<thead>
<tr>
<th>146</th>
<th>1,32,000 sqm</th>
<th>12,08,000 sqm</th>
<th>1,75,000 people</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blocks of G + 7storey</td>
<td>Ground Coverage</td>
<td>Total Built Up Area</td>
<td>Density</td>
</tr>
</tbody>
</table>

Resultant floor plate through a combination of ownership pattern.
Type A: Unit Plans and Sections
**Housing Type B: in Kumbharwada**

A distinct variation is observed in the size of footprints occupied by huts on either sides of 90 Feet Road. Although a majority of the edges defining sector 3 and 4 have been developed under the SRA Scheme, sector 2, within which Kumbharwada is located still remains undeveloped.

One notices deep housing blocks marking the southern edge of Sector 2. With the priority being in maximising the surface area of the house along the road, the housing cluster along the edges of Kumbharwada act as barriers, offering little or almost no access to the interiors of the nagar.

The sheer volume of ceramics that spill out on to the road justify the skewed dimensions of the house; which in most cases has to double up as a residence, a workshop and then subsequently as storage for daily production. A network of alleys intermittently marked by firing kilns offers a distinct character as well as a series of nodes along which the community will interact.

<table>
<thead>
<tr>
<th>Type 'B'</th>
<th>07 Blocks of G + 2 Storey</th>
<th>4,200 sqm Ground Coverage</th>
<th>13,900 sqm Total Built Up Area</th>
<th>3,400 ppl Density</th>
</tr>
</thead>
</table>

**Evolution of housing typology**
Type B: Unit Plans and Sections

An additional set back of 15.00 Mtrs would help de-congest the 90 feet road, providing a sufficient buffer for commercial activity. The set back would accommodate parking bays, bus stops and pedestrian pathways.

Unit Interlocks Evolving the Overall form of the Cluster

Type B: Cluster plan along 90 Feet Road

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Housing Type C: along 90 Feet Road

Type C has been used to negotiate the edge along the Koliwada, with an intent to influence the Kolis to maintain a low-rise built type within their own redevelopment. Housing Type C is a derivative of the module evolved along the edge of Kumbharwada. These are G+4 walk up apartments and will be extensively deployed within sector 2.

| Type 'C' | 398 Blocks of G + 4 storey | 26,000 sqm Ground Coverage | 1,44,000 sqm Total Built Up Area | 24,600 people Density |

Evolution of housing typology

Type C: Cluster plans

Type C: Sections
Housing Type D: Along the railway line

Type ‘D’

40 Blocks of G + 7 storey

62,000 sqm
Ground Coverage

4,88,000 sqm
Total Built Up Area

65,000 people
Density

Evolution of housing typology

04 > Formation of a cluster with 9.00 Mts open space.

05 > Projection Indicating Split levels + Circulation.

Type D: Cluster plans

Type D: Sections
SOCIAL AMENITIES

The proposed layout for housing Type A, retains and reinforces all religious structures to be the principal markers of public space within the new districts, creates strategic sites for institutions and amenities and uses the stilt areas of blocks to provide integrated amenities.

In Type B, realigning the new Kumbharwada blocks along 90 Feet Road with a 15 ft buffer from the road will create new space for commercial activity, parking bays, bus stops and pedestrian pathways.
Under Type C, the blocks will be inserted after realigning roads in a north-south direction, using religious structures to help define a public realm, creating a peripheral market street and an internal community spine.

Layout for Housing Type C

In Type D, the new housing block opens up the edge along the railway track and creates a nature park integrated under the existing high tension lines.

Layout for Housing Type D