Informing the Informal
Synergizing Livelihoods

16

Ratan Batliboi, Rajendra Gawde, Hlatun, Sulakshna Mahajan, Prachi Merchant, Harshwardhan Deshpande, Om Merchant, Rahul Jain, Shraddha Waman, Rashmi Parkar, Swarada Poyarekar, Swati Raman, Smruti Athalye, Aashka Shah

The team focuses on self-sustained live-work models in Dharavi. It analyses existing spaces in Dharavi and proposes three typologies/strategies for industries, home-based industries and residential-commercial spaces. The proposal also suggests four stakeholder models comprising the Municipal Corporation of Greater Mumbai, developers and local contractors and community and NGOs. The jury found the master plan unworkable in terms of amenity provisions and a lack of clarity regarding governance.
PREMISE

The population density of Dharavi is considered the highest in the world. It is a diverse settlement, flanked by transportation networks and business hubs. 80% of its residents commute by foot. Dharavi is surrounded by buffers such as Mahim Nature Park. It has an active informal economic sector of many small scale enterprises. Yet, Dharavi fails in provisions of public health due to the absence of water and sanitation.

Dharavi continues to attract redevelopment from government and developers alike. Yet, none have been able to address the questions of livelihood, focusing instead on housing alone.

The need is to make Dharavi a self-sustained area with all facilities and move beyond the stigma of being called a slum. This proposal aims to understand the existing communities of the redevelopment area and to provide a solution which will govern and help rebuild the identity of the area by providing a self-sustained live, work and play model.

GUIDING PRINCIPLES

To propose a redevelopment scheme, retaining all typologies based on their requirements and suitability, the following guiding principles are proposed:

- Reform the socio-economic fabric
- Rebuild with the help of Dharavi residents
- Reintegrate by strengthening the synergies
- Reblend the parcels
To propose redevelopment, retaining all the typologies on the basis of their requirements & suitability.

BROAD VISION

Re-Forming

Re-Building

Re-Integrating

Re-Blending

Inflexible
Flexible
Parcilation
Parcilation

OPERATIVE APPROACH

- Self-Sustenance
- To re-build the identity

FINISHING DOWN OF PROCESS FOR INDIVIDUAL TYPOLOGY AS PER OUR APPROACH

REDEVELOPMENT MODELS

Private Stakeholder Model

Community

Government

Finance Model

Socio - Economic Model

Re-Housing Model

Process Achieved Following These Models

Informing the Informal: Synergizing Livelihoods
GOVERNANCE

A Dharavi Utility, Services and Management Company will be set up as a special body constituted by the government.

The DUSMC is responsible for:
- Redevelopment and rehabilitation.
- Maintenance of water supply, waste disposal, sewers, power, health services, roads, etc.
- Formation of sub-management departments to look after industries/dormitories, home-based industries, residential and commercial areas.

3 Stakeholders Tiers

1st Tier
MCGM
- Undertake and supervise the entire redevelopment process
- Select and appoint a developer or local contractor
- Undertake financial responsibility
- Work hand in hand with the community
BEST / Railways
- Provide land for transit

2nd Tier
Developer/Local Contractor
- Act as per the Government's redevelopment plan and as per preferences of the community NGOs
- Assist DUSMC redevelopment and rehabilitation
- Bridge the technical and management gap between the community and DUSMC
- Assist DUSMC in conducting vocational training and career counselling courses

3rd Tier
Community
- Co-operate with the Government in the redevelopment process

4 Stakeholder Models

Stakeholder Model 1
Community - Government
A public approach where Government takes interest in solving the community's basic needs

Stakeholder Model 2
Community - NGO - Government
In redevelopment, the NGO acts as a middle man for providing technical assistance in bridging the gap between community and government

Stakeholder Model 3
Community - Developer - Government
Government approves a developer, based on a bid system where large scale private companies can also participate.
A community may bring in a developer of their choice for the redevelopment process which the government verifies and approves or a developer approaches the government, stating their interest in the redevelopment scheme

Stakeholder Model 4
Community - Local Contractor - Government
The community self-appoints local contractors to carry out the redevelopment as called by government
FINANCE

Income Sources
- Saleable units will cover capital costs of construction, utilities, public spaces and lease for use of railway land for transit.
- Rents and lease (commercial, residential and industrial units) will fund the DUSMC for operation and maintenance.

Contributions
- Rehab model: Government and community are primary stakeholders. Community contributes towards construction and government will subsidise land by 50%.
- Sale component: Developer and external buyers are stakeholders. If government develops, money generated from the sale will be recycled into more redevelopment.

Assumptions
- Rate of inflation for the cost of construction is 6% annually. Land value taken as INR 20,000.
- Lease period of commercial and industrial property is 5 and 10 years respectively. Lease amount may be subject to change after ten years.
- Down payment of residential, commercial and industrial rehab units is 20%.
- Rent and lease for residential, commercial and industrial components are collected on a quarterly basis.
- Industry will work on a rental model for three years after which the industrial owner can buy the space or lease and rent to others.

<table>
<thead>
<tr>
<th>No.</th>
<th>Attributes</th>
<th>Existing</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Population</td>
<td>430,000</td>
<td>516,385</td>
</tr>
<tr>
<td>2</td>
<td>Density</td>
<td>1748.76 Person per Hectare</td>
<td>2,100.08 persons per ha</td>
</tr>
<tr>
<td>3</td>
<td>No. of households</td>
<td>45,626 (Mashal data-1995)</td>
<td>50,189 (10% increase considering year 2000)</td>
</tr>
<tr>
<td>4</td>
<td>Ground cover (res.)</td>
<td>70% (From Dharavi Base Map)</td>
<td>61,745</td>
</tr>
<tr>
<td>5</td>
<td>Built up area</td>
<td>1,923,181 sq m (Assumption)</td>
<td>2,741,160 sq m</td>
</tr>
<tr>
<td>6</td>
<td>FSI (res.)</td>
<td>1.79</td>
<td>3.6</td>
</tr>
<tr>
<td>7</td>
<td>FSI (overall)</td>
<td>1.34</td>
<td>1.91</td>
</tr>
<tr>
<td>8</td>
<td>Area - roads</td>
<td>9.74%</td>
<td>16%</td>
</tr>
<tr>
<td>9</td>
<td>Area - residential</td>
<td>75%</td>
<td>40%</td>
</tr>
<tr>
<td>10</td>
<td>Area - commercial</td>
<td>5.64%</td>
<td>6.77%</td>
</tr>
<tr>
<td>11</td>
<td>Area - r+g</td>
<td>0.28%</td>
<td>0.34%</td>
</tr>
<tr>
<td>12</td>
<td>Area - industries</td>
<td>4.59%</td>
<td>5.51%</td>
</tr>
<tr>
<td>13</td>
<td>Area - recreational/open</td>
<td>3.58%</td>
<td>17.88%</td>
</tr>
<tr>
<td>14</td>
<td>Public - semi public</td>
<td>2.80%</td>
<td>14.00%</td>
</tr>
<tr>
<td>15</td>
<td>No of floors</td>
<td>G, G+1, G+2 (Average 1.79-Mashal Data 1995)</td>
<td>G+4</td>
</tr>
<tr>
<td>16</td>
<td>Average HH size</td>
<td>2.98 (Mashal Data 1995)</td>
<td>6.2 (Census of India)</td>
</tr>
<tr>
<td>17</td>
<td>Size of unit for rehab</td>
<td>225 and 269 sq ft</td>
<td>300 sq ft</td>
</tr>
<tr>
<td>18</td>
<td>Size of unit for rent</td>
<td>180 sq ft</td>
<td>225 sq ft</td>
</tr>
<tr>
<td>19</td>
<td>Location of industries</td>
<td>13th Compound (Sector 1), Nayak Nagar (Sector 5), Sector 3</td>
<td>Sector 2</td>
</tr>
<tr>
<td>20</td>
<td>Toilets per person</td>
<td>1 toilet / 1,440 people</td>
<td>1 toilet / 6.2 people</td>
</tr>
<tr>
<td>21</td>
<td>Type of development</td>
<td>Plotted</td>
<td>Non-plotted</td>
</tr>
</tbody>
</table>
PLANNING

- Low lying areas, area under Tata Power line, CRZ, approved and developed housing society, public/semi-public used spaces will be considered as non-developable areas. Special areas such as Kumbharwada and Koliwada are not considered under redevelopment.
- Retain all institutions but relocate near industrial zone.
- To provide better transportation linkages.
- Non-plotted development.
- MCGM should agree with the railways and BEST to take part of their land to develop transit camps for a period of fifteen years.
- Development of residential units with ownership (300 sq ft), rental (225 sq ft) and saleable component.
- Residential units are for single persons and families.
- Total 20% growth is super built up area for industries, residential + commercial and commercial is considered.
- 45.7% of residential area is rehabilitation, 34.3% is sale component.
- Rehab, rent, lease and sale model is considered in commercial component.
- FSI can be described as 2.88 for rehabilitation + rental component and additional 0.72 for sale component.
- Sale residential component can be G+7 (50%) and G+12 (50%) assuming them to be in close proximity to the main roads.
- Industries will be shifted into Sector 2.
- Develop a commercial component around arterial and sub-arterial roads that includes office spaces, shops and establishments.
- Promotion of home-based goods with development of required (new) commercial edge.
- 25% workers will require dormitories with 7.5 sq m of area per person.
## PHASING

<table>
<thead>
<tr>
<th></th>
<th>Phase 1</th>
<th>Phase 2</th>
<th>Phase 3</th>
<th>Phase 4</th>
<th>Phase 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dwelling units</td>
<td>7,868</td>
<td>9,359</td>
<td>13,888</td>
<td>16,334</td>
<td>2,679</td>
</tr>
<tr>
<td>Sale units</td>
<td>626</td>
<td>744</td>
<td>1,400</td>
<td>1,593</td>
<td>3,002</td>
</tr>
<tr>
<td>Commercial BUA</td>
<td>14,838 sq m</td>
<td>17,510 sq m</td>
<td>22,624.92 sq m</td>
<td>47,501.28 sq m</td>
<td>35,677.70 sq m</td>
</tr>
<tr>
<td>Industrial BUA</td>
<td></td>
<td></td>
<td></td>
<td>95,416 sq m</td>
<td></td>
</tr>
<tr>
<td>Dormitories BUA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>17,620 sq m</td>
</tr>
<tr>
<td>Public and semi-public area</td>
<td>24,912.43 sq m</td>
<td>29,665.22 sq m</td>
<td>45,079.53 sq m</td>
<td>56,908.17 sq m</td>
<td>43,988.97 sq m</td>
</tr>
<tr>
<td>Recreational area</td>
<td>27,699.40 sq m</td>
<td>35,466.49 sq m</td>
<td>57,879.06 sq m</td>
<td>79,429.10 sq m</td>
<td>55,610.80 sq m</td>
</tr>
<tr>
<td>Cost incurred</td>
<td>3,347.87 cr</td>
<td>3,615.08 cr</td>
<td>4,243.07 cr</td>
<td>5,099.86 cr</td>
<td>48,18.17 cr</td>
</tr>
<tr>
<td>Income generated</td>
<td>2,739 cr</td>
<td>3,663.79 cr</td>
<td>6064.71 cr</td>
<td>8142.16 cr</td>
<td>16,264.70 cr</td>
</tr>
</tbody>
</table>

![Proposed master plan](image)
HOUSING

The proposal identifies three typologies within Dharavi.

**Typology 1: Industry + Dormitory**

1. Better physical amenities: Sanitation, water supply, drinking water, gender-specific toilets, drainage and disposal facility, hygienic and healthy living-working conditions etc.
2. Minimum travel time: Dormitories are within 1 km of radius walking distance
3. Easy accommodation
4. Better savings and work efficiency
5. Inter-social dependency: Health facilities at subsidised rate
6. Self-sustaining model for individuals and industries shift system
7. Providing work and live approach:
   - Industry run dormitories
   - Dormitory rent adjusted in workers earning
   - Slab bars based on wages
8. Parking of Dormitories:
   - Government run dormitories with involvement of industry owners to pay lodging services for its employees (fixed rent to the Government)

**Typology 2: Home-based Industries**

1. Residential space is intact and matching common areas are provided
2. Each house would be on an ownership model
3. Establish a DUSMC-run management office and shop
4. Registration of all home-based industries
5. Household Cluster: enclosed is residential, semi-enclosed is connected to a plinth as working space
6. Working Clusters: Preparation and packing area in semi-closed plinth and open courtyards, individual storage space in every house, common storage at the community office and separate storage for shops
7. Better connectivity: dedicated pedestrian path, vehicular access, internal looping
8. Better physical amenities: sanitation, water supply, drainage, electricity, hygienic working conditions
9. Government will be responsible for legal matters. Community management will be responsible for the entire work and keeping common spaces free of encroachment
Typology 3: Residential cum Commercial
1. Understanding the need of commercial cum residential units to co-exist with individual residential and commercial units.
2. Developing a commercial edge with a buffer along the roads for better accessibility and less crowding.
3. Potential for R+C component to flourish better due to already existing infrastructure.
4. Independent access for residential and commercial side (commercial: facing the road, residential: entrance through pedestrian, internal roads).
   - Residential units: ownership and rental model (50-50%).
   - Commercial units: Classified on the basis of C1, C2, C3, C4 and C5 categories.
5. Commercial units would work on ownership, rental and lease model.

Typology 2: Home-based Industries
POLICY

Legalising Industry
For owning an industry,
- Pay liberal rent (for Credit Building)
- Rent out the industrial space for minimum three years with proper documentation (for Credit Building)
- Minimum strength of workers according to work entitled, minimum wages, shift system
- Hygiene condition of work place
- Mess / canteen system
- Mandatory ratio for workers (minimum 50% from Dharavi)

Providing Work and Live
- Industry run dormitories
- Dormitory rent adjusted in worker earnings
- Slab bars based on wages

Rental-Residential Component
- Only one flat per family will be given
- Non-biased chit system for allocation of rental flats
- There will be a yearly increment in rent and maintenance charges
- Rent will be collected on a quarterly basis

Ownership-Residential Component
- Legal entitlement will be provided at an affordable cost
- Non-biased chit system for allocation of rental unit
- Unit will be registered in the name of the woman or jointly
- The dwelling unit provided cannot be sold for over a period of ten years but can be mortgaged for raising a home loan
- Dwelling units are allowed to be rented only after five years allocation with a one-time payment (token amount) to the developing body
- Annual mandatory payment for maintenance and society funds and regulated Property Tax to be paid by the dweller
- The payment should be made in the assigned time period, failing which, the allotment will be cancelled and given to the person in waiting
- Dwelling units to be provided are solely for residential purposes. Any violations can lead to a cancellation of allotment
- Any disparity found during or post the allotment can be cancelled
- No resale of the residence within twenty years. The unit can only be passed on to the legal heir after she/he turns 18 years old (could to female-joint ownership model).

Tenure Rights
- First priority to be given to people holding photo ID cards prior to 1995
- Preferences to physically challenged, widows and senior citizens staying prior to 1995
- Preference for buying affordable housing to be given to those living in Dharavi prior to 1995 and working inside Dharavi on a rental basis
SERVICE INFRASTRUCTURE

- Ensure water and toilet facilities in each space
- Proper drainage channels and segregated waste disposal systems

ENVIRONMENT

- Retain buffers of Mahim Nature Park
- Incorporate habitants, commercial spaces and industries of Naik Nagar and Rajiv Gandhi Nagar (low lying areas) in other sectors and treating them as an extension of Mahim Nature Park
- Create a demarcated industrial zone using buffers to the high tension line, crematorium on one side and road on the other side
- Use the high tension line buffer as a service road and area and temporary loading / unloading area for industries and not for residential purposes

TRANSPORT

- Develop road network
  - Better linkages between clusters
  - Inclusion of mass transport (metro line, BEST system, bus stop)
  - Designated parking spaces
  - Improved pedestrian network
- Introduce of a transit hub, catering to and managing the railways, metro, BEST and para-transit crowd
- Create a hierarchical road network with designated uses
- Improve and widen of roads
- Providing proper designed, signalized junctions and bus stops at regular intervals.
- Design non-motorised vehicular and pedestrian paths
- Provide better footpaths, foot-over bridge/ subways wherever required
- Propose bus stops at every 500 m

SOCIAL AMENITIES

- All religious structures which are well within the proposed master plan cluster boundaries will be retained whereas those lying on roads, industrial zones and proposed transit hubs will be relocated
- Community spaces will be a part of non-plotted development
- A 30 m buffer will be created around the nala and developed as a community open space
- Open spaces are planned around religious and management structures
- The road junctions will be integrated with open spaces
- Generate the road fronting T-junction as a mangrove promenade
- Locating dispensaries and clinics at a walking distance
- Health awareness camps
- Retain all institutions in Dharavi
- All schools are proposed within 1 km walking distance
- Institutions near industrial zones would be relocated
- Training and counselling centres are proposed