

# Informing the Informal Synergizing Livelihoods

## 16

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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.

Bakery Unit



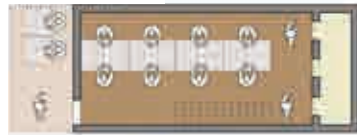
25 sqm 8 sqm 10 sqm

Cardboard Unit



45 sqm 12 sqm 8 sqm

Gold Refining Unit



8 sqm 27 sqm 4 sqm

Metal Accessories Unit



5 sqm 2 sqm 12 sqm

Leather Processing Unit



23 sqm 5 sqm 5 sqm

Electronics Goods Unit



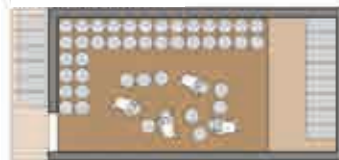
13 sqm 20 sqm 9 sqm

Tin Recycling Unit



10 sqm 18 sqm 25 sqm

Drum Recycling Unit



4 sqm 20 sqm 6.5 sqm

Plastic Sorting Unit



3 sqm 14 sqm 7 sqm

Plastic Crushing Unit



14 sqm 7 sqm

Zardozi Unit



10 sqm 18 sqm 25 sqm

Sewing Machine Unit



23 sqm 4 sqm

Weaving Machine Unit



23 sqm 4 sqm

Broom making



Garland making



Basket making



Papad making



Tiffin services



Work Area Storage Area Outdoor Work Area

## 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.

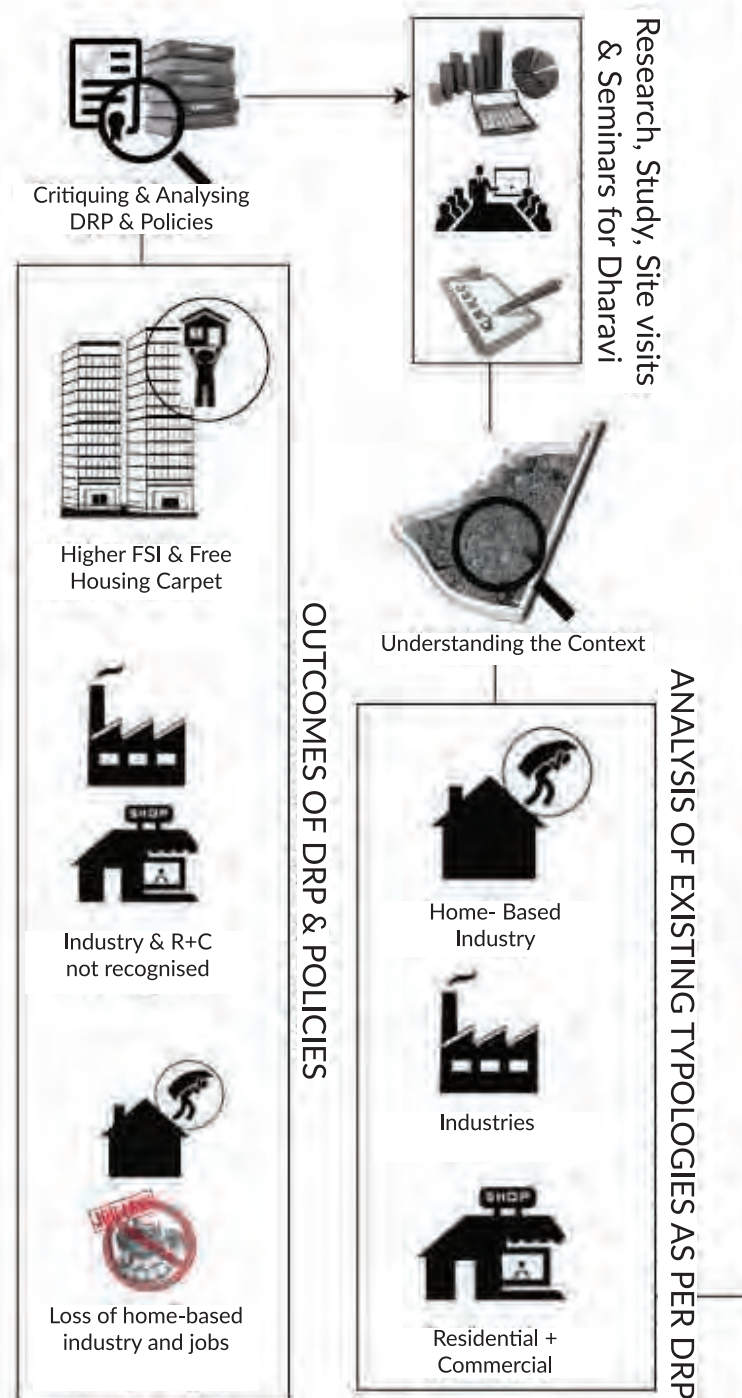
Dharavi continues to attract redevelopment from government and developers alike. Yet, none have been able to address the questions of livelihood, focusing instead on housing alone.

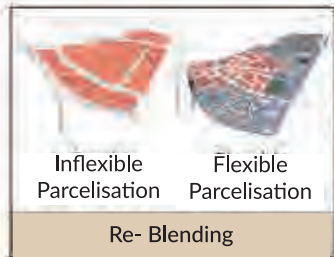
The need is to make Dharavi a self-sustained area with all facilities and move beyond the stigma of being called a slum. This proposal aims to understand the existing communities of the redevelopment area and to provide a solution which will govern and help rebuild the identity of the area by providing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

## GUIDING PRINCIPLES

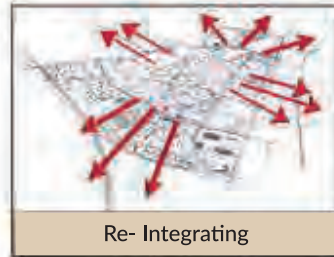
To propose a redevelopment scheme, retaining all typologies based on their requirements and suitability, the following guiding principles are proposed:

- Reform the socio-economic fabric
- Rebuild with the help of Dharavi residents
- Reintegrate by strengthening the synergies
- Reblend the parcels

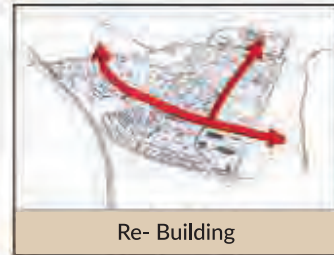




Re- Blending



Re- Integrating



Re- Building



Re- Forming

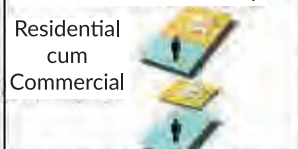
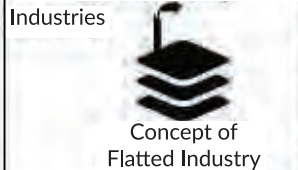
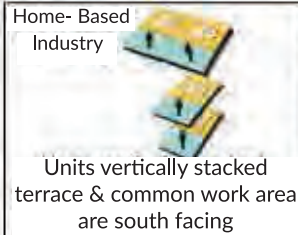
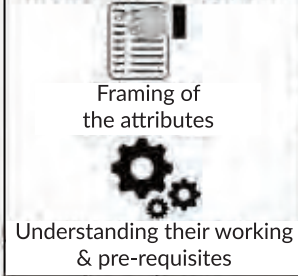
BROAD VISION

OUR INTENT

To propose redevelopment, retaining all the typologies on the basis of their requirements & suitability

OUR APPROACH

- Live, Work & Play model
- Self Sustenance
- Re-building the identity
- To break the social stigma

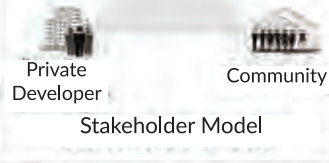


Grouping commercial on the ground floor & ownership residential units on the above floors

PINNING DOWN OF PROCESS FOR INDIVIDUAL TYPOLOGY AS PER OUR APPROACH



FINAL OUTCOME



PROCESS ACHIEVED FOLLOWING THESE MODELS

REDEVELOPMENT MODELS



## 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.

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

## 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

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Dwelling units	7,868	9,359	13,888	16,334	2,679
Sale units	626	744	1,400	1,593	3,002
Commercial BUA	14,838 sq m	17,510 sq m	22,624.92 sq m	47,501.28 sq m	35,677.70 sq m
Industrial BUA				95,416 sq m	
Dormitories BUA				17,620 sq m	
Public and semi-public area	24,912.43 sq m	29,665.22 sq m	45,079.53 sq m	56,908.17 sq m	43,988.97 sq m
Recreational area	27,699.40 sq m	35,466.49 sq m	57,879.06 sq m	79,429.10 sq m	55,610.80 sq m
Cost incurred	3,347.87 cr	3,615.08 cr	4,243.07 cr	5,099.86 cr	48,18.17 cr
Income generated	2,739 cr	3,663.79 cr	6064.71 cr	8142.16 cr	16264.70 cr



Proposed master plan

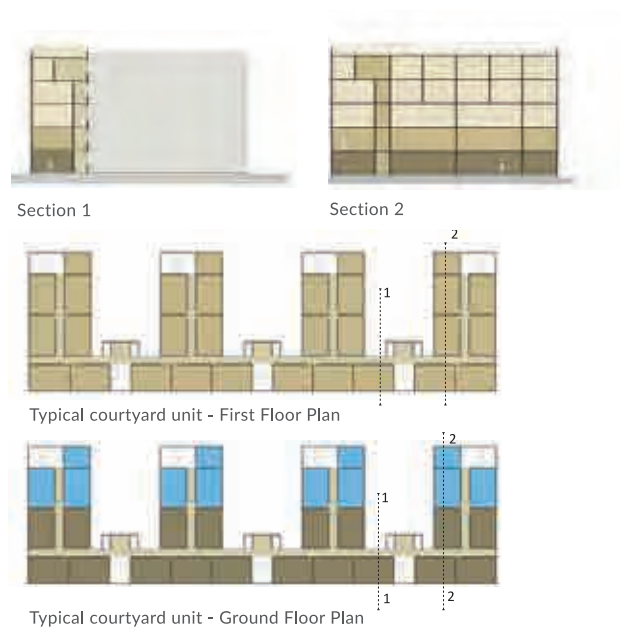


# HOUSING

## 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 1: Industry + dormitory

### Typology 2: Home-based Industries

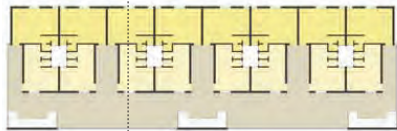
1. Residential space is intact and matching common areas are provided
2. Each house would be on an ownership model
3. Establish a DUSMC-run management office and shop
4. Registration of all home-based industries
5. Household Cluster: enclosed is residential, semi-enclosed is connected to a plinth as 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



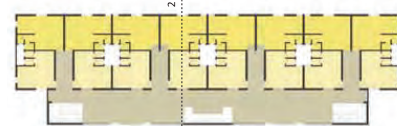
Class 1 - Typical Section 1



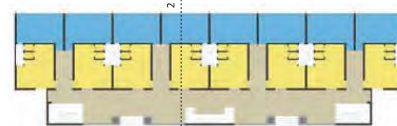
Class 1 - Typical Floor Plan



Class 1 - Typical Ground Floor Plan



Class 2 - Typical Floor Plan



Class 2 - Typical Ground Floor Plan

### Typology 3: Residential cum commercial typology

#### 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.



Section 1

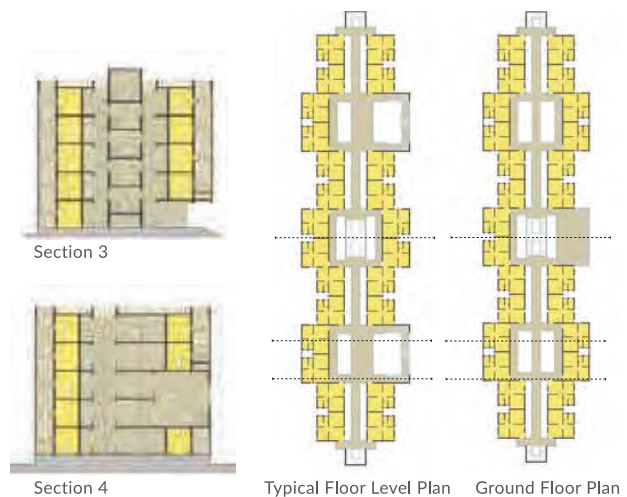
Section 2



Ground Floor Plan

Typical Floor Level Plan

Proposed home-based residential typology



Section 3

Section 4

Typical Floor Level Plan

Ground Floor Plan

Proposed residential typology

### 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 habitats, 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